

## **OPERATOR'S MANUAL**

with Illustrated Parts List

COMPACT SERIES SHAKE FREEZER Model CS700-FG

185231 - 3/17

# Operator's Manual for the Electro Freeze Model CS700-FG Compact Series Shake 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 order replacement parts.

**DO NOT** attempt to operate the CS700 freezer until you read and understand all safety messages and the operating instructions in this manual.

## 4. Operate Safely ....



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

## **Safety Decal Locations**

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

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

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

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

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

Name:	
Address:	
Phone:	

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



Phone: 309-755-4553

800-755-4545

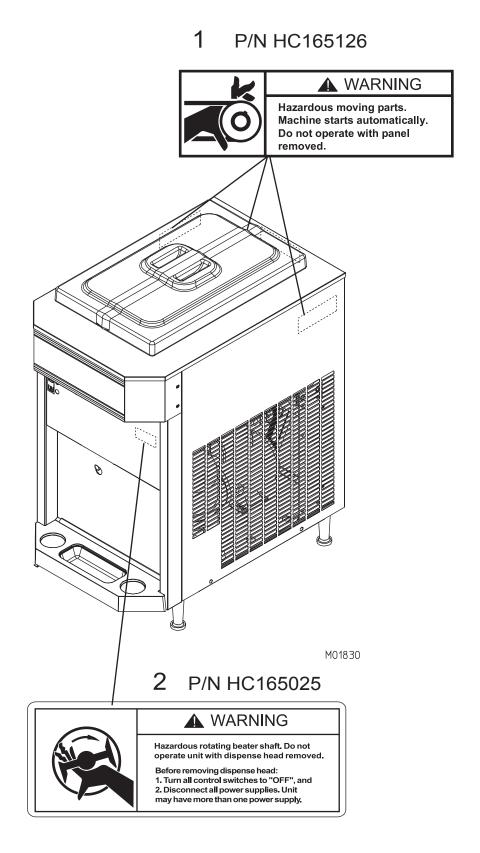
FAX: 309-755-9858

E-mail: service@electrofreeze.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	HC165126	Decal — Panel Removal Warning (3
2	HC165025	Decal — Beater Warning (1)

## **Safety Decal Locations**



ELECT	RO FREEZE Snake Model C	5/00-FG	

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## 1 Introduction

This freezer is designed to produce milkshakes with a temperature range of 24° to 30°F (-4° to -1°C). If such products are prepared from powdered concentrate, they should be precooled to 38°F (3°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 H.C. Duke & Son, LLC. Model CS700 Freezer.

Your freezer will not compensate for or correct any assembly or priming errors made during the initial start-up. Therefore, it is important to follow the assembly and priming procedures detailed in this manual.

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 the factory service department at H.C. Duke & Son, LLC. as follows:

Name _	 	
Address	 	
Phone		



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 in this manual.

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

Air cooled models require a minimum of 3-inches (7.6 cm) air space on both sides and back of the freezer for adequate ventilation.

Freezer is equipped with a deflector plate that will need to be mounted. Facing the front of the freezer the plate will be mounted on the screws on the left side panel. The deflector is required to prevent air from recirculating back to the freezer. Failure to install deflector will void warranty.

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

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

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

#### 2.1 **Electrical Requirements**

#### **CAUTION**



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

## **CAUTION**



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

- 1. Always verify electrical specifications on the data plate (figure 3-2) of each individual freezer. Data plate specifications will always supersede the information in this manual.
- 2. This freezer requires a protected 20 amp 230 volt circuit. Connect the freezer to a circuit separate from any other electrical equipment. The power cord on this freezer connects to a NEMA 6-20R receptacle. See Figure 2-1.

- 3. Supply voltage must be within ±10% of voltage indicated on the nameplate. Request your local power company to correct any voltage problem.
- 4. The transformer in the electrical box is factory wired for 240 volts. This connection maybe used for all voltages above 200 volts. If the power supply is less than 200 volts, move the L2 transformer wire connector to the 208 volt connector.

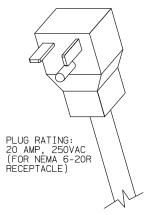


Figure 2-1

#### 3 **Specifications**

#### **Particulars** 3.1

Width (in/cm)	18.4/46.7
Height (in/cm)	35.2/89.4
Depth (in/cm)	28.1/71.4
Weight (lbs/kg)	220/99.8
Voltage*	208-230/60/1
Min.Circuit Ampacity	20.0
Compressor	1 HP/8000 (BTUH

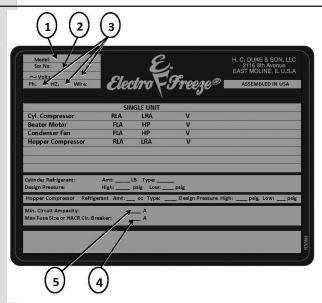
H) .75 kw (Motor)

2.3 kw (Cooling)

**Beater Motor** 1/2 HP/.37 kw Refrigerant R-404a Charge 32.0 oz/.91 kg Cooling Air **Hopper** 20 qts/18.8 liters Cylinder 7 qts/7.1 liters

<sup>\*</sup>Contact factory for other voltages.

## 3.2 Data Plate



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

Figure 3-1

## 3.3 Reference Information

# Write in Reference Information HERE!



Fill in the following information as soon as you receive the *Electro Freeze* CS700. (The item numbers — encircled, below—correspond with the callout numbers in figure 4-1.)

1.)	Model Number: _		
2.)	Serial Number:_		
3.)	Electrical Spec:	Voltage	
4.)	Phase	Hertz _	
5.)	Maximum Fuse	Size:	
6.)	Minimum Circuit Ampacity:		

Address:

## 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 CS700 Freezer.		
Date of installation:		
Installed by:		

Phone:

## 3.5 Dimensions

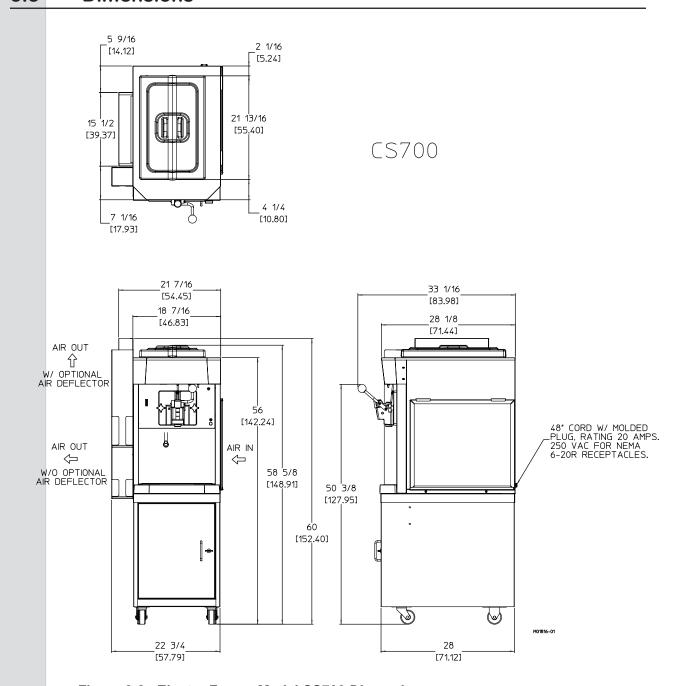


Figure 3-2 Electro Freeze Model CS700 Dimensions

## 4 Part Names and Functions

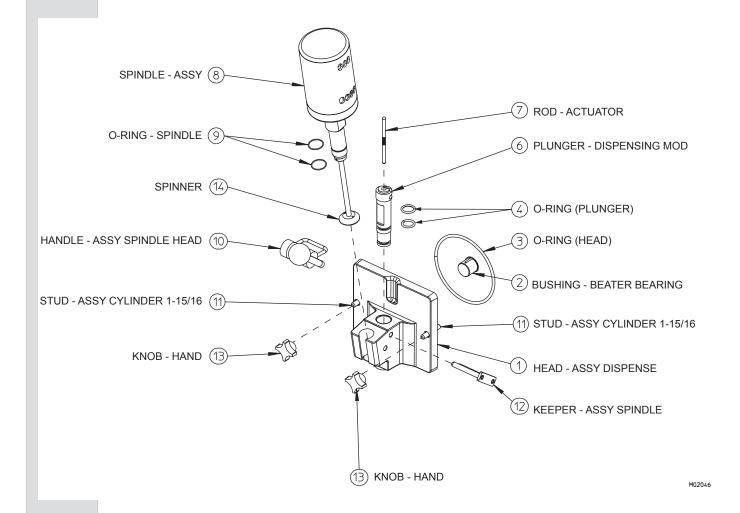


Figure 4-1 Head Assembly

## 4 Part Names and Functions — continued

The following part names and descriptions refer to figure 4-1.

#### 1.) HEAD - ASSY. DISPENSE:

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

#### 2.) BUSHING - BEATER BEARING:

Holds the beater in place at the front of the cylinder. Must be inserted into the head and lubricated before assembly.

#### 3.) O-RING - HEAD:

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

#### 4.) O-RING - PLUNGER LOWER:

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

#### 6.) PLUNGER:

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

#### 7.) ROD - ACTUATOR:

Starts the freezer when dispensing. Must be in place before freezer will operate.

#### 8.) SPINDLE - ASSY .:

Mixes the shake as it is dispensed.

#### 9.) O-RING - SPINDLE:

Holds the spindle or pivot post in place.

#### 10.) HANDLE - DISPENSE:

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

#### 11.) STUD - ASSY .:

Hand knobs screw on studs to hold head assembly in place.

#### **12.) KEEPER:**

Secures the handle to the head.

#### 13.) KNOB - HAND:

Secures the head to the freezing cylinder.

#### 14.) SPINNER:

Mixes shake as it is dispensed.

## 4 Part Names and Functions — continued

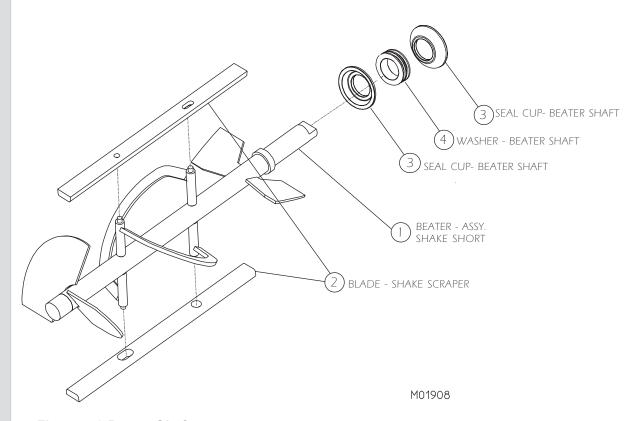


Figure 4-2 Beater Shaft

The following part names and descriptions refer to figure 4-2.

#### 1.) SHAFT-BEATER:

Rotates in the freezing cylinder, blending air and mix and ejecting product.

#### 2.) BLADE-SCRAPER:

Scrapes the frozen product from the freezing cylinder wall.

#### 3.) SEAL (CUP) - BEATER SHAFT:

Seals the opening between the freezing cylinder and the beater. DO NOT LUBRICATE.

#### 4.) WASHER - SHAFT SEAL:

Holds the shaft seals together. Must be lubricated.

## 4 Part Names and Functions — continued

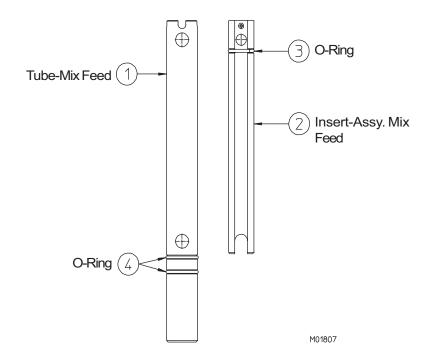


Figure 4-3 Mix Feed Tube

The following part names and descriptions refer to figure 4-3.

#### 1.) TUBE-MIX FEED:

Meters the correct amount of mix and air into the freezing cylinder from the hopper.

#### 2.) INSERT- MIX FEED:

Meters the correct amount of mix and air into the freezing cylinder from the hopper.

#### 3.) O-RING - MIX FEED TUBE:

Seals the opening between the mix feed tube and mix feed tube insert.

#### 4.) O-RING-MIX FEED TUBE:

Seals the opening between the hopper and mix feed tube. O-rings do not need lubrication.

## **5** Operator Controls

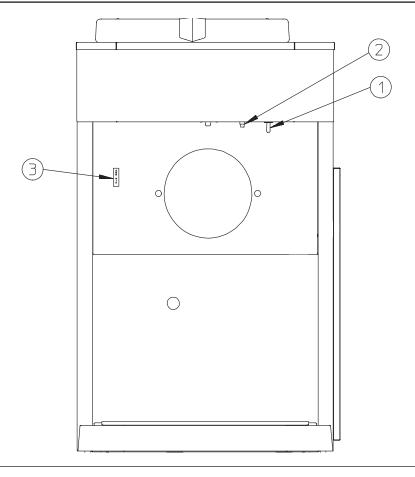


Figure 5-1

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 head and actuator rod must be in place before the beater will operate.



#### CAUTION

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

## 5.1 Selector Switch (1)

This three-position switch controls the operating mode of your freezer.

- a. "CLEAN" (left) This position operates the beater only (no refrigeration). Always use this mode when performing cleaning and sanitizing operations.
- b. "OFF" (center) In this position the beater motor and refrigeration system will not operate.

#### Important:

Do not use the "AUTO" position with water or sanitizer in the cylinder — the freezer will be damaged.

c. "AUTO" (right) — This position activates both the beater motor and refrigeration unit. This is the normal operating position which will maintain a cylinder temperature of 26° to 28°F (-3° to -2°C).

-continued

## 5 Operator Controls — continued

## 5.2 Reset — Circuit Breaker (2)

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

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

## 5.3 Outlet Spindle (3)

This 220v receptacle provided in the electrical box accepts the spindle cord.

## 5.4 Indicator- Light — "ADD MIX" (4)

This light indicates the mix in the mix 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.

## 5.5 Spindle Auxiliary Switch (5)

This push-button, when depressed, will activate the spindle motor for additional mixing of shake or during cleaning.

## 5.6 Mix Float (not shown)

When this float is mounted on the float stem inside the mix hopper it automatically senses the mix level. It activates the "Add Mix" light.

IMPORTANT
DISPENSING HEAD MUST BE
INSTALLED FOR BEATER
MOTOR(S) TO OPERATE.
DO NOT INTERCHANGE HEADS
FROM OTHER FREEZERS.

CAUTION
THE DISPENSING HANDLE
MUST BE COMPLETELY
CLOSED AFTER EACH DRAW.
FAILURE TO CLOSE THIS
HANDLE WILL ENGAGE THE
REFRIGERATION SYSTEM
CAUSING A FREEZE UP AND
DAMAGE TO BELTS, GEAR
REDUCER, AND MOTORS
COULD OCCUR.

## 6 Disassembly and Cleaning

## 6.1 Cleaning Accessories

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

#### 1.) BRUSH - HC158010.

6-inch diameter used to clean the cylinder.

#### 2.) HANDLE - HC158012.

36-inch handle used with brush p/n HC158010.

#### 3.) BRUSH - HC158077.

9/16-inch in diameter with 36-inch handle used to clean drain tube.

#### 4.) BRUSH - DOUBLE END - HC158003.

1-1/8-inch diameter and 7/16-inch diameter used for cleaning mix feed tube and general cleaning.

#### 5.) TOOL - O-RING REMOVAL. HC169374.

Aids in removing O-rings from plunger, head, air relief plug, and spindle.

## 6.) LUBRICANT - PETROL GEL HC158000A.

Approved lubricant for moving parts and O-rings.

#### 7.) BRUSH - HC158026.

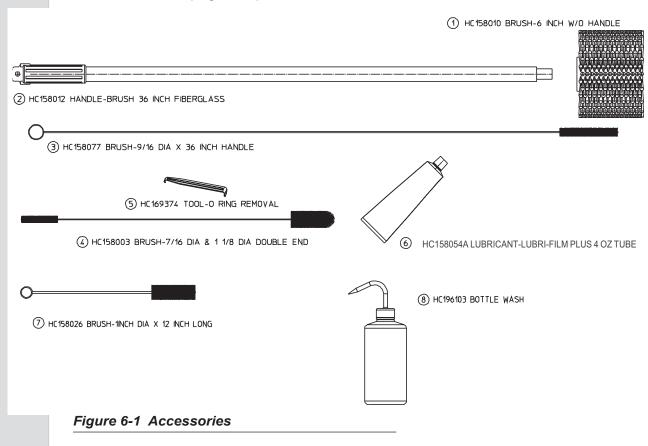
1-inch in diameter 12 inches long used to clean the hopper walls.

#### 8.) WASH BOTTLE - HC196103.

Used to flush the plunger and hopper walls.

#### 9.) KIT - O-RING.

Contains all O-rings and seals needing replacement on a regular basis. (not shown)



## 6.2 Disassembly Instructions

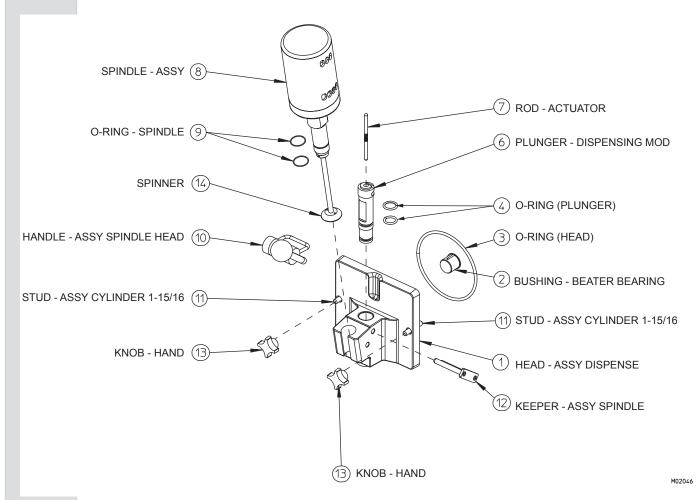


Figure 6-2 Dispense Head Assembly

#### **CAUTION**



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

- If there is product in the freezer refer to Section 9.1, CLOSING PROCEDURES - DRAINING PRODUCT.
- 2. Make sure all switches are in the "OFF" position and the freezer is unplugged.
- 3. Pull the keeper (12) out of the head.
- Remove spindle assembly (8) (Refer to figure 6-2). Remove the actuator rod (7) by lifting up and swinging towards you.

#### **CAUTION**



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

#### Important:

When washing spindle shaft, do not dunk spindle assy in water above exposed mix shaft. Do not submerge plug in water.

5. Remove the handle (10) and hand knobs (13), then pull the head straight out.

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## 6.2 Disassembly Instructions — continued

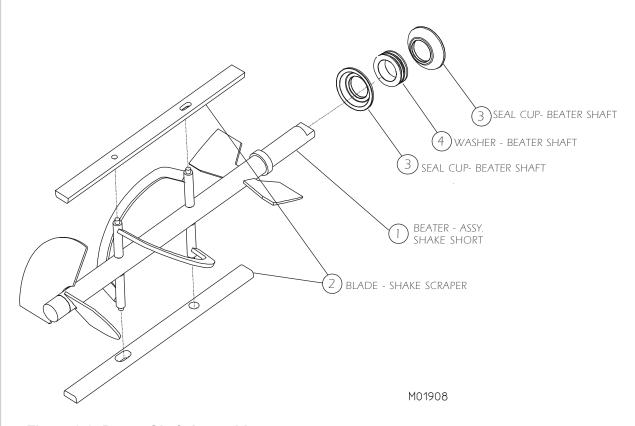


Figure 6-3 Beater Shaft Assembly

- 7. Remove the plunger (6, figure 6-2) and the O-rings from the head and plunger (3,4,5).
- 8. Remove the head bushing (2) and beater shaft (figure 6-3) from the cylinder. Then remove the scraper blades (2) and shaft seal (3) from the beater shaft (1). Remove the drip tray.
- 9. Remove the mix feed tube from the hopper, as shown in Figure 6-4 and remove the o-rings (4).
- 10. Wipe off all lubricants with paper towel.

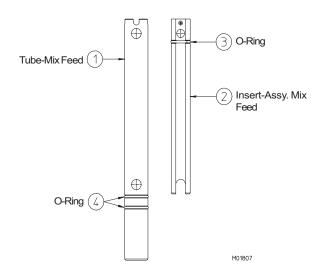


Figure 6-4 Disassemble Mix Feed Tube

## 6.3 Cleaning Instructions

## **^** T

#### **CAUTION**

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

#### CAUTION



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

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

#### Important:

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

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

 Prepare a three-compartment sink in accordance with local health regulations. The sink will be used to wash, rinse, and sanitize the freezer components which will be removed. Also, prepare a clean surface to airdry all parts.

**NOTE:** The sanitizer should be mixed according to the manufacturer's instructions to yield 100 PPM strength chlorine solution (example: Chlorsan NP or Stera Sheen Green Label®). Use warm water (100° to 110°F or 38° to 43°C) to wash, rinse, and sanitize.

- Wash all parts removed from the freezer thoroughly with a dish detergent solution. Clean the following parts with the appropriate supplied brush:
  - a. The head assembly, o-ring grooves, plunger, all ports and openings as shown in figure 6-5.

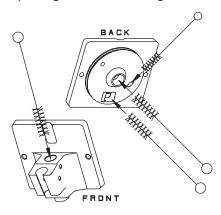


Figure 6-5

b. The mix feed tube and o-rings as shown in figure 6-6.

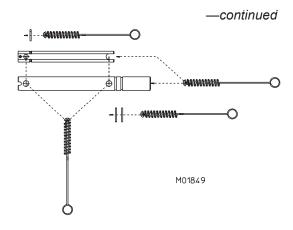


Figure 6-6

## 6.3 Cleaning Instructions — continued

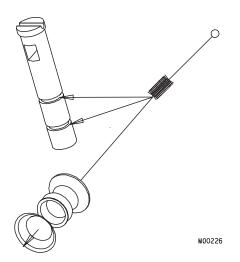


Figure 6-7 Clean shaft seal and plunger

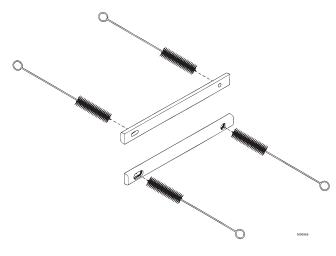


Figure 6-8 Clean scraper blades

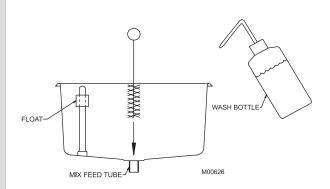


Figure 6-9 Clean hopper and mix feed port

- c. The shaft seal and plunger O-ring grooves (figure 6-7).
- d. The beater shaft and the scraper blade pin holes, shown in figure 6-8.
- After all parts are washed and rinsed place them in the sanitizing solution.
   For proper sanitizing, all parts must remain fully immersed in the sanitizer for 5 minutes. Allow parts to air-dry after sanitizing.

#### Important:

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

- 4. Wash hopper walls and all soiled surfaces on the freezer with a clean disposable towel. Using proper brush, brush the hopper, the hopper inlet tube (figure 6-9), the cylinder and cylinder back wall (figure 6-10) thoroughly. Rinse using rinse bottle. Using sanitizing solution, repeat brushing and rinsing procedure making sure all surfaces contact sanitizer.
- 5. Brush the inside of the drain tube with sanitizing solution, as shown in figure 6-10.

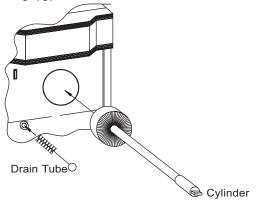


Figure 6-10 Clean drain tube and cylinder

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

## 7 Assembly

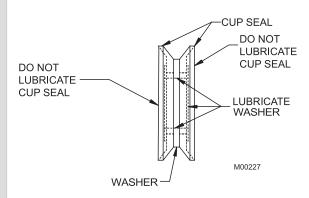


Figure 7-1 Shaft Seal Assembly

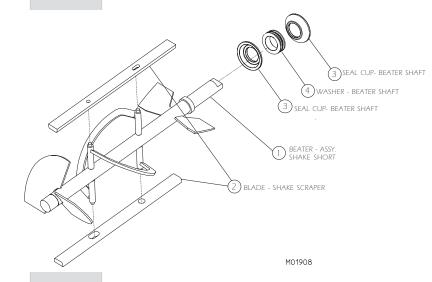


Figure 7-2 Beater Shaft Assembly

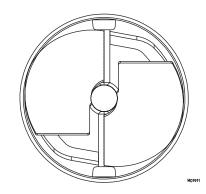


Figure 7-3 Scraper Blade Installation

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

1. Make sure all switches are in the "OFF" position and the freezer is unplugged.

# To avo

#### **CAUTION**

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

- 2. Assemble the shaft seal by installing the cup seals on the plastic washer. Apply a moderate amount of approved sanitary lubricant (such as Lubri-Film Plus) 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. See figure 7-2. Install the shaft seal over the rear of the beater shaft. Wipe off excess lubricant from the beater shaft.
- 4. Place the scraper blades on the beater shaft, making sure the blades are installed properly.
- 5. See figure 7-3. Insert the assembled beater shaft into the cylinder by placing one blade on the bottom of the cylinder. This will center the beater and allow alignment with the drive shaft. Rotate the beater assembly while pushing, until the shank has engaged the drive shaft.

-continued

## 7 Assembly — continued

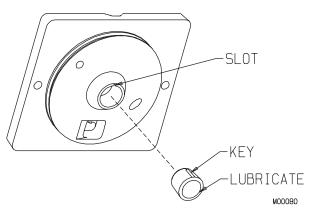


Figure 7-4 Head Bushing

- 6. See figure 7-5 and o-ring chart-in the Replacement Parts Section. Install and lubricate the o-rings (4, 5) on the plunger (6). Insert halfway into the head (1), with the rectangular flat side facing the front.
- 7. Lubricate the inside surface of the head bushing (2) and place in the head (1) making sure to align bushing key into head slot, as shown in figure 7-5

-continued

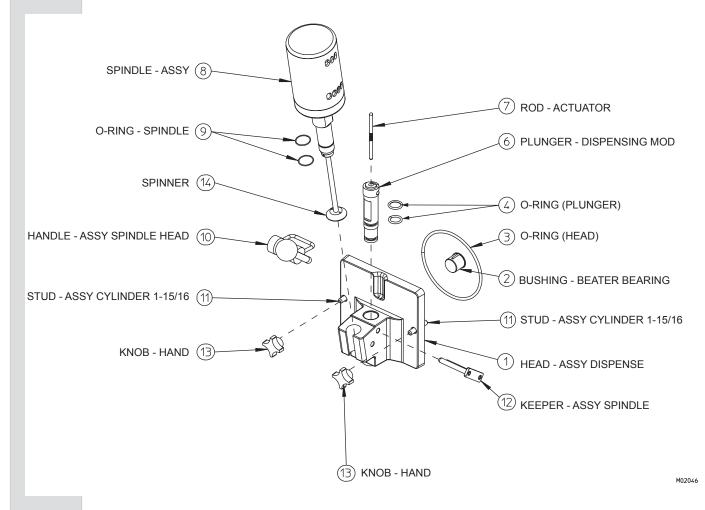


Figure 7-5 Head Assembly

## 7 Assembly — continued

#### Important:

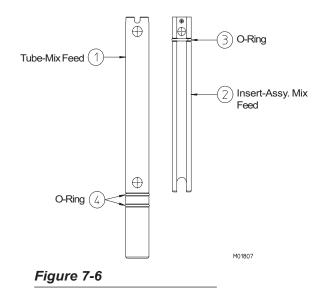
ALWAYS make sure the head bushing is positioned in the head properly (see Figure 7-4). The head is slotted to match the key on the bushing. Make sure the key aligns with the slot. Failure to install the bushing properly in the dispensing head will damage the head.

- 8. Install the dispensing head onto the freezer by tilting the top of the head toward you; align the studs with the holes in the head and slide toward the freezer. As you gently rock the head toward the freezer, align the beater shaft with the bushing in the head.
- Tighten the hand knobs (14) simultaneously, finger-tight only.

#### Important:

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

- 10. Hook the handle (10), figure 7-5, into the slot on the plunger (6).
- 11. Install the o-rings (9) onto the spindle mixer (8). Insert spindle mixer into the head, insert the keeper (12), through the handle (10) and head (1) and lock in place. Do not lubricate.
- 12. Install the actuator rod (7).
- 13. Plug in the spindle mixer.
- 15. See Figure 7-6. Install the o-rings(2) on the mix feed tube (1) The mix feed tube o-rings do not need to be lubricated.
- Lay the mix feed tube in the hopper pan. (Do not install the mix feed tube at this time.)



## 8 Start-up Instructions

#### 8.1 Sanitizing

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

#### CAUTION



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

#### Important:

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

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

- Wash and sanitize your hands and forearms.
- Prepare 2.5 gallons (9.5 liters) of sanitizing solution in a container.
   Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM strength chlorine solution. (example: Chlorsan NP). Use warm water (100-110°F or 37-43°C) to wash, rinse, and sanitize.
- 3. Lay the mix feed tube and float in the bottom of the hopper pan. Do not install.

#### 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.

- 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 hopper cover. (See Figure 8-1)
- 5. Take cup of sanitizer and immerse exposed portion of spindle shaft and spinner in sanitizer for 30 seconds.
- 6. Insert mix float on mix level sensor and allow sanitizer to fill the cylinder.
- Reconnect power by plugging in freezer.
- Turn the selector switch to the "CLEAN" position and allow the beater to run for 5 minutes. During this time period check for leaks around the head, plunger and drain tube.

#### Important:

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

- Place an empty container under the dispense head. Drain the sanitizing solution from the cylinder by slowly pulling down on the dispense handle. Open and close the handle at least 10 times during draining to sanitize the port area of the dispense head.
- 10. With most of the sanitizing solution drained, turn the selector switch to the "OFF" position and drain remaining solution from the freezer and close the plunger.

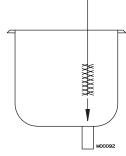


Figure 8-1 Sanitize hopper and its components

## 8.2 Priming

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

- Wash and sanitize your hands and forearms.
- 2. Place an empty container under the dispense head. Pour 16oz. of mix in the hopper.
- Hold plunger open and allow mix to push out the sanitizer. When pure mix flows from the dispense head close the plunger.
- 4. When the mix stops bubbling install the mix feed tube into the mix feed hopper drain, place the selector switch to the "Auto" position.

#### Important:

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

5. Fill the hopper with mix and install the hopper cover.

## 9 End of Day Operation

- 1. In areas where state and local health codes allow and if permitted by the franchise, the product may remain in the freezer.
- 2. Leave the Selector Switch in the "AUTO" position.
- 3. The plunger rod must be in place for the unit to operate.
- 4. Clean all soiled surfaces with a warm dish detergent solution.
- Using the small brush supplied in the spare parts kit, brush the bottom of the plunger with a warm dish detergent solution, then brush with sanitizing solution.
- 6. Check mix level in hopper to ensure that there is enough mix to keep the indicator light off, add mix if necessary.

## 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 cylinder, perform the following steps:

- 1. Place a clean, sanitized container under the dispensing nozzle.
- 2. Remove the mix feed tube from the hopper. (See figure 9-3.
- 3. Turn the selector switch to the "CLEAN" position.
- 4. Dispense the product until the mix hopper is empty. Turn the selector switch to "OFF" position and drain the remaining product. Close the plunger. If franchise and local health codes permit, cover the rerun product container and place in a cooler. (See 10.2 General Information - Rerun).
- Pour 2 gallons of cold water into the hopper. Turn the selector switch to "CLEAN" and dispense the cold water.

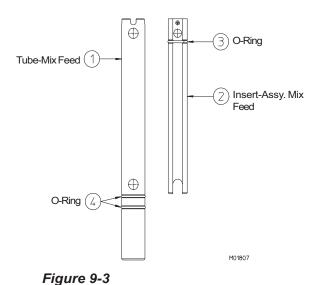
## Important:

DO NOT use hot water. Damage to the freezer could occur.

- Follow with 2 gallons of warm water and repeat until the freezer dispenses clear water. With most of the water dispensed, place selector switch in the "OFF" position and drain the remaining water.
- Prepare sanitizing solution in a container. Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 ppm available chlorine solution.
- 8. Pour all the sanitizing solution into the hopper pan. Using a clean brush scrub the hopper walls.
- Turn the selector switch to the "CLEAN" position and allow the beater to run for 5 minutes.

185231

- Place an empty container under the dispensing head. Drain the sanitizing solution from the cylinder by slowly pulling down on the dispense handle. Open and close the handle several times while draining.
- 11. With most of the sanitizing solution drained, turn the selector switch to the "OFF" position and drain the remaining sanitizer from the freezer and close the plunger.
- 12. Proceed to disassembly, cleaning and sanitizing instructions.



## 10 Product 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 means 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:

- a. Place an empty pint container on the scale\* and adjust your scale to zero.
- b. Remove the container from the scale and fill with liquid mix to the top of the container. Measure and record the weight.
- c. Remove the liquid mix and fill the same container with frozen product. Be sure there are no voids or air spaces in the container.

- d. Strike off the excess product so it is even with the top of the container and measure the weight.
- e. Use the following formula to figure overrun percentage:

"Weight of liquid mix minus weight of frozen product/divided by the frozen weight." See example.

#### **Example:**

Weight of one pint of mix = 18 oz.Weight of one = 12 oz.

pint frozen product

Difference = 6 oz.

6.0 oz. divided by 12 oz. = .5

 $.5 \times 100 = 50\%$  overrun

\* Your Electro Freeze Distributor can provide a scale (P/N HC158049) that is graduated in overrun percentage.

#### 10.2 Rerun

If local health codes and franchise permit the use of rerun make sure to follow these procedures:

- Store rerun mix in a clean, sanitized container.
- 2. Store in a cooler with a temperature below 40°F (4.4°C).
- DO NOT prime the machine with rerun. Always skim off and discard foam. Then combine the rerun with fresh mix in a ratio of 50/50 and add to the hopper during operation.
- Twice a week run the mix as low as possible and discard after closing. 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 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., phone (309) 755-4553 or (800) 755-4545.

## 11 Spindle Mixer (Optional)

## 11.1 Preparation

Before use, the spindle shaft, agitator and surrounding surfaces should be washed, rinsed, and sanitized. Follow the procedures for Cleaning & Sanitizing - Spindle Mixer.

## 11.2 Cleaning and Sanitizing - Spindle Mixer



#### CAUTION HIGH SPEED ROTATING MIXING SHAFT

To avoid injury from rotating mixer shaft disconnect power before cleaning.

To maintain cleanliness, the spindle shaft and agitator must be washed, rinsed, and sanitized on a regular basis and at the end of each day's operation. The operator should wash hands with an antibacterial soap and avoid coughing and/or sneezing on parts.

#### Important:

Do not allow water or product above the collar at the top portion of the agitator shaft. Water above this collar can damage the motor and bearings.

## 11.2.1 Daily Cleaning

Using a solution of warm soapy water and a disposable towel, wash the back wall and all soiled surfaces. Repeat with rinse water.

#### 11.2.2 Daily Sanitizing

In a clean container prepare a sanitizing solution. Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM strength chlorine solution. (example: Stera-Sheen Green Label). Use warm water (100-110°F or 37-43°C). Wash hands in sanitizer. Wash all external panels and parts with the sanitizing solution. Using supplied brush, scrub the shaft and

agitator of the spindle mixer, including the bottom, with sanitizer. Fill a paper cup with sanitizer and immerse agitator and spinner shaft in sanitizer. Allow all surfaces to contact sanitizer for at least one minute. Remove and allow all surfaces to air dry.

Repeat cleaning and sanitizing of shaft and agitator to maintain cleanliness.

## 11.3 Operation - Spindle Mixer



#### CAUTION High Speed Rotating Mixing Shaft

Do not allow hands, clothing, hair, or jewelry to contact moving parts. Items may get tangled on shaft and cause injury.

#### Important:

To prevent wear on the agitator, use only paper or plastic mixing containers for mixing. The mixer is designed to blend shakes in cups up to 20 oz. (.6L) in size. The spindle mixer should only be used for blending of flavors into the shake product. It is NEVER to be used to grind or crush solid ingredients. The temperature of shake product should be between 24-28°F (-4.4 to -2.2°C).

For best blending results, first dispense the desired flavor ingredient into the cup. Dispense product into the cup while blending. Blending flavor to desired consistency. Slowly lower the cup to remove the spinning mixer shaft. This will spin off most of the product from the agitator. Close the dispense handle to stop the spindle mixer. You may do additional mixing with the auxiliary push button switch located on the dispense panel to the right of the head.

## 12 Routine Maintenance

Electro Freeze recommends the following schedule to help maintain your equipment 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 that come into contact with the mix or product.



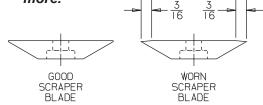
CAUTION
To prevent bacteria growth,
remove all O-rings when cleaning.
Failure to do so could create a
health hazard.

- 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.

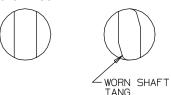
## **WEEKLY**

- 1. Carefully inspect all parts for wear including, seals, O-rings, mix transfer tube and blades.
- 2. Replace as required.

Replace blades if worn 3/16" or more.



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



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

4. Check the air filter and clean as necessary. After cleaning apply spray adhesive, p/n HC162548.

## 12 Routine Maintenance — continued

## **MONTHLY**

### A. Test Head Switch.

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

- 1. Be sure all switches are in the "OFF" position.
- 2. Disconnect the main power supply.
- 3. Remove the dispense head and beater shaft assembly.
- 4. Connect the main power supply.
- 5. Turn the selector switch to the "CLEAN" position.



### **CAUTION**

Moving parts. Do not place hands in the freezing cylinder. Severe personal injury could result.

- 6. Look inside the freezing cylinder toward the rear. The drive shaft coupling should **NOT** be turning. Turn the switch off and disconnect the main power supply.
- 7. If the drive shaft coupling is turning, or you are unable to determine whether or not the shaft is turning, turn the switch to the "OFF" position, disconnect the main power supply, and contact your Electro Freeze distributor for service. **DO NOT** place the freezer in service until the problem has been fixed.

## **MONTHLY**

### B. Air Filter.

Clean the air filter with a mild dish detergent solution.

## 12 Routine Maintenance — continued

### QUARTERLY

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

## **ANNUALLY**

### **CAUTION**



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

- 1. Contact your Electro Freeze Distributor for service to replace drive belts.
- 2. Contact your Electro Freeze Distributor to have the inside of the freezer cleaned, including base, side panels, condenser, etc.
- 3. Contact your Electro Freeze Distributor to check water-cooled condenser and flush clean to remove scale and deposits if necessary.

# USE ORIGINAL OR AUTHORIZED REPLACEMENT PARTS ONLY WITH THIS FREEZER.

Should you have any questions on items which are not included in this schedule or problems where service assistance is needed, please call your local Distributor or H. C. Duke & Son, LLC. *Electro Freeze*, Service Department for factory service assistance.

## 12 Routine Maintenance — continued

## **Winter Storage**

To protect the unit during seasonal shutdown, it is important to store the CS700 Shake Freezer properly. Please use the following procedures:

- 1. Disconnect all power to the freezer.
- 2. Disassemble and wash all parts that come into contact with the mix with a warm, mild detergent solution. Rinse in clear water and dry all parts thoroughly.
- 3. Store the loose parts, such as the head assembly, beater assembly, and pump parts 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. On air-cooled freezers, have condenser fins cleaned.

# 13 Troubleshooting Charts

### **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:

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



# 13 Troubleshooting Charts — continued

PROBLEM	PROBABLY CAUSE	REMEDY
	<u> </u>	· · · · · · · · · · · · · · · · · · ·
	Freezer unplugged.	Plug in freezer.
	Fuse blown or breaker tripped at main disconnect.	Make sure your freezer is connected to a separate circuit independent from any other electrical equipment. Have 2. technician check fuse or breaker size and check for low voltage; if not within 10% of nameplate rating call power company.
Unit does not	Actuator (plunger) rod not installed	Install actuator (plunger) rod.
operate.	Off on high pressure cut-out control.	4. Water turned off or defective water regulating valve. Check water supply.
	5. Circuit breaker tripped.	5. Contact your Electro Freeze distributor for service.
	6. Faulty selector switch	Contact your Electro Freeze     distributor for service.
	7. Disconnected or broken wire in electrical circuit.	7. Contact your Electro Freeze distributor for service.
Mix or water leaking from drain tube to drip tray.	Damaged beater shaft seal or installed improperly.	Replace cup seals on washer. Install properly.
Mix leaking	1. Faulty o-ring.	Replace o-ring.
at dispensing head.	Head not properly installed.	2. Install head properly. Replace o-ring if pinched.
Dispensed product too soft. (Product temperature above 28°F [-2.2°C])	Dirty or blocked condenser, restricted air flow.	Unblock condenser or have cleaned by your Electro Freeze distributor.
	Torque control not set firm enough.	2. Contact your Electro Freeze distributor for service.
	3. Component failure.	3. Contact your Electro Freeze distributor for service.
[ 2.2 0]/	4. Leak in refrigeration system resulting in little or no refrigeration.	4. Contact your Electro Freeze distributor for service.

# 13 Troubleshooting Charts — continued

PROBLEM	PROBABLY CAUSE	REMEDY
Product dispenses	1. Product too cold.	1. See Troubleshooting Table - Dispensed product too hard.
slowly out of dispensing head.	2. Wrong rotation on beater.	Have an electrician correct rotation to 2. clockwise as viewed from the front of the freezer.
Dispensed product too	Torque control erratic or set too firm	Contact your Electro Freeze     distributor for service.
hard.	2. Low suction pressure, refrigeration system.	2. Contact your Electro Freeze distributor for service.
	Plunger switch rod engaged.	Close plunger completely.
Freezer runs	Starter or relay contact points stuck.	2. Contact your Electro Freeze distributor for service.
continually and product gets too cold.	3. Torque control not set properly or faulty.	3. Contact your Electro Freeze distributor for service.
	4. Suction pressure too low.	4. Contact your Electro Freeze distributor for service.
Compressor and beater	Plunger switch(es) defective or out of adjustment.	Contact your Electro Freeze     Distributor for service.
motor do not operate when dispensing.	2. Time delay defective.	2. Contact your Electro Freeze Distributor for service.
Compressor	1. Plunger switch defective or out of adjustment.	Contact your Electro Freeze     distributor for service.
motor does not operate when	2. Time delay defective.	2. Contact your Electro Freeze distributor for service.
dispensing.	3. Defective torque control.	Contact your Electro Freeze distributor for service.

# 13 Troubleshooting Charts — continued

PROBLEM	PROBABLY CAUSE	REMEDY
Compressor and beater motor operate	Defective torque control or recycle timer.	Contact your Electro Freeze  1. Distributor for service.
only when dispensing.		Distributor for service.
Compressor does not start – hums intermittently (cycling on overload).	Low line voltage.	Ask power company to check voltage, increase voltage to not less than  1. 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.
	Open starting capacitor or current relay.	3. Contact your Electro Freeze distributor for service.
	High discharge pressure.	4. Contact your Electro Freeze distributor for service.

NOTE: Contact your authorized Electro Freeze distributor for instructions prior to warranty compressor replacement.

QUALITY PARTS
PROTECT
YOUR
EQUIPMENT

Keep your freezer in excellent condition. Always contact your Electro Freeze distributor for replacement parts and maintenance scheduling.



# REPLACEMENT PARTS MANUAL with ILLUSTRATIONS



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

# **Replacement Parts Orders**

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

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

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

Name:	 	 
Address:		
Phone:		

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



Phone: (309) 755-4553

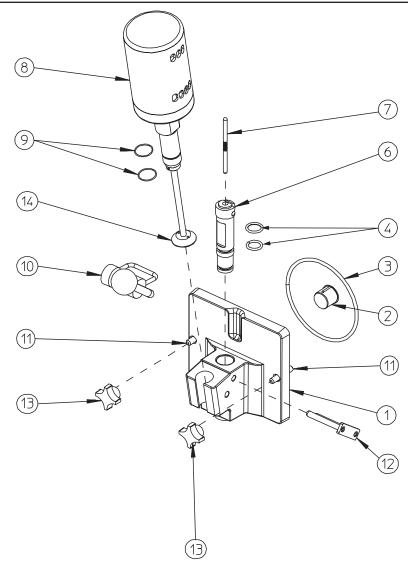
(800) 755-4545

FAX: (309) 755-9858

E-mail: service@hcduke.com

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_	Side View (Sheet 1 of 2)	
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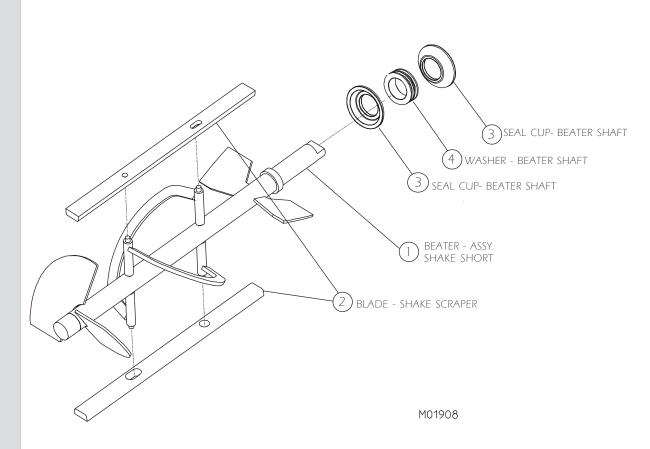


# Figure 1 Head Assembly

Item	Part No.	Description
1 2 3 4 6 7	HC120771 HC196072 HC160622 HC160582 HC140713 HC138611	. Head - Assy. Dispense (Complete) . Head - Assy. w/Actuator (Head only) . Bushing - Beater Bearing . O - Ring (Head) . O - Ring (Plunger - Lower) . Plunger - Dispensing Mod Rod - Actuator . Spindle - Assy. includes
		HC151012-01Motor - Spindle HC119891-01Lower Unit - Spindle Housing & Shaft Assembly HC162301Spring - Comp. HC140045-02Shaft - Spindle HC150881Motor Brushes . O-Ring - Spindle

ltem	Part No.	Description
10	HC120837-01	. Handle - Assy. Shake Red, includes HC162629-01 Knob - Ball, Red
11	HC114341	. Stud - Assy. Cylinder 1-15/16"
13	HC162625	. Keeper - Assy. Spindle . Knob - Hand . Kit - Spinner Replacement

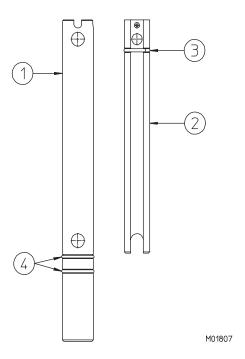
<sup>\*</sup> Includes Items 1-6, 10, 12 and 13



# Figure 2 Beater Shaft Assembly

Part No.	Description
HC118708	. Beater - Assy. Shake Short
HC140900	. Blade - Shake Scraper
HC137593	. Washer - Double Shaft Seal
HC160557	. Seal - Beater Shaft
	HC118708 HC140900 HC137593

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

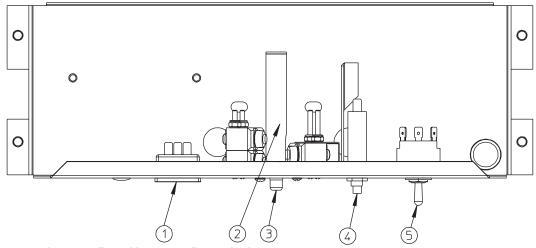


# Figure 3 Mix Feed Tube Assembly

Item	Part No.	Description
*	HC120666-02.	Tube - Assy. Mix Feed .250
1	HC140721-02.	Tube - Mix Feed .250 Orifice
2	HC120664	Insert - Assy Mix Feed
3	HC160611	O - ring (Insert)
4	HC160621	O - ring (Mix Feed Tube)

\*Includes all items above.

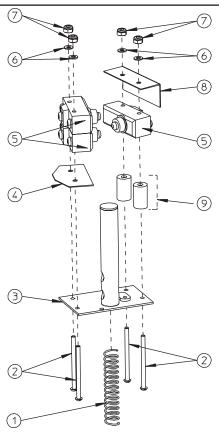
## Figure 4 Plunger Box



#### Part No. Item **Description**

- 1......HC150629 .... Receptacle Snap In
- 2 ......HC120767 .... Switch Assy. Plunger (See breakout below)
- 3......HC137760 .... Rod Plunger Switch (Actuator Button)
- 4......HC150452 .... Breaker Circuit 4.5A
- 5......HC150465 .... Switch Toggle 3PDT Center Off

# Figure 5 Switch Assembly



\* .......HC120767 ....... Switch - Assy. Plunger Shake Pres

1.......HC162303 ....... Spring - Plunger Rod

2.......HC159973 ....... Screw - RDHM #6 - 32 x 2 Zn 3.......HC120768 ....... Guide - Assy Push Rod

4.......HC137798 ....... Insulator - Switch

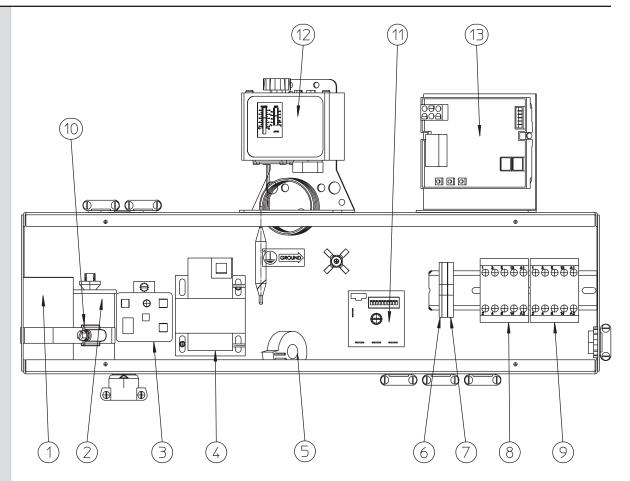
5.......HC150456 ....... Switch - Snap Button

6.......HC160393 ....... Washer - Flat #6 Brass

7.......HC160199 ....... Nut - El Stop #6 - 32 ZN

8.......HC139175 ....... Insulator - Switch 9.......HC137765-01... Spacer .375 Long

\* Includes all items above.

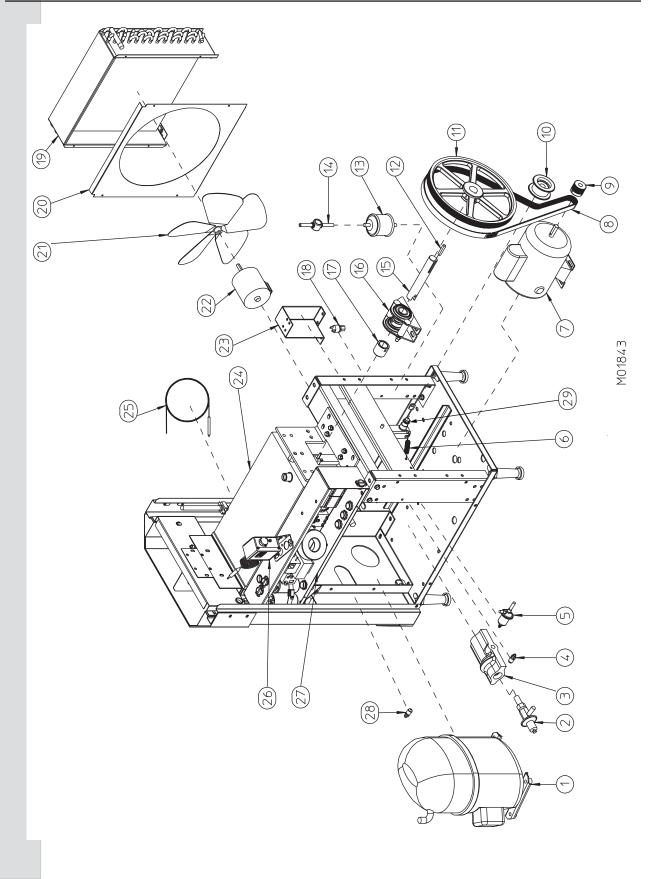


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# Figure 6 Electrical Box

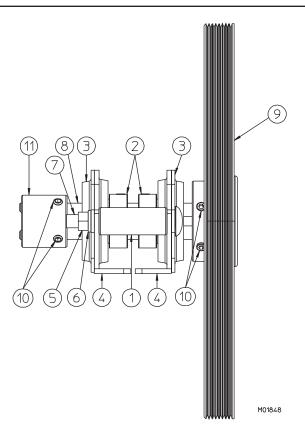
Item	Part No.	Description
1	HC151414	.Capacitor - Compressor Start
2	HC150244	.Capacitor - Compressor Run
3	HC151474	.Relay - Compressor Start
4	HC150276-01	.Transformer - 75VA / 24VAC 4 Bolt
5	HC151789	. Transformer - Current
6	HC150594	.Stop - Terminal Block End (Cover)
7	HC150591	.Block - Terminal
8	HC150095	.Contactor - Mini 3P (Beater Motor)
9	HC150095	.Contactor - Mini 3P (Compressor)
10	HC160743	.Clamp - Hose 3 - 1/6 to 4
11	HC120095	.Kit - Recycle Timer Wiring Instructions
12	HC119989	.Kit - Thermostat & Retainer
13	HC120969	.Board - Assy. Torque Monitor Shake

# Figure 7 Side View (Sheet 1 of 2)



# Figure 7 Side View (Sheet 1 of 2)

ltem	Part No.	Description	Item Part No.	Description
- 2 ω 4 ω	HC120602HC155490HC165531HC155497HC155388	Compressor - Assy. 208 - 230 - 1 - 60 includes compressor and: HC150244 Capacitor - Run HC151414 Capacitor - Start HC151478 Grommet - Comp. Mtg. HC151474 Relay - Compressor Start HC151479 Sleeve - Comp. Mtg. Valve - Automatic Expansion Insulator - Expansion Valve Valve - Access 3/16" s 1/4 & 3/8 Step (EPR)	19 HC155140 20 HC140656 21 HC159033 22 HC151077-01 23 HC120487 25 HC15397 26 HC119989 27 28 HC155497 29 HC120628 29 HC120628	Condenser - Air 14 x 14 Shroud - Fan Blade - Fan 12 in. 24° D1 Motor - Fan 50W 230V 50/60 HZ Bracket - Assy. Fan Mount Cylinder - Assy. Complete Tube - Capillary w/Strainer Kit - Thermostat & Retainer Kit - Thermostat & Retainer Electric Box (See Figure 5) Valve - Access 3/16" s 1/4 & 3/8 Step (Suction) Arm - Assy Idler Tensioner
:: : 40+51845 <u>1</u> 0	HC162331 HC151143 HC151143 HC140654 HC120588 HC120588 HC153614 A HC160033 HC155069 HC155069 HC140824 B HC140824 HC140824 HC140823 HC140823		Not Shown: HC120666 HC120969	Tube - Assy. Drain Shake



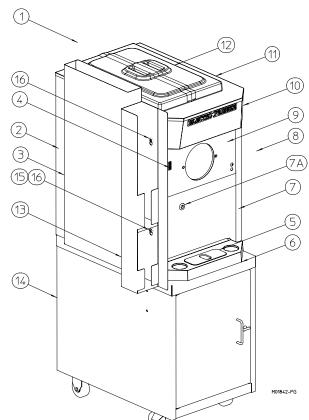
# Figure 8 Drive Shaft and Bearing Assembly

Item	Part No.	Description
*	.HC120946	.Bearing - Assy. Rear
1	.HC130189	.Spacer - Bearing
2	. HC153024	.Bearing - Ball 1.00 ID x 2.0472 OD
3	. HC153025	.Stamping - Retainer Plate
4	.HC153026	.Stamping - Main
5	.HC160105	.Nut - Hex 5/16 - 18 ZN
6	.HC160142	.Washer - Lock 5/16 ZN
7	.HC160415	.Bolt - Carriage 5/16 - 18 x 3 ZN
8	.HC140824	.Shaft - Drive
9	.HC153614	.Sheave - Driven
10	.HC160056	.Screw - SK Set
11	.HC140823	.Cap - Coupling

<sup>\*</sup> Includes items 1 through 7.

### Not Shown:

HC113948 ......Bar - Alignment (Loaner) (used to align bearings to cylinder) HC113948 - 01 ...Bar - Alignment (Purchase)



Hardware for Panels						
Panel	Screw	Nut-Speed				
Dispense-Top	HC160025	n/a				
Dispense-Bottom	HC160076	n/a				
Front	HC160048	n/a				
Rear	HC160048	n/a				
Side	HC159219	n/a				
Trimstrip	HC160076	n/a				
*N/A - Not Applicable						

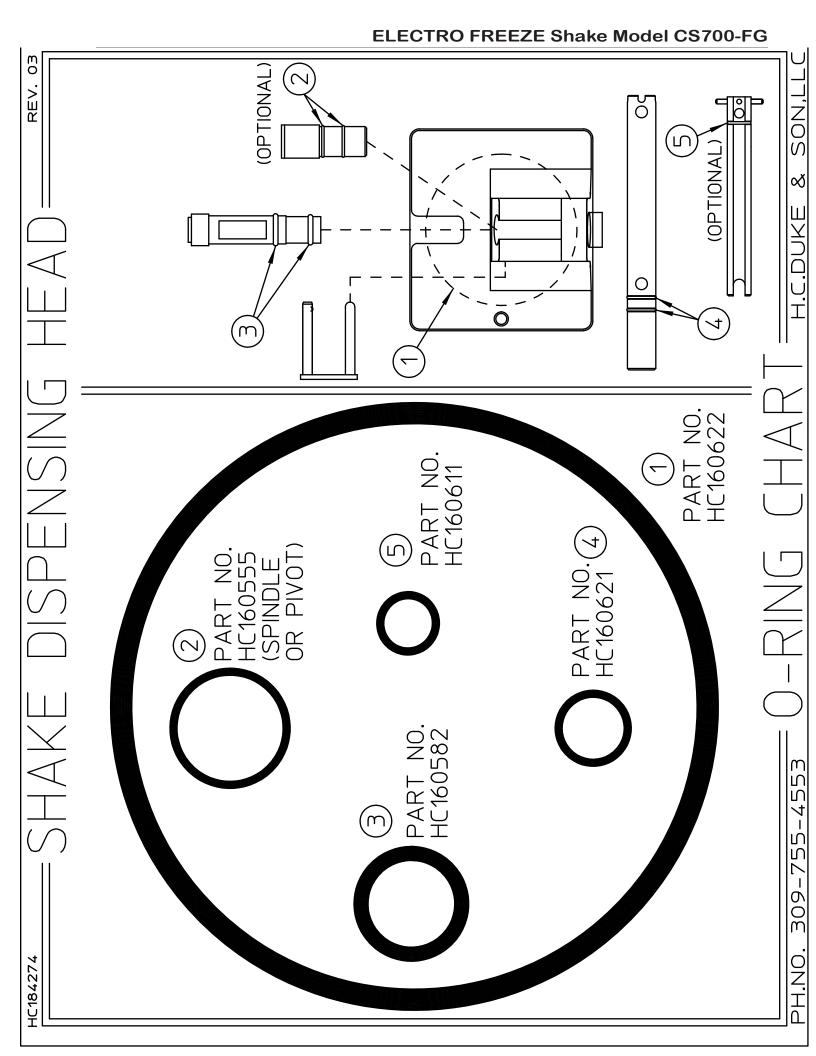
CS700 P	CS700 Panel Decals & Labels				
Part No.	Description				
HC165025	Beater Warning				
HC165658	Cleaning Instructions				
HC165084	Clear Overlay				
HC165126	Panel Removal				
HC164081	Label-Trimstrip				
HC165666	Nameplate-Electro Freeze				
HC164198	Spindle Outlet 230v				
HC169052	Ventilation 3 in.				
HC164451	Five Guys Strip				
HC164449	Five Guys Mix Tube				

# Figure 9 Panel View

Item	Part No.	Description
1	HC141185	. Panel - Rear
2	HC140659	. Panel - Side LH
3	HC120991-01	. Diverter - Assy Air
4	HC150541	. Light - Indicator 28v ADD MIX
5	HC196261	. Cover - Drip Tray
6	HC196260-01	. Tray - Drip
6A	HC140738	. Retainer - Drip Tray (Not Shown)
7	HC120610	. Panel - Assy. Front
7A	HC159064	. Grommet - 1.1 OD x 7/8 GD x 5/8 ID (Drain Tube) (Not Shown)
	HC121041	
		. Panel - Assy. Dispense
		. Trimstrip - Assy. Tapered
		. Panel - Assy. Hopper & Top
		. Cover - Assy. Hopper Insulate
		. Cup & Lid Dispenser Assy
14	HC121435-01	. Cart - CS Stainless - Includes:
		HC162131-01 Caster - 1-14 Stem W/Brake
		HC162132-01 Caster - 1-14 Stem W/O Brake
		. Screw - PNHM 1/4 - 20 1/2 SST
16	HC159903	. Washer .75 OD x .25 ID x .13 Rubber
Not Sho	own:	
	HC161300	. Switch - Level Float Sensor
	HC150438	. Switch - Momentary Push SPST
	HC155143	. Filter - 22 x 19 x 3/8
	HC161301	. Float - Level Sensor
	HC155143	. Filter Air

# Accessories

Part No.	Description
HC162548	Adhesive - Filter Spray
HC196103	Bottle - Wash 500ML
HC158003	Brush - 7/16 x 1-1/8 Double Handle
HC158010	Brush - 6 inch w/o Handle (Use with Handle HC158012)
HC158026	Brush - 1 inch Diameter 12 inches Long
HC158077	Brush - 9/16 inch with 36 inch Handle
HC184274	Chart - O - ring (Laminated)
HC184646FG	Sheet - Clean & Sanitize
HC158051	Cup - Overrun Measuring 1 Pint (Use with P/N 158049 scale)
HC158012	Handle - Brush 36 inch Fiberglass (Use with Brush HC158010)
HC120764-04	Kit - Assy. Spindle Mixer
HC158000A	Lubricant - Petrol Gel 4 oz. tube (per tube)
	Sanitizer - Stera - Sheen Case/4 Jars Sanitizer - Stera - Sheen 4 lb. jar
HC158049	Scale - Overrun
HC169374	Tool - O - Ring Removal



## **ELECTRO FREEZE Shake Model CS700-FG**

### **IMPORTANT:**

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM - TO)
Bearing-1" Pillow Block	HC153030	2	A2T –
Bearing-Assy. Rear	HC120614	1	A2T –
Bearing-Wide Inner Ring & Collar			
Bolt-Carriage 5/16-18X3 ZN			
Nut-HEX 5/16-18 ZNSpacer-Bearing			
Stamping-Main			
Stamping-Retainer Plate			
Washer-Lock5/16 ZN			
Beater-Assy. Shake Short	HC118708	1	A2T –
Beater-Assy. Weldment SH CM	HC120586	1	A2T –
Belt-Poly V	HC153185	1	A2T –
Belt-Poly V	HC153187	1	A2T –
Blade-Fan 12 in. 24°	HC159033	1	A2T –
Blade-Scraper Shake	HC140900	2	A2T –
Block-Terminal	HC150591	1	A2T –
Board-Assy. Torque Monitor Shake	HC120603	1	A2T –
Bolt-Carriage 5/16-18X3 ZN (Rear Bearing)	HC160415	2	A2T –
Bottle-Wash 500ML	HC196103	*	A2T –
Bracket-Fan Mount	HC140647	1	A2T –
Breaker-Circuit 4.5A	HC150452	1	A2T –
Brush-6 inch w/o Handle (Use with Handle HC158012)	UC150010	1	AOT
Brush-7/16 x 1-1/8 Double Handle			
Brush-9/16 inch with 36 inch Handle			
Brush-1 inch Dia 12 inch Long			
Bushing-Beater Bearing	HC196072	1	A2T –
Cap-Coupling	HC137787	1	A2T –
Cap-Coupling	HC140823	1	A2T –
Capacitor-Run (Compressor)	HC150244	1	A2T –
Capacitor-Start (Compressor)	HC151414	1	A2T –

<sup>\*</sup> As Required

Use only original or authorized replacement parts with this freezer.

Use of unapproved parts will void warranty.

<sup>\*\*</sup> LH or RH — Left or right hand is determined as you face the front of the freezer. NLA No Longer Available

### **IMPORTANT**:

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER QTY	SERIAI (FROM	L NUMBER - TO)
Capillary-Tube & Strainer	HC1553971	A2T	_
Chart-O-ring (Laminated)	HC184274 1	A2T	_
Clamp-Hose 3-1/6 to 4	HC1607431	A2T	_
Clip-Miniature Relay Retaining	HC1501661	A2T	_
Compressor-Assy	HC1206021	A2T	_
Capacitor-Run			_
Capacitor-Start Drier-Filter 3 cu. in. Sweat			_
Grommet-Comp. Mtg			_
Relay-Compressor Start			_
Sleeve-Comp. Mtg			_
Condenser-Air 14 x 14	HC1551401	A2T	_
Contactor-Mini 3P (Beater Motor)	HC1500951	A2T	_
Contactor-Mini 3P (Compressor)	HC150095 1	A2T	_
Cover-Assy. Hopper Insulate	HC118691 1	A2T	_
Cover-Drip Tray	HC1962611	A2T	_
Cup-Overrun Measuring 1 Pint (Use with P/N 158049 scale)	HC158051 1	A2T	_
Cut Out-High Pressure 450 PSI	HC1504501	A2T	_
Cylinder-Assy. Complete			_
Decal-Beater Warning	HC165025 1	A2T	_
Decal-Cleaning Instructions	HC1652501	A2T	_
Decal-Clear Overlay	HC1650931	A2T	_
Decal-Panel Removal	HC1651263	A2T	_
Decal-Trimstrip EF Logo	HC1651471	A2T	_
Decal-Ventilation 3 in	HC1690521	A2T	_
Drier-Filter 3 cu in Sweat	HC155063 1	A2T	_
Filter-22x19x3/8	HC155143 1	A2T	_
Float-Level Sensor	HC161301 1	A2T	_

<sup>\*</sup> As Required

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Use only original or authorized replacement parts with this freezer.

Use of unapproved parts will void warranty.

<sup>\*\*</sup> LH or RH — Left or right hand is determined as you face the front of the freezer. NLA No Longer Available

### **IMPORTANT:**

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	O = 1 112 1	L NUMBER I – TO)
Glass-Sight	HC155059	1	A2T	_
Grommet-1.1OD x 7/8 GD x 5/8 ID	HC159064	1	A2T	_
Grommet-Comp. Mtg	HC151478	4	A2T	_
Guide-Assy. Push Rod	HC115684	1	A2T	_
Guide-Assy. Push Rod	HC120768	1	A2T	_
Handle-Assy. Shake	HC120037	1	A2T	_
Handle-Assy. Spindle Head	HC113123	1	A2T	_
Handle-Brush 36 inch Fiberglass (Use with Brush HC158010)	HC158012	1	A2T	_
Head-Assy. Dispense Complete				_
Bushing-Beater Bearing				_
Handle-Assy. Spindle Head Handle-Assy. Shake				_
Head-Assy. Dispense (Head Only)				_
Head-Assy. Dispense (Head Only)				_
Keeper-Assy. Spindle				_
O-Ring (Head)				_
O-Ring (Plunger-Lower)				_
O-Ring (Plunger-Upper)				_
Plunger-Dispensing	HC140713	1	A21	_
Indicator-28v ADD MIX	HC150541	1	A2T	_
Insert-Assy. Mix Feed	HC120664	1	A2T	_
Insert-Drip Tray	HC196205	1	A2T	_
Insert-Drip Tray	HC196261	1	A2T	_
Insulator-Expansion Valve	HC165531	1	A2T	_
Insulator-Switch	HC137893	1	A2T	_
Insulator-Switch				_
Insulator-Switch				_

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<sup>\*</sup> As Required

<sup>\*\*</sup> LH or RH — Left or right hand is determined as you face the front of the freezer. NLA No Longer Available

### **IMPORTANT**:

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL (FROM	NUMBER – TO)
Keeper-Assy. Spindle	.HC113435	1	.A2T	_
Key-Drive 1/4" Sq. x 1 1/2"	.HC153323	4	.A2T	_
Kit - 4in Adj Leg w/Antislip Pad	.HC118616	1	.A2T	_
Kit-Recyle Timer Wiring Instructions	.HC120095	1	.A2T	_
Kit-Assy. Spindle Mixer	.HC120646-04	1	.A2T	_
Kit-Thermostat & Retainer	.HC119989	1	.A2T	_
Knob-Ball 3/8-16 THD Black (Handle Assy)	.HC162629	1	.A2T	_
Knob-Hand	.HC162625	2	.A2T	_
Light-Indicator 28V "Add Mix"	.HC150541	1	.A2T	_
Light-Pilot Red (Out of Mix)	.HC150561-01	1	.A2T	_
Lubricant-Lubri-Film Plus 4oz. tube (per tube).	.HC158054A	1	.A2T	_
Motor-1/2 HP 115/208-230-1-60 (Beater Motor)	HC151143	1	A2T	_
Motor-Fan 50W 230V 50/60 HZ				_
Motor-Spindle 230v				_
Nut-EL Stop #6-32 ZN	.HC160199	4	.A2T	_
O-ring (Head)	.HC160622	1	.A2T	_
O-ring (Mix Feed Tube)	.HC160621	2	.A2T	_
O-ring (Mix Feed Tube)	.HC160611	1	.A2T	_
O-ring (Pivot Post)	.HC160555	2	.A2T	_
O-ring (Plunger-Lower & Lower)	.HC160582	2	.A2T	_
Panel-Assy. Front	HC120436	1	A2T	_
Panel-Assy. Front				_
, and 7,659, 1 fort		1	., 1	

<sup>\*</sup> As Required

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Use of unapproved parts will void warranty.

<sup>\*\*</sup> LH or RH — Left or right hand is determined as you face the front of the freezer. NLA No Longer Available

### **IMPORTANT:**

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM - TO)
Panel-Assy. Hopper & Top	HC120428	1	A2T –
Panel-Assy. Hopper & Top	HC120680	1	A2T –
Panel-Assy. Hopper & Top	HC120804	1	A2T –
Panel-Assy. Dispense Spindle Brace	HC120565	1	A2T –
Panel-Dispense	HC140665	1	A2T –
Panel-Rear	HC140657	1	A2T –
Panel-Rear	HC140737	1	A2T –
Panel-Side LH (22-1/4" wide)	HC140659	1	A2T –
Panel-Side LH (22-3/4" wide)	HC140659	1	A2T –
Panel-Side RH (22-1/4" wide)	HC140658	1	A2T –
Panel-Side RH (22-3/4" wide)	HC140658	1	A2T –
Pin-Guide	HC135670	1	A2T –
Plunger-Dispensing	HC140713	1	A2T –
Post-Pivot	HC135182	1	A2T –
Pulley-Idler Tensioner	HC120588	1	A2T –
Receptacle-Snap In IED60320	HC150629	1	A2T –
Relay-Compressor Start	HC151474	1	A2T –
Relay-Miniature DPDT 24V Coil	HC150097	1	A2T –
Rod-Actuator	HC138611	1	A2T –
Rod-Actuator	HC140724	1	A2T –
Rod-Actuator	HC140791	1	A2T –
Sanitizer-Stera-Sheen 4 lb. jar	HC158014A	1	A2T –
Sanitizer-Stera-Sheen Case/4-4 lb. Jars	HC158014	1	A2T –
Scale-Overrun	HC158049	1	A2T –
Screw-RDHM #6-32 x 2 ZN (Plunger Switch	).HC159973	4	A2T –
Screw-SK Set 5/16-18 x 3/8 BKOX	HC160033	2	A2T –
Screw-SK Set 1/4-20 x 1/4 ZN Screw-TRPM #8-32 x 3/8 SST			
(Top Dispense Panel)	HC160025	2	A2T –

<sup>\*</sup> As Required

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<sup>\*\*</sup> LH or RH — Left or right hand is determined as you face the front of the freezer. NLA No Longer Available

### **IMPORTANT**:

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER QTY	SERIAL NUMBER (FROM – TO)
Screw-TRPM #10-24 x 1/2 SST (Bottom Dispense Panel & Trimstrip)	HC1600766	A2T –
Screw-TRPM 1/4-20 x 1/2 SST (Front & Rear Panels)	HC1600488	A2T –
Seal-Assy. Shaft Double (3 Piece)	HC115525 1	A2T –
Seal-Beater Shaft		
Washer-Double Shaft Seal		
Seal-Beater Shaft (1 Piece)		
Seal-Switch Boot (Spindle)		
Shaft-Drive		
Shaft-Drive		
Sheave-Drive 1.344 PD J8		
Sheave-Driven		
Sheet-Clean & Sanitize Compact Series		
Shroud-Fan		
Sleeve-Comp. Mtg		
Socket Miniature Relay DPDT		
Spacer-Bearing (Rear Bearing)		
Spindle - Assy 24oz. 230v (Optional Motor-Spindle		
O-ring	HC160555 1	A2T –
Spring-Comp	HC162301 1	A2T –
Spindle Housing Lower Unit	HC119891-011	A2T
Spring-Plunger Rod	HC162303 1	A2T –
Spring-Extension	HC1623321	A2T –
Spring-Extension	HC162331 1	A2T –
Stamping-Main (Rear Bearing)	HC1530262	A2T –
Stamping-Retainer Plate (Rear Bearing)	HC1530252	A2T –
Stop-Terminal Black End (Cover)	HC150594 1	A2T –
Stud-Assy. Cylinder 1-15/16"	HC114341 2	A2T –
Support-Assy Driptray	HC1205131	A2T –

<sup>\*</sup> As Required

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<sup>\*\*</sup> LH or RH — Left or right hand is determined as you face the front of the freezer. NLA No Longer Available

### **IMPORTANT:**

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (FROM - TO)
Support-Driptray	HC140729	1	A2T –
Switch-Add/Out Float Sensor			
Switch-Assy Plunger	HC116613	1	A2T –
Guide-Assy. Push Rod	HC115684	1	A2T –
Spring-Plunger Rod			
Insulator-Switch Switch-Snap Button			
-			
Switch-Assy PlungerGuide-Assy. Push Rod			
Insulator-Switch			
Insulator-Switch			
Nut-EL Stop #6-32 ZN			
Screw-RDHM #6-32 x 2 ZN			
Spring-Plunger RodSwitch-Snap Button			
Washer-1/2 x .196 x 1/16	HC160450	3 8	A2T =
Switch-Level Float Sensor			
Switch-Push Button SPDT (Spindle)			
Switch-Snap Button (Plunger Switch)			
Switch-Snap Button (Plunger Switch)			
Switch-Toggle DPDT Center Off (AUTO/OFF/CLEAN) Switch-Toggle 3PDT Center Off	HC150463	1	A2T –
(AUTO/OFF/CLEAN)			
Timer-Recycle Kit			
Tool-O-Ring Removal	HC169374	1	A2T –
Transformer-75VA / 24VAC / MURD	IC57410032	5 1	A2T –
Transformer-Current	IC574100349	9 1	A2T –
Tray-Drip (Black)	HC140717	1	A2T –
Tray-Drip (Black)			
Trimstrip-Assy			
Trimstrip-Assy			

<sup>\*</sup> As Required

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### **IMPORTANT**:

All parts shown are for standard models designed for 208-230v/60Hz/1phase.

PART DESCRIPTION	PART NUMBER	QTY	SERIAL (FROM -	NUMBER - TO)
Tube-Assy. Drain	HC120339	1	A2T	_
Tube-Assy. Drain	HC120606	1	A2T	_
Tube-Capillary & Strainer	HC155397	1	A2T	_
Tube-Assy.Mix Feed	HC120666-02	2 1	A2T	_
Insert-Assy. Mix Feed				_
O-ring				_
O-ring Tube-Mix Feed .250 Orifice				_
				_
Tube-Assy.Mix Feed .281				_
O-ring				_
O-ring				_
Tube-Mix Feed .281 Orifice	HC140955	1	A2T	_
Tube-Mix Feed .313 Orifice	.HC140721	1	A2T	_
Tube-Mix Feed .281 Orifice	HC140955	1	A2T	-
Valve-Access (HPCO)	HC155419	1	A2T	_
Valve-Access (EPR)	HC155419	1	A2T	_
Valve-Automatic Expansion	.HC155490	1	A2T	_
Valve-Core (HPCO)	HC155649	1	A2T	_
Valve-EPR				_
Washer-1/2 x .196 x 1/16 (Plunger Switch)	HC160157	8	A2T	_
Washer-Double Shaft Seal (3 Piece Seal)	HC137593	1	A2T	_

Use only original or authorized replacement parts with this freezer.

Use of unapproved parts will void warranty.

<sup>\*</sup> As Required

<sup>\*\*</sup> LH or RH — Left or right hand is determined as you face the front of the freezer. NLA No Longer Available