



H. C. DUKE & SON, INC.
2116 - 8th Avenue • East Moline, Illinois 61244

OPERATOR'S MANUAL

with Illustrated Parts List



Arctic Rush®
Models 145,
145RH and 816C

HC184674 - 4/05

Operator's Manual

for the

Arctic Rush® Counter Model 816C
and
Floor Models 145 and 145RH Freezers

SAFETY FIRST!

Follow these four steps to safety

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



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

2. Understand Signal Words



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

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

SAFETY FIRST!

3. Follow Safety Instructions



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

DO NOT attempt to operate the Arctic Rush® 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 any repairs to the freezer until the main power supply has been disconnected. Contact your IDQ authorized service representative or H.C. Duke & Son, Inc. Service Department for original equipment parts.

Safety Decal Locations

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

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

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

If it is necessary to replace *any* label, please contact 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.

For factory service assistance, contact H. C. Duke & Son, Inc., Service Department by phone or FAX:



Phone: (309) 755-4553

(800) 755-4545

FAX: (309) 755-9858

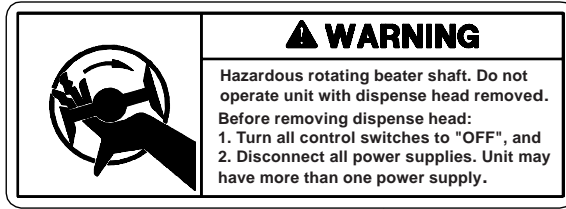
E-mail: service@hcduke.com

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

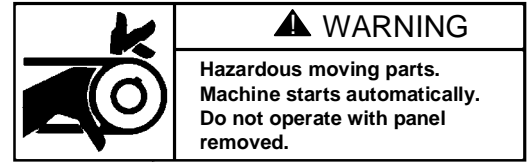
No.	Part No.	Description (Qty)
1	P/N HC165126	Decal — Panel Removal Warning (3)
2	P/N HC165025	Decal — Beater Warning (1)

Safety Decal Locations

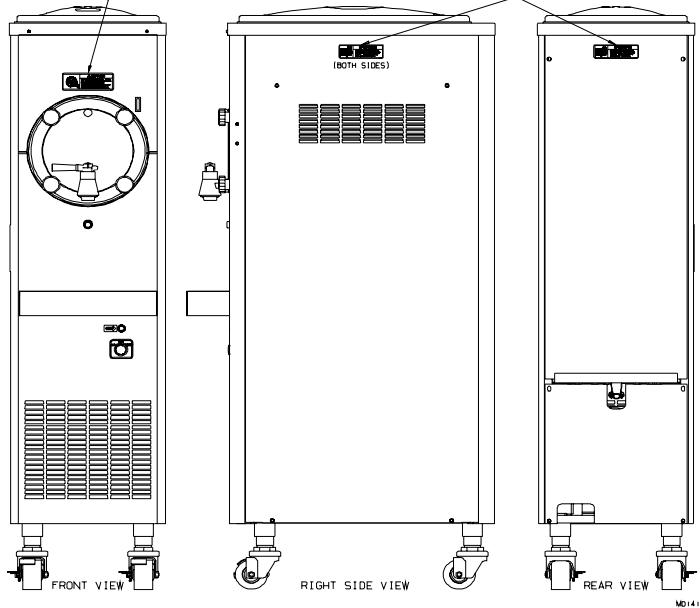
1 P/N HC165025



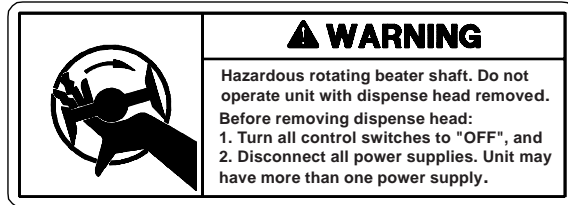
2 P/N HC165126



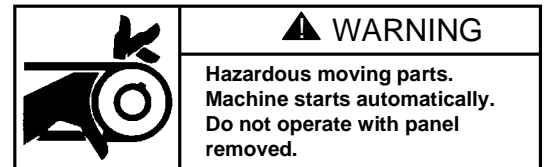
Floor Models
145 and 145RH



1 P/N HC165025



2 P/N HC165126



Counter
Model
816C

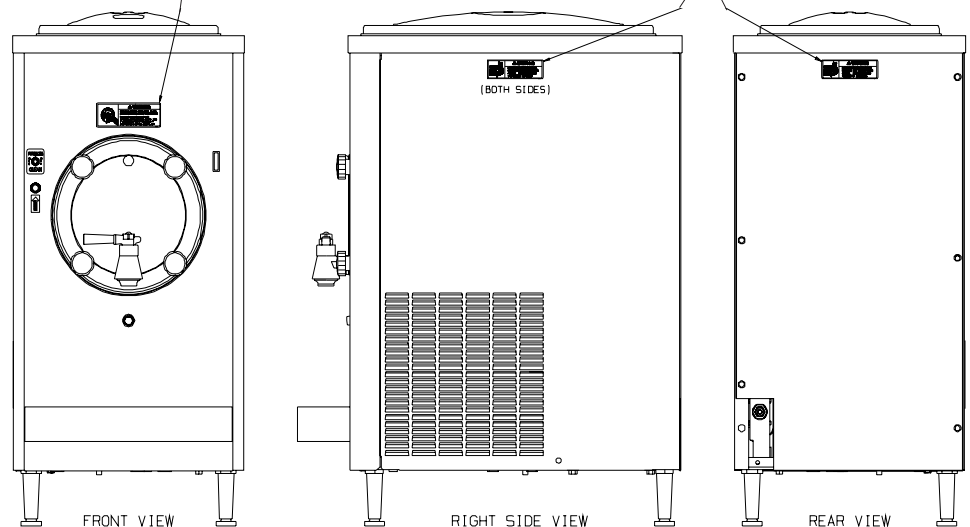


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Part II

Arctic Rush® Models 145, 145RH and 816C Replacement Parts Manual with Illustrations	*
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*Refer to Part II Table of Contents for help with locating part numbers and illustrations.



1 Introduction

Arctic Rush models 145 and 816C freezers are specifically designed to dispense a high quality, smooth-frozen, non-carbonated, water and sugar based drink that is served in a variety of flavors. The product can be a neutral base or a pre-mixed flavor. These freezers **are not** designed or certified for use with ice cream or dairy products.

NOTE: Model 145RH with refrigerated hopper, is required when drinks containing perishable products are to be dispensed.

This manual has been prepared to assist you in the proper operation and general maintenance of the Arctic Rush® freezer.

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

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

If you require technical assistance, please contact the Service Department at H. C. Duke & Son, Inc. as follows:



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

FAX: (309) 755-9858

E-mail: Service@hcduke.com

— or for local factory authorized service, contact:

Name: _____

Address: _____

Phone: _____

2 Note to Installer

This freezer must be installed and serviced by an 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.

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).

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.

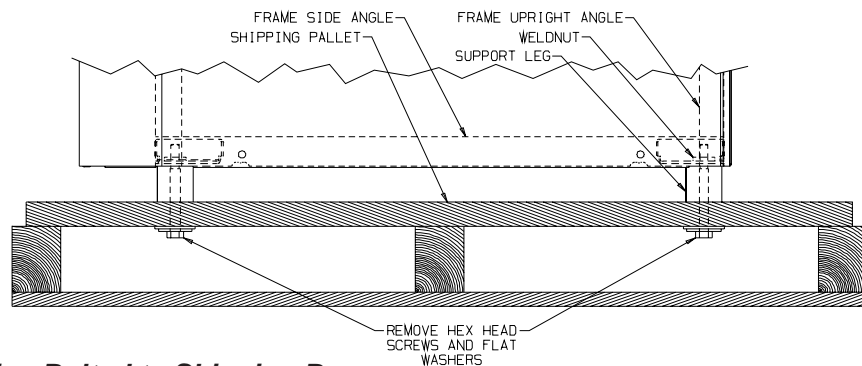
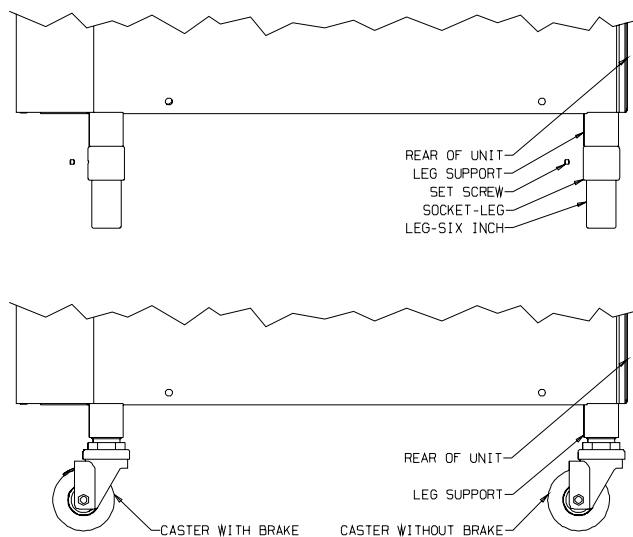


Figure 2-1 Machine Bolted to Shipping Base



NOTE: Screw casters or legs all the way in coupling, then adjust out to level.

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 (NEC).

1. Where codes permit, we recommend that the freezer be installed on casters and have flexible water and electrical connections for easier service and cleaning.
2. All models require a minimum of 3-inch (7.6 cm) clearance on both sides and rear of freezer.
3. **Water cooled** models require a 3/8-inch MPT water inlet and water waste connection. The connections are found on the

bottom, under the compressor mounting area. They are tagged "Water Inlet" and "Water Waste." A manual shut-off valve should be installed in the water inlet line at the time of installation.

Note on Counter Models: Verify weight of freezer. Ensure the counter or table has sufficient strength to hold this weight and prevent excessive vibration.

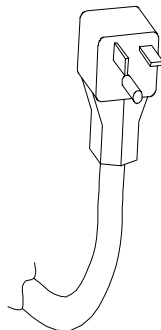
4. Place the freezer in its final location and adjust the legs or casters so that it is level side-to-side and the front is approximately 1/4-inch (6mm) lower than the rear to allow proper drainage of the freezing cylinder.

2.3 Electrical Requirements

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



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



Plug Rating:
20A, 125VAC
(For use with a
NEMA "5-20R"
Receptacle)

Figure 2-3 Plug

1. Always verify electrical specifications on the data plate (see figure 3-1) of each individual freezer. Data plate specifications will always supersede the information in this manual.
2. Refer to the data plate on the rear panel for connection of proper fuse or HACR circuit breaker.
3. Refer to the wiring diagram provided for proper power connections.
4. All 115 volt 20 amp freezers are supplied with a factory power cord (Figure 2-3) that requires a NEMA "5-20 R" type receptacle to accommodate the plug. All freezers should be connected to a circuit separate from any other electrical equipment.
5. Supply voltage must be within $\pm 10\%$ of the voltage indicated on the nameplate. Request your local power company to correct any voltage problem.

3 Specifications

3.1 Particulars

**Counter Model - 816C
Floor Models - 145 and 145RH**

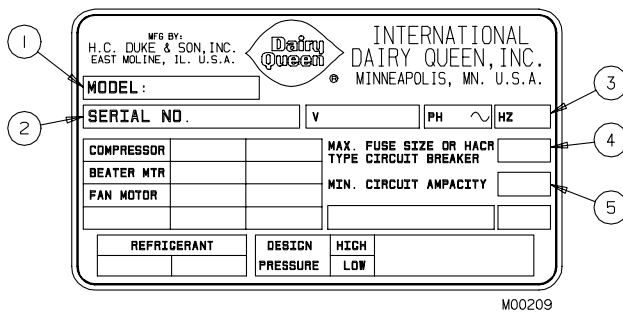
	<u>Counter</u>	<u>Floor</u>
Width – in/cm	17/43	14.5/37
Height – in/cm	36/92	57/145
Depth – in/cm	25/64	25/64
Weight – lbs/kg	255/116	280/127

The following particulars apply to both counter and floor models:

Voltage*	115-1-60	Refrigerant	404a
Min. Circuit Amp	20.0	Charge	2.25 lb/1.0 kg
Compressor	3/4 HP/.56 kw	Cooling	Air/Water
	4800 BTUH/1.4 kw	Hopper	20 qts/18.9 L
Beater Motor	1/4 HP/1.9 kw	Cylinder	14 qts/13.2 L

* Contact factory for other voltages.

3.2 Data Plate



The data plate (figure 3-1) provides important information that the operator should record and have available for parts ordering, warranty inquiries and service requests.

Figure 3-1 Data Plate

3.3 Reference Information

Complete the reference information as soon as you receive the Arctic Rush® Freezer. You will find this information on the data plate. (The item numbers correspond to the callout numbers in figure 3-1.)

- ① Model Number: _____
- ② Serial Number: _____
- ③ Electrical Specifications
 - Voltage: _____
 - Phase: _____
 - Hertz: _____
- ④ Maximum Fuse Size: _____
- ⑤ Min. Circuit Ampacity: _____

3.4 Installation Date

Installation Date _____
Installed by _____
Address _____

Phone _____

3.5 Dimensions

Figure 3-2, below, provides the dimensions of the Arctic Rush® Model 816C.

816C Counter Model

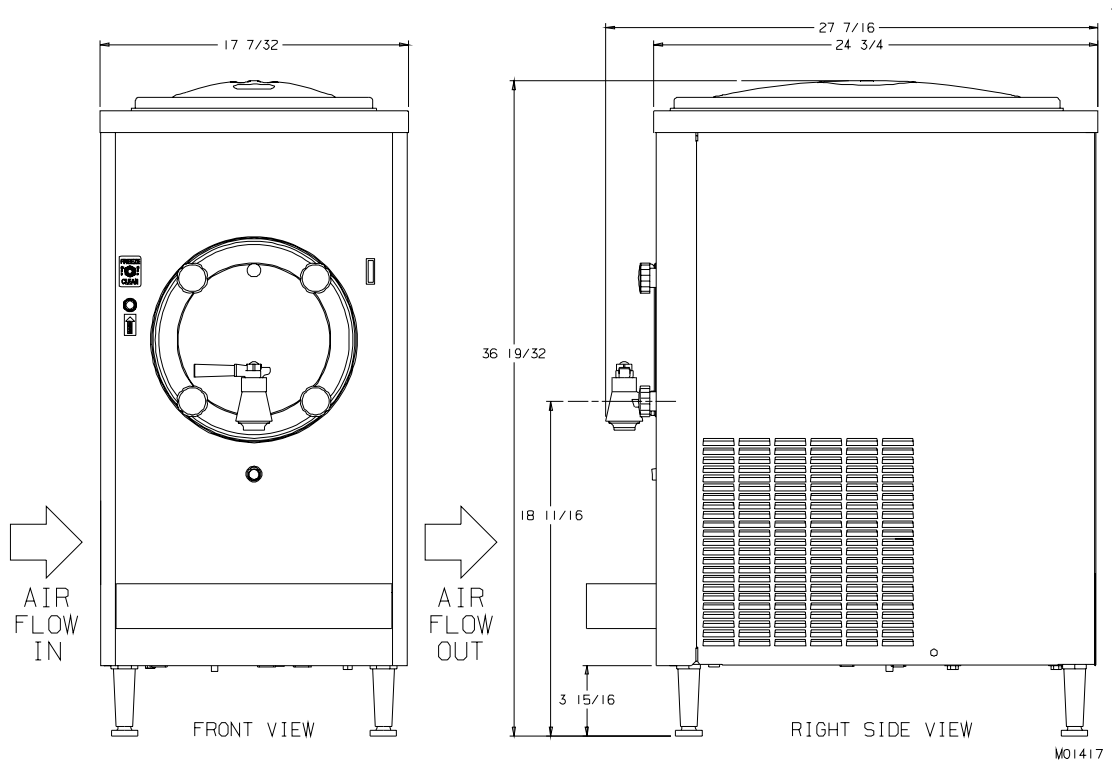


Figure 3-2 Arctic Rush® Counter Model Freezers

- continued

3.5 Dimensions – continued

Figure 3-3, below, provides the dimensions of the Arctic Rush® Models 145 and 145RH.

145 and 145RH Floor Model

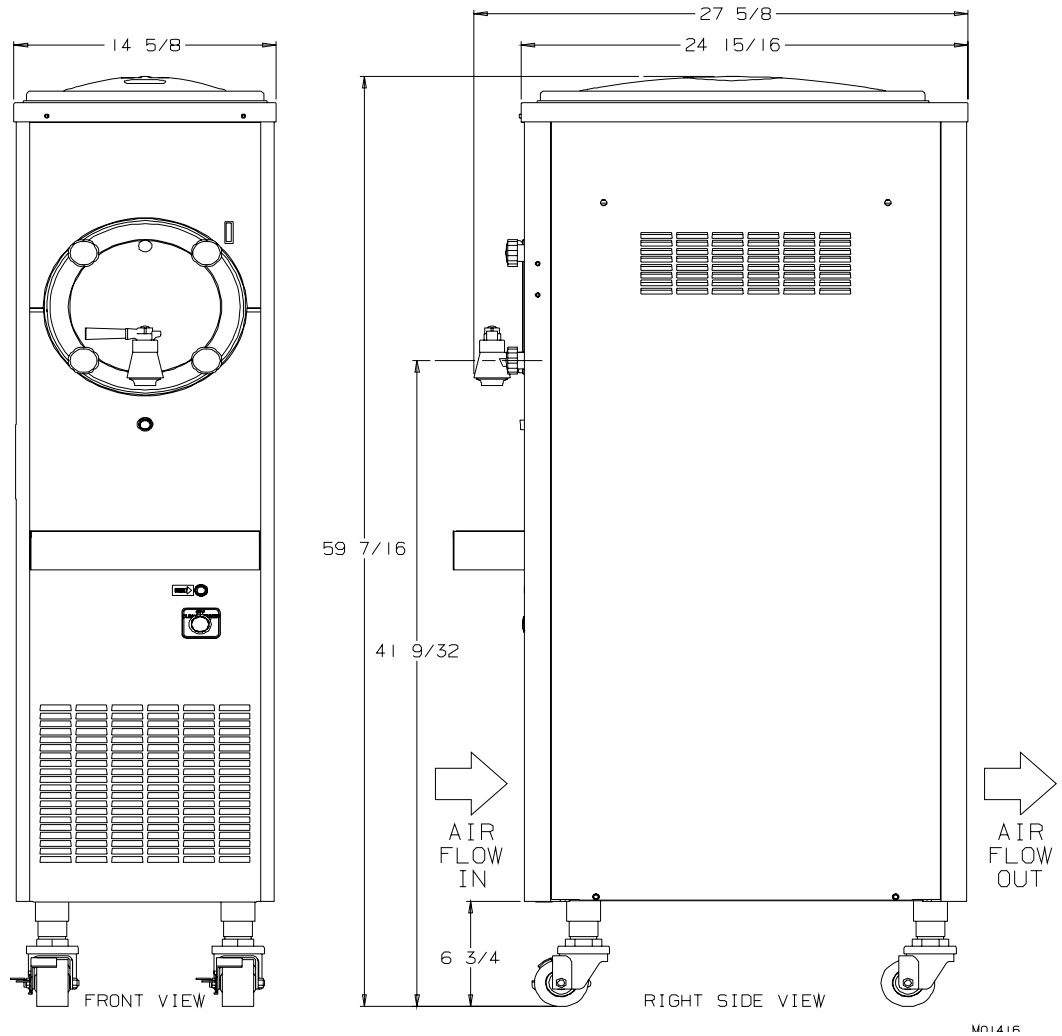


Figure 3-3 Arctic Rush® Floor Model Freezers

4 Part Names and Functions

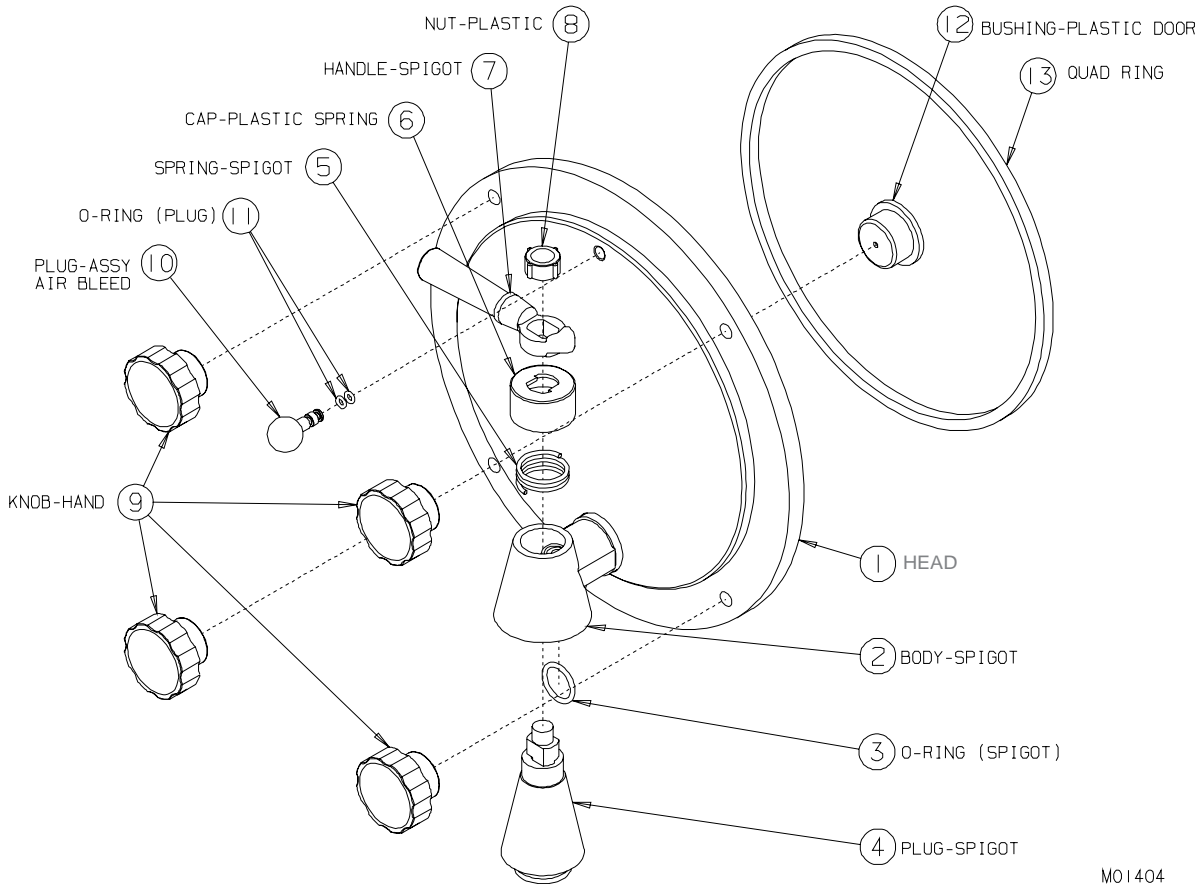


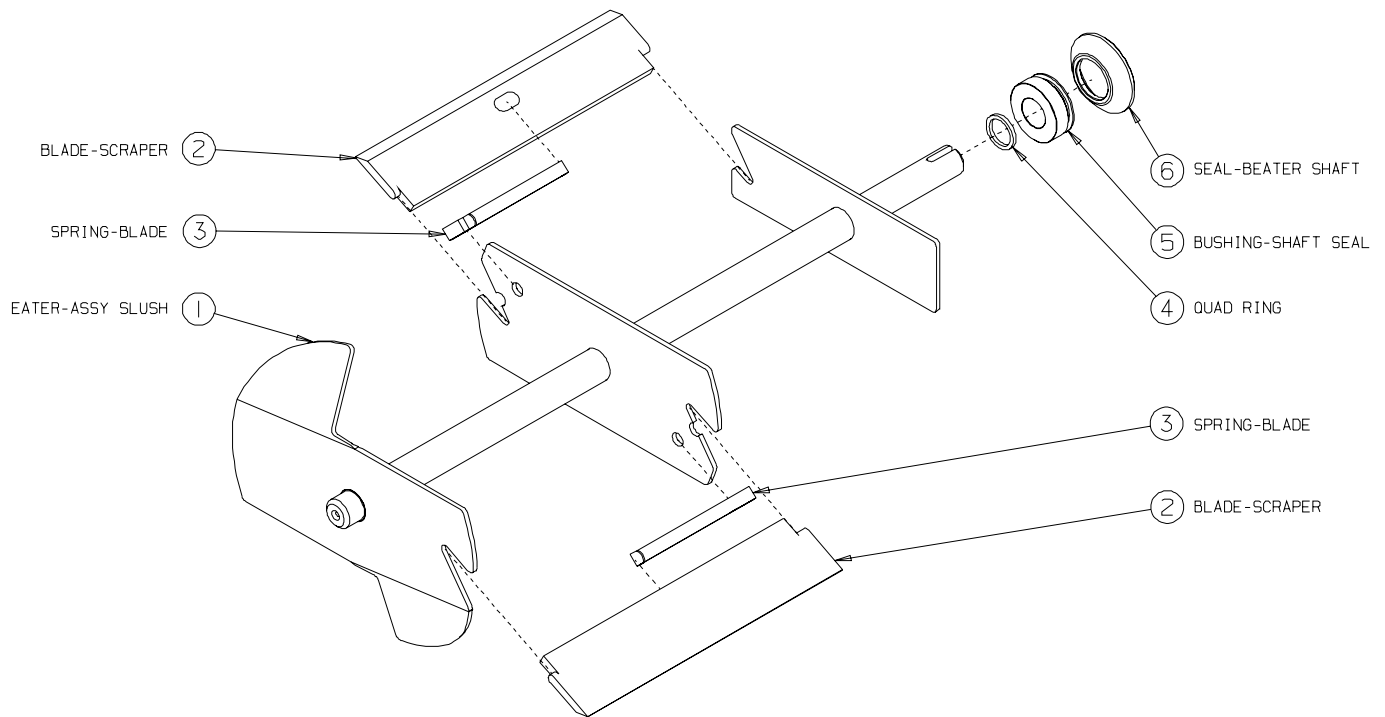
Figure 4-1

M01404

- ① **HEAD.** Encloses the freezing cylinder and provides an opening for product to be dispensed.
- ② **BODY - SPIGOT.** Provides an opening and a housing in the head for the plug-spigot.
- ③ **O-RING - SPIGOT.** Seals the spigot plug in the spigot body.
- ④ **PLUG - SPIGOT.** Seals the product opening in the head when closed. Allows product to flow when open.
- ⑤ **SPRING - SPIGOT.** Puts tension on the spigot plug to seal against the spigot O-ring.
- ⑥ **CAP SPRING - PLASTIC.** Covers the spring and locks the spigot plug to the body for assembly.
- ⑦ **HANDLE - SPIGOT.** Used to open and close the spigot to start and stop the flow of product from the freezer.
- ⑧ **NUT - PLASTIC.** Holds the spigot assembly in the spigot body.
- ⑨ **KNOB - HAND.** Secures the head to the freezing cylinder.
- ⑩ **PLUG - AIR RELIEF.** Seals the air relief opening in the head when closed. Allows air to be removed from the cylinder in the filling process.
- ⑪ **O-RING - PLUG.** Seals the air relief plug in the head.
- ⑫ **BUSHING - HEAD.** Supports and aligns the beater shaft in the head. *Must be lubricated.*

4

Part Names and Functions



MO1420

Figure 4-2

- ⑬ **QUAD-RING - HEAD.** Seals the head to the freezing cylinder. Must be lubricated.
- ⑭ **SHAFT - BEATER.** Rotates in the freezing cylinder to keep product blended.
- ⑮ **BLADE - SCRAPER.** Scrapes the frozen product from the freezing cylinder wall.
- ⑯ **SPRING - BLADE SCRAPER.** Holds the blade against the cylinder wall.
- ⑰ **QUAD-RING - BEATER.** Seals between the beater and the shaft seal bushing. *Must be lubricated.*
- ⑱ **BUSHING - SHAFT SEAL.** Holds the cup seal to the beater shaft. *Must be lubricated.*
- ⑲ **CUP - SHAFT SEAL.** Seals the opening between the freezing cylinder and the beater shaft

5 Operator Controls and Indicators

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

5.1 Selector Switch ①

This three position switch controls the functions of your freezer.

- a. **“CLEAN”** — This position operates the beater only (no refrigeration). Use this position in all cleaning and sanitizing operations.
- b. **“OFF”** (center) — In this position the beater motor and refrigeration system will not operate.
- c. **“FREEZE”** — This position activates both the beater motor and refrigeration unit. This is the normal operating position.

Important:

Do not use the “FREEZE” position with water or sanitizer in the cylinder or hopper. Freezing water or sanitizer in the cylinder or hopper will damage the freezer.

5.2 Overload – Reset ②

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

Important:

If the overload trips frequently, your freezer should be checked for proper product consistency and voltage. Contact your authorized H. C. Duke & Son, Inc. Service Company.

5.3 Indicator Light – “ADD MIX” ③ (Optional Feature)

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

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

6 Operator Controls and Indicators

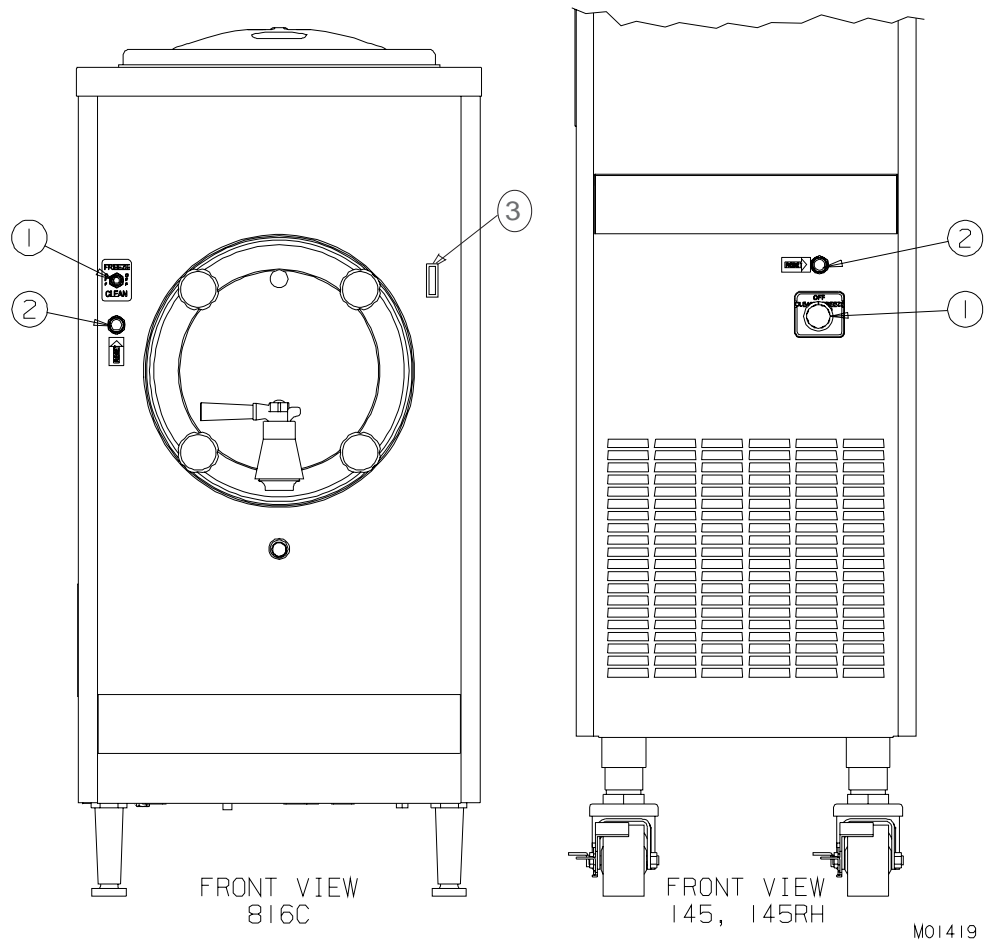


Figure 5-1

6 Disassembly and Cleaning



CAUTION

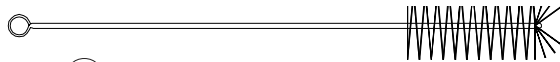
To avoid electrical shock or contact with moving parts, make sure all switches are in the "OFF" position and that the main power supply is disconnected.

The freezer has been completely tested at the factory. *It is important that the freezer be disassembled, cleaned, reassembled, lubricated and sanitized before operation.*

The cleaning and sanitizing instructions explained in this manual are required to

maintain a clean, sanitary freezer. IDQ requires that the freezer be disassembled, cleaned, reassembled, lubricated and sanitized weekly to ensure the best possible product and freezer operation. Persons assembling, cleaning or sanitizing the freezer must first wash their hands thoroughly.

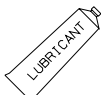
6.1 Cleaning Accessories



- ① BRUSH-9/16" DIA W/36" LONG HANDLE
HC158077



- ② 1" DIA. x 12" LONG
HC158026



- ③ LUBRI-FILM 4 OZ.
HC158054A

The following accessories are shipped with your freezer and are necessary for cleaning, sanitizing and disassembly/assembly procedures. See Figure 6-1.

- ① BRUSH, Drain tube. 9/16-inch diameter with a 36-inch handle used for cleaning the drain tubes and mix inlet tube.
- ② BRUSH, General parts cleaning. 1-inch diameter with 12-inch handle used for cleaning the head.
- ③ LUBRICANT, Lubri-Film. Approved lubricant for moving parts and O-rings. See Assembly, Section 8 for lubricating points.
- ④ KIT, O-ring. This kit contains all O-rings and seals needing replacement on a regular basis. (Not shown)

Figure 6-1 Accessories

6.2 Disassembly Instructions

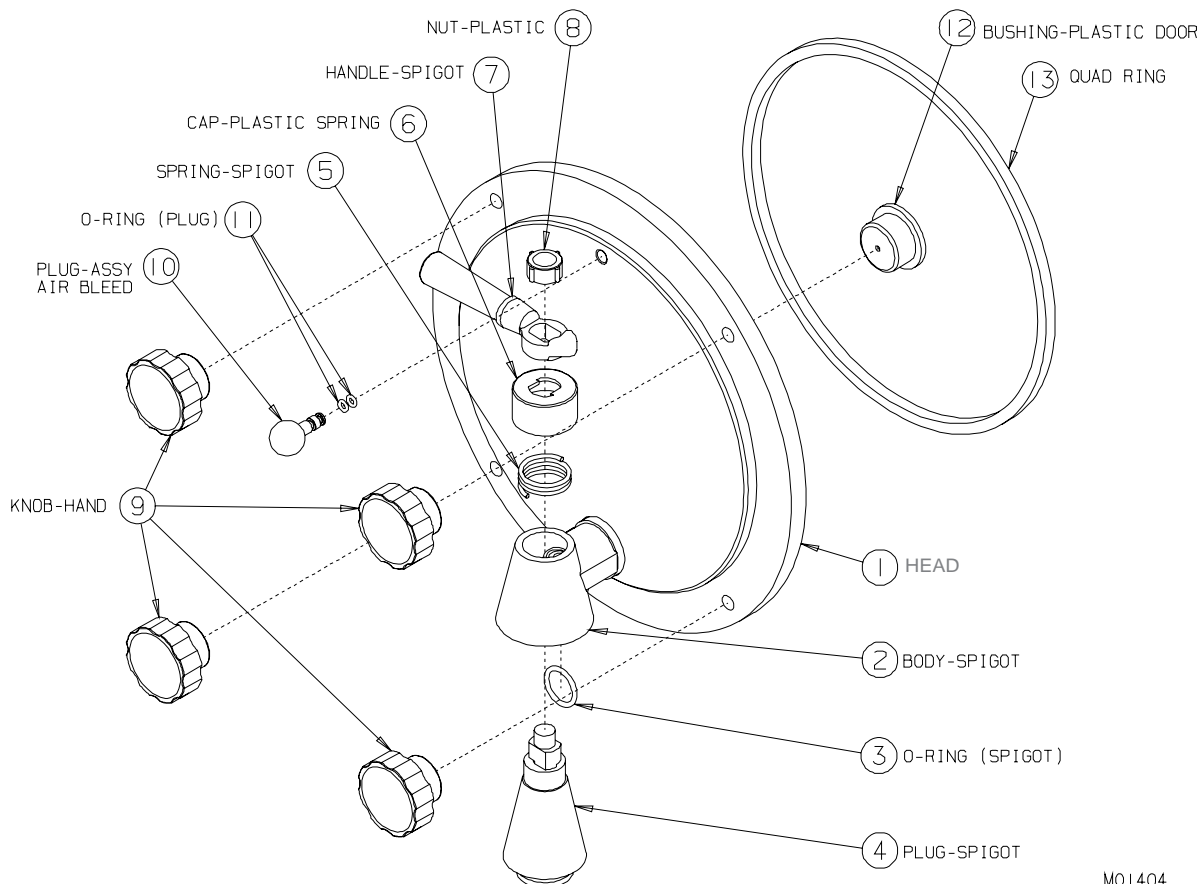


Figure 6-2 Disassemble head assembly

MO1404

1. If there is product in the freezer refer to Closing Procedures, Draining Product, paragraph 9.1.
2. Remove the four hand knobs (9, figure 6-2) and pull the dispensing head (1) straight out.
3. Disassemble the spigot assembly by carefully removing the plastic nut (8), handle (7), cap (6), and spring (5) through the top of the spigot body (2).
4. Remove the spigot plug (4) through the bottom of the spigot body (2).

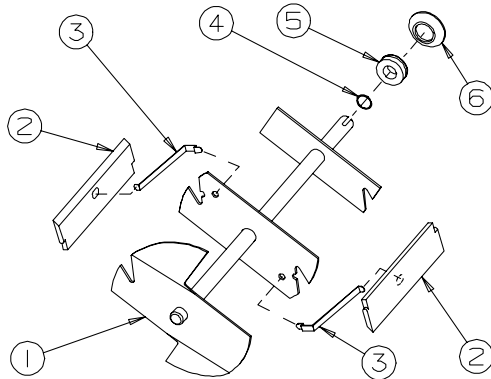
CAUTION
When disassembling the spigot assembly, remove the nut and cap slowly and carefully. The spring pressure will force or “pop” the cap off.

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

5. Remove the O-ring (3) from the spigot body (2).
6. Remove the air relief plug (10) and two O-rings (11) on plug.
7. Remove the head bushing (12) from the head (1) or end of the beater shaft.
8. Remove the head quad ring (13) from the face of the freezer.

— continued

6.2 Disassembly Instructions – continued



9. Remove the beater shaft (1, figure 6-3) from the cylinder.
10. Remove scraper blades (2), springs (3), shaft seal (5, 6) and quad ring (4) from the beater shaft (1).
11. Remove the cup seal from the bushing on the shaft seal assembly as shown in figure 6-4.
12. Remove hopper cover, drip tray and drip tray insert.

Figure 6-3 *Disassemble the shaft assembly*

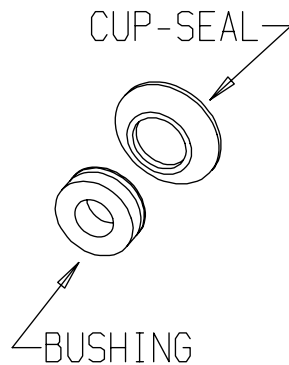


Figure 6-4 *Disassemble the shaft seal assembly*

6.3 Cleaning Instructions

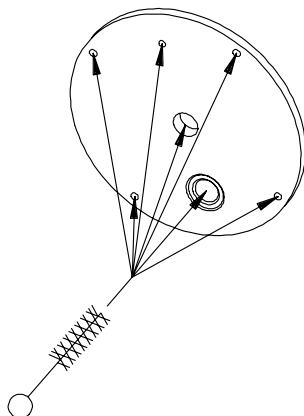


Figure 6-5 Clean head openings

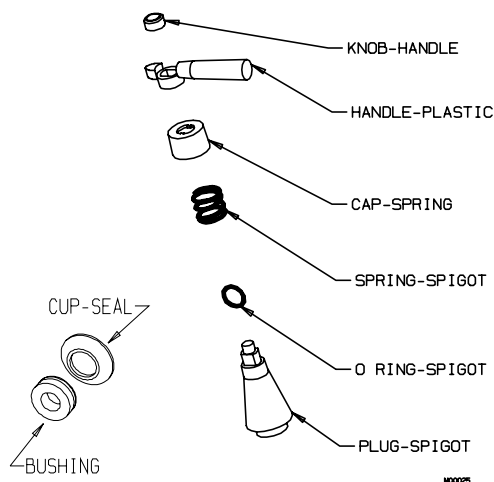


Figure 6-6 Clean spigot assembly and shaft seal



CAUTION
 Electric 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 federal, state and local laws concerning the frequency of cleaning and sanitizing.

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



CAUTION
 To prevent bacteria growth, remove all O-rings when cleaning. 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.

2. Prepare 2 gallons sanitizing solution (example: Stera-Sheen Green Label) in one compartment.

NOTE: Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM strength chlorine solution. Use warm water (100 to 110°F or 38 to 43°C) to wash, rinse, and sanitize. Make sure sanitizer is completely dissolved and/or mixed thoroughly.

— continued

6.3 Cleaning Instructions

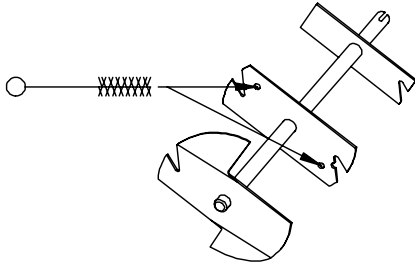


Figure 6-7 Clean beater shaft

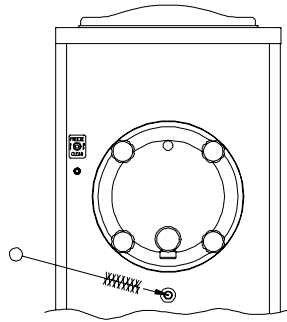


Figure 6-8 Brush inside of drain tube

3. Wash all parts removed from the freezer thoroughly with a warm, mild dish detergent solution. Clean the following parts with the appropriate supplied brush:
 - a. The head spigot openings, bushing cavities, mounting holes and mix ports as shown in figure 6-5.
 - b. The shaft seal, bushing, O-ring grooves and spigot assembly as shown in figure 6-6.
 - c. The beater shaft inside spring mounting holes and the scraper blade mounting indentations as shown in figure 6-7.

Important:

Do NOT leave parts in sanitizer for more than 15 minutes. Damage will occur.

4. After all parts removed from the freezers are thoroughly washed, rinse and place in sanitizer. For proper sanitizing, the parts must remain in the sanitizer for 5 minutes. Let parts air dry.
5. Remove hopper cover and take to sink area to wash with a warm, mild dish detergent solution. Rinse with clean water.
6. With the dish detergent thoroughly brush the inside of the hopper, the mix feed port to the cylinder, the drain tube (see figure 6-8), and the inside of the cylinder making certain to clean the back wall. Rinse with clean water.
7. Wipe down the freezer with the dish detergent solution and rinse with clean water.

7 Assembly

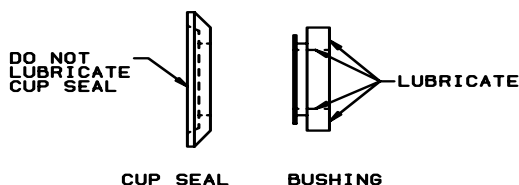


Figure 7-1 Assemble and lubricate shaft seal

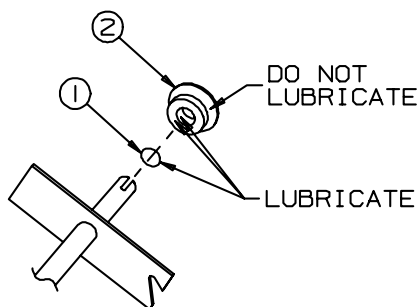


Figure 7-2 Assemble quad ring and seal on beater shaft

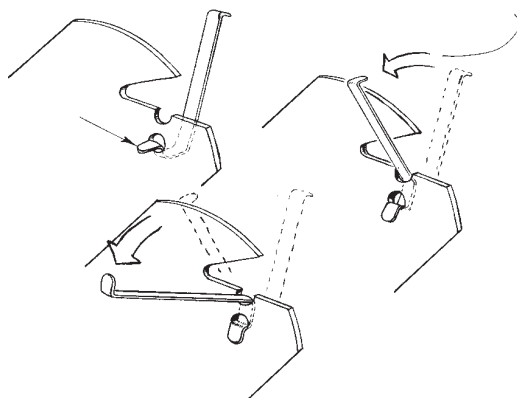


Figure 7-3 Attach blade springs to beater plates

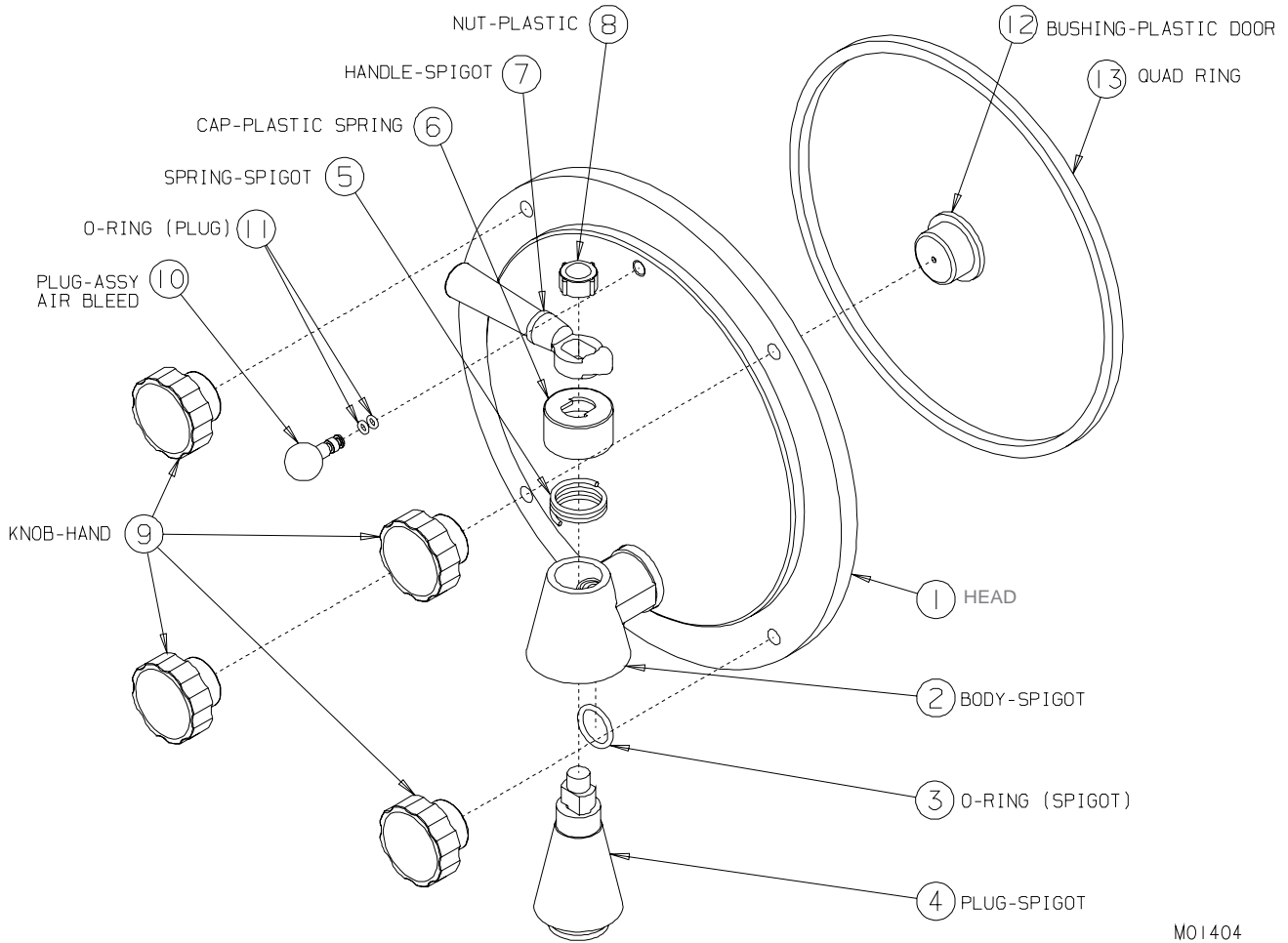
Correct assembly of the freezer is essential to prevent leakage of the product and damage to the freezer. To assemble the freezer you will need an approved lubricant (such as Lubri-Film). Make sure all parts of the assemblies have been washed and sanitized before assembling. Persons assembling the freezer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

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

1. Assemble the cup seal on the bushing to complete the beater shaft seal (see figure 7-1.) Apply a light amount of approved sanitary lubricant, such as Lubri-Film, to the internal surface and the face of the plastic bushing opposite the bell shaped portion of the seal. Do not allow any lubricant to come into contact with the bell-shaped rubber cup portion of the seal.
2. Slide the quad ring (figure 7-2, item 1) over the rear of the beater shaft and apply a liberal amount of lubrication.
3. Install the shaft seal (2) over the rear of the beater shaft with the bell-shaped portion facing the rear and the bushing portion against the quad ring.
4. Attach the blade springs to the beater plates as shown in figure 7-3.
5. Insert scraper blades into the proper beater plate slots so that the end of the spring rests in the groove on the underside of the blade.

– continued

7 Assembly—continued



M01404

Figure 7-4 Assemble head assembly

7 Assembly—continued

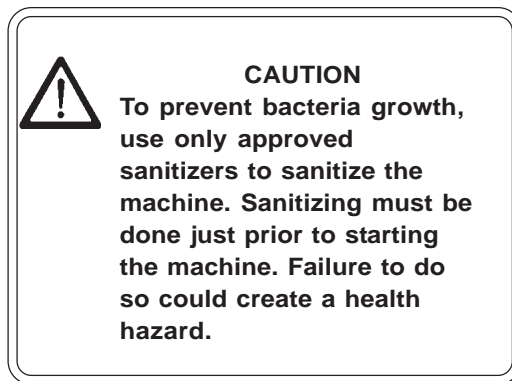
6. Insert the assembled beater into the cylinder by placing the rear blade on the bottom of the cylinder and depressing the front blade and spring. This will center the beater shaft and allow alignment with the drive shaft. Rotate the beater assembly while pushing, until the shank has engaged the drive shaft.
 7. Slide the beater toward you about $\frac{1}{2}$ inch — this is necessary to align and install the head properly.
 8. Assemble the spigot assembly (figure 7-4) by first installing the O-ring (3) in the groove inside the spigot body (2) and lubricate.
 9. Now install the spigot plug (4) up through the bottom of the spigot body (2).
 10. While holding on the bottom of the spigot plug (4), install the spring (5), place the cap (6) on the spigot plug and turn to lock in place, and handle (7) onto the top side of the spigot plug (4).
 11. Thread the plastic nut (8) on the spigot plug (4) then screw the nut down tight.
 12. Install and lubricate the air relief plug O-rings (11) then insert the plug (10) into the head (1).
 13. Lubricate the inside of the head bushing (12), then insert into the head.
 14. Apply lubricant in four dots, equally distanced, in the face recess around the front of the freezing cylinder, and then place the head quad ring (13) against the lubricant.
- NOTE:** If the head does not slide easily into place, recheck engagement of beater with the drive shaft and head bushing.
15. Line the head up so that end of beater is in line with the head bushing hole. Slide the head over the studs and press in place against the quad ring.
- Important:**
DO NOT use excessive force when tightening the hand knobs. Excessive force will damage the head. Tighten finger-tight only.
16. Install the four hand knobs (9) on the studs until they contact the head. Draw knobs up equally, tighten *lightly*, with finger pressure only.

8 Start-up Instructions

8.1 Sanitizing

The washing and sanitizing instructions explained in this manual are important procedures to remove bacteria and maintain a clean sanitary freezer. The Arctic Rush® freezer *must* be disassembled and washed according to the instructions in this manual *before assembly and sanitizing (start-up)* to ensure the best possible cleanliness. Use of an unapproved sanitizer will void your warranty. Use of an unapproved sanitizer will void your warranty.

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



Important:

This sanitizing step is always done just prior to starting the freezer. Never let the sanitizer remain in the freezer for more than 15 minutes.

1. Wash and sanitize your hands and forearms.
2. Prepare 4 gallons (15.2 liters) of sanitizing solution (example: Stera-Sheen Green Label) in a container. Sanitizing solution must be mixed according to manufacturer's instructions to yield 100 PPM strength chlorine solution.

Important:

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

3. Pour sanitizing solution into the hopper pan. Using a clean brush, wash down the hopper walls and the mix feed port from the hopper to the cylinder as shown in figure 8-1.
4. Remove air relief plug and allow sanitizer to flow into cylinder. Replace the plug when sanitizer reaches bottom of air plug opening.

Figure 8-1 Sanitize hopper and mix feed port

— continued

8.1 Sanitizing – continued

Important:

DO NOT use the “FREEZE” position with sanitizer in the cylinder. Frozen sanitizer in the system will damage the freezer.

5. When the cylinder has filled with sanitizing solution, turn the selector switch to the “CLEAN” position and allow the beater to run for 5 minutes.
6. At this time check for leaks around the head, spigot, and drain tube.

Important:

DO NOT hang containers from the dispensing spout — this will damage the head.

7. Place an empty container under the dispensing head and drain the solution by opening the spigot to allow the cylinder and hopper to empty.
8. When the sanitizing solution has drained from the freezer, turn the selector switch to the “OFF” position.

8.2 Product Preparation

Important:

DO NOT use the freezer for purposes other than freezing Arctic Rush® mix. DO NOT attempt to freeze plain water — this will result in damage to the freezer.

1. Use container of sufficient capacity and with gallon measurement markings to accurately mix in quantities required per the product manufacturer's instructions.
2. Prepare at least 5 gallons (18.9 L) of mix. Follow the directions exactly as shown on product label.

NOTE: The product should register between 11-13° Brix on a refractometer or a hydrometer.

EXAMPLE: For powdered neutral base, add contents of package and 5 lbs. of sugar with enough water to make 5 gallons of neutral base. *Never* add more water than instructions call for.

3. Precool the Arctic Rush® base mix. It is not necessary, but you will gain added capacity in your freezer by precooling the mix. Cool at 36°F (2°C). **DO NOT FREEZE.**

8.3 Priming

Priming the freezer removes excess air from the freezing cylinder and sets the proper consistency for the first cylinder of product.

1. While holding the spigot open, pour the Arctic Rush® mix directly into the hopper allowing the mix to force out the remaining sanitizer (approximately 8 ounces or 250 ml).
2. When pure mix (all sanitizer is expelled) appears, close the spigot.

Important:

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

3. Remove the air relief plug and allow cylinder to fill with mix. Replace air plug when mix reaches bottom of air plug opening.
4. Finish filling the hopper with mix. The freezer will hold 8.5 gallons (3.5 in the freezer cylinder and 5 in the reservoir). (32.3 Liters-13.2 L in cylinder and 18.9 L in reservoir)

NOTE: Do not allow the level of mix in the hopper to fall below 2 inches.

5. Turn the selector switch to the "FREEZE" position.
6. Place the hopper cover over the hopper.
7. When the Arctic Rush® mix has been frozen to the proper consistency, the compressor will automatically shut off. It will restart whenever the product consistency changes. The beater will run continually.
8. See Product Information, Section 10, for determining consistency and making adjustments.
9. If your Arctic Rush® mix is above 70°F (21°C), it will take approximately 30 minutes to freeze down to proper consistency.



9 Closing Procedures

NOTE: *The frequency of cleaning and sanitizing this freezer is governed by state and local health codes. It is your responsibility to be aware of, and conform to, those health codes. For safety and maximum life on moving parts, the freezer must be cleaned and lubricated weekly.*

1. Place the selector switch in the "OFF" position at the end of the day.
2. To restart it on the following day, place the selector switch in "FREEZE" position. The mix in the cylinder will remain partially frozen overnight and this will reduce the freezing time to 5-10 minutes.

9.1 Draining Product from Freezer.

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

1. Place the selector switch in the "CLEAN" position.
2. Place a clean, sanitized container under the dispensing nozzle.
3. Dispense the semi-frozen product until it quits. Cover the product container and place it in the cooler.
4. Pour 2 gallons of cold water into the hopper.
5. Dispense the cold water. Follow with a gallon of warm water and repeat until the water is clear.
6. Refer to Disassembly and Cleaning, Section 6 for further instructions.

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

10 Product Information

10.1 Determining Product Consistency

1. For Arctic Rush® Mix, use a clear, straight-sided glass of any size and dispense a full glass of frozen product. (Arctic Rush® Flavor bottles work well).
2. Allow the glass to stand for 2 minutes at room temperature away from any heat source.
3. The product is of proper consistency when the upper 3/4 is “slushy snow” and the lower 1/4 is liquid at the end of 2 minutes.

10.2 Adjusting Product Consistency

Product consistency has been preset at the factory. Further adjustment may be necessary to obtain your desired consistency. For instruction on adjusting product consistency, proceed with the following steps.

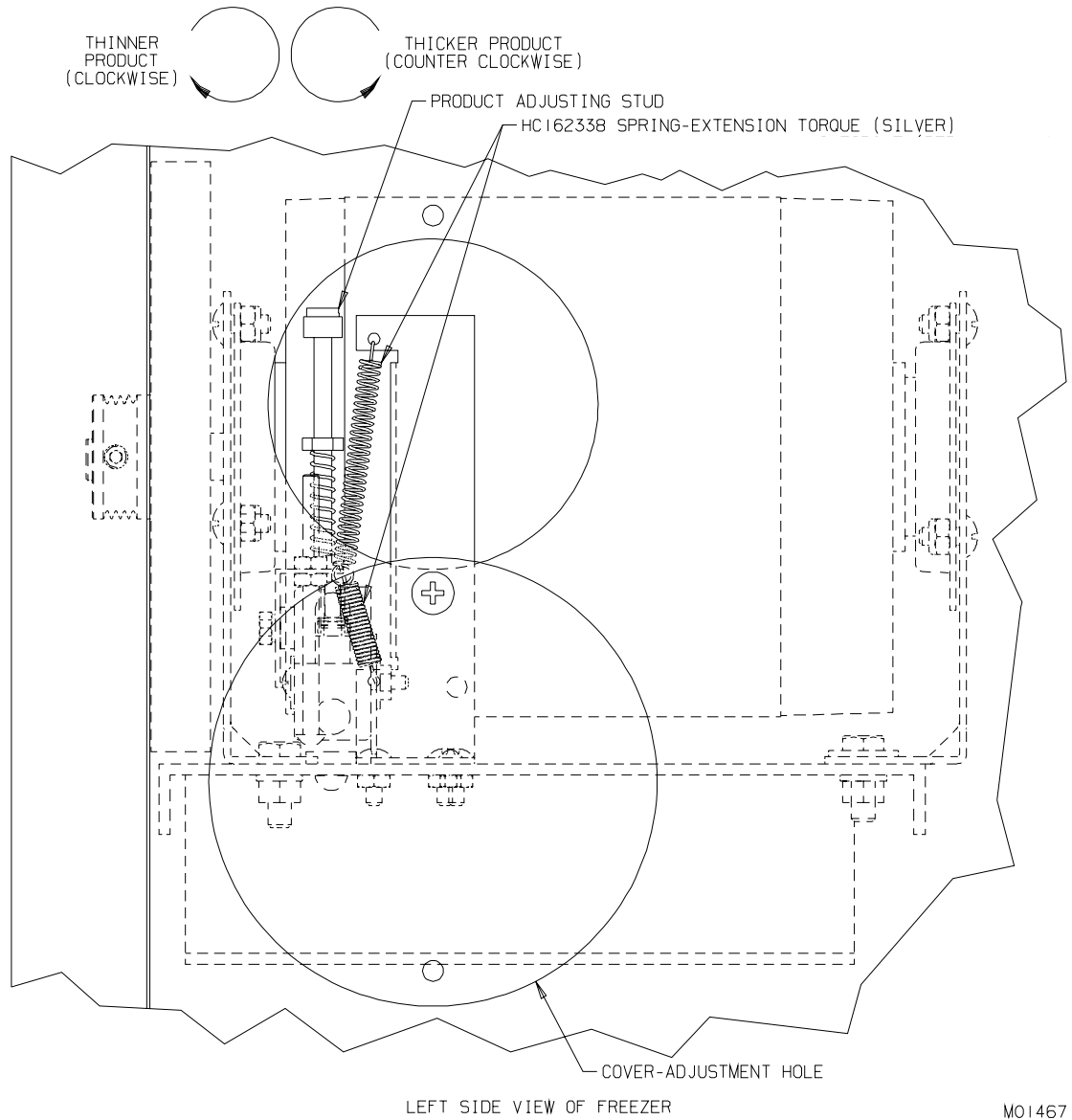
1. Allow the freezer to operate until the compressor shuts off. Dispense sufficient product to check consistency. (Refer to Section 10.1, Determining Product Consistency.)



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.

3. Remove the top screw holding the cover and loosen the bottom, letting the cover swing away from the access hole.
 4. Look into the access hole and you will see an arm extending from the drive motor (see figure 10-1, following page). The arm is held in place by springs on both top and bottom. At the end of this arm is a nylon adjusting stud. This stud is the only operating adjustment on the freezer.
 5. If the product is **too thin**, turn the adjusting stud **counterclockwise** (up) 1/2 turn. If the product is **too thick** turn the adjusting stud **clockwise** (down) 1/2 turn. Close cover. Reconnect the power and turn the selector switch to “FREEZE”. Wait until the compressor has cycled off.
 6. Recheck the product consistency in 30 minutes. Repeat steps and recheck until proper consistency is obtained. Close cover.
2. Find the small adjustment cover toward the rear in the center of the left side panel.

10.2 Adjusting Product Consistency (continued)



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Figure 10-1

For further information contact the Service Department of H. C. Duke & Son, Inc., phone (309) 755-4553 or (800) 755-4545.

10.3 Refractometer/Brix Reading

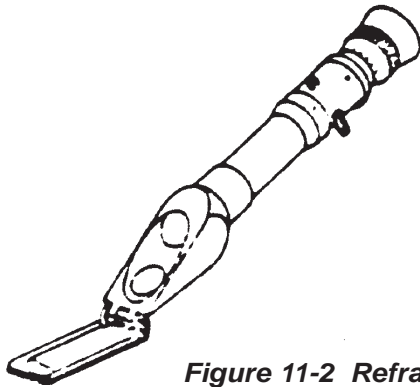


Figure 11-2 Refractometer

A refractometer measures soluble sugar content of mix, expressed in percentage weight. This is normally referred to as a “Brix Reading.” The typical refractometer uses a scale from 0% to 32%.

Adjust the refractometer according to the manufacturer’s instructions.

NOTE: A refractometer is a delicate instrument and must be handled with care. Never immerse the entire refractometer in a cold drink. Cooling the refractometer will cause it to give inaccurate readings. A refractometer cannot be used to read dietetic syrups.

1. Open the hinged side of the refractometer and place a few drops of mix on the slide.

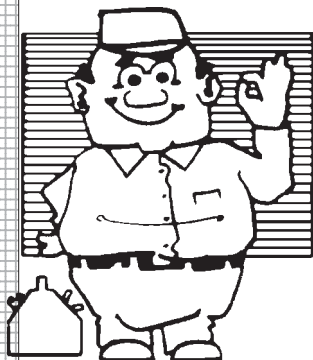
Close the slide and look through the eye piece, holding the refractometer up toward the light. A line will appear across a graduated scale which indicates the Brix level.

Acceptable Brix level is 11-13 on a refractometer.

NOTE: Never go below 11 on the Brix Reading.

Some experimentation may be necessary before correct Brix and serving temperature will be found. Generally, the higher the Brix reading the lower the serving temperature. Conversely, the lower the Brix reading, the higher the required serving temperature. If the complaint concerns product appearance, (ie. too runny or too stiff) always first take a Brix reading of the mix because variation in sugar content will have a direct bearing on actual freezing point.

11 Routine Maintenance



H.C. Duke & Son, Inc. recommends the following schedule to help maintain your equipment in *like-new* operating condition, as well as help to protect your investment. 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!



This safety symbol identifies procedures that could cause personal injury. If you are uncertain about a procedure and its safety, or have any questions on the safety precautions, contact IDQ or H.C. Duke & Son, Inc.

Daily

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

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

USE ONLY ORIGINAL OR AUTHORIZED REPLACEMENT PARTS WITH THIS FREEZER

(See Illustrated Replacement Parts Manual)

If you have any questions on items that are not included in this schedule or problems where service assistance is needed, please call H. C. Duke & Son, Inc. , Service Department, for factory service assistance at **(309) 755-4553 or (800) 755-4545.**

Weekly

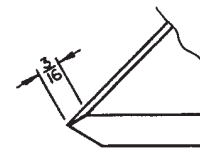
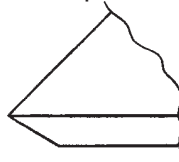
1. Disassemble and thoroughly clean, rinse, sanitize, air-dry, reassemble and sanitize all parts from this freezer that come into contact with mix.

CAUTION



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

2. Clean the cylinder and drain tube with the appropriate brushes.
3. Upon cleaning, inspect and lubricate all seals and O-rings as instructed in the manual that come into contact with mix. Replace as needed.
4. Carefully inspect all parts for wear, including seals, O-rings and blades. Replace as required.



Replace blades if worn 3/16" or more.

5. Check the beater shank and drive shaft for wear.

12 Routine Maintenance

Quarterly



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



CAUTION
Condenser fins are very sharp! Use extreme caution when cleaning.

1. Have air-cooled condenser fins cleaned by your service technician.

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

Annually

Contact IDQ or your authorized H.C. Duke & Son, Inc. Service Representative to perform the following services:

1. Inspect and clean the beater drive motor.
2. Replace the drive belt.
3. Clean the inside of the freezer, including base, side panels, condenser, etc.
4. Check water-cooled condenser and flush clean if necessary (water-cooled only)
5. Check the refrigeration system and make any necessary adjustments.

Winter Storage

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

1. Disconnect all power to the freezer.
2. Disassemble and wash all parts that come into contact with the mix using a warm, mild detergent solution. Rinse in clear water and dry all parts thoroughly.
3. Store the loose parts (i.e., the parts in the head assembly and beater assembly) in a safe, dry place.
4. Do not lay heavy objects on the plastic or rubber parts.
5. Cover the freezer and all loose parts to protect them from dust or other elements that could contaminate them while in storage. Place the freezer in a dry location.
6. Have condenser fins on air-cooled freezers cleaned.

Important:
Failure to purge the freezer of water may result in severe damage to the cooling system. Call IDQ or your authorized H.C. Duke & Son, Inc. Service Representative.

7. If a water-cooled freezer, disconnect the water supply. Use compressed air to blow out all remaining water in the condenser.



12 Troubleshooting Tables



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



CAUTION

All maintenance adjustments must be done by an authorized service technician.

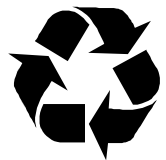


CAUTION



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

IMPORTANT







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



12 Troubleshooting Tables

PROBLEM	PROBABLE CAUSE	REMEDY
Freezer does not operate.	1. Freezer unplugged.	1. Plug in freezer.
	2. Fuse or breaker blown at main disconnect. 	2. Have service technician make sure your freezer is connected to a separate circuit independent from any other electrical equipment. Have service technician check fuse or breaker size and check for low voltage; if not within 10% of nameplate rating call the power company.
	3. Beater motor out on overload.	3. Allow motor to cool off, reset circuit breaker, and check product consistency.
	4. Our on high pressure.	4. Contact your local service company.
	5. Component failure.	5. Contact your local service company.
Product will not freeze.	1. Improper mixing of product. Brix too high.	1. Follow mixing instructions on product label. See Section 10.1, Determining Product Consistency.
	2. Component failure.	2. Contact your local service company.
	3. Upper torque spring not connected. 	3. Install torque spring. See Section 10.2, Adjusting Product Consistency.

12 Troubleshooting Tables

PROBLEM	PROBABLE CAUSE	REMEDY
Product too thin.	1. Improper mixing of product. Brix too high.	1. Follow mixing instructions on product label. See Section 10.1, Determining Product Consistency.
	2. Adjustment screw not properly set. 	2. Adjust screw for proper consistency. See Section 10.2, Adjusting Product Consistency.
	3. Component failure.	3. Contact your local service company.
Product too thick.	1. Improper mixing of product. Brix too low. 	1. Follow mixing instructions on product label. See Section 10.1, Determining Product Consistency.
	2. Adjustment screw not properly set. 	2. Adjust screw for proper consistency. See Section 10.2, Adjusting Product Consistency.
	3. Lower torque spring not connected. 	3. Install torque spring. See Section 10.2, Adjusting Product Consistency.
	4. Component failure.	4. Contact your local service company.
Leakage of product from drain tube.	1. Cup seal leaking or improperly installed. 	1. Replace cup seal or install properly.
	2. Beater shaft assembly damaged.	2. Contact your local service company.
Product leaking around head.	1. Head quad ring defective. 	1. Replace quad ring.
	2. Hand knobs not drawn up properly.	2. Tighten hand knobs (hand tighten only).
	3. Damaged or worn o-ring on the spigot assembly.	3. Replace and lubricate o-rings on spigot assembly.
	4. Damaged head assembly.	4. Contact your local service company.

12 Troubleshooting Tables

PROBLEM	PROBABLE CAUSE	REMEDY
Freezer vibrates.	1. Insufficient supply of mix.	1. Fill hopper at least 1/3 full – keep hopper this full at all times.
	2. Improper mixing of product. Brix too low.	2. Follow mixing instructions on product label. See Section 10.2, Adjusting Product Consistency.
	3. Worn blades.	3. Replace blades.
	4. Freezer not level.	4. Level freezer.
	5. Low on refrigerant.	5. Contact your local service company.
Poor or slow product recovery.	1. Dirty or blocked condenser, restricted air flow and/or high room temperature.	1. Remove obstruction and/or lower room temperature. Have condenser cleaned by your local service company,
	2. Dispensing too much product too fast.	2. Check freezer capacity rating.
	3. Product too warm going into freezer.	3. Precool – DO NOT FREEZE.
	4. Component failure.	4. Contact your local service company.
Compressor starts, but remain in start windings.	1. Low line voltage.	1. Check for other equipment on the same circuit. Call power company or your local service company.
	2. Improperly wired.	2. Contact your local service company.
	3. Current relay defective.	3. Contact your local service company.
	4. Start capacitor weak.	4. Contact your local service company.
	5. High discharge pressure.	5. Check air condenser. If it needs to be cleaned contact your local service company.

12 Troubleshooting Tables

PROBLEM	PROBABLE CAUSE	REMEDY
Contactor chatters or coil burned out.	1. Low line voltage	1. Contact your local service company to check voltage. Check for other equipment on the same circuit.
Head pressure too low.	1. Shortage of refrigerant	1. Contact your local service company.
Freezer operates long or continuously.	1. Shortage of refrigerant.	1. Contact your local service company.
	2. Dirty condenser (air cooled).	2. Have condenser cleaned by your local service company.
	3. Moisture in system.	3. Contact your local service company.
	4. Compressor failing.	4. Contact your local service company.
	5. Setting to cold	5. Adjust warmer. See Section 10.2, Adjusting Product Consistency,
Head pressure too high.	1. Refrigerant overcharge.	1. Contact your local service company.
	2. Air in system.	2. Contact your local service company.
	3. Dirty condenser (air cooled).	3. Have condenser cleaned by your local service company.
	4. Freezer location too warm.	4. Relocate freezer away from restriction. Be sure nothing is placed against the back of the freezer.

12 Troubleshooting Tables

PROBLEM	PROBABLE CAUSE	REMEDY
Noisy Compressor.	1. Tubing rattling.	1. Bend tubes away from contact.
	2. Motor off of internal springs. Springs broken or bent.	2. Replace compressor, contact your local service company.
Compressor will not start – hums intermittently (cycling on overload).	1. Improperly wired.	1. Contact your local service company.
	2. Low line voltage.	2. Contact your local service company.
	3. Open starting capacitor or current relay.	3. Contact your local service company.
	4. High discharge pressure.	4. Check air condenser. If it needs to be cleaned contact your local service company
Start capacitors burned out.	1. Voltage too low.	1. Contact your local service company.
	2. Improper capacitor.	2. Contact your local service company.



H. C. DUKE & SON, INC.

2116 - 8th Avenue • East Moline, Illinois 61244

REPLACEMENT PARTS MANUAL
with ILLUSTRATIONS



Arctic Rush®
Models 145,
145RH and 816C

184674-01 — 4/05

Replacement Parts Orders

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

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

Place your parts orders by phone, FAX, e-mail or letter to:

H. C. Duke & Son, Inc.
2116 – 8th Avenue
East Moline, Illinois 61244



Telephone: (309) 755-4553
or (800) 755-4545
Fax: (309) 755-9858
E-mail: service@hcduke.com

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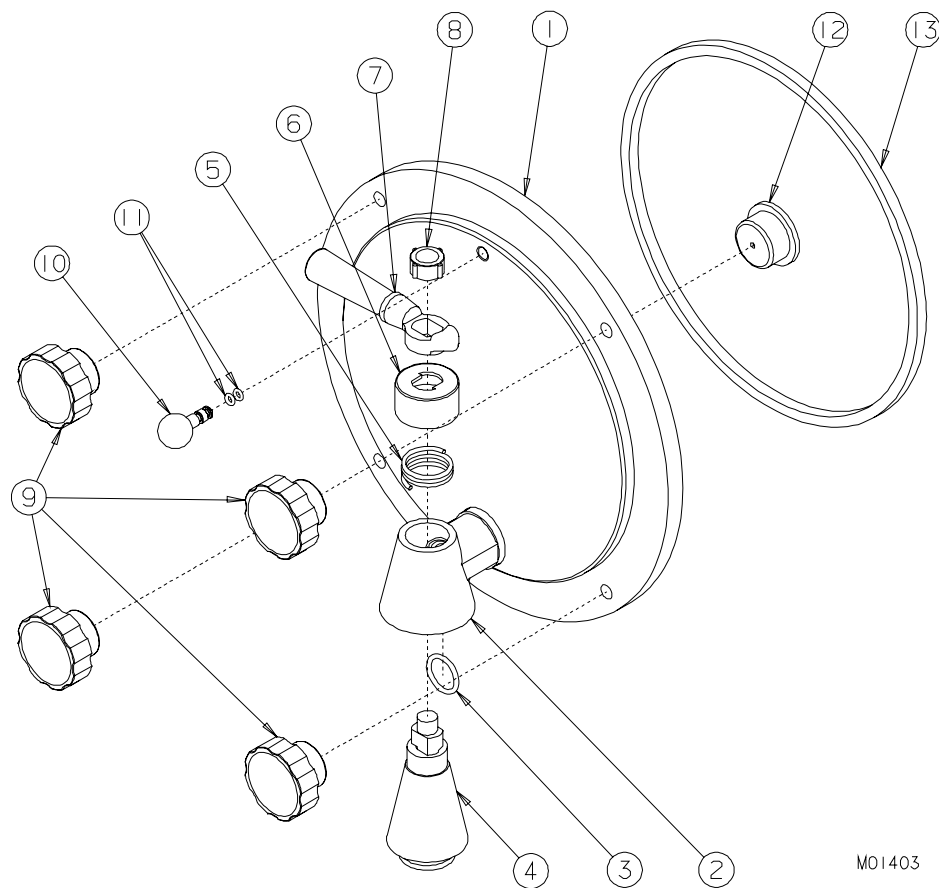
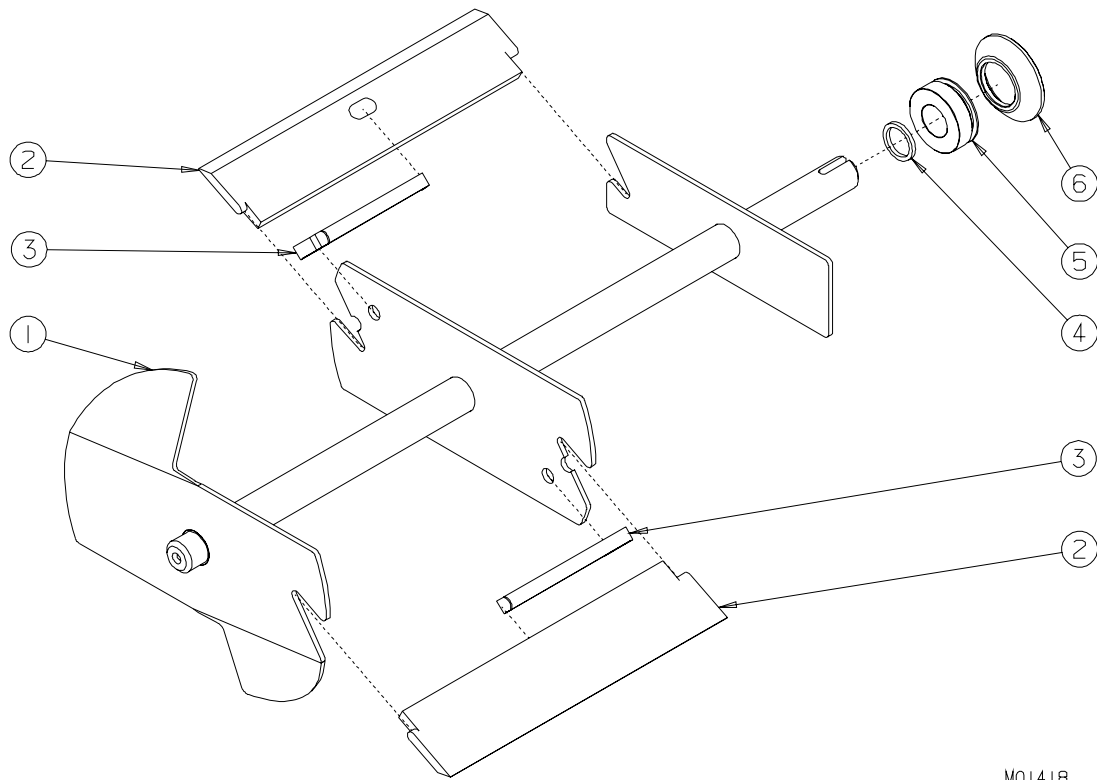


Figure 1 Head/Door Assembly

Item	Part No.	Description
*	HC114729	Door-Assy.Complete (Includes all items except #9 & #13)
1	HC114990	Door-Assy. w/Spigot and Air Relief Hole
2	HC162714	Body-Spigot
3	HC160647	O-Ring (Spigot)
4	HC162715	Plug-Spigot
5	HC162713	Spring-Spigot
6	HC162712	Cap-Plastic Spring
7	HC162711	Handle-Spigot
8	HC162710	Nut-Plastic
9	HC162633	Knob-Fluted Torque Black 5/16-18
10	HC115416	Plug-Assy. Air Bleed
11	HC160561	O-Ring (Plug)
12	HC138336	Bushing-Plastic Door (Head)
13	HC160606	Quad-Ring
	HC162709	Spigot-Slush (Complete) (Includes items 2 through 8)



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Figure 2 Beater Shaft Assembly

Item	Part No.	Description
1	HC113072	Beater-Assy. Slush
2	HC138256	Blade-Scraper
3	HC134649	Spring-Blade
4	HC160605	Quad Ring
5	HC138215*	Bushing-Cup Seal
6	HC160557*	Cup-Shaft Seal
	*HC116143	Seal-Assy. Shaft (Includes Items 5 & 6)

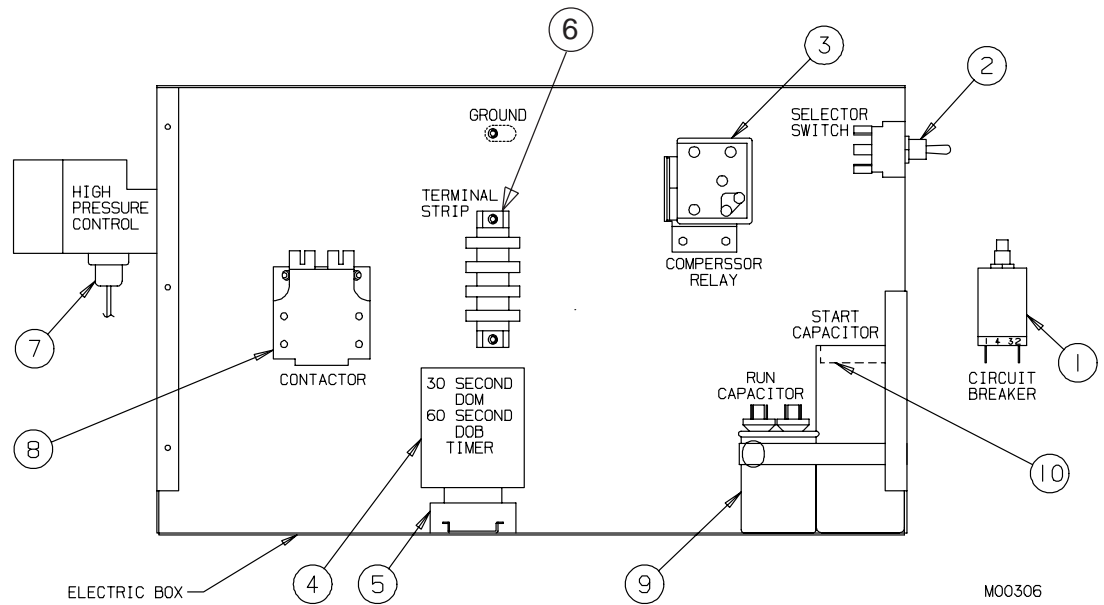
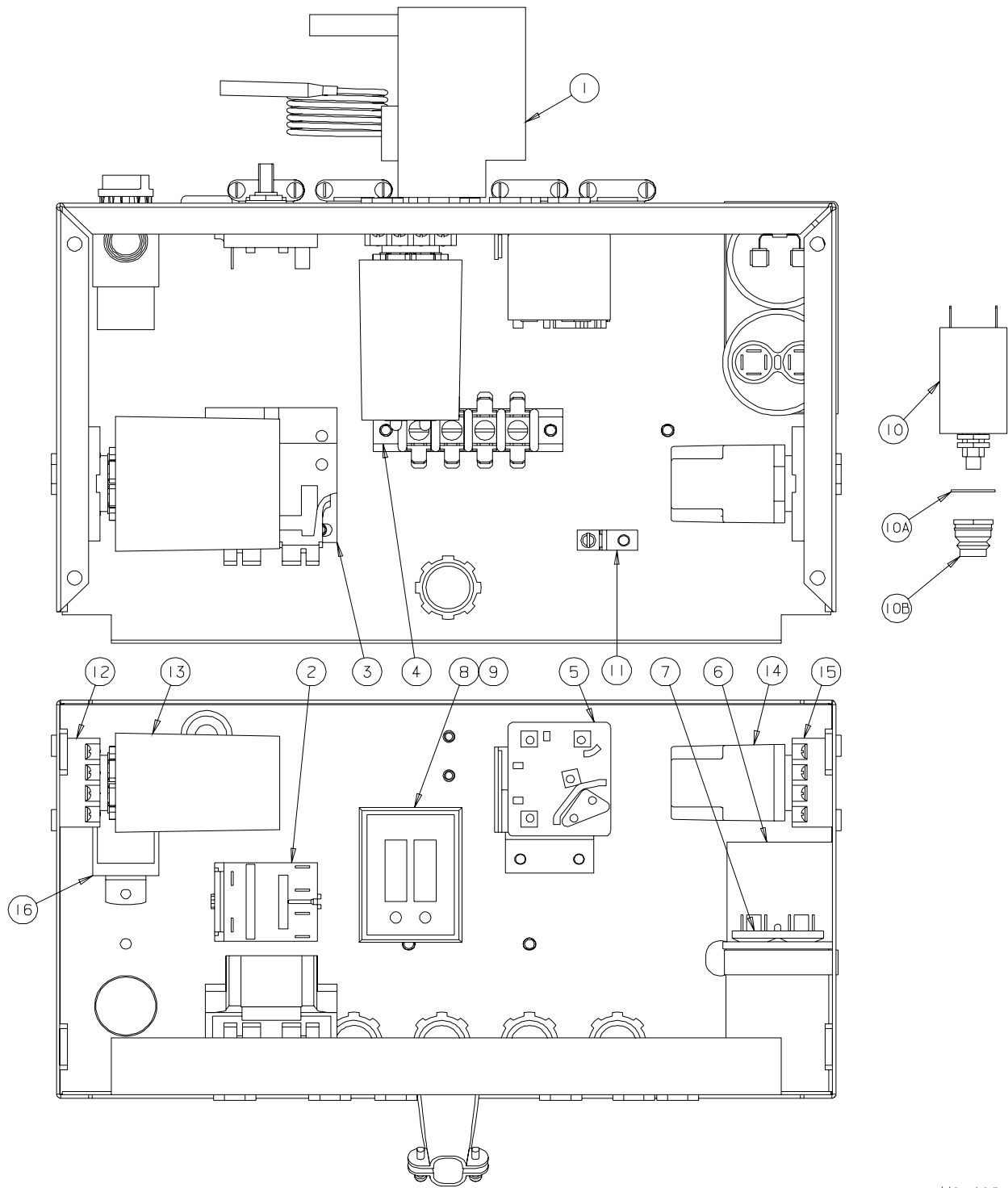


Figure 3 Electrical Box — Counter Model

Item	Part No.	Description
1	HC150452	Breaker-Circuit 4.5 Amp
2	HC150465	Switch-Toggle (Selector)
2A	HC165023	Nameplate-CLEAN/OFF/FREEZE
3	HC151427-01	Relay-Start/Run
4	HC150263	Timer-DOM DOB Adj 120Vac
5	HC150119	Socket-Octal Terminal
5A	HC150120	Clip-Retainer (Set of 2)
6	HC150795	Strip-Terminal
7	HC155425	Cut-Out-High Pressure
8	HC150339	Contactors
9	HC151421	Capacitor-Run
10	HC151426-01	Capacitor-Start

Figure 4 Electrical Box — Floor Models (Sheet 1 of 2)

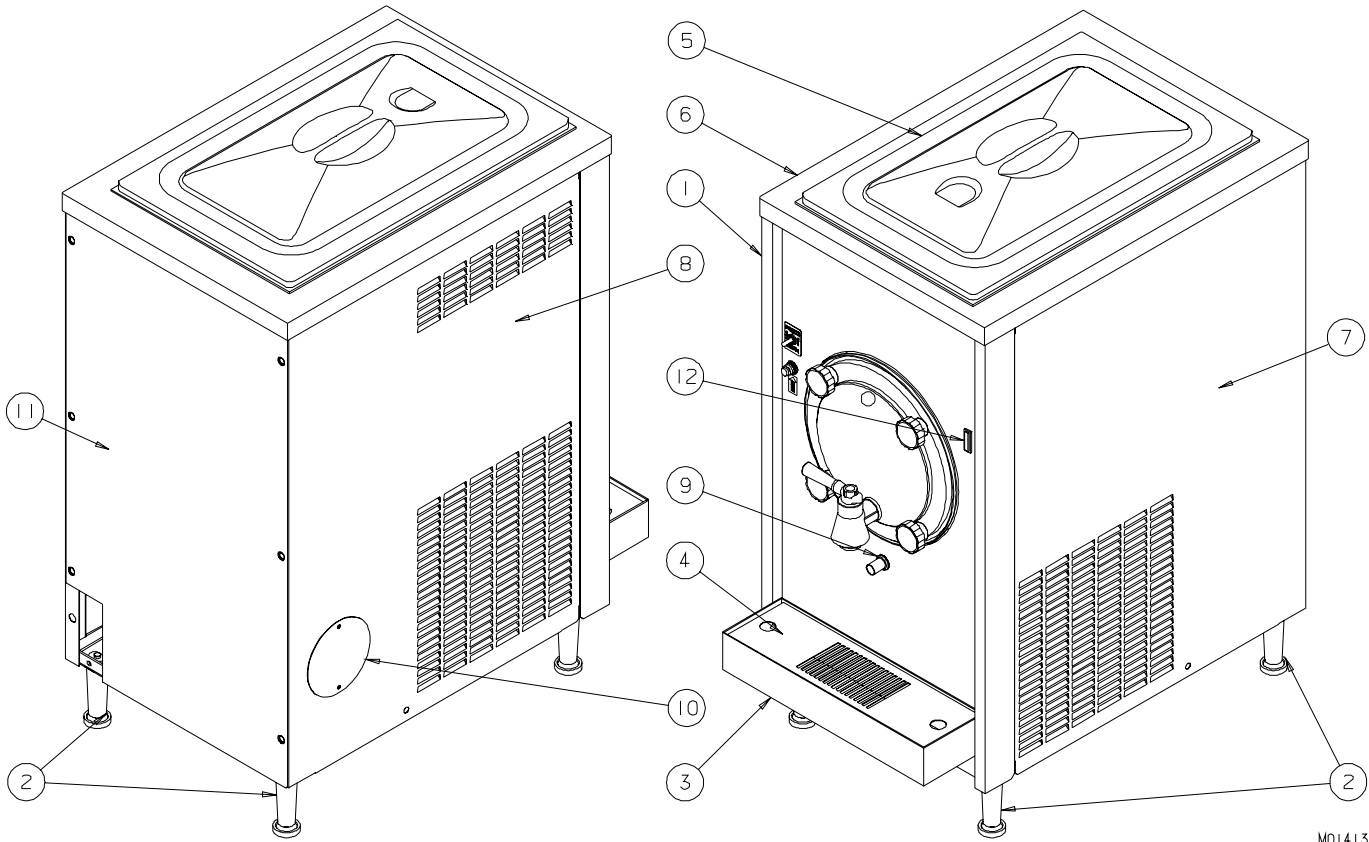


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Figure 4 Electrical Box — Floor Models (Sheet 2 of 2)

Item	Part No.	Description
1	HC155425	Cut Out-High Pressure
2	HC115816	Kit-Rotary Switch Replacement
2A	HC150462	Knob-Rotary Switch
2B	HC165022	Nameplate-CLEAN/OFF/FREEZE
2C	HC150786	Bushing-Snap
2D	HC134653	Extension-Switch (Shaft)
2E	HC150460	Coupler-Switch to Shaft Extension
3	HC150339	Contactora -2 Pole 110V
4	HC150795	Strip-Terminal
5	HC151427-01	Relay-Start/Run
6	HC151426-01	Capacitor-Start
7	HC151421	Capacitor-Run
8	HC150263	Timer-DOM DOB ADJ 120VAC
9	HC150119	Socket-Octal Terminal
9A	HC150120	Clip-Retainer (Set of 2)
10	HC150452	Breaker-Circuit - 4.5 Amp.
10A	HC160160	Washer-.385 x .75 x .031 Nylon
10B	HC150440	Seal-Reset Button
11	HC150745	Connector-Mechanical Grounding CU
12	HC150119	Socket-Octal Terminal (Optional Mix Light)
13	HC150124	Control-Liquid Level (Optional Mix Light)
14	HC150384	Relay-DPDT 120v Coil (145RH Model Only)
15	HC150119	Socket-Octal Terminal (145RH Model Only)
16	HC161202	Thermostat-Hopper (145RH Model Only)

Figure 5 Panels — Counter Model (Sheet 1 of 2)



MD1413

Hardware for Counter Model Panels		
Panel	Screw	Space
Front	HC160048	HC163103
Rear/Corners	HC160048	n/a
Side	HC160048	HC138455
Drip Tray	HC160049	HC163103
n/a = not applicable		

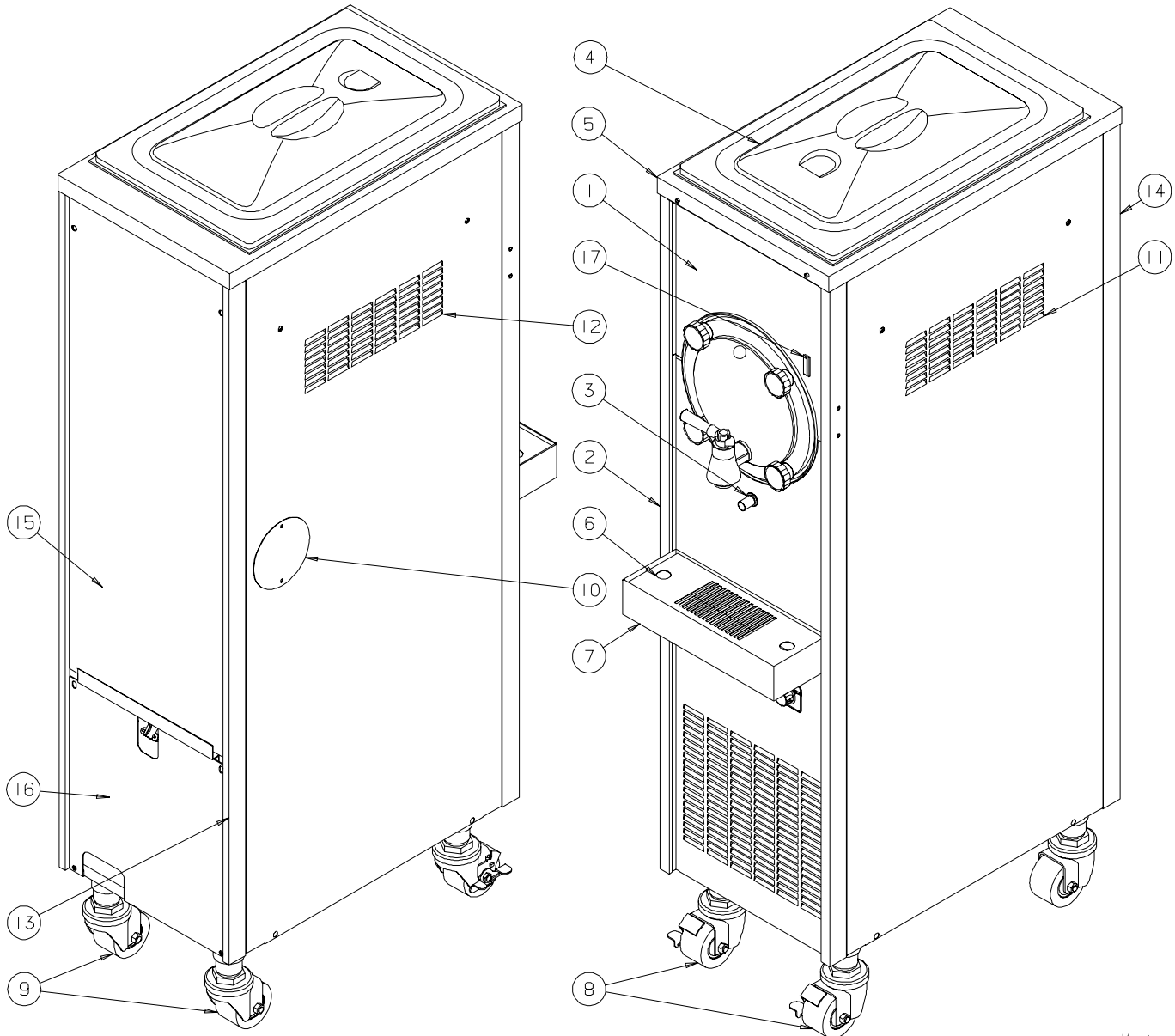
Figure 5 Panels — Counter Model (Sheet 2 of 2)

Item	Part No.	Description
1	HC116929-C	Panel-Assy. Front
2	HC162114	Leg-4 inch Adjustable
2A	HC162130	Pad-Foot Anti Slip
3	HC135802	Pan-Drip
4	HC135803	Insert-Drip Pan
5	HC196121	Cover-Hopper
6	HC116067-C	Panel-Assy. Hopper and Top
7	HC138664-C	Panel-Side RH
8	HC136966-C	Panel-Side LH
9	HC159064	Grommet-7/8 OD x 5/8 ID (Drain Tube)
10	HC136959	Cover-Adjustment Hole
11	HC138736	Panel-Rear W/C
	HC138749	Panel-Rear A/C
12	HC150546	Light-Indicator 125V Vertical (Optional)
12A	HC159401	Clip-Retainer Indicator Light

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

Panel Decals & Labels	
Part No.	Description
HC165025	Beater Warning
HC165091	Clear Overlay
HC165061	Logo - Duke
HC165126	Panel Removal
HC169052	Ventilation 3 in.

Figure 6 Panels — Floor Models (Sheet 1 of 2)



M01412

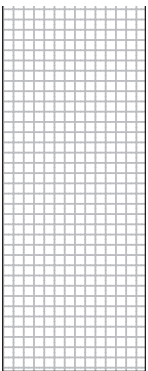


Figure 6 Panels — Floor Models (Sheet 2 of 2)

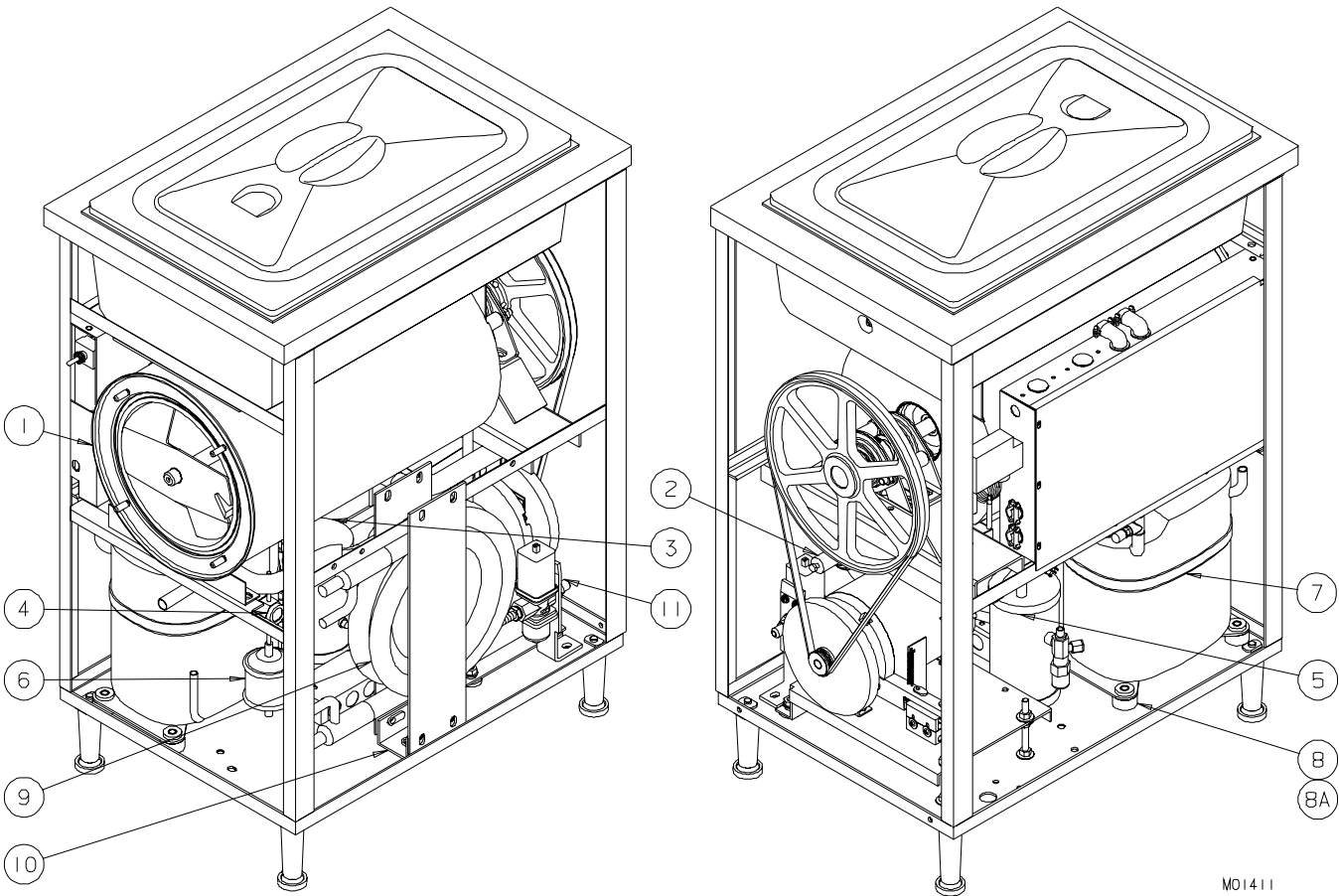
Item	Part No.	Description
1	HC116881-C	Panel-Assy. Upper Front
2	HC113835-C	Panel-Assy. Lower Front
3	HC159064	Grommet-7/8 OD x 5/8 ID (Drain Tube)
4	HC196121	Cover-Hopper
5	HC116066-C	Panel-Assy. Hopper & Top (145)
	HC116075-C	Panel-Assy. Hopper & Top (145RH)
6	HC136064	Insert-Drip Pan
7	HC136065	Pan-Drip
8	HC162133	Caster -Low Profile with Brake
8A	HC150736	Nut-Lock Conduit 1-1/4
9	HC162134	Caster-Low Profile w/o Brake
9A	HC150736	Nut-Lock Conduit 1-1/4
10	HC136959	Cover-Adjustment Hole
11	HC136964-C	Panel-Side RH
12	HC136963-C	Panel-Side LH
13	HC136960-C	Post-Rear Corner LH
14	HC136961-C	Post-Rear Corner RH
15	HC136962	Panel-Rear
16	HC139398	Panel-Lower Rear (Water Cooled ONLY)
17	HC150546	Light-Indicator 125V Vertical (Optional)

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

Hardware for Floor Model Panels			
Panel	Screw	Nut-Speed	Space
Front	HC160048	HC160117	HC163103
Rear/Corners	HC160048	HC160117	n/a
Side	HC160028	HC160387	HC138455
Drip Tray	HC160049	n/a	HC163103
*N/A - Not Applicable			

Panel Decals & Labels	
Part No.	Description
HC165025	Beater Warning
HC165091	Clear Overlay
HC165061	Logo - Duke
HC165126	Panel Removal
HC169052	Ventilation 3 in.

Figure 7 W/C Condensing Assembly
— Counter Model (Sheet 1 of 2)

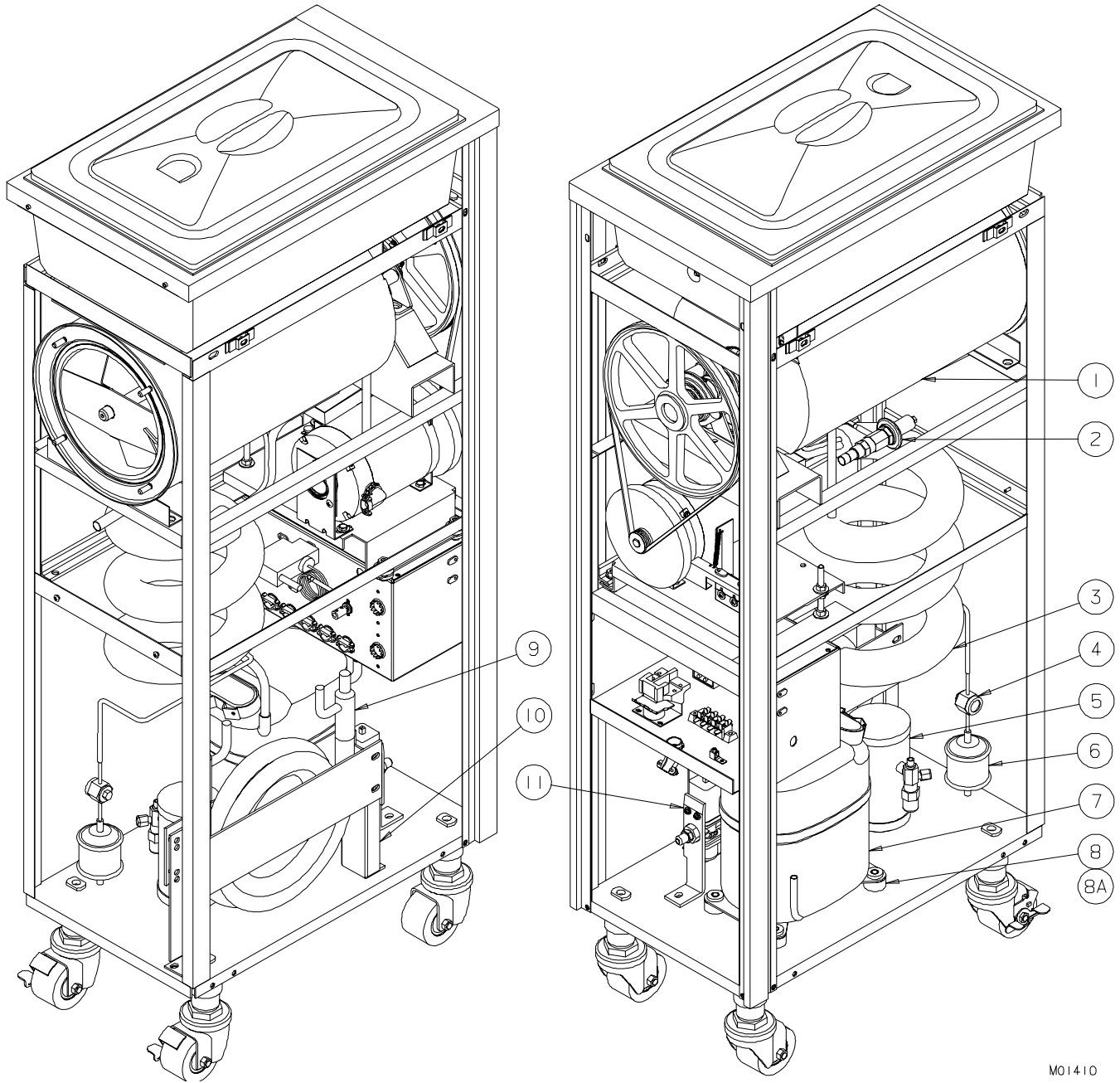


M01411

Figure 7 W/C Condensing Assembly — Counter Model (Sheet 2 of 2)

Item	Part No.	Description
1	HC115916	Cylinder-Assy. Evaporator (145, 816C)
	HC116332	Cylinder-Assy. Evaporator (145RH)
2	HC155453	Valve-Auto Expansion Sweat (Cylinder)
3	HC113087	Exchanger-Assy. Heat
4	HC155459	Glass-Sight
5	HC155060	Receiver-2 1lb. 1/4 Sweat
6	HC155063	Drier-Filter 3 cu in Sweat
7	HC116824	Compressor-Assy. 115-1-60
	HC151421	Capacitor-Run
	HC151426-01	Capacitor-Start
	HC155063	Drier-Filter 3 cu in Sweat
	HC151427-01	Relay-Start
8	HC151431	Grommet-Compressor Mounting
8A	HC151432	Sleeve-Compressor Mounting
9	HC155029	Condenser-Water
10	HC119021	Bracket-Assy. Condenser Mtg.
11	HC112080	Valve-Assy. Water
<i>Not Shown:</i>		
	HC115923	Tube-Assy. Drain
	HC155419	Valve-Access
	HC155435	Valve-Solenoid (145RH)

Figure 8 W/C Condensing Assembly — Floor Models (Sheet 1 of 2)

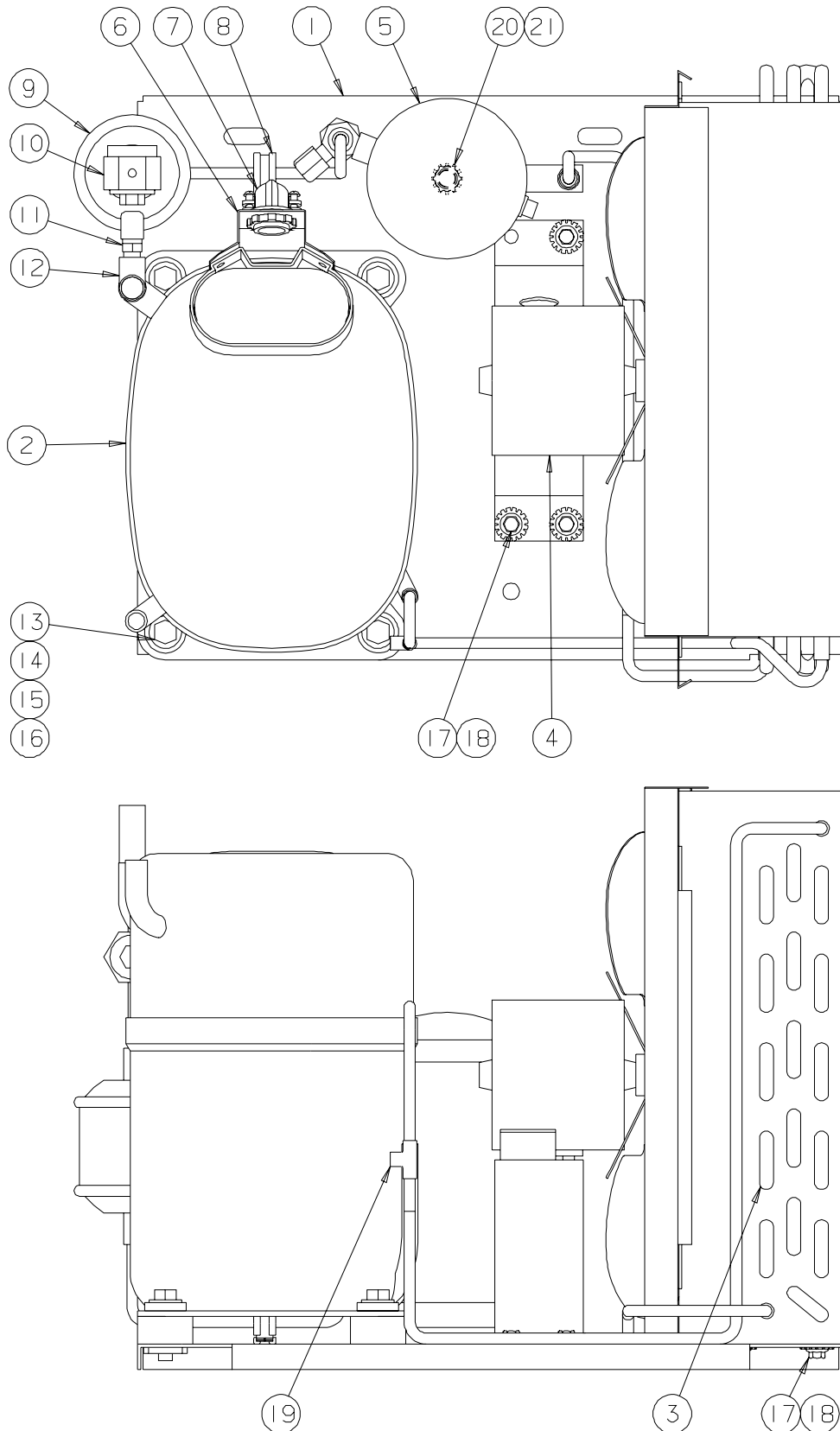


M01410

Figure 8 W/C Assembly — Floor Models (Sheet 2 of 2)

Item	Part No.	Description
1	HC115916	Cylinder-Assy. Evaporator (145, 816C)
	HC116332	Cylinder-Assy. Evaporator (145RH)
2	HC155453	Valve-Auto Expansion Sweat (Cylinder)
3	HC112870	Exchanger-Assy. Heat
4	HC155459	Glass-Sight
5	HC155060	Receiver-2 1lb. 1/4 Sweat
6	HC155063	Drier-Filter 3 cu in Sweat
7	HC116824	Compressor-Assy. 115-1-60
	HC151421	Capacitor-Run
	HC151426-01	Capacitor-Start
	HC155063	Drier-Filter 3 cu in Sweat
	HC151427-01	Relay-Start
8	HC151431	Grommet-Compressor Mounting
8A	HC151432	Sleeve-Compressor Mounting
9	HC155029	Condenser-Water
10	HC139813	Bracket-Water Condenser
11	HC112080	Valve-Assy. Water
<i>Not Shown:</i>		
	HC115923	Tube-Assy. Drain
	HC155452	Valve-Auto Expansion (Hopper) (145RH)
	HC155435	Valve-Solenoid (145RH)

Figure 9 A/C Condensing Assembly (Sheet 1 of 2)



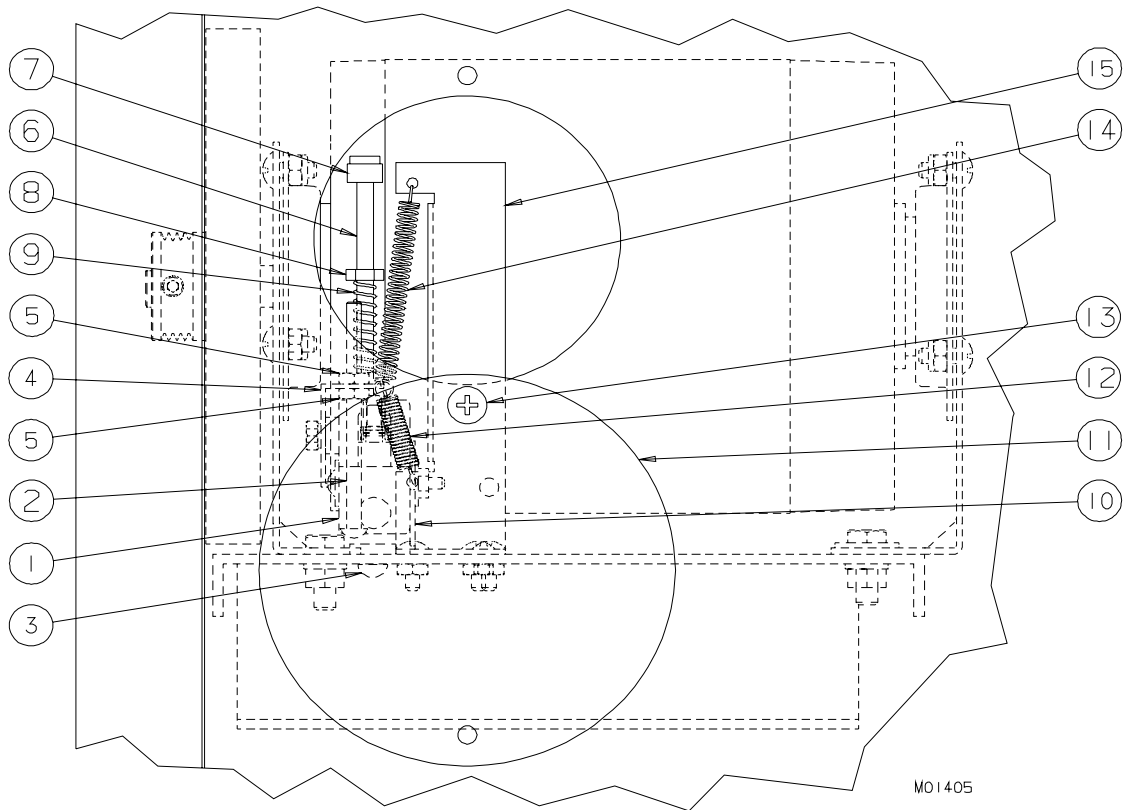
M01409

Figure 9 A/C Condensing Assembly (Sheet 2 of 2)

Item	Part No.	Description
1	HC116870	Plate-Assy. Condensing Base
2	HC116824	Compressor-Assy. 115-1-60
	HC151421	Capacitor-Run
	HC151426-01	Capacitor-Start
	HC155063	Drier-Filter 3 cu in Sweat
	HC151427-01	Relay-Start
3	HC116871	Condenser-Assy. Air
	HC138668	Shroud-Condenser
	HC155126-C	Condenser-Air
4	HC116868	Fan-Assy. Condenser
	HC151074-01	Motor-Fan 35w 115V 60 Hz
	HC159020	Blade-Fan 11 in 26°
	HC137632	Bracket-Fan Condenser
5	HC155060	Receiver-2 1lb. 1/4 Sweat
6	HC137809	Support-Connector Compressor
7	HC150705	Connector-3/8x 90°
8	HC160740	Clamp-Tube 1/4
9	HC155063	Drier-Filter 3 cu in Sweat
10	HC155459	Glass-Sight
11	HC155419	Valve-Access
12	HC155536	Tee-1/2 x 1/2 x 1/2 SWT WROT
13	HC151431	Grommet-Compressor Mounting
14	HC151432	Sleeve-Compressor Mounting
15	HC160347	Screw-HXHC 5/16-18 x 1-3/8 ZN
16	HC160130	Washer-Flat 1/4 ZN
17	HC159950	Screw-HXSF 1/4-20 x 1/2 ZN
18	HC160151	Washer-Ext Tooth 1/4 ZN
19	HC155529	Tee-1/4 x 1/4 x 1/4 SOL CU
20	HC160453	Nut-Hex 3/8-16 ZN
21	HC160154	Washer-Ext Tooth 3/8 ZN

Not Shown:

HC115916	Cylinder-Assy. Evaporator (145, 816C)
HC116332	Cylinder-Assy. Evaporator (145RH)
HC155453	Valve-Auto Expansion Sweat (Cylinder)
HC113087	Exchanger-Assy. Heat (816C)
HC112870	Exchanger-Assy. Heat (145, 145RH)
HC115923	Tube-Assy. Drain
HC155452	Valve-Auto Expansion (Hopper) (145RH)
HC155435	Valve-Solenoid (145RH)



M01405

Figure 10 Consistency Control

Item	Part No.	Description
1	HC117492	Switch-Assy. Torque
	HC150457	Switch-Torque Control
	HC135003	Cover-Switch Top
	HC135004	Cover-Switch Bottom
2	HC159999	Screw-RDHM #8-32 (Stop)
3	HC162118	Bumper-Button (Rubber)
4	HC116414	Arm-Assy. Torque
5	HC160102	Nut-HEX #8-32 (Stop)
6	HC139544	Stud-Adjusting
6A	HC160138	Washer-Flat #10 (Adjusting Stud)
7	HC160092	Nut-Cap #10-32 Nylon
8	HC160344	Nut-Hex #10-32 ZN
9	HC162346	Spring-Adjusting Screw
10	HC134632	Bracket-Switch Mtg.
11	HC136959	Cover-Adjustment Hole
12	HC162338	Spring-Extension Torque -Slush (Silver)
13	HC160076	Screw-TRPM #10-24 x 1/2 SST (Cover-Adjustment Hole)
14	HC162338	Spring-Extension Torque-Slush (Silver)
15	HC134661	Bracket-Spring Torque Control

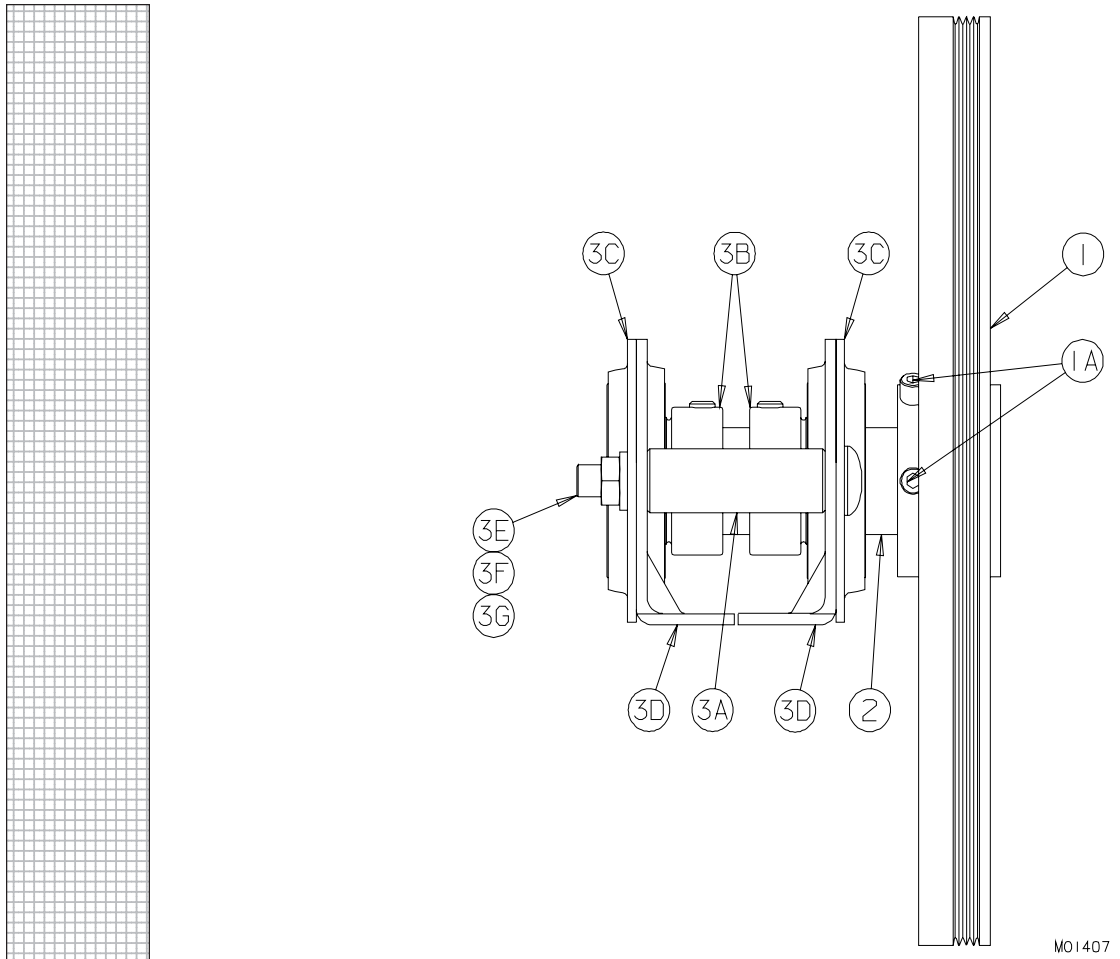


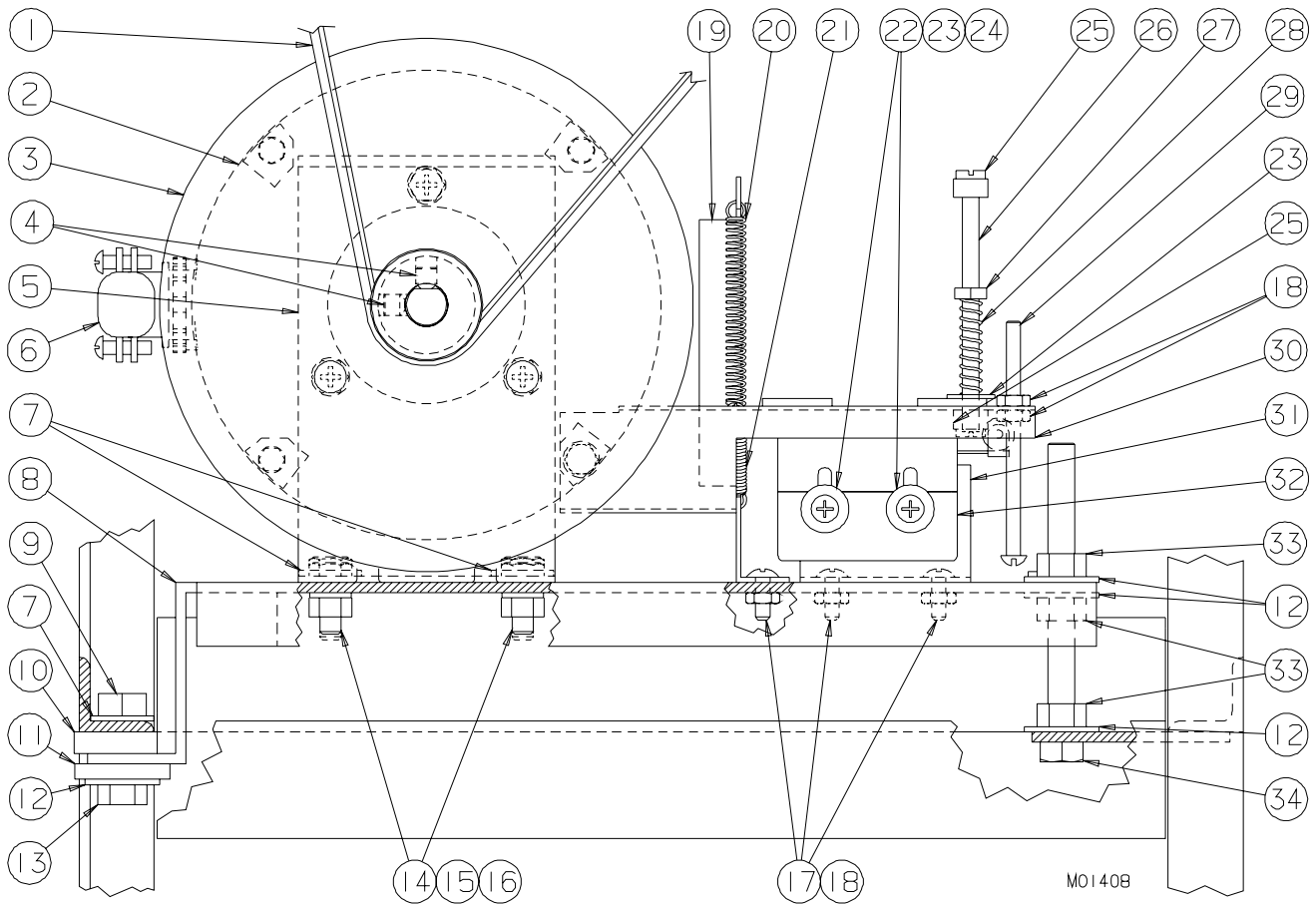
Figure 11 Drive Shaft and Bearing Assembly

Item	Part No.	Description
	HC112843	Bearing-Assy. Complete Rear (includes HC112844 & HC112862)
1	HC112844	Sheave-Assy. Driven & Quill (includes 1, 1A, 2)
1A	HC153615	Sheave-Driven
2	HC160033	Screw-SK Set 5/16-18 x 3/8 BKOX
3	HC112842	Quill-Assy. Drive w/ Key
3A	HC112862	Bearing-Assy. Rear
3A	HC130189	Spacer-Rear Bearing
3B	HC153013	Bearing-Drive Quill (w/Lock ring)
3C	HC153127	Plate-Retainer, Bearing
3D	HC153128	Stamping-Bearing Base
3E	HC160143	Washer-Lock 3/8 ZN
3F	HC160407	Bolt-Carriage 3/8-16 x 3-1/4 ZN
3G	HC160453	Nut-Hex 3/8-16 ZN
6B	HC160132	Washer-Flat 3/8 ZN
4A	HC153126	Ring-Bearing Lock (only)

Not Shown:

HC115681	Bar-Alignment (Loaner) (used to align bearings to cylinder)
HC115681-01	Bar-Alignment (Purchase)

Figure 12 Motor and Bearing Assembly
(Sheet 1 of 2)



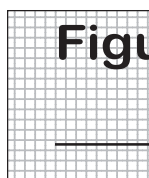


Figure 12 Motor and Bearing Assembly (Sheet 2 of 2)

Item	Part No.	Description
*	HC116585	Kit-FE Slush Motor Replacement (Counter)
*	HC116584	Kit-FE Slush Motor Replacement (Floor)
1	HC153139	Belt-Poly V (Counter)
	HC153125	Belt-Poly V (Floor)
2	HC151035-01	Motor-1/4 HP 120-1-60
3	HC153610	Flywheel-Driver Sheave
4	HC160495	Screw-SK Set
5	HC115790	Bearing-Assy. Retainer (Front) includes HC153027 Bearing-Motor Mount HC134659 Bracket-Motor Mount
5A	HC115791	Bearing-Assy. Retainer (Rear) includes HC153027 Bearing-Motor Mount HC134659 Bracket-Motor Mount
6	HC150705	Connector-3/8 x 90°
6A	HC150665	Conduit-1/2 Thinwall Extraflex
7	HC160130	Washer-Flat 1/4 ZN
8	HC138717	Plate-Motor
9	HC159220	Nut-Lock 5/16-18 ZN
10	HC199012	Washer-Rubber
11	HC162562	Spacer-Rubber
12	HC160131	Washer-Flat 5/16 ZN
13	HC160009	Screw-HXHC 5/16-18 x 1 ZN
14	HC160021	Screw-HXHC 1/4-20 x 3/4 ZN
15	HC160104	Nut-Hex 1/4-20 ZN
16	HC160141	Washer-Lock 1/4 ZN
17	HC160049	Screw-TRPM #8-32 x 1/ SST
18	HC160102	Nut-HEX #8-32 ZN
19	HC134661	Bracket-Spring Torque
20	HC162338	Spring-Extension Torque
21	HC162341	Spring-Extension Hi Torque
22	HC160156	Screw-TRHM #6-32 x 1-1/4 SST
23	HC160138	Washer-Flat #10 ZN
24	HC160309	Nut-Hex #6-32 ZN
25	HC160092	Nut-Cap #10-32 Nylon
26	HC139544	Stud-Adjusting
27	HC160344	Nut-Hex #10-32 ZN
28	HC162346	Spring-Adjusting Screw
29	HC159999	Screw-RDHM #8-32 x 3/4 ZN

Item	Part No.	Description
30	HC116414	Arm-Assy. Torque
31	HC134632	Bracket-Switch Mounting
32	HC117492	Switch-Assy Torque HC135004 Cover-Switch Bottom HC135003 Cover-Switch Top HC150457 Switch-Torque Control
33	HC160105	Nut-Motor Assembly 5/16-18 ZN
34	HC160036	Screw-HXHC 5/16-18 x 3-1/2

* Includes Motor & Bearing Assembly, Circuit Breaker, and Reset Button Seal.

Accessories

Part No.	Description
HC199504	Bottles-Flavor Plastic
HC169122	Cap-Slush Bottle
HC162133	Caster-Low Profile w/ Brake (Floor Models)
HC162134	Caster-Low Profile w/o Brake (Floor Models)
HC184888	Cleaning and Sanitizing Chart
HC150604	Cord-Molded Plug (Power)
HC196121	Cover-Hopper
HC169212	Dispenser-Cup (EL20 6–12 oz.)
HC169213	Dispenser-Cup (EL30 16–24 oz.)
HC155634	Fitting-Tank (Gaskets for 15 Gallon Container)
HC116277	Kit-O-Ring
HC162114	Leg-Four Inch Adjustable (Counter Models)
HC112978	Leg-Assy. Six Inch (Floor Models)
HC158054A	Lubricant-Lubri Film 4 oz. Tube
HC158000A	Lubricant-Petrol Gel 4 oz. Tube
HC184674	Manual-Operators Model 145, 816C
HC150736	Nut-Lock Conduit 1-1/4 (Casters-Floor Models)
HC162130	Pad-Foot Anti Slip (Counter Model)
HC169124	Pumps-Flavor Bottles
HC110014-01	Rack-Assy. 5 Jars Complete IDQ
HC113851	Rack (only)-Flavor-Wire-5-Bottle
HC158043	Rod-Stir Stainless Steel
HC113324	Spigot Assembly w/Fitting and Gasket
HC162703	Spigot (only)-15 Gallon Container
HC169302	Pump-Submersible
HC113073	Tank-Assy. 15 Gallon (w/Lid and Spigot)
HC163300	Tank-15 Gallon w/Lid
HC117530	Tray-Assy. Accessory Mounting (4 Flavor Rack Complete)
HC184674	Troubleshooting Chart
HC196058	Tubing-1/2-inch I.D. x 5/8 O.D. PVC

Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Arm-Assy. Torque with Motor Conversion HC112850 Motor	HC115792	1	1261 – 670
Arm-Assy. Torque (NLA)	HC112897	1	670 – 295
Arm-Assy. Torque	HC116414	1	295 –
Bar-Assy. Bearing Alignment (Loaner)	HC115681	*	----
Bar-Assy. Bearing Alignment (Purchase)	HC115681-01	*	----
Bearing-Assy. Complete Rear	HC112843	1	670 –
Sheave-Assy Driven & Quill	HC112844	1	670 –
Bearing-Assy. Rear	HC112862	1	670 –
Bearing-Assy. Retainer Front	HC115790	1	670 –
Bearing-Assy. Retainer Rear	HC115791	1	670 –
Bearing-Motor Mount	HC153027	2	670 –
Bearing-Assy. Rear	HC112862	1	670 –
Bearing-Drive Quill (w/Lock Ring)	HC153013	2	670 –
Beater-Assy. Slush	HC113072	1	670 –
Belt-4G0J4 (Dispense All)	HC153139	1	463 –
Belt-410J4 (Dispense All) Use w/Motor Kit HC113699-01(NLA)	HC153118	1	----
Belt-Poly V (460J4) (Counter Model)	HC153139	1	1261 –
Belt-Poly V (460J4) (Floor Model)(original motor)	HC153139	1	1261 – 670
Belt-Poly V (430J4)(Floor Model) (used with replacement motor)	HC153125	1	1261 – 670
Belt-Poly V (430J4) (Floor Model)	HC153125	1	670 –
Blade-Fan	HC162610	1	670 – 196
Blade-Fan	HC159020	1	196 –
Blade-Scraper (Front)	HC139849	1	1261 – 670
Blade-Scraper (Rear)	HC134747	1	1261 – 670
Blade-Scraper (NLA-use HC138256)	HC196023	2	670 – 1193

NLA = No Longer Available

* As Required

** Items Included In O-Ring Kit No. HC116277

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

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Blade-Scraper	HC138256	2	1193 –
Bolt-Carriage 3/8-16 x 3¼ (Drive Shaft-Bearing Assy.)	HC160407	2	1261 –
Bottles-Flavor Plastic (Accessory)	HC199504	*	----
Bracket-Assy. Condenser Mtg. (816C)	HC119021	1	670 –
Bracket-Water Condenser (145, 145RH)	HC139813	2	670 –
Bracket-Fan Motor	HC162611	1	670 – 196
Bracket-Fan Motor	HC137632	1	196 –
Bracket-Mount Motor (Rear)	HC137904	1	670 –
Bracket-Mount Motor (Front)	HC134659	1	670 –
Bracket-Spring Torque Control	HC134661	1	670 –
Bracket-Switch Mtg.	HC134632	1	670 –
Breaker-Circuit 4.5 Amp	HC150452	1	885 – 591
Breaker-Circuit 5.0 Amp	HC150451	1	591 – 295
Breaker-Circuit 4.5 Amp	HC150452	1	295 –
Breaker-Circuit 6.0 Amp (NLA)	HC150443	1	----
Bumper-Button (Rubber)	HC162118	1	195 –
Bushing-Cup Seal (NLA-use HC116143)	HC196014	1	1261 – 593
Bushing-Shaft Seal (Cup)	HC138215	1**	693 –
Bushing-Head (NLA-use HC138336)	HC196017	1	1261 – 593
Bushing-Plastic Door (Head)	HC138336	1**	593 –
Bushing-Shaft Seal (NLA-use HC116143)	HC196014	1	1261 – 593
Bushing-Snap (Electric Box Floor Model)	HC150786	1	670 –
Cap-Slush Bottler (Accessory)	HC169122	*	----
Capacitor-Compressor	<i>See Compressor Assembly</i>		
Caster-1/2 inch stud (125 lb. - 3" wheel)	HC162120	2	670 – 587
Caster w/Brake-1/2 inch stud (125 lb. - 3" wheel)	HC162121	2	670 – 587

NLA = No Longer Available
 * As Required
 ** Items Included In O-Ring Kit No. HC116277
 *** LH or RH — Left or right hand is determined as you face the front of freezer.

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Caster-1/2 inch stud (225 lb. - 3½" wheel)	HC162126	2	587 – 893
Caster w/Brake-1/2"inch stud (225 lb. - 3½" wheel)	HC162127	2	587 – 893
Caster-1-1/4 inch stud	HC162106	2	893 – 502
Caster w/Brake-1-1/4 inch stud	HC162105	2	893 – 502
Caster-Low Profile with Brake	HC162133	2	602 –
Caster-Low Profile w/o Brake	HC162134	2	602 –
Clamp-Tube 1/4 (Air Cooled)	HC160740	2	196 –
Clip-Retainer (Relay-145RH)	HC150127	1	397 –
Clip-Retainer (Set of 2) (Timer Socket)	HC150120	2	688 –
Clip-Retainer Indicator Light (Optional Mix Light)	HC159401	1	602 –
Compressor-Assy	HC116824	1	196 –
Capacitor-Run	HC151421	1	196 –
Capacitor-Start	HC151426-01	1	196 –
Drier-Filter	HC155063	1	196 –
Relay	HC151427-01	1	196 –
Condensing Unit-Complete (NLA)	HC155078	1	670 – 196
Capacitor-Start	HC151301	1	670 – 196
Compressor-RRS4-0075-IAA-220	HC155083	1	670 – 196
Condenser-Air	HC155127-C	1	670 – 196
Relay-Start	HC151318	1	670 – 196
Valve-Rotalock	HC151394	1	670 – 196
Condensing Unit-Complete (Air Cooled)	HC116869	1	196 –
Compressor-Assy	HC116824	1	196 –
Capacitor-Run	HC151421	1	196 –
Capacitor-Start	HC151426-01	1	196 –
Drier-Filter	HC155063	1	196 –
Relay	HC151427-01	1	196 –
Condenser Assy.-Air	HC116871-C	1	196 –
Condenser-Air	HC155126-C	1	196 –
Shroud-Condenser	HC138668	1	196 –

NLA = No Longer Available
 * As Required
 ** Items Included In O-Ring Kit No. HC116277
 *** LH or RH — Left or right hand is determined as you face the front of freezer.

Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Condenser-Air	HC155127-C	1	670 – 196
Condenser-Air	HC155126-C	1	196 –
Condenser-Water	HC155038	1	193 –
Conduit-1/2 Thinwall Extraflex (Motor Brg. Assy.)	HC150665	1	670 –
Connector-3/8 (Motor Brg. Assy.)	HC150705	1	670 –
Contactora-Compressor (NLA-use HC150339)	HC150338	1	1261 – 670
Contactora-Compressor	HC150339	1	670 –
Control-Liquid Level (Optional Mix Light)	HC150124	1	602 –
Cord-Power (NLA-use HC150604)	HC150603	1	1261 – 992
Cord-Molded Plug (Power) (see Operator's Manual Page 2-for illustration)	HC150604	1	992 –
Cotter Pin (NLA)	HC160326	1	670 – 693
Coupler-Switch (Extension to Shaft)	HC150460	1	670 –
Cover-Adjustment Hole	HC136959	1	681 –
Cover- Switch Bottom (Micro Switch)	HC135004	1	681 –
Cover- Switch Top (Micro Switch)	HC135003	1	681 –
Cover-Hopper	HC196121	1	670 –
Cup- Seal (NLA-use HC116143)	HC160604	1	1261 – 593
Cup-Seal	HC160557	1	593 –
Cup-Seal Assy.-Complete	HC116143	1**	593 –
Bushina-Cup Seal	HC138215	1	593 –
Cup-Shaft Seal	HC160557	1	593 –
Cut Out-High Pressure	HC155402	1	681 – 196
Cut Out-High Pressure	HC155425	1	196 –
Cylinder-Assy. Evaporator (NLA)	HC112841	1	1261 – 681
Cylinder-Assy. Evaporator (NLA-use HC115916-C)	HC113441	1	681 – 193
Cylinder-Assy. Evaporator (816C, 145)	HC115916-C	1	193 –

NLA = No Longer Available

* As Required

** Items Included In O-Ring Kit No. HC116277

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Use only original or authorized replacement parts with this freezer.

Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Cylinder-Assy. Evaporator (145RH)	HC116332-C	1	301 –
Decal-Beater Warning	HC165025	1	670 –
Decal-Clear Overlay	HC165091	1	670 –
Decal-IDQ Logo	HC165166	1	670 –
Decal-Logo	HC165061	1	670 –
Decal-Panel Removal	HC165126	3	670 –
Decal-Six Flavor (Accessory)	HC165245	1	—
Decal-Ventilation 3 in.	HC169052	1	670 –
Dispenser-Cup (EL20 - 6-12oz.)(Accessory)	HC169212	*	—
Dispenser-Cup (EL30 - 6-24oz.)(Accessory)	HC169213	*	—
Door- Assy. Complete (Head Assembly)	HC114729	1	1261 –
Bushing-Head (NLA-use HC138336)	HC196017	1	1261 – 694
Bushing-Head	HC138336	1	694 –
Body Spigot	HC162714	1	688 –
Cap Spring	HC162712	1	688 –
Door w/Spigot Assy and Air Relief Hole (use w/HC115416 if prior to 688 Serial Number)	HC114990	1	688 –
Handle-Spigot	HC162711	1	688 –
Nut-Plastic	HC162710	1	688 –
O-Ring-Plug Air Relief	HC160561	1	688 –
O-Ring-Spigot	HC160624	1	688 – 12/04
O-Ring-Spigot	HC160647	1	1/05 –
Plug-Air Relief Screw (NLA-use HC138699)	HC196016	1	1261 – 688
Plug-Air Relief Screw	HC138699	1	1261 – 688
Plug-Air Relief Pin	HC115416	1	688 –
Plug-Spigot	HC162715	1	688 –
Quad Ring	HC160606	1	1261 –
Spring-Spigot	HC162713	1	688 –

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Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Drier-Filter (NLA-use HC155063)	HC155463	1	1261 – 196
Drier-Filter (NLA-use HC155063)	HC155053	1	196 – 1096
Drier-Filter	HC155063	1	1096 –
Exchanger-Assy. Heat (Floor Models)	HC112870	1	1261 –
Exchanger-Assy. Heat (Counter Models)	HC113087	1	1261 –
Extension-Switch (Shaft)(Floor Models)	HC134653	1	670 –
Fan-Assy. Condenser (Air Cooled)	HC116868	1	196 –
Fitting-Tank (Gaskets-15 Gallon Tank)(Accessory)	HC155634	*	----
Flywheel-Driver Sheave	HC153610	1	670 –
Setscrew	HC160495	1	670 –
Glass-Sight (NLA-use HC155459)	HC155460	1	1261 – 1096
Glass-Sight	HC155459	1	1096 –
Grommet-Drain Tube	HC159064	1	681 –
Grommet and Sleeve-Comp. Mtg.	HC151435	4	670 –
Grommet-Compressor Mtg.	HC151431	4	196 –
Handle-Spigot (Door Assembly)	HC162711	1	688 –
Head-Assy.-Complete	<i>See Door-Assy.</i>		
Insert-Drip Tray (Counter Model)	HC135803	1	681 –
Insert-Drip Tray (Floor Model)	HC136064	1	681 –
Kit-FE Slush Motor Replacement (Counter)	HC116585	1	295 –
Kit-FE Slush Motor Replacement (Floor)	HC116584	1	295 –

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Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Kit-O-Ring	HC116277	*	---
Kit-Rotary Switch Replacement (Floor Model)	HC115816	1	1261 –
Kit-Water Valve Repair	HC155444	1	193 –
Knob-Hand	HC162633	4	1261 –
Knob-Switch (Rotary)	HC150462	1	670 –
Label-IDQ Logo	HC165166	1	670 –
Leg-Adjustable 4-inch (NLA-use HC162HC114)	HC162102	4	670 – 295
Leg-Adjustable 4-inch	HC162114	4	295 –
Leg-Adjustable 6-inch	HC112978	4	670 –
Light-Indicator 125V Vertical (Optional Mix Light)	HC150546	1	602 –
Lock Ring (only)-Bearing	HC153126	2	1261 –
Lubricant-Lubri Film 4 oz. Tube (Accessory)	HC158054A	*	---
Lubricant-Petrol Gel 4 oz. Tube (Accessory)	HC158000A	*	---
Motor-Fan	HC151002	1	670 – 196
Motor-Fan	HC151074-01	1	196 –
Motor & Bearing Assy. Kit (Floor Model)	HC113699	1	1261 – 670
Motor & Bearing Assy. (Built-in Dispense All)(NLA)	HC113699-01	1	670 – 885
Motor & Bearing Assy. used in Kit p/n HC113699 and -01	HC112850	1	1261 – 670
Motor & Bearing Assy. (Floor)	HC112850	1	670 – 885
Motor & Bearing Assy. (NLA-use HC116585 or HC116584)	HC114595	1	885 – 295
Motor & Bearing Assy. (Counter)	HC114273	1	670 – 885
Motor & Bearing Assy. (Counter)	HC116585	1	295 –

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Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Motor & Bearing Assy. (Floor)	HC116584	1	295 –
Nameplate-CLEAN/OFF/FREEZE (Rotary Switch)	HC165022	1	670 –
Nameplate-CLEAN/OFF/FREEZE (Toggle Switch)	HC165023	1	1261 –
Nut-Cap #10-32 Nylon (Consistency Control)	HC160092	1	696 –
Nut-HEX #6-32 ZN	HC160309	6	670 –
Nut-HEX #8-32 (Consistency Control-Stop Pin)	HC160102	2	681 –
Nut-HEX #10-32 ZN (Consistency Control)	HC160344	1	
Nut-HEX 1/4-20 (Motor Mtg.)	HC160104	4	885 –
Nut-HEX 3/8-16 (Bearing Assy.)	HC160453	4	885 –
Nut-HEX 5/16 -18 (Motor Assy.)	HC160105	4	885 –
Nut-Lock 5/16-18 (Motor Mtg.)	HC159220	1	885 –
Nut-Lock Conduit 1-1/4 (Casters-Floor Models)	HC150736	4	602 –
Nut-Speed (Consistency Control-Access Cover)	HC159132	2	681 –
Nut-Speed (Floor)(Front and Rear/Corners)	HC160117	6	681 –
Nut-Speed (Floor)(Sides)	HC160387	4	681 –
Nut-Switch (Toggle)	HC160459	1	1261 – 670
O-Ring (Plug- Air Bleed)	HC160561	2**	688 –
O-Ring (Spigot)	HC160624	1**	688 – 12/04
O-Ring (Spigot)	HC160647	1**	1/05
Pad-Foot Anti Slip	HC162130	4	602 –
Pan-Drip (Counter Model)	HC135802	1	681 –
Pan-Drip (Floor Model)	HC136065	1	681 –
Pan-Reservoir Removable (NLA-use HC111596 and HC110108)	HC112845	1	1261 – 681
<p>NLA = No Longer Available * As Required ** Items Included In O-Ring Kit No. HC116277 *** LH or RH — Left or right hand is determined as you face the front of freezer.</p>			

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Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Pan-Reservoir Removable	HC110108	1	681 – 193
Panel-Assy Front (Counter)-SS	HC116928-C	1	681 – 1104
Panel-Assy Front (Counter)-SS	HC116929-C	1	1205 –
Panel-Assy. Hopper & Top (145RH)	HC116075	1	681 –
Panel-Assy. Hopper & Top (Floor)	HC116066-C	1	681 –
Panel-Assy. Hopper and Top (Counter)	HC116067-C	1	681 –
Panel-Assy. Lower Front (Floor)	HC113835-C	1	681 –
Panel-Assy. Upper Front (Floor)	HC113836	1	681 – 1104
Panel-Assy. Upper Front (Floor)	HC116881	1	1205 –
Panel-Corners	<i>See Post-Rear Corner</i>		
Panel-Rear (Counter-Air Cooled))	HC138749	1	681 –
Panel-Rear (Counter-Water Cooled)	HC138736	1	681 –
Panel-Rear (Floor)	HC136962	1	681 –
Panel-Rear Lower (Floor-Water Cooled)	HC139398	1	499 –
Panel-Side LH (Counter)-SS	HC136966-C	1	681 –
Panel-Side LH (Floor)-SS	HC136963-C	1	681 –
Panel-Side RH (Counter)-SS	HC138664-C	1	681 –
Panel-Side RH (Floor)-SS	HC136964-C	1	681 –
Pin-Hanger Motor Plate (NLA)	HC135650	2	670 –
Plate-Assy. Condensing Base (Air Cooled)	HC116870	1	196 –
Pin-Quill	HC163412	1	1261 – 286
Plate-Retainer, Bearing	HC153127	2	670 –
Plate-Motor	HC134662	1	670 – 195
Plate-Motor	HC138717	1	295 –
Plug-Air Relief Screw Stainless Steel (NLA-use HC138600)	HC816203	1	1261 –
Plug-Air Relief Screw (NLA-use HC138699)	HC196016	1	670 – 688

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** Items Included In O-Ring Kit No. HC116277

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Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Plug-Air Relief Screw (NLA)	HC138699	1	1261 – 688
Plug-Assy. Air Bleed (Air Relief)	HC115416	1	688 –
Post-Rear Corner LH (Floor)-SS	HC136960-C	1	681 –
Post-Rear Corner RH (Floor)-SS	HC136961-C	1	681 –
Pulley-Driven (Sheave)	HC153615	1	670 –
Pulley-Driver (Flywheel)	HC153610	1	670 –
Setscrew	HC160495	1	670 –
Pumps-Flavor Bottles (Accessory)	HC169124	*	----
Pumps-Submersible (Accessory)	HC169302	*	----
Quad Ring-Beater	HC160605	1**	1261 –
Quad Ring-Head	HC160606	1**	1261 –
Quad Ring-Screw-Air Relief	HC160605	1	1261 – 688
Quill-Assy. Drive w/Key	HC112842	1	1261 –
Rack-Assy. 5 Jars Complete (Accessory)	HC110014-01	*	----
Bottle-Flavor Plastic	HC199504	5	----
Decal-Six Flavor MR. MISTY	HC165245	1	----
Pump-Slush Flavor Plastic	HC169124	5	----
Rack-Assy. Five Flavor Jars	HC113851	1	----
Receiver (NLA)	HC151396	1	1261 – 196
Receiver (NLA-use HC155060)	HC155041	1	196 – 1096
Receiver-2 lb sweat	HC155060	1	1096 –
Relay-Compressor	<i>See Compressor Assembly</i>		
Relay-DPDT (145RH)	HC150384	1	397 –
Relay-Delay Tube (NLA-use HC114240)	HC150218	1	1261 – 688
Retainer-Assy. Bearing Front (Motor)	HC115790	1	670 –
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Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Retainer-Assy. Bearing Rear (Motor)	HC115791	1	670 –
Ring-Bearing Lock (only)	HC153126	1	1261 –
Rod-Stir Stainless (Accessory)	HC158043	*	---
Screw-Belt Adjustment (Counter)	HC163416	1	670 –
Screw-Belt Adjustment (Floor) (NLA-use HC159967)	HC160035	1	670 –
Screw-HXHC 1/4–20 x 3/4 ZN (Motor Bearing Assy.)	HC160021	4	670 –
Screw-HXHC 3/8-16 X 1-1/4 (Motor Mtg.)	HC160014	4	670 –
Screw-HXHC 5/16 X 1-1/2 inch (Comp. Mtg.)	HC160011	4	670 –
Screw-HXHC 5/16-18 x 1 ZN (Motor Plate)	HC160009	1	---
Screw-HXHC 5/16-18 x 1-3/8 ZN (Compressor Mtg.)	HC160347	4	---
Screw-HXSF 1/4-20 x 1/2 (Air Condenser Bracket Mtg.)	HC159950	7	---
Screw-PNH Tap #8-3/8 (Air Condenser Mtg.)	HC160037	1	---
Screw-RDHM #8-32 (Stop)	HC159999	2	1261 –
Screw-SK Set 5/16-18 x 3/8 (Driven Pulley)	HC160033	2	1261 –
Screw-SK Set 1/4-20 x 1/4 (Pin Hanger)	HC160495	2	1261 –
Screw-TRPM (Cover Access)	HC160076	2	1261 –
Screw-TRPM #8-32 x 1/2 SST (Drip Tray and Flavor Rack)	HC160049	2	670 –
Screw-TRPM 1/4-20 x 3/4 SST (Floor)(Panel-Side)	HC160028	4	1261 –
Screw-TRPM 1/4-20 x 1-1/2 SST (Counter) (Front, Side, Rear Panel & Corners)	HC160048	10	1261 –
Screw-TRPM 1/4-20 x 1-1/2 SST (Floor) (Front, Rear Panel & Corners)	HC160048	10	1261 –

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Alphabetized Parts List

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

PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Seal-Assy. Shaft (Complete)	HC116143	1**	993 –
Bushing-Shaft Seal (Cup)	HC138215	1**	993 –
Seal-Beater Shaft (Cup Seal)	HC160557	1**	993 –
Seal-Mix Feed Tube	HC199023	1	1261 – 193
Seal-Reset Button	HC150440	1	---
Seal-Shaft (NLA-use HC116143)	HC160604	1	1261 – 993
ShaftAssy.-Drive w/Key	HC112842	1	1261 –
Shaft-Beater	HC113072	1	1261 –
Shaft-Drive and Bearing Assy.-Complete	HC112843	1	1261 –
Shaft-Drive w/Driven Pulley	HC112844	1	1261 –
Shaft Extension-Switch (Floor)	HC134653	1	670 –
Sheave-Assy. Driven & Quill	HC112844	1	670 –
Sheave-Driven	HC153615	1	670 –
Sheave-Driver (Flywheel Pulley)	HC153610	1	670 –
Sight-Glass	HC155459	1	1261 –
Sleeve-Compressor Mtg.	HC151432	4	196 –
Socket-Time Delay Tube (NLA)	HC150219	1	1261 – 688
Socket-Octal Terminal (Time Delay)	HC150119	1	688 –
Spacer-Rear Bearing	HC130189	2	1261 –
Spacer-Drip Tray and Flavor Rack	HC163103	2	670 –
Spacer-Motor Mtg.	HC160480–HC160484	*	670 –
Spacer-Panel-Sides	HC138455	4	681 –
Spacer-Rubber (Motor Mtg)	HC162562	2	1095 –
Spigot-Assy. w/Fitting & Gasket (Accessory)	HC113324	*	---
Spigot-Only	HC162703	*	---
Spring-Adjusting Screw (Product Adjusting)	HC162346	1	1261 –
Spring-Scrapper Blade	HC134947	2	1261 – 670

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Alphabetized Parts List

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PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Spring-Scraper Blade	HC134649	2	670 –
Spring-Extension Torque-Slush (Silver)	HC162338	2	1261 –
Stamping-Bearing Base	HC153128	2	670 –
Strip-Terminal	HC150795	1	1261 –
Stud-Cylinder	HC130194	1	1261 –
Stud-5/16-18x5 (Belt Adjustment-Counter)	HC163416	1	670 –
Stud - Freezer Door (Cylinder)	HC130194	1	1261 –
Switch-Selector Rotary (Floor) (NLA-use HCHC115816)	HC150459	1	670 – 991
Switch-Selector Rotary Replacement Kit	HC115816	1	991 –
Switch-Toggle (Counter and Floor)	HC150436	1	1261 – 670
Switch-Toggle (Counter and Floor Model)	HC150465	1	670 –
Switch-Torque Control (Micro Switch)	HC150457	1	1261 –
Switch-Torque w/cord (NLA-use HC117492)	HC112846	1	1261 – 683
Switch-Torque w/cord	HC114277	1	683 – 897
Switch-Assy. Torque	HC117492	1	897 –
Tank-Assy. 15 Gallon (w/Lid & Spigot)(Accessory)	HC113073	*	---
Tank-15 Gallon with Lid	HC163300	*	---
Tank-15 Gallon only	HC137594	*	---
Tee-1/2 x 1/2 x 1/2 SWT WOT	HC155536	1	196 –
Tee-1/4 x 1/4 x 1/4 SOL CU	HC155529	1	196 –
Thermostat-Hopper (145RH)	HC161202	1	397 –
Time-Delay Tube (NLA-use HC114240 - Solid-State Timer Kit as replacement.)	HC150218	1	1261 – 683
Timer-30 Sec. Delay (On Make)	HC150206	1	683 – 897
Timer-60 Sec. Delay (On Break)	HC150205	1	683 – 897

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Alphabetized Parts List

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PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Timer -DOM DOB	HC150263	1	897 –
Tray (Pan)-Drip (Counter Model)	HC135802	1	681 –
Tray (Pan)-Drip (Floor Model)	HC136065	1	681 –
Tray-Assy. Accessory Mounting (4 Flavor Rack Complete) (Accessory)	HC117530	*	----
Bottle-Flavor Plastic	HC199504	4	----
Decal-Six Flavor MR. MISTY	HC165245	1	----
Insert-Drip Pan	HC138174	1	----
Pump-Slush Flavor Plastic	HC169124	4	----
Tray-Assy Drip & Flavors	HC117529	1	----
Tube-Drain (NLA)	HC196051	1	688 – 193
Tube-Assy. Drain w/Pan	HC115923	1	193 –
Tubing-.375ID x .500 OC (Drain)	HC196068	1	193 –
Tubing-1/2-inch I.D. x 5/8 O.D. PVC (Accessory)	HC196058	*	----
Valve-Access (Compressor)	HC155419	1	196 –
Valve-Auto Expansion (NLA-use HC155453)	HC155404	1	1261 – 193
Valve-Auto Expansion (Cylinder)	HC155412	1	193 – 1095
Valve-Auto Expansion (Cylinder)	HC155453	1	1096 –
Valve-Auto Expansion (Hopper-145RH)	HC155452	1	397 –
Valve-Solenoid (145RH)	HC155435	2	397 –
Valve-Assy. Water (Water Cooled Only)	HC112080	1	193 –
Valve-Water 3/8	HC155410	1	193 –
Valve-Water (Repair Kit)	HC155444	1	193 –
Washer-Ext Tooth 1/4 ZN (A/C Condensing Assy.)	HC160151	2	196 –
Washer-Ext Tooth 3/8 ZN (A/C Condensing Assy.)	HC160154	1	196 –
Washer-Flat #10 (Adjusting Screw)	HC160138	1	1261 –

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Alphabetized Parts List

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PART DESCRIPTION	PART NUMBER	QTY	SERIAL NUMBER (from – to)
Washer-Flat 3/8" (Drive Shaft Assembly)	HC160132	4	1261 –
Washer-Flat 1/4" (Motor)	HC160130	4	1261 –
Washer-Lock 1/4" (Motor Assembly)	HC160141	4	1261 –
Washer-Lock-3/8" (Bearing Assy.)	HC160143	4	1261 –
Washer-5/16" (Belt Adj. Stud/Comp. Mtg.)	HC160131	4	670 –
Washer (Reset Button)	HC160160	1	----
Washer-Rubber (Motor Mtg.)	HC199012	2	1095 –

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