ELECTRO FREEZE®

OPERATOR'S MANUAL

with Illustrated Parts List

COMPACT SERIES
SOFT SERVE FREEZER
Model CS5

184627 - 7/02

H. C. Duke & Son, Inc. P/N 184627 July 2002 Printed in U.S.A.

Operator's Manual
for the
Electro Freeze Model CS5
Compact Series
Soft Serve Freezer

SAFETY FIRST!

Follow these four steps to safety ....

1. Recognize Safety Information ....Look for this safety alert symbol throughout this manual.

When you see this symbol on your freezer or in this manual, be alert to the potential for personal injury. Follow recommended precautions and safe operating practices.

2. Understand Signal Words ....

The signal words — DANGER, WARNING and CAUTION — are used with the safety alert symbol (DANGER decals on the freezer may or may not have the safety alert symbol, but the message is the same). Decals with the words DANGER, WARNING or CAUTION appear on the freezer. DANGER identifies the most serious hazard. Decals with the words DANGER or WARNING are typically near specific hazards on the freezer. General precautions are listed on CAUTION safety decals.

In this manual, CAUTION messages with the safety alert symbol ⚠ call attention to safety messages.

SAFETY FIRST!

3. Follow Safety Instructions ....

Read and understand all safety messages in this manual. Read and understand the decal safety messages on your freezer. Take notice of the location of all decals on the freezer and keep the safety decals in good condition. Check them periodically and replace missing, damaged or illegible safety decals. The safety decals must remain in place and legible for the life of the freezer. If you need new decals, use the information and illustrations on pages iv and v of this manual to identify the decal and call or write to H.C. Duke & Son, Inc.

DO NOT attempt to operate the CS5 freezer until you read and understand all safety messages and the operating instructions in this manual.

4. Operate Safely ....

DO NOT allow untrained personnel to maintain or service this machine. Failure to follow this instruction may result in severe personal injury. ***DO NOT*** operate the freezer unless all service panels and access doors are secured with screws. ***DO NOT*** attempt to maintain or repair the freezer until the main power supply has been disconnected. Contact your local Electro Freeze Distributor for authorized service.

Safety Decal Locations

Do not attempt to operate the freezer until all safety precautions and operating instructions in this manual are read and understood.

Take notice of all warning, caution, instruction and information decals (or labels) on the freezer as shown in the figure to the right. The labels have been put there to help maintain a safe working environment.

The labels have been designed to withstand washing and cleaning. All labels must remain legible for the life of the freezer. Check labels periodically to be sure they can be recognized as warning labels.

If it is necessary to replace *any* label, please contact your local authorized Electro Freeze Distributor or H. C. Duke & Son. When ready to order you will need to determine the (1) part number, (2) type of label, (3) location of label, and (4) quantity required, and include a return shipping address.

You may contact your local authorized Electro Freeze Distributor, as follows:

Name: _____

Address: _____

_____

Phone: _____

or — for factory service assistance — contact H. C. Duke & Son, Electro Freeze Service Department by phone or FAX:

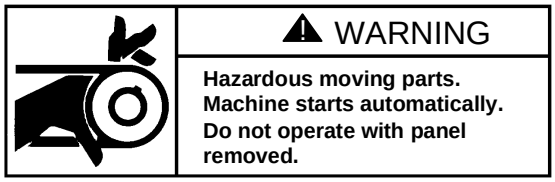
Phone: (309) 755-4553
FAX: (309) 755-9858

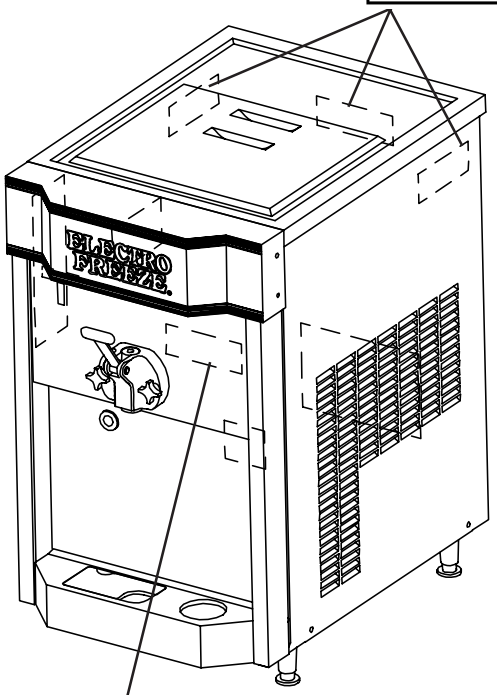
(The decals on the next page are numbered 1 through 7. Those numbers correspond to the numbers in the table below. The table provides the part number, description, and quantity for each decal.)

No.	Part No.	Description (Qty)
1	P/N 165126	Decal — Panel Removal Warning (3)
2	P/N 165025	Decal — Beater Warning (1)

Safety Decal Locations

1





2

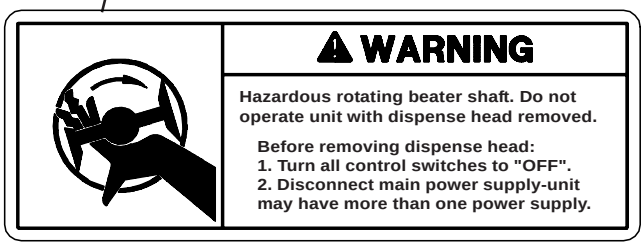


Table of Contents

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1 Introduction

The CS5 Freezer is designed to produce soft serve ice cream, ice milk, yogurt, and similar frozen dairy products, with a product serving temperature range of 15 to 25ºF. If such products are prepared from powdered concentrate, they should be precooled to 40ºF prior to introduction to the freezer. Use of other products in this machine is considered misuse (see Warranty).

This manual has been prepared to assist you in the proper operation and general maintenance of the *Electro Freeze* Model CS5 Freezer.

Make sure all personnel responsible for equipment operation completely read and understand this manual before operating the freezer. When properly operated and maintained the freezer will produce a consistent quality product.

If you require technical assistance, please contact your local authorized *Electro Freeze* Distributor, as follows:

Name: _____

Address: _____

_____

Phone: _____

For factory service assistance — contact H.C. Duke, *Electro Freeze* Service Department as follows.

Phone: (309) 755-4553

FAX: (309) 755-9858

2 Note to Installer

This freezer must be installed and serviced by an *Electro Freeze* Distributor or authorized service technician in accordance with the installation instructions.

Verify the weight of the freezer. Ensure a counter or table of sufficient strength is used to hold this weight and prevent excessive vibration.

Air cooled models require a minimum of 6-inches (15.2 cm) air space on both sides and back of the freezer for adequate ventilation.

If this freezer is to be used in a self-service application, it is recommended that the machine be fitted with a self-service kit. Contact your *Electro Freeze* Distributor or H. C. Duke for this kit.

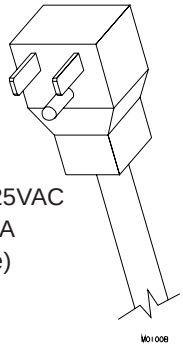
Test the operation of the head switch prior to placing the freezer in service. See Section 12, Routine Maintenance, Monthly.

After installation the warranty registration card must be completed and returned to validate the warranty**.**

3 Electrical Requirements

CAUTION
All materials and connections must conform to local requirements and be in compliance with the National Electric Code (NEC).

CAUTION
To prevent accidental electrical shock, a receptacle with a positive earth ground is required.



Plug Rating: 15A, 125VAC
(For use with a NEMA
"5-15R" Receptacle)

Figure 2-3 Plug

1. Always verify electrical specifications on the data plate (figure 4-1) of each individual freezer. Data plate specifications will always supersede the information in this manual.

2. This freezer requires a protected 15 amp 120 volt circuit. Connect the freezer to a circuit separate from any other electrical equipment.

3. Always check and verify voltage and amperage on the data plate (figure 4-1) located on the back panel of each freezer.

4. All 115 volt 15 amp freezers are supplied with a factory power cord (Figure 2-3) that requires a NEMA "5-15R" type receptacle to accomodate the plug. All freezers should be connected to a circuit separate from any other electrical equipment.

4 Specifications

4.1 Particulars

Width (in/cm)	16.3/41.4	**Beater Motor**	1/2 HP/.37 kw
Height (in/cm)	29.25/75	**Refrigerant**	R-404a
Depth (in/cm)	23.25/59	**Charge**	20.0 oz/.57 kg
Weight (lbs/kg)	175/79	**Cooling**	Air
Voltage*	115/60/1	**Hopper**	10 qts/9.5 liters
Min.Circuit Ampacity	15.0	**Cylinder**	1.8 pts/.85 liter
Compressor	3/4 HP/3600 (BTUH)		
	.56 kw (Motor)		
	1.1 kw (Cooling)		

*Contact factory for other voltages.

4.2 Data Plate

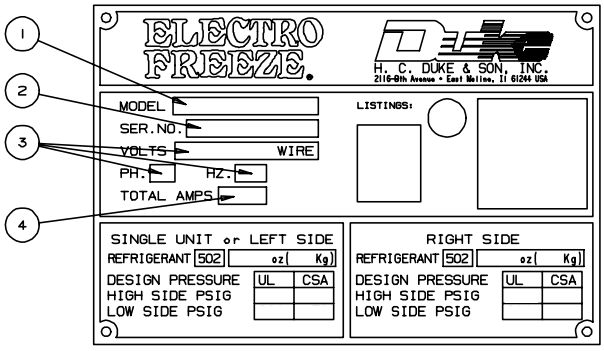


Figure 4-1

The data plate provides important information that the operator should record and have available for parts ordering, warranty inquiries and service requests.

4.3 Reference Information

Write in Reference Information HERE!

Fill in the following information as soon as you receive the *Electro Freeze* CS5. (The item numbers — encircled, below — correspond with the callout numbers in figure 4-1.)

(1) **Model Number:** _____

(2) **Serial Number:** _____

(3) **Electrical Spec: Voltage** _____

Phase _____ **Hertz** _____

(4) **Total Amps:** _____

4.4 Installation Date

Fill in the date of installation, and the name, address, and phone number of the installer in the space provided below. This information will be needed when ordering parts or service for the CS5 Freezer.

Date of installation: _____

Installed by: _____

Address: _____

_____

Phone: _____

4.5 Dimensions

The dimensions of the CS5 Freezer are provided in figure 4-2, below.

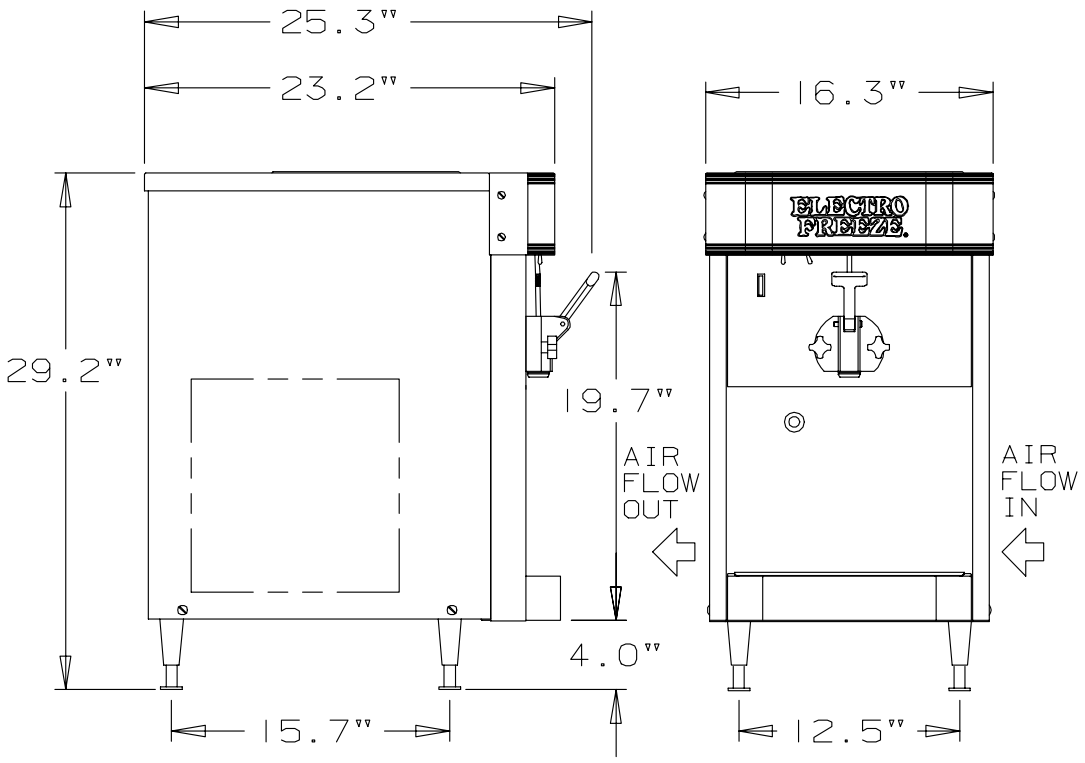


Figure 4-2 Electro Freeze Model CS5 Dimensions

5 Part Names and Functions

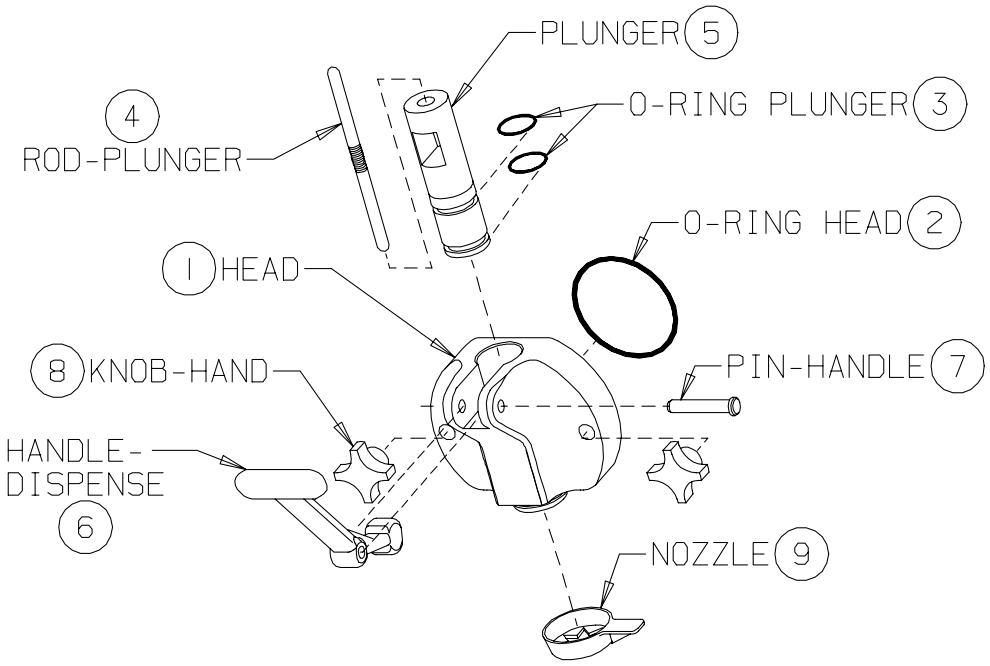


Figure 5-1 Head Assembly

(1) **HEAD.** Encloses the freezing cylinder and provides an opening for product to be dispensed.

(2) **O-RING - HEAD.** Seals the head to the freezing cylinder. Must be lubricated.

(3) **O-RING - PLUNGER.** Seals the plunger in the head. Must be lubricated to seal and slide freely.

(4) **ROD - PLUNGER.** Starts the freezer when dispensing. Must be in place before freezer will operate.

(5) **PLUNGER.** Seals the product opening in the head when closed. Allows product to flow when open.

(6) **HANDLE - DISPENSE.** Opens and closes the plunger to start and stop the flow of product from the freezer.

(7) **PIN - HANDLE.** Secures handle to the head.

(8) **KNOB - HAND.** Secures the head to the freezing cylinder.

(9) **NOZZLE.** Shapes the frozen product being served.

5 Part Names and Functions

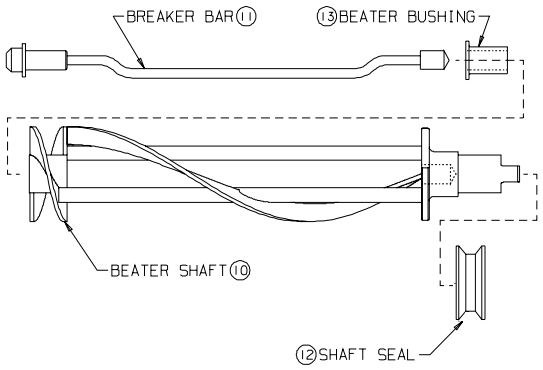


Figure 5-2 Beater Shaft Assembly

(10) SHAFT - BEATER. Rotates in the freezing cylinder blending air and mix and ejecting product.

(11) BAR - BREAKER. Keeps product blended in the center of the beater shaft.

(12) SEAL - SHAFT. Seals the opening between the freezing cylinder and the beater shaft.

(13) BUSHING - BEATER. Supports front portion of beater on breaker bar.

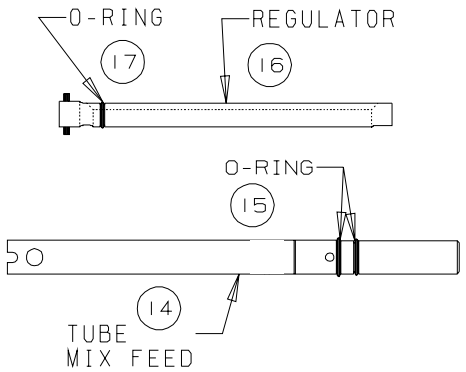


Figure 5-3 Mix Feed Tube Assembly

(14) TUBE - MIX FEED. Meters the correct amount of mix and air into the freezing cylinder from the hopper.

(15) O-RING - TUBE. Seals the opening between the hopper and mix feed tube. (O-rings do not need lubrication.)

(16) REGULATOR. Provides a positive shut off of mix flow to the freezing cylinder.

(17) O-RING - REGULATOR. Holds the regulator in place in the mix tube. Must be lubricated.

6 Operator Controls

The following paragraphs describe the operator controls and indicators. Refer to figure 6-1 for location of these controls and indicators on the Model CS5 freezer.

NOTE: The plunger rod must be in place before the freezer will operate in "DAY", "NIGHT", or "CLEAN" position.

CAUTION

Test operation of the head switch prior to placing the freezer in service. See Section 12, Routine Maintenance, Monthly.

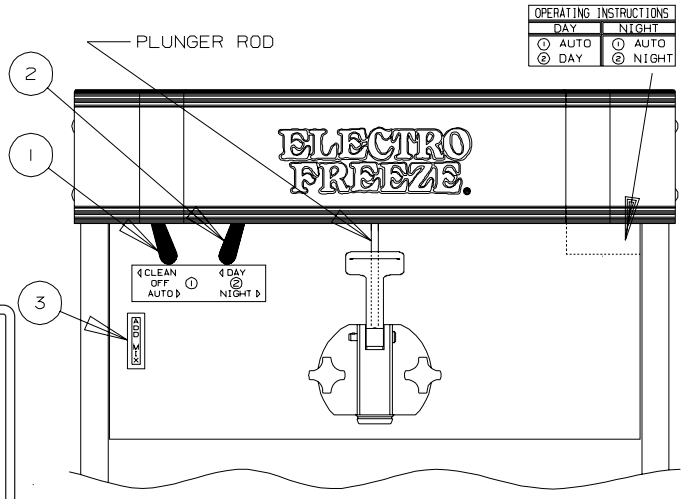


Figure 6-1

6.1 Selector Switch ①

This three-position switch selects the mode of operation of the freezer.

a. **"CLEAN"** (left) — This position operates the beater only (no refrigeration). Always use this mode when performing cleaning and sanitizing operations.

b. **"OFF"** (center) — In this position the beater motor and refrigeration system will not operate.

Important:
Do not use the automatic position with water or sanitizer in the cylinder or hopper — the freezer will be damaged.

c. **"AUTO"** (right) — This position activates both the beater motor and refrigeration unit. This is the normal operating position.

6.2 Day– Night Switch ②

a. **"DAY"** (left) — The low temperature thermostat controls the system cycles to maintain the product serving temperature between 18°–21°F. This is the normal operating position.

b. **"NIGHT"** (right) — This energy saving mode will reduce product agitation. The freezer will automatically cycle to maintain temperatures below 41°F (5° C). This position should be used when the freezer will not be in use for periods of more than an hour.

6.3 "ADD MIX" Indicator Light ③

Important:
If proper mix level is not maintained, a freeze-up may occur and damage the freezer.

This light indicates the mix in the hopper is at a low level and should be refilled as soon as possible. Always maintain *at least* 2 inches (5.1 cm) of mix in the hopper. For best operating results keep hopper full.

6 Operator Controls – continued

6.4 Mix Float

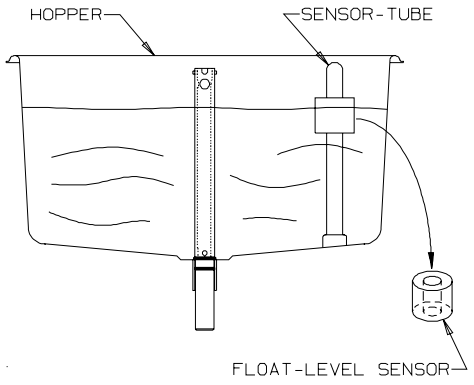


Figure 6-2

The float must be installed on the sensor tube for the “ADD MIX” indicator light to work.

6.5 Mix Feed Tube & Regulator

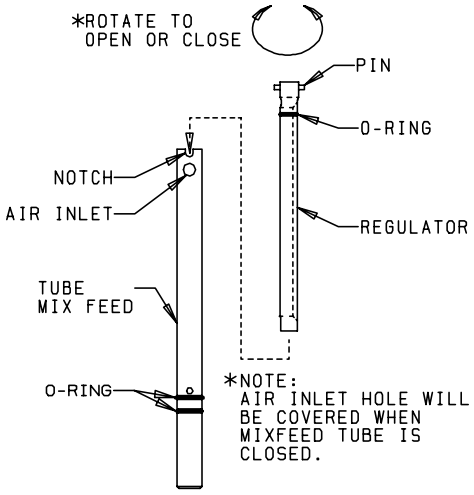


Figure 6-3

This two-position regulating device (figure 6-3) meters the correct amount of mix and air into the freezing cylinder.

a. “OPEN” - This position must be used whenever product is being dispensed. (See figure 6-4. When OPEN you can see clear through the hole in the top of mix feed tube.)

Important:
If product is dispensed when the regulator is in the “CLOSED” position, a freeze-up will occur and may damage the freezer.

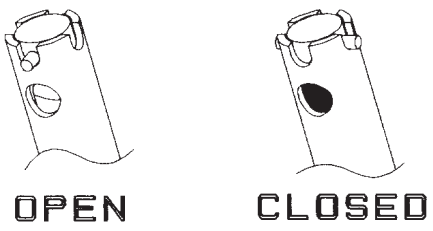


Figure 6-4

b. “CLOSED” - This position should be used when the freezer is in the “NIGHT” mode, and when product will not be dispensed for a long period of time. (See figure 6-4. When CLOSED you cannot see through the hole in the top of the mix feed tube — the white plastic regulator tube inside will block the hole.)

7 Disassembly and Cleaning

It is important that the freezer be disassembled, washed, lubricated and sanitized before operation.

The cleaning and sanitizing instructions explained in this manual are required to maintain a clean, sanitary freezer. The freezer should be disassembled, cleaned, reassembled, lubricated and sanitized daily to ensure the best possible product and freezer operation.

Persons assembling, cleaning or sanitizing the freezer must wash and sanitize hands and forearms with an approved sanitizer.

7.1 Cleaning Accessories

The following are accessories necessary for cleaning, sanitizing and disassembly/assembly.

a. BRUSH, Cylinder. 2-9/16 inch diameter with 10-inch handle, used for cleaning the cylinder.

b. BRUSH, Double end. 1-1/8 inch diameter and 7/16-inch diameter, used for cleaning the drain tube, mix inlet tube and mix feed tube.

c. BRUSH, General parts cleaning. 1-inch diameter with 12-inch handle, used for cleaning the head.

d. BRUSH, Mix feed assembly. 1/4-inch diameter with 18-1/2 inch handle used for cleaning the mix feed tube and regulator.

e. KIT, O-ring. This kit contains all O-rings and seal needing replacement on a regular basis.

f. LUBRICANT, Petrol Gel. Approved lubricant for moving parts and O-rings. See assembly instructions for lubricating points.

g. SANITIZER, Sample. Approved sanitizer Stera-Sheen, also available in 4 lb. jar.

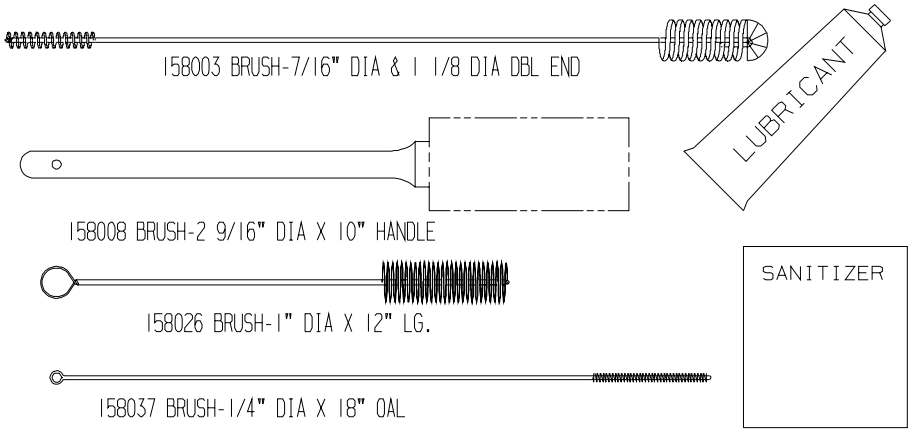


Figure 7-1 Cleaning Accessories

7.2 Disassembly Instructions

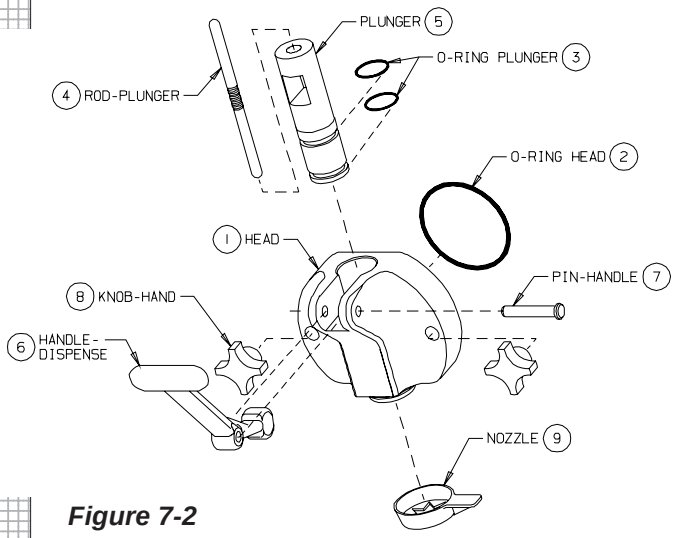


Figure 7-2

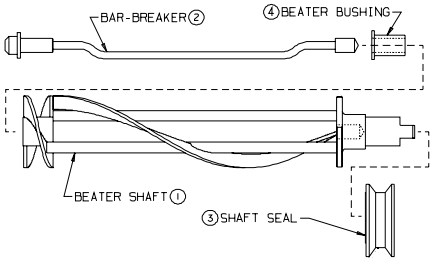


Figure 7-3

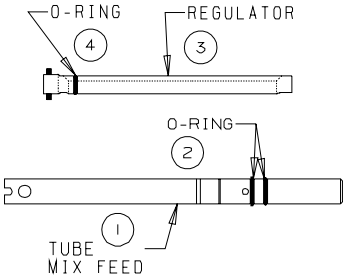


Figure 7-4

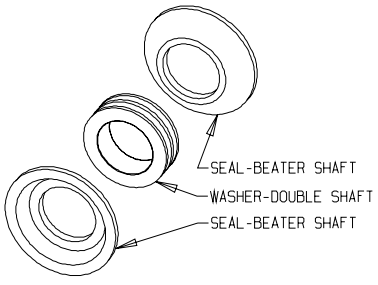


Figure 7-5

CAUTION

To avoid electrical shock or contact with moving parts, make sure all switches are in the "OFF" position and that the main power supply is disconnected.

It is important that the freezer be disassembled, washed, lubricated and sanitized before operation.
NOTE: If there is product in the freezer, refer to Section 10, Closing Procedures, 10.1 Draining Product.

1. Remove plunger rod (4, figure 7-2) by lifting it up and pulling the bottom out and down. Remove the hand knobs (8) and pull the dispensing head (1) straight out.

2. Remove the handle pin (7), plunger (5) and nozzle (9) from head (1).

3. Remove the beater shaft (1, figure 7-3) from the cylinder. Then remove breaker bar (2), beater bushing (4) and shaft seal (3) from the beater shaft.

4. Remove hopper cover. Remove drip tray and drip tray insert.

5. Remove the mix feed tube (figure 7-4) and mix float from the hopper.

CAUTION

To prevent bacteria growth, remove all O-rings when cleaning. Failure to do so could create a health hazard.

6. Remove O-rings (2) from mix feed tube (1).

7. Remove regulator (3) from mix feed tube. Remove O-ring (4) from regulator.

8. Remove O-ring (2, figure 7-2) from head (1). Remove O-rings (3) from plunger (5). Remove the seals from the washer on the shaft seal assembly (3, figure 7-3). Disassemble the shaft seal assembly (figure 7-5).

7.3 Cleaning Instructions

The cleaning instructions explained in this section are procedures to remove bacteria and maintain a clean sanitary freezer. The soft serve freezer must be disassembled, washed and sanitized according to the instructions in this manual before start-up to ensure the best possible cleanliness.

CAUTION
Electric shock hazard. Do not splash water on switches or allow water to flow onto electrical components inside the machine.

CAUTION
To prevent bacteria growth, use only approved sanitizers to sanitize the machine. Failure to do so could create a health hazard.

Important:
Do not use unapproved sanitizers or laundry bleach. These materials may contain high concentrations of chlorine and will chemically attack freezer components.

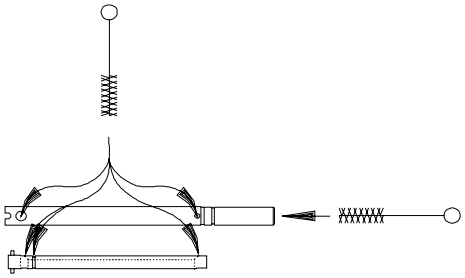


Figure 7-6 Brush the mix feed tube

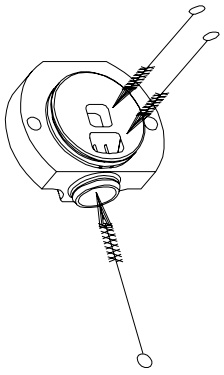


Figure 7-7 Brush the head ports

NOTE: It is your responsibility to be aware of the requirements for meeting federal, state, and local laws concerning the frequency of cleaning and sanitizing the freezer.

1. Prepare a three-compartment sink for washing, rinsing, and sanitizing parts removed from the freezer per applicable health codes. Also, prepare a clean surface to air-dry all parts.

NOTE: The sanitizer should be mixed according to the manufacturer's instructions to yield 100 parts per million (PPM) available chlorine solution. (example: Stera Sheen Green Label). Use warm water (100º-110ºF or 38º - 43ºC) to wash, rinse, and sanitize.

Important:
Do not leave parts in sanitizer for more than 15 minutes.

2. Wash all parts removed from the freezer thoroughly with dish detergent. Clean the following parts with the appropriate brush provided:

a. The mix feed tube and regulator main bore and cross holes (figure 7-6).

b. The head plunger openings, center plunger ports, breaker bar cavities, O-ring grooves, dispense nozzle mounting rings and mix ports (figure 7-7).

— continued

7.3 Cleaning Instructions - continued

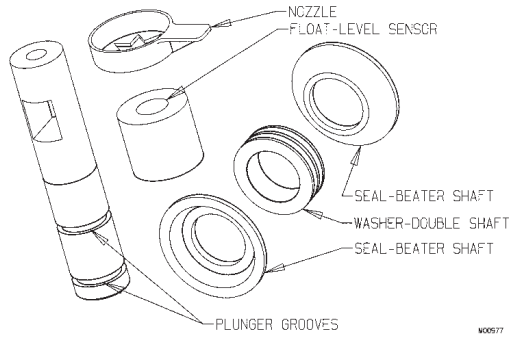


Figure 7-8 Brush shaft seal, bush ing, plunger, nozzle and float

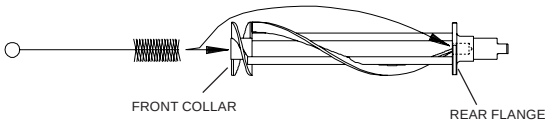


Figure 7-9 Brush beater shaft

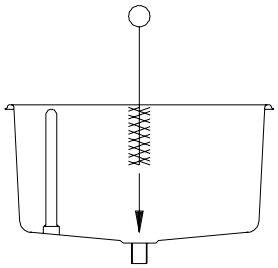


Figure 7-10 Brush hopper and mix feed port

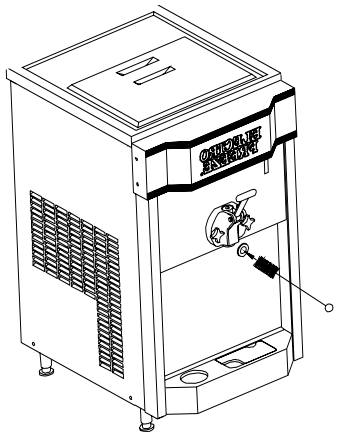


Figure 7-11 Brush drain tube

c. The shaft seals, washer, plunger O-ring grooves, nozzle and float (figure 7-8).

d. The beater shaft inside the front collar and the hole on the rear flange (figure 7-9).

3. After all parts are washed, rinse and then place them in the sanitizer solution. For proper sanitizing, the parts must remain fully immersed in the sanitizer for 5 minutes.

Important:
Do not leave parts in sanitizer for more than 15 minutes.

4. Use the sanitizing solution to wipe down the freezer and brush out inside of hopper and around the mix level sensor tube.

5. Thoroughly brush the hopper and mix feed port to the cylinder (figure 7-10)

6. Brush the inside of the cylinder, making certain to clean back wall of cylinder.

7. Brush the inside of the drain tube (figure 7-11).

Replace worn brushes. Use only Electro Freeze original or authorized replacement parts. See Alphabetized Parts List in Part II of this Manual to order new brushes.

8 Assembly

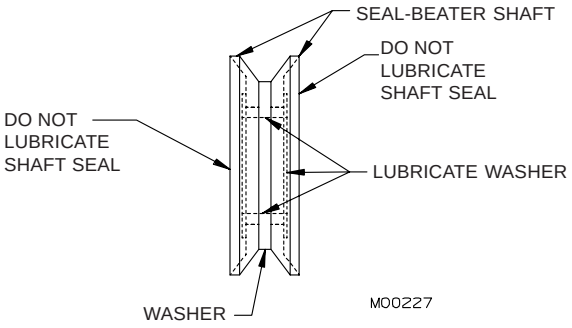


Figure 8-1 Lubricate shaft seal

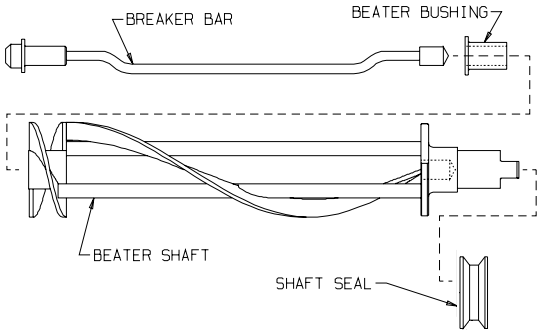


Figure 8-2 Assemble beater shaft

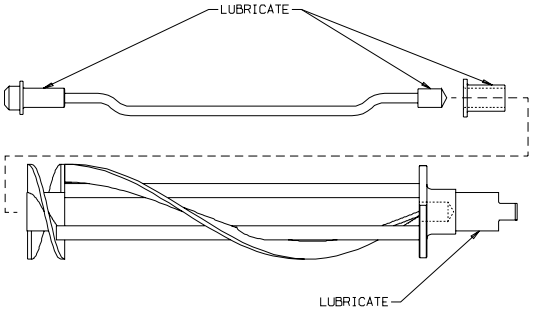


Figure 8-3 Lubricate bearing areas of breaker bar and bushing

Correct assembly of the freezer is essential to prevent leakage of product and damage to the freezer. To assemble the freezer you will need an approved lubricant (such as Petrol-Gel). Make sure all parts of the assemblies have been washed and sanitized before assembling. Persons assembling the freezer must first wash and sanitize their hands and forearms with an approved sanitizer.

CAUTION
To avoid electrical shock or contact with moving parts, make sure all switches are in the "OFF" position and that the main power supply is disconnected.

1. Assemble the seals on the washer to complete the beater shaft seal. Apply a moderate amount of approved sanitary lubricant (such as Petrol-Gel or equivalent) to the internal surface and the face of the plastic washer opposite the bell portion of the seal. Do not allow any lubricant to come in contact with the bell-shaped rubber portion of the seals (figure 8-1).

2. Install the shaft seal over the rear of the beater shaft (figure 8-2). Wipe off any excess lubricant on the beater shaft.

3. Apply lubricant to the bearing areas of the breaker bar and bushing (figure 8-3).

Important:
The beater bushing (shown in figure 8-2) must be installed or the freezer will be damaged.

4. Slide the bushing onto breaker bar and insert this assembly into the center of the beater shaft, making sure the bar fits into the hole in the rear beater shaft disc (figure 8-2).

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8 Assembly - continued

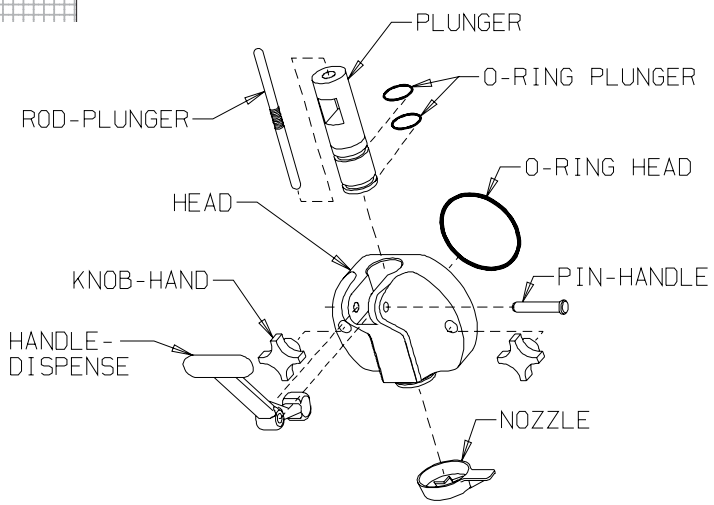

Figure 8-4 Assemble the head assembly

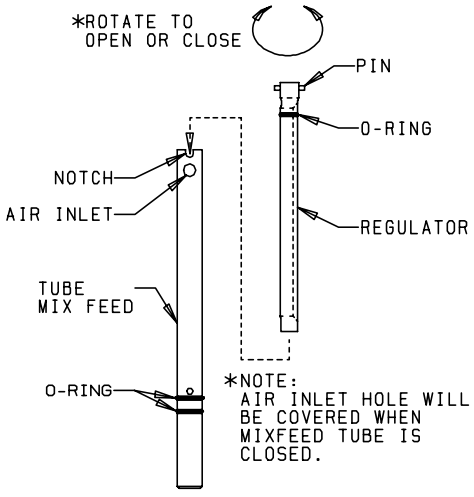

Figure 8-5 Assemble the mix feed tube

5. Insert the assembled beater into the cylinder by sliding the beater shaft in along the bottom of the cylinder. This will center the beater shaft and allow alignment with the drive shaft. Rotate and push the beater assembly until the shank has engaged the drive shaft.

6. Install and lubricate the O-rings (see O-ring chart) on the dispensing plunger and insert into the head (figure 8-4).

7. Install and lubricate the 2½ inch head O-ring.

8. Position the handle in the head assembly and lock in place with the handle pin.

9. Snap the nozzle on the mix outlet at the bottom of the head.

Important:
Do not overtighten the hand knobs. Excessive force will damage the head. Tighten the hand knobs finger-tight only.

10. Install the dispensing head onto the freezer by sliding the head over the threaded studs and aligning the square end of the breaker bar with the square in the dispensing head. Slide the head into the cylinder and install the hand knobs, being careful to tighten simultaneously and finger-tight only.

NOTE: The plunger rod must be in place for the freezer to operate in the “CLEAN” or “AUTO” Mode.

11. Install the plunger rod.

12. Install the O-rings on the mix feed tube and regulator as shown in figure 8-5.

13. Lubricate the O-ring on the regulator and install into the mix feed tube. (No lubrication is required on the mix feed tube O-rings.)

9 Start-up Instructions

9.1 Sanitizing

The sanitizing instructions explained in this manual are important procedures to remove bacteria and maintain a clean, sanitary freezer. The soft serve freezer must be disassembled, washed and sanitized according to the instructions in this manual *before* start-up to ensure the best possible cleanliness.

CAUTION

To prevent bacteria growth, use only approved sanitizers to sanitize the machine. Sanitizing must be done just prior to starting the machine. Failure to do so could create a health hazard.

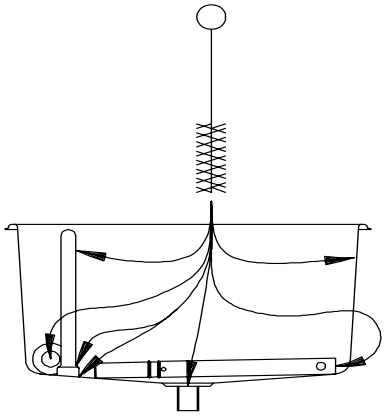

Figure 9-1 Sanitize hopper and its components

Important:
Do not use unapproved sanitizers or laundry bleach. These materials may contain high concentrations of chlorine and will chemically attack freezer components.

NOTE: It is your responsibility to be aware of and conform to the local, state, and federal laws concerning the frequency of sanitizing the freezer.

1. Wash and sanitize your hands and forearms.

2. Prepare 2 gallons (7.6 liters) of sanitizing solution in a container. The sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM (parts per million) available chlorine solution (example: Stera-Sheen Green Label). Use warm water (100º-110ºF or 37-43ºC to wash, rinse, and sanitize.

3. Ensure that the mix feed tube assembly and mix float are in the bottom of the hopper pan.

Important:
Never let the sanitizer remain in the freezer for more than 15 minutes.

Important:
Do not insert any tools or objects into the mix feed port or head dispensing hole while the freezer is running.

4. Pour sanitizing solution into the hopper pan. Using a clean brush, scrub the hopper walls, mix level sensor, the mix feed port from the hopper to the cylinder, the inside of the mix feed tube and the mix float as shown in figure 9-1.

5. Install mix float on mix level sensor and wash down the inside of the hopper cover.

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9.1 Sanitizing - continued

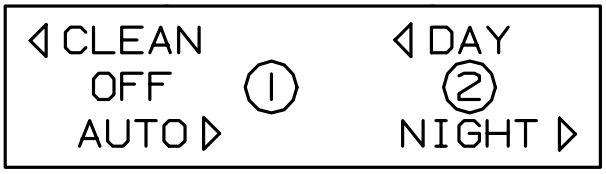


Figure 9-2 Selector (Toggle) Switch Positions

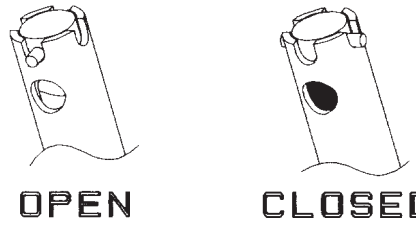
Important:
Do not use the "AUTO" position with sanitizer in the cylinder. The freezer will be damaged.

6. When the cylinder has filled with sanitizing solution, reconnect the main power supply to the freezer. Turn the selector switch to the "CLEAN" position (figure 9-2) and allow the beater to run for 5 minutes. During this time period, check for leaks around the head, plunger and drain tube.

7. Place an empty container under the dispensing head and drain the solution by opening the plunger to allow cylinder and hopper to empty. Open and close the plunger at least 10 times during draining to sanitize the port area of dispense head.

8. When the sanitizing solution has drained from the freezer, turn the selector switch to the "OFF" position.

9.2 Priming



Look through top hole in tube — you should see clear through.

Look through top hole in tube — you should see the inner white plastic tube (regulator) blocking the opening.

Figure 9-3 Mix Feed Tube Positions

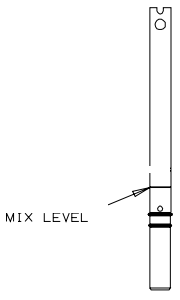


Figure 9-4 Mix Level Line

Priming the freezer removes all excess air and sanitizer from the freezing cylinder and sets the proper overrun for the first cylinder of product. Always have clean, sanitized hands when handling the mix feed assembly. Handle only the top 1" of the assembly.

1. Wash and sanitize your hands.

2. Install the mix feed tube assembly in the hopper. Push all the way down and ensure the regulator is in the "CLOSED" position, as shown in figure 9-3.

3. Fill the hopper with mix to the mix level line (figure 9-4) on the mix tube assembly (1-1/4 pints).

4. Place an empty container under the dispense head. While holding the plunger open, also open the regulator, allowing mix to *force out all remaining sanitizer.* When pure mix appears, close the plunger.

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9.2 Priming - continued

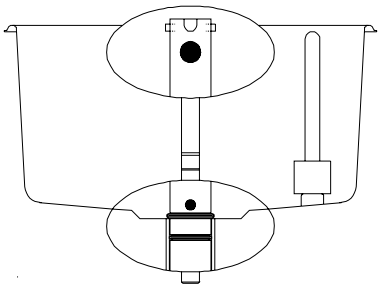


Figure 9-5 Closed — empty hopper

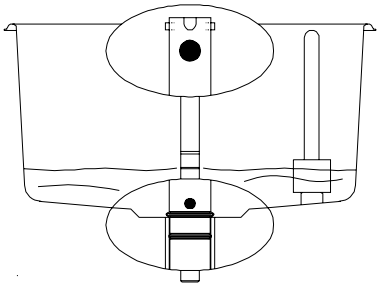


Figure 9-6 Closed — first level mix

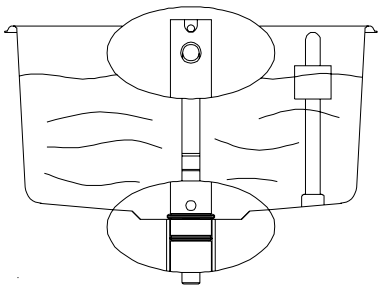


Figure 9-7 Open — full hopper

5. Remove the mix feed tube and allow the remaining mix in the hopper to flow into the cylinder.

6. Reinstall mix feed tube assembly in the hopper and push all the way down. Make sure the regulator is in the "CLOSED" position as shown in figure 9-3.

Important:
Failure to completely remove sanitizer or water from the freezing cylinder before placing in "AUTO" will damage the freezer.

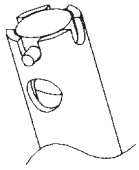
7. Turn selector switch to "AUTO" to begin the freezing process. Fill the hopper with mix to full operating level and install hopper cover.

8. Keep the regulator in the "CLOSED" position until you are ready to dispense the first serving. When ready, move regulator to the "OPEN" position as shown in figure 9-3.

9. During long idle periods, the regulator should be closed — ***but remember — when dispensing product, ensure that the mix feed regulator is OPEN at all times.*** If not open, the flow of mix will be restricted causing the product to freeze solid. Hard, frozen product could cause damage to the freezer. Do not allow lubricant to block the hole in the tube, as this would have the same result.

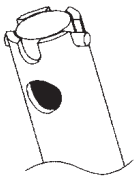
10 Closing Procedures

10.1 Night Switch Operation



OPEN

Look through top hole in tube — you should see clear through.



CLOSED

Look through top hole in tube — you should see the inner white plastic tube (regulator) blocking the opening.

Figure 10-1 Mix Feed Tube Positions

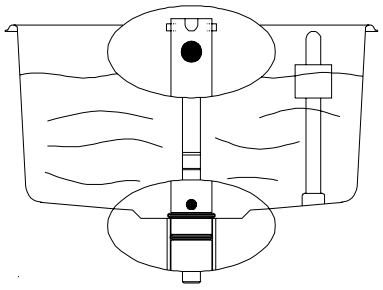


Figure 10-2 Closed — night operation

1. In areas where state and local health codes allow, the freezer may be switched to the energy saving “NIGHT” mode operation. This will allow the freezer to cycle less at night, but still maintain product in the cylinder and hopper approximately 41°F (5°C) or lower.

2. To switch the freezer to the “NIGHT” mode, leave the Selector Switch in the “AUTO” position and place the Day/Night Switch in the “NIGHT” position.

3. The plunger rod must be in place for the unit to operate in the “NIGHT” mode.

4. Remove nozzle, and clean all soiled surfaces with soap and water.

5. Using the small brush supplied in the spare parts kit, brush the nozzle and bottom of the plunger, and then wash with sanitizer solution.

6. Turn the mix feed regulator to the “CLOSED” position as shown in figure 10-1.

7. Check mix level in hopper to ensure that there is enough mix to keep the indicator light off, add mix if necessary. ***Do not dispense product when the mix feed regulator is in the “CLOSED” position.***

8. To start the machine after using the “NIGHT” mode, place back to “DAY” mode and replace the sanitized nozzle.

9. “OPEN” the mix feed regulator and fill the hopper with mix (figure 10-1).

10.2 Draining Product from Freezer

Note: Frequency of cleaning and sanitizing this freezer is determined by Federal, State and Local regulatory agencies. It is your responsibility to be aware of, and conform to, these requirements. For maximum life on moving parts, the freezer should be cleaned and lubricated daily.

To remove frozen product from the cylinders, perform the following steps:

1. Place the selector switch in the "CLEAN" position.

2. Remove mix feed tube from the hopper.

3. Let the beater run for 5 minutes. This will allow the product in the cylinder to soften.

4. Place a clean, sanitized container under the dispensing nozzle.

5. Dispense the semi-frozen product until it quits dispensing. If local health codes permit, cover the rerun product container and place it in the cooler. (See Section 11, SOFT SERVE INFORMATION)

Important:
Do not use hot water. Damage to the freezer could occur.

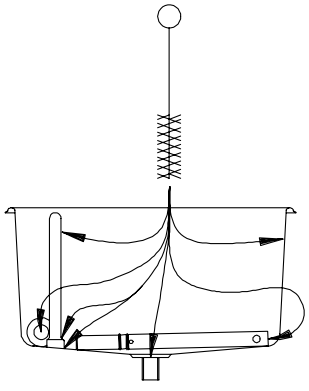


Figure 10-3 Sanitize Hopper

6. Close plunger and pour two gallons of cold water into the hopper.

7. Dispense the cold water and follow with *warm* water until the water coming out is clear. Turn selector switch to the "OFF" position.

8. Drain the remainder of the warm water from the cylinder.

9. Prepare 2 gallons (7.6 liters) of sanitizing solution in warm water. Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM available chlorine solution (example: Stera-Sheen Green Label).

10. Pour sanitizing solution into the hopper pan. Using a clean brush, scrub the hopper walls, mix level sensor, the mix feed port from the hopper to the cylinder, the inside of the mix feed tube and the mix float as shown in figure 10-3.

Important:
Do not use the "AUTO" position with sanitizer in the cylinder. The freezer will be damaged.

11. When the cylinder has filled with sanitizing solution, turn the selector switch to the "CLEAN" position and allow the beater to run for 10 minutes. During this time period, check for leaks around the head, plunger, and drain tube.

12. Place an empty container under the dispensing head and drain the solution by opening the plunger to allow cylinder and hopper to empty.

13. When the sanitizing solution has drained from the freezer, turn the selector switch to the "OFF" position.

14. Proceed to Section 7 Disassembly and Cleaning.

11 Soft Serve Information

11.1 Overrun

As mix is frozen in the freezing cylinder, air is incorporated into the mix to increase its volume, as well as enhance the taste and texture of the finished product. The increase in volume is called *overrun.* Fifty percent overrun translates to a volume increase of 50 percent — 10 gallons of liquid mix has become 15 gallons of finished product.

Controlled overrun is important to maintain consistency in product quality. Too much overrun (air) results in a light, fluffy product lacking the cold refreshing appeal of a quality product. Too little overrun results in a wet, heavy product.

To correctly measure the overrun perform the following steps:

1. Place an empty pint container on the scale* and adjust your scale to zero.

2. Remove container from scale and fill the container with liquid mix to the top. Weigh and record.

3. Replace liquid mix with frozen product, being sure to leave no voids or air spaces in the container.

4. Strike off the excess product so it is even with the top of the container and weigh.

5. Use the following formula to figure overrun percentage:

"*Weight of liquid mix minus weight of frozen product/divided by the frozen weight. Multiply by 100.*"

Example:

Weight of 1 pint of mix	**=**	**18 oz.**
Weight of 1 pint frozen product	**=**	**12 oz.**
Difference	**=**	**6 oz.**

6 oz. divided by 12 oz. = .5

.5 x 100 = 50% overrun

*Your *Electro Freeze* Distributor can provide a scale (P/N 158049) that is graduated in overrun percentage.

12 ROUTINE MAINTENANCE

Electro Freeze recommends the following schedule to help maintain your Model CS5 freezer in like-new operating condition. Take the time to learn and perform these routine procedures and receive in return many years of valuable service from your freezer. Protect your investment!

DAILY

1. Disassemble, wash, rinse, sanitize, air dry, reassemble and sanitize all parts which come into contact with the mix.

CAUTION
To prevent bacteria growth, remove all o-rings when cleaning. Failure to do so could create a health hazard.

2. Clean the cylinder and drain tube with the appropriate brushes.

3. Upon cleaning, inspect all seals and O-rings that come into contact with mix. Replace any O-ring that is worn, torn, or loose-fitting.

4. Wipe all exterior surfaces of the freezer to remove any splattered mix.

5. Check overrun and temperature of the product.

MONTHLY

A. Test Head Switch.

The head switch feature is designed to prevent the beater shaft from being accidentally activated. It is essential that the proper operation of this switch be verified on a routine basis. Use the following instructions to test for proper operation:

1. Be sure all switches are in the "OFF" position.

2. Disconnect the main power supply.

3. Remove the dispense head and beater shaft assembly.

4. Connect the main power supply.

5. Turn the selector switch to the "CLEAN" position.

CAUTION
Moving parts. DO NOT place hands in the freezing cylinder. Severe personal injury could result.

6. Look inside the freezing cylinder toward the rear; the drive shaft coupling should **NOT** be turning. Turn the switch off and disconnect the main power supply.

7. If the drive shaft coupling is turning, or you are unable to determine whether or not the shaft is turning, turn the switch to the "OFF" position, disconnect the main power supply and contact your Electro Freeze distributor for service. **DO NOT** place the freezer in service until the problem has been fixed.

–continued

12 ROUTINE MAINTENANCE - continued

MONTHLY– continued

B. Air Condenser.

Important:
Never use a screwdriver or sharp object to clean between fins.

Have air-cooled condenser fins cleaned by an authorized service technician.

QUARTERLY

Have a refrigeration technician check the refrigeration system and make the necessary adjustments.

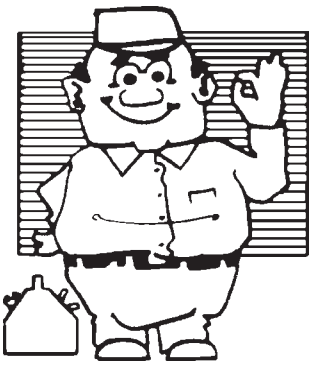
ANNUALLY

CAUTION
To avoid electrical shock or contact with moving parts, make sure all switches are in the "OFF" position and that the main power supply is disconnected.

1. Have drive belts replaced by authorized service technician.

2. Have inside of the freezer cleaned, including base, side panels, condenser, etc. by authorized service technician.

3. Have drive shaft and bearing assemblies inspected by authorized service technician.



12 ROUTINE MAINTENANCE - continued

WINTER STORAGE

To protect the unit during seasonal shutdown, it is important to store the freezer properly. Use the following procedures:

1. Disconnect all power to the freezer.

2. Disassemble and wash all parts that come into contact with the mix using a warm, mild detergent solution. Rinse in clear water and dry all parts thoroughly. Clean drain tube and all exterior panels.

3. Store the loose parts, such as the head assembly and beater assembly, in a safe dry place.

4. Do not lay heavy objects on the plastic or rubber parts.

5. Cover the freezer and all loose parts to protect them from dust or other elements that could contaminate them while in storage. Place the freezer in a dry location.

6. If you have an air cooled freezer, have condenser fins cleaned by authorized service technician.

USE ONLY ORIGINAL OR AUTHORIZED REPLACEMENT PARTS WITH THIS FREEZER.

(See your Illustrated Replacement Parts Manual)

Should you have any questions on items that are not included in this maintenance schedule, or problems where service assistance is needed, please call your local *Electro Freeze* Distributor or H. C. Duke & Son, Inc., *Electro Freeze* Service Department for factory service at (309) 755-4553 or FAX (309) 755-9858.

13 Troubleshooting Tables

THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT PERSONAL SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY. DO NOT ATTEMPT TO CONTINUE UNTIL THE SAFETY PRECAUTIONS ARE THOROUGHLY UNDERSTOOD.

Caution

All maintenance adjustments must be done by an Electro Freeze Distributor or authorized service technician.

Caution

To avoid electrical shock or contact with moving parts, make sure all switches are in the “OFF” position and that the main power supply is disconnected.

Important:

Some refrigerants are hazardous to the earth’s atmosphere. To protect our environment, use a refrigerant recovery/recycling unit whenever removing refrigerant from the system.

13 Troubleshooting Table - continued

PROBLEM	PROBABLE CAUSE	REMEDY
Unit does not operate.	1. Unit unplugged.	1. Plug in unit.
	2. Plunger rod not installed.	2. Install plunger rod.
	3. Fuse or breaker blown at main disconnect.	3. Make sure your freezer is connected to a separate circuit -- independent from any other electrical equipment. Check fuse or breaker size -- voltage must be within 10% of nameplate rating. Call power company.
	4. Component failure.	4. Contact your Electro Freeze Distributor for service.
Unit does not operate in "AUTO" mode. Beater motor runs in "CLEAN" mode.	1. Restricted air flow.	1. Set required air space to a minimum of 3-inches (7.6 cm) on all sides of unit. Louvered areas must be clean and unrestricted (out on high pressure control).
	2. Dirty condenser.	2. Have condenser cleaned by qualified service technician. Contact your Electro Freeze Distributor for service.
	3. Component failure.	3. Contact your Electro Freeze Distributor for service.
Compressor does not operate or operates improperly.	1. Component failure.	1. Contact your Electro Freeze Distributor for service.

13 Troubleshooting Table - continued

PROBLEM	PROBABLE CAUSE	REMEDY
Compressor operates, but beater motor does not.	1. Motor cuts out on internal overload.	1. Turn the selector switch to "OFF", wait 10 minutes and then turn to "AUTO". If motor continues to cut out on overload, proceed to steps a., b., c., and d.
	a. Overrun too low.	a. Check priming procedure (see Start-up Instructions, Section 9.)
	b. Product temperature too low -- below 18° F.	b. Check product temperature. Contact your Electro Freeze Distributor for service.
	c. Line voltage low (should be + or - 10% of nameplate requirement.)	c. Call power company. Voltage must be + or - 10% of nameplate requirement.
	d. Component failure.	d. Contact your Electro Freeze Distributor for service.
Dispensed product too hard.	1. Cylinder thermostat erratic or set too cold.	1. Contact your Electro Freeze Distributor for Service.
	2. Compoent failure or refrigeration problem.	2. Contact your Electro Freeze Distributor for Service.
Leakage of mix from drain tube to drip tray.	1. Damaged beater shaft seal.	1. Replace shaft seal. 
	2. Beater shaft end play not set properly.	2. Contact your Electro Freeze Distributor for service.
Mix leaking at dispensing head.	1. Faulty head o-ring.	1. Replace head o-ring. 
	2. Head not properly installed.	2. Install head properly. 
Mix sours in hopper.	1. Unsanitary cleaning practices, outdated mix, or rerun with excessive foam.	1. Clean, sanitize and start with fresh mix. 
	2. Hopper thermostat set too warm.	2. Contact your Electro Freeze Distributor for service.
	3. Component failure.	3. Contact your Electro Freeze Distributor for service.

13 Troubleshooting Table - continued

PROBLEM	PROBABLE CAUSE	REMEDY
Mix freezes in hopper	1. Frozen product loaded in the hopper.	1. Remove frozen product. Always thaw properly before loading.
	2. Hopper thermostat set too cold.	2. Contact your Electro Freeze Distributor for service.
	3. Component failure.	3. Contact your Electro Freeze Distributor for service.
Machine runs continuously and product continues to get colder.	1. Plunger rod holding switch closed.	1. Close plunger completely.
	2. Component failure or refrigeration problem.	2. Contact your Electro Freeze Distributor for service.
	3. Thermostat set too cold.	3. Contact your Electro Freeze Distributor for service.
Poor or slow product recovery.	1. Dirty or blocked condenser, restricted air flow - high ambient temperature.	1. Have condenser cleaned by your Electro Freeze Distributor; lower ambient temperature.
	2. Thermostat cut in point out of adjustment or malfunctioning.	2. Contact your Electro Freeze Distributor for service.
	3. Defective condenser fan motor.	3. Contact your Electro Freeze Distributor for service.
	4. Component or compressor failure.	4. Contact your Electro Freeze Distributor for service.
Unit runs continuously. Product does not reach 18 -21 degree temperature.	1. Component failure or refrigeration problem.	1. Contact your Electro Freeze Distributor for service.
	2. Dirty air condenser.	2. Contactyour Electro Freeze Distributor for service.
	3. Ambient air too hot.	3. Give louvered area more air space.

13 Troubleshooting Table - continued

PROBLEM	PROBABLE CAUSE	REMEDY
Night mode. Mix sours overnight in cylinder and hopper.	1. Selector switch in "OFF" position.	1. Place selector switch in "AUTO" position.
	2. Component failure.	2. Contact your Electro Freeze Distributor for service.
Unit runs continually in night mode and freezes up.	1. Component failure.	1. Contact your Electro Freeze Distributor for service.

ELECTRO FREEZE®

REPLACEMENT PARTS MANUAL with ILLUSTRATIONS

QUALITY PARTS
PROTECT
YOUR
EQUIPMENT

COMPACT SERIES SOFT SERVE FREEZER Model CS5

184627-01 7/02

KEEP YOUR FREEZER IN EXCELLENT CONDITION. ALWAYS CONTACT YOUR ELECTRO FREEZE DISTRIBUTOR FOR REPLACEMENT PARTS.

H. C. Duke & Son, Inc. P/N 184627-01 July 2002 Printed in U.S.A.

Replacement Parts Orders

You must have the serial number of your freezer when ordering parts — parts may differ with a particular serial number of the same model.

Parts are listed using terminology that best fits the function of the part. The illustrations in this section will help you to find the correct part number and description. The alphabetized parts list can be used to verify part numbers pertaining to the serial number of your unit.

Place your parts order through your local authorized Electro Freeze Distributor.

Name: _____

Address: _____

_____

Phone: _____

If you require any further assistance, contact H. C. Duke & Son, Inc., *Electro Freeze* as follows:

Phone: (309) 755-4553

FAX: (309) 755-9858

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ILLUSTRATIONS

OTHER LISTS and INFORMATION

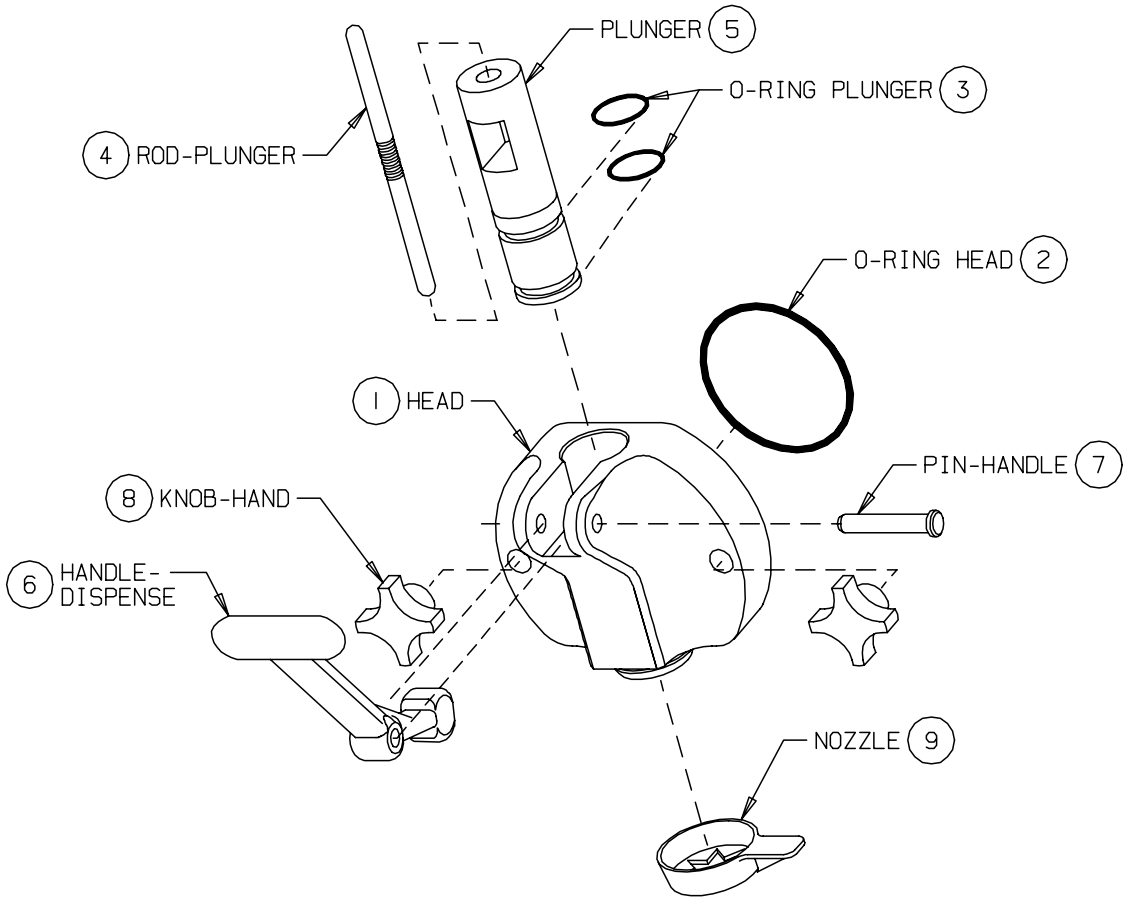


Figure 1 Head Assembly

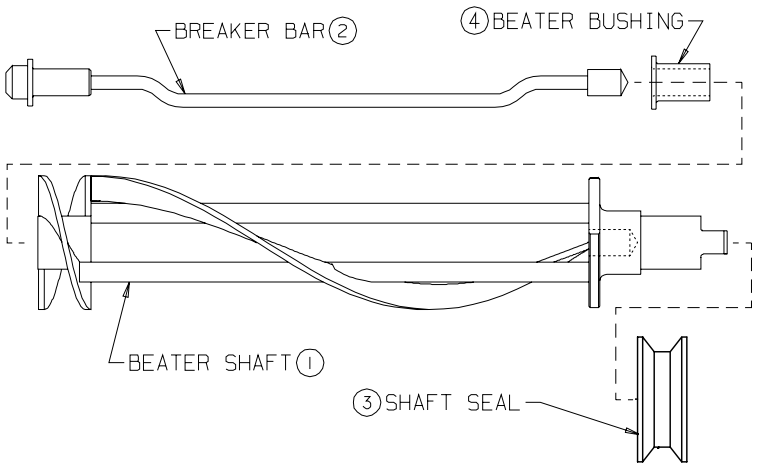
Item	Part No.	Description
*	116607	Head-Assy. Dispense (Complete)
1	116612	Head-Assy. Dispense
2	160627	O-ring (Head)
3	160624	O-ring (Plunger)
4	138611	Rod-Actuator
5	138603	Plunger-Dispense
6	196166	Handle-Dispense
6A	116323	Handle-Assy. Complete Dispense Stainless Steel (Optional-not shown)
7	160265	Pin-Handle
8	162622	Knob-Hand
9	196167	Nozzle-Dispense

* Includes all items above except #4, 6A, and 8.

Not Shown:

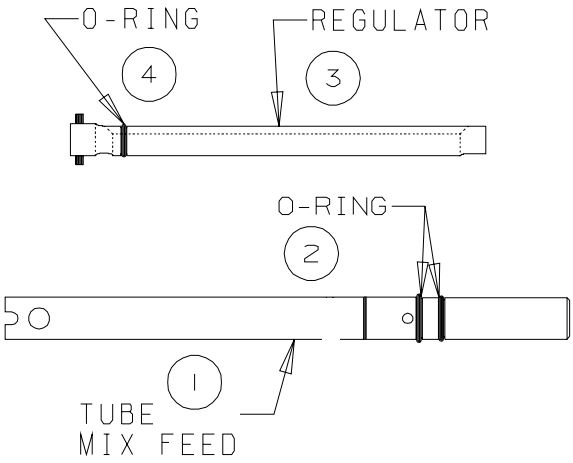
	116598	Stud-Assembly Cylinder

Figure 2 Beater Shaft Assembly



Item	Part No.	Description
1	116592	Shaft-Assy. Beater
2	116597	Breaker-Assy. Bar
3	115525	Seal-Assy.Shaft Double includes:
		160557 Seal-Beater Shaft
		137593 Washer-Double Shaft Seal
4	138610	Bushing-Beater

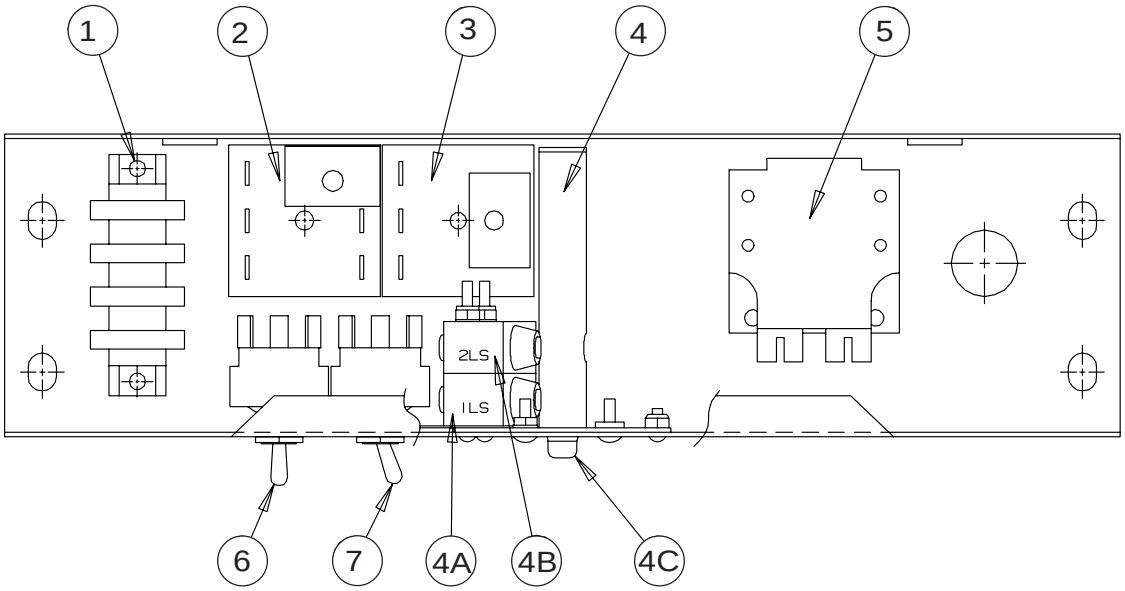
Figure 3 Mix Feed Tube Assembly



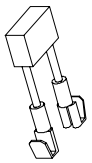
Item	Part No.	Description
*	117100	Tube-Assembly Mix Feed
1	138894	Tube-Mix Feed
2	160626	O-ring-Mix Feed Tube
3	116005	Insert-Assembly Mix Feed
4	160610	O-ring-Regulator

* Includes item 1 through 4.

Use only original or authorized replacement parts with this freezer



Detailed Drawing of Filter Assembly



Item #2A
Filter-Assy.
116125

Figure 4 Switch Box

Item	Part No.	Description
1	150795	Strip-Terminal
2	116924	Timer-Assy. (with Potentiometer) includes:
	150252	Timer-.5–60 Delay on Break
	150253	Module-Plug on Vari Time
2A	116125	Filter-Assy. (see detailed drawing)
3	115858	Timer-Assy. Recycle (Night Cycle) includes:
	150226	Timer-Recycle (Night)
	150229	Potentiometer-2 Meg
4	116613	Switch-Assy. Plunger includes:
4A		150456 Switch-Snap Button (Head 1 LS)
4B		150456 Switch-Snap Button (Plunger 2 LS)
4C		137760 Rod-Plunger Switch (Actuator Button)
4D		115684 Guide-Assy. Push Rod (not shown)
4E		137893 Insulator-Switch (not shown)
4F		162303 Spring-Plunger Rod (not shown)
5	150339	Contactor-Motor/Compressor 60 HZ
6	150461	Switch-Toggle DPDT (DAY/NIGHT)
7	150463	Switch-Toggle DPDT (AUTO/OFF/CLEAN)

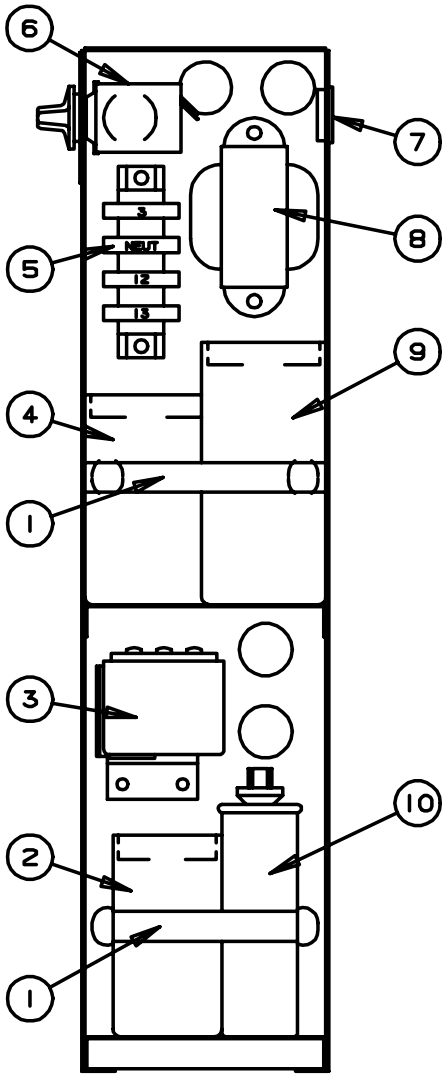


Figure 5 Capacitor/Relay Box

Item	Part No.	Description
1	160743	Clamp-Hose 3-1/16 to 4 (Capacitor)
2	151426-01	Capacitor-Start (60 HZ) Compressor 340-408 MFD 65VAC
3	151427-01	Relay-Compressor (60 HZ) GE3ARR
4	150317	Capacitor-Start (50/60 HZ) Beater Motor 30 MFD 370VAC
5	150795	Strip-Terminal
6	161202	Thermostat-5° Fixed Dif. (Hopper)
7	150778	Bushing-Insulator
8	150286	Transformer-CL2 120 PRI/24V Sec. (60 HZ) 115V
9	150318	Capacitor-Run (60 HZ) Beater Motor 189-227 MFD 125VAC
10	151421	Capacitor-Run (50/60 HZ) Compressor 15 MFD 370VAC

Use only original or authorized replacement parts with this freezer

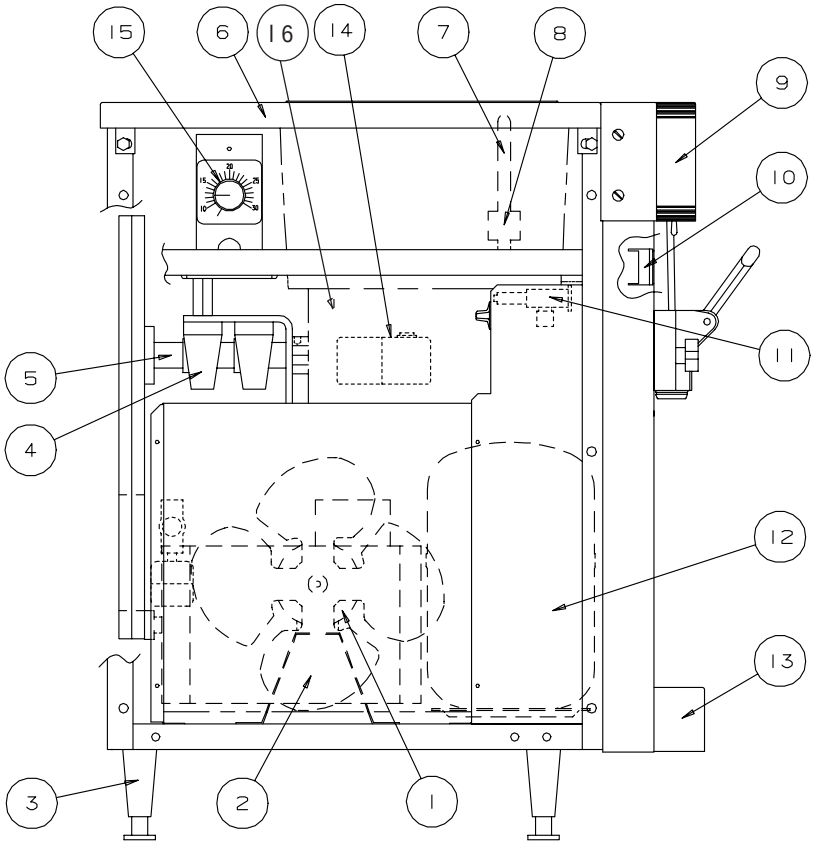


Figure 6 CS5 Model – Side View

Item	Part No.	Description
1	151074-01	Motor-Fan 35w 115V/60 HZ
1A	162611	Bracket-Fan Motor
1B	155126-C	Condenser-Air
2	159018	Blade-Fan 10” 32°
2A	160104	Nut-Hex 1/4-20 ZN (Fan Blade)
3	115800	Leg-Assy. (4" Adj. Metal)
4	153030	Bearing-1” Pillow Block
5	115767	Shaft-Assy. Drive includes:
	137795	Shaft-Drive
	137787	Cap-Coupling
	160056	Screw-SK Set 1/4-20 x 1/4 ZN
6	115697	Panel-Assy. Hopper & Top
7	161300	Switch-Level Float Sensor
8	161301	Float-Level Sensor
9	196203	Trimstrip (Black)
10	150541	Light-Indicator “Add Mix“
11	155452	Valve-Auto Expansion
12	116824	Compressor-Assy. also includes:
	151426-01	Capacitor-Start
	151421	Capacitor-Run
	155063	Drier-Filter
	151427-01	Relay-Start Run

Item	Part No.	Description
13	196204	Tray-Drip (Black)
13A	196205	Insert-Tray (Black)
14	155435	Valve-Solenoid 115V
15	116442	Control-Assy. & Bracket (Thermostat) includes:
	138419	Bracket-Thermo-stat
	161215	Control-Electronic (only)
	165026	Decal-Thermostat
	162605	Knob-RD Dial
	160554	O-ring
16	116599	Cylinder-Assy. Complete

Not Shown:

155419	Valve Access

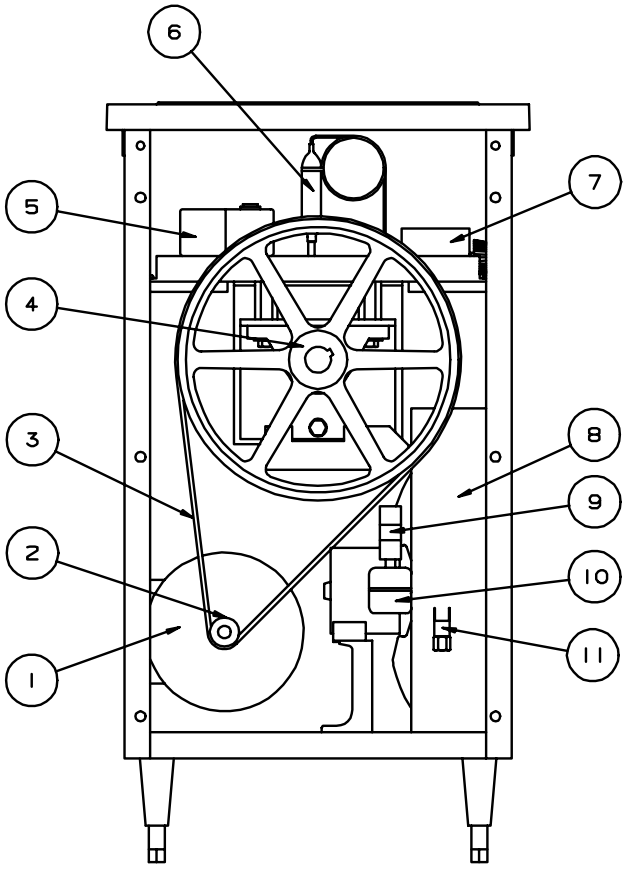


Figure 7 CS5 Model – Rear View

Item	Part No.	Description
1	118135	Kit-Motor & Capacitor 1/2HP includes: 150317 Start Capacitor 150318 Run Capacitor
1A	150855	Switch-Start 60 HZ
2	153637	Sheave-5/8 Bore 1.75 OD (Driver Pulley)
2A	153322	Key-Drive 3/16" Sq. x 1-1/2"
2B	160495	Screw-SK Set 1/4-20 x 1/4 BKOX
3	153177	Belt-V
4	153638	Sheave-1 Bore 12.25 OD (Driven Pulley)
4A	153323	Key-Drive 1/4" Sq. x 1-1/2"
4B	160033	Screw-SK Set 5/16-18 x 3/8 BKOX
5	155435	Valve-Solenoid 115V/60 HZ
6	155433	Tube-Capillary w/strainer
7	116442	Control-Assy. & Bracket (Thermostat) includes: 138419 Bracket-Thermostat 161215 Control-Electronic (only) 165026 Decal-Thermostat 162605 Knob-RD Dial 160554 O-ring
8	155126-C	Condenser-Air
9	155459	Glass-Sight
10	155063	Drier-Filter
11	155450	Cut-Out-High Pressure
Not Shown:		
	161216	Sensor-Thermistor-10 K

Use only original or authorized replacement parts with this freezer

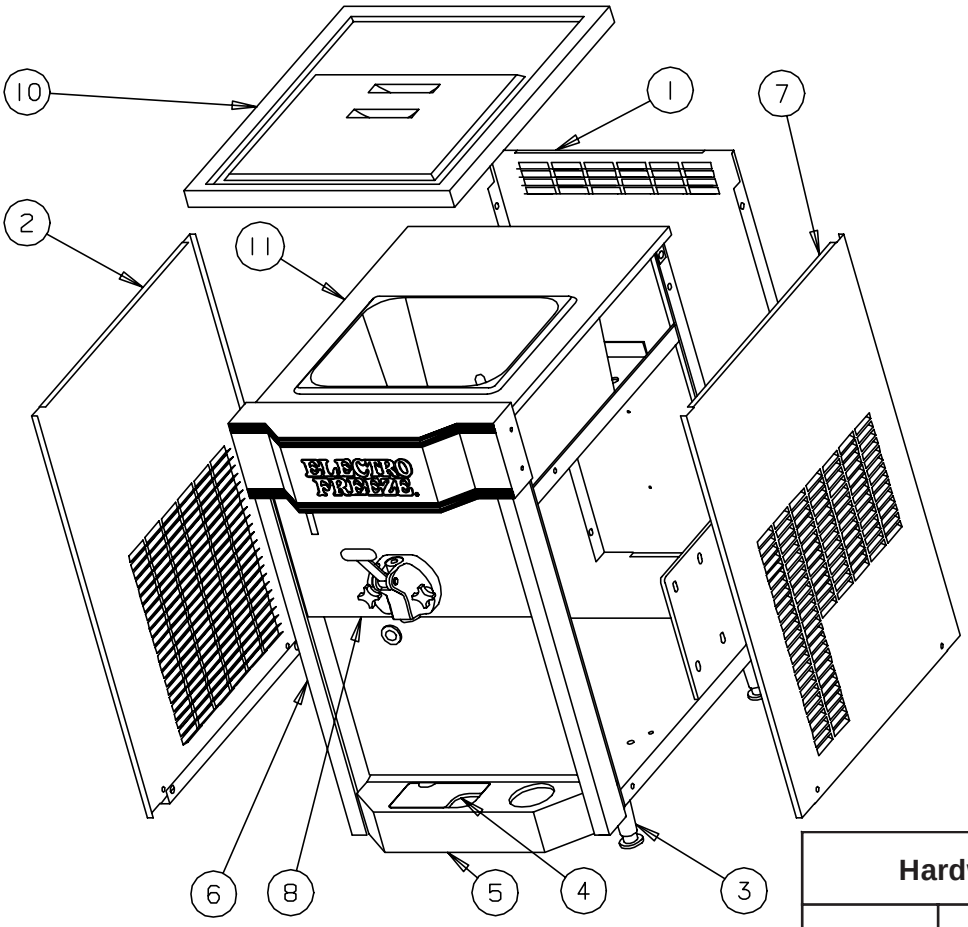


Figure 8 CS5 Model – Panel View

Item	Part No.	Description
1	137768-C	Panel-Rear
2	137767-C	Panel-Side LH
3	115800	Leg-Assy. (Adjustable)
4	196205	Insert-Drip Tray (Black)
5	196204	Tray-Drip (Black)
6	116554-C	Panel-Assy. Front
6A	159064	Grommet-Drain Tube (not shown)
7	137766-C	Panel-Side RH
8	138526	Panel-Front Dispense
9	196203	Trimstrip (Black)
10	196206	Cover-Hopper (Black)
11	115697	Panel-Assy. Hopper and Top

Hardware for CS5 Panels			
Panel	**Screw**	**Nut-Speed on Frame**	**Bushing**
Dispense	160076	n/a	n/a
Front	160048	160117	n/a
Rear	160048	160117	n/a
Side	159219	n/a	139790
Trimstrip	160076	n/a	n/a
n/a - Not Applicable			

Panel Decals & Labels	
Part No.	**Description**
165025	Beater Warning
165242	Cleaning Instructions
165093	Clear Overlay
164004-03	Operating Instructions
165126	Panel Removal
165145	Trimstrip
169048	Ventilation

Accessories

PART No.	DESCRIPTION
158003	Brush-7/16 x 1-1/8 Double Handle
158008	Brush-2-9/16 w/ 10 inch Handle
158026	Brush-1 inch Dia. 12 inch Long
158037	Brush-1/4 inch Dia.18-1/2 Overall Length
196206	Cover-Hopper (Black)
158051	Cup-Overrun (use with P/N 158049 scale)
116851	Kit-O-Ring CS5
115800	Leg-Assy. (4 inch)
158000A	Lubricant-Petrol Gel (per 4 oz. tube)
184240	O-Ring Chart
158013	Sanitizer-Stera-Sheen (sample)
158014A	Sanitizer-Stera-Sheen (per 4 lb. jar)
158049	Scale-Overrun Z32
169374	Tool-O-Ring Removal
196204	Tray-Drip (Black)
196205	Insert-Drip Tray (Black)

Use only original or authorized replacement parts with this freezer

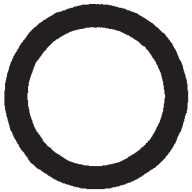
184240

MODEL CS5

184627-01

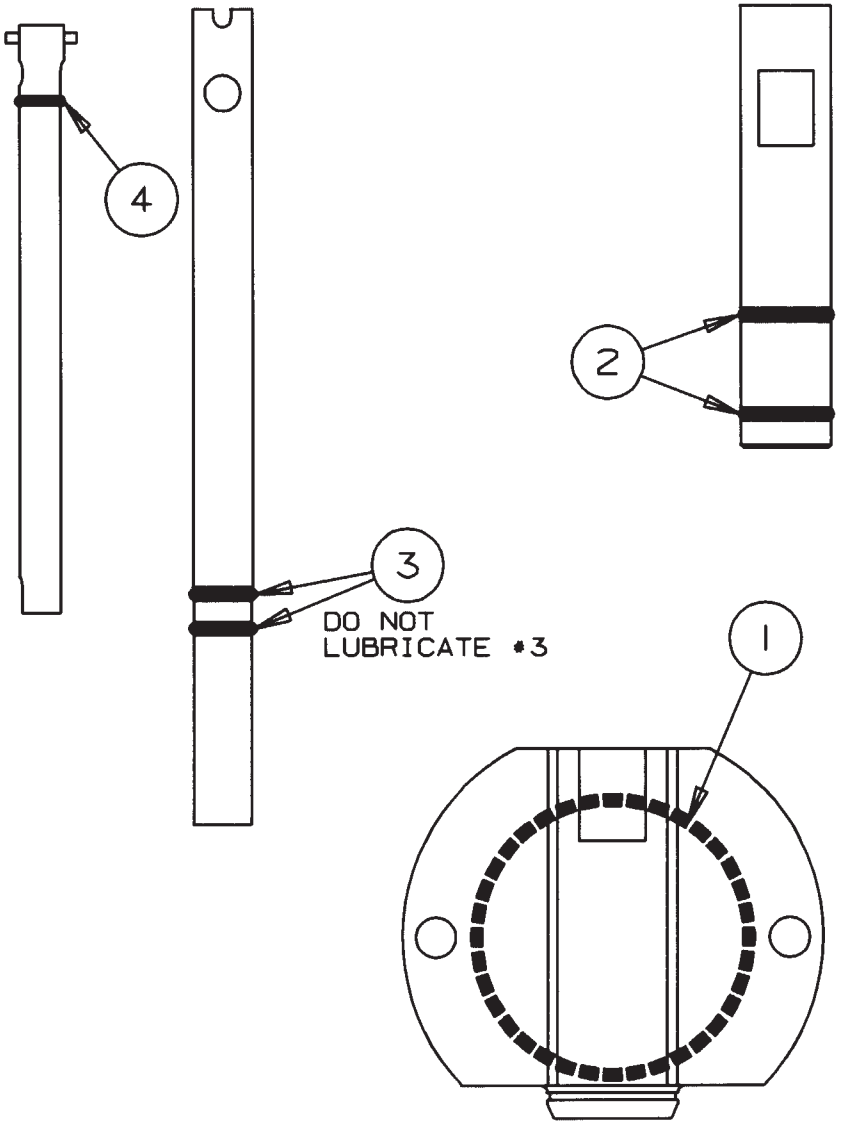
PART NO.
160627 ①

PART NO.
160610 ④



PART NO.
160624 ②

PART NO.
160626 ③



9

O-RING CHART

PH.NO. 309-755-4553

H.C.DUKE & SON.INC.

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Bearing-1" Pillow Block	153030	2	G2A-1818 –
Belt-Poly V	153177	2	G2A-1818 –
Blade-Fan 10" 32°	159018	1	G2A-1818 –
Board-Beater Motor 50/60 HZ triac	150855	1	G2A-1818 –
Bracket-Fan Motor	162611	1	G2A-1818 –
Bracket-Thermostat	138419	1	G2A-1818 –
Breaker-Assy. Bar	116597	1	G2A-1818 –
Brush-1/4" Dia 18-1/2 Overall Length (Mix Feed Assembly)	158037	1	G2A-1818 –
Brush-2-9/16 w/10 in. Handle (Cylinder)	158008	1	G2A-1818 –
Brush-7/16 x 1-1/8 Double End	158003	1	G2A-1818 –
Brush-1" Dia. 12" Long (Drain Tube)	158026	1	G2A-1818 –
Bushing-Beater	138610	1	G2A-1818 –
Bushing-Insulator (Capacitor/Relay Box)	150778	1	G2A-1818 –
Bushing-Panel	139790	4	G2A-1818 –
Bushing-Shaft Seal	*See Seal-Assembly - Washer*		
Cap-Coupling (Drive Shaft)	137787	1	G2A-1818 –
Capacitor-Run (Beater Motor)	150318	1	G2A-1818 –
Capacitor-Run (Compressor)	151421	1	G2A-1818 –
Capacitor-Start (Beater Motor)	150317	1	G2A-1818 –
Capacitor-Start (Compressor)	151426-01	1	G2A-1818
Clamp-Relay Box Capacitor	160743	2	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Use only original or authorized replacement parts with this freezer

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Compressor Assembly-120/60/1			
(with start components)	116824	1	G2A-1818 –
Capacitor-Run (15MFD 370VAC 50/60 HZ)	151421	1	G2A-1818 –
Capacitor-Start			
(340-408MFD 165VAC 50/60 HZ)	151426-01	1	G2A-1818 –
Drier-Filter	155063	1	G2A-1818 –
Relay-Start 60 HZ 3ARR3	151427-01	1	G2A-1818 –
Condenser-Air	155126-C	1	G2A-1818 –
Connector-Terminal	150705	1	G2A-1818 –
Contactor-Compressor/Beater	150339	2	G2A-1818 –
Control-Assembly and Bracket	116442	1	G2A-1818 –
Bracket-Thermostat	138419	1	G2A-1818 –
Control-Electronic Temp. (Thermostat)	161215	1	G2A-1818 –
Decal-Thermostat	165026	1	G2A-1818 –
Knob-RD Dial	162605	1	G2A-1818 –
O-ring	160554	2	G2A-1818 –
Control-Electronic	161215	1	G2A-1818 –
Cord-Molded (with plug)	150602	1	G2A-1818 –
Cover-Cap/Relay Box	115797	1	G2A-1818 –
Cover-Electrical Box	115789	1	G2A-1818 –
Cover-Hopper Black	196206	1	F2D-1600
Cover-Hopper NLA Use 196206	196171	1	G2A-1818 – E2D-1424
Cut-Out-High pressure	155450	1	G2A-1818 –
Cup (only)-Shaft Seal	160557	1	G2A-1818 –
Cup-Overrun	158051	*	G2A-1818 –
Cylinder-Assembly Complete	116599	1	G2A-1818 –
Decal-6" Air Flow	165119	1	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Decal-Beater Warning	165025	1	G2A-1818 –
Decal-Cleaning Instructions	165242	1	G2A-1818 –
Decal-Clear Overlay	165093	1	G2A-1818 –
Decal-Electric Box Danger	165000	1	G2A-1818 –
Decal-Electric Shock	165186	1	G2A-1818 –
Decal-Operating Instructions	164004-03	1	G2A-1818 –
Decal-Panel Removed	165126	3	G2A-1818 –
Decal-Refrigerant 404A	165114	1	G2A-1818 –
Decal-Thermostat	165026	1	G2A-1818 –
Decal-Trimstrip (Electro Freeze)	165217-02	1	G2A-1818 –
Decal-Trimstrip (Self-service)	165220	1	Optional
Decal-Ventilation	169048	1	G2A-1818 –
Decal-Wiring	165315	1	G2A-1818 –
Diagram-Wiring	138637	1	G2A-1818 –
Drain Tube Assembly	115663	1	G2A-1818 –
Drier-Filter (Flare Fitting)	155053	1	G2A-1818 – J2B-2438
Drier-Filter (Sweat Fitting)	155063	1	J2B-2439 –
Filter-Assembly	116125	1	G2A-1818 –
Float-Level Sensor	161301	1	G2A-1818 –
Glass-Sight (Flare Fitting)	155460	1	G2A-1818 – J2B-2438
Glass-Sight (Sweat Fitting)	155459		J2B-2439 –
Grommet-Compressor Mtg.	151431	4	G2A-1818 –
Grommet-Drain Tube	159064	1	G2A-1818 –
Guide Assy-Plunger Rod	115684	1	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Use only original or authorized replacement parts with this freezer

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Handle-Dispense Plastic (Head Assembly)	196166	1	G2A-1818 –
Handle-Dispense Stainless Steel	116323	1	Optional
Head-Assembly Dispense	116607	1	G2A-1818 –
Handle-Dispense Plastic	196166	1	G2A-1818 –
Head-Assy. Dispense	116612	1	G2A-1818 –
O-Ring (Head)	160627	1	G2A-1818 –
O-Ring (Plunger)	160624	2	G2A-1818 –
Pin-Handle	160265	1	G2A-1818 –
Plunger-Dispense	138603	1	G2A-1818 –
Head-Assembly Dispense (Head only)	116612	1	G2A-1818 –
Insert-Drip Tray (Black)	196205	1	F2D-1600 –
Insert-Drip Tray Gray NLA Use 196205	196170	1	G2A-1818 –E2D-1424
Insert-Assembly Mix Feed	116005	1	G2A-1818
Key-Drive 3/16" sq x 1-1/2" (Driver Sheave)	153322	2	G2A-1818 –
Key-Drive 1/4" sq x 1-1/2" (Driven Sheave)	153323	2	G2A-1818 –
Kit-O-ring **	116851	1	G2A-1818 –
Kit-Solenoid Valve	155437	A/R	G2A-1818 –
Knob-Hand	162622	2	G2A-1818 –
Knob-RD Dial	162605	1	G2A-1818 –
Label-CLEAN/OFF/AUTO	165145	1	G2A-1818 –
Label-DAY/NIGHT	165145	1	G2A-1818 –
Leg-Asy. (4-inch Adjustable Metal)	115800	4	G2A-1818 –
Light-Indicator (ADD MIX)	150541	1	G2A-1818 –
Lubrication-Petrol Gel	158000A*	A/R	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Manual-Operators-CS5 Instruction	184627	1	G2A-1818 –
Motor-Beater 115/60/1	118135	1	G2A-1818 –
Capacitor-Run (60HZ 30MFD 370VAC)	150318	1	G2A-1818 –
Capacitor-Start (60HZ 295-355MFD 125VAC)	150317	1	G2A-1818 –
Switch-Start	150855	1	G2A-1818 –
Motor-Fan 35W 115V 60 HZ	151074-01	1	G2A-1818 –
Nozzle-Dispense (Head Assembly)	196167	1	G2A-1818 –
Nut-Speed #10-24	159132	2	G2A-1818 –
Nut-Speed 1/4-20 (On Frame)	160117	12	G2A-1818 –
Operator's Instruction Sheet - English	184837	*	G2A-1818 –
Operator's Instruction Sheet - Spanish	184837-15	*	G2A-1818 –
Operator's Instruction Sheet - Chinese	184859	*	G2A-1818 –
O-ring (Head)	160627	1**	G2A-1818 –
O-ring (Mix Feed Regulator)	160610	1**	G2A-1818 –
O-ring (Mix Feed Tube)	160626	2**	G2A-1818 –
O-ring (Plunger)	160624	2**	G2A-1818 –
O-ring Chart	184240	*	G2A-1818 –
O-ring Kit **	116851	1	G2A-1818 –
Panel-AssemblyFront	116554	1	G2A-1818 –
Panel-Assembly Hopper and Top	115697	1	G2A-1818 –
Panel-Dispense	138526	1	G2A-1818 –
Panel-Rear	137768	1	G2A-1818 –
Panel-LH Side***	137767	1	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Use only original or authorized replacement parts with this freezer

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Panel-RH Side***	137766	1	G2A-1818 –
Panel Gray-Switch Box w/EF decal NLA Use 196203	196168	1	G2A-1818 – E2D-1424
Panel Black-Switch Box w/EF decal	196203	1	F2D-1600 –
Pin-Handle (Head Assembly)	160265	1	G2A-1818 –
Plunger-Dispense (Head Assembly)	138603	1	G2A-1818 –
Pulley	*See "Sheave"*		
Regulator-Mix Feed Tube	116005	1	G2A-1818 –
Relay-Compressor (60HZ)	151427-01	1	G2A-1818 –
Rod-Plunger Switch (Actuator Button)	137760	1	G2A-1818 –
Rod-Actuator (Plunger)	138611	1	G2A-1818 –
Sanitizer-Sample	158013	A/R*	G2A-1818 –
Sanitizer-4 lb. jar	158014A	A/R*	G2A-1818 –
Sanitizer-Case/4 jars	158014	A/R*	G2A-1818 –
Scale-Overrun	158049	*	G2A-1818 –
Screw-Sk Set 1/4-20 x 1/4 ZN (Drive Shaft)	160495	2	G2A-1818 –
Screw-Sk Set 1/4-20 x 1/4 ZN (Driver Sheave)	160495	2	G2A-1818 –
Screw-SK Set 5/16-18x3/8 BKOX (Driven Sheave)	160033	2	G2A-1818 –
Screw-TRPM #10-24 x 1/2 SST (Dispense Panel & Trimstrip)	160076	8	G2A-1818 –
Screw-TRPM 1/4-20 x 1/2 SST (Front & Rear Panel)	160048	6	G2A-1818 –
Screw-TRPM 1/4-20 x 1 SST (Side Panels)	159219	4	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Seal-Assembly Shaft	113824	1**	G2A-1818 – L2H
Seal-Beater Shaft (Cup-only)	160557	1	G2A-1818 – L2H
Washer-Shaft Seal	136025	1	G2A-1818 – L2H
Seal-Assembly Shaft Double	115525	1**	A2H –
Seal-Beater Shaft (Cup-only)	160557	2	A2H –
Washer-Shaft Double Seal	137593	1	A2H –
Sensor-10K Thermistor	161216	1	G2A-1818 –
Shaft-Assembly Beater	116592	1	G2A-1818 –
Shaft-Assembly Drive	115767	1	G2A-1818 –
Cap-Coupling	137787	1	G2A-1818 –
Screw-Sk Set 1/4-20 x 1/4 ZN	160056	1	G2A-1818 –
Shaft-Drive (Shaft only)	137798	1	G2A-1818 –
Sheave-1 Bore 12.25 OD (Driven Pulley)	153638	1	G2A-1818 –
Key-1/4" SQ x 1-1/2"	153323	1	G2A-1818 –
Screw-Set-5/16-18 x 3/8	160033	2	G2A-1818 –
Sheave-5/8 Bore 1.75 OD (Driver Pulley)	153637	1	G2A-1818 –
Key-3/16" SQ x 1-1/2"	153322	1	G2A-1818 –
Screw-Set-1/4-20 x 1/4	160495	2	G2A-1818 –
Shroud-Fan	137739	1	G2A-1818 –
Sight-Glass (Flare Fitting)	155460	1	G2A-1818 – J2B-2438
Sight-Glass (Sweat Fitting)	155459	1	J2B-2439 –
Spring-Plunger Rod	162303	1	G2A-1818 –
Strip-Terminal	150795	2	G2A-1818 –
Stud-Cylinder	116598	2	G2A-1818 –
Switch-Assembly Plunger	116613	1	G2A-1818 –
Guide-Assy. Push Rod	115684	1	G2A-1818 –
Insulator-Switch	137893	1	G2A-1818 –
Rod-Plunger Switch (Actuator Button)	137760	1	G2A-1818 –
Spring-Plunger	162303	1	G2A-1818 –
Switch-Snap Button (Head & Plunger)	150456	2	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Use only original or authorized replacement parts with this freezer

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Switch-Level Float Sensor	161300	1	G2A-1818 –
Switch-Plunger	150456	1	G2A-1818 –
Switch-Snap Button (Head & Plunger)	150456	1	G2A-1818 –
Switch-Toggle DPDT (AUTO-OFF-CLEAN)	150463	1	G2A-1818 –
Switch-Toggle DPDT (DAY-NIGHT)	150461	1	G2A-1818 –
Thermostat-5° Fixed (Hopper)	161202	1	G2A-1818 –
Thermostat-Assy.	*See "Control-Assy."*		
Timer-Assembly with Potentiometer	116924	1	G2A-1818 –
Timer-.5–60 Delay on Break	150252	1	G2A-1818 –
Module-Plug on Vari Time	150253	1	G2A-1818 –
Timer-Assembly Recycle (Night Cycle)	115858	1	G2A-1818 –
Potentiometer-2 Meg (0-40 min. OFF) (VTP5P)	150229	1	G2A-1818 –
Timer-Recycle (Night)(TSDR64905A4)	150226	1	G2A-1818 –
Tool-O-ring Removal	169374	*	G2A-1818 –
Transformer-CL2 120PRI/24V Sec.	150286	1	G2A-1818 –
Tray-Drip (Black)	196204	1	F2D-1600 –
Tray-Drip Gray NLA Use 196204	196169	1	G2A-1818 – E2D-1424
Trimstrip Assembly-Switch Box Panel (w/EF label) NLA Use 196203	115777	1	G2A-1818 – G2B
Trimstrip(Black) Switch Box Panel E/F Decal	196203	1	F2D-1600 –
Trimstrip Assembly Gray-Switch Box Panel E/F Decal NLA Use 196203	196168	1	G2B – E2D-1424
Tube-Capillary (w/strainer)	155433	1	G2A-1818 –
Tube-Mix Feed	138894	1	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Use only original or authorized replacement parts with this freezer

Alphabetized Parts List for Model CS5

IMPORTANT: All parts shown are for standard models designed for 115v/ 60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)
Tube-Assembly Mix Feed (complete)	117100	1	G2A-1818 –
Insert-Assembly Mix Feed	116005	1	G2A-1818 –
O-ring (Mix Feed Tube)	160626	2	G2A-1818 –
O-ring (Regulator)	160610	1	G2A-1818 –
Tube-Mix Feed	138894	1	G2A-1818 –
Valve-Access	155419	1	G2A-1818 –
Valve-Auto Exp. (Flare Fitting)	155407	1	G2A-1818 – J2B-2438
Valve-Auto Exp. (Sweat Fitting)	155452	1	J2B-2439 –
Valve-Solenoid 115V	155435	2	G2A-1818 –

* As Required

** Items Included In O-Ring Kit No. 116851

*** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

Use only original or authorized replacement parts with this freezer

Cleaning & Sanitizing Electro Freeze® Compact Series Soft Serve Freezers

The cleaning and sanitizing instructions explained in this instruction sheet are required to maintain a clean, sanitary freezer. The freezer should be disassembled, cleaned, reassembled, lubricated, and sanitized daily to ensure the best possible product and freezer operation.

This instruction sheet is not intended to be used in place of the Operator's Manual. Use the following information to assist you only after you have read, understood, and are accomplished in the procedures for cleaning and sanitizing detailed in the Electro Freeze Freezer Operator's Manual.

CAUTION

To avoid electrical shock or contact with moving parts, make sure all switches are in the "OFF" position and that the main power supply is disconnected.

CLEANING

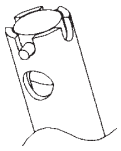
1. Disassemble the freezer components in accordance with the Operator's Manual instructions.
2. Prepare a three-compartment sink for cleaning, rinsing, and sanitizing parts removed from the freezer per applicable health codes. The sanitizer should be mixed according to the manufacturer's instructions to yield 100 parts per million (PPM) available chlorine solution. (example: Stera-Sheen Green Label).
3. Wash, rinse, sanitize, and air dry all parts removed from the freezer. For proper sanitizing, the parts must remain in the sanitizer for 5 minutes.
4. The following parts should be cleaned with the appropriate brush supplied with freezer.
   a. The mix feed tube, regulator main bore, and cross holes.
   b. The head plunger openings, center plunger ports, breaker bar cavities, O-ring grooves, dispense nozzle mounting rings, and mix ports.
   c. The shaft seal, bushing, plunger O-ring grooves, nozzle, and float.
   d. The beater shaft inside the front collar and the hole on the rear flange.
5. Clean the freezer with the approved cleaning solutions and brush out the inside of the hopper and around the mix level sensor tube.
6. Thoroughly brush the hopper and mix feed port to the cylinder.
7. Brush the inside of the cylinder, making certain to clean the back wall of the cylinder.
8. Brush the inside of the drain tube.

SANITIZING

1. Assemble and lubricate freezer components in accordance with the Operator's Manual instructions.
2. Wash and sanitize your hands and forearms.
3. Prepare 2 gallons (7.6 liters) of sanitizing solution in a container. The sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM (parts per million) available chlorine solution (i.e., Stera-Sheen or equivalent).
4. Make sure that the mix feed tube assembly and mix float are in the bottom of the hopper pan.
5. Pour sanitizing solution into the hopper pan. Using a clean brush, scrub the hopper walls, mix level sensor, the mix feed port from the hopper to the cylinder, the inside of the mix feed tube, and the mix float.
6. Install mix float on mix level sensor and wash down the inside of the hopper cover.
7. When the cylinder has filled with sanitizing solution, reconnect power, turn the selector switch to the "CLEAN" position and allow the beater to run for 5 minutes. During this time period, check for leaks around the head, plunger, and drain tube.
8. Place an empty container under the dispensing head and drain the solution by opening the plunger to allow the cylinder and hopper to empty. Open and close the plunger at least 10 times during draining to sanitize the port area of the dispense head.
9. When the sanitizing solution has drained from the freezer, turn the selector switch to the "OFF" position.

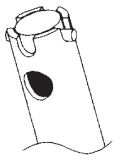
Problem? *Contact your local authorized distributor or the freezer manufacturer, Electro Freeze Service Department, 2116 Eighth Avenue, East Moline, IL 61244, (309) 755-4553 or FAX (309) 755-9858.*

PRIMING THE FREEZER



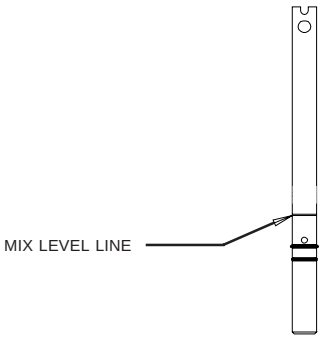
OPEN

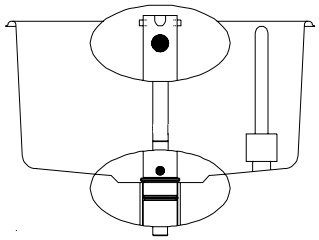
Look through top hole in tube — you should see clear through.



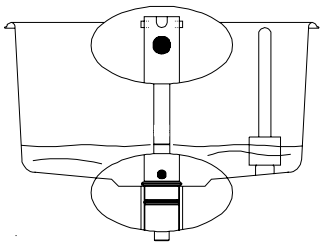
CLOSED

Look through top hole in tube — you should see the inner white plastic tube (regulator) blocking the opening.

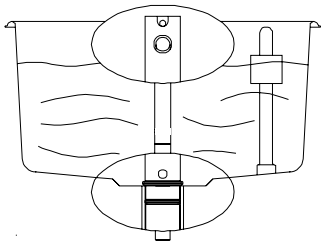




Closed — empty hopper



Closed — mix at level line



Open — full hopper

1. Make sure that your hands and forearms and all freezer assemblies are sanitized.
2. Install the mix feed tube assembly in the hopper. Push all the way down and make sure the regulator is in the **"CLOSED"** position.
3. Fill the hopper with mix to the mix level line on the mix tube assembly.
4. Place an empty container under the dispense head. While holding the plunger open, place the regulator in the **"OPEN"** position, and allow the mix to *force out all remaining sanitizer.* When pure mix appears, close the plunger.
5. Remove the mix feed tube and allow the remaining mix in the hopper to flow into the cylinder.
6. Reinstall mix feed tube assembly in the hopper and push all the way down. Make sure the regulator is in the **"CLOSED"** position.

Important:
Failure to completely remove sanitizer or water from the freezing cylinder before placing in "AUTO" will damage the freezer.

7. Turn selector switch to "AUTO" to begin the freezing process. Fill the hopper with mix AND install hopper cover.
8. Keep the regulator in the **"CLOSED"** position until you are ready to dispense the first serving. When ready, approximately 15-20 minutes, move regulator to the **"OPEN"** position.
9. During long idle periods, the regulator should be closed — ***but remember — when dispensing product, make sure that the mix feed regulator is open at all times.*** If not open, the flow of mix will be restricted causing the product to freeze up. This condition could cause damage to the freezer. Do not allow lubricant or frozen product to block the hole in the tube, as this will have the same result.

Limpieza e higienización de los congeladores Soft Serve Serie Compacta de Electro Freeze®

Las instrucciones de limpieza e higienización explicadas en esta hoja de instrucciones son necesarias para mantener el congelador limpio e higienizado. El congelador debe desmontarse, limpiarse, montarse, lubricarse e higienizarse todos los días para asegurar un funcionamiento óptimo del congelador y el mejor producto.

Esta hoja de instrucciones no está destinada a utilizarse en lugar del Manual del operador. Use la información siguiente como ayuda sólo después de haber leído detalladamente el manual del operador del congelador Electro Freeze y haber realizado los procedimientos de limpieza e higienización descritos en el mismo.

PRECAUCIÓN

Para evitar choques eléctricos o el contacto con piezas en movimiento, compruebe que todos los interruptores estén en la posición "OFF" (apagada) y que esté desconectado el principal suministro de alimentación.

LIMPIEZA

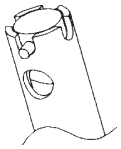
1. Desmonte los componentes del congelador según las instrucciones del manual del operador.
2. Prepare un fregadero de tres compartimentos para limpiar, enjuagar e higienizar componentes que retire del congelador según los códigos sanitarios correspondientes. Debe mezclarse el higienizador según las instrucciones del fabricante para que rinda una solución de cloro disponible de 100 partes por millón (PPM). (por ejemplo: Stera-Sheen Green Label).
3. Lave, enjuague, higienice y seque al aire todas las piezas retiradas del congelador. Para higienizar correctamente, deben dejarse las piezas en el higienizador durante 5 minutos.
4. Deben limpiarse las piezas siguientes con el cepillo adecuado que se suministra con el congelador.
   a. El tubo alimentador de mezcla, la perforación principal del regulador y los agujeros cruzados.
   b. Las aberturas del émbolo de la cabeza, los orificios del émbolo central, las cavidades de la barra de asiento, los surcos de las juntas tóricas, los aros de montaje de las boquillas surtidoras y los orificios de mezcla.
   c. El sello del eje, el buje, los surcos de las juntas tóricas de los émbolos, la boquilla y el flotador.
   d. El eje del batidor dentro del collarín frontal y el agujero en la brida posterior.
5. Limpie el congelador con las soluciones de limpieza aprobadas y cepille el interior de la tolva y alrededor del tubo sensor de nivel de la mezcla.
6. Cepille totalmente la tolva y el orificio alimentador de mezcla al cilindro.
7. Cepille el interior del cilindro, comprobando que quede limpia la pared posterior del cilindro.
8. Cepille el interior del tubo de drenaje.

HIGIENIZACIÓN

1. Monte y lubrique los componentes del congelador según las instrucciones del manual del operador.
2. Lávese e higienice las manos y antebrazos.
3. Prepare 7,6 litros (2 galones) de solución higienizadora en un recipiente. Debe mezclarse la solución higienizadora según las instrucciones del fabricante para que rinda una solución de cloro disponible de 100 PPM (partes por millón) (p. ej.: Stera-Sheen u otra equivalente).
4. Compruebe que el conjunto del tubo alimentador de mezcla y el flotador de mezcla estén en el fondo del receptáculo de la tolva.
5. Vierta la solución higienizadora dentro del receptáculo de la tolva. Con un cepillo limpio, friegue las paredes de la tolva, el sensor de nivel de mezcla, el orificio de alimentación de mezcla desde la tolva al cilindro, el interior del tubo alimentador de mezcla y el flotador de mezcla.
6. Instale el flotador de mezcla en el sensor de nivel de mezcla y lave el interior de la tapa de la tolva.
7. Cuando el cilindro se haya llenado de solución higienizadora, reconecte la alimentación, gire el interruptor selector a la posición "CLEAN" (limpiar) y deje que funcione el batidor durante 5 minutos. Durante este período, revise si hay fugas alrededor de la cabeza, el émbolo y el tubo de drenaje.
8. Coloque un recipiente vacío bajo la cabeza surtidora y drene la solución abriendo el émbolo para dejar que se vierta el contenido del cilindro y la tolva. Abra y cierre el émbolo por lo menos 10 veces durante el drenaje para higienizar el área del orificio de la cabeza surtidora.
9. Cuando la solución higienizadora se haya drenado del congelador, gire el interruptor selector a la posición "OFF" (apagada).

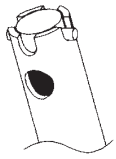
¿Tiene algún problema? *Diríjase a su distribuidor local autorizado o al depto. de servicio del fabricante del congelador, Electro Freeze Service Department, 2116 Eighth Avenue, East Moline, IL 61244, (303) 755-453 o FAX (309) 755-9858*

CEBADO DEL CONGELADOR



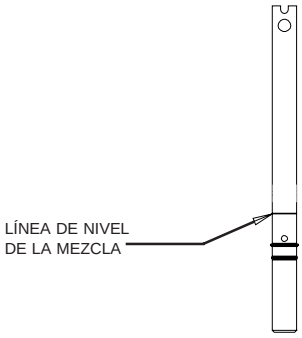
ABRIR

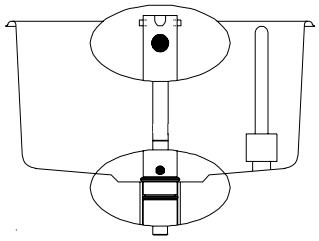
Mire por el agujero superior del tubo – debe poder ver totalmente a través de él.



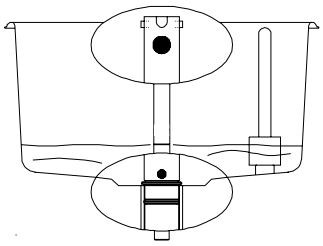
CERRADO

Mire por el agujero superior del tubo- debe ver el tubo plástico blanco interior (regulador) que bloquea la abertura.

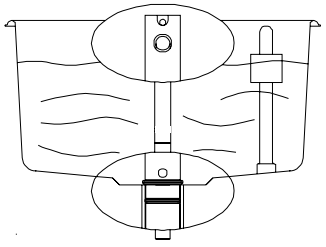




Cerrado – tolva vacía



Cerrado – mezcla en la línea de nivel



Abierto – tolva llena

1. Compruebe que tenga las manos y antebrazos, así como todos los componentes del congelador debidamente higienizados.
2. Instale el conjunto del tubo alimentador en la tolva. Empuje totalmente hacia abajo y asegúrese de que el regulador esté en la posición "**CERRADA**".
3. Llene la tolva con la mezcla hasta la línea de nivel de la misma del conjunto del tubo de mezcla.
4. Coloque un recipiente vacío bajo la cabeza surtidora. Sosteniendo el émbolo abierto, coloque el regulador en la posición "**ABIERTA**" y deje que la mezcla fuerce hacia afuera todo el higienizador restante. Cuando aparezca mezcla pura, cierre el émbolo.
5. Retire el tubo alimentador de mezcla y deje que la mezcla restante en la tolva fluya dentro del cilindro.
6. Vuelva a instalar el conjunto del tubo alimentador en la tolva y empuje totalmente hacia abajo. Compruebe que el regulador esté en la posición "**CERRADA**".

Importante:

Si no se elimina totalmente el higienizador o el agua del cilindro congelador antes de colocar la unidad en "AUTO" (automático) se dañará el congelador.

7. Gire el interruptor selector a "**AUTO**" para comenzar el proceso de congelación. Llene la tolva con mezcla ***E*** instale la tapa de la tolva.
8. Mantenga el regulador en la posición "**CERRADA**" hasta que esté listo para surtir la primera porción. Cuando esté listo, aproximadamente 15-20 minutos, mueva el regulador a la posición "**ABIERTA**".
9. Durante largos períodos inactivos, debe cerrarse el regulador ***– pero recuerde que al surtir el producto hay que asegurarse de que esté abierto el regulador alimentador de mezcla en todo momento.*** Si no está abierto, el flujo de mezcla estará restringido y hará que se congele el producto. Esta condición podría ocasionar daños al congelador. No deje que el lubricante o el producto congelado bloquee el agujero del tubo, porque esto tendrá el mismo resultado.

Electro Freeze® Compact Series Soft Serve Freezers 的清洁与消毒

本指导页中阐明的清洁和消毒规程是保持冷饮机清洁、卫生的必要条件。用户应该每天将冷饮机拆开、清洁、重新组装、加润滑剂以及消毒处理，确保所制饮品质量最佳，同时保持冷饮机处于最佳工作状态。

*用户不能将本指导页当作《操作手册》使用。用户必须阅读、理解并熟练掌握《**Electro Freeze** 冷饮机操作手册》中的清洁和消毒的详细程序，以下信息只起到辅助作用。*

警告

要避免电击或接触运转零件的危险，请确保所有开关都处于 “OFF”（关闭）位置，并且切断主电源。

清洁方法

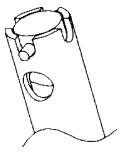
1. 请根据《操作手册》说明拆开冷饮机部件。
2. 按照适用的卫生标准，准备一个有三个隔室的水槽，将冷饮机上拆下的零件进行清洁、漂洗和消毒。按照厂商说明配制 100 (PPM)（百万分之一百）的氯溶液作为消毒剂。（例如：Stera-Sheen Green Label）。
3. 洗涤、漂洗、消毒并风干从冷饮机上拆下的所有零件。为保证良好的消毒效果，请将零件在消毒剂中浸泡 5 分钟。
4. 请使用购置冷饮机时所附带的适当的毛刷清洁以下零件。
   a. 混合进液管、调节器主腔、以及交叉孔。
   b. 顶部活塞开口、中心活塞通路、搅拌器条式空腔、O 型槽、分配喷嘴装配环以及混合通道。
   c. 轴封、轴衬、活塞 O 型槽、喷嘴、和浮筒。
   d. 前轴套内的搅拌器轴和后凸缘上的孔。
5. 使用符合要求的清洁剂清洁冷饮机，并使用毛刷清洁漏斗内部以及混合液位传感器管周围部分。
6. 用毛刷彻底清洁漏斗和圆筒的混合进液孔。
7. 用毛刷清洁圆筒内部，一定要清洁圆筒的后壁。
8. 用毛刷清洁排液管的内部。

消毒方法

1. 请根据《操作手册》中的说明组装冷饮机部件并加润滑剂。
2. 请用户将双手和前臂清洗干净并消毒。
3. 请在一个容器中准备 2 加仑（7.6 升）消毒溶液。消毒溶液必须是按照厂商说明配制的 100 (PPM)（百万分之一百）氯溶液（即，Stera-Sheen 或其它效果相当的溶液）。
4. 确保混合进液管组件和混合浮筒处于漏斗盘的底部。
5. 将消毒溶液注入漏斗盘中。使用清洁毛刷刷洗漏斗壁、混合液位传感器、从漏斗到圆筒的混合进液孔、混合进液管的内部以及混合浮筒。
6. 将混合浮筒安装在混合液位传感器上，并彻底清洗漏斗盖的内部。
7. 当圆筒充满消毒溶液时，请重新连接电源，将选择器开关放在 “CLEAN”（清洁）位置，让搅拌器运转 5 分钟。在此过程中，检查分配头、活塞和排液管周围是否有泄露的地方。
8. 在分配头下放置一个空容器，打开活塞排出溶液，让圆筒和漏斗排空。在排空过程中打开和关闭活塞的次数不能少于 10 次，这样做的目的是为了给分配头的通路区域消毒。
9. 当冷饮机中的消毒溶液全部排空时，请将选择器开关放在 “OFF”（关闭）位置。

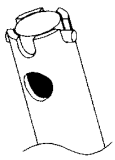
您还有其他问题吗？请与当地的授权经销商或冷饮机厂商，Electro Freeze 服务部联系，联系方法为：
2116 Eighth Avenue, East Moline, IL 61244, (309) 755-4553 或传真 (309) 755-9858。

冷饮机的准备工作



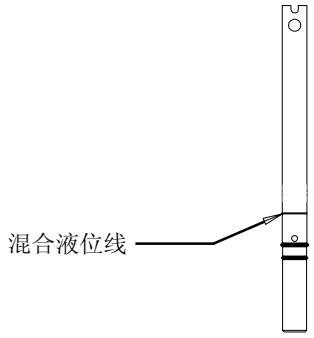
OPEN（打开）

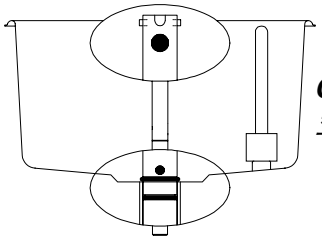
从顶孔向管道中看 — 用户应该可以从上到下看穿管道。



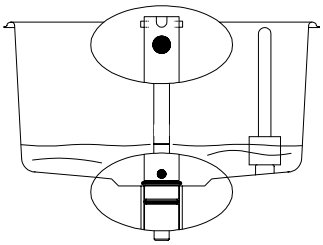
CLOSED（关闭）

从顶孔向管道中看 — 用户应该可以看到其中的白色塑料管（调节器）挡住了通道。

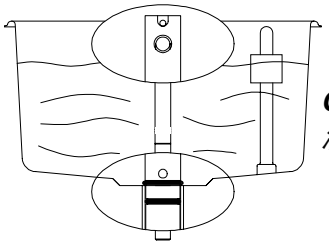




***Closed**（关闭）— 漏斗是空的*



***Closed**（关闭）— 混合液在液位线位置*



***Open**（打开）— 漏斗是满的*

1. 确保用户的双手和前臂以及冷饮机的所有组件都已消毒。
2. 将混合进液管组件安装在漏斗中。自上向下推动组件并确保调节器处在 **“CLOSED”**（关闭）位置。
3. 用混合液填充漏斗，填充到混合管组件的混合液位线位置。
4. 在分配头下放置一个空的容器。使活塞处于打开状态，同时将调节器置于 **“OPEN”**（打开）位置，让混合液将所有残留的消毒剂压出来。当纯净的混合液流出时，请关闭活塞。
5. 拆下混合进液管，让漏斗中残留的混合液流到圆筒中。
6. 将混合进液管组件重新安装到漏斗中并自上向下推动组件。确保调节器处在 **“CLOSED”**（关闭）位置。

要点：

在制冷圆筒中的消毒剂或水没有完全排空前将开关置于 “AUTO”（自动）位置，将损坏冷饮机。

7. 将选择器开关放到 “AUTO”（自动）位置时将开始制冷过程。用混合液填充漏斗并装上漏斗盖。
8. 在用户准备配发第一批饮品前，请将调节器保持在 **“CLOSED”**（关闭）位置。一切就绪后，大约经过 15 到 20 分钟，将调节器移动到 **“OPEN”**（打开）位置。
9. 在长时间空置不用时，调节器应处于 **“CLOSED”**（关闭）位置。***但切记，在配发饮品时，请始终打开混合进液调节器。***如果调节器没有打开，混合液的流动将受到限制，导致其冻结。出现这种情况可能损坏冷饮机。不要让润滑剂或冷却饮品阻塞管道上的开孔，因为这种情况也可能损坏冷饮机。

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