ELECTRO FREEZE®

Operator's Manual

with Replacement Parts List

SOFT SERVE
TWIST MODEL
SL500

184599 4/10

H.C. Duke & Son, Inc. P/N 184599 April 2010 Printed in USA

Operator's Manual
for the
Electro Freeze Models
SL500
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 contact your local distributor — or H.C. Duke & Son, Inc.

DO NOT attempt to operate the 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. Some freezers have more than one disconnect switch. 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, Inc. 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, Inc., Electro Freeze Service Department by phone or FAX:

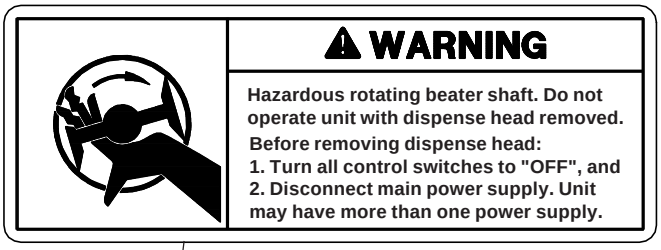
Phone: (309) 755-4553
(800) 755-4545

FAX: (309) 755-9858

E-mail: service@hcduke.com

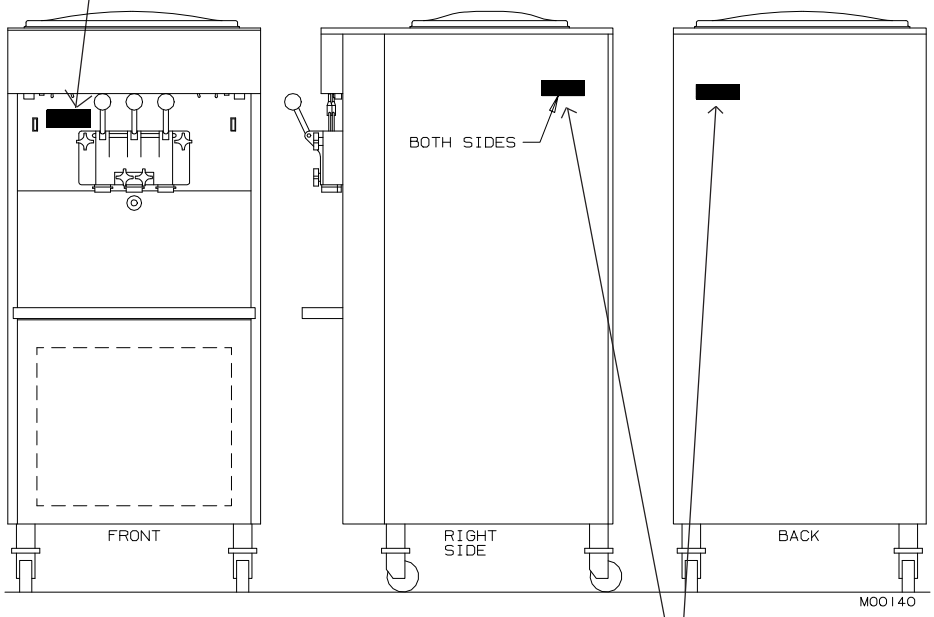
(The decals on the next page are numbered 1 and 2. Those numbers correspond to the numbers in the table below. The table provides the part number, description, and quantity for each decal.)

No.	Part No.	Description (Qty)
1	HC165025	Decal — Beater Warning (1)
2	HC165126	Decal — Panel Removal Warning (3)



1

P/N 165025



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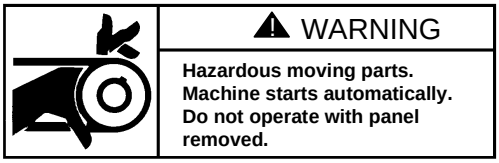

P/N 165126

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PART II

REPLACEMENT PARTS with ILLUSTRATIONS *

* Refer to Part II Table of Contents for help with locating part numbers and illustrations.

1 Introduction

Gravity fed soft serve freezer model SL500 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 25°F (-9 to -4°C). If such products are prepared from powdered concentrate, they should be precooled to 40°F (4°C) 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 SL500 freezers.

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 & Son, Inc., *Electro Freeze* Service Department as follows.

Phone: (309) 755-4553
(800) 755-4545

FAX: (309) 755-9858

E-mail: service@hcduke.com

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.

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

2.1 Uncrating and Inspection

CAUTION
Be sure to properly support the machine when removing bolts and installing legs or casters.

When the unit is received and while the carrier is still present, inspect the shipping carton for any damage that may have occurred in transit. If the SHOCKWATCH® label indicates red and/or the carton is broken, torn, or punctured, note the damage on the carrier's freight bill and notify the carrier's local agent immediately.

1. Remove the carton from the pallet, and move the machine as close as possible to the permanent location.

2. Remove the shipping bolts on the bottom of the freezer (figure 2-1) and install either the legs or casters (figure 2-2).

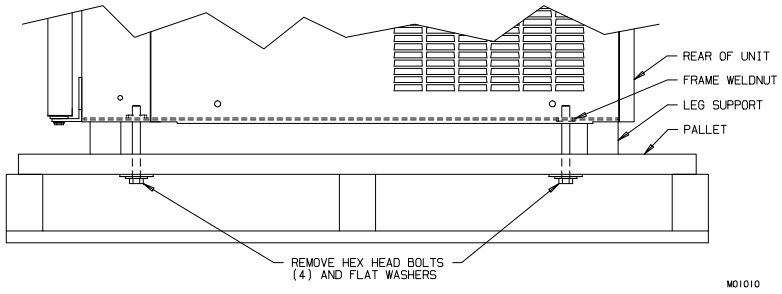

Figure 2-1 Machine bolted to Shipping Base

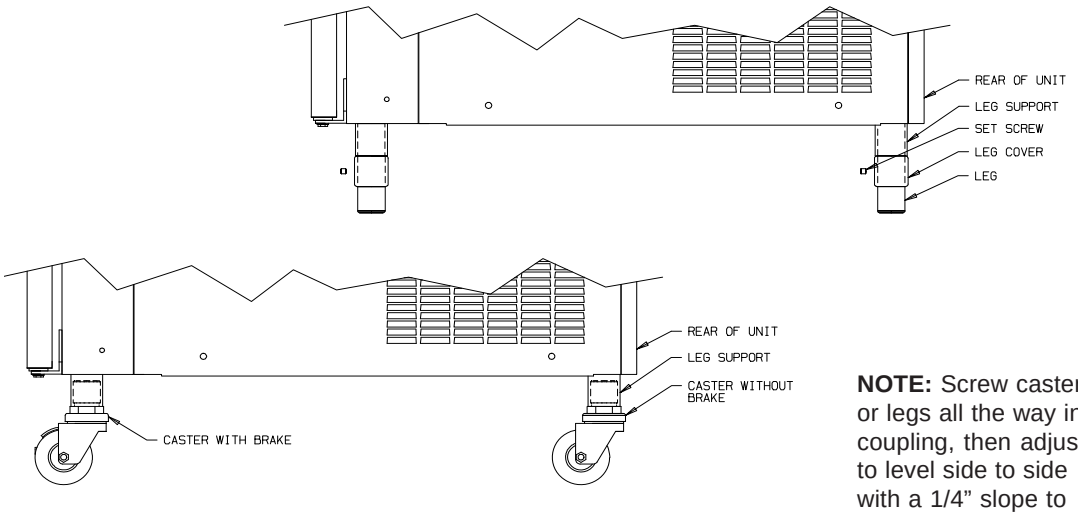

Figure 2-2 Installing Mounting Legs or Casters

NOTE: Screw casters or legs all the way in coupling, then adjust to level side to side with a 1/4" slope to the front.

2.2 Installation

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

1. The freezer is designed for indoor use and must be protected from outdoor weather conditions.

2. Where codes permit, Electro Freeze recommends that the floor model freezers be installed on casters and have flexible water and electrical connections for easier service and cleaning.

2. All models require a minimum 6-inch clearance on panels with louvers for adequate ventilation. Anything blocking ventilation of the freezer (including cone dispensers) will reduce the efficiency of the freezer.

3. **Water-cooled** model SL500 requires a 3/8-inch MPT water inlet and water waste connection. The connections are found on the bottom, under the compressor mounting area. They are tagged "Water Inlet" and "Water Waste." A manual shut-off valve should be installed in the water inlet line at the time of installation. The water pressure must be between 35-140 psig (241-965 kPa) for proper operation.

4. Place the freezer in its final location and adjust the legs or casters so that it is level side-to-side and the front is approximately 1/4-inch lower than the rear to allow proper drainage of the freezing cylinder.

2.3 Electrical Requirements

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

1. Always verify electrical specifications on the data plate (figure 3-1) of each freezer. Data plate specifications will always supersede the information in this manual.

2. Supply voltage must be within ± 10% of voltage indicated on the nameplate. Also, on three-phase systems, voltage between phases must be balanced within 2%. (More than a 6 volt difference between any two voltage measurements at 208-230 volts indicates a possible imbalance.) Request your local power company to correct any voltage problem.

3. An easily accessible main power disconnect must be provided for all poles of the wiring to the freezer.

2.4 Electrical Connections

CAUTION

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

1. Freezer requires one power supply. Check the data plate for proper fuse size, wire ampacity, and electrical specifications.

2. Refer to the wiring diagram provided for proper power connections.

3. Electrical connections for model SL500 are made in the junction box located mid-level behind the front panel.

4. Use a flexible connection when permissible. Copper wires are required for connection to freezer. All materials and connections must conform to local codes and/or the National Electrical Code.

5. For all 3 phase freezers, beater shaft rotation must be clockwise as viewed from the front of the freezer.

3 Specifications

3.1 Particulars

SL500

Width (in/cm) ..... 22.25 / 56.5

Height (in/cm) ..... 58 / 147

Depth (in/cm) ..... 30 / 76

Weight (lb/kg) ..... 539 / 244

Cylinder Compressor ..... 2 HP/10000 (BTU/hr)
1.5 kw (Motor)
3.2 kw (Cooling)

Hopper Compressor ..... 1/10 hp /500 (BTU/hr)

Beater Motor ..... (2) 2 HP/1.5 kw

Refrigerant - Cylinder R-404a
Refrigerant - Hopper 134a

Charge - Cylinder (lbs/kg) ..... 3.75 / 1.70
Charge - Hopper (oz/kg) ..... 7 / .2

Cooling ..... Air or Water

Hopper (qt/ltr) ..... (2) 16 / 15.1

Cylinder (qt/ltr) ..... (2) 3.7 / 3.5

3.2 Data Plate

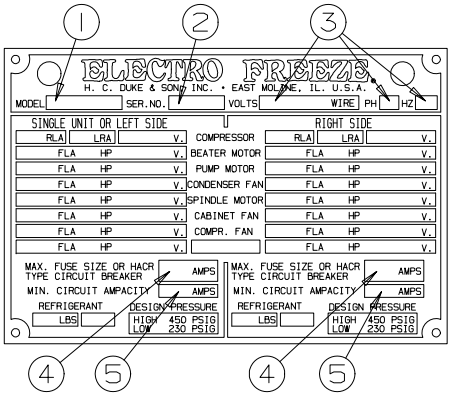

Figure 3-1

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

3.3 Reference Information

Write in Reference Information HERE!

Fill in the following information as soon as you receive the *Electro Freeze* SL500. (The item numbers —encircled, below — correspond to the callout numbers in figure 3-1.)

(1) Model Number: _____

(2) Serial Number: _____

(3) Electrical Spec: Voltage _____

Phase _____ **Hertz** _____

(4) Max. Fuse Size: _____

(5) Min. Circuit Ampacity _____

3.4 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 freezer.

Date of installation: _____

Installed by: _____

Address: _____

_____

Phone: _____

3.5 Dimensions

The dimensions of the SL500 freezer is provided in figure 3-2 below.

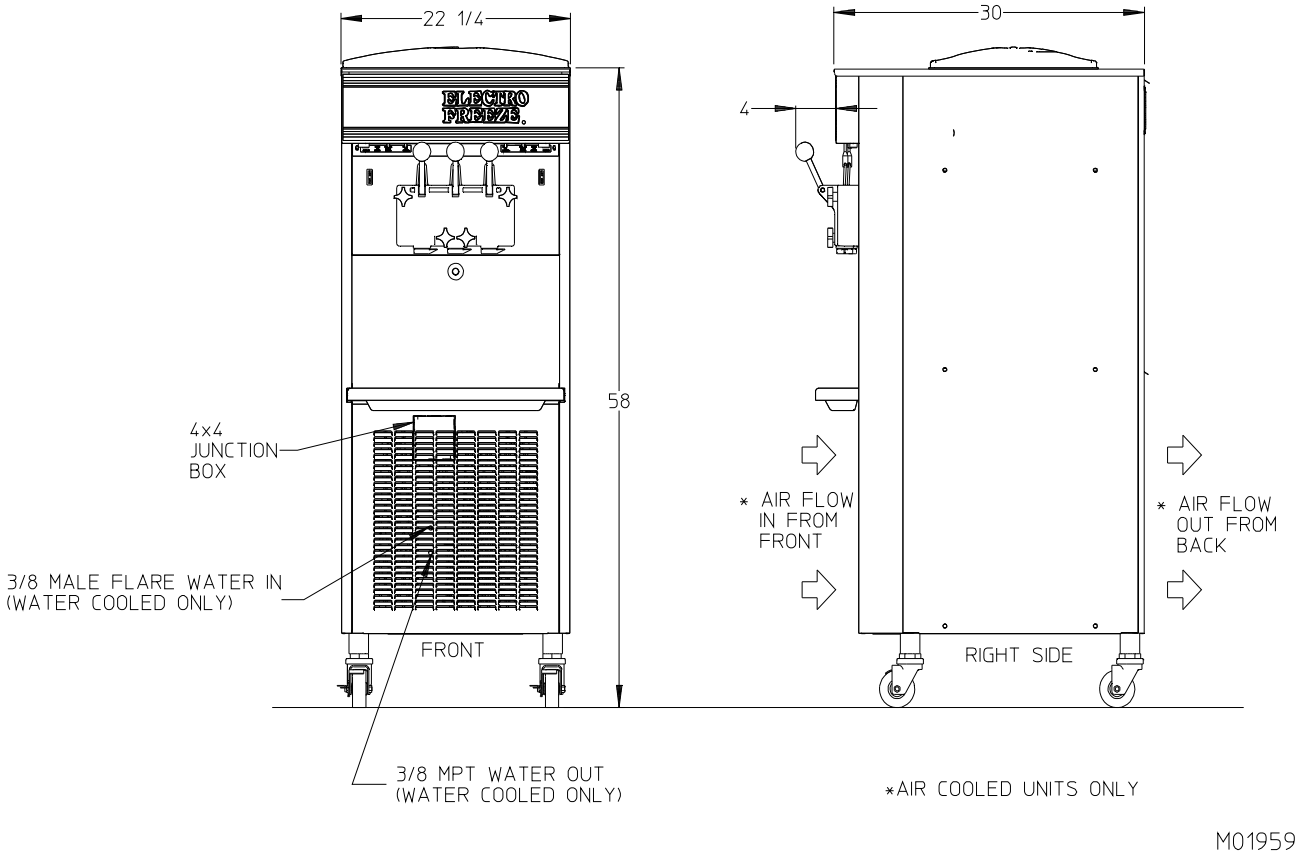

Figure 3-2 Electro Freeze Model SL500

4 Part Names and Functions

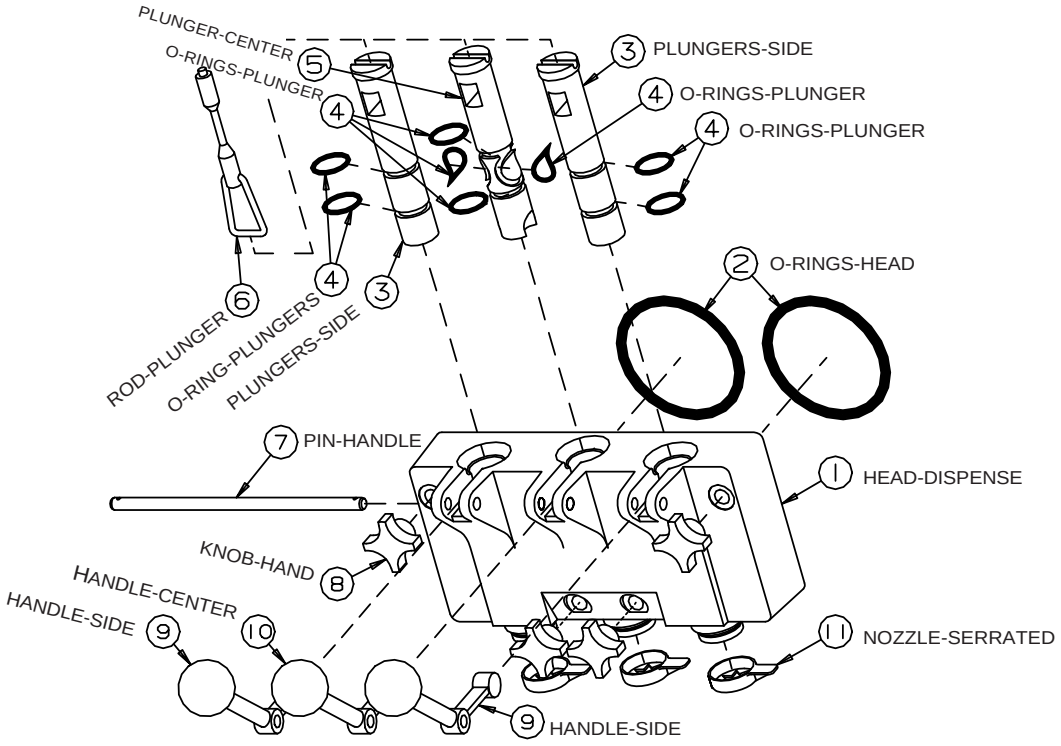

Figure 4-1 Head Assembly

The following descriptions refer to figure 4-1. The number preceding the part name corresponds to the number in the figure.

(1) HEAD - DISPENSE

Encloses the freezing cylinder and provides an opening for product to be dispensed.

(2) O-RINGS - HEAD

Seals the head to the freezing cylinder. Must be lubricated.

(3) PLUNGERS - DISPENSE - SIDE

Seals the product opening in the head when closed. Allows product to flow when open.

(4) O-RINGS - PLUNGER

Seals the plunger in the head. Must be lubricated to seal and slide freely.

(5) PLUNGER - DISPENSE - CENTER

Seals the product opening in the head when closed. Combines ice cream from both cylinders to form swirl cones.

(6) ROD - PLUNGER

Starts the freezer when dispensing. Must be in place for proper operation.

(7) PIN - HANDLE

Secures handle to the head.

(8) KNOB - HAND

Secures the head to the freezing cylinder.

(9) HANDLE - DISPENSE - SIDE

Opens and closes the plunger to start and stop the flow of product from the freezer.

(10) HANDLE - DISPENSING - CENTER

Opens and closes the plunger to start and stop the flow of swirl product from the freezer.

(11) NOZZLE - SERRATED

Forms the frozen product as it is dispensed.

4 Part Names and Functions (continued)

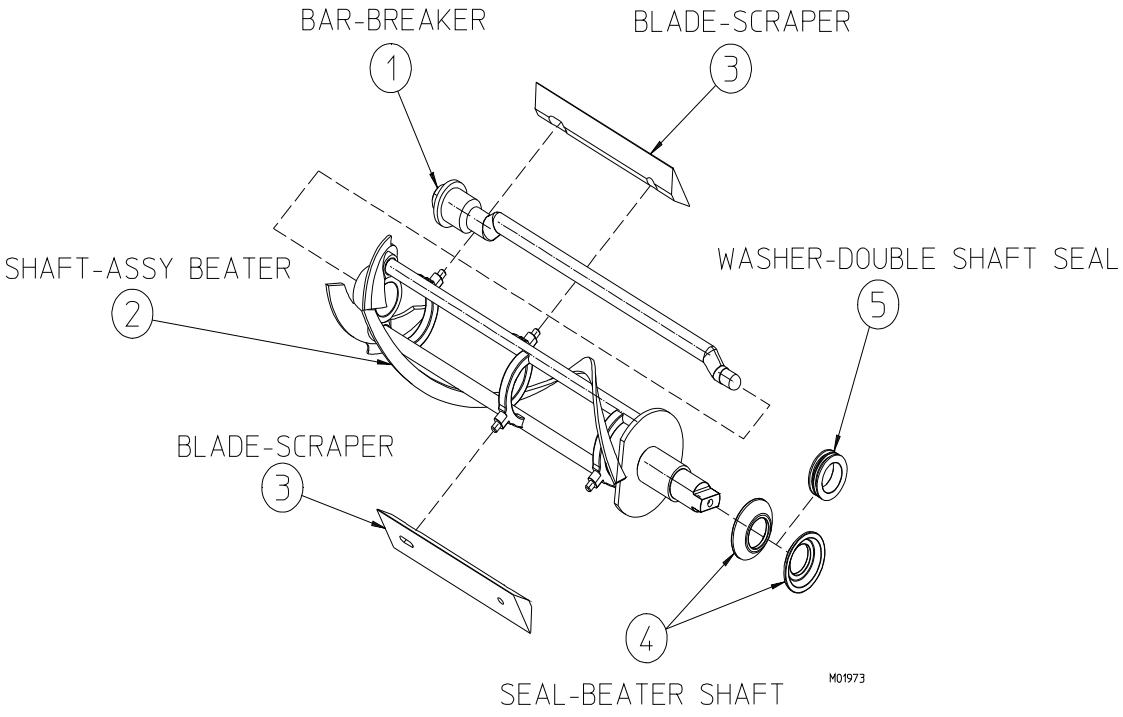

Figure 4-2 Beater Shaft Assembly

The following descriptions refer to figure 4-2. The number preceding the part name corresponds to the number in the figure.

1 BAR-BREAKER

Keeps product blended in the center of the beater shaft.

2 SHAFT-ASSY. BEATER

Rotates in the freezing cylinder, blending air and mix. Ejects product when dispensing plunger is opened.

3 BLADE-SCRAPER

Scrapes the frozen product from the freezing cylinder.

SEAL-BEATER SHAFT

Seals the opening between the freezing cylinder and the beater shaft. Consists of the following:

4 SEAL-BEATER SHAFT

5 WASHER-DOUBLE SHAFT SEAL

4 Part Names and Functions (continued)

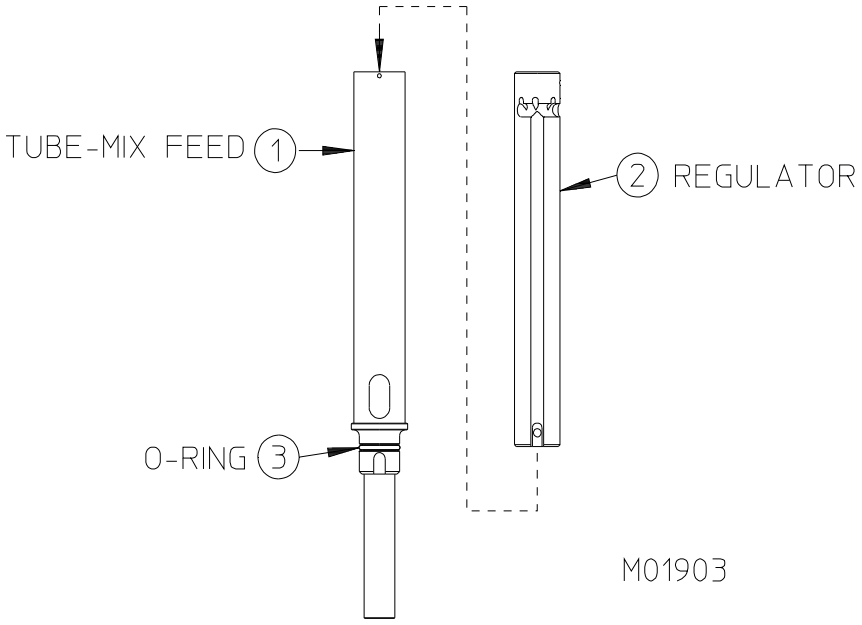

Figure 4-3 Mix Feed Tube Assembly

The following descriptions refer to figure 4-3. The number preceding the part name corresponds to the number in the figure.

1 **TUBE - MIX FEED.**
Meters the correct amount of mix and air into the freezing cylinder from the hopper.

2 **REGULATOR.**
Provides adjustment on mix feed rate and a positive shut-off of mix flow to the freezing cylinder.

3 **O-RING - TUBE**.
Seals the opening between the hopper and mix feed tube. (O-ring does not need lubrication.)

5 Operator Controls and Indicators

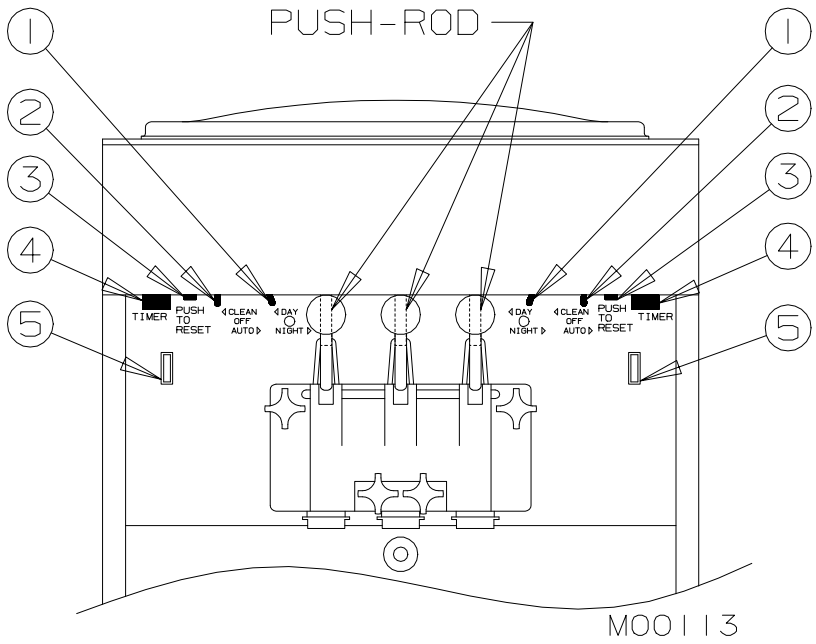

Figure 5-1

The following paragraphs describe the operator controls and indicators. Refer to figure 5-1 for location of these controls and indicators on the freezer.

NOTE: The dispense head must be in place before the freezer will operate.

CAUTION

Test operation of the head switch prior to placing the freezer in service. See Section 11, Routine Maintenance, Monthly.

5.1 Day– Night Switch (1)

This two-position switch controls the day and night refrigeration modes.

a. **"DAY"** (left) — The low temperature thermostat controls the system refrigeration to maintain the product serving temperature between 18° to 21ºF (-8° to -6°C). 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 40˚F (4˚C). Use this position when the freezer will not be in use for periods of more than an hour.

5 Operator Controls (continued)

5.2 Selector Switch ②

This three-position switch these functions for your freezer.

a. **"CLEAN"** (left) — This position operates the beater only (no refrigeration to the cylinder). 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 "AUTO" 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. Unit needs 12 seconds to internally set controls and start.

NOTE: 12 second reset time is required anytime switch is turned from "OFF" to "Auto".

5.3 Reset — Overload ③

Important:
If the overload trips frequently, your freezer should be checked for proper product temperature, overrun and voltage. Contact your Electro Freeze Distributor.

This control protects the beater motor against failure from an overload condition by automatically shutting down the freezer. To restart the freezer properly, turn the SELECTOR switch to "OFF", wait 2-3 minutes, then depress the red reset button and turn the SELECTOR switch back to the "AUTO" or "CLEAN" position.

5.4 Timer ④

Important:
Excessive use of the timer causes freeze-up and damage to the freezer.

This control will bypass the thermostat, forcing the compressor and beater motor to run up to 3 minutes. Use the timer for quick start-ups or fast recovery when dispensing large portions.

5.5 "ADD MIX" Indicator Light ⑤

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

When blinking, 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.

5 Operator Controls (continued)

5.6 Mix Feed Tube & Regulator

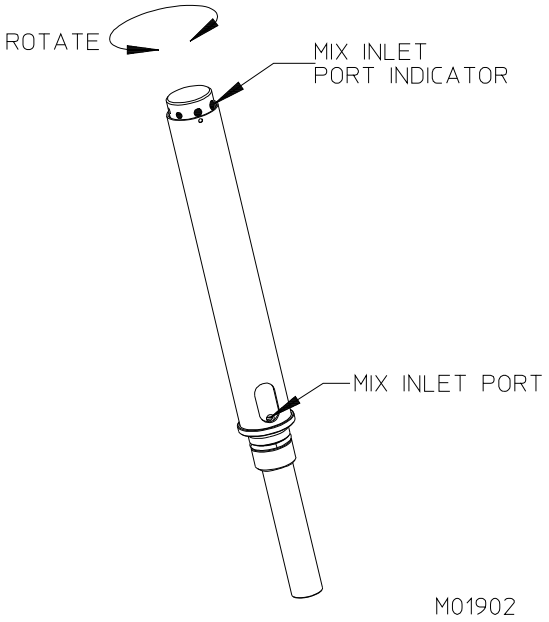

Figure 5-3

This three-position regulating device (figure 5-3) meters the correct amount of mix and air into the freezing cylinder.

1. Locate the round indent near the top of the mix tube cylinder. Align this indent to the center range of the three indent pattern on the mix feed regulator.

2. The plastic mix feed regulator may be adjusted within the three indent range to obtain an optimum product overrun and dispense speed.

3. The largest indent setting will allow the least overrun. The smallest indent setting will allow the most air in the cylinder and is used for a higher overrun. (see figure 5-4)

During periods of idle or night operation, place the mix inlet port to the closed position. At this setting, mix and air flow are shut off to the cylinder.

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

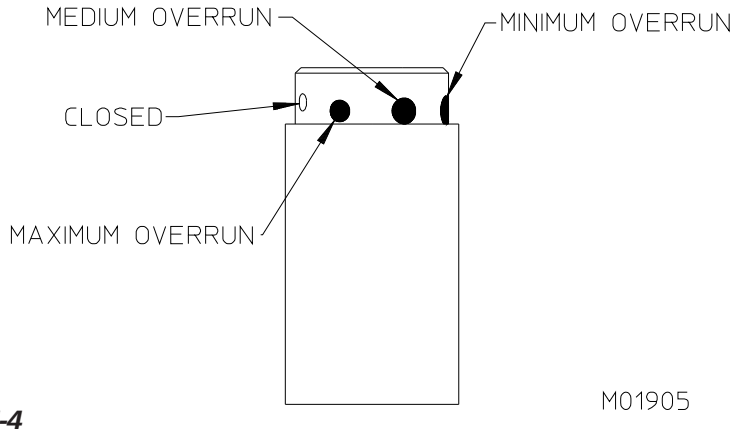

Figure 5-4

6 Disassembly and Cleaning

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. Some freezers have more than one disconnect switch.

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 quality and freezer operation.

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

6.1 Cleaning Accessories

The following accessories shipped with the freezer are necessary for cleaning, sanitizing and disassembly/assembly.

1. **HC150009 BRUSH. HC158012 HANDLE.**

   4-inch diameter with 36-inch handle, used for cleaning the cylinder.

2. **HC158077 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.

3. **HC158005 BRUSH.**

   9/16 inch with 36 inch handle, used for cleaning drain tube and port between hopper and cylinder.

4. **HC169374 TOOL - O-RING REMOVAL.**

   Aids in removing O-rings from plungers, dispense head, and mix feed tube.

5. **HC158000A LUBRICANT - PETROL GEL**

   Approved lubricant for moving parts and O-rings. See assembly instructions for lubricating points.

6. **HC115536 KIT - O-RING. (NOT SHOWN)**

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

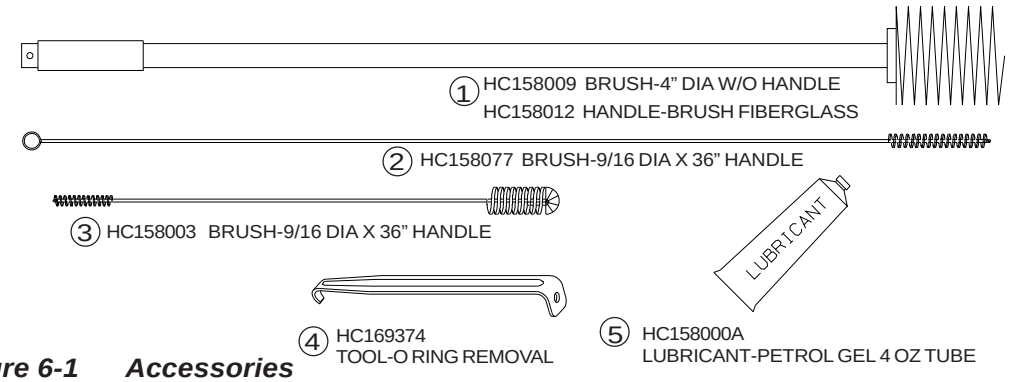

Figure 6-1 Accessories

6.2 Disassembly Instructions

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. Some freezers have more than one disconnect switch.

It is important that the freezer be disassembled, washed, lubricated and sanitized before operation. For maximum life on moving parts, disassemble and sanitize at the end of every day of operation.

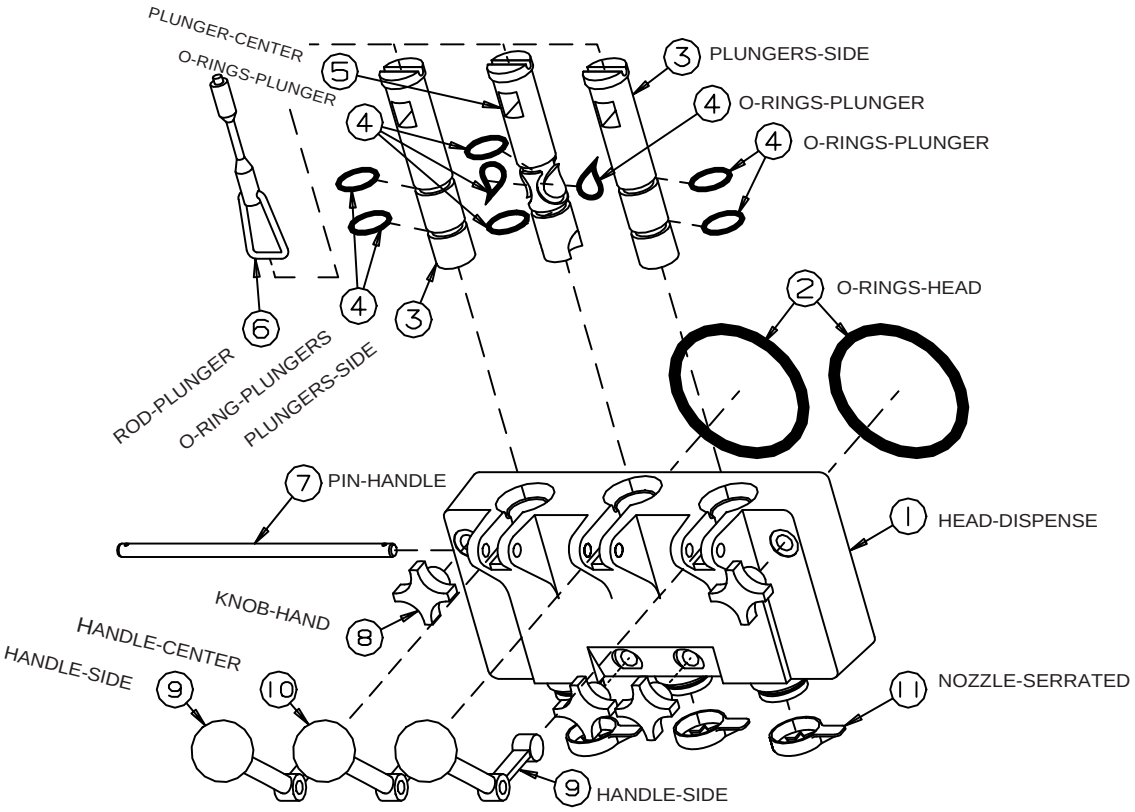

Figure 6-2

1. If there is product in the freezer, refer to Section 9, Closing Procedures, 9.2 Draining Product.

2. Remove plunger rods (6, figure 6-2) by lifting up and swinging the bottom out and down.

3. Remove the hand knobs (8) and gently pull the dispensing head (1) straight out.

4. Remove the beater shaft (1, figure 6-3) from each cylinder. Then remove breaker bar (1), scraper blades (3) and shaft seal (3,4) from the beater shafts. Remove the cup seals (4) from the washer (5) on the shaft seal assembly.

— continued

6.2 Disassembly Instructions (continued)

3. From the dispense head (1, figure 6-2) remove the handle pin (7), handles (9,10),plungers (5,3) and nozzles (11) . Remove head o-rings (2) and the o-rings from plungers (4) .

5. Remove hopper cover, drip tray and insert.

6. Remove the mix feed tube (figure 6-4) from the hopper.

Caution

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

7. Remove the O-ring (3) from the mix feed tube (1). Remove the regulator (2) from the mix feed tube.

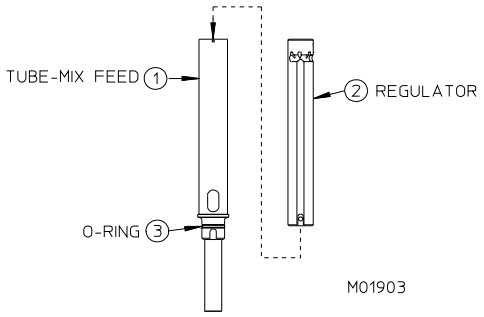

Figure 6-4

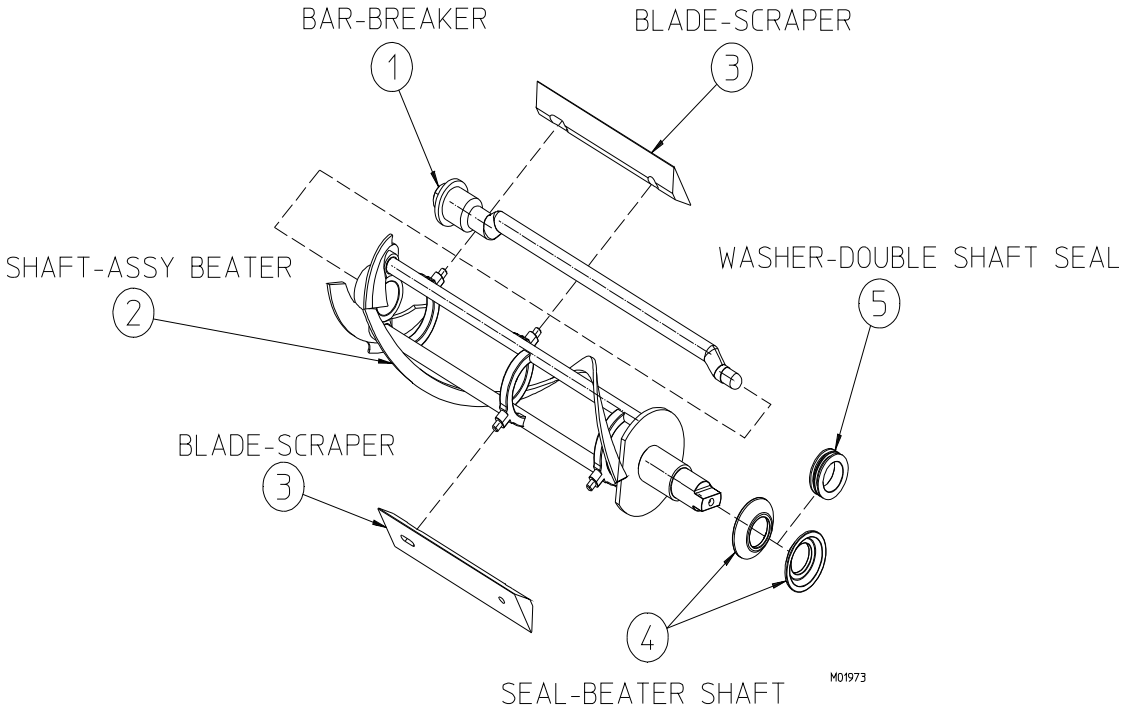

Figure 6-3

6.3 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. Always sanitize 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, remove all o-rings when cleaning. Failure to do so could create a health hazard.

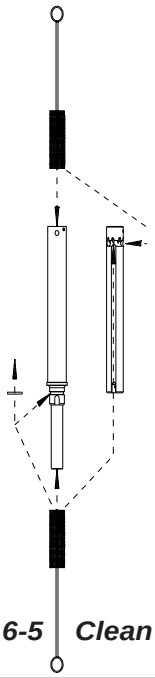

Figure 6-5 Clean the mix feed tube

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.

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

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 (100 to 110°F or 38 to 43°C) to wash, rinse, and sanitize. Make sure the sanitizer is mixed thoroughly and has completely dissolved.

2. Wash all parts removed from the freezer thoroughly with a warm, mild dish detergent solution. Clean the following parts with the appropriate supplied brush:

a. The mix feed tube, regulator main bore and cross holes (figure 6-5).

b. The head plunger openings, center plunger ports, breaker bar cavities, o-ring grooves, dispense nozzle mounting rings and mix ports (figure 6-6).

c. The shaft seals, washers, plunger o-ring grooves and nozzles (figure 6-7).

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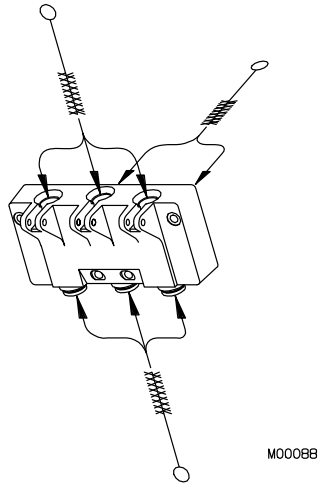

Figure 6-6 Clean the head ports

7.3 Cleaning Instructions (continued)

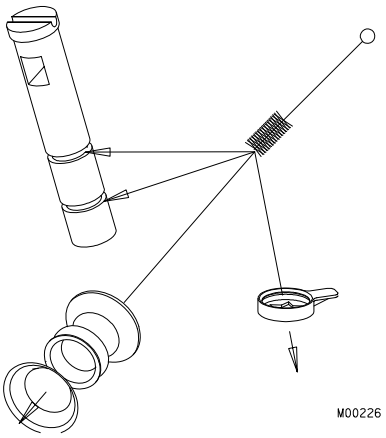

Figure 6-7 Clean shaft seal, washer, plunger, and nozzle

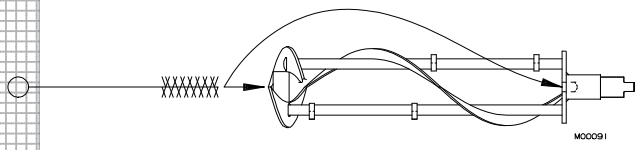

Figure 6-8 Clean beater shaft

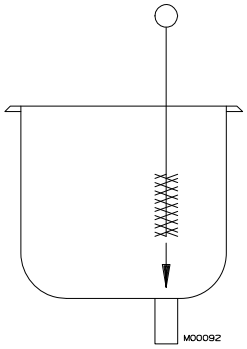

Figure 6-9 Clean hopper and mix feed port

d. The beater shaft inside the front collar and the hole on the rear flange (figure 6-8).

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

3. Using a warm mild dish detergent solution thoroughly brush:

a. the hoppers and the mix feed tubes from the hopper to the cylinders. (figure 6-9).

b. the inside of the cylinders making certain to clean the back walls.

c. the inside of the drain tube (figure 6-10). Dip the brush in the dish detergent solution and force brush into the drain tube until it stops - repeat until clean.

4. Wash the drip tray and insert in a warm dish detergent solution and rinse with clea water.

5. Wash the outside of the freezer with the dish deterent solution. Rinse with clean water.

Replace worn brushes. Use only Electro Freeze original or authorized replacement parts.

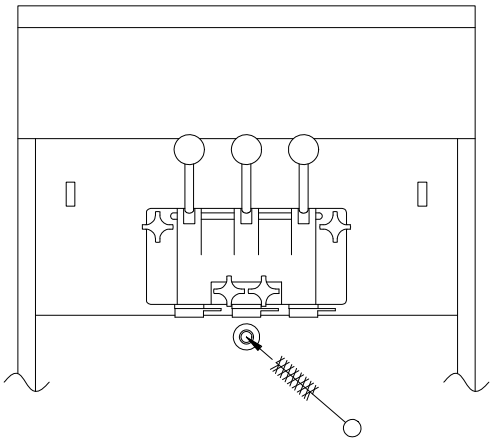

Figure 6-10 Clean inside of drain tube

7 Assembly

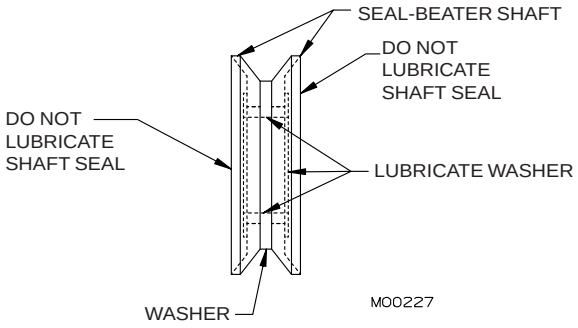

Figure 7-1 Lubricate shaft seal

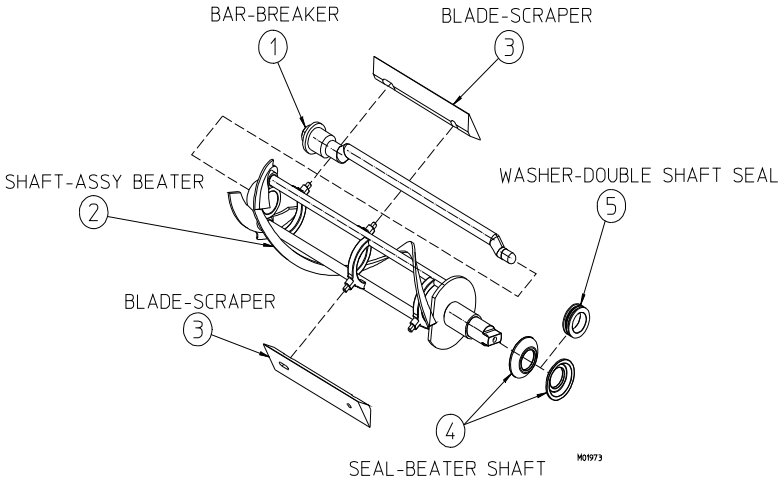

Figure 7-2 Assemble beater shaft assembly

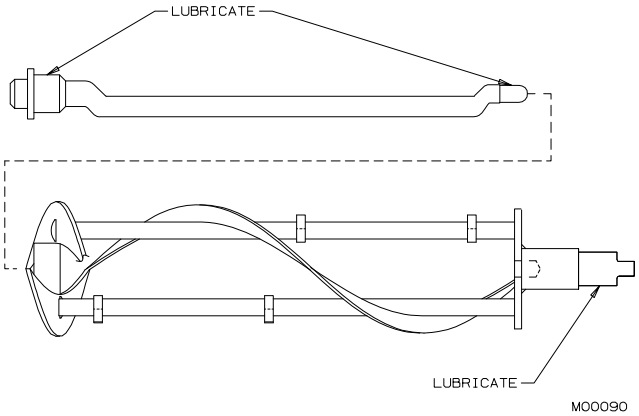

Figure 7-3 Lubricate bearing areas of breaker bar

Correct assembly of the freezer is essential to prevent leakage of the 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. Follow these directions for each cylinder of the freezer.

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. Some freezers have more than one disconnect switch.

1. Persons assembling the freezer must first wash and sanitize their hands and forearms with an approved sanitizer.

2. To assemble the shaft seal, install the cup seals on the plastic washer. Apply a moderate amount of approved sanitary lubricant (such as Petrol Gel) to the washer. Do not allow any lubricant to come in contact with the bell-shaped rubber portions of the seal (figure 7-1).

3. Install the shaft seal over the rear of the beater shaft, (figure 7-2).

4. Apply lubricant to the bearing areas of the breaker bar (figure 7-3).

5. Place the scaper blades on the beater shaft, making sure the blades are installed properly.

6. Slide the breaker bar into the center of the beater shaft, making sure the bar fits into the hole in the rear beater shaft disc (figure 7-2).

— continued

7 Assembly (continued)

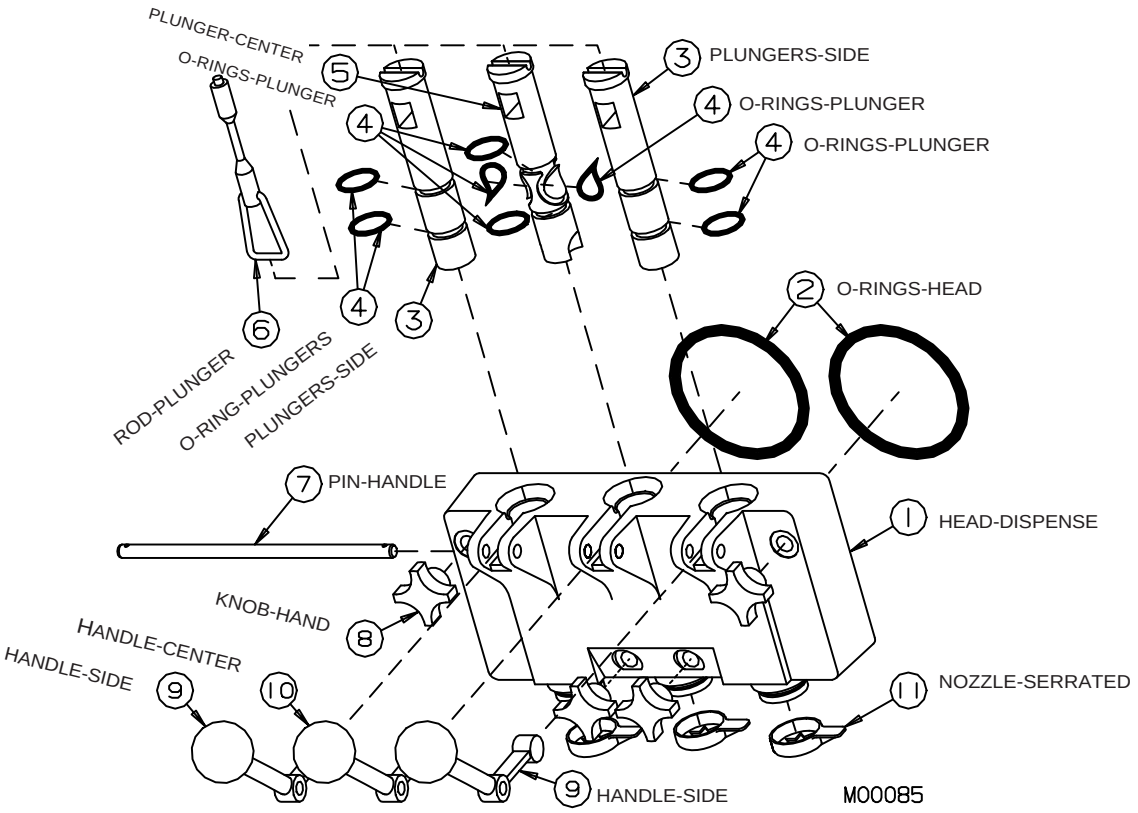

Figure 7-4 Head Assembly

7. Insert the assembled beater shaft into the cylinder by placing the rear blade on the bottom of the cylinder. This will center the beater shaft and allow alignment with the drive coupling. Rotate the beater assembly while pushing, until the shank has engaged the coupling. Install both beater shafts.

8. Install and lubricate the O-rings (4, figure 7-4) (see O-ring Chart - Replacement Parts Manual) on the dispensing plungers (4,5) and insert half-way into the head (1).

9. Install and lubricate the two 4-inch head O-rings (2) .

10. Position the handles in the head assembly by placing the 2 shorter handles (9) on the sides and the longest handle (10) in the center. Lock in place with the handle pin (7).

Important:
Excessive force will damage the head. Do not use tools to tighten.

11. Install the dispensing head onto the freezer by aligning the studs with the holes in the head and sliding toward the freezer. Tighten hand knobs evenly, finger-tight only.

12. Install the plunger rods (6). The nozzles (11) will be installed on the mix outlet at the bottom of the head after sanitizing.

13. Install the o-ring (3) on the mix feed tube (1), as shown in figure 7-5.

— continued

7 Assembly (continued)

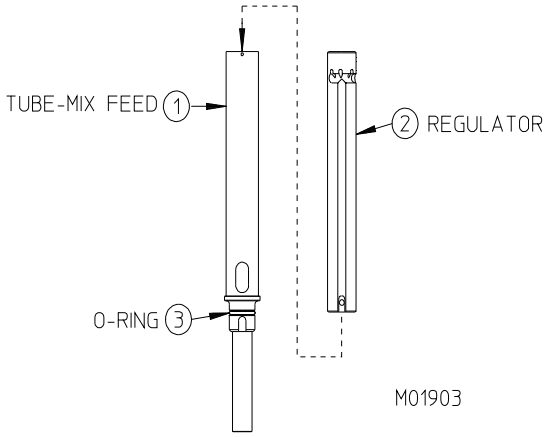

Figure 7-5 Mix Feed Tube Assembly

8 Start-up Instructions

8.1 Sanitizing

The washing and sanitizing instructions explained in this section are procedures to remove bacteria and maintain a clean, sanitary freezer. The freezer must be disassembled and washed according to the instructions in this manual before sanitizing to ensure the best possible cleanliness. Follow these directions for each cylinder to be used.

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.

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

Important:
This sanitizing step is always done just prior to starting the freezer.

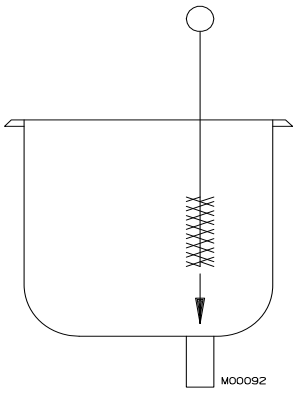

Figure 8-1 Sanitize hopper and its components

1. Wash and sanitize your hands and forearms.

2. Prepare 2 gallons (7.6 liters) of sanitizing solution for each hopper. 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 (100-110°F or 38-43°C) to wash, rinse, and sanitize. Make sure sanitizer is mixed thoroughly and has completely dissolved.

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

3. Make sure the mix feed tube assembly is 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, and the mix feed port from the hopper to the cylinder, as shown in figure 8-1.

5. Wash down the inside of the hopper cover.

6. Reconnect main power supply.

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

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8.1 Sanitizing (continued)

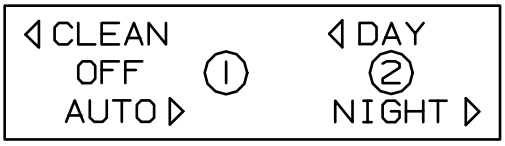


Figure 8-2 Selector (Toggle) Switch Positions

7. When the cylinder has filled with sanitizing solution, turn the selector switch to the “CLEAN” position (figure 8-2) 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 sanitizing 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.

9. When the sanitizing solution has drained from the freezer, turn the selector switch to the “OFF” position.

8.2 Priming

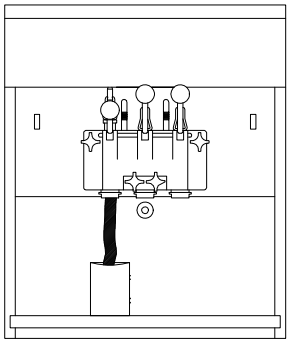


Figure 8-3 Pure mix

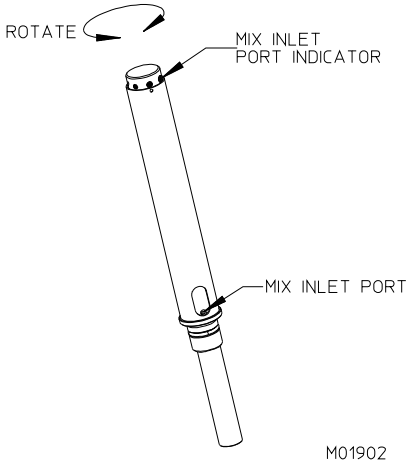


Figure 8-4 Mix Feed Tube Positions

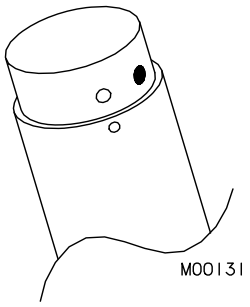


Figure 8-5 Closed — position

Priming the freezer removes all excess sanitizer from the freezing cylinder, and sets the proper overrun for the first cylinder of product.

1. Make sure that your hands, forearms, and all freezer assemblies are sanitized.

2. With the o-ring and regulator installed, insert the mix feed tube into the hopper drain outlet and close the regulator (figure 8-5).

Important:
Looking at the top of the mix feed tube assembly the white dot on the white plastic tube (regulator) must be in line with the alignment mark on the metal mix feed tube. This is the closed postion. (figure 8-5).

3. Place a bucket under the dispense head.

4. Fill the mix hopper with mix.

5. Open the plunger and remove the white regulator from the mix feed tube. When pure mix is flowing from the dipsense head, close the plunger (figure 8-3)

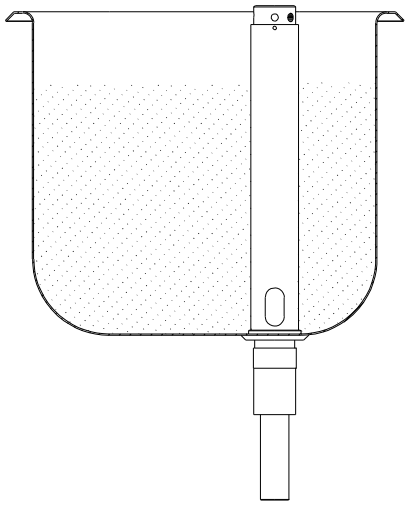
Important:
Failure to completely remove sanitizer or water from the freezing cylinder before placing in "AUTO" will damage the freezer.

6. Allow mix to continue flowing into the cylinder until bubbling stops.

7. Re-install regulator into the mix feed tube, turn to the "OPEN" position using the smallest hole (figure 8-7) and turn freezer to "AUTO".

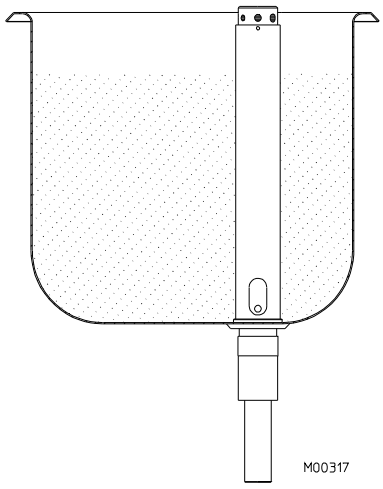
8. Repeat Steps 1 - 8 for the other side of the freezer.

8.2 Priming (continued)



"CLOSED"-
FILL
WITH MIX

Figure 8-6 "CLOSED" — position



"OPEN"-
READY TO SERVE

Figure 8-7 "OPEN" — position

9 Closing Procedures

9.1 Night Switch Operation

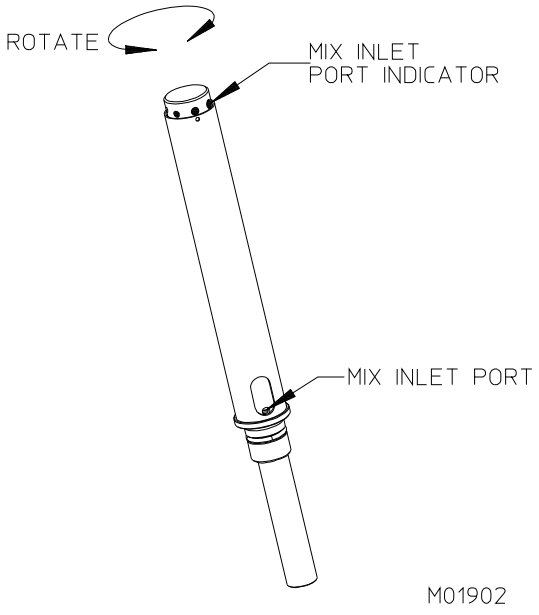


Figure 9-1 Mix Feed Tube Positions

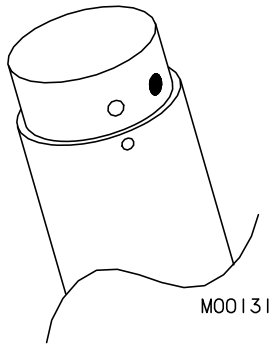


Figure 9-2 Closed — night operation

1. In areas where state and local health codes allow, the freezer may be switched to night operation, which will allow the freezer to cycle all night and maintain approximately 38ºF (3.3°C) or lower product in the cylinder and hopper.

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. Remove nozzles, and clean the drip tray assembly and all soiled surfaces with soap and water. Use sanitizing solution in a spray bottle and brush to clean the bottom of the plunger openings.

4. Turn the mix feed regulator to the "**CLOSED**" position as shown in figure 9-2.

5. 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.***

6. To start the machine after using the "NIGHT" mode, place back to "DAY" mode and replace the sanitized nozzles.

7. "**OPEN**" the mix feed regulator and fill the hopper with mix.

9.2 Draining Product from Freezer

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

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

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

2. Remove mix feed tubes from the hoppers.

3. Let the beaters run for 5 minutes. This will allow the product in the cylinders to soften.

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

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 10, SOFT SERVE INFORMATION)

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

6. Close plungers and pour two gallons of warm water into each hopper.

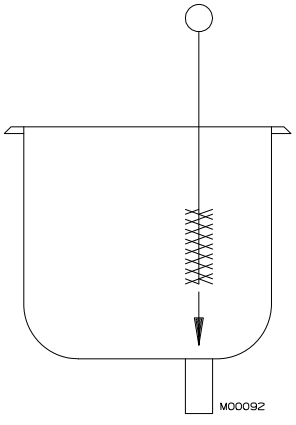


Figure 9-3 Sanitize hopper

7. Dispense the warm water. Repeat until the water coming out is clear.

8. Drain the remainder of the warm water from the cylinder. Place selector switch in the "OFF" position.

9. Prepare 2 gallons (7.6 liters) of sanitizing solution for each hopper. 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, and the mix feed port from the hopper to the cylinder, as shown in figure 9-3.

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 5 minutes.

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. Proced to disassemlby, cleaning and sanitizing instructions.

10 Soft Serve Information

10.1 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% — 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 to the top with liquid mix. Place container on scale and record the weight.

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 measure the weight.

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." See example.

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 HC158049) that is graduated in overrun percentage.

10.2 Rerun

Rerun is product that has been drawn through the freezer into a container and has melted down to be re-processed.If local health codes permit the use of rerun make sure to follow these procedures:

1. Store rerun mix in a clean, sanitized container.

2. Store in a cooler with a temperature below 40° F (4.4° C).

3. DO NOT prime the machine with rerun. Always skim off and discard foam — then mix the rerun with fresh mix in a ratio of 50/50 and add to the hopper during operation.

4. Once a week, run the mix as low as possible and discard after closing. uct from Freezer (see Section 9.2). This will break the rerun cycle and reduce the possibility of high bacteria and coliform counts.

NOTE: Rerun product is unable to accept the same amount of air as fresh product. As a result, the quality will be affected and the product may appear grainy and icy.

For further information contact your local Electro Freeze Distributor or the Service Department of H. C. Duke & Son, Inc. at (309) 755-4553, (800) 755-4545, or e-mail service@hcduke.com.

11 Routine Maintenance

Electro Freeze recommends the following schedule to help maintain your 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.

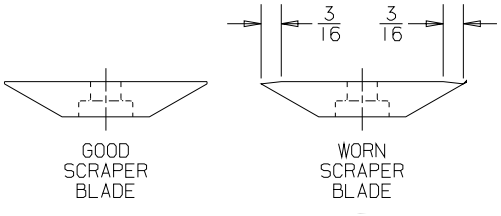
3. Upon cleaning, inspect and lubricate all seals and O-rings as instructed that come into contact with mix. Replace any O-ring that is worn, torn, or loose-fitting.

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

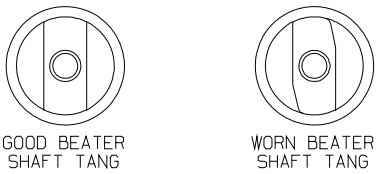
5. Check overrun and temperature of the product.

WEEKLY

1. Carefully inspect all parts for wear, including seals, o-rings, and blades. Replace as required. Replace blades if worn 3/16 (5mm) or more.



2. Check the beater tangs and drive shaft for wear.



A worn coupling will have a nonparallel shape on the drive opening.

1500 HOURS OF OPERATION

1. Gear Reducer - Initial Oil Change

Have the oil in the gear reducer changed by your Electro Freeze Distributor.

11 Routine Maintenance (continued)

MONTHLY

1. 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. Check each side of the freezer using this procedure.

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.

2. Water Condenser.

Check the outlet water temperature of water-cooled condensers at the floor drain. Water temperatures should be about 95°F (35°F) with a 70° (21°F) water inlet temperature.

11 Routine Maintenance (continued)

QUARTERLY

1. Have your Electro Freeze Distributor check the refrigeration system and make the necessary adjustments.

2. On air cooled freezers have the air condenser fins cleaned by your Electro Freeze Distributor to remove all forms of dirt, lint, and dust.

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

SEMIANNUALLY

1. Contact your Electro Freeze distributor to replace drive belts.

2. On air cooled and air cooled remote freezers have your Electro Freeze distributor check the condenser fan motor oil.

2. Have the gear reducer oil changed by your Electro Freeze distributor.

NOTE: Under normal conditions, after the initial change, the oil should be changed after every 2500 hours of operation or every six months, whichever occurs first.

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. Some freezers have more than one disconnect switch.

1. Contact your Electro Freeze Distributor to have your gear reducer oil changed.

NOTE: Under normal conditions, after the initial change, the oil should be changed after every 5000 hours of operation or every year, whichever occurs first.

2. Contact your Electro Freeze Distributor for service to replace drive belts and lubricate the fan motors as needed.

3. Contact your Electro Freeze Distributor to clean the inside of the freezer, including base, side panels, condenser, etc.

4. Contact your Electro Freeze Distributor to check water-cooled condenser and flush clean to remove scale and deposits if necessary.

11 ROUTINE MAINTENANCE

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 air 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 an authorized service technician.

7. On water-cooled freezers, disconnect the water supply. Use compressed air to blow out all remaining water in the condenser.

Important:
The water valve must be opened in order to blow out the condenser. Failure to purge the freezer of water can result in severe damage to the refrigeration system. Call your Electro Freeze Distributor for service.

8. When freezer is restarted after seasonal shutdown, remember to replace all o-rings and seals with new parts. Rubber parts can lose their elasticity and ability to seal when stored.

USE ONLY ORIGINAL OR AUTHORIZED REPLACEMENT PARTS WITH THIS FREEZER.

If you have any questions on items that are not included in this schedule or problems that require service assistance, please call your local distributor or H.C. Duke & Son, Inc., *Electro Freeze*, Service Department for factory service assistance.

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

E-mail: service@hcduke.com

12 Troubleshooting Tables

SAFETY

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. Some freezers have more than one disconnect switch.

Important:

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

12 Troubleshooting Tables (continued)

PROBLEM	PROBABLE CAUSE	REMEDY
Unit does not operate.	1. Freezer unplugged.	1. Plug in freezer.
	2. Fuse or breaker blown at main disconnect.	2. Make sure your freezer is connected to a separate circuit independent from any other electrical equipment. Have technician check fuse or breaker size and check voltage; if not within 10% of nameplate rating call power company.
	3. Beater motor out on overload.	3. Press overload reset button. Check product temperature an overrun.
	4. Off on high pressure cut-out control.	4. Refer to Troubleshooting Table – Discharge pressure too high.
	5. Off on low pressure cut-out control.	5. Contact your Electro Freeze distributor for service.
	6. Faulty selector switch.	6. Contact your Electro Freeze distributor for service.
	7. Disconnected or broken wire in electrical circuit.	7. Contact your Electro Freeze distributor for service.
Leakage of mix or water from drain tube to drip tray. 	1. Damaged beater shaft seal or installed improperly.	1. Replace cup seals on washer. Install properly.
	2. Beater shaft pitted or damaged where o-ring rides.	2. Replace beater shaft.
	3. Beater shaft end play not set properly.	3. Contact your Electro Freeze distributor for service.
Compressor does not operate or operates improperly. 	1. Faulty head o-ring.	1. Replace o-ring.
	2. Head not properly installed.	2. Install head properly. Replace o-ring if pinched.
	3. Faulty contactor.	3. Contact your Electro Freeze Distributor for service.
	4. Disconnected or broken wire in switch.	4. Contact your Electro Freeze Distributor for service.

12 Troubleshooting Tables (continued)

PROBLEM	PROBABLE CAUSE	REMEDY
Dispensed product too soft.	1. Dirty or blocked condenser, restricted air flow.	1. Unblock condenser or have cleaned by your Electro Freeze distributor.
	2. Component failure.	2. Contact your local service company.
	3. Leak in refrigeration system resulting in little or no refrigeration.	3. Contact your local service company.
Product dispenses slowly out of dispensing head.	1. Product too cold.	1. Check product temperature. Should be 17° to 19°F (-8 to -7°C). See Troubleshooting Table - Dispensed product too hard.
	2. Dispensing speed adjustment bolt too far down.	2. Contact your Electro Freeze distributor for service.
	3. Wrong rotation on beater.	3. Have an electrician correct rotation to clockwise as viewed from the front of the freezer.
Dispensed product too hard.	1. Cylinder thermostat erratic or set too cold.	1. Contact your Electro Freeze distributor for service.
	2. Plunger switch electrically or mechanically stuck closed.	2. Contact your Electro Freeze distributor for service.
	3. Faulty time delay. (Unit runs all the time.)	3. Contact your Electro Freeze distributor for service.
	4. Low suction pressure.	4. Contact your Electro Freeze distributor for service.

12 Trouble Shooting Tables (continued)

PROBLEM	PROBABLE CAUSE	REMEDY
Freezer runs continually and product gets too cold.	1. Plunger switch rod engaged.	1. Close plunger completely.
	2. Plunger switch (side or center) out of adjustment or defective.	2. Contact your Electro Freeze distributor for service.
	4. Faulty thermostat or bulb not deep enough in well.	4. Contact your Electro Freeze distributor for service.
	5. Starter points stuck.	5. Contact your Electro Freeze distributor for service.
	6. Faulty time delay.	6. Contact your Electro Freeze distributor for service.
	7. Suction pressure too low.	7. Contact your Electro Freeze distributor for service.
Compressor does not operate or operates improperly.	1. Trouble in compressor condensing circuit.	1. See Troubleshooting Chart-Compressor/Condensing Circuit Section 16.1
	2. Faulty start capacitor, run capacitor or relay. (Single phase only)	2. Contact your Electro Freeze Distributor for service.
	3. Faulty contactor.	3. Contact your Electro Freeze Distributor for service.
	4. Disconnected or broken wire in switch or capacitor relay box.	4. Contact your Electro Freeze Distributor for service.
Compressor and beater motor operates only when dispensing.	1. Cylinder thermostat setting too warm or thermostat defective.	1. Contact your Electro Freeze distributor for service.
Compressor and beater motor do not operate when dispensing.	1. Plunger switch(es) defective or out of adjustment.	1. Contact your Electro Freeze Distributor for service.
	2. Time delay defective.	2. Contact your Electro Freeze Distributor for service.
	3. Control relay defective.	3. Contact your Electro Freeze Distributor for service.
	4. Out on HPCO or LPCO.	4. Contact your Electro Freeze Distributor for service.

12 Trouble Shooting Tables (continued)

PROBLEM	PROBABLE CAUSE	REMEDY
Compressor does not start – hums intermittently (cycling on overload).	1. Low line voltage.	1. Ask power company to check voltage, increase voltage to not less than 10% below data plate rating or install transformer. Have electrician check for inadequate wire size.
	2. Improperly wired.	2. Contact your Electro Freeze distributor for service.
	3. Open starting capacitor or current relay.	3. Contact your Electro Freeze distributor for service.
	4. High discharge pressure.	4. 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.
Beater motor does not operate. 	1. Head assembly is not installed.	1. Install head assembly.
	2. Magnetic head switch defective.	2. Contact your Electro Freeze Distributor for service.
	3. Loose connection in control circuit.	3. Contact your Electro Freeze Distributor for service.
	4. Open starter coil.	4. Contact your Electro Freeze Distributor for service.
	5. Faulty capacitor assembly. (Single phase only.)	5. Contact your Electro Freeze Distributor for service.
	6. Faulty beater motor.	6. Contact your Electro Freeze Distributor for service.

12 Troubleshooting Tables (continued)

PROBLEM	PROBABLE CAUSE	REMEDY
Unit operates long or continuously.	1. Dirty condenser.	1. Have condenser cleaned by your Electro Freeze distributor.
	2. Shortage of refrigerant.	2. Contact your Electro Freeze Distributor for service.
	3. Moisture in system.	3. Contact your Electro Freeze Distributor for service.
	4. Compressor failing.	4. Contact your Electro Freeze Distributor for service.
Discharge pressure too high.	1. Water hose kinked or pinched. (water cooled models)	1. Move freezer and adjust hose so it is not pinched or kinked.
	2. Water turned off or defective water regulating valve. (water cooled models)	2. Turn on water, or contact your Electro Freeze Distributor for service.
	3. Restricted water cooled condenser. (water cooled models)	3. Contact your Electro Freeze Distributor for service.
	4. Dirty air condenser. (air cooled models)	4. Contact your Electro Freeze Distributor for service.
	5. Unit location too warm (air cooled models)	5. Contact your Electro Freeze Distributor for service.
	6. Refrigerant overcharge.	6. Contact your Electro Freeze Distributor for service.
	7. Air in system.	7. Contact your Electro Freeze Distributor for service.
Discharge pressure too low.	1. Water regulating valve open too wide. (water cooled model)	1. Contact your Electro Freeze Distributor for service.
	2. Shortage of refrigerant.	2. Contact your Electro Freeze Distributor for service.
Noisy compressor.	1. Tubing rattles.	1. Contact your Electro Freeze Distributor for service.
	2. Spring broken internally.	2. Contact your Electro Freeze Distributor for service.

ELECTRO FREEZE®

REPLACEMENT PARTS MANUAL with ILLUSTRATIONS

QUALITY PARTS
PROTECT
YOUR
EQUIPMENT

SOFT SERVE FREEZER
Model SL500

184599-01 4/10

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

H. C. Duke & Son, Inc. P/N 184599-01 April 2010 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.

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
(800) 755-4545

FAX: (309) 755-9858

E-mail: service@hcduke.com

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PART II

ILLUSTRATIONS

OTHER LISTS and INFORMATION

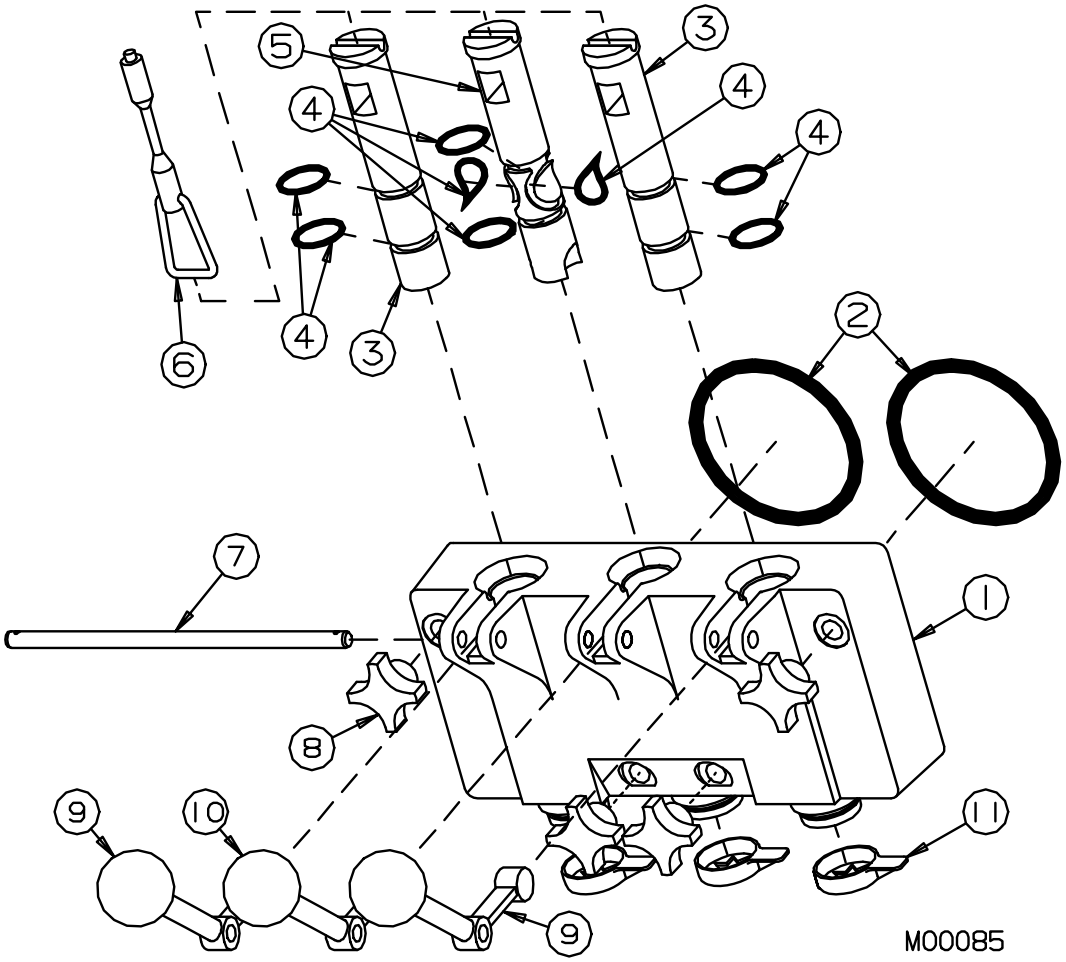


Figure 1 Head Assembly

Item	Part No.	Description
*	HC114995	Head-Assy. Dispense
1	HC116301	Head-Assy. w/actuators (Head only)
2	HC160583	O-ring (Head)
3	HC137174	Plunger-Side Self Dispense
4	HC160501	O-ring (Plunger)
5	HC138009	Plunger-Dispense Center
6	HC113426	Push Rod-Assy. Plunger Switch
7	HC160269	Pin-Handle
8	HC162625	Knob-Hand
9	HC110007	Handle-Assy. Dispense (Side) includes HC162629 ..... Knob-Ball 3/8-16 THD Black
10	HC114808	Handle-Assy.Dispense Center includes HC162629 ..... Knob-Ball 3/8-16 THD Black
11	HC196185	Nozzle-Serrated

* Includes all items above except #6 and #8.

Not Shown:

HC114341-05	Stud-Assy. Cylinder 3-15/16”
HC116410	Switch-Dispense Head Kit

Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

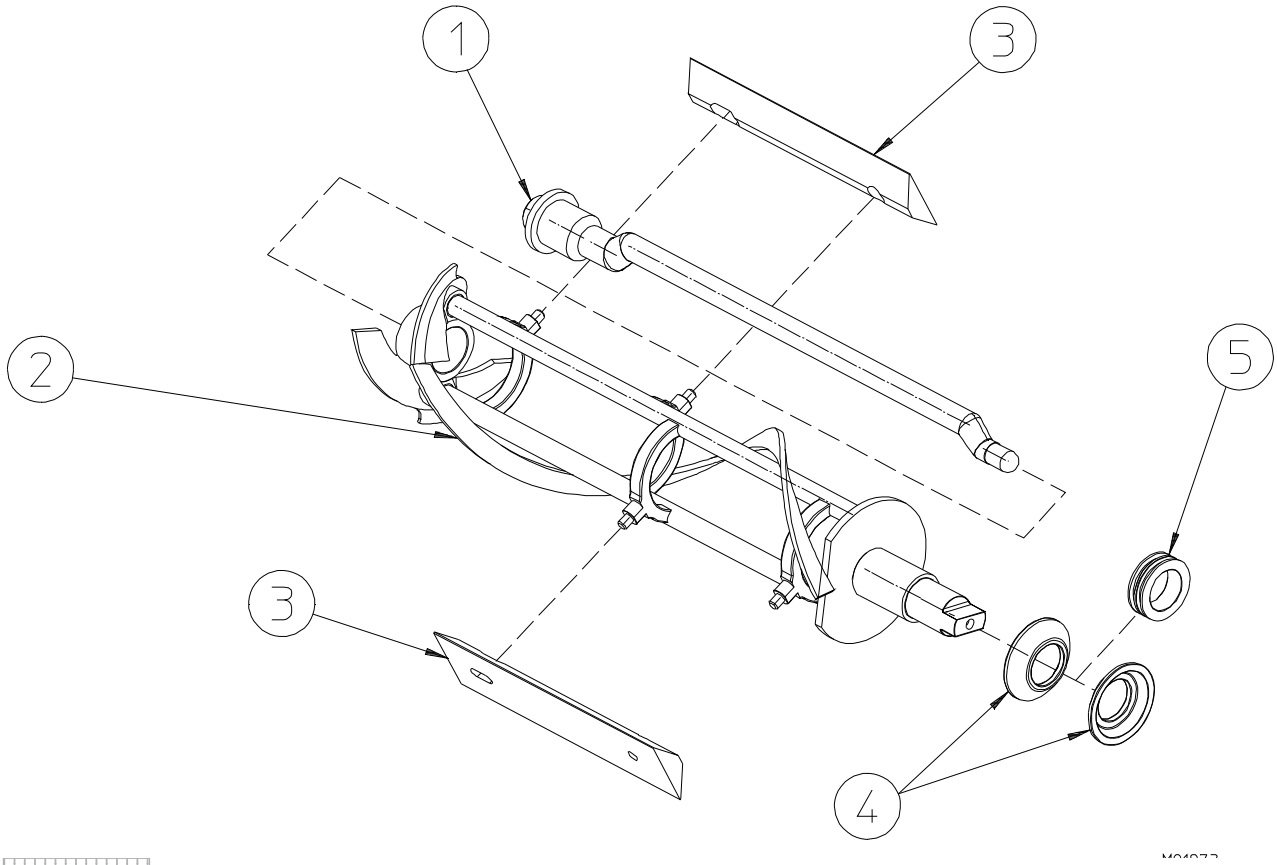


Figure 2 Beater Shaft Assembly

Item	Part No.	Description
1	HC139913	Bar-Breaker 16.02 in.
2	HC120866	Shaft- Assy. Beater
3	HC141009	Blade-Scraper
4*	HC160557	Seal-Beater Shaft
5*	HC137593	Washer-Double Shaft Seal

* Can be ordered together
HC115525 ..... Seal-Assy. Shaft Double

Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

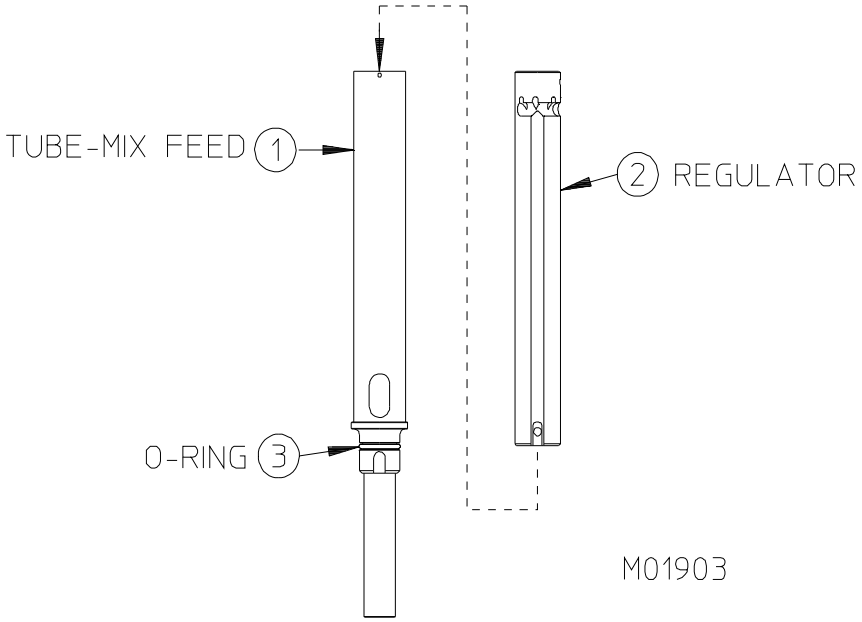


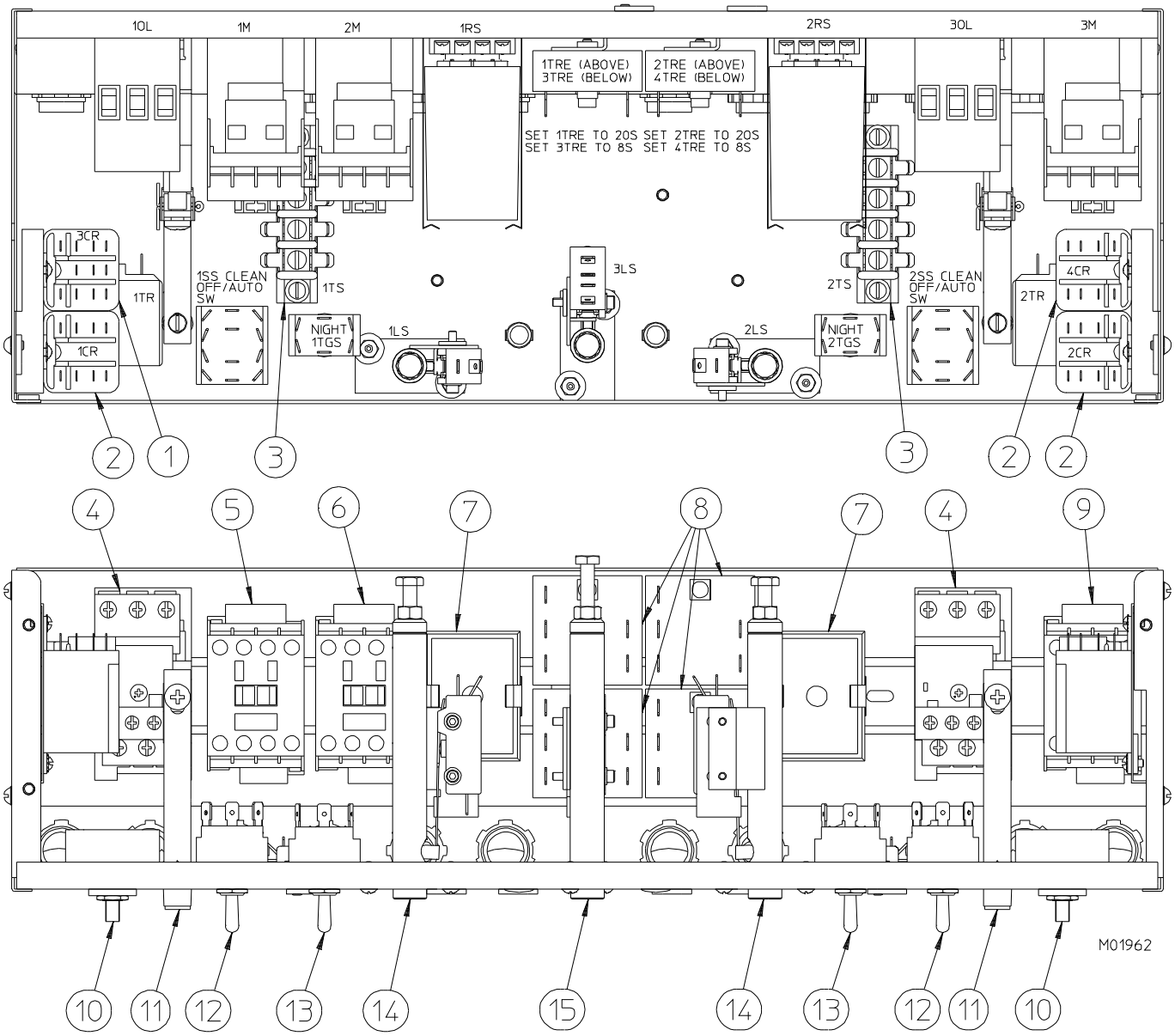
Figure 3 Mix Feed Tube Assembly

Item	Part No.	Description
*	HC120676	Tube- Assy Mix Feed Self Priming Complete
1	HC120672	Tube-Assy. Mix Feed Self Priming
2	HC137558	Regulator-Mix Feed
3	HC160607	O-ring (Mix Feed Tube)

* Includes all items above.

Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

Figure 4 Switch Box (Sheet 1 of 2)



Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

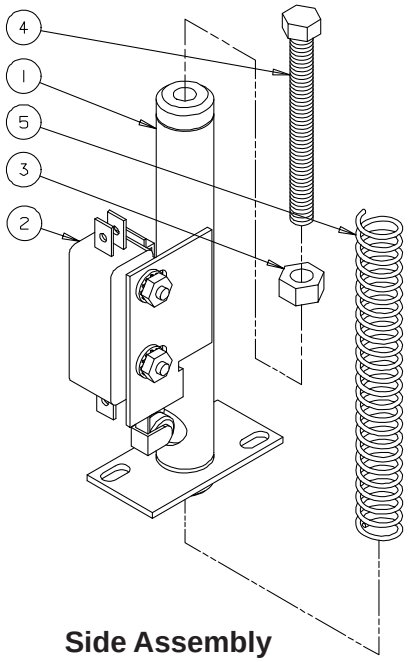
Figure 4 Switch Box (Sheet 2 of 2)

Item	Part No.	Description
1	HC150380	Relay-Flange Base w/cover 3PDT
2	HC150381	Relay-Flange Base w/cover
3	HC150795	Strip-Terminal
3A	HC116188	MOV-Assy.
4	HC120361	Relay-Assy. Overload T1 7.2-10A HC150061 ... Relay-Overload T1 7.2-10A HC150063 ... Adaptor-Overload Din Rail T1 HC150064 ... Adaptor-Reset Threaded T1
5	HC150155	Contactor-IEC 23A 208-230V C (Beater Motor)
5A	HC150156	Coil-AB 208-230V (Replacement) (Not Shown)
6	HC150155	Contactor-IEC 23A 208-230V C (Compressor)
6A	HC150156	Coil-AB 208-230V (Replacement) (Not Shown)
7	HC150202	Indicator-Mix Level
7A	HC150540	Light-Indicator 230V (Not Shown)
7B	HC150119	Socket-Octal Terminal (Not Shown)
7C	HC150120	Clip-Retainer (Set of 2) (Not Shown)
8	HC150252-01	Timer-.5-45 Delay on Break 230v
9	HC150155	Contactor-IEC 23A 208-230V C (Compressor/Hopper)
9A	HC150156	Coil-AB 208-230V (Replacement) (Not Shown)
10	HC150218	Timer-5 Minute
10A	HC162604	Knob-Timer (Not Shown)
11	HC120362	Lever-Reset & Button C23 includes HC159036 ... Button-Reset
12	HC150436	Switch-Toggle 4PDT Center OFF (AUTO/OFF/CLEAN)
13	HC150461	Switch-Toggle DPDT (DAY/NIGHT)
14	HC118095	Switch-Assy. Plunger Side (See Figure 5)
15	HC118096	Switch-Assy. Plunger Center (See Figure 5)

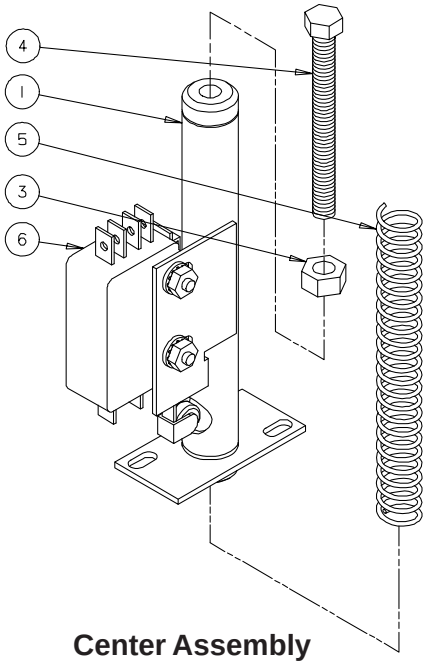
* Order by freezer serial number.

Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

Figure 5 Switch Assemblies



Side Assembly
118095



Center Assembly
118096

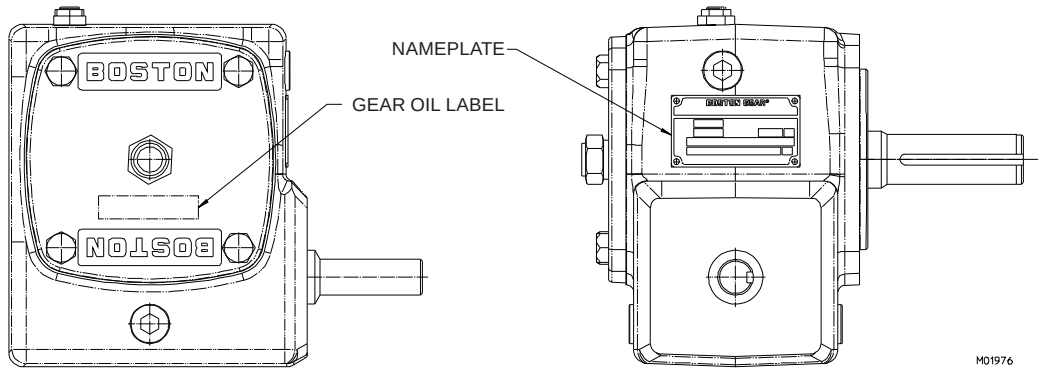
Item	Part No.	Description
*	HC118095	Switch-Assy. Plunger Side
**	HC118096	Switch-Assy. Plunger Center
1	HC114174	Guide-Assy. Push Rod
2	HC150477	Switch-Roller Actuator SPDT (Side)
3	HC160104	Nut-HEX 1/4-20 ZN
4	HC160066	Screw-HXHM 1/4-20 x 2 ZN
5	HC162323	Spring-Compression MW ZN
6	HC150478	Switch-Roller Actuator DPDT (Center)

* Includes items 1-5
** Includes items 1, 3-6

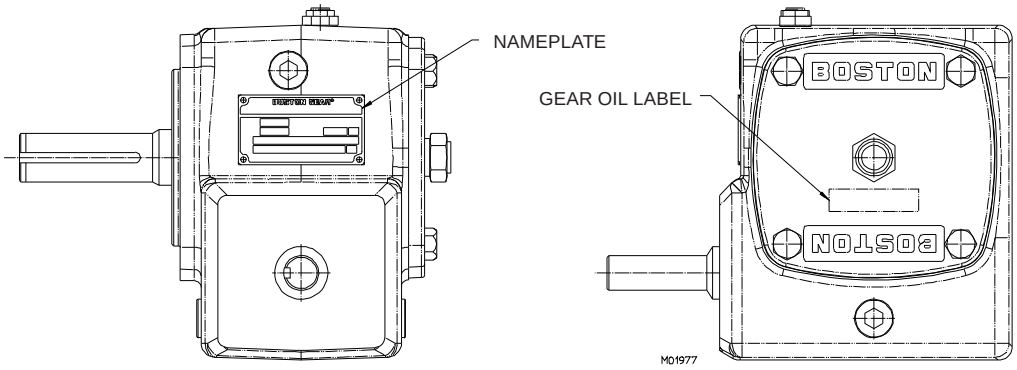
Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

Figure 6 Gear Reducer

HC153366 5 - 1 Ratio A Side*



HC153367 5 - 1 Ratio B Side*



HC111780 ..... Coupling-Assy. 7/8" Drive ..... 1 ea. req.

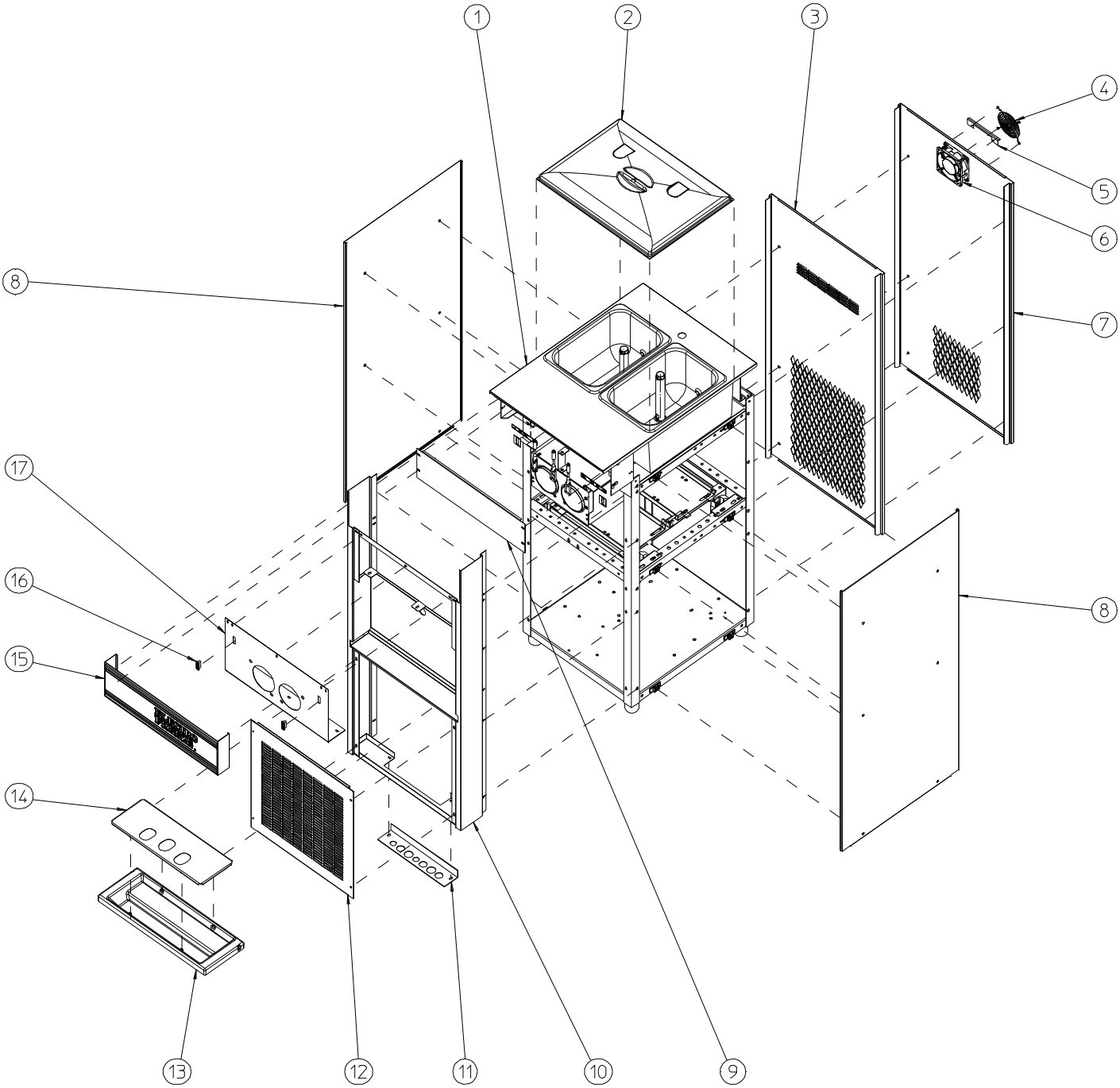
------- ..... Oil-Special Gear Lube**

* A is left side when facing front of freezer.
B is right side when facing front of freezer.

****Note: To order oil always verify type of oil from the tag located on the gear reducer. Improper oil usuage will cause failure and void of warranty.**

Use only original or authorized replacement parts with this freezer. Use of unapproved parts will void warranty.

Figure 7 Panel View



Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

Figure 7 Panel View

Item	Part No.	Description
1	HC120773	Panel-Assy. Hopper and Top
2	HC196111	Cover-Hopper
3	HC120781	Panel-Assy. Rear A/C (Air Cooled)
4	HC151095	Guard-Finger (Water Cooled)
5	HC138221	Cap-Drip Fan Port (Water Cooled)
6	HC151094	Fan-Axial 19W (Water Cooled)
7	HC120835	Panel-Rear W/C (Water Cooled)
8	HC140940	Panel-Side
9	HC120780	Cover-Assy. Electrical Box
10	HC120776	Panel-Assy. Front
10A	HC199016	Grommet-Ruuber 5/8 ID (Not shown)
11	HC132942	Panel-Service
12	HC140941	Panel-Front Louvered
13	HC196270	Tray-Drip 22 in Black
14	HC120778	Insert-Assy. Drip Tray
15	HC120855	Trimstrip Assy.-EF Decal 22 in.
	HC165188-08	Decal-Trimstrip EF Logo 22 in.
16	HC150540	Light-Indicator 230v
17	HC140942	Panel-Dispense

Not Shown:

HC162105	Caster-1-1/4 St. PT w/Brake
HC162106	Caster-1-1/4 St. PT w/o Brake
HC150736	Nut-Lock Conduit 1-1/4 (for Casters)
HC112978	Leg-Assy. Six Inch

Hardware for Panels

Panel	Screw	Nut-Speed	Spacer	Nut-Speed on Frame
Dispense	HC160076	HC159132	n/a	n/a
Front	HC160076	HC159132	n/a	HC159067
Rear	HC160048	HC160117	n/a	n/a
Side	HC159219	HC160114	HC138456	n/a
Trimstrip	HC160076	n/a	n/a	n/a

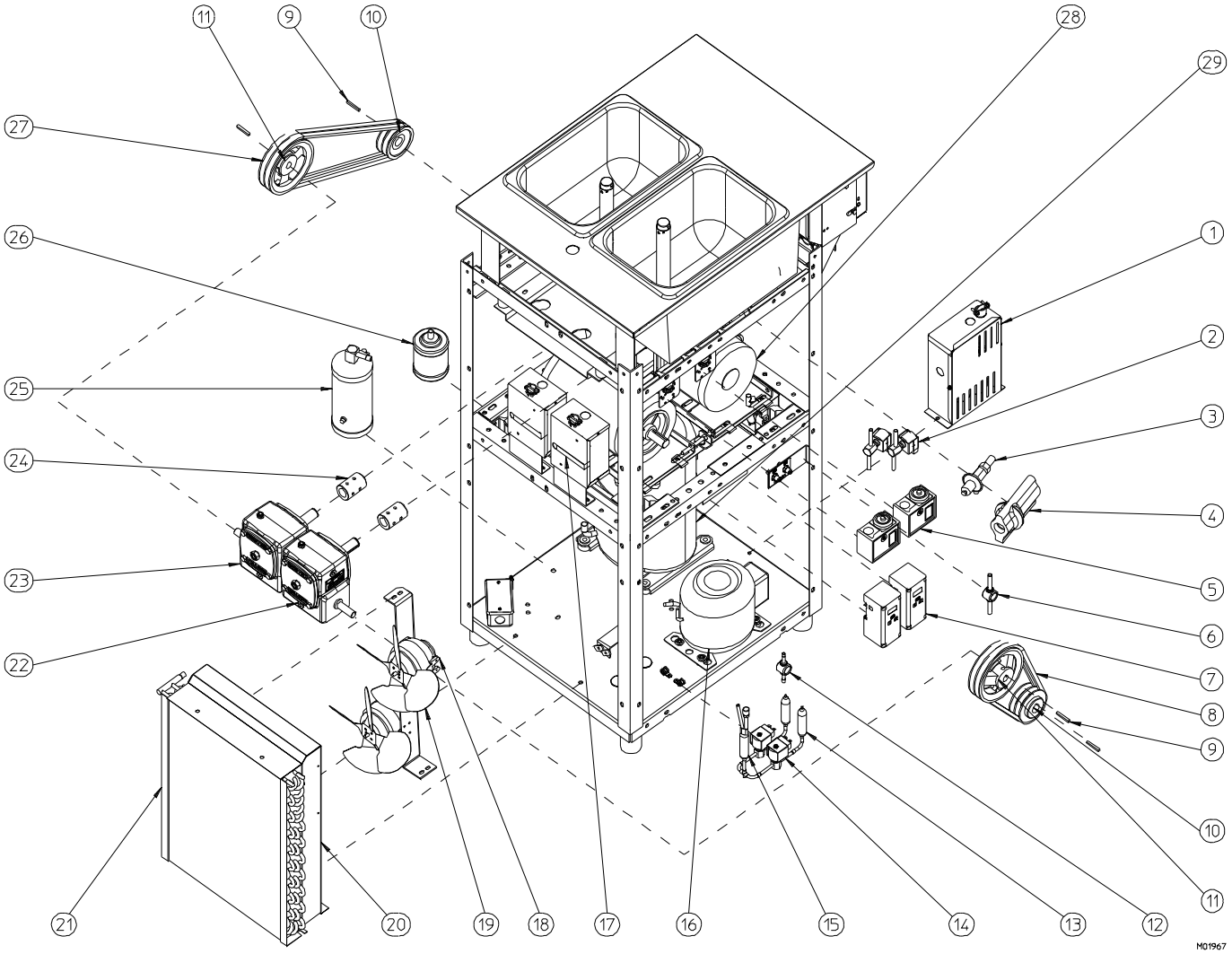
n/a – Not Applicable

Panel Decals & Labels

Part No.	Description
HC164034	Beater Installation
HC165025	Beater Warning
HC165234	Cleaning Instruction
HC165093	Clear Overlay
HC164004-03	Operating Instructions
HC165126	Panel Removal
HC165188-08	Trimstrip EF Logo 22”
HC164199	Trimstrip LH
HC164200	Trimstrip RH
HC169053	Ventilation 6” RR

Use only original or authorized replacement parts with this freezer. Use of unapproved parts will void warranty.

Figure 8 Side/Rear View Air Cooled



Use only original or authorized replacement parts with this freezer. Use of unapproved parts will void warranty.

Figure 8 Side/Rear View Air Cooled

Item	Part No.	Description
1	------	Box-Assy. Cap (Compressor) (1 Phase Only)
	HC151436	Capacitor-Start
	HC151463	Capacitor-Run
	HC151462	Relay-Comp.Start
2	HC155488	Valve-Solenoid (Cylinder)
3	HC155490	Valve-Automatic Expansion (Cylinder)
4	HC165531	Insulator-Expansion Valve
5	HC161210	Thermostat-1.5 Diff. (Hopper) (B-Side)
6	HC155059	Glass-Sight
7	HC120829	Control-Assy. Elec Temp includes control with
	HC161211-01	Probe-Sensor
	HC150920	Jumper-2 Circuit
8	HC153160	Belt-V (A Side)
9	HC153322	Key-Drive 3/16 xs x 1-/12
10	HC153626	Sheave-7/8 Bore 3.25 OD (Driver) includes sheave and
	HC160495	Screw-SK Set
11	HC153621	Sheave-5/8 Bore 5.50 OD (Driven) includes sheave and
	HC160033	Screw-SK Set
12	HC155459	Glass-Sight
13	HC155642	Tube-Capillary w/ strainer
14	HC155707	Valve-Solenoid 208-240v (Hopper)
15	HC155498	Drier-Filter w/ Access
16	HC154955	Compressor-TL2.56 Hopper
17	----	Box-Assy. Capacitor (Beater Motor) (1 Phase Only)
	HC119912	Cap.-Assy w/Bleed
	HC150318	Capacitor-Run
18	HC151080-01	Motor-Fan 35w 230-1-50/60
19	HC159017	Blade-Fan 10 in 36 Deg.
20	HC120788	Shroud-Assy. Condenser
21	HC155141	Condenser-Air
22	HC153366	Reducer-Gear LH 5/1 (A side)
23	HC153367	Reducer-Gear RH 5/1 (B side)
24	HC111780	Coupling-Assy. 7/8 Drive
25	HC155071	Receiver-3 lb. 3/8 ID Sweat w/o valve
26	HC155054	Drier-Filter 16 cu. in.
27	HC153167	Belt-V (B Side)
28	HC151043	Motor-2HP 208-230/415-3-50/69 (Beater)
or	HC120073	Kit-Motor & Cap 2HP 208-230V Emerson (1 Phase) includes motor and
	HC119912	Cap-Assy. w/ Bleed Resistor
	HC150318	Capacitor-Run
29	HC119541	Compressor-Assy. (3 ph) includes compressor and
	HC155054	Drier-Filter
	HC151478	Grommet-Mtg.
	HC151479	Sleeve-Mtg.
	HC155419	Valve-Access
or	HC119540	Compressor-Assy. (1 ph) includes compressor and
	HC151436	Capacitor-Start
	HC151463	Capacitor-Run
	HC155054	Drier-Filter
	HC151478	Grommet-Mtg
	HC151462	Relay-C.Start
	HC151479	Sleeve-C.Mtg
	HC155419	Valve-Access

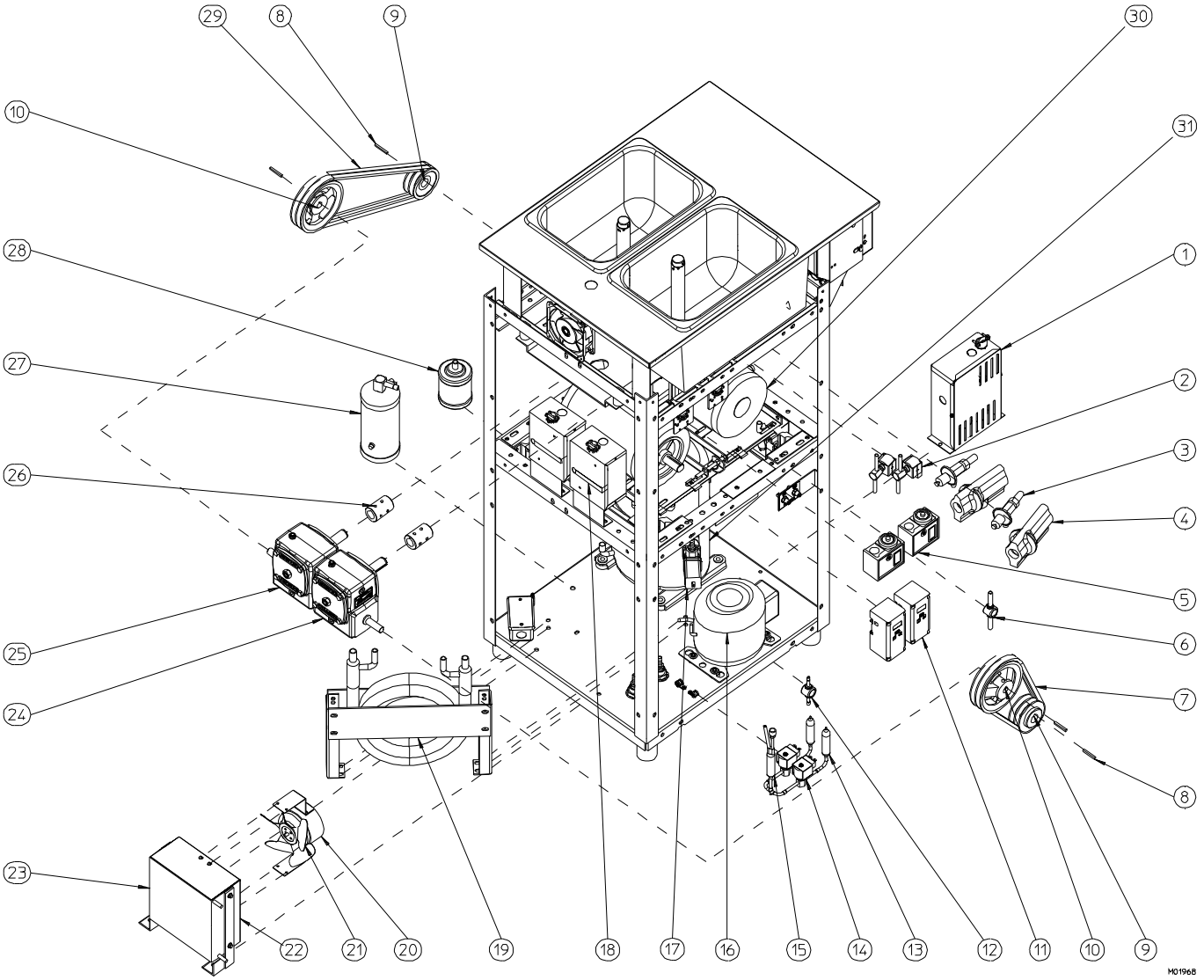
Not Shown:

HC115467-01	Cylinder-Assy.Complete
HC155704	Cut Out-High Pressure (Hopper)
HC155450	Cut Out-High Pressure 450 PSI
HC155701	Cut Out-Low Pressure
HC115004	Tube-Assy. Drain 14-1/4
HC155497	Valve-Access 3/16” x 1/4 & 3/8 Step
HC155487	Valve-Check 5/8 OD Sweat

A is left side when facing front of freezer.
B is right side when facing front of freezer.

Use only original or authorized replacement parts with this freezer. Use of unapproved parts will void warranty.

Figure 9 Side/Rear View Water Cooled



Use only original or authorized replacement parts with this freezer. Use of unapproved parts will void warranty.

Figure 9 Side/Rear View Water Cooled

Item	Part No.	Description
1	----	Box-Assy Capacitor (1ph)(Compressor)
		HC151436 ... Capacitor-Start
		HC151463 ... Capacitor-Run
		HC151462 ... Relay-Comp. Start
2	HC155488	Valve-Solenoid (Cylinder)
3	HC155490	Valve-Automatic Expansion (Cylinder)
4	HC165531	Insulator-Expansion Valve
5	HC161210	Thermostat-1.5 Diff. (Hopper) (B-Side)
6	HC155059	Glass-Sight
7	HC153160	Belt-V (A Side)
8	HC153322	Key-Drive 3/16 xs x 1-/12
9	HC153626	Sheave-7/8 Bore 3.25 OD (Driver)
		HC160495 ... Screw-SK Set
10	HC153621	Sheave-5/8 Bore 5.50 OD (Driven) includes
		HC160033 ... Screw-SK Set
11	HC120829	Control-Assy. Elec Temp includes control with
		HC161211-01 ... Probe-Sensor
		HC150920 ..... Jumper-2 Circuit
12	HC155459	Glass-Sight
13	HC155642	Tube-Capillary w/ strainer
14	HC155707	Valve-Solenoid 208-240v (Hopper)
15	HC155498	Drier-Filter w/Access
16	HC154955	Compressor-TL2.56 Hopper
17	HC113769	Valve-Assy. Water
		HC155410 ... Valve-Water
17A	HC155444	Kit-Water Valve Repair
18	--	Box-Assy. Capacitor (1 ph) (Beater Motor)
		HC119912 .... Cap-Assy. w/Bleed
		HC150318 ... Capacitor-Run
19	HC155029	Condenser-Water
20	HC151017	Motor-Fan 5 Watt 230V
21	HC159032	Blade-Fan 6” 20°
22	HC120151	Shroud-Assy. Condenser
23	HC155139	Condenser- Air 8x8
24	HC153366	Reducer-Gear LH 5/1 (A side)
25	HC153367	Reducer-Gear RH 5/1 (B side)
26	HC111780	Coupling-Assy. 7/8 Drive
27	HC155071	Receiver-3 lb. 3/8 ID Sweat w/o valve
28	HC155054	Drier-Filter 16 cu. in.
29	HC153167	Belt-V (B Side)
30	HC151043	Motor-2HP 208-230/415-3-50/69 (Beater)
or	HC120073	Kit-Motor & Cap 2HP 208-230V Emerson (1 Phase) includes motor and ....
		HC119912 .... Cap-Assy. w/ Bleed Resistor
		HC150318 ... Capacitor-Run
31	HC119541	Compressor-Assy. (3 ph) includes compressor and
		HC155054 ... Drier-Filter
		HC155419 ... Access-Valve
or	HC119540	Compressor-Assy. (1 ph) includes compressor and
		HC151436 ... Capacitor-Start
		HC151463 ... Capacitor-Run
		HC155054 ... Drier-Filter
		HC151462 ... Relay-C.Start
		HC155419 ... Valve-Access

Not Shown:

HC115467-01 .. Cylinder-Assy.Complete
HC120829 ..... Control-Assy. Elec Temp
HC155704 ..... Cut Out-High Pressure (Hopper)
HC155702 ..... Cut Out-High Pressure 375 PSI
HC155701 ..... Cut Out-Low Pressure
HC155497 ..... Valve-Access 3/16” x 1/4 & 3/8 Step
HC155487 ..... Valve-Check 5/8 OD Sweat
HC115004 ..... Tube-Assy. Drain 14-1/4

Use only original or authorized replacement parts with this freezer. Use of unapproved parts will void warranty.

Accessories

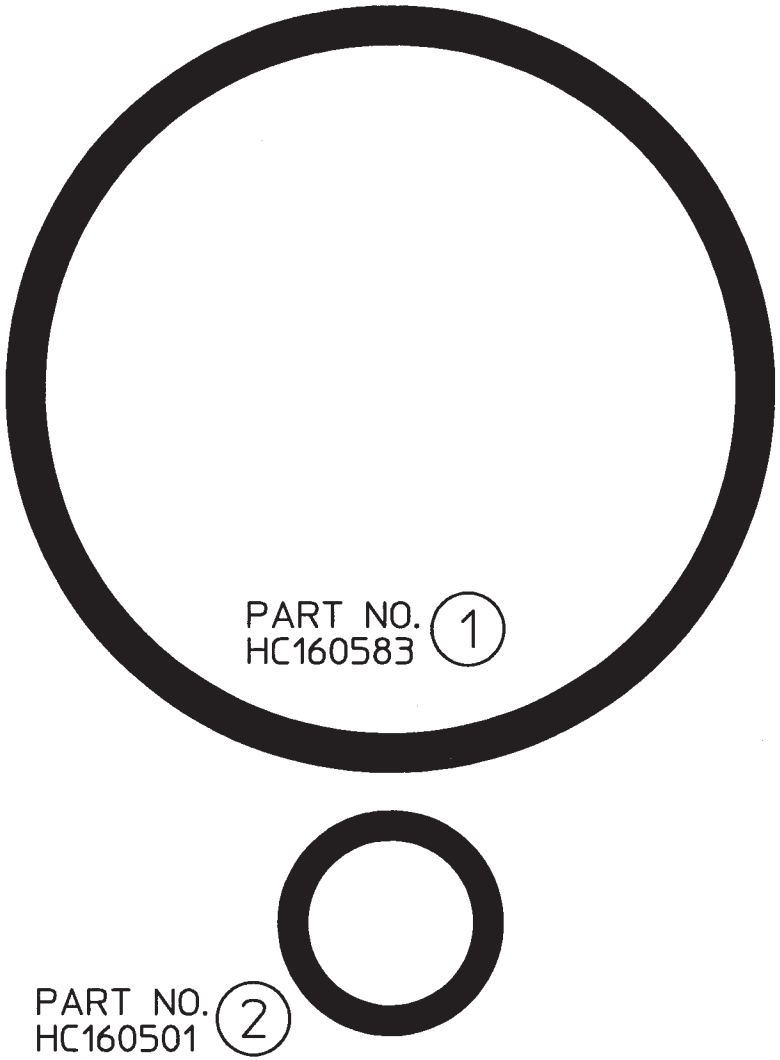
Part No.	Description
HC196103	Bottle-Wash 500 ml
HC158009	Brush-4 in. w/o handle (Handle p/n HC158012)
HC158003	Brush-7/16 & 1-1/8 Double End
HC158077	Brush-9/16 in w/36 in. handle
HC162105	Caster-1-1/4 ST PT w/brake
HC162106	Caster-1-1/4 ST PT w/o brake
HC184233	Chart-O-ring EF Gravity SS (Laminated)
HC120858	Cover-Assy. Control Switch 22 in. Open
HC196111	Cover-Hopper
HC158012	Handle-Brush Fiberglass (Brush p/n HC158009)
HC115536	Kit-O-ring
HC158054A	Lubricant-Lubri-Film Plus 4 oz. tube
HC158000A	Lubricant-Petro-Gel 4 oz. tube
HC112978	Leg-Assy. Six inch (Optional)
HC196185	Nozzle-Serrated
HC150736	Nut-Lock Conduit 1-1/4 (Casters)
HC158013	Sanitizer-Stera Sheen (Sample)
HC158014	Sanitizer-Stera Sheen (Per case/4 jars)
HC158014A	Sanitizer-Stera Sheen (Per 4 lb. jar)
HC158049	Scale-Overrun
HC169374	Tool-O-ring Removal
HC196270	Tray-Drip 22 in. Black
HC184778-01	DVD-Training

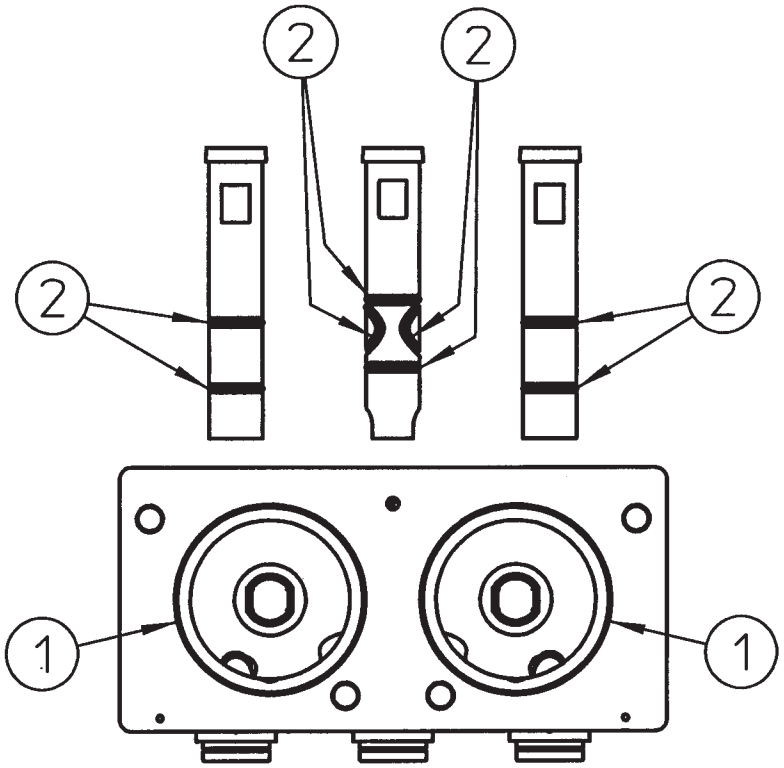
Use only original or authorized replacement parts with this freezer.
Use of unapproved parts will void warranty.

HC184233

GRAVITY SOFT SERVE DISPENSING HEAD

REV 01





BACKSIDE
OF
DISPENSE HEAD

O-RING CHART

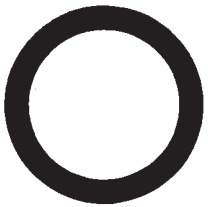
PH. NO. 309-755-4553

H.C. DUKE & SON, INC.

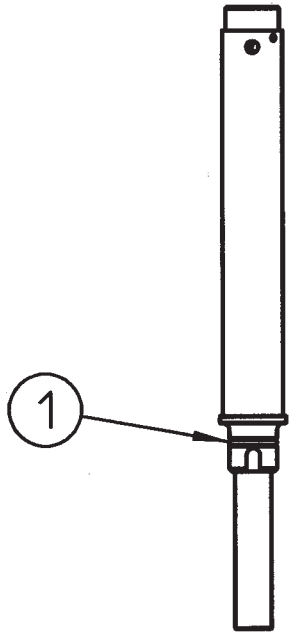
HC184233

MIX FEED REGULATOR

REV 01



PART NO.
HC160607



O-RING CHART

PH. NO. 309-755-4553

H.C. DUKE & SON, INC.

Cleaning & Sanitizing Electro Freeze® Gravity Soft Serve Freezers

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.

DRAINING PRODUCT

1. Remove mix feed valve assemblies.
2. Put both machine control switches in the **"CLEAN"** position. Allow beater to run for 5 minutes to soften product.
3. Dispense out as much frozen product as possible.
4. Pour 2 gallons of cool water into each mix hopper.
5. Open plungers to drain mix and water.
6. Repeat with warm water until the water is coming out clear. Rinse each side with 2 gallons (7.6 liters) of sanitary solution . The sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM (parts per million) available chlorine solution .
7. Put all switches in the **"OFF"** position.

DISASSEMBLY

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. Some freezers have more than one disconnect switch.

Disassemble the freezer components in accordance with the Operator's Manual instructions.

CLEANING

1. 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).
2. Disassemble all parts and remove all o-rings. Clean each part with the appropriate brush supplied with freezer.
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. Place all parts on a clean dry surface to air dry.
5. Go to the freezer and use a dish detergent solution to thoroughly brush the inside of the hopper, the mix feed port to the cylinder and the drain tube. Also brush the inside of the cylinders, making certain to clean the back walls of the cylinders. Then rinse these areas with sanitizing solution.

ASSEMBLY

1. Assemble and lubricate freezer components in accordance with the Operator's Manual instructions.

SANITIZING

1. Wash and sanitize your hands and forearms.

NOTE: Follow steps 2 through 8 for each side of the freezer.

2. Prepare 2 gallons (7.6 liters) of sanitizing solution in a container for each side of the freezer. The sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM (parts per million) available chlorine solution .
3. Make sure that the mix feed tube assembly is in the bottom of the hopper pan.
4. Pour sanitizing solution into the hopper pan. Using a clean brush, scrub the hopper walls, the mix feed port from the hopper to the cylinder, and the inside of the mix feed tube.
5. Sanitize the inside of the hopper cover.
6. When the cylinder has filled with sanitizing solution, reconnect the main power supply to the freezer.
7. Turn the selector switch to the **"CLEAN"** position and allow the beater to run for 5 minutes.
8. During this time period, check for leaks around the head, plungers, and drain tube.
9. Place an empty container under the dispensing head and drain the solution by opening the plungers to allow the cylinders and hoppers to empty. Open and close each plunger at least 10 times during draining to sanitize the port areas of the dispense head.
10. Turn both selector switches to the **"OFF"** position, and make sure the sanitizing solution is completely drained from each side of the freezer.

See Priming The Freezer. (over)

Priming The Freezer

Priming the freezer removes all excess sanitizer from the freezing cylinder, and sets the proper overrun for the first cylinder of product.

1. Make sure that your hands, forearms, and all freezer assemblies are sanitized.

2. With the o-ring and white plastic regulator installed, insert the mix feed tube assembly (see figure 1) into the hopper drain outlet and close the white plastic regulator (see figure 3).

Important:
Looking at the top of the mix feed tube assembly, the white dot on the white plastic regulator must be in line with the alignment mark on the metal mix feed tube.

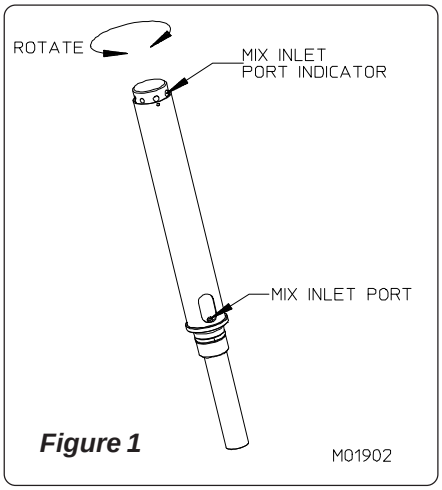


Figure 1

3. Place a bucket under the dispense head (see figure 2).

4. Fill the mix hopper with mix.

5. Open the plunger and remove the white plastic regulator from the mix feed tube. When pure mix is flowing from the dispense head, close the plunger.

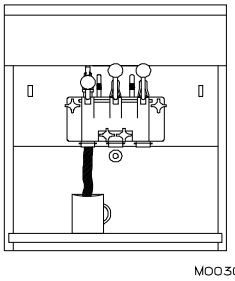


Figure 2

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

6. Allow mix to continue flowing into the cylinder until bubbling stops.

7. Reinstall white plastic regulator into the mix feed tube, turn to the "CLOSED" position (see Figure 3) and switch the freezer to "AUTO".

8. Turn the white plastic regulator to the "OPEN" when ready to serve product. (see figure 3)

9. Repeat Steps 1 - 8 for the other side of the freezer.

MIX FEED ASSEMBLY

"CLOSED" and "OPEN"positions

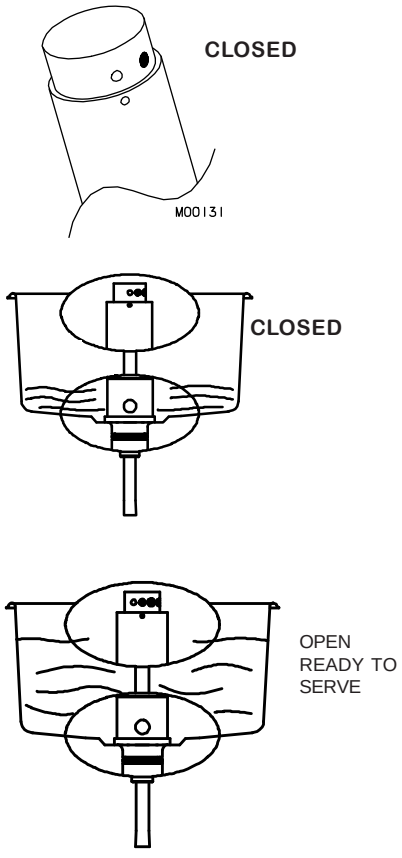


Figure 3

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.*

Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Compressor-Assy. 208-230/1/60 (1 ph)	HC119540	1	D2P-908	-
Capacitor-Run	HC151463	1	D2P-908	-
Capacitor-Start	HC151436	1	D2P-908	-
Drier-Filter 16 cu in	HC155054	1	D2P-908	-
Relay-Compressor Start	HC151462	1	D2P-908	-
Valve-Access	HC155419	1	D2P-908	-
Compressor-Kit Hopper & Filter	HC120927	1	D2P-908	-
Condenser-Air (Air Cooled)	HC155141	1	D2P-908	-
Condenser-Air 8x8 (Water Cooled)(R134A System)	HC155139	1	D2P-908	-
Condenser-Assy Auxiliary Compressor (Water Cooled)(R134A System) includes	HC120789	1	D2P-908	-
Blade-Fan 6 in. 20°	HC159032	1	D2P-908	-
Condenser-Air 8x8	HC155139	1	D2P-908	-
Motor-Fan 5 Watt 230v	HC151017	1	D2P-908	-
Shroud-Assy. Condenser	HC120151	1	D2P-908	-
Condenser-Water (Water Cooled)	HC155029	1	D2P-908	-
Contactor-IEC 23A 208-230V C (Beater Motor)	HC150155	1	D2P-908	-
Contactor-IEC 23A 208-230V C (Compressor)	HC150155	1	D2P-908	-
Contactor-IEC 23A 208-230V C (Compressor/Hopper)	HC150155	1	D2P-908	-
Control-Assy. Elec Temp	HC120829	2	D2P-908	-
Coupling-Assy. 7/8 Drive	HC111780	2	D2P-908	-
Cover-Assy. Control Switch 22 in. Open (Optional)	HC120858	1	D2P-908	-
Cover-Assy. Electrical Box	HC120780	1	D2P-908	-
Cover-Hopper	HC196111	1	D2P-908	-
Cut Out-High Pressure (Hopper)	HC155704	1	D2P-908	-
Cut Out-High Pressure 375 PSI (Water Cooled)	HC155702	1	D2P-908	-
Cut Out-High Pressure 450 PSI (Air Cooled)	HC155450	1	D2P-908	-
Cut Out-Low Pressure	HC155701	1	D2P-908	-
Cylinder-Assy.Complete	HC115467-01	1	D2P-908	-

* As Required
** Items Included In O-Ring Kit No. HC115536
*** LH or RH — Left or right hand is determined as you face the front of the freezer.
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Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Compressor-Assy. 208-230/1/60 (1 ph)	HC119540	1	D2P-908	-
Capacitor-Run	HC151463	1	D2P-908	-
Capacitor-Start	HC151436	1	D2P-908	-
Drier-Filter 16 cu in	HC155054	1	D2P-908	-
Relay-Compressor Start	HC151462	1	D2P-908	-
Valve-Access	HC155419	1	D2P-908	-
Compressor-TL2.56 Hopper	HC154955	1	D2P-908	-
Condenser-Air (Air Cooled)	HC155141	1	D2P-908	-
Condenser-Air 8x8 (Water Cooled)(R134A System)	HC155139	1	D2P-908	-
Condenser-Assy Auxiliary Compressor (Water Cooled)(R134A System) includes	HC120789	1	D2P-908	-
Blade-Fan 6 in. 20°	HC159032	1	D2P-908	-
Condenser-Air 8x8	HC155139	1	D2P-908	-
Motor-Fan 5 Watt 230v	HC151017	1	D2P-908	-
Shroud-Assy. Condenser	HC120151	1	D2P-908	-
Condenser-Water (Water Cooled)	HC155029	1	D2P-908	-
Contactor-IEC 23A 208-230V C (Beater Motor)	HC150155	1	D2P-908	-
Contactor-IEC 23A 208-230V C (Compressor)	HC150155	1	D2P-908	-
Contactor-IEC 23A 208-230V C (Compressor/Hopper)	HC150155	1	D2P-908	-
Control-Assy. Elec Temp	HC120829	2	D2P-908	-
Coupling-Assy. 7/8 Drive	HC111780	2	D2P-908	-
Cover-Assy. Control Switch 22 in. Open (Optional)	HC120858	1	D2P-908	-
Cover-Assy. Electrical Box	HC120780	1	D2P-908	-
Cover-Hopper	HC196111	1	D2P-908	-
Cut Out-High Pressure (Hopper)	HC155704	1	D2P-908	-
Cut Out-High Pressure 375 PSI (Water Cooled)	HC155702	1	D2P-908	-
Cut Out-High Pressure 450 PSI (Air Cooled)	HC155450	1	D2P-908	-
Cut Out-Low Pressure	HC155701	1	D2P-908	-
Cylinder-Assy.Complete	HC115467-01	1	D2P-908	-

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Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Decal-Beater Installation	HC164034	1	D2P-908	-
Decal-Beater Warning	HC165025	1	D2P-908	-
Decal-Cleaning Instructions	HC165234	1	D2P-908	-
Decal-Clear Overlay	HC165093	1	D2P-908	-
Decal-Operating Instructions	HC164004-03	1	D2P-908	-
Decal-Panel Removal	HC165126	3	D2P-908	-
Decal-Trimstrip EF Logo 22 in.	HC165188-08	1	D2P-908	-
Decal-Trimstrip LH	HC164199	1	D2P-908	-
Decal-Trimstrip RH	HC164200	1	D2P-908	-
Decal-Ventilation 6" RR	HC169053	1	D2P-908	-
Drier-Filter 16 cu. in.	HC155054	1	D2P-908	-
Drier-Filter w/Access	HC155498	1	D2P-908	-
DVD-Training	HC184778-01	1	D2P-908	-
Fan-Axial 19W (Water Cooled)	HC151094	1	D2P-908	-
Glass-Sight	HC155059	1	D2P-908	-
Glass-Sight (Auxiliary)	HC155459	1	D2P-908	-
Grommet-Rubber 5/8 ID	HC199016	1	D2P-908	-
Guard-Finger (Water Cooled)	HC151095	1	D2P-908	-
Guide-Assy. Push Rod	HC114174	3	D2P-908	-
Handle-Assy. Dispense (Side)	HC110007	2	D2P-908	-
Knob-Ball 3/8-16 THD Black	HC162629	2	D2P-908	-
Handle-Assy.Dispense Center	HC114808	1	D2P-908	-
Knob-Ball 3/8-16 THD Black	HC162629	1	D2P-908	-

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Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Handle-Brush Fiberglass (Brush p/n HC158009)	HC158012	1	D2P-908	-
Head-Assy. Dispense	HC114995	1	D2P-908	-
Head-Assy. w/actuators (Head only)	HC116301	1	D2P-908	-
Handle-Assy. Dispense (Side)	HC110007	2	D2P-908	-
Handle-Assy.Dispense Center	HC114808	1	D2P-908	-
Nozzle-Serrated	HC196185	3	D2P-908	-
O-ring (Plunger)	HC160501	8	D2P-908	-
O-ring (Head)	HC160583	2	D2P-908	-
Pin-Handle	HC160269	1	D2P-908	-
Plunger-Dispense, Center	HC138009	1	D2P-908	-
Plunger-Side Self Dispense	HC137174	2	D2P-908	-
Indicator-Mix Level	HC150202	2	D2P-908	-
Insert-Assy. Drip Tray	HC120778	1	D2P-908	-
Insulator-Expansion Valve	HC165531	2	D2P-908	-
Jumper-2 Circuit (Elec. Temperature Control)	HC150920	2	D2P-908	-
Key-Drive 3/16 sq x 1-/12	HC153322	4	D2P-908	-
Kit-O-ring	HC115536	1	D2P-908	-
Kit-Water Valve Repair	HC155444	1	D2P-908	-
Knob-Ball 3/8-16 THD Black	HC162629	3	D2P-908	-
Knob-Hand	HC162625	4	D2P-908	-
Knob-Timer	HC162604	2	D2P-908	-
Leg-Assy. Six inch (Optional)	HC112978	4	D2P-908	-
Lever-Reset & Button C23	HC120362	2	D2P-908	-
Light-Indicator 230V	HC150540	2	D2P-908	-
Lubricant-Lubri-Film Plus 4 oz. tube	HC158054A	1	D2P-908	-
Lubricant-Petrol Gel 4 oz. tube	HC158000A	1	D2P-908	-

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Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Motor-Beater	*Order by Freezer Serial No.*			
Motor-Fan 35w 230-1-50/60 (Air Cooled)	HC151080-01	2	D2P-908	-
Motor-Fan 5 Watt 230v (Water Cooled)	HC151017	1	D2P-908	-
MOV-Assy. (Electric Box)	HC116188	2	D2P-908	-
Nozzle-Serrated	HC196185	3	D2P-908	-
Nut-HEX 1/4-20 ZN	HC160104	1	D2P-908	-
Nut-Lock Conduit 1-1/4 (Casters)	HC150736	4	D2P-908	-
Nut-Speed (on frame) #10-24 .100-.125 (Front Panel)	HC159067	*	D2P-908	-
Nut-Speed #10-24 .025-.064 SST (Front & Dispense Panel)	HC159132	*	D2P-908	-
Nut-Speed #1/4-.20 BP&O (Side Panel)	HC160114	*	D2P-908	-
Nut-Speed #1/4-.20 .064-.125 (Rear Panel)	HC160117	*	D2P-908	-
Oil-Special Gear Lube (per quart)	*	1	D2P-908	-
O-ring (Head)	HC160583**	2	D2P-908	-
O-ring (Mix Feed Tube)	HC160607**	2	D2P-908	-
O-ring (Plunger)	HC160501**	8	D2P-908	-
Panel-Assy. Front	HC120776	1	D2P-908	-
Panel-Assy. Hopper and Top	HC120773	1	D2P-908	-
Panel-Assy. Rear A/C (Air Cooled)	HC120781	1	D2P-908	-
Panel-Dispense	HC140942	1	D2P-908	-
Panel-Front Louvered	HC140941	1	D2P-908	-
Panel-Rear W/C (Water Cooled)	HC120835	1	D2P-908	-

* As Required
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Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Panel-Service	HC132942	1	D2P-908	-
Panel-Side	HC140940	2	D2P-908	-
Pin-Handle	HC160269	1	D2P-908	-
Plunger-Dispense Center	HC138009	1	D2P-908	-
Guide-Assy. Push Rod	HC114174	1	D2P-908	-
Nut-HEX 1/4-20 ZN	HC160104	1	D2P-908	-
Screw-HXHM 1/4-20 x 2 ZN	HC160104	1	D2P-908	-
Spring-Compression MW ZN	HC162323	1	D2P-908	-
Switch-Roller Actuator DPDT	HC150478	1	D2P-908	-
Plunger-Side Self Dispense	HC137174	2	D2P-908	-
Guide-Assy. Push Rod	HC114174	2	D2P-908	-
Nut-HEX 1/4-20 ZN	HC160104	2	D2P-908	-
Screw-HXHM 1/4-20 x 2 ZN	HC160104	2	D2P-908	-
Spring-Compression MW ZN	HC162323	2	D2P-908	-
Switch-Roller Actuator SPDT	HC150477	2	D2P-908	-
Probe-Sensor w/6-1/2 Foot Cable	HC161211-01	2	D2P-908	-
Push Rod-Assy. Plunger Switch	HC113426	1	D2P-908	-
Receiver-3 lb. 3/8 ID Sweat w/o valve	HC155071	1	D2P-908	-
Reducer-Gear LH 5/1 (LHs)	HC153366	1	D2P-908	-
Reducer-Gear RH 5/1 (RH)	HC153367	1	D2P-908	-
Regulator-Mix Feed	HC137558	2	D2P-908	-
Relay-Assy. Overload T1 7.2-10A	HC120361	2	D2P-908	-
Relay-Compressor Start	HC151462	1	D2P-908	-
Relay-Flange Base w/cover	HC150381	3	D2P-908	-
Relay-Flange Base w/cover 3PDT	HC150380	1	D2P-908	-
Relay-Assy. Overload T1 7.2-10A	HC120361	2	D2P-908	-
Adaptor-Overload Din Rail T1	HC150063	2	D2P-908	-
Adaptor-Reset Threaded T1	HC150064	2	D2P-908	-
Relay-Overload T1 7.2-10A	HC150061	2	D2P-908	-

* As Required
** Items Included In O-Ring Kit No. HC115536
*** LH or RH — Left or right hand is determined as you face the front of the freezer.
WC = Water Cooled AC = Air Cooled NLA = No Longer Required

Use only original or authorized replacement parts with this freezer. Use of unapproved parts will void warranty.

Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Sanitizer-Stera Sheen (Per 4 lb. jar)	HC158014A	*	D2P-908	-
Sanitizer-Stera Sheen (Per case/4 jars)	HC158014	*	D2P-908	-
Sanitizer-Stera Sheen (Sample)	HC158013	*	D2P-908	-
Scale-Overrun	HC158049	*	D2P-908	-
Screw-HXHM 1/4-20 x 2 ZN (Switch Assy.)	HC160066	3	D2P-908	-
Screw-SK Set 1/4-20 x 1/4	HC160495	4	D2P-908	-
Screw-SK Set 5/16-18 x 3/8	HC160033	4	D2P-908	-
Screw-TRPM 1/4-20x1 SST (Side Panel)	HC159219	*	D2P-908	-
Screw-TRPM 1/4-20x1/2 SST (Rear Panel)	HC160048	*	D2P-908	-
Screw-TRPM #10-24x1/2 SST (Front, Dispense, Trimstrip Panels)	HC160076	*	D2P-908	-
Seal-Assy. Shaft Double	HC115525**	2	D2P-908	-
Seal-Beater Shaft	HC160557	2	D2P-908	-
Washer-Double Shaft Seal	HC137593	2	D2P-908	-
Shaft- Assy. Beater	HC120866	2	D2P-908	-
Sheave-5/8 Bore 5.50 OD (Driven) includes	HC153621	2	D2P-908	-
Sheave-7/8 Bore 3.25 OD (Driver) includes	HC153626	2	D2P-908	-
Shroud-Assy. Condenser (Water Cooled)	HC120151	1	D2P-908	-
Shroud-Assy. Condenser (Air Cooled)	HC120788	1	D2P-908	-
Socket-Octal Terminal	HC150119	2	D2P-908	-
Spacer-Panel (Side Panel)	HC138456	*	D2P-908	-
Spring-Compression MW ZN	HC162323	3	D2P-908	-
Strip-Terminal	HC150795	2	D2P-908	-
Stud-Assy. Cylinder 3-15/16"	HC114341-05	4	D2P-908	-
Switch-Assy. Plunger Center	HC118096	1	D2P-908	-
Switch-Assy. Plunger Side	HC118095	2	D2P-908	-
Switch-Dispense Head Kit	HC116410	1	D2P-908	-
Switch-Roller Actuator DPDT (Center)	HC150478	1	D2P-908	-
Switch-Roller Actuator SPDT (Side)	HC150477	2	D2P-908	-

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Alphabetized Parts List for Model SL500

Important: All parts shown are for standard models designed for 230V/1PH/ 60HZ or 203–230V/3PH/60HZ.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM – TO)	
Switch-Toggle 4PDT Center OFF (AUTO/OFF/CLEAN)	HC150436	2	D2P-908	-
Switch-Toggle DPDT (DAY/NIGHT)	HC150461	2	D2P-908	-
Thermostat-1.5 Diff. (Hopper)(B-Side)	HC161210	2	D2P-908	-
Timer-.5-45 Delay on Break 230v	HC150252-01	4	D2P-908	-
Timer-5 Minute	HC150218	2	D2P-908	-
Tool-O-ring Removal	HC169374	1	D2P-908	-
Tray-Drip 22 in. Black	HC196270	1	D2P-908	-
Trimstrip Assy.-EF Decal 22 in.	HC120855	1	D2P-908	-
Decal-Trimstrip EF Logo 22"	HC165188-08	1	D2P-908	-
Tube- Assy Mix Feed Self Priming Complete	HC120676	2	D2P-908	-
Regulator-Mix Feed	HC137558	2	D2P-908	-
O-ring	HC160607	2	D2P-908	-
Tube-Assy. Mix Feed Self Priming	HC120672	2	D2P-908	-
Tube-Assy. Drain 14-1/4	HC115004	1	D2P-908	-
Tube-Capillary w/ strainer	HC155642	2	D2P-908	-
Valve-Access	HC155419	*	D2P-908	-
Valve-Access 3/16" x 1/4 & 3/8 Step	HC155497	4	D2P-908	-
Valve-Automatic Expansion (Cylinder)	HC155490	2	D2P-908	-
Valve-Check 5/8 OD Sweat	HC155487	2	D2P-908	-
Valve-Solenoid (Cylinder)	HC155488	2	D2P-908	-
Valve-Solenoid 208-240v (Hopper)	HC155707	2	D2P-908	-
Valve-Water	HC155410	1	D2P-908	-
Washer-Double Shaft Seal	HC137593	1	D2P-908	-

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