

ELECTRO FREEZE®

Operator's Manual

with Illustrated Parts List

FREEDOM 360°
Series

**Soft Serve Twist Freezer
Model 30T-CMT**

P/N 184605 - 2/03

Operator's Manual
for
Electro Freeze Freedom 360° Series
Soft Serve Twist Freezer
Model 30T-CMT

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.

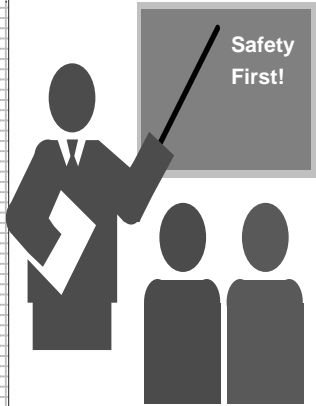
2. Understand Signal Words



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 replacements.

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 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:



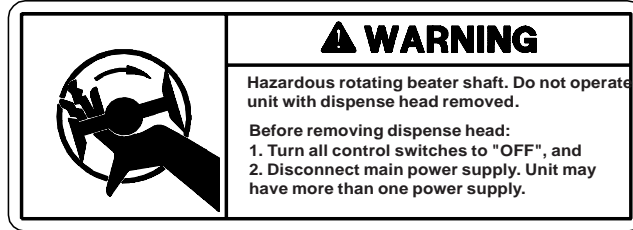
Phone: (309) 755-4553

FAX: (309) 755-9858

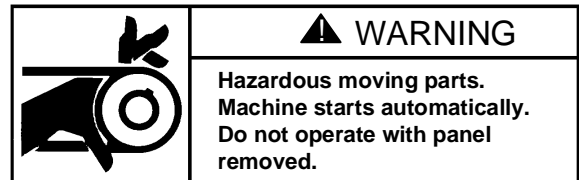
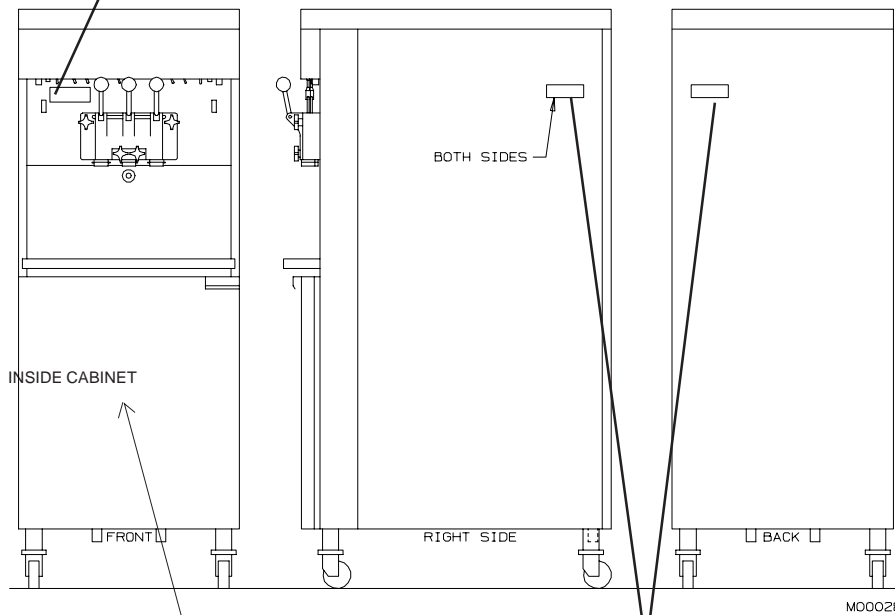
(The decals on the next page are numbered 1, 2, and 3. Those numbers correspond to the numbers in the table below. The table provides the part number, description, and quantity for each decal.)

| No. | Part No. | Description (Qty) |
|-----|------------|--|
| 1 | P/N 165025 | Decal — Beater Warning (1) |
| 2 | P/N 165126 | Decal — Panel Removal Warning (3) |
| 3 | P/N 165246 | Decal — Pressurized System Warning (1) |

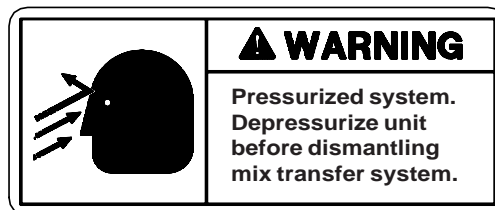
Safety Decal Locations



1



2



3

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Part II

| | |
|--|---|
| Model 30T-CMT Replacement Parts Manual | |
| with Illustrations | * |

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



1 Introduction

The 30T-CMT freezer is designed to produce soft serve ice cream, ice milk, yogurt, and similar frozen dairy products, with a product serving temperature range of 15 to 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 Soft Serve Model 30T-CMT.

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 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

FAX: (309) 755-9858

2 Note to Installer

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

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. also note on the freight bill

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).

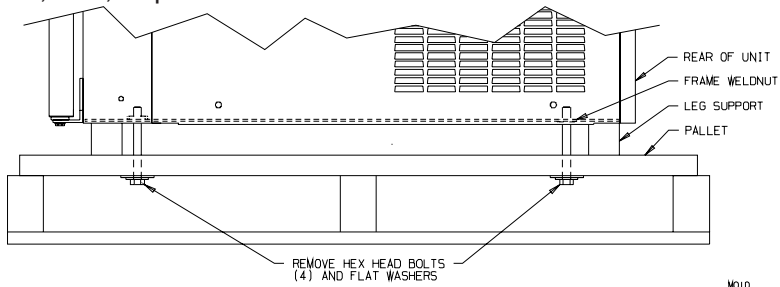


Figure 2-1 Machine bolted to Shipping Base

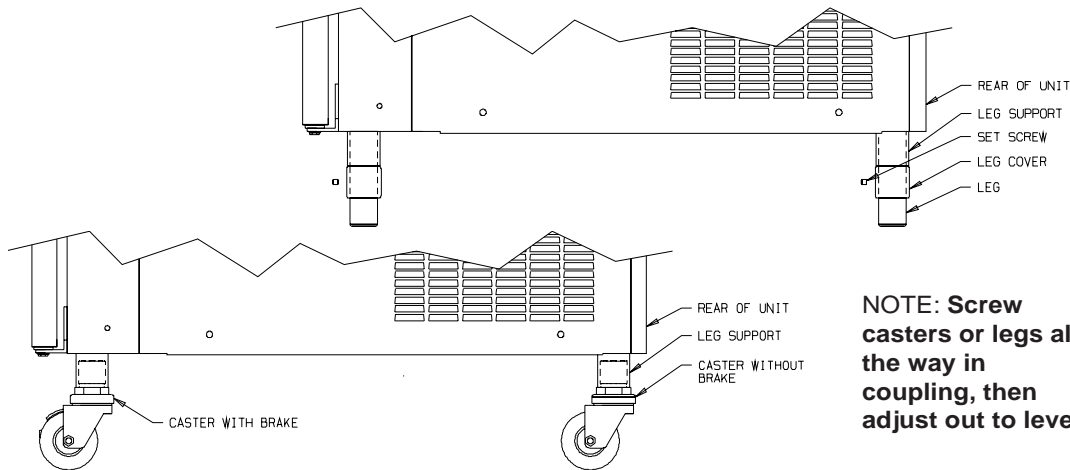


Figure 2-2 Installing Mounting Legs or Casters

2.2 Installation



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

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

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

— continued

2.2 Installation (continued)

3. **Air cooled** models require a minimum 6 inch (15 cm) clearance on either the side panels or the rear panel for adequate ventilation. Freezers designed with top air discharge require at least 18 inches (45 cm) above the top panel be free of obstructions. Anything blocking ventilation of the freezer (including cone dispensers) will reduce the efficiency of the freezer.

4. **Water cooled** double models will require a 1/2 inch MPT water inlet and water waste connection. Both condensers are tied together so that one water inlet and one water waste is all

that is required. The connections are found on the bottom under the compressor mounting area and are clearly 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.

5. Place the freezer in the final location and level by adjusting the legs or casters so that it is level side-to-side and the front is approximately 1/4 inch (6 mm) 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 of each freezer. Data plate specifications will always supersede the information in this manual.

2. Supply voltage must be within \pm 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. Double freezers with two compressors require one power supply for each side of the freezer. Each side of the freezer operates independently.

2. Check the data plate for fuse size, wire ampacity and electrical specifications.

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

4. Electrical connections are made in the junction box located mid-level behind the left side panel.

5. Use a flexible connection when permissible. All materials and connections must conform to local codes and/or the National Electric Code.

6. For 3 phase freezers beater shaft rotation must be clockwise.

3 Specifications

3.1 Particulars

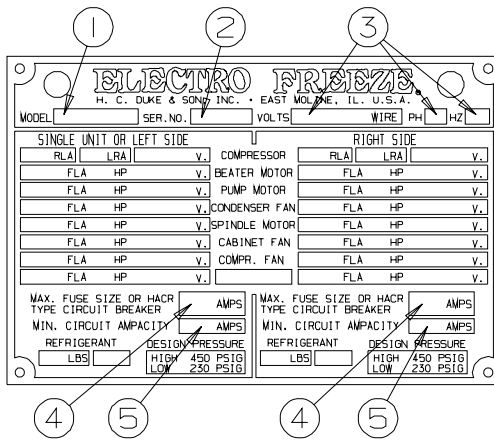
Always check and verify voltage and amperage on the data plate located on the back panel of each freezer.

30T-CMT

| | |
|--------------------------|--|
| Width (in/cm) | 26/66 |
| Height (in/cm) | 67.5/171 |
| Depth (in/cm) | 36.5/93 |
| Weight (lbs/kg) | 847/385 |
| Compressor (2) | 2 HP/9500 BTUH 1.5 kw (Motor) 2.8 kw (Cooling) |
| Beater Motor | 2 HP/1.5 kw |
| Refrigerant | 404a |
| Charge* | 3.75 lb/1.7 kg |
| Mix Container (2) | 30 Qts/28.4 Liters |
| Cylinder (2) | 4 Qts/3.8 Liters |

*for each side

3.2 Data Plate



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

Figure 3-1

3.3 Reference Information

Write in Reference Information HERE! 

Fill in this information as soon as you receive the Electro Freeze 30T-CMT Soft Serve Twist Freezer. The item numbers, encircled, correspond with the callout numbers in figure 3-1.

- ① Model Number: _____
- ② Serial Number: _____
- ③ Electrical Spec: Voltage _____
Phase _____ Hertz _____
- ④ Maximum Fuse Size: _____
- ⑤ Minimum 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 30T-CMT freezer.

Date of installation: _____

Installed by: _____

Address: _____

Phone: _____

3.5 Dimensions

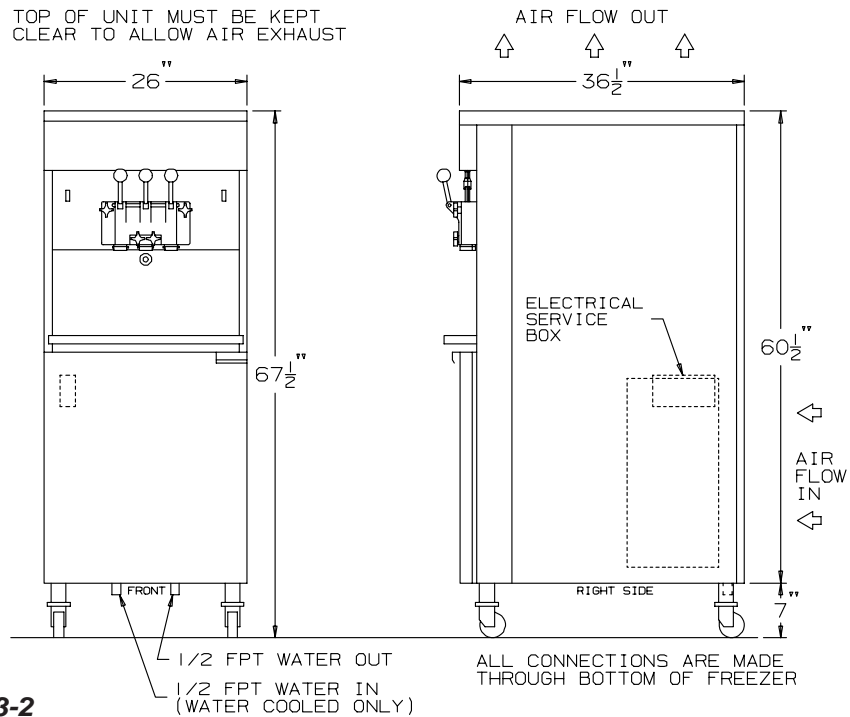


Figure 3-2

4 Part Names and Functions

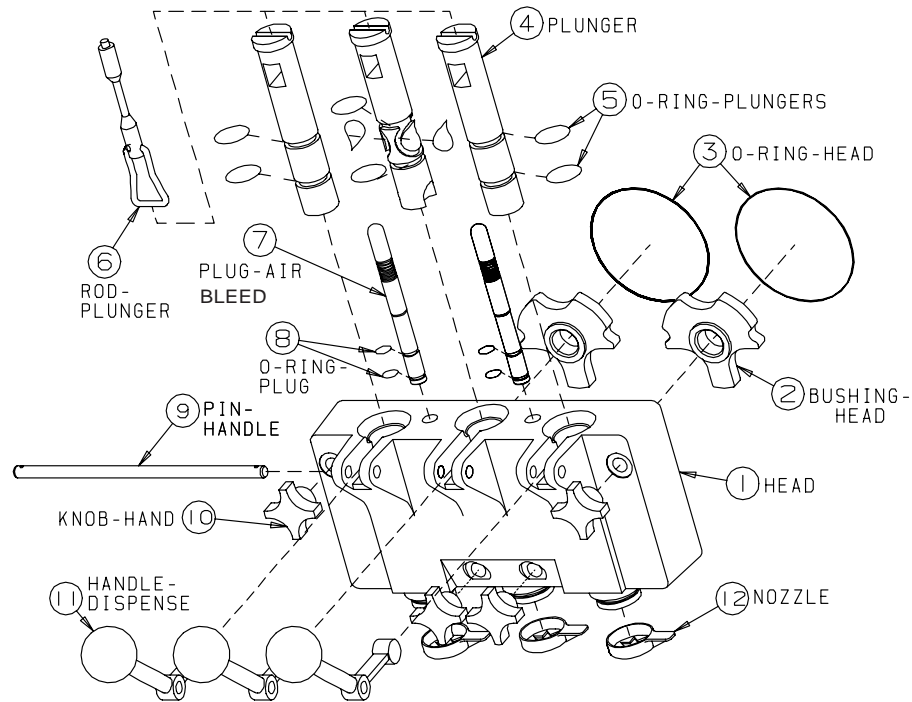
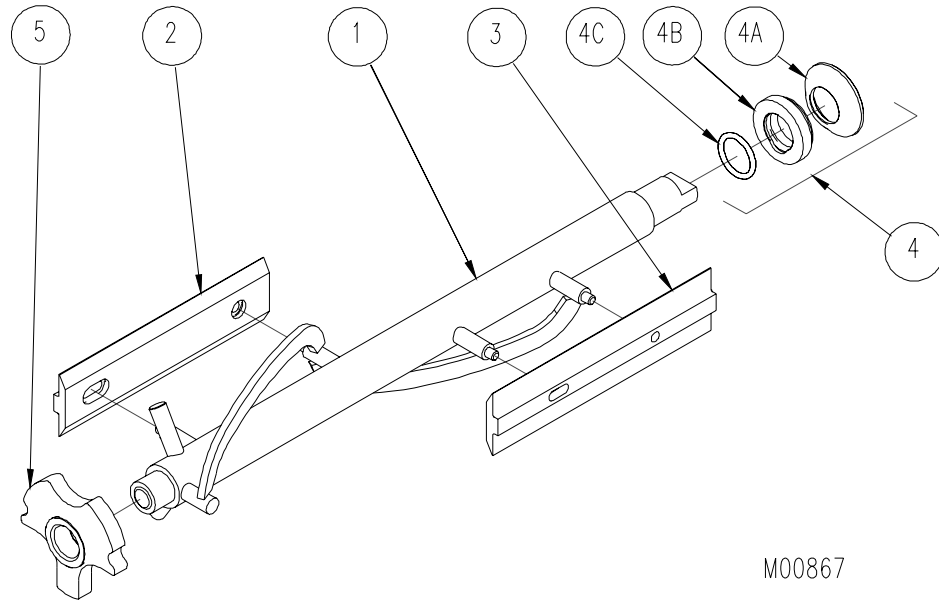


Figure 4-1 Head Assembly

- | | |
|---|---|
| <p>1 HEAD Encloses the freezing cylinder and provides an opening for product to be dispensed.</p> <p>2 BUSHING - HEAD Holds the beater in place at the front of the cylinder.</p> <p>3 O-RING - HEAD Seals the head to the freezing cylinder. Must be lubricated.</p> <p>4 PLUNGER Seals the product opening in the dispense head when closed. Allows product to flow when open.</p> <p>5 O-RING - PLUNGER Seals the plunger in the head. Must be lubricated to seal and slide properly.</p> <p>6 ROD - PLUNGER Starts the freezer when dispensing. Must be in place before freezer will operate.</p> | <p>7 PLUG - AIR BLEED Seals the air bleed opening in the dispense head when closed. Allows excess air to be removed from the cylinder in the filling process.</p> <p>8 O-RING - PLUG Seals the air bleed plug in the dispense head.</p> <p>9 PIN - HANDLE Secures the handle to the dispense head.</p> <p>10 KNOB - HAND Secures the dispense head to the freezing cylinder.</p> <p>11 HANDLE - DISPENSE Opens and closes the plunger to start and stop the flow of product from the freezer.</p> <p>12 NOZZLE Forms the frozen product as it is dispensed.</p> |
|---|---|

4 Part Names and Functions (continued)



M00867

Figure 4-2 Beater Shaft Assembly

- | | |
|---|--|
| <p>1 SHAFT - BEATER Rotates in the freezing cylinder, blending air and ejecting product.</p> <p>2 BLADE - SCRAPER REAR Scrapes the frozen product from the freezing cylinder.</p> <p>3 BLADE - SCRAPER FRONT Scrapes the frozen product from the freezing cylinder.</p> <p>4 SEAL - ASSY. SHAFT Seals the opening between the freezing cylinder and the beater shaft. Consists of the following 4A, 4B, and 4C.</p> <p>4A SEAL - BEATER SHAFT (CUP)</p> <p>4B WASHER - SHAFT SEAL (BUSHING)</p> <p>4C O-RING - SEAL</p> | <p>5 BUSHING - DISPENSE HEAD Holds the beater in place at the front of the cylinder.</p> |
|---|--|

4 Part Names and Functions (continued)

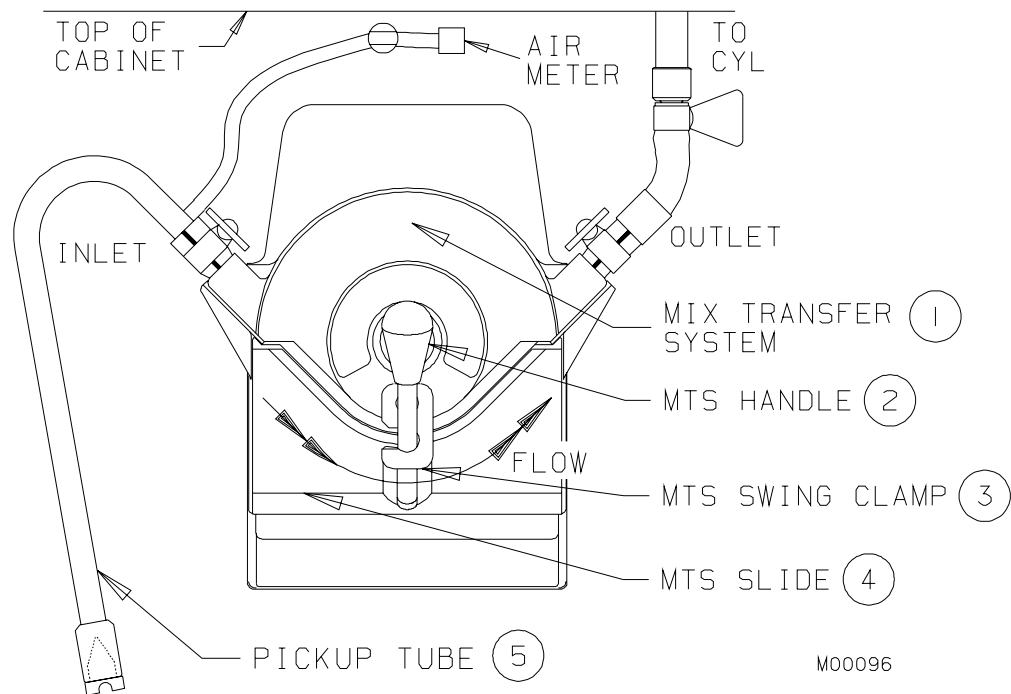


Figure 4-4 Mix Transfer System (MTS)

- | | |
|--|---|
| <p>① MIX TRANSFER SYSTEM Transfers mix and air from the storage cabinet to the freezing cylinder.</p> | <p>④ MTS SLIDE Sets the transfer hose in proper position under rollers.</p> |
| <p>② MTS HANDLE Moves the MTS Slide up and down to engage the transfer hose with MTS rollers. Allows access to transfer hose.</p> | <p>⑤ PICKUP TUBE Carries mix from mix container to MTS. Duckbill check valve prevents mix from returning to mix container.</p> |
| <p>③ MTS SWING CLAMP Secures the MTS Slide in position, ensuring contact with rollers. MTS will operate only when swing clamp is secured.</p> | |

5 Operator Controls and Indicators

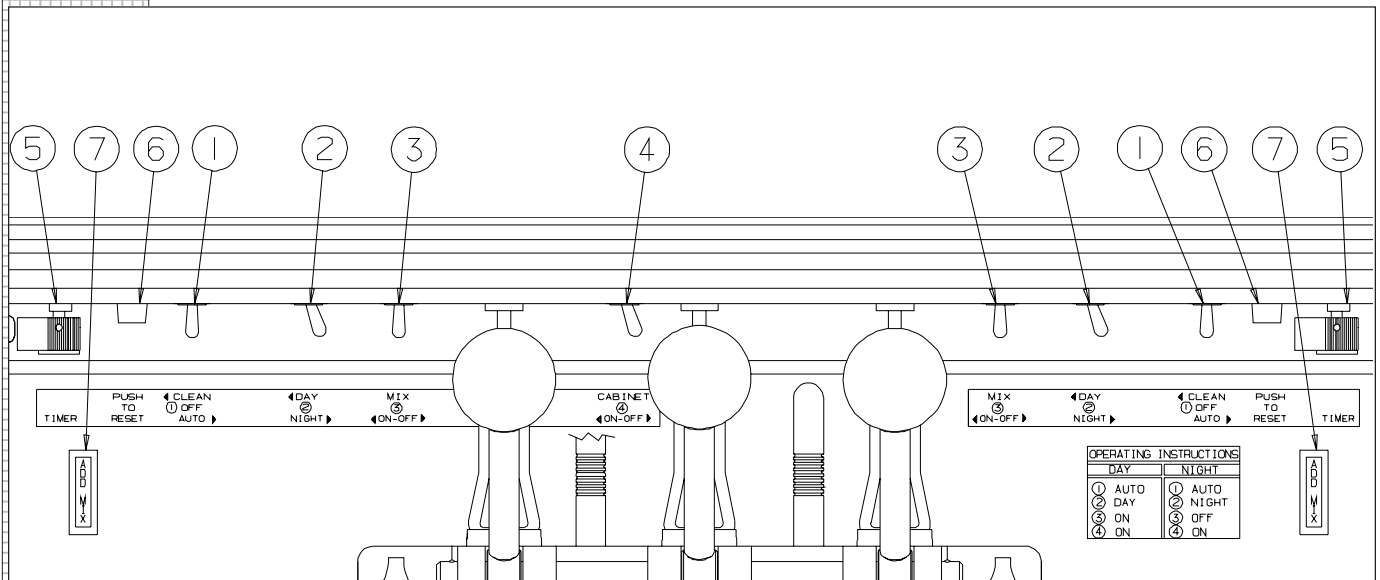


Figure 5-1

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 head 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 to the cylinder). Always use this mode when performing cleaning and sanitizing operations.

b. **“OFF”** (center) — In this position the beater motor will not operate and no refrigeration will be provided to the cylinder.

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 the refrigeration unit. This is the normal operating position.

5 Operator Controls and Indicators (continued)

5.2 DAY-NIGHT Switch ②

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 – 21°F (-8 to -6°C). This is the normal operating position.

b. “**NIGHT**” (right) — The medium-temperature thermostat controls the system refrigeration to maintain a mix holding temperature of 41°F (5°C) or below.

5.3 Mix Transfer System (MTS) Switch ③

This two-position switch controls the operation of the MTS located in the refrigerated mix storage cabinet.

a. “**MIX ON**” (left) — This position is the normal operating mode. Use this position for priming the cylinder, cleaning and day mode operation.

b. “**OFF**” (right) — In this position the MTS will not operate. Use this position for night mode operation.

5.4 Cabinet Switch ④

This two-position switch controls the cabinet refrigeration.

NOTE: Cabinet door must be closed for cabinet refrigeration to operate.

a. “**ON**” (left) — The cabinet thermostat controls the system refrigeration to maintain a mix temperature of 36–41°F (2 - 5°C) in the storage cabinet. Use this position when mix is in the storage cabinet but not in the cylinder.

b. “**OFF**” (right) — The cabinet will not be refrigerated unless either selector switch is in the “**AUTO**” position.

NOTE: The cabinet is automatically “ON” when either SELECTOR switch is in the “AUTO” position.

5.5 Timer ⑤

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.

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

5 Operator Controls and Indicators (continued)

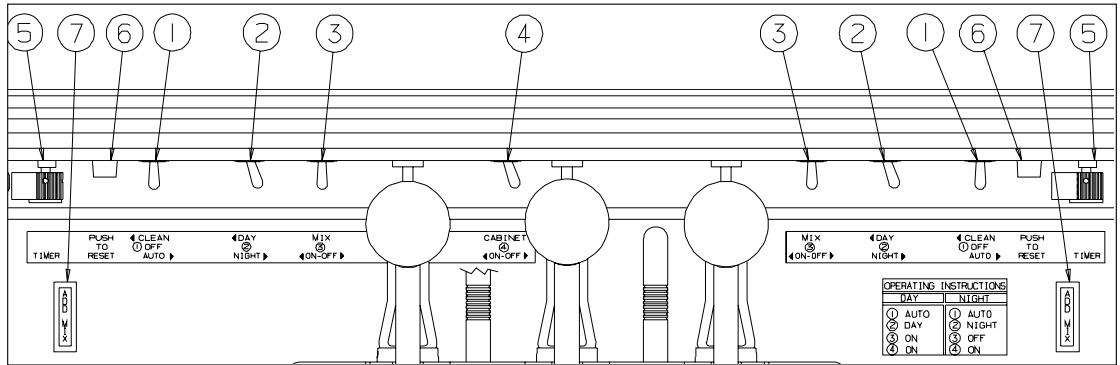


Figure 5-1

5.6 Reset — Overload ⑥

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” and wait 2-3 minutes. Then depress the red reset button and turn the SELECTOR switch back to the “AUTO” or “CLEAN” position.

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

5.7 Indicator Light — “ADD MIX” ⑦

When flashing, this light indicates the mix in the mix container is at a low level and should be refilled as soon as possible. Always maintain at least 2 inches (5 cm) of mix in the container. For best operating results keep container full.

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

5.8 Probe — “ADD MIX” ⑧ (not shown)

For the “ADD MIX” indicator lights to work, the probes must be installed in the mix container, with cords attached and plugged into the receptacles located in the back of the cabinet.

| OPERATING INSTRUCTIONS | |
|------------------------|---------|
| DAY | NIGHT |
| ① AUTO | ① AUTO |
| ② DAY | ② NIGHT |
| ③ ON | ③ OFF |
| ④ ON | ④ ON |

This chart shows the correct positions of the switches for day and night operations.

To turn the entire machine off, switches numbered 1, 3, and 4 must be in the “OFF” position.

6 Disassembly and Cleaning

Safety Information

This freezer uses pressure to assure consistent product quality. It is important for your safety that the freezer is depressurized slowly and completely whenever the freezer is to be drained, disassembled, cleaned, or serviced. The safety instructions in this manual will remind you when to check to make sure the freezer is depressurized. When you see this CAUTION statement



CAUTION

Make sure freezer is depressurized before proceeding.

the following steps should be taken:

1. Make sure both MTS switches and both selector switches are in the "OFF" position.
2. Place a clean bucket under the dispense head.
3. ***Slowly*** open the plungers by pulling down on each of the dispense handles, allowing any pressurized product, cleaning solution, or air to escape.
4. Remove the plunger rods and open the plungers completely.



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.

5. Open the swing clamps on both mix transfer systems and pull the MTS handle down.

Following these steps will assure that the system is depressurized.

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 first 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. Bottle, Wash: used to flush the hose cavity, roller assembly and plunger.
2. Brush, Cylinder: used to clean the cylinder.
3. Brush, 7/16 inch diameter with an overall length of 12 inches: used to clean transfer hose, air meter hose, and air relief opening in the dispense head.
4. Brush, 9/16 inch diameter with an overall length of 30 inches: used to clean drain tube, mix feed tube in the ceiling of the cabinet, and the pickup tube.
5. Brush, 1 inch diameter 12 inches long: used to clean plunger openings in the dispense head, head bushing and serrated nozzle. Also used to clean disassembled shaft seal.
6. Kit, O-ring: contains all O-rings and seals needing replacement on a regular basis.
7. Lubricant, Petrol Gel: approved lubricant for moving parts and O-rings.
8. Sanitizer, Sample: approved sanitizer, Stera-Sheen, also available in 4 lb. jar.

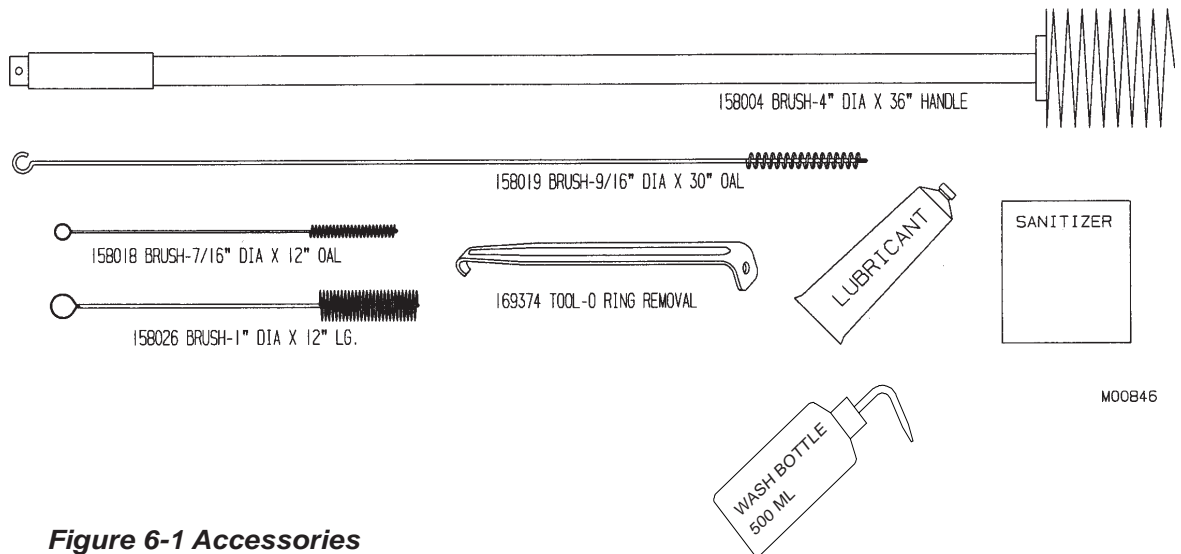


Figure 6-1 Accessories

6.2 Disassembly Instructions

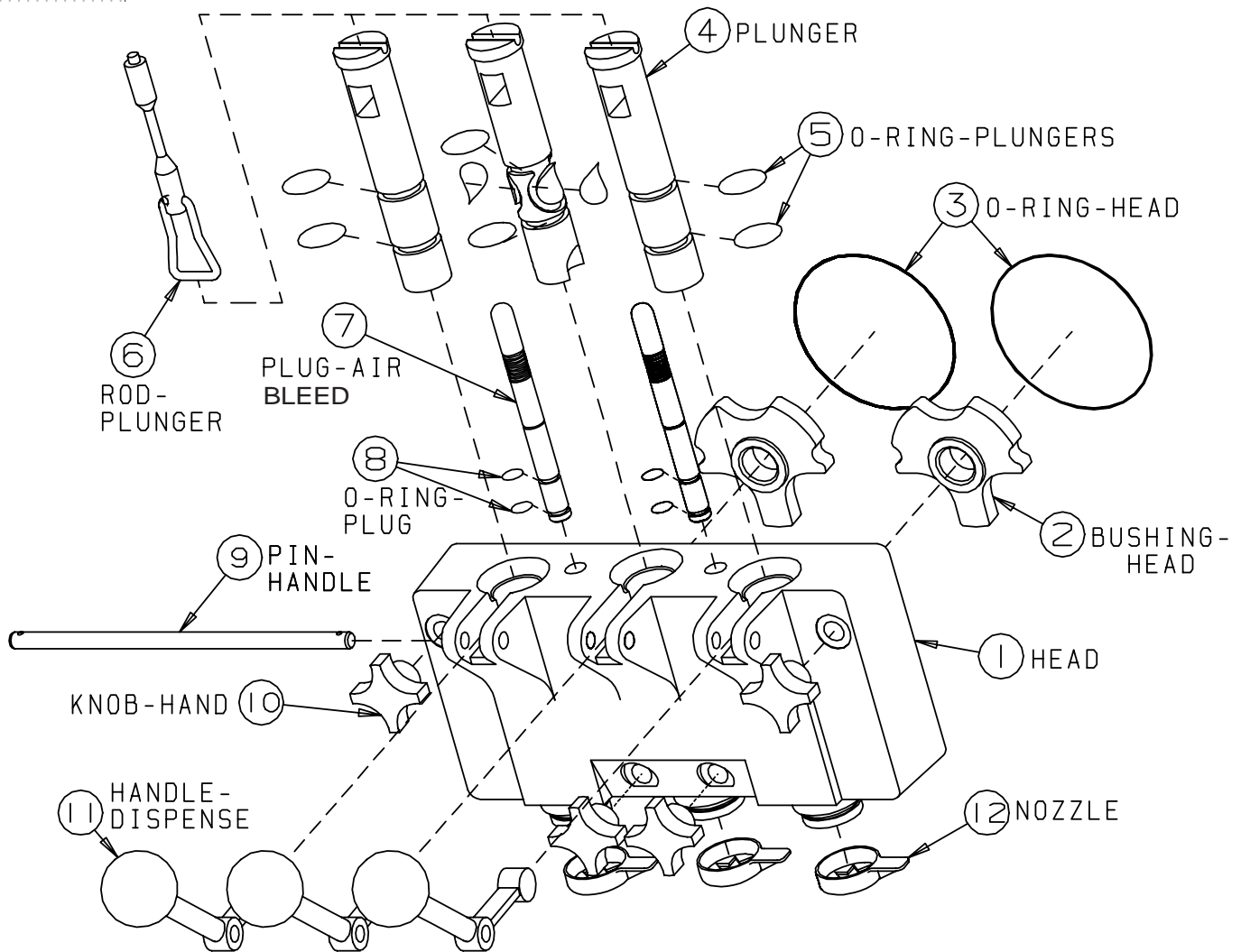


Figure 6-2 Head Assembly

6.2 Disassembly Instructions (continued)

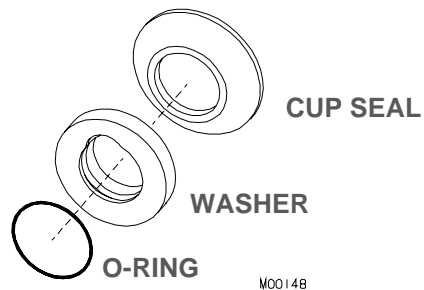
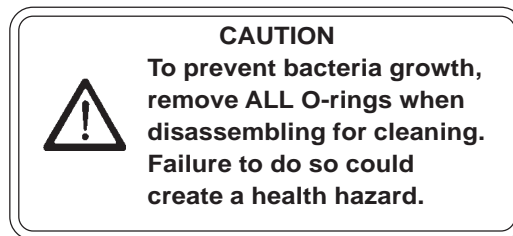
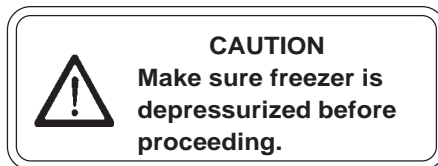
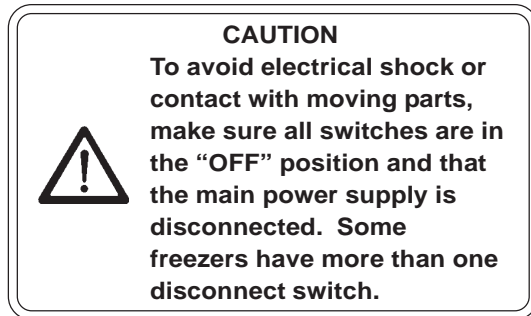


Figure 6-3 Shaft Seal

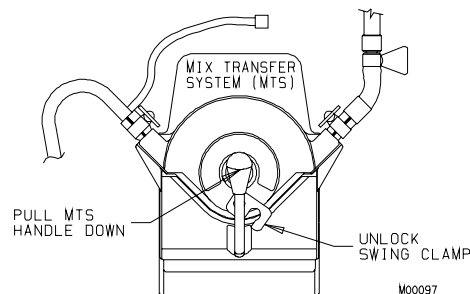


Figure 6-4 MTS

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

2. Remove the plunger rods (6, figure 6-2) by lifting up and swinging the bottom out and down. Remove hand knobs (10) and pull the dispensing head (1) straight out.

3. Remove the head bushings and beater shafts from the cylinders.

4. Remove scraper blades and shaft seals from the beater shafts.

5. Remove the drip tray (see Replacement Parts Manual, Panel Assembly) and drip tray insert from the front of the freezer.

6. From the dispense head remove the air bleed plugs (7, see figure 6-2) and remove the two O-rings (8) on each one.

7. Remove the handle pin (9), handles (11), plungers (4) and nozzles (12) from the dispense head.

8. Remove O-rings (3) from the dispense head and O-rings (5) from the plungers (4).

9. Remove the cup seals (figure 6-3) and O-rings from the plastic washers on the shaft seal assemblies.

10. Remove mix containers, covers and low mix probes.

11. Remove MTS hose assemblies from the Mix Transfer Systems by unlocking the swing clamps and pulling the MTS handles down (figure 6-4). For each side loosen the three clamps and separate the parts as shown in figure 7-5.

6.3 Cleaning Instructions



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.

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

1. Prepare a three-compartment sink for cleaning, rinsing, and sanitizing parts removed from the freezer, per applicable local 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 and will chemically attack freezer components.

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

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

- a. The mix container, pickup tube assemblies, hoses, and probes.
- b. The head plunger openings, center plunger ports, O-ring grooves, dispense nozzle mounting rings, and mix ports, as shown in figure 6-5.

— continued

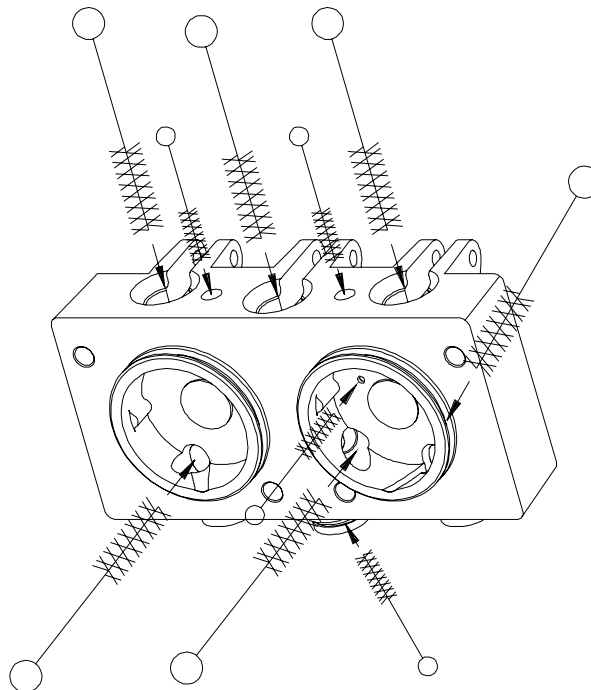


Figure 6-5 Clean head ports and openings with brush.

6.3 Cleaning Instructions (continued)

c. The shaft cup seals, washers, and O-rings, plunger O-ring grooves and nozzles, as shown in figure 6-6.

d. The air bleed plug O-ring grooves.

e. The beater shaft and the scraper blade pin holes as shown in figure 6-7.

⇒ **Important:**

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

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

4. Using a warm dish detergent solution thoroughly brush; the mix feed tubes from the refrigerated cabinet to the cylinders as shown in figure 6-8, the inside of the cylinders including the back wall, and the inside of the drain tube, as shown in figure 6-9.

5. Remove the drip tray and insert. Wash in a warm dish detergent solution and rinse with clear water.

6. Wash the outside of the freezer and inside of the cabinet with a warm dish detergent solution. Rinse with clear water.

**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.**

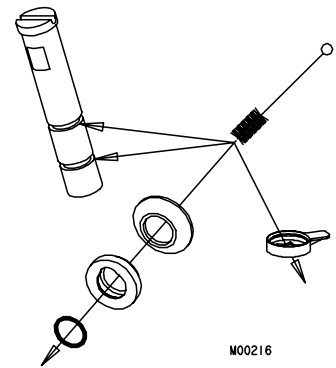


Figure 6-6 Clean O-ring grooves, seal and nozzle with brush.

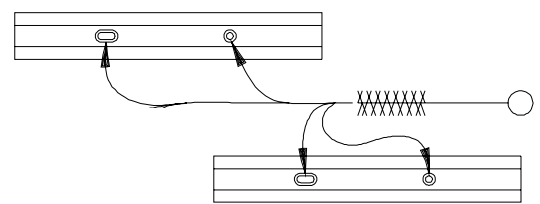


Figure 6-7 Clean beater shaft pin holes.

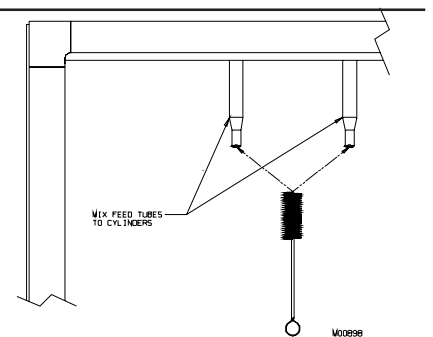


Figure 6-8 Brush inside of cylinder mix feed tubes.

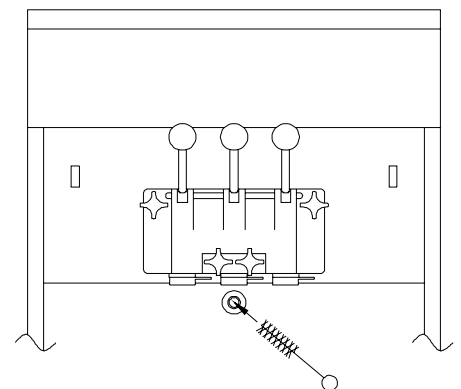


Figure 6-9 Brush inside of drain tube.

7 Assembly

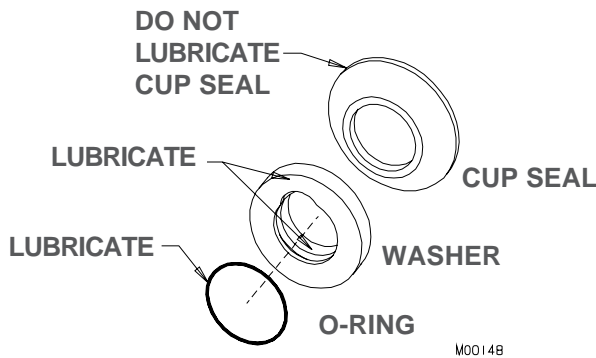


Figure 7-1 Shaft Seal Assembly

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. 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.

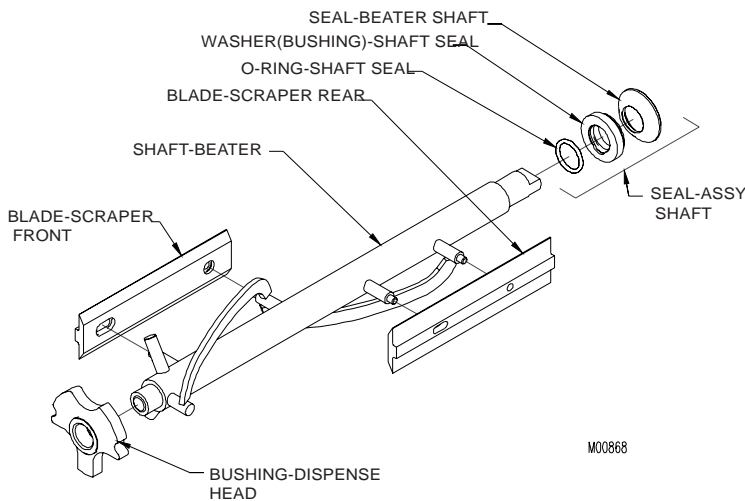


Figure 7-2 Beater Shaft Assembly

1. To assemble the shaft seal, install the cup seal and O-ring on the bushing (see figure 7-1). Apply a light amount of approved sanitary lubricant (such as Petrol-Gel) to the O-ring and the face of the plastic washer opposite the bell portion of the seal. Do not allow any lubricant to come into contact with the bell-shaped rubber portion of the seals.

2. Install the shaft seal over the rear of the beater shaft, with the bell-shaped portion facing the rear as shown in figure 7-2.

3. Place the scraper blades on the beater shaft, making sure the blades are installed properly (see figure 7-3).

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

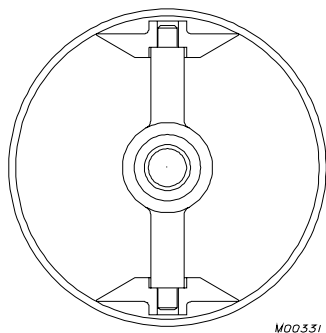


Figure 7-3 Scraper Blade Installation

-continued

7 Assembly (continued)

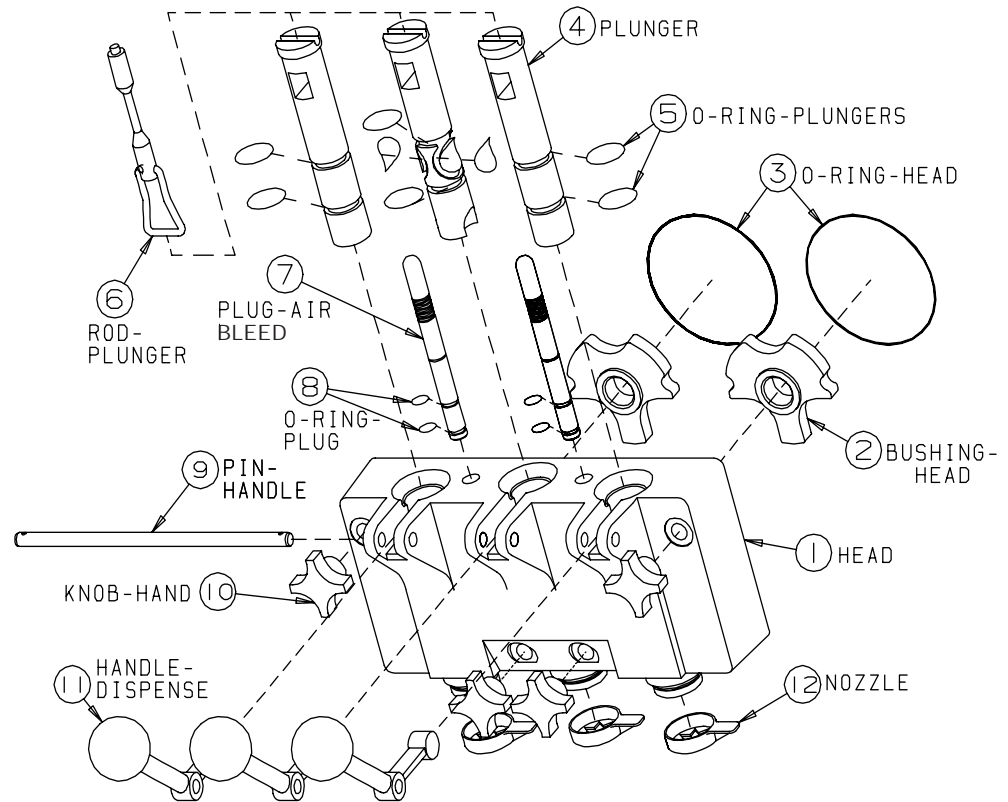


Figure 7-4 Dispense Head Assembly

5. (Refer to figure 7-4.) Install and then lubricate the O-rings on the dispensing plungers and insert all three halfway into the head.

6. Install and then lubricate the 4-inch head O-rings.

7. Position the handle(s) in the head and ensure that the longest handle is in the center plunger. Lock in place with the handle pin.

8. Install and lubricate O-rings on the air bleed plugs. Insert plugs in the head assembly.

9. Lubricate the inside surface of the head bushing and place in the dispense head assembly by rotating until the bushing locks in place.

⇒ **Important:**
ALWAYS make sure the head bushing is positioned in the head properly. Operating the freezer with a missing or badly worn bushing will damage the beater and cylinder.

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

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

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

-continued

7 Assembly (continued)

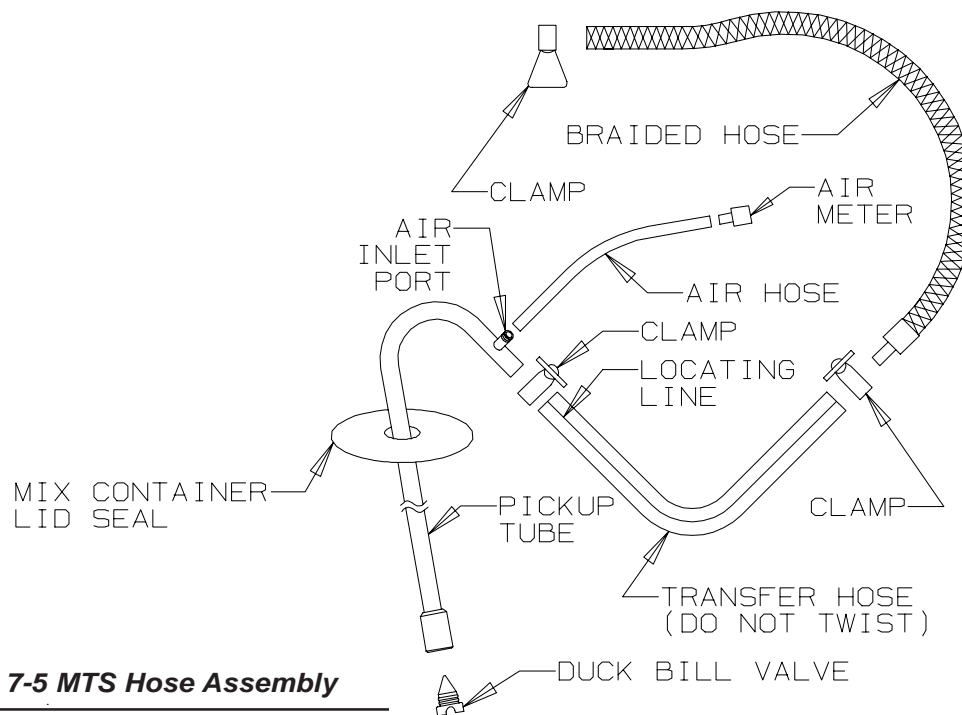


Figure 7-5 MTS Hose Assembly

⇒ **Important:**

Always inspect the transfer hose during assembly for wear. Do not use tools or sharp objects to remove hose.

⇒ **Important:**

Use original Electro Freeze transfer hose only. Your freezer will not operate properly with any other type of hose. Never twist the transfer hose when assembling or installing.

⇒ **Important:**

Replace transfer hose every 30 days.

12. Assemble the MTS hose assembly by sliding the clamp on the transfer hose. Then slide the transfer hose over the pickup tube until it meets the air inlet port. The transfer hose has a locating line. Rotate the hose so that the locating line is to the left of the air inlet port as shown in figure 7-5. Secure the hose with the clamp.

13. Slide a hose clamp over the other end of the transfer hose and connect to the braided hose assembly at the barbed fitting and clamp with the thumb screw end towards you (facing straight out).

14. Slide the air hose over the air inlet port and insert air meter.

15. Install mix container lid seal, flat side first, over the mix pickup tube.

16. Insert the duckbill valve into the bottom of the pickup tube. Push until the two ribs are completely inserted.

17. Refer to figure 7-6. Install the MTS hose assembly by laying the transfer hose in the hose/roller cavity. Always install the left hose assembly first.

18. Place the pickup tube end in the inlet hose guide.

19. Pull the braided hose end of the transfer hose through the outlet hose guide.

-continued

7 Assembly (continued)

⇒ **Important:**

Do not twist the hose assembly while installing.

20. Make sure the pickup tube is completely outside of the inlet hose guide.

21. Check to ensure the transfer hose is straight and centered on the roller assembly by observing the locating line. The line should be in the same position at the inlet and outlet guides, as shown in figure 7-6.

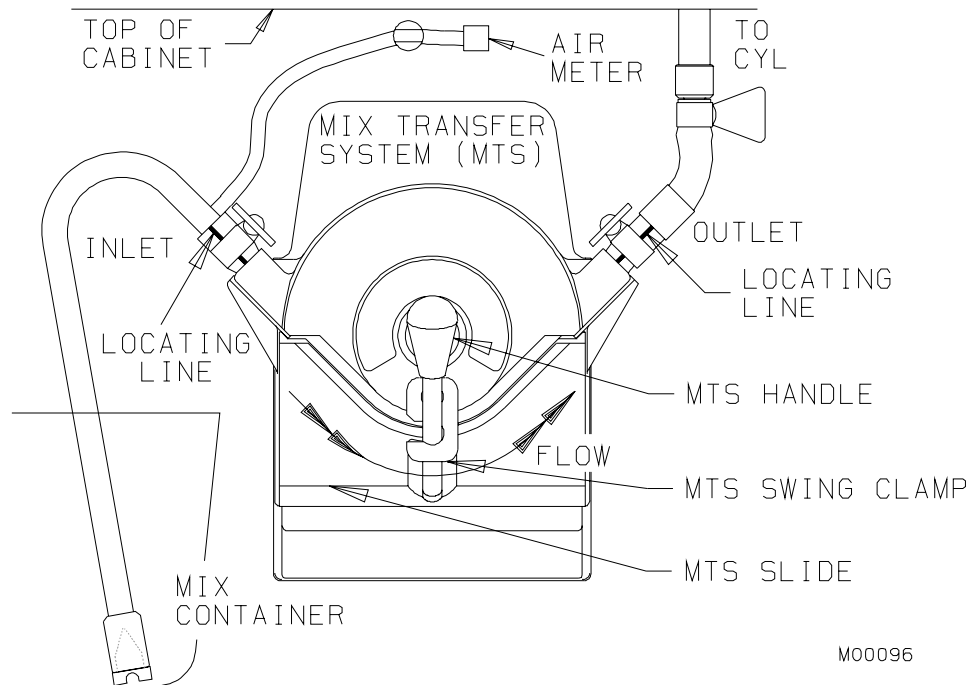
⇒ **Important:**

The MTS will not operate unless the handle is in the closed and locked position.

22. Push handle upward and lock in place with the swing lock.

23. Slide the braided hose over the mix inlet tube and tighten the clamp. Make sure hose is not twisted.

24. Insert the air tube into the support in the back of the cabinet.



M00096

Figure 7-6 MTS

8 Start-up Instructions



CAUTION

Mix Transfer System will be pressurized during operation. Make sure all components and fasteners are secure before start-up.

8.1 Sanitizing Instructions

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



CAUTION

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

⇒ **Important:**

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

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

1. Wash and sanitize your hands and forearms.
2. Prepare 2 gallons (7.5 liters) of sanitizing solution in each mix container.

Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM available chlorine solution (example: Stera-Sheen Green Label). Use warm water (100-110°F or 37-43°C) to wash, rinse, and sanitize.

3. Clean the interior mix container walls, the underside of the container covers, and low mix probes (see figure 8-1 probe assembly) with sanitizer solution and the appropriate brush provided.

4. Place the mix containers with sanitizer in the refrigerated cabinet.

⇒ **Important:**

Never let the sanitizer remain in the freezer for longer than 15 minutes.

5. Insert the pickup tubes into the sanitizer solution and sanitize the outside portion. If plastic mix bag systems are used, be sure all adaptors and items that will come into contact with mix are sanitized.

6. Place an empty container under the dispensing head.

7. Open the air bleed plugs by pulling up until the plugs touch the bottom of the switch box.

8. Reconnect the main power supply to the freezer. Turn the MTS switches to "ON". This will push the sanitizer up into the cylinders.

9. When sanitizer flows out the bottom of the dispense head, close the air bleed plugs.

— continued

8.1 Sanitizing Instructions

⇒ **Important:**

DO NOT use the "AUTO" position with sanitizer in the cylinder. The freezer will be damaged.

9. Turn both SELECTOR switches to "CLEAN" and allow the beaters to run for 5 minutes. Check for leaks around the head, drain tube, clamps and MTS during this 5 minutes.

10. Drain the solution from the cylinders by slowly pulling down on the dispense handles.

NOTE: Some sanitizer will remain in hoses and cylinders.

11. Leave the handles down, and turn the SELECTOR switches to "OFF". Let the MTS force all possible sanitizer out of the freezing cylinders.

12. Turn the MTS switches to "OFF".

13. Remove the pickup tubes, holding the top 6-inch portion only.

14. Remove the mix containers and empty any remaining sanitizer.

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.

1. Holding the top 6-inch portion only, insert the pickup tubes into the sanitized mix container through the small hole in the rear cover and set containers in the cabinet.

2. Fill the mix containers with mix and install the front covers.

3. Insert the sanitized mix probes through the large hole in the rear cover, and connect the probe cords to the probes and to the back of the cabinet.

4. Turn the cabinet switch to "ON" and close the cabinet door.

5. Place an empty container under the dispensing head on the drip tray.

6. Open the plungers and air bleed plugs.

7. Turn the MTS switches to "ON" and allow the mix to push the remaining sanitizer from the freezer.

8. Close the plungers when pure mix is being expelled.

⇒ **Important:**

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

9. When pure mix is coming out of the air bleed plug openings in the bottom of the head, close the air bleed plugs. Wait for the MTS to fill the cylinders and shut off.

10. After the cylinders are pressurized and the MTS has cycled off (approximately 30 seconds) turn both DAY/NIGHT switches to "DAY" and both SELECTOR switches to "AUTO."

11. Allow the freezer to cycle for 15 minutes. Sanitize the nozzles and install on the head. The product is now ready to serve.

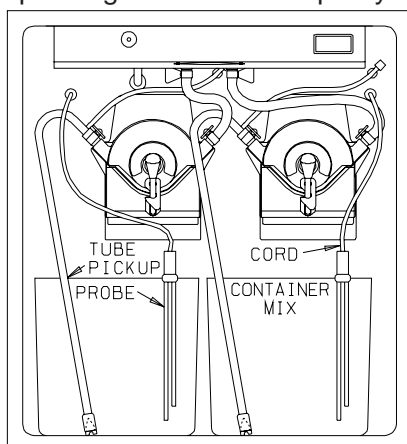


Figure 8-1

M00053

9 Closing Procedures

9.1 Night Switch Operation

1. In areas where health codes will allow, the freezer may be switched to night operation that will allow the freezer to cycle all night and maintain approximately 38°F (3°C) or lower product in the cylinders and cabinet.

2. To switch the freezer to the night mode, leave the SELECTOR switches on "AUTO" and the cabinet switch "ON".

3. Turn the MTS switches to the "OFF" position.

4. Turn the DAY/NIGHT switches to

"NIGHT" and let the machine cycle.

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

6. To start the machine after using the NIGHT mode, turn the DAY/NIGHT switches to "DAY" and the MTS switches to "ON". Before replacing sanitized nozzles use sanitizing solution in wash bottle and brush to clean the bottom of the plunger openings.

9.2 Draining Product

To remove frozen product from the cylinders:

1. Place the SELECTOR switches in the "CLEAN" position and the MTS switches in the "ON" position.

2. Let the beater shafts run for 5 minutes. This will allow the product in the cylinders to soften.

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

4. Remove the stainless steel pickup tubes from the mix. Remove the mix containers and disconnect the low mix cords.

5. Very slowly dispense the semi-frozen product until it quits dispensing.

6. Close plungers and turn MTS switches and the cabinet switch to "OFF". Place the pickup tubes into a container of cold water, turn MTS switches to "ON," and allow the MTS to fill and pressurize the cylinders with water.

7. Very slowly dispense the cold water. Follow with a container of warm water (100-110°F or 37-43°C) and repeat until the dispensed water is clear. Turn all switches to "OFF" and drain all water from the cylinders.

8. Prepare 2 gallons (7.5 liters) of sanitizing solution for each cylinder. Sanitizing solution must be mixed according to

manufacturer's instructions to yield 100 ppm available chlorine solution (example: Stera-Sheen Green Label).

9. Insert the pickup tubes into the sanitizer solution and close the plungers.

10. Open the air bleed plugs by pulling up until the plugs touch the bottom of the switch box. Set the MTS switches to the "ON" position. When sanitizer solution flows out the bottom of the head, close the plugs and allow cylinders to pressurize.

11. Place the selector switches in the "CLEAN" position and allow the beaters to run for 10 minutes.

12. Slowly open the plungers and allow the MTS to push the sanitizer out of the cylinders. Leaving the plungers open, turn the selector switches to "OFF". Allow the MTS to push all remaining sanitizer out of the cylinders. When the sanitizer quits flowing, turn the MTS switches to "OFF".

13. Remove pickup tubes from sanitizing solution.

14. Refer to Section 6, Disassembly and Cleaning.



CAUTION

Make sure the freezer is depressurized before proceeding.

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 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 container from scale and fill with liquid product to the top. Weigh container and record.

c. Replace liquid product with frozen product, being sure to leave 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 below:

| | | |
|---|---|----------------------|
| Weight of pint of liquid mix | = | 18 oz. |
| Weight of pint of frozen product | = | <u>12 oz.</u> |
| Difference | = | 6 oz. |
| 6 oz. divided by 12 oz. | = | .5 |
| .5 x 100 = 50% overrun | | |

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

10.2 Overrun Adjustment

NOTE: Each person who operates the freezer should know what overrun is and how to calculate it.

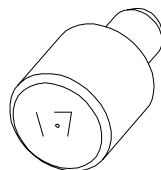
Overrun is regulated by the air meter. You were supplied with four air meters per side, each having a different size orifice. The smaller the hole and number, the lower the overrun. The larger the hole and number, the higher the overrun. Each half-size change of the air meter number will change the overrun 3 to 5%. Each full size change of the air meter number will change the overrun 8-10%. The orifice in this air meter must be open at all times. It is the only source of air into the freezing cylinder. Check this

daily!

The mix will be a factor in determining the amount of overrun you will be able to achieve. Some mixes will accept more air than others, thus affecting the size of air meter you can use. Test to see which air meter will give you the best overrun and the best product. Run each air meter for a few hours until you decide.

You may have a slightly higher overrun when you first start up the machine. After the machine has run long enough to dispense at least one full cylinder of product, you will have the overrun that the machine will hold the remainder of the day. Contact your mix supplier for the recommended amount of overrun for each product used.

Figure 10-1 Air Meter



11 Routine Maintenance

Electro Freeze recommends the following schedule to help maintain your Model 30T-CMT Soft Serve Twist 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, and air-dry 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, cylinder inlet tubes and drain tube with the appropriate brushes.
3. When cleaning, inspect all O-rings, seals and hoses. Replace any O-ring, seal or hose 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.



AS NEEDED

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. Clean the Mix Transfer System:

Important:

If the transfer hose is assembled improperly or replacement has been neglected, it may be necessary to clean mix from the MTS due to hose failure.

If this happens frequently the MTS should be removed for complete cleaning.

— continued

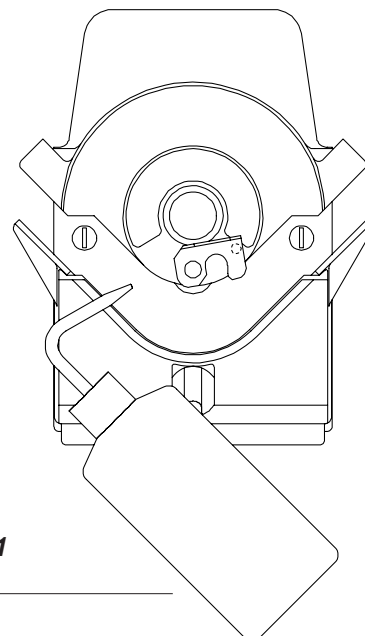


Figure 11-1

11 Routine Maintenance (continued)

AS NEEDED (continued)



CAUTION
Make sure the freezer is depressurized before proceeding.



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.

- a. Unlock the MTS handle and pull down to open housing and gain access to hose cavity.
 - b. Remove mix transfer hose assembly.
 - c. Lay a towel on the cabinet base below the MTS.
 - d. Using the spray bottle supplied, flush the hose cavity and roller assembly.
 - e. Wipe all surfaces with a clean dry cloth.
2. To disassemble and clean the mix transfer system:



CAUTION
Make sure freezer is depressurized before proceeding.

- a. Unlock the MTS handle and pull down to open housing and gain access to the hose cavity.

- b. Remove mix transfer hose assembly.
- c. Remove the two mounting screws located inside the hose cavity (see figure 11-2).
- d. Remove MTS from the cabinet wall by pulling straight out.

Important:
Make sure wavy washer stays on the motor shaft in the cabinet wall.

- e. Clean the MTS under warm running water with the brush provided.

Important:
Do not submerge MTS in water or put it in dishwasher.

3. To reassemble and sanitize the mix transfer system:
 - a. Install the MTS on the cabinet wall by aligning the coupling and the motor shaft
 - b. Turn the roller assembly while pushing MTS back until completely engaged.
 - c. Install two mounting screws.
 - d. Proceed to assembly, start-up and sanitizing instructions.

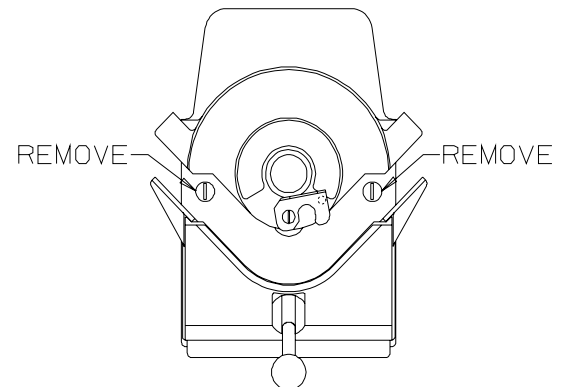
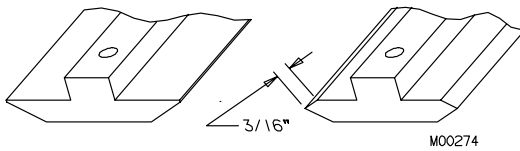


Figure 11-2

11 Routine Maintenance (continued)

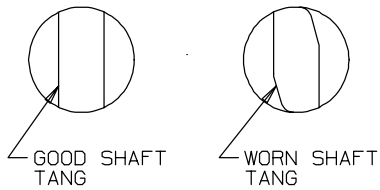
WEEKLY

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



Replace blades if worn 3/16" or more.

3. Check the beater shanks and drive coupling for wear.



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

11 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.



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

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

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.

B. Water Condenser.

Check the outlet water temperature of water-cooled condensers at the floor drain. Ideal water temperatures should be about 95°F (35°C) with a 70°F (21.1°C) water inlet temperature.

C. Test MTS Slide Switch.

The MTS slide switch feature is designed to prevent the MTS gear motor 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:



CAUTION
Make sure system is depressurized before proceeding.

1. Be sure all switches are in the "OFF" position.
2. Pull down MTS handle to open the housing.
3. Turn MTS switch to "ON".



CAUTION
DO NOT place hands near the MTS rollers. Severe personal injury could result.

— continued

11 Routine Maintenance (continued)

MONTHLY— continued

C. MTS Slide Switch - continued

4. Look up inside the hose cavity from below. The MTS rollers should **NOT** be rotating. If they are rotating, discontinue use until repairs can be made.

5. If there is no movement, slowly raise handle and listen for the gear motor to turn on. The slide should be almost completely closed when gear motor turns on. **DO NOT** insert fingers or objects into roller cavity during this test. If the MTS does not operate as described here, or you are unable to determine if the MTS is operating properly, turn the switches 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 corrected.

D. Replace the Mix Transfer Hose



CAUTION
Make sure the freezer is depressurized before proceeding.



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.

11 Routine Maintenance (continued)

QUARTERLY

A. Air Condenser.

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

Have air-cooled condenser fins cleaned by your Electro Freeze Distributor.

B. Refrigeration System

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

SEMI-ANNUALLY

1. 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 source is disconnected. Some freezers have more than one disconnect switch.



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



11 Routine Maintenance (continued)

Winter Storage

To protect the unit during seasonal shutdown, it is important to store the 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 air dry all parts thoroughly.
3. Store the loose parts, such as the head assembly, beater assembly and MTS 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 by an authorized service technician.

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 cooling system. Call your Electro Freeze Distributor for service.

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

USE ONLY ORIGINAL OR AUTHORIZED REPLACEMENT PARTS WITH THIS FREEZER.

(See your Illustrated Replacement Parts Manual)

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

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


| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| <p>Unit does not operate.</p>  | 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. Check fuse or breaker size. Contact your Electro Freeze Distributor to check for low voltage. |
| | 3. Beater motor out on overload. | 3. Press overload reset button. Contact your Electro Freeze Distributor to check for low voltage. Check product temperature and overrun. (Note: cabinet will cool) |
| | 4. Off on high pressure cut out control. | 4. Refer to Troubleshooting Table - Compressor/Condensing Circuit - 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. |

| | | |
|--|--|---|
| <p>Dispensed product too soft (Product temperature above 19°F [-7°C])</p>  | 1. Dirty or blocked condenser, restricted air flow. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Thermostat set too high or faulty. | 2. Contact your Electro Freeze Distributor for service. |
| | 3. Component failure. | 3. Contact your Electro Freeze Distributor for service. |
| | 4. Leak in refrigeration system resulting in little or no refrigeration. | 4. Contact your Electro Freeze Distributor for service. |


12 Troubleshooting Tables

| PROBLEM | PROBABLE CAUSE | REMEDY |
|--|--|---|
| Product dispenses slowly out dispensing head.  | 1. M.T.S. pressure too low. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Product too cold. | 2. Check product temperature; should be about 18°F (-7.8°C). See Machine Runs Continuously And Product Gets Too Cold. |
| | 3. Low overrun. | 3. Check air meter. If plugged, clean. See M.T.S. Troubleshooting Table - No Air. |
| | 4. M.T.S. problem. | 4. See M.T.S. Troubleshooting Tables. |
| | 5. Reverse rotation on beater. | 5. Have an electrician correct rotation to clockwise as viewed from the front of freezer. |
| Machine runs continuously 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. |
| | 3. Faulty thermostat or bulb not deep enough in well. | 3. Contact your Electro Freeze Distributor for service. |
| | 4. Starter or relay contact points stuck. | 4. Contact your Electro Freeze Distributor for service. |
| | 5. Faulty time delay. | 5. Contact your Electro Freeze Distributor for service. |
| | 6. Suction pressure too low. | 6. Contact your Electro Freeze Distributor for service. |
| | 7. Faulty control relay | 7. 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. |
| Mix leaking at dispensing head.  | 1. Faulty head o-ring. | 1. Replace o-ring. |
| | 2. Head not properly installed. | 2. Install head properly. Replace o-ring if pinched. |

12 Troubleshooting Tables

| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|--|---|
| Dispensed product too hard. | 1. Cylinder thermostat erratic or set too cold. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Low overrun. | 2. Check overrun, if low see M.T.S. Troubleshooting Table. No air. |
| | 3. Plunger switch electrically or mechanically stuck closed. (Unit runs all the time.) | 3. Remove plunger rod. If the freezer shuts off, contact your Electro Freeze Distributor. |
| | 4. Component failure. | 4. Contact your Electro Freeze Distributor for service. |
| | 5. Low suction pressure, refrigeration system. | 5. Contact your Electro Freeze Distributor for service. |
| | 6. Dispense speed set too slow. | 6. Contact your Electro Freeze Distributor for service. |
| Compressor does not operate or operates improperly. | 1. Trouble in compressor condensing circuit. | 1. Contact your Electro Freeze Distributor for service. |
| | 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. |
| 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. Worn out relay contacts. | 5. Contact your Electro Freeze Distributor for service. |
| | 6. Faulty capacitor assembly. (Single phase only). | 6. Contact your Electro Freeze Distributor for service. |
| | 7. Faulty beater motor. | 7. Contact your Electro Freeze Distributor for service. |


12 Troubleshooting Tables

| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|--|--|
| 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. |
| 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. |
| Cabinet too cold (below 35°F [1.7°C]) | 1. Cabinet setting too low. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Defective thermostat. | 2. Contact your Electro Freeze Distributor for service. |
| | 3. Cabinet solenoid stuck open. | 3. Contact your Electro Freeze Distributor for service. |
| | 4. Cabinet expansion valve set too low. | 4. Contact your Electro Freeze Distributor for service. |
| Mix sours in cabinet. | 1. Cabinet thermostat defective, set too warm or turned off. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Cabinet solenoid defective (does not open). | 2. Contact your Electro Freeze Distributor for service. |
| | 3. Cabinet switch defective. | 3. Contact your Electro Freeze Distributor for service. |
| | 4. Door switch defective. | 4. Contact your Electro Freeze Distributor for service. |
| | 5. CAB contactor coil open (mix sours in night mode only). | 5. Contact your Electro Freeze Distributor for service. |

12.1 Compressor/Condensing Circuit Troubleshooting Tables







| 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 turned off or defective water regulating valve. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Restricted water cooled condenser. | 2. Contact your Electro Freeze Distributor for service. |
| | 3. Dirty condenser. | 3. Have condenser cleaned by your Electro Freeze Distributor. |
| | 4. Unit location too warm (air cooled). | 4. Relocate unit away from restriction. Place nothing against the back, sides, or on the top of the unit. |
| | 5. Refrigerant overcharge. | 5. Contact your Electro Freeze Distributor for service. |
| | 6. Air in system. | 6. Contact your Electro Freeze Distributor for service. |
| | 7. Water hose kinked or pinched. (Water cooled freezers only) | 7. Move freezer and adjust hose so it is not pinched or kinked. |

12.1 Compressor/Condensing Circuit Troubleshooting Tables




| PROBLEM | PROBABLE CAUSE | REMEDY |
|--|---|---|
| Leakage of mix or water from drain tube to drip tray.  | 1. Damaged beater shaft seal or installed improperly. | 1. Replace cup seal or o-ring inside bushing. 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. |
| Discharge pressure too low. | 1. Water regulating valve open too wide. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Shortage of refrigerant | 2. Contact your Electro Freeze Distributor for service. |
| Noisy compressor | 1. Tubing rattle. | 1. Contact your Electro Freeze Distributor for service. |
| | 2. Spring broke internally. | 2. Contact your Electro Freeze Distributor for service. |

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

12.2 Mix Transfer System (MTS) Troubleshooting Tables

| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|--|---|
| Mix leaks out of M.T.S.  | 1. Transfer hose worn and split. | 1. Remove, clean inside M.T.S. around rollers with spray bottle provided, install new hose. |
| Mix transfer system (MTS) will not operate.  | 1. MTS cover not properly installed. | 1. Install cover under hose clamps. |
| | 2. Hose not installed properly. | 2. Check position-reinstall. |
| | 3. Cover switch defective. | 3. Contact your Electro Freeze Distributor for service. |
| | 4. MTS relay defective. | 4. Contact your Electro Freeze Distributor for service. |
| | 5. Start capacitor defective or motor start-relay defective. | 5. Contact your Electro Freeze Distributor for service. |
| | 6. Pressure switch defective. | 6. Contact your Electro Freeze Distributor for service. |
| | 7. Motor burned out or tripped overload. | 7. Contact your Electro Freeze Distributor for service. |
| M.T.S. cycles on and off with out dispensing.  | 1. Leak on pressure side of system. | 1. Find leak and correct, check head, drain tube and all hoses. |
| | 2. Worn transfer hose. | 2. Replace hose. |
| M.T.S. will not prime.  | 1. Insufficient supply of mix. | 1. Replenish mix supply. |
| | 2. Air hose or air meter not installed. | 2. Install air hose/air meter. |
| | 3. Hose not installed. | 3. Install hose. |
| Mix pick up tube loses prime.  | 1. Transfer hose worn. | 1. Replace transfer hose. |
| | 2. Defective duckbill check valve. | 2. Replace check valve. |
| No Air (Overrun).  | 1. Air meter plugged. | 1. Clean or replace air meter. |
| | 2. Air tube pinched. | 2. Replace tube. |

12.2 Mix Transfer System (MTS) Troubleshooting Tables

| PROBLEM | PROBABLE CAUSE | REMEDY |
|---|--|---|
| Too much air, overrun too high-popping problems.  | 1. Air meter too large. | 1. Install smaller air meter. |
| | 2. Air leak between pickup tube and hose. | 2. Replace as needed. |
| | 3. Air line hose cracked. | 3. Replace air line hose. |
| | 4. Defective or missing duckbill valve. | 4. Replace valve. |
| MTS will not shut off.  | 1. MTS hose worn out. | 1. Replace hose. |
| | 2. Mix relay defective. | 2. Contact your Electro Freeze Distributor for service. |
| | 3. Pressure switch stuck in closed position. | 3. Contact your Electro Freeze Distributor for service. |
| Mix shoots out air meter.  | 1. Transfer hose worn. | 1. Replace hose. |
| | 2. M.T.S. handle not fully closed. | 2. Close handle and lock in place. |
| | 3. M.T.S. pressure too high. | 3. Contact your Electro Freeze Distributor for service. |



**QUALITY PARTS
PROTECT
YOUR
INVESTMENT**

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

ELECTRO FREEZE®

Replacement Parts Manual with Illustrations

FREEDOM 360°
Series

**Soft Serve Twist Freezer
Model 30T-CMT**

184605-01 - 2/03

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.

Name: _____

Address: _____

Phone: _____

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.

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

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



Phone: (309) 755-4553

FAX: (309) 755-9858

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OTHER LISTS and INFORMATION

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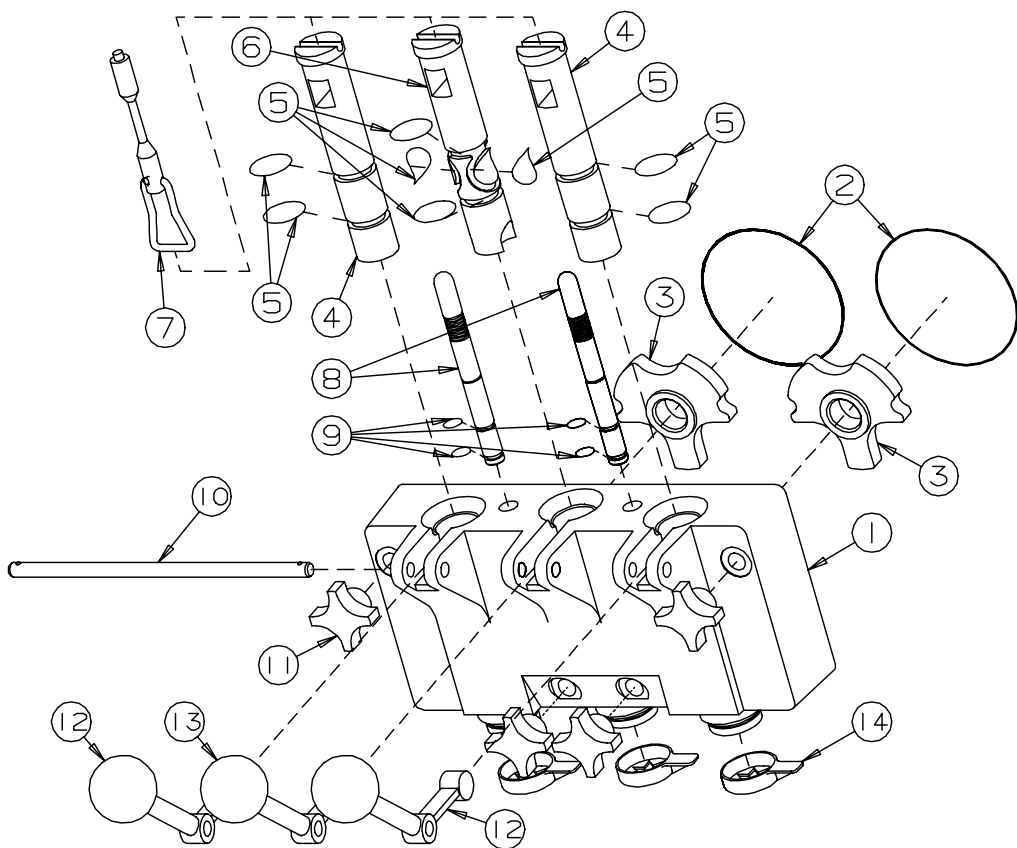
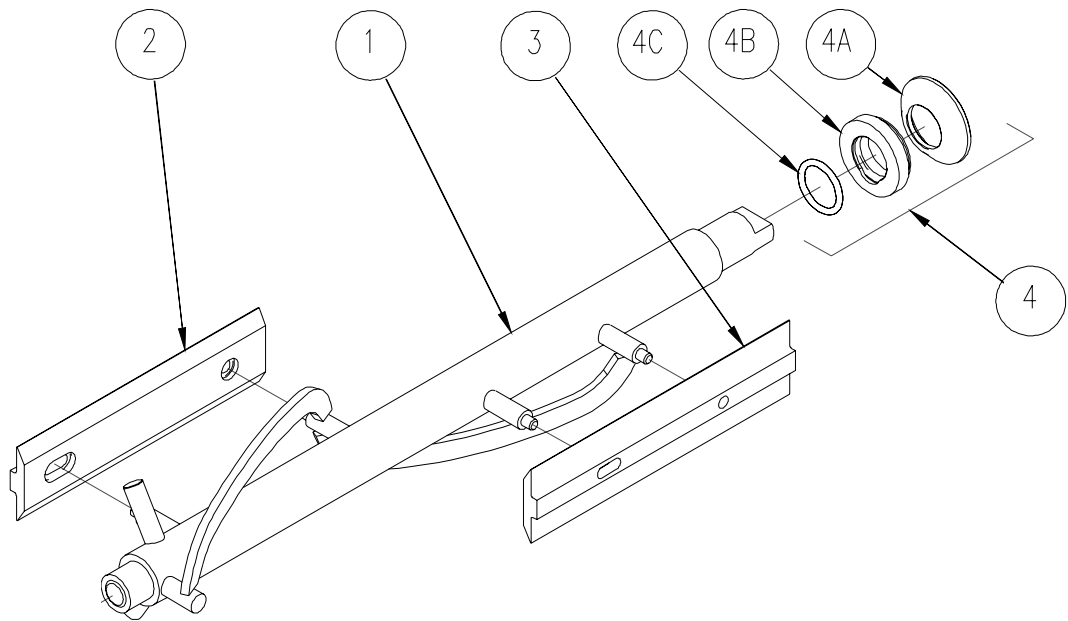


Figure 1 Head Assembly

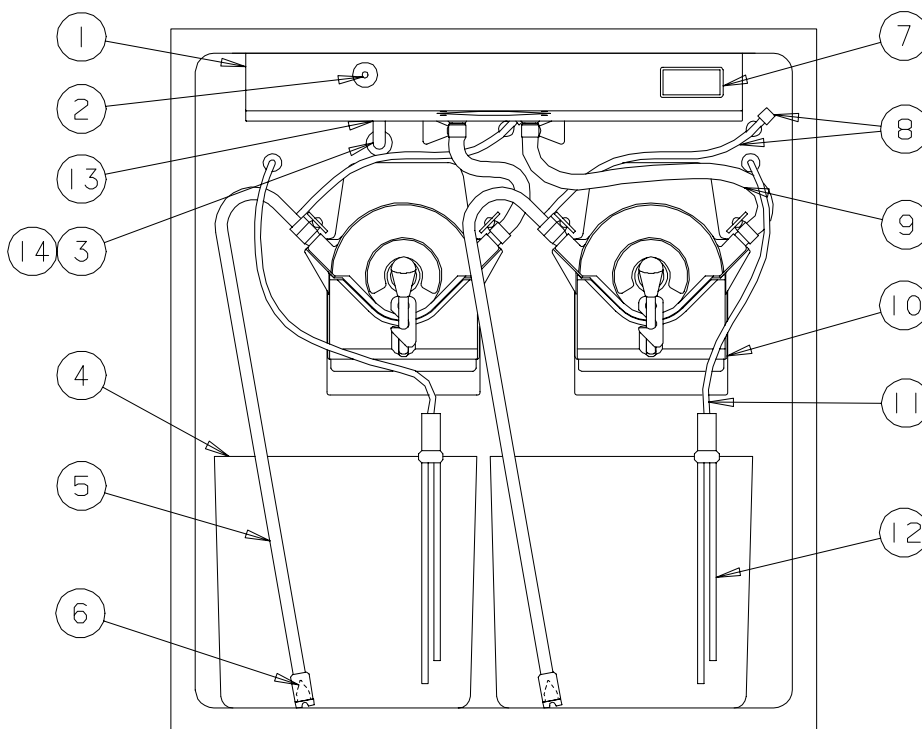
| Item | Part No. | Description |
|---|-----------|--|
| * | 116042 | Head-Assy.Dispense |
| 1 | 116041 | Head-Assy. w/actuators |
| 2 | 159309 | O-Ring (Head) |
| 3 | 138427 | Bushing-Dispense Head |
| 4 | 137174 | Plunger-Side Self Dispense |
| 5 | 160501 | O-Ring (Plunger) |
| 6 | 138009 | Plunger-Dispense Center |
| 7 | 116089 | Push Rod-Assy. Plunger Switch |
| 8 | 138149 | Plug-Air Bleed (Relief) |
| 9 | 160610 | O-Ring (Air Plug) |
| 10 | 160269 | Pin-Handle |
| 11 | 162625 | Knob-Hand |
| 12 | 110007 | Handle-Assy. Dispense (Side) includes 162629 Knob-Ball 3/8-16 THD Black |
| 13 | 114808 | Handle-Assy. Dispense Center includes 162629 Knob-Ball 3/8-16 THD Black |
| 14 | 196185 | Nozzle-Serrated |
| * Includes all items above except #3, 7 and 11. | | |
| | 114341-05 | Stud-Assy. Cylinder (not shown) |
| | 116410 | Kit-Dispense Head Switch (not shown) |



M00867

Figure 2 Beater Shaft Assembly

| Item | Part No. | Description |
|------|----------|-----------------------------|
| 1 | 117079 | Shaft-Assy. Beater |
| 2 | 138830 | Blade-Scraper Front (Short) |
| 3 | 138831 | Blade-Scraper Rear (Long) |
| 4 | 111875 | Seal-Assy. Shaft includes |
| 4A | 160557 | Seal-Beater Shaft (Cup) |
| 4B | 133098 | Washer-Shaft Seal (Bushing) |
| 4C | 160500 | O-ring (Seal) |



M00053

Figure 3 Cabinet Parts

| REF. | PART No. | DESCRIPTION |
|------|-----------|--|
| 1 | 117129-01 | Shroud-Assy. Evaporator includes 150532 Cord-Assy. Male Plug 151105 Fan-Intake 230v 151076 Guard-Fan Open 150509 Switch-Door Push Button 161004 Thermometer-Barrel |
| 1A | 155111 | Coil-Evaporator |
| 1B | 150533 | Cord-Assy. Female Plug |
| 2 | 150509 | Switch-Door Push Button |
| 2A | 118597 | Actuator-Assy. Door Switch |
| 3 | 196068 | Tubing-.375 x .500 OD |
| 4 | 196222 | Container-Mix 7 Gal 13-1/4" |
| 4A | 113997 | Cover-Assy. Mix Tank Front |
| 4B | 138165 | Cover-Rear Mix Tank |
| 4C | 199033 | Boot-Mix Tube (Seal) |
| 5 | 116069 | Tube-Assy. Pickup |
| 5A | 116065 | Clamp-Assy. Soft Hose 5/8 |
| 6 | 199032 | Duckbill-Inlet (Valve) |
| 7 | 161004 | Thermometer-Barrel (Cabinet) |
| 8 | 138170 | Tube-Air (Hose) |
| 8A | | Meter-Air (Order by Meter Number) |
| 9 | 116094 | Hose-Assy. Mix Braided |
| 9A | 138184 | Hose-Transfer Black Line |

| REF. | PART No. | DESCRIPTION |
|------|----------|---|
| 9B | 116065 | Clamp-Assy. Soft Hose 5/8 |
| 10 | | MTS (See Exploded View) |
| 11 | 150537 | Cordset-Mix Level Probe |
| 11A | 150536 | Receptacle-(Molded) Level Sensor |
| 12 | 115397 | Probe-Assy. Mix Level 10-3/4" includes 137120 Base-Probe Mtg. |
| 13 | 160738 | Clamp-Hose (Drain) |
| 14 | 138919 | Tube-Drain Support |

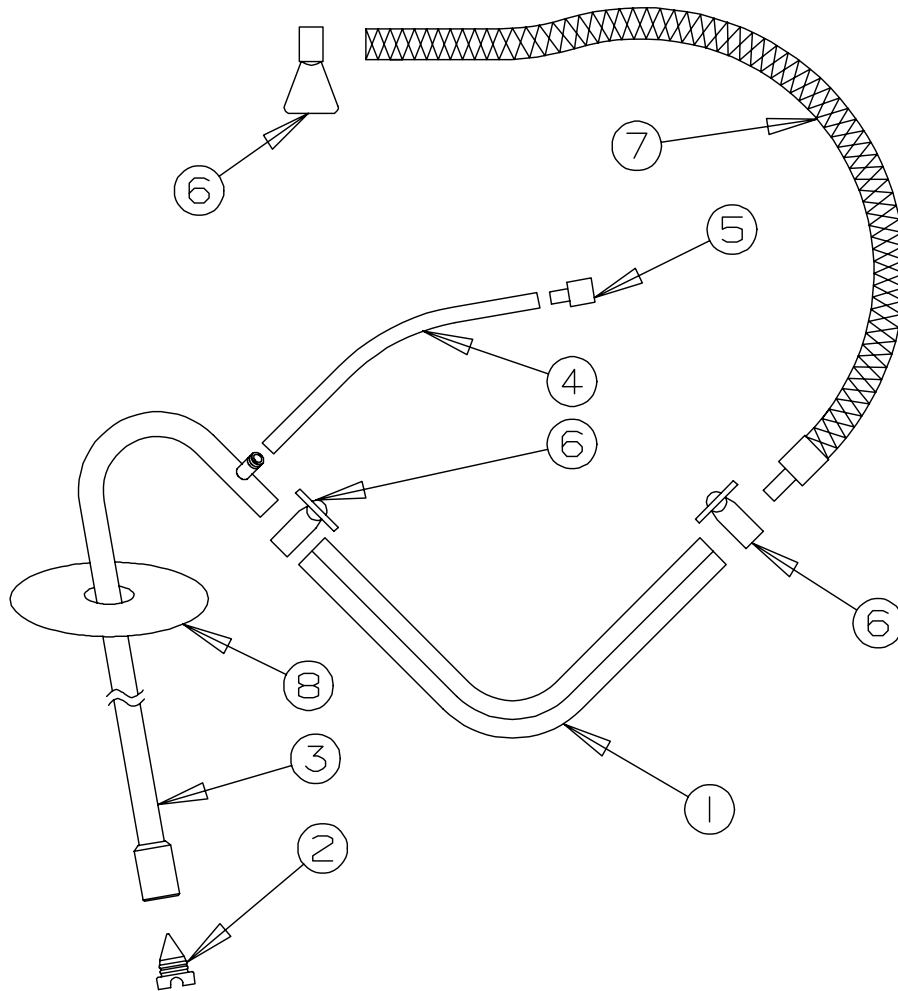


Figure 4 MTS Hose Assembly

| Item | Part No. | Description |
|------|----------|---------------------------|
| 1 | 138184 | Hose-Transfer Black Line |
| 2 | 199032 | Duckbill-Inlet (Valve) |
| 3 | 116069 | Tube-Assy. Pickup |
| 4 | 138170 | Tube-Air (Hose) |
| 5 | * | Meter-Air |
| 6 | 116065 | Clamp-Assy. Soft Hose 5/8 |
| 7 | 116094 | Hose-Assy. Mix Braided |
| 8 | 199033 | Boot-Mix Tube (Seal) |

* Order by meter number.

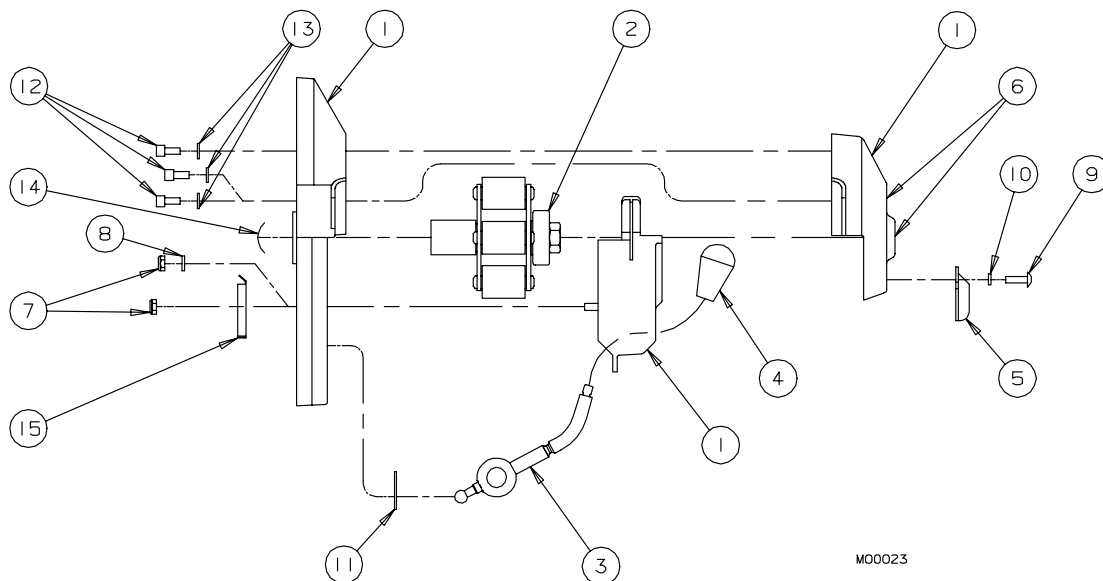


Figure 5 Mix Transfer System

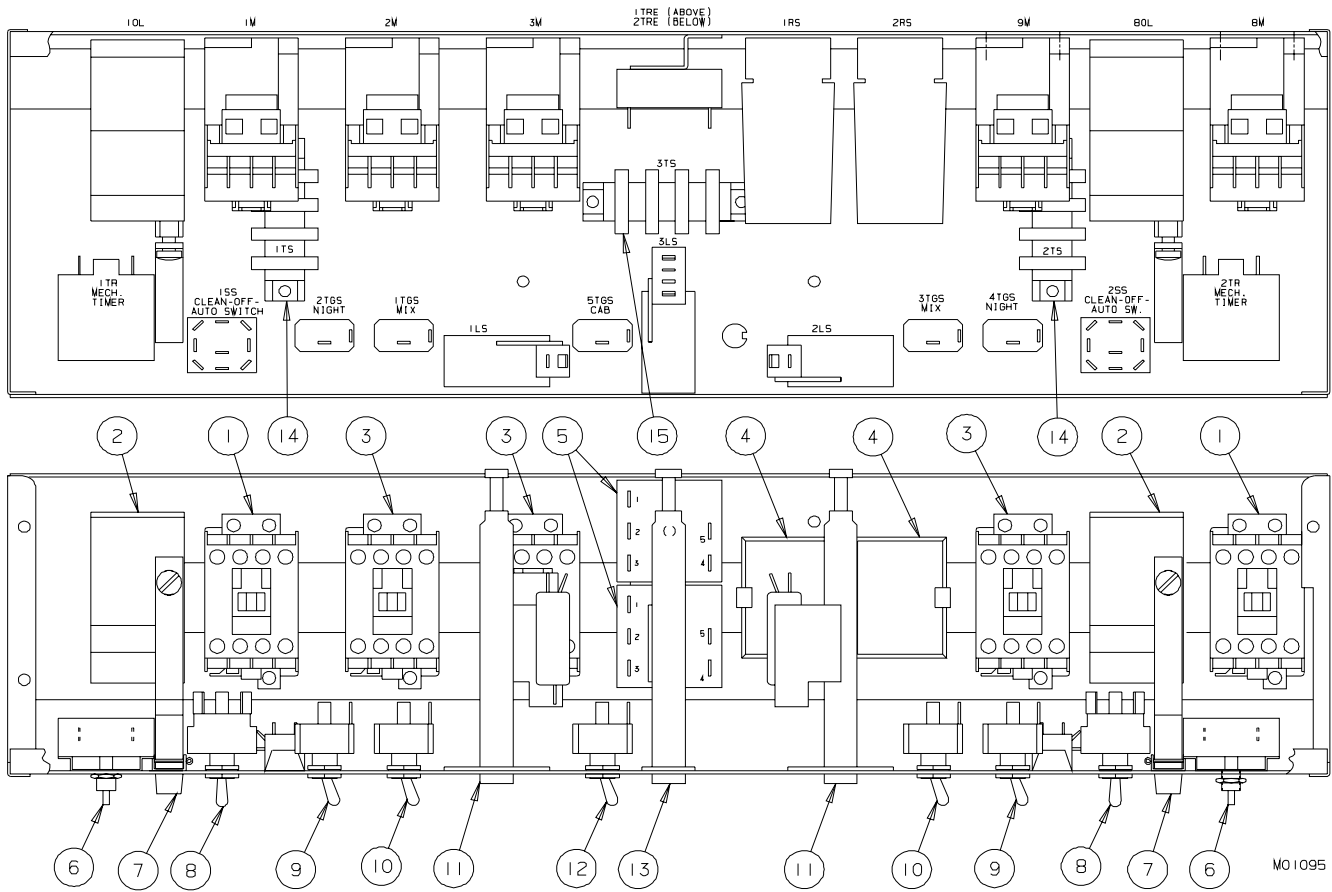
| Item | Part No. | Description |
|------|-----------|---|
| * | 116012 | MTS-Assy. Housing-Complete |
| 1 | 117054 | MTS-Assy. Housing-w/o Roller & Taper Knob |
| 2 | 116009-01 | Kit-Roller Complete |
| 3 | 116164 | Handle-Assy. Round (MTS) |
| 4 | 162627 | Knob-Oval Taper (Handle-MTS) |
| 5 | ** | Hook-Swing (Lock-MTS) |
| 6 | 165018 | Decal-Mix Transfer |
| 7 | 159421 | Nut-EL Stop #10-32 |
| 8 | 160157 | Washer-1/2 x .196 x 1/16 |
| 9 | 160026 | Screw-TRPM #10-32 x 5/8 SST (Swing Lock) |
| 10 | 160158 | Washer-Flat .190 x .365 x .075 SST |
| 11 | 138142 | Plate-Pivot Cover |
| 12 | 160307 | Screw-SKHC #10-32 x 7/16 SST |
| 13 | 159962 | Washer-Flat #10 SST |
| 14 | 160145 | Washer-Curved Spring |
| 15 | 117125 | Actuator-Assy. Slide |

* Includes items 2-5, 7-13, 15.

| | |
|--------|---------------------------------------|
| 159219 | MTS-Mounting Screws (not shown) |
| 151129 | Gearmotor-MTS (not shown) |
| 138369 | Bushing-Alignment (not shown) |
| 116312 | Gauge-Assy. Pressure Test (not shown) |
| 116411 | Kit-MTS Slide Switch (not shown) |

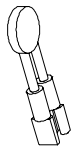
** Order by freezer serial number

Figure 6 Switch Box (Sheet 1 of 2)



M01095

**Detailed Drawings
of
Filter and MOV Assemblies**



Item #16B
MOV-Assy.
116188



Item #16A
Filter-Assy.
116125

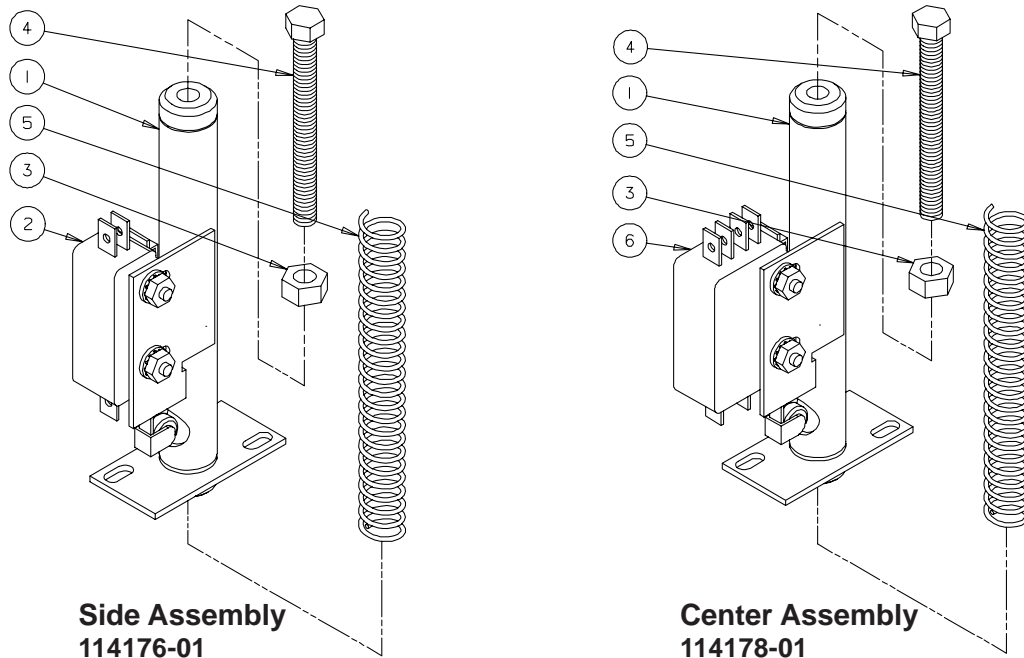
Figure 6 Switch Box (Sheet 2 of 2)

| Item | Part No. | Description |
|------|-----------|---|
| 1 | 150135 | Contactora-IEC (Beater Motor) |
| 1A | 150134 | Coil-Replacement Contactor (not shown) |
| 2 | 118359 | Relay-Assy. Overload 1 Phase 5-15A includes |
| | | 150145 Adaptor-Overload Din Rail |
| | | 150150 Button-Overload Reset Adaptor |
| | | 150140 Relay-SS Overload 1ph 5-15A |
| | 118361 | Relay-Assy. Overload 3 Phase 3.7-12A includes |
| | | 150145 Adaptor-Overload Din Rail |
| | | 150150 Button-Overload Reset Adaptor |
| | | 150142 Relay-SS Overload 3ph 3.7-12A |
| 3 | 150135 | Contactora-IEC (Compressors & Fan) |
| 3A | 150134 | Coil-Replacement (Contactora)(not shown) |
| 4 | 150202 | Indicator-Mix Level |
| 4A | 150540 | Light-Indicator (not shown) |
| 4B | 150119 | Socket-Octal |
| 4C | 150120 | Clip-Retainer |
| 5 | 150208 | Timer-12 Sec. Delay on Break |
| 6 | 150218 | Timer-5 Minute |
| 6A | 162604 | Knob-Timer |
| 7 | 118390 | Lever-Reset & Button includes |
| | | 159036 Button-Reset |
| 8 | 150465 | Switch-Toggle 3PDT Center OFF (Selector) |
| 8A | 116125 | Filter-Assy. (L.H.) (See detailed drawing) |
| 9 | 159235 | Switch-Toggle SPST (DAY/NIGHT) |
| 10 | 159235 | Switch-Toggle SPST (Mix Transfer System) |
| 11 | 114176-01 | Switch-Assy. Self Closing Plunger (Sides) includes |
| | | 150477 Switch-Roller Actuator SPDT |
| | | 162323 Spring-Compression |
| 12 | 159235 | Switch-Toggle SPST (Cabinet) |
| 13 | 114178-01 | Switch-Assy. Self Closing Plunger (Center) includes |
| | | 150478 Switch-Roller Actuator DPDT |
| | | 162323 Spring-Compression |
| 14 | 150795 | Strip-Terminal |
| 14A | 116188 | M.O.V.-Assy (See detailed drawing) |
| 15 | 150795 | Strip-Terminal |

L.H. = Left hand side of freezer when facing front.

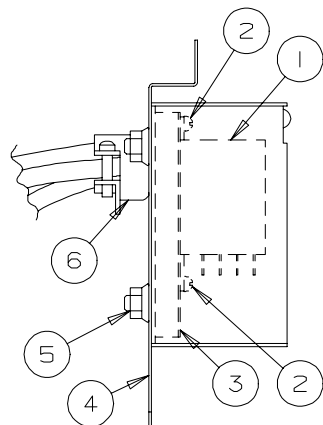
R.H. = Right hand side of freezer when facing front.

Figure 7 Switch Assemblies



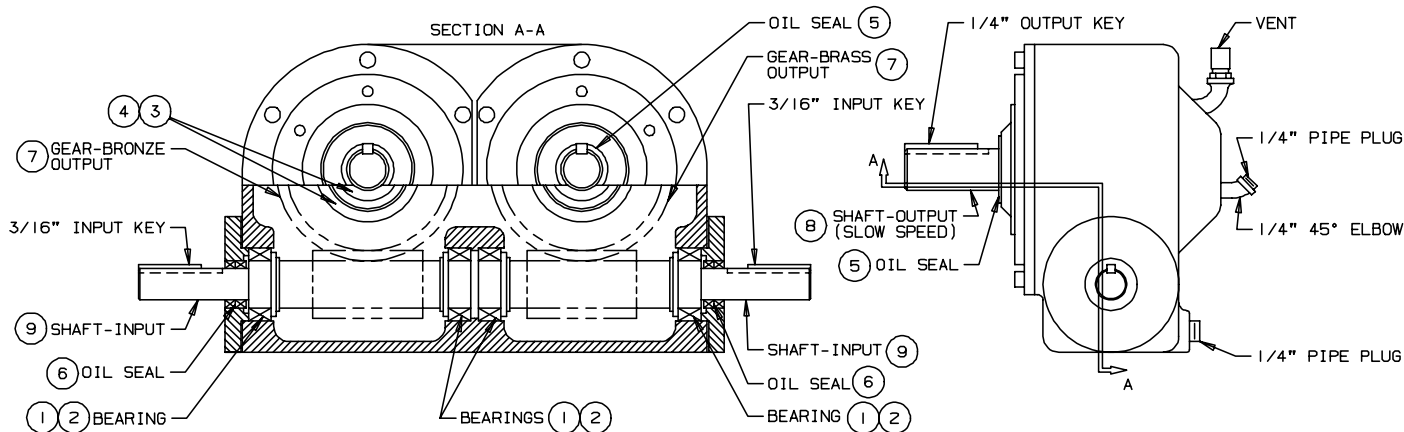
| Item | Part No. | Description |
|--------------------------|-----------|--|
| * | 114176-01 | Switch-Assy. Self Closing Plunger (Sides) |
| ** | 114178-01 | Switch-Assy. Self Closing Plunger (Center) |
| 1 | 114174 | Guide-Assy. Push Rod |
| 2 | 150477 | Switch-Roller Actuator SPDT (Sides) |
| 3 | 160104 | Nut-HEX 1/4-20 ZN |
| 4 | 159965 | Screw-HSHM 1/4-20 x 2-1/2" ZN |
| 5 | 162323 | Spring-Compression |
| 6 | 150478 | Switch-Roller Actuator DPDT (Center) |
| * Includes items 1-5 | | |
| ** Includes items 1, 3-6 | | |

Figure 8 Relay Box — MTS



| Item | Part No. | Description |
|-------------------------------|----------|----------------------------|
| * | 119208 | Box-Assy. Relay |
| 1 | 150381 | Relay-Flange Base w/Cover |
| 2 | 160308 | Screw-RDHM #6-32 x 5/16 ZN |
| 2A | 160116 | Nut-Speed #6-32 BKOX |
| 3 | 138159 | Bracket-Flange Relay Mtg. |
| 4 | 139805 | Support-MTS |
| 5 | 159950 | Screw-HXSF 1/4-20 x 1/2 ZN |
| 5A | 159951 | Nut-HXSF 1/4-20 ZN |
| 6 | 150828 | Connector-1/2 |
| * Includes items 1 through 6. | | |

Figure 9 Gear Reducers



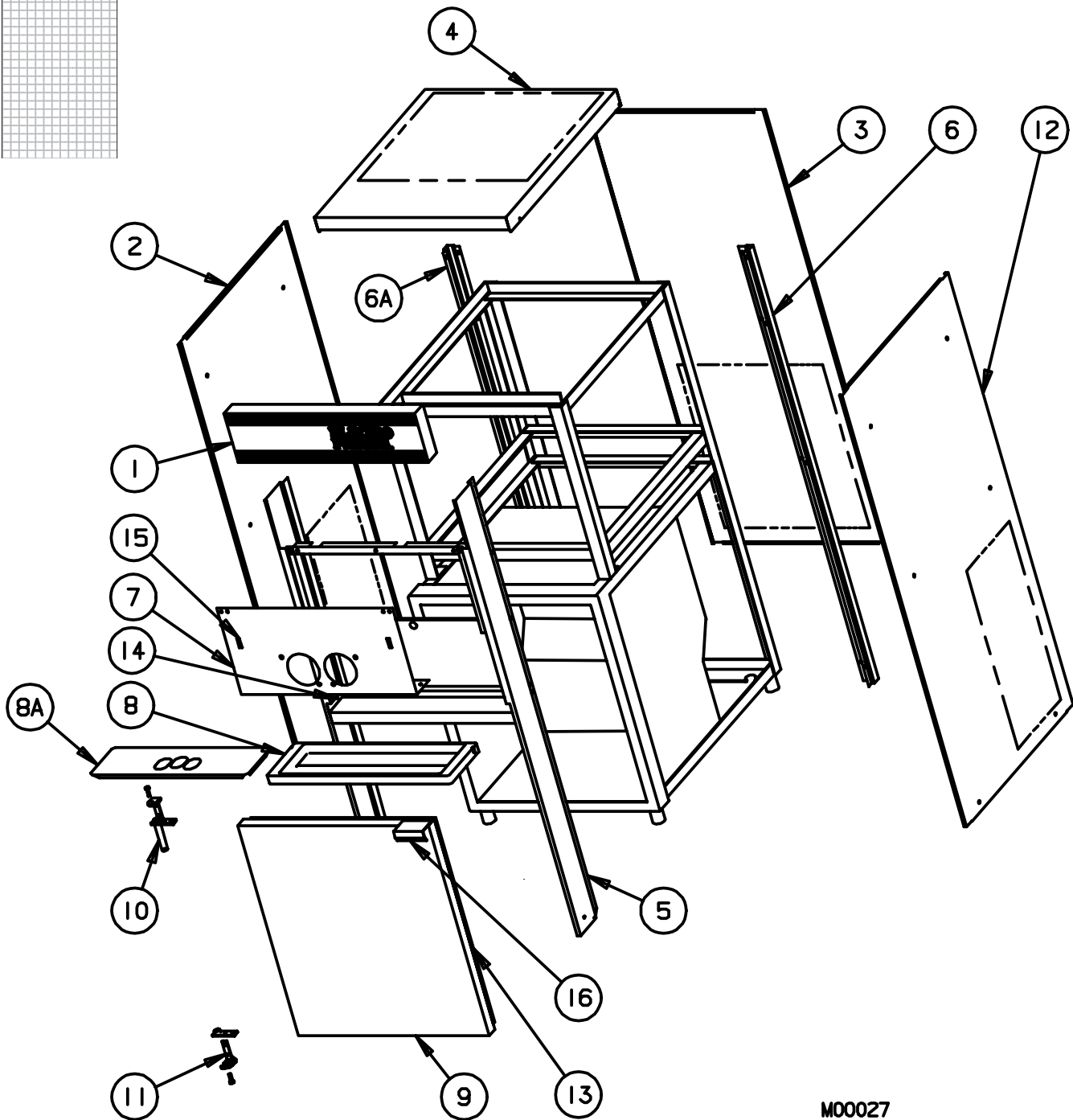
M00057

(Order by freezer serial number)
Model — Wintwin

153341 Wintwin 10 - 1 Ratio A and B Side

| Ref | P/N | Description |
|-----|--------|--|
| 1 | 153014 | Bearing-High Speed Cup 3/4" 2 ea. req. per side |
| 2 | 153015 | Bearing-High Speed Cone 3/4" 2 ea. req. per side |
| 3 | 153011 | Bearing-Slow Speed Cup 1" 2 ea. req. per side |
| 4 | 153012 | Bearing-Slow Speed Cone 1" 2 ea. req. per side |
| 5 | 153051 | Seal-Oil 63 x 291 (Slow Speed) 2 ea. req. per side |
| 6 | 153053 | Seal-Oil 63 x 141 (High Speed) 2 ea. req. per side |
| 7 | 153349 | Gear-Bronze 1 ea. req. per side |
| 8 | 153350 | Shaft-Slow Speed 1 ea. req. per side |
| | 153000 | Gear-Assy. Output (Slow Speed) |
| 9 | 153348 | Shaft-Input (High Speed) 1 ea. req. per side |
| 10 | 114874 | Kit-Reducer Gasket 1 ea. req. per side |
| 11 | 111964 | Coupling-Assy. 1 inch Drive |
| | 158055 | Oil-Special Gear Lube (Per Quart) |
| | 153322 | Key-3/16" x 1-1/2" High (in) |
| | 153323 | Key-1/4" x 1-1/2" Slow (out) |

Figure 10 Panel Assembly (Sheet 1 of 2)



M00027

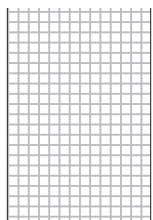


Figure 10 Panel Assembly (Sheet 2 of 2)

| Item | Part No. | Description |
|------|-----------|---|
| 1 | 115292-03 | Trimstrip-Assy. EF Decal 26" includes 165188-01 Decal-Trimstrip EF Logo 26" 165191 Decal-Freedom 360° |
| 2 | 136289-C | Panel-Side LH |
| 3 | 136313-C | Panel-Rear (Air Cooled and Water Cooled) |
| | 138982 | Panel-Upper Rear (Air Cooled Remote) |
| | 138983 | Panel-Lower Rear (Air Cooled Remote) |
| 4 | 116567-C | Panel-Assy. Top (Air Cooled) |
| | 114157-C | Panel-Assy. Top (Water Cooled and Air Cooled Remote) |
| 5 | 113985-C | Panel-Assy. Front |
| 6 | 130021 | Channel-Rear R.H. (Corner) |
| 6A | 135254 | Channel-Rear L.H. (Corner) |
| 7 | 137297-C | Panel-Dispense |
| 8 | 196108 | Tray-Drip 26" Black |
| 8A | 115132 | Insert-Assy. Drip Tray 26" includes 137282 Insert-Drip Tray 199030 Bumper-Rubber |
| 9 | 114260-C | Door-Assy. Complete 26" EF |
| 9A | 118597 | Actuator-Assy. Door Switch (not shown) |
| 10 | 162045 | Hinge-Pivot 1-3/8 Top L.H. includes 162052 Spring-L.H. |
| 11 | 162046 | Hinge-Pivot 1-3/8 Bottom L.H. |
| 12 | 136216-C | Panel-Side-R.H. |
| 13 | 160563 | Gasket-Magnetic Door (V-Groove) |
| 14 | 159175 | Catch-Bullet (Button-Drip Tray) |
| 14A | 160289 | Nut-Push Round (not shown) |
| 15 | 150540 | Light-Indicator ADD MIX |
| 16 | 136199 | Pull-Door (Handle) |

L.H. = Left hand side of freezer when facing front.
R.H. = Right hand side of freezer when facing front.

| Panel Decals | |
|--------------|------------------------|
| Part No. | Description |
| 165119 | 6" Air Flow |
| 165025 | Beater Warning |
| 164113 | Cleaning Instructions |
| 165093 | Clear Overlay |
| 164027 | CMT Connection |
| 165013 | CMT Patent |
| 165191 | Freedom 360° Trimstrip |
| 164020 | MTS Trimstrip LH |
| 164021 | MTS Trimstrip RH |
| 164004-01 | Operating Instructions |
| 165126 | Panel Removal |
| 165124 | Top Air Discharge |
| 165188-01 | Trimstrip EF Logo 26" |
| 165246 | Warning Pressurized |

| Hardware for 30T-CMT Panels | | | | |
|-----------------------------|--------|-----------|--------|--------------------|
| Panel | Screw | Nut-Speed | Spacer | Nut-Speed on Frame |
| Channel-Rear | 160048 | 160117 | n/a | n/a |
| Dispense | 160076 | 159132 | n/a | n/a |
| Front | 160076 | 159132 | n/a | 159067 |
| Rear | 160048 | 160114 | 138456 | n/a |
| Side | 159219 | 160114 | 138456 | n/a |
| Top | 160305 | n/a | n/a | n/a |
| Trimstrip | 160076 | n/a | n/a | n/a |
| n/a - Not Applicable | | | | |

Figure 11 Assembly (sheet 1 of 2)

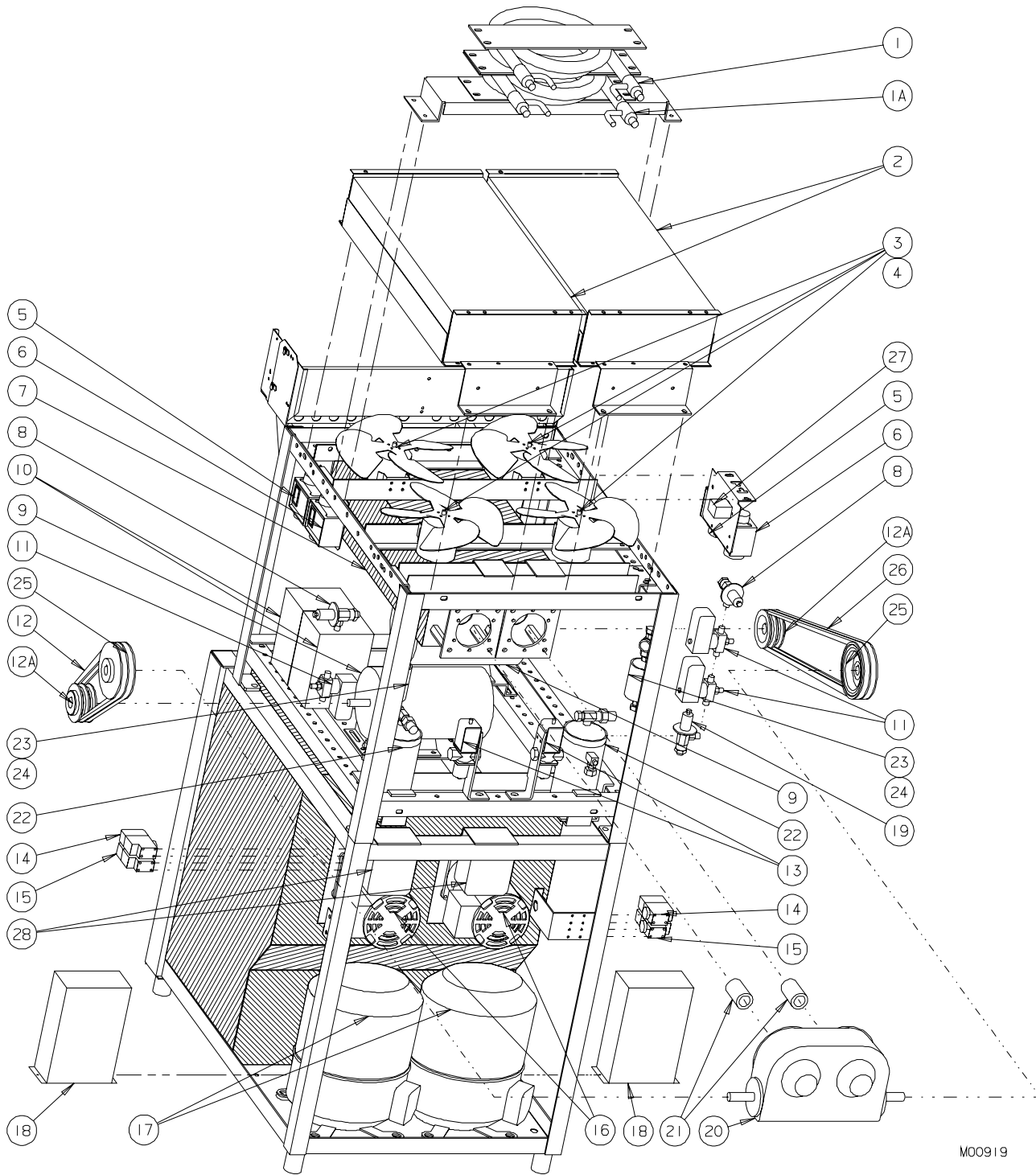
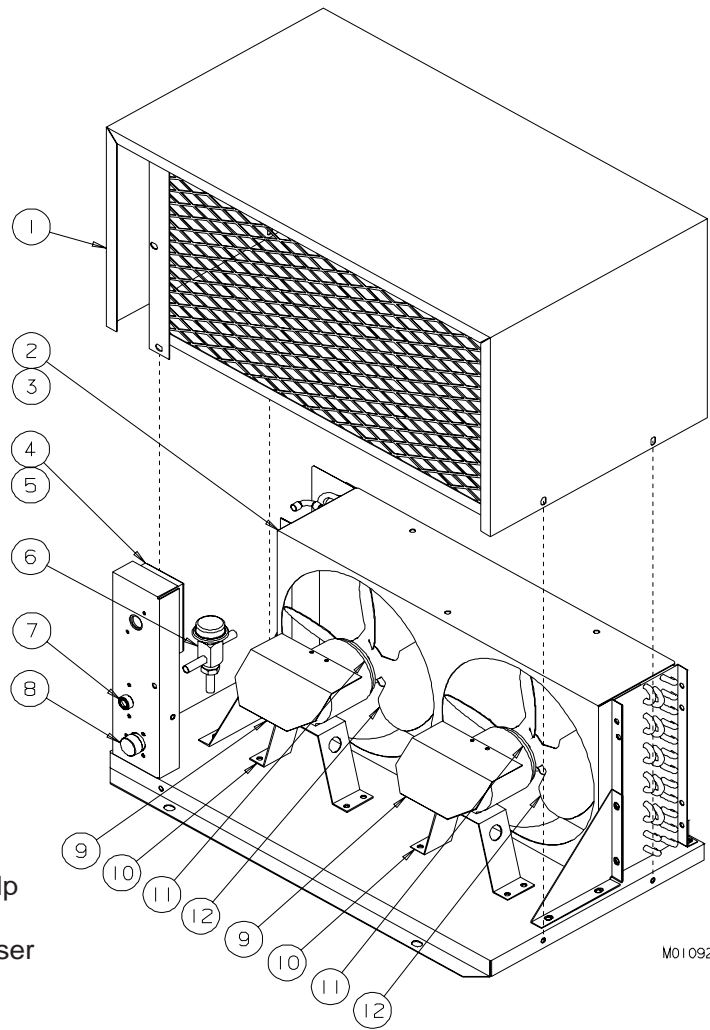


Figure 12 Air Cooled Remote Condenser



M01092

| REF. | PART No. | DESCRIPTION |
|------|-----------|--|
| * | 116781-01 | Condenser-Assy. 2 Hp Remote (Complete) |
| 1 | 117207 | Cover-Assy. Condenser |
| 2 | 155120-C | Condenser-Air |
| 3 | 138465 | Shroud-Fan |
| 4 | 150732 | Box-Electric 2-3/4 x 4-1/2 x 2 |
| 5 | 150737 | Cover-Electric Box 2-3/4 x 4-1/2 |
| 6 | 155454 | Valve-Head Pressure Control |
| 7 | 153420 | Coupling-Refr. 3/8 MQC 3/8 SW |
| 7A | 140039 | Plate-Coupling Mtg. |
| 8 | 153418 | Coupling-Refr. 1/2MQC 1/2 SW |
| 8A | 153502 | Flange-Refr. Coupling Mount 1/2 |
| 8B | 153503 | Cap-Dust Refr. Coupling |
| 9 | 139017 | Shield-Motor Rain |
| 10 | 137632 | Bracket-Fan Condenser |
| 11 | 151072 | Motor-Fan 50W 230V 60Hz |
| 12 | 159029 | Blade-Fan 11" Dia 36° |

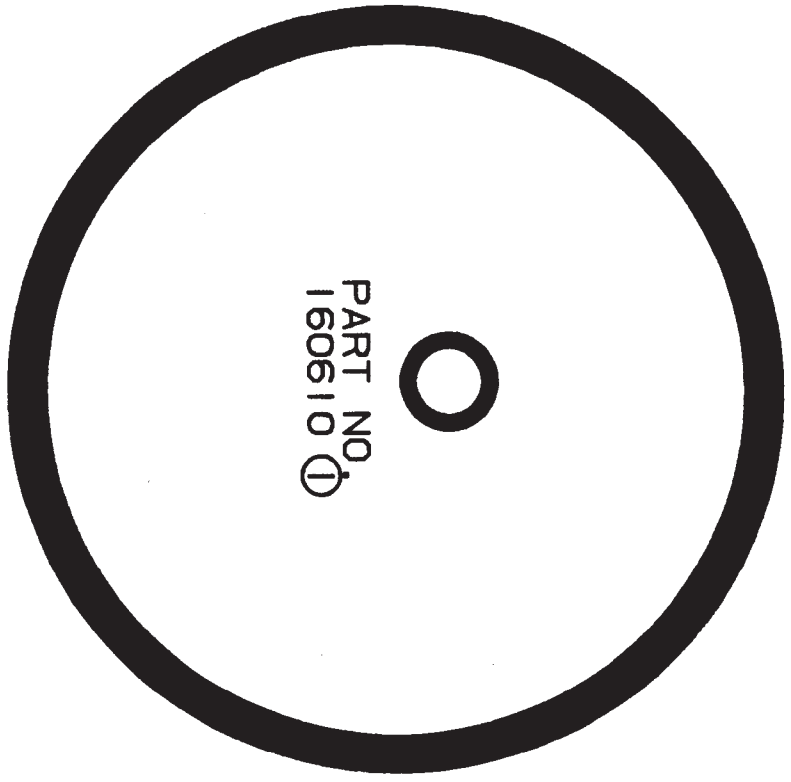
* Includes all items above.

- 155058 Receiver-12 lb. Horizontal Mount (not shown)
- 155465 Cut Out-Low Pressure (not shown)
- 155466 Control-Pressure Fan (not shown)
- 119124 Kit-25 Foot Line Sets 404a
- 119125 Kit-50 Foot Line Sets 404a

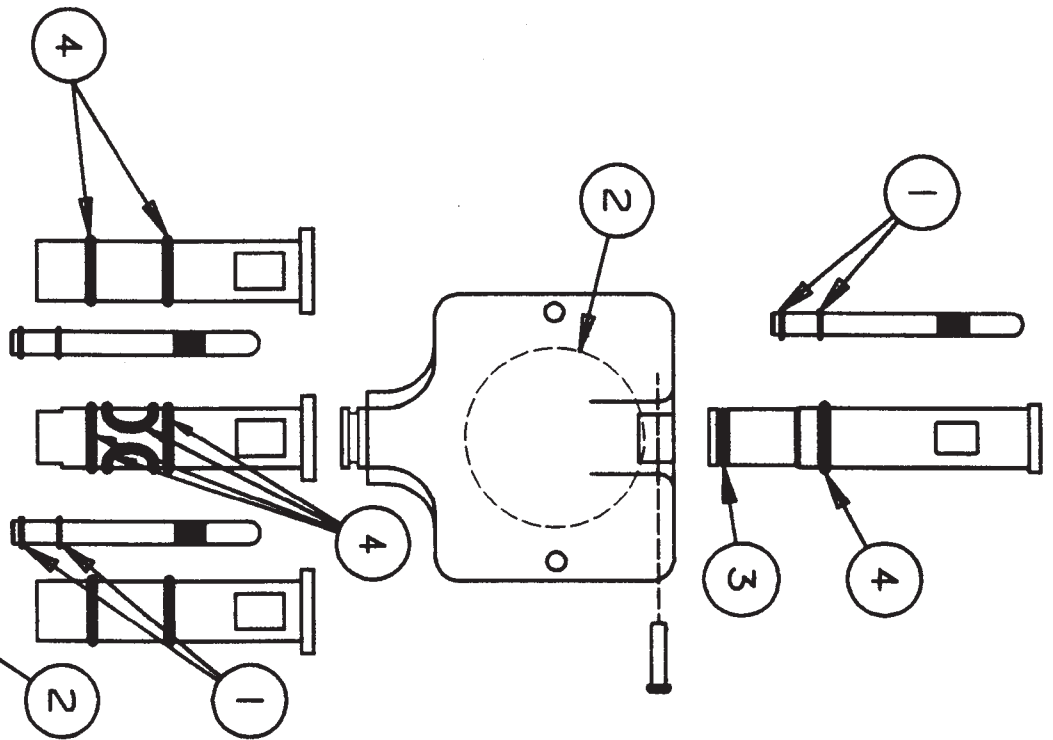
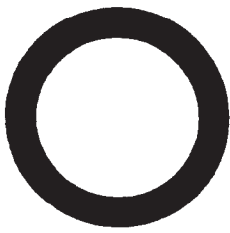
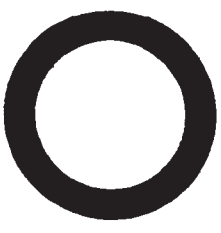
Accessories

| PART No. | DESCRIPTION |
|----------|---|
| 196103 | Bottle-Wash (Plunger and MTS) |
| 158004 | Brush-4-inch Cylinder w/ Handle |
| 158009 | Brush-4-inch Cylinder w/o Handle |
| 158018 | Brush-7/16-inch Dia. w/12-inch Handle |
| 158019 | Brush-9/16-inch Dia. w/30-inch Handle |
| 158026 | Brush-1-inch Dia. 12-inches Long |
| 162105 | Caster-1 1/4" ST PT with Brake |
| 162106 | Caster -1 1/4" ST PT without Brake |
| 184251 | Chart-O-ring (Laminated) |
| 158051 | Cup-Overrun (use with P/N 158049 scale) |
| 117906 | Kit-CMT Double EF |
| 116100 | Kit-O-ring |
| 112978 | Leg-Assy. 6-inch |
| 158000A | Lubricant-Petrol Gel (per tube) |
| 158014 | Sanitizer-Stera-Sheen (per case) |
| 158014A | Sanitizer-Stera-Sheen (per jar) |
| 158049 | Scale-Overrun Z32 |
| 184872 | Sheet-Clean & Sanitize |
| 169374 | Tool-O-Ring Removal |
| 184805 | Video-Mix Transfer System |

SOFT SERVE DISPENSING HEADS



PART NO.
159309 ②



PH. NO. 309-755-4553

O-RING CHART

H.C. DUKE & SON, INC.

Cleaning & Sanitizing Electro Freeze® 30T-CMT and 88TN-CMT 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

Follow Closing Procedures in Operator's Manual to remove frozen product from the freezer.

1. Turn selector switches to "CLEAN", MTS switches to "ON", CAB switch to "OFF".
2. Empty the remaining mix out of mix containers.
3. Run beaters 5 minutes to soften product. Dispense as much frozen product as possible.
4. Pour 2 gallons of cool water into each mix container, allowing the cylinders to fill with water.
5. Open plungers to drain mix and water. Repeat step 4 until water is clear.
6. Prepare and pour 2 gallons of warm sanitizing solution of 100ppm available chlorine in container.
7. Open air relief and fill each cylinder with sanitizer. Close air relief. Place selector switch to clean for 5 minutes.
8. Put all switches in the "OFF" position. Drain completely.

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.



CAUTION: PRESSURIZED SYSTEM. Plungers must be open before disassembly.

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

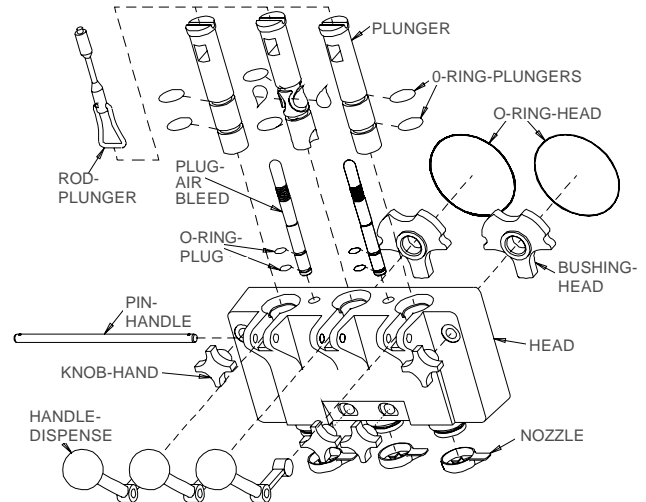
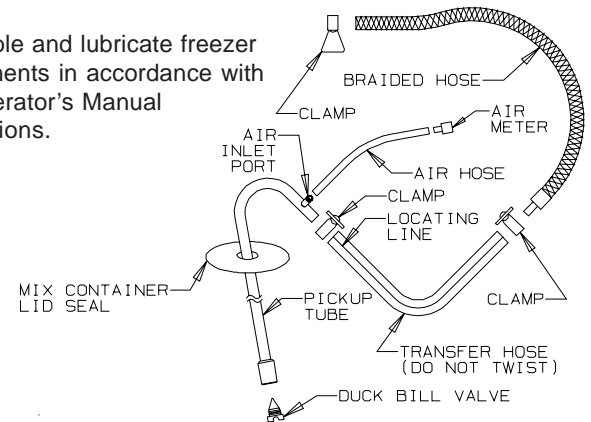
1. Remove dispensing head and beater shafts from freezer. Disassemble MTS and move to cleaning area.

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 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. Go to freezer and use sanitizing solution to thoroughly brush the mix feed tubes from the refrigerated cabinet to the cylinders.
5. Brush the inside of the cylinders with sanitizing solution, making certain to clean the back walls.
6. Brush the inside of the drain tube.

ASSEMBLY

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



SANITIZING

1. Wash and sanitize your hands and forearms.
2. Prepare 2 gallons (7.5 liters) of sanitizing solution in each mix container. Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM (parts per million) available chlorine solution.
3. Brush the interior mix container walls, the underside of the container covers, and low mix probes with sanitizer solution.
4. Place the mix containers with sanitizer in the refrigerated cabinet, insert pickup tube and sanitize exterior of the tubes.
5. Place an empty container under the dispensing head.
6. Open the air bleed plugs by pulling up until the plugs touch the bottom of the switch box.
7. Reconnect the main power supply to the freezer. Turn the MTS switches to "ON". This will push the sanitizer into the cylinders.
8. When sanitizer flows out the bottom of the dispense head, close the air bleed plugs.

SANITIZING (continued)

(over)

9. Turn both selector switches to “**CLEAN**” and allow the beaters to run for 5 minutes. Check for leaks around the head, drain tube, clamps and MTS.
10. Drain the solution from the cylinders by slowly pulling down on the dispense handles. **NOTE: Some sanitizer will remain in hoses and cylinders.**
11. Leave the handles down, and turn the selector switches to “**OFF**”. Let the MTS force all possible sanitizer out of the freezing cylinders.

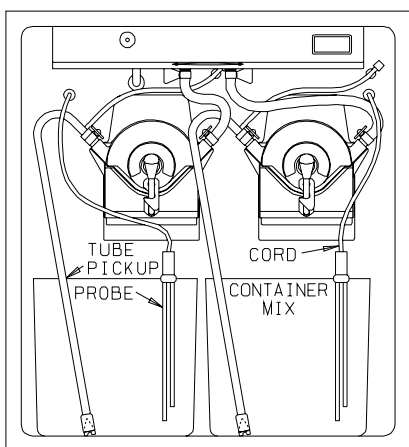
Important:

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

12. Turn the MTS switches to “**OFF**”.
13. Remove the mix inlet tubes, holding the top 6-inch portion only.
14. Remove the mix containers and empty any remaining sanitizer.

Priming The Freezer

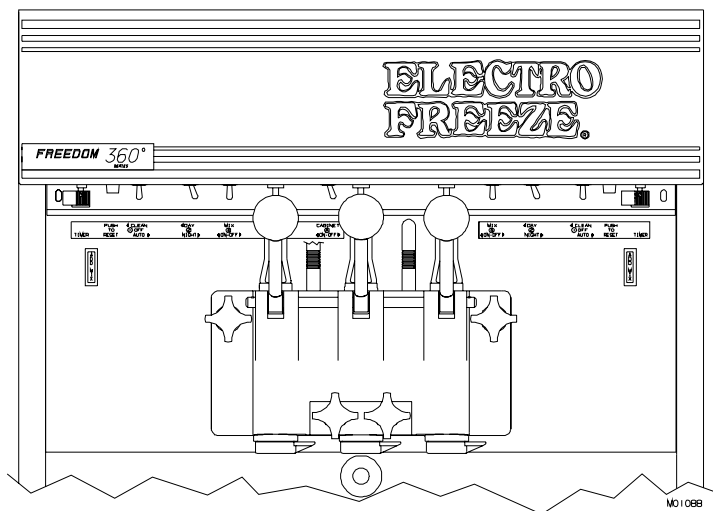
1. Make sure that your hands, forearms, and all freezer assemblies are sanitized.
2. Holding the top 6-inch portion only, insert the pickup tubes into the sanitized mix container through the small hole in the rear cover and set containers in the cabinet.
3. Fill the mix containers with mix and install the front covers.
4. Insert the low mix probes through the large hole in the rear cover, and connect the probe cords to the probes and to the back of the cabinet.
5. Turn the cabinet switch to “**ON**” and close the cabinet door.



M00053

Priming The Freezer (continued)

6. Place an empty container under the dispensing head on the drip tray.
7. Open the side plungers and air bleed plugs.
8. Turn the MTS switches to “**ON**” and allow the mix to push the remaining sanitizer from the cylinders through the plunger openings.



9. Close the side plungers when pure mix is coming out.

Important:

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

10. After mix appears at the bottom of the head (approximately **50–55** seconds), close the air bleed plugs and wait for the MTS to fill the cylinders and shut off.

| OPERATING INSTRUCTIONS | |
|------------------------|---------|
| DAY | NIGHT |
| ① AUTO | ① AUTO |
| ② DAY | ② NIGHT |
| ③ ON | ③ OFF |
| ④ ON | ④ ON |

11. After the MTS has cycled off (approximately 30 seconds) turn both selector switches to “**AUTO**”, both DAY/ NIGHT switches to “**DAY**”, and both MTS switches to “**ON**”.
12. Allow the freezer to cycle for 15 minutes. Sanitize the nozzles and install on the head. The product is now ready to serve.

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

ELECTRO FREEZE

Alphabetized Parts List for Model 30T-CMT

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) |
|--|--------------------|------------|----------------------------------|
| Actuator-Door Switch | 114630 | 1 | L2X-2745 — H2F |
| Actuator-Door Switch | 118597 | 1 | H2F — |
| Base-Probe Mounting | 137120 | 2 | L2X-2745 — |
| Bearing-High Speed Cone 3/4" | 153015 | 4 | L2X-2745 — |
| Bearing-High Speed Cup 3/4" | 153014 | 4 | L2X-2745 — |
| Bearing-Slow Speed Cone 1" | 153012 | 4 | L2X-2745 — |
| Bearing-Slow Speed Cup 1" | 153011 | 4 | L2X-2745 — |
| Belt-V LH (order by freezer SN) | 153171 | 2 | L2X-2745 — |
| Belt-V RH (order by freezer SN) | 153161 | 2 | L2X-2745 — |
| Blade-Fan 11-inch Dia. 26° (R502) A/C | 159020 | 4 | L2X-2745 — I2A-2278 ¹ |
| Blade-Fan 11-inch Dia. 36° (R404a) A/C | 159023 | 4 | I2A-2278 ¹ — |
| Blade-Fan 11-inch 36° AC Remote | 159029 | 2 | L2X-2745 — |
| Blade-Scraper (use with 3-Blade Beater Shaft P/N 115986) | | | |
| Long | 137334 | 4 | L2X-2745 — G2B-1669 |
| Short | 137934 | 2 | L2X-2745 — G2B-1669 |
| Blade-Scraper (use with 2-Blade Beater Shaft P/N 117079) | | | |
| Front, Short | 138830 | 2 | G2B-1670 — |
| Rear, Long | 138831 | 2 | G2B-1670 — |
| Bolt-Pivot (NLA use Hinge-162045) | 462054 | | |
| Bottle-Wash Plunger and MTS | 196103 | 1 | L2X-2745 — |
| Boot-Mix Tube | 199033 | 2 | L2X-2745 — |
| Bracket-Flange Relay Mtg. (MTS Relay Box) | 138159 | 2 | L2X-2745 — |
| Brush-1/4-inch Dia w/18-1/2-inch Handle | 158037 | 1 | L2X-2745 — |
| Brush-1-inch Dia. 12-inches Long | 158026 | 1 | L2X-2745 — |

* As Required

** Items Included In O-Ring Kit No. 116100

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

NLA No Longer Available

SN Serial Number

¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List for Model 30T-CMT

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) |
|---|--|------------|----------------------------------|
| Brush-4-inch Cylinder w/ 36-inch Handle | 158004 | 1 | L2X-2745 — |
| Brush-4 inch Cylinder w/o Handle | 158009 | 1 | L2X-2745 — |
| Brush-7/16-inch Dia. w/12-inch Handle | 158018 | 1 | L2X-2745 — |
| Brush-9/16-inch Dia. w/30-inch Handle | 158019 | 1 | L2X-2745 — |
| Bumper-Rubber (Insert) | 199030 | 4 | L2X-2745 — |
| Bushing-Alignment (MTS Pump) | 138369 | 1 | L2X-2745 — |
| Bushing-Head | 138427 | 2 | L2X-2745 — |
| Bushing-Seal (Beater Shaft) | 133098 | 2 | L2X-2745 — |
| Button-Drip Tray (Catch-Bullet) | 159175 | 2 | L2X-2745 — |
| Button-Reset | 159036 | 2 | L2X-2745 — |
| Capacitor-Relay Assy. | <i>See Compressor Assembly 1 Phase</i> | | |
| Capacitor-Run | <i>See Motor-Kit 1 Phase</i> | | |
| Capacitor-Start | <i>See Motor-Kit 1 Phase</i> | | |
| Caster-1-1/4 ST PT with Brake | 162105 | 2 | L2X-2745 — |
| Caster-1-1/4 ST PT without Brake | 162106 | 2 | L2X-2745 — |
| Catch-Bullet (Button Drip Tray) | 159175 | 2 | L2X-2745 — |
| Channel-Rear LH (Corner) | 135254 | 1 | L2X-2745 — |
| Channel-Rear RH (Corner) | 130021 | 1 | L2X-2745 — |
| Chart-O-ring (Laminated) | 184235 | 1 | L2X-2745 — H2G |
| Chart-O-ring (Laminated) | 184251 | 1 | H2G — |
| Clamp-Assy. Soft Hose 5/8 | 116065 | 6 | L2X-2745 — |
| Clamp-Magnet (NLA) | 138820 | 2 | L2X-2745 — |
| Clip-Air Tube (NLA-DI) | 138220 | 2 | L2X-2745 — |
| Coil-Cabinet-Refrigeration (MJ70) | 155109 | 1 | L2X-2745 — K2B-277 |
| Coil-Cabinet-Refrigeration (Ceiling type) | 155111 | 1 | K2B-278 — |

* As Required
 ** Items Included In O-Ring Kit No. 116100
 *** LH or RH — Left or right hand is determined as you face the front of freezer.
 NLA No Longer Available
 SN Serial Number

¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List for Model 30T-CMT

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) |
|---|---|------------|----------------------------------|
| Coil-Replacement | 150108 | 5 | L2X-2745 — |
| Compressors | Always Order by Freezer Serial No. | | |
| Compressor-3ph (R-502)(Order by freezer SN) (NLA Use 118235) | 454975 | 2 | L2X-2745 — I2A-2278 ¹ |
| Compressor-208-230-3-60 (Order by freezer SN) (R-502 and R-404a)(NLA Use 118235) | 417018 | 2 | I2A-2278 ¹ — D2E |
| Compressor-208-230-3-60 AV (Tecumseh) | 118235 | 2 | J2E — |
| Filter-Drier | 155054 | 2 | J2E — |
| Valve-Access | 155419 | 2 | J2E — |
| Compressor-208-230-3-60 (Maneurop) | 118686 | 2 | J2E — |
| Filter-Drier | 155054 | 2 | J2E — |
| Compressor-1ph (R-502) (NLA Use 118234) | 445189 | 2 | L2X-2745 — I2A-2278 ¹ |
| Capacitor-Relay Assy. | 115764 | 1 | L2X-2745 — I2A-2278 ¹ |
| Capacitor-Start | 150243 | 1 | L2X-2745 — I2A-2278 ¹ |
| Capacitor-Run | 150244 | 1 | L2X-2745 — I2A-2278 ¹ |
| Relay | 150245 | 1 | L2X-2745 — I2A-2278 ¹ |
| Compressor-AHA 230-1-60 (R-502 & R-404a)(NLA Use 118234) | 446973 | 2 | I2A-2278 ¹ — D2E |
| Capacitor-Relay Assy. | 151356 | 1 | I2A-2278 ¹ — D2E |
| Capacitor-Start | 150361 | 1 | I2A-2278 ¹ — D2E |
| Capacitor-Run | 150362 | 1 | I2A-2278 ¹ — D2E |
| Relay | 150363 | 1 | I2A-2278 ¹ — D2E |
| Compressor-AVA 230-1-60 (Tecumseh) | 118234 | 2 | J2E — |
| Box-Assy. Capacitor & Relay | 151362 | 2 | J2E — |
| Capacitor-Start | 150398 | 2 | J2E — |
| Capacitor-Run | 150399 | 2 | J2E — |
| Relay | 150401 | 2 | J2E — |
| Filter-Drier | 155054 | 2 | J2E — |
| Valve-Access | 155419 | 2 | J2E — |

* As Required
 ** Items Included In O-Ring Kit No. 116100
 *** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

SN Serial Number

¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List for Model 30T-CMT

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-AVA 230-1-60 (Maneurop) | 118685 | 2 | L2F | — |
| Box-Assy. Capacitor & Relay | 118647 | 2 | L2F | — |
| Capacitor-Run | 151447 | 2 | L2F | — |
| Decal-Comp. Wire | 165066 | 2 | L2F | — |
| Kit-Cap & Relay | 151448 | 2 | L2F | — |
| Filter-Drier | 155054 | 2 | L2F | — |
| Condenser-Air (R-502 and R-404a) | 155120-C | 2 | L2X-2745 | — |
| Condenser-Water (R-404a) | 155029 | 2 | K2G-2809 | — |
| Condenser-Water LH (A) Side (R-502 and R-404a) | 155039 | 1 | L2X-2745 | — K2G-2808 |
| Condenser-Water RH (B) Side (R-502 and R-404a) | 155026 | 1 | L2X-2745 | — K2G-2808 |
| Connector 1/2 (MTS Relay Box) | 150828 | * | L2X-2745 | — |
| Contacto-IEC (Beater Motor, Compressor & Cabinet Fan) | 150106 | 5 | L2X-2745 | — B2G-321 |
| Contacto-Replacement | 150108 | 5 | L2X-2745 | — B2G-321 |
| Contacto-IEC (Beater Motor, Compressor & Cabinet Fan) | 150135 | 5 | B2G-322 | — |
| Contacto-Replacement | 150134 | 5 | B2G-322 | — |
| Container-Mix 6 Gallon | 196092-01 | * | B2A | — |
| Container-Mix 7 Gallon | 196222 | * | L2X-2745 | — |
| Control-Pressure Fan (Air Cooled Remote) | <i>Prior to I2G Order by Freezer SN</i> | | | |
| Control-Pressure Fan (Air Cooled Remote) | 155466 | 2 | I2G | — |
| Cord-Assy. Male Plug | 150532 | 2 | L2X-2745 | — |
| Cord-Assy. Female Plug | 150528 | 2 | L2X-2745 | — K2B-277 |
| Cord-Assy. Female Plug | 150533 | 2 | L2X-2745 | — |
| Cordset-Retractable (Mix Level Probe) | 150537 | 2 | L2X-2745 | — |
| Coupling-Assy. 1 in. Drive (Beater Shaft) | 111964 | 2 | L2X-2745 | — |

* As Required
 ** Items Included In O-Ring Kit No. 116100
 *** LH or RH — Left or right hand is determined as you face the front of freezer.
 NLA No Longer Available
 SN Serial Number

¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List for Model 30T-CMT

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) |
|---|---|------------|----------------------------------|
| Cover-Assy Mix Tank Front w/6 or 7 gallon tank | 113997 | 2 | L2X-2745 — |
| Cover-Rear Mix Tank w/6 or 7 gallon tank | 138165 | 2 | L2X-2745 — |
| Cup-High Speed-Gear Reducer | 153014 | 4 | L2X-2745 — |
| Cup-Overrun (use with P/N 158049 scale) | 158051 | * | L2X-2745 — |
| Cup-Seal (Beater Shaft) | 160557 | 2 | L2X-2745 — |
| Cup-Slow Speed (Gear Reducer) | 153011 | 4 | L2X-2745 — |
| Cut Out-High Pressure-AC (R-502) | 155401 | 2 | L2X-2745 — I2A-2278 ¹ |
| Cut Out-High Pressure-WC (R-502) | 155423 | 2 | L2X-2745 — I2A-2278 ¹ |
| Cut Out-High Pressure (R-404a) | 155425 | 2 | I2A-2278 ¹ — |
| Cut Out-Low Pressure (R-502 or R-404a) (Air or Water Cooled) | 155403 | 2 | L2X-2745 — |
| Cut Out-Low Pressure (Air Cooled Remote) | <i>Prior to I2G Order by Freezer SN</i> | | |
| Cut Out-Low Pressure (Air Cooled Remote) | 155465 | 2 | I2G — |
| Cylinder-Assy. Complete (R-502) | 116037 | 1 | L2X-2745 — I2A-2278 ¹ |
| Cylinder-Assy. Complete (R-404a) | 116782 | 1 | I2A-2278 — L2F-3474 |
| Cylinder-Assy. Complete (R-404a) | 118593 | 1 | L2F-3475 — |
| Decal-6" Air Flow | 165119 | 1 | L2X-2745 — |
| Decal-Beater Warning | 165025 | 1 | L2X-2745 — |
| Decal-Blade Installation | 164031 | 1 | L2X-2745 — |
| Decal-Cleaning Instructions | 165307 | 1 | L2X-2745 — B2I-410 |
| Decal-Cleaning Instructions | 164113 | 1 | B2I-411 — |
| Decal-Clear Overlay | 165093 | 1 | L2X-2745 — |
| Decal-CMT Connection (MTS Hook-up) | 164027 | 1 | L2X-2745 — |
| Decal-CMT Patent | 165013 | 1 | L2X-2745 — |
| Deca-Freedom 360° Trimstrip | 165192 | 1 | L2X-2745 — |

* As Required
 ** Items Included In O-Ring Kit No. 116100
 *** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

SN Serial Number

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Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List for Model 30T-CMT

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-Mix Transfer | 165018 | 1 | L2X-2745 — |
| Decal-MTS Trimstrip LH | 164041 | 1 | L2X-2745 — B2I-410 |
| Decal-MTS Trimstrip LH | 164020 | 1 | B2I-411 — |
| Decal-MTS Trimstrip RH | 164042 | 1 | L2X-2745 — B2I-410 |
| Decal-MTS Trimstrip RH | 164021 | 1 | B2I-411 — |
| Decal-Operating Instructions | 164013 | 1 | L2X-2745 — B2I-410 |
| Decal-Operating Instructions | 164004-01 | 1 | B2I-411 — |
| Decal-Panel Removal | 165126 | 3 | L2X-2745 — |
| Decal-Top Air Discharge | 165124 | 1 | L2X-2745 — |
| Decal-Trimstrip EF Logo 26 inch | 165188-01 | 1 | L2X-2745 — |
| Decal-Trimstrip Sonic Logo 26 inch | 165172 | 1 | L2X-2745 — |
| Decal-Warning Pressurized | 165246 | 2 | L2X-2745 — |
| Door-Assy. Complete (w/o hinges) | 114260-C | 1 | L2X-2745 — |
| Drier (R-502) w/flare (NLA use 155054) | 455054 | 1 | L2X-2745 — F2B-1549 |
| Drier (R-404a) w/flare (NLA use 155054) | 455050 | 1 | L2X-2745 — F2B-1549 |
| Drier-w/sweat-both R-502-R-404a | 155054 | 1 | F2B-1550 — |
| Evaporator-Assy. Cabinet w/ MJ70 | 114580 | 1 | L2X-2745 — K2B-277 |
| Evaporator-Assy. Cabinet Ceiling | <i>Order by Freezer serial No.</i> | | |
| Fan-Open 230v (Evaporator shroud) | <i>Order by Freezer Serial No.</i> | | |
| Filter Assy.-Electric | 116125 | 1 | C2Y-616 — |
| Gasket Kit-Gear Reducer | 114874 | 1 | L2X-2745 — |
| Gasket-Magnetic Door (V-Groove) | 160563 | 1 | L2X-2745 — |

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Alphabetized Parts List for Model 30T-CMT

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) |
|--------------------------------------|--------------------|------------|----------------------------------|
| Gauge-Assy. Pressure Test CMT Pump | 116312 | 1 | L2X-2745 — |
| Gear-Bronze (Gear Reducer) | 153349 | 2 | L2X-2745 — |
| Gear-Input-Shaft (Gear Reducer) | 153348 | 2 | L2X-2745 — |
| Glass-Sight-w/flare (NLA use 155059) | 459203 | 2 | L2X-2745 — F2B-1549 |
| Glass-Sight-w/sweat | 155059 | 2 | F2B-1550 — |
| Grill & Bracket Assy.-Fan-w/ MJ70 | 155114 | 1 | L2X-2745 — K2B-277 |
| Grommet-Rubber 5/8 I.D. | 199016 | 2 | L2X-2745 — |
| Guard-Fan-w/ ceiling type | 151076 | 1 | K2B-278 — |
| Handle-Assy. Dispense Center | 114808 | 1 | L2X-2745 — |
| Knob-Ball 3/8-16 Thd Black | 162629 | 1 | L2X-2745 — |
| Handle-Assy. Dispense Side | 110007 | 2 | L2X-2745 — |
| Knob-Ball 3/8-16 Thd Black | 162629 | 2 | L2X-2745 — |
| Handle-Pull Door (Cabinet) | 136199 | 1 | L2X-2745 — |
| Handle-Assy. Round (MTS) | 116164 | 2 | L2X-2745 — |
| Hanger Assy.-Air Condenser | 113989 | 1 | L2X-2745 — |
| Head-Assy.Dispense Complete | 116042 | 1 | I2G-2214 — |
| Head-Only | 116041 | 1 | I2G-2214 — |
| O-Ring (Head) | 159309 | 1 | I2G-2214 — |
| Plunger-Side Self Dispense | 137174 | 2 | I2G-2214 — |
| O-Ring (Plunger) | 160501 | 8 | I2G-2214 — |
| Plunger-Dispense Center | 138009 | 1 | I2G-2214 — |
| Plug-Air Bleed (Relief) | 138149 | 2 | I2G-2214 — |
| O-Ring (Air Plug) | 160610 | 4 | I2G-2214 — |
| Pin-Handle | 160269 | 1 | I2G-2214 — |
| Handle-Assy. Dispense (Side) | 110007 | 2 | I2G-2214 — |
| Knob-Ball 3/8-16 THD Black | 162629 | 2 | I2G-2214 — |
| Handle-Assy. Dispense Center | 114808 | 1 | I2G-2214 — |
| Knob-Ball 3/8-16 THD Black | 162629 | 1 | I2G-2214 — |
| Nozzle-Serrated | 196185 | 1 | I2G-2214 — |

- * As Required
- ** Items Included In O-Ring Kit No. 116100
- *** LH or RH — Left or right hand is determined as you face the front of freezer.

NLA No Longer Available

SN Serial Number

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Alphabetized Parts List for Model 30T-CMT

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) |
|---|--------------------|------------|----------------------------------|
| Hinge-Pivot 1-3/8 Bottom LH | 162046 | 1 | L2X-2745 — |
| Hinge-Pivot 1-3/8 Top LH | 162045 | 1 | L2X-2745 — |
| Hook- Swing (Hook) MTS (Order by Serial No.) | | 2 | L2X-2745 — |
| Hose-Assy. Mix Braided (CMT Pump) | 116094 | 2 | L2X-2745 — |
| Hose-Air (CMT Pump) | 138170 | 2 | L2X-2745 — |
| Hose-Transfer (CMT Pump) | 138184 | 2 | L2X-2745 — |
| Indicators-Mix Level | 150202 | 2 | L2X-2745 — |
| Insert-Assy. Drip Tray 26-inch | 137282 | 1 | L2X-2745 — |
| Insert-Drip Tray | 196108 | 1 | L2X-2745 — |
| Bumper-Rubber | 199030 | 1 | L2X-2745 — |
| Key-Drive 3/16 sq. x 1-1/2 long | 153322 | 2 | L2X-2745 — |
| Kit-Dispense Head Switch | 116410 | * | L2X-2745 — |
| Kit-Gear Reducer Gasket | 114874 | * | L2X-2745 — |
| Kit-O-ring | 116100 | * | L2X-2745 — |
| Kit-Pressure Switch | 117014 | * | L2X-2745 — |
| Kit-Repair Solenoid Valve | 155434 | * | L2X-2745 — |
| Kit-MTS Slide Switch | 116411 | * | L2X-2745 — |
| Kit-Water Valve Repair | 155444 | * | L2X-2745 — |
| Knob-Ball Handle | 162629 | 3 | L2X-2745 — |
| Knob-Cabinet Condenser w/ MJ70 | 155116 | 1 | L2X-2745 — K2B-277 |
| Knob-Hand (Dispense Head) | 162625 | 4 | L2X-2745 — |
| Knob-Handle (MTS) | 162627 | 2 | L2X-2745 — |

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 ** Items Included In O-Ring Kit No. 116100
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Alphabetized Parts List for Model 30T-CMT

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) |
|---|--------------------|------------|----------------------------------|
| Knob-Timer (for P/N 150215) | 162604 | 2 | L2X-2745 — |
| Knob-Timer (for P/N 116534) (NLA use Timer-150215 & Knob-162604) | 162603 | 2 | A2B-186 — D2B-923 |
| Label-MTS Trimstrip LH (Switches) | 164041 | 1 | L2X-2745 — |
| Label-MTS Trimstrip RH (Switches) | 164042 | 1 | L2X-2745 — |
| Leg-Assy. 6-inch | 112978 | 4 | L2X-2745 — |
| Lever-Assy. Reset | 115524 | 2 | L2X-2745 — B2G-321 |
| Button-Reset | 159036 | 2 | L2X-2745 — B2G-321 |
| Lever-Reset & Button | 118390 | 2 | B2G-322 — |
| Button-Reset | 159036 | 2 | B2G-322 — |
| Light-Indicator ADD MIX | 150540 | 2 | L2X-2745 — |
| Line Sets-25 Foot Kit 404a (Air Cooled Remote) | 117292* | | |
| Line Sets-50 Foot Kit 404a (Air Cooled Remote) | 117293* | | |
| Lock-Swing (Hook) MTS (Order by Serial No.) | | 2 | L2X-2745 — |
| Lubricant-Petrol Gel (per tube) | 158000A | * | L2X-2745 — |
| Lubricant-Lubri-Film (per tube) | 158054A | * | L2X-2745 — |
| Meter-Air #9-31 | 163423 to 163442 | * | L2X-2745 — |
| Mix Tank-7 Gallon | 196092 | 2 | L2X-2745 — |
| Mix Tank-6 Gallon | 196092-01 | 2 | L2X-2745 — |
| Motor-Kit-Motor & Capacitors 230-1-60 (order by freezer Serial No) | 118140 | 2 | L2X-2745 — D2E-1082 |
| Capacitor-Start | 150872 | 2 | L2X-2745 — D2E-1082 |
| Capacitor-Run | 150873 | 2 | L2X-2745 — D2E-1082 |

* As Required

** Items Included In O-Ring Kit No. 116100

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NLA No Longer Available

SN Serial Number

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Alphabetized Parts List for Model 30T-CMT

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-Kit-Motor & Capacitors 230-1-60 | <i>Order by freezer Serial No.</i> | | |
| | | 2 | D2E-1083 — F2F-1647 |
| Motor-Kit-Motor & Capacitors 230-1-60 | 118254 | 2 | F2F-1648 — |
| Capacitor-Start | 150319 | 2 | F2F-1648 — |
| Capacitor-Run | 150318 | 2 | F2F-1648 — |
| Motor-208-230-3-60 | <i>Order by freezer Serial No.</i> | | |
| | | 2 | K2E-3253 — E2F-1297 |
| Motor-208-230-3-60 | 151066 | 2 | E2F-1298 — |
| Motor-Cabinet Fan-w/ MJ70 | 155113 | 1 | L2X-2745 — K2B-277 |
| Motor-Cabinet Fan-w/ ceiling type | 151102 | 1 | K2B-278 — |
| Motor-Fan-Air Condenser (R-404a) | 151077-01 | 2 | I2A-2278 ¹ — |
| Motor-Fan-Air Condenser (R-502) | 151080 | 2 | L2X-2745 — I2A-2278 ¹ |
| Motor (Gear)-Mix Transfer | 151129 | 2 | L2X-2745 — |
| MOV Assy. | 116188 | 2 | E2Y-1047 — |
| MTS Assy.-Complete | 116012 | 2 | L2X-2745 — |
| MTS Housing Assy.-w/o roller | 117054 | 2 | L2X-2745 — |
| | | | |
| Nozzle (NLA use 196185) | 496076 | * | |
| Nozzle-Serrated | 196185 | 3 | L2X-2745 — |
| Nut-#6-32 BKOX (MTS Relay Box) | 160116 | * | L2X-2745 — |
| Nut-Assy. Pressure Switch | 116105 | * | L2X-2745 — |
| Nut-EL Stop #10-32 | 159421 | * | L2X-2745 — |
| Nut-HEX 1/4 x 20 ZN (Plunger Switch) | 160104 | * | L2X-2745 — |
| Nut-HXSF 1/4-20 ZN (MTS Relay Box) | 160116 | * | L2X-2745 — |
| Nut-Speed #10-24 .025-.064 SST (Dispense & Front Panel) | 160117 | * | L2X-2745 — |
| Nut-Speed #10-24 .100-.125 SST (On Frame) | 159067 | * | L2X-2745 — |
| <p>* As Required ** Items Included In O-Ring Kit No. 116100 *** LH or RH — Left or right hand is determined as you face the front of freezer. NLA No Longer Available SN Serial Number</p> <p>¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.</p> | | | |

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List for Model 30T-CMT

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) |
|--|--------------------|------------|----------------------------------|
| Nut-Speed 1/4-20 .064-.125 (Rear Channel) | 160117 | * | L2X-2745 — |
| Nut-Speed 1/4-20 BP&O (Rear & Side Panels) | 160117 | * | L2X-2745 — |
| O-Ring (Nozzle-2-Tab only) | 160620 | 8 | L2X-2745 — |
| O-Ring (Head) | 159309 | ** | L2X-2745 — |
| O-Ring (Air Plug) | 160610 | ** | L2X-2745 — |
| O-Ring (Pressure Switch-Spacer) | 160555 | 2 | L2X-2745 — |
| O-Ring (Pressure Switch) | 160617 | 2 | L2X-2745 — |
| O-Ring (Seal-Beater Shaft) | 160500 | ** | L2X-2745 — |
| O-Ring (Plunger) | 160501 | ** | L2X-2745 — |
| Oil-Special Gear Lube (per quart) | 158055 | * | L2X-2745 — |
| Overload Block (order by Freezer SN and Amps) | | | |
| Pan-Condensate (w/ MJ70) | 136297 | 1 | L2X-2745 — K2B-277 |
| Pan-Condensate-(w/ ceiling type-26") | 117133 | 1 | K2B-278 — |
| Panel-Dispensing (w/ lights) | 137297-C | 1 | L2X-2745 — |
| Panel-Assy. Front | 113985-C | 1 | L2X-2745 — |
| Panel-Rear (Air Cooled and Water Cooled) | 136313-C | 1 | L2X-2745 — |
| Panel-Side LH | 136289-C | 1 | L2X-2745 — |
| Panel-Side RH | 136216-C | 1 | L2X-2745 — |
| Panel-Spacer (Rear & Side Panels) | 138456 | * | L2X-2745 — |
| Panel-Switch Box w/EF Label (Trimstrip) | 115292-03 | 1 | L2X-2745 — |
| Panel-Assy. Top (Air Cooled) (R-404a & R-502) | 116567-C | 1 | L2X-2745 — |
| <p>* As Required ** Items Included In O-Ring Kit No. 116100 *** LH or RH — Left or right hand is determined as you face the front of freezer. NLA No Longer Available SN Serial Number</p> <p>¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.</p> | | | |

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Alphabetized Parts List for Model 30T-CMT

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-Assy. Top (Water Cooled) (R-404a & R-502) (NLA use 114157-C) | 414428 | 1 | L2X-2745 — H2C- |
| Panel-Top (Water Cooled & Air Cooled Remote) (R-404a & R-502) | 114157-C | 1 | I2C — |
| Pin-Handle (NLA use 160269) | 437176 | 1 | L2X-2745 — |
| Panel-Lower Rear (Air Cooled Remote) | 138983 | 1 | L2X-2745 — |
| Panel-Upper Rear (Air Cooled Remote) | 138982 | 1 | L2X-2745 — |
| Pin-Handle | 160269 | 1 | L2X-2745 — |
| Pin-Stop Hinge (NLA use 162045-Hinge) | 462108 | * | L2X-2745 — |
| Plate-Pivot Cover | 138142 | 2 | L2X-2745 — |
| Plug-Air Relief | 138149 | 2 | L2X-2745 — |
| Plunger-Dispense Center | 138009 | 1 | L2X-2745 — |
| Plunger-Dispense Sides | 137174 | 2 | L2X-2745 — |
| Probe-Assy. 6 gallon | 116439 | 2 | B2A — |
| Probe-Assy. 7 gallon | 115397 | 2 | L2X-2745 — |
| Pulley | <i>See Sheave</i> | | |
| Receiver-Assy.w/flare (NLA use 155057) | 455040 | 2 | L2X-2745 — F2B-1549 |
| Receiver-3 lb.-w/sweat | 155057 | 2 | F2B-1550 — |
| Receiver-12 lb w/flare (NLA use 155058) | 455043 | 2 | L2X-2745 — I2G |
| Receiver-12 lb. w/sweat (Air Cooled Remote) | 155058 | 2 | I2G — |
| Receptacle-Molded Level Sensor | 150536 | 2 | L2X-2745 — |
| Reducer- Gear 4CB | 153341 | 1 | L2X-2745 — |
| Relay-Flange Base with cover (Electric Box) | 150381 | 2 | L2X-2745 — B2I-410 |
| Relay-Flange Base with cover (MTS) | 150381 | 2 | L2X-2745 — |
| Relay-Start | <i>See Compressor Assembly 1 Phase</i> | | |
| Resistor Assy. | 116154 | 2 | C2Y-611 — B2I-410 |
| <p>* As Required ** Items Included In O-Ring Kit No. 116100 *** LH or RH — Left or right hand is determined as you face the front of freezer. NLA No Longer Available SN Serial Number</p> <p>¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.</p> | | | |

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Alphabetized Parts List for Model 30T-CMT

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) |
|---|--------------------|------------|----------------------------------|
| Rod-Assy. Plunger | 116089 | 3 | L2X-2745 — |
| Roller-Assy. Complete (NLA use 116009-01) | 416009 | 2 | L2X-2745 — |
| Roller-Kit | 116009-01 | 2 | L2X-2745 — |
| Sanitizer-Stera-Sheen (per case) | 158014 | * | L2X-2745 — |
| Sanitizer-Stera-Sheen (per jar) | 158014A | * | L2X-2745 — |
| Scale-Overrun Z32 | 158049 | * | L2X-2745 — |
| Screw 1/4 x 20 x 2-1/2 ZN | 159965 | * | L2X-2745 — |
| Screw-RDHM #6-32 x 5/16 (MTS Relay Box) | 160308 | * | L2X-2745 — |
| Screw-HXHM 4-20 x 2-1/2 (Plunger Switch) | 160104 | * | L2X-2745 — |
| Screw-HXSF 1/4 x 20 x 1/2 (MTS Relay Box) | 159950 | * | L2X-2745 — |
| Screw-Hinge 1/4 x 20 x 3/4 | 160019 | * | L2X-2745 — |
| Screw-Hinge 10 x 32 x 5/8 SST | 160026 | * | L2X-2745 — |
| Screw-PNH TAP #10 x 3/8 SST | 160439 | * | L2X-2745 — |
| Screw-TRPM #10-24 x 3/8 SST (Top Panel) | 160305 | * | L2X-2745 — |
| Screw-TRPM #10-24 x 1/2 SST (Trimstrip, Front and Dispense Panels) | 160076 | * | L2X-2745 — |
| Screw-TRPM 1/4-20 x 1/2 SST (Rear Panel) | 160048 | * | L2X-2745 — |
| Screw-TRPM 1/4-20 x 1 SST (Side Panel) | 159219 | * | L2X-2745 — |
| Screw-SKHM #10 x 32 x 7/16 SST | 160307 | * | L2X-2745 — |
| Screw-Swing Lock #10 x 32 x 5/8 SST | 160026 | * | L2X-2745 — |
| Seal-Assy. Shaft Complete (Beater) | 111875 | 2 | L2X-2745 — |
| Seal-Oil 63x141(High Speed-Gear Reducer) | 153053 | 4 | L2X-2745 — |
| Seal-Oil 63x291(Slow Speed-Gear Reducer) | 153051 | 4 | L2X-2745 — |
| Sealant-Clear Silicone | 162509-01 | * | L2X-2745 — |

* As Required
 ** Items Included In O-Ring Kit No. 116100
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NLA No Longer Available

SN Serial Number

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Alphabetized Parts List for Model 30T-CMT

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) |
|--|------------------------------------|------------|----------------------------------|
| Sealant-Gray Silicone | 162513-01 | * | L2X-2745 — |
| Sensor-10K Thermistor | 161216 | 2 | L2F-3475 — |
| Set Screw 1/4 x 20 x 3/8 | 160495 | * | L2X-2745 — |
| Shaft-Beater (replaced by P/N 117079 and Blades) | 115986 | 2 | L2X-2745 — |
| Shaft-Beater | 117079 | 2 | L2X-2745 — |
| Shaft-High Speed (Gear Reducer) | 153348 | 1 | L2X-2745 — |
| Shaft-Slow Speed (Gear Reducer) | 153350 | 2 | L2X-2745 — |
| Sheave-3/4 Bore 4.75 OD (Driven) (order by freezer serial no.) | 153625 | 2 | L2X-2745 — |
| Sheave-7/8 Bore 3.25 OD (Driver) (order by freezer serial no.) | 153626 | 2 | L2X-2745 — |
| Shroud-Assy. Cab w/ceiling type | <i>Order by Freezer Serial No.</i> | | |
| Shroud-Fan (Air Condenser)(R-502) | 136218 | 2 | L2X-2745 — |
| Shroud-Fan (Air Condenser) (R-404a) | 138465 | 2 | L2X-2745 — |
| Slide-Assy.-MTS | 117054 | 2 | L2X-2745 — |
| Spacer-Panel | 138456 | * | L2X-2745 — |
| Spring-Compression (Plunger Switch) | 162323 | * | B2G-322 — |
| Spring-Plunger Switch | 159374 | * | L2X-2745 — B2G-321 |
| Spring-Hinge Pivot LH | 162052 | 1 | L2X-2745 — |
| Stud-Assy.-Cylinder | 114341-05 | 4 | L2X-2745 — |
| Support-MTS (MTS Relay Box) | 138169 | 2 | L2X-2745 — B2I-410 |
| Support-MTS (MTS Relay Box) | 139805 | 2 | B2I-411 — |
| Switch-Assy. Plunger Center | 114178 | 1 | L2X-2745 — B2G-321 |
| Nut-HEX 1/4-20 ZN | 160104 | 1 | L2X-2745 — B2G-321 |
| Screw-HXHM 4-20 x 2-1/2 ZN | 159965 | 1 | L2X-2745 — B2G-321 |
| Spring-Plunger Switch | 159374 | 1 | L2X-2745 — B2G-321 |
| Switch-Roller Actuator DPDT | 150478 | 1 | L2X-2745 — B2G-321 |
| <p>* As Required ** Items Included In O-Ring Kit No. 116100 *** LH or RH — Left or right hand is determined as you face the front of freezer. NLA No Longer Available SN Serial Number</p> <p>¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.</p> | | | |

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Alphabetized Parts List for Model 30T-CMT

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-Assy. Plunger Center | 114178-01 | 1 | B2G-322 — |
| Nut-HEX 1/4-20 ZN | 160104 | 1 | B2G-322 — |
| Screw-HXHM 4-20 x 2-1/2 ZN | 159965 | 1 | B2G-322 — |
| Spring-Compression | 162323 | 1 | B2G-322 — |
| Switch-Roller Actuator DPDT | 150478 | 1 | B2G-322 — |
| Switch-Assy. Plunger Sides | 114176 | 2 | L2X-2745 — B2G-321 |
| Nut-HEX 1/4-20 ZN | 160104 | 1 | L2X-2745 — B2G-321 |
| Screw-HXHM 4-20 x 2-1/2 ZN | 159965 | 1 | L2X-2745 — B2G-321 |
| Spring-Plunger Switch | 159374 | 1 | L2X-2745 — B2G-321 |
| Switch-Roller Actuator SPDT | 150477 | 2 | L2X-2745 — B2G-321 |
| Switch-Assy. Plunger Sides | 114176-01 | 2 | B2G-322 — |
| Nut-HEX 1/4-20 ZN | 160104 | 1 | B2G-322 — |
| Screw-HXHM 4-20 x 2-1/2 ZN | 159965 | 1 | B2G-322 — |
| Spring-Compression | 162323 | 1 | B2G-322 — |
| Switch-Roller Actuator SPDT | 150477 | 2 | B2G-322 — |
| Switch-Dispense Head Kit | 116410 | 1 | L2X-2745 — |
| Switch-Door Push Button | 150416 | 1 | L2X-2745 — K2H-2699 |
| Switch-Door Push Button | 150509 | 1 | K2H-2700 — |
| Switch-Kit MTS Slide | 116411 | 2 | L2X-2745 — |
| Switch-Pressure Switch Kit (MTS) | 117014 | 2 | L2X-2745 — |
| Switch-Toggle (Cabinet) | 159235 | 1 | L2X-2745 — |
| Switch-Toggle DPST (Day/Night) | 150435 | 2 | L2X-2745 — B2I-410 |
| Switch-Toggle SPST (Day/Night) | 159235 | 2 | B2I-411 — |
| Switch-Toggle 3PDT (Selector) | 150465 | 2 | L2X-2745 — |
| Switch-Toggle DPDT (MTS) | 150463 | 2 | L2X-2745 — B2I-410 |
| Switch-Toggle SPST (MTS) | 159235 | 2 | B2I-411 — |
| Thermometer-Cabinet (MJ70) | 161001 | 1 | LX2-2745 — K2B-277 |

* As Required

** Items Included In O-Ring Kit No. 116100

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Alphabetized Parts List for Model 30T-CMT

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) |
|--|------------------------------------|------------|----------------------------------|
| Thermometer-Cabinet (Ceiling Type) | 161004 | 1 | K2B-278 — |
| Thermostat-Cabinet | <i>Order by Freezer Serial No.</i> | | |
| Thermostat-Low/Med Temp | 155442 | 4 | L2X-2745 — |
| Timer-12 Sec. Delay on Break | 150208 | 2 | L2X-2745 — |
| Timer-5 Minute (NLA Use 150215) | 116534 | 2 | A2B-186 — D2B-923 |
| Timer-5 Minute | 150215 | 2 | L2X-2745 — H2H-1990 |
| Timer-5 Minute | <i>Order by Freezer Serial No.</i> | | |
| | | | <i>H2H-1992 — L2H-2950</i> |
| Timer-5 Minute | 150218 | 2 | L2H-2951 — |
| Tool-O-Ring Removal | 169374 | * | L2X-2745 — |
| Tool-Assy. Pressure Switch Installation | 117013 | * | L2X-2745 — |
| Tray-Drip 26-inch | 196108 | 1 | L2X-2745 — |
| Trimstrip-Assy. EF decal 26-inch | 115292-03 | 1 | L2X-2745 — |
| Tube-Assy. Drain | 115004-01 | 1 | L2X-2745 — |
| Tube-Assy. Pickup | 116069 | 2 | L2X-2745 — |
| Tube-Drain Support | 138919 | 1 | L2X-2745 — |
| Valve-Access | 155419 | 2 | |
| Valve-Duckbill-Inlet | 199032 | 1 | L2X-2745 — |
| Valve-Expansion Automatic (Cylinder) w/flare | 155400 | 2 | L2X-2745 — F2B-1549 |
| Valve-Expansion Automatic (Cylinder) (Tecumseh Compressor) w/sweat | 155448 | 2 | F2B-1550 — |
| Valve-Expansion Automatic (Cylinder) (Maneurop Compressor) w/sweat | 155451 | 2 | F2B-1550 — |
| Valve-Expansion-Automatic (Cabinet) w/flare | 155416 | 1 | L2X-2745 — F2B-1549 |
| <p>* As Required ** Items Included In O-Ring Kit No. 116100 *** LH or RH — Left or right hand is determined as you face the front of freezer. NLA No Longer Available SN Serial Number</p> <p>¹ I2A-2278 designates the complete changeover to R-404a. Serial numbers B2A-376 to I2A-2278 could be R-502 or R-404a. Contact H.C. Duke & Son, Inc. Service Department if unsure.</p> | | | |

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Alphabetized Parts List for Model 30T-CMT

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) |
|--|--------------------|------------|----------------------------------|
| Valve-Expansion-Automatic (Cabinet) w/sweat | 155449 | 1 | F2B-1550 — |
| Valve-Solenoid w/flare | 155422 | 3 | L2X-2745 — F2B-1549 |
| Valve-Solenoid w/sweat | 155421 | 3 | F2B-1559 — |
| Valve-Water | 155410 | 1 | L2X-2745 — |
| Video-Operational | 184805 | 1 | L2X-2745 — |
| Washer-Curved Spring (MTS) | 160145 | 4 | L2X-2745 — |
| Washer-Flat #10 (MTS) | 160158 | 2 | L2X-2745 — |
| Washer-Flat #10 SST (MTS) | 159962 | 6 | L2X-2745 — |
| Washer-1/2 x .196 x 1/6 (MTS) | 160157 | * | L2X-2745 — |

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