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LIST OF ILLUSTRATIONS

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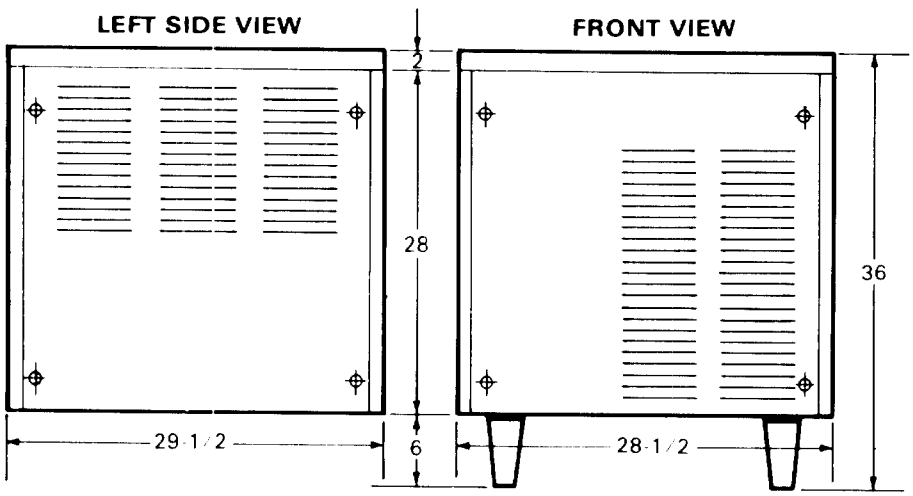
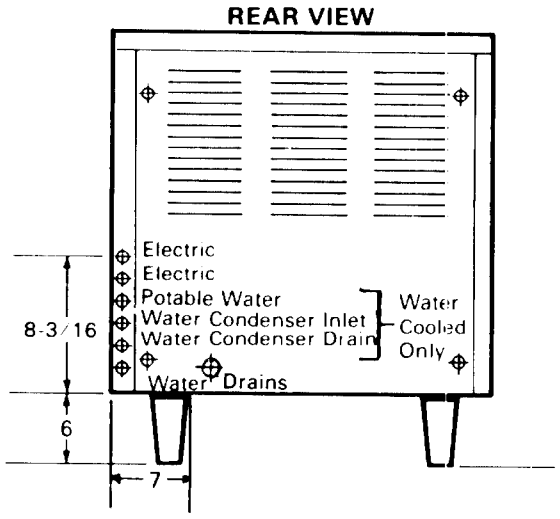
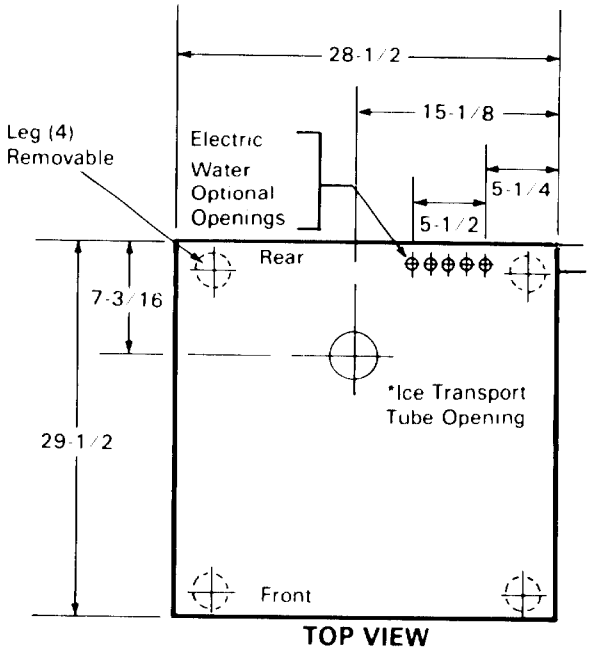
This icemaker has been engineered to our own rigid safety and performance standards. The National Sanitation Foundation (NSF) seal, signifies that it is listed with the NSF and that it complies with the materials and construction standards of the NSF. In addition, the Underwriters Laboratories, Inc., (UL) Listing Mark and the Canadian Standards Association (CSA) Monogram, both signifv that its construction and design have been inspected and tested by them. NSF, UL and CSA inspectors also periodically examine production icemakers at the factory, to assure continued compliance.

To retain the safety and performance built into this icemaker, it is important that installation and maintenance be conducted in the manner outlined in this manual.

SPECIFICATIONS
MODEL EC900







SPECIFICATIONS (Cont'd.)

MODEL EC900

Air-Cooled: EC900A-2A
EC900A-3A
EC900A-7A

Water-Cooled: EC900W-2A
EC900W-3A
EC900W-7A

Electrical: 208-240/60/3
208/60/1
230/60/1

Est. Ship. Wt: Air-Cooled 347 lbs.
Water-Cooled 332 lbs.

EASY ACCESS SERVICE PANELS

OPTIONAL LEG KIT

KLP2E - 6-inch metal legs, Black Enamel
KLP2S - 6-inch metal legs. Nickel Plated

OPTIONAL PANELS KIT

SPK-EC-900 - Stainless Steel Panels for use with the EC900.

MODEL NUMBER		MOTORS	VOLTS	HP/WATT	F.L.A.	L.R.A.
		COMP.				
SERIAL NUMBER		DRIVE				
		FAN				
REFRIGERANT 12	HEATER					
OZ.	WATTS	OTHER				
TEST PRESSURE 140 LO - 235 HI						
A.C. SUPPLY VOLTAGE			WIRES	CYCLES	PHASE	
MAXIMUM FUSE SIZE	AMPS	MINIMUM CIRCUIT AMPACITY				

SEE NAMEPLATE for electrical and refrigeration specifications. Locate the NAMEPLATE on the lower, left part of the Rear Panel. Shown at left.

Remove Front Panel to locate the Model/Serial Number plate, shown below on the front of the chassis base, left of the Control Box.

MODEL NUMBER	
SERIAL NUMBER	

We reserve the right to make product improvements at any time. Specifications and design are subject to change without notice.

SECTION I
GENERAL INFORMATION & INSTALLATION

I. INTRODUCTION

This manual provides the specifications and the step-by-step procedures for the installation, start-up, operation, and the maintenance and cleaning for the SCOTSMAN Model EC900 Extruder Cuber.

The Model EC900 Extruder Cubers are quality designed, engineered and constructed, and thoroughly tested icemaking and ice transporting systems, providing the utmost in flexibility to fit the needs of a particular user. Separate sections detail more specifically: General Information & Installation; Start-Up Operation; Principles of Operation; Adjustment and Removal and Replacement Procedures; Maintenance and Cleaning Instructions; Service Diagnosis; Wiring Diagrams; and, the Illustrated Assemblies and Parts Lists.

DESCRIPTION

An attractive compact cabinet of leathergrain embossed steel, with charcoal brown baked enamel high glossy finish. Also, an optional stainless steel panel kit is available. These removable panels allow easy access to electrical and mechanical components for cleaning and maintenance.

SEALED REFRIGERATION SYSTEM

To provide quiet efficient operation of the Icemaker, the Compressor motor is internally spring-mounted. The Compressor motor is covered by a five year parts warranty. The Freezer Assembly is powered by a direct-drive, gear motor, Drivemotor Assembly. The Extruder Assembly is powered by a one-half horsepower electric motor, which belt-drives a gear reducer that is directly coupled to the Extruder.

ASSOCIATED DISPENSER, BINS, DIVERTER

The Model RPD100 Sanitary Ice Dispenser is an associated piece of equipment for ice storage and automatic dispensing and can be installed directly on top of the EC900; or, at a remote location or in another room, with ice transported to it through continuous Nylon reinforced tubing.

Since the EC900 Extruder Cubers are continuous flow type icemakers and do not have their own attached ice storage bins, it is necessary to use an auxiliary bin, such as the bins listed below, except of course, when used with the RPD-100 noted above.

Use Bins: B20, B40, B60, B80, B90, B120, B500 B750. Also refer to Specification sheets for associated accessories and extent of installation combinations possible.

The Model DVK900 Ice Diverter Assembly is designed to be used with the EC900, for providing the capability of alternately supplying ice to two separate locations. Utilizing a special priority circuit with controls, indicator lamps and switches, the Diverter allows the user to select the priority of ice demand to be given to one location. When that need is filled, the bin thermostat signals the Diverter Rotor to operate and divert the supply of ice to the other location.

A bin thermostat temperature control device is shipped with the EC900 to provide the necessary shut-off and start-up demands from the bin to the EC900 icemaker controls. Within the control panel attached to the rear of the EC900 control box, a terminal block is provided for connecting the temperature control from any associated bin or dispenser.

II. UNPACKING AND INSPECTION

1. Call your authorized SCOTSMAN Distributor or Dealer, for proper installation. He's listed under ICEMAKING EQUIPMENT and MACHINERY in the yellow pages of the telephone book.
2. Visually inspect the exterior of the shipping container and skid, and any severe damage noted, should be reported to the delivering carrier; and, a concealed damage claim filed subject to internal inspection, with carrier representative present.
3. BEFORE removal of any panels or packing, carefully lay the cabinet on its back and remove the shipping bolts and the shipping base or skid.
4. When ordered, install the optional leg levelers in the cabinet base sockets; then, raise the cabinet to the upright position.

5. Remove screws and shipping tape, and all doors and service panels from the cabinet, and inspect for any concealed damage. Notify carrier of any concealed damage claims, as stated in step 2 above.
6. Remove all internal support packing tape and wires, if any, in machinery compartment.
7. Check that refrigerant lines do not rub or touch lines or other surfaces, and that fan blades, if any, move freely.
8. Check that the Compressor is snug on all mounting pads.
9. Remove water strainer from shipping envelope, for installation in water supply line.
10. Use clean damp cloth or disposable paper wiper to wipe clean the exterior surfaces of the cabinet.
11. See NAMEPLATE on the rear service panel, near the left rear corner of the cabinet and check that the location source voltage corresponds with the voltage specified on the nameplate.

CAUTION

Improper voltage supplied to the Icemaker will void your parts replacement program.

12. Remove the Manufacturer's Registration Card from the front of the User's Manual and fill in all spaces including: Model Number and Serial Number taken from the aluminum plate located at the front center of the Chassis base, with Front Panel removed. Forward the completed, self addressed, registration card to the SCOTSMAN Factory.

III. LOCATION AND LEVELING

WARNING

This Extruder Cuber is NOT designed for outside installations where air temperatures are below 50-degrees F., or above 100-degrees F., and the water temperature is below 40-degrees F., or above 100-degrees F. Extended periods of operation at temperatures exceeding these limitations will constitute misuse, under the terms of the SCOTSMAN Manufacturer's limited warranty coverage.

1. Position the Cabinet in the selected permanent location.

NOTE

Prior consideration for location site shall include:

1. *Minimum room temperature 50-degrees F. and maximum room temperature 100-degrees F.*
2. *Water inlet temperatures: Minimum 40-degrees F. and Maximum 100-degrees F.*
3. *Well ventilated location for Air-Cooled model, advising user to frequently clean Condenser, located directly behind front service panel.*
4. *SERVICE ACCESS: Adequate space for all service connections, through the rear of the cabinet. A six-inch minimum clearance at rear, left and front louvered panels for routing cooling air drawn into and exhausted out of the compartment to maintain proper condensing operation on Air-Cooled models.*

2. Level the Cabinet in both the left-to-right and front-to-rear directions. The optional leveling legs can be adjusted with an open-end wrench.

NOTE

When installing the EC900 on the floor without legs, the base shall be secured to the floor and properly sealed to prevent contaminants and vermin from entering through the base of the Cuber. The following procedure is recommended and the sealant can be a food grade caulking material, or SCOTSMAN Sealant P/N 19-0529-00 or 19-0529-01.

a. *Position EC900 in selected site location; then, with a marking pen, trace the outline of the Cuber base on the floor.*
b. *Remove the Cuber temporarily and proceed to lay a one-fourth inch bead of sealing or caulking compound on the floor, just INSIDE the above traced outline.*
c. *Carefully position the Cuber over the traced outline and sealant bead and gently lower the Cuber in place, checking to ensure there is a continuous and proper seal around the entire base of the Cuber.*
d. *BEFORE the sealant sets-up or hardens, check the front-to-rear and left-to-right leveling of the Cuber and, if required, add shims to achieve proper leveling.*
e. *When necessary, recaulk any areas opened by the shim or leveling process, performed step d above.*

IV. ELECTRICAL CONNECTIONS

See NAMEPLATE for current requirements to determine wire size to be used for electrical hookup. The Extruder Cuber requires a solid earth ground wire. See wiring diagram.

Be certain the Extruder Cuber is connected to its own electrical circuit and individually fused. The maximum allowable voltage variation should not exceed ten percent of the nameplate rating, even under starting conditions. Low voltages can cause erratic operation and may be responsible for serious damage to the overload switch and motor windings.

All external wiring should conform to the national, state and local electrical code requirements. Usually an electrical permit and services of a licensed electrician will be required.

V. WATER SUPPLY AND DRAIN CONNECTIONS

A. AIR-COOLED MODELS: The recommended water supply line is a 1/4-inch O.D. copper tubing. Connect to cold water supply line with standard plumbing fittings, with a shutoff valve installed in an accessible place between the water supply and the Cabinet.

A wire mesh strainer is provided and must be installed, with the cleanout plug down. Locate the strainer in the water supply line, next to the Cabinet with the arrow on the strainer, in the direction of the water flow. The strainer protects against large particles of rust, scale, etc., which may be loosened in the water supply pipe line at the time of installation.

In some cases, a plumbing permit and services of a licensed plumber will be required.

WARNING

To prevent damage to the freezer mechanism, DO NOT operate this unit when the water supply is OFF, or is below 20 PSI, the recommended water pressure. Position the master switch to the OFF position, until proper water supply is resumed.

The Icemaker in this Cabinet will NOT operate when water supply temperatures are below 40-degrees F. or above 100-degrees F.

B. WATER-COOLED MODELS: On Water-Cooled models a separate connection, to the Condenser is required. A 3/8-inch O.D. copper tubing is provided for a separate water inlet line to be connected and a separate drain line to be connected.

NOTE

The WARNING, in the text above for the Air-Cooled models equally applies for the Water-Cooled models. In both type installations, water supply must be installed to conform with local plumbing codes. In come cases, a plumbing permit and services of a licensed plumber will be required.

C. DRAIN CONNECTIONS: All drains are gravity type and must be 1/4-inch fall per foot on horizontal runs. The drains to be installed to conform with local code. The drain receptacle should be an open, trapped or vented construction.

Connect a drain line to 7/16-inch I.D. tube from the Freezer drip pan, a drain line from the Reservoir overflow, both to drain into the Extruder drain pan, which has a drain out the rear of the Cabinet. Connect a separate drain line to 3/8-inch O.D. drain tube from the Water-Cooled Condenser, on Water-Cooled models.

WARNING

This Extruder Cuber will NOT operate when water supply temperature is below 40-degrees F., or above 100-degrees F.; and, requires 20 PSI flowing water pressure, without interruption.

VI. ICE TRANSPORT TUBE INSTALLATION

A. RPD100 DISPENSER MOUNTED ON TOP OF EC900:

1. Remove the rear and side panels from both the EC900 and the RPD100. Remove and discard the Top Panel from the EC900.

NOTE

A drip pan is provided with the EC900, for use when the RPD100 is mounted on top of the EC900. The drip pan will catch any dripping from drink heads, or the water spout, when the RPD100 Sink Assembly is removed. With attaching screws removed, the drip pan can be slid to the rear to provide access to the EC900 from the top for service requirements. The drip pan is not required when the Top Panel is installed on the EC900.

2. Position and attach the RPD100 to the top of the EC900 following the detailed installation procedures in the RPD100 instructions.
3. Install the 110-inch long, one-inch I.D. Nylon-reinforced P.V.C. ice transport tubing on the outlet end of the EC900 Extruder Breaker, and secure with the clamps provided.

CAUTION

Use extra care when routing the ice transport tubing, see Figure 1-2, in the next steps to:

1. **Avoid any kinking or restrictions of any kind to tubing, and, that all curves or bends in tube routing have the largest possible radius. Minimum recommended bend radius is six and one-half inches.**
2. **Be sure to route tubing away from all moving parts, such as pulleys and belts. Ties may be required to ensure that tubing does not contact any moving parts.**
3. **Use only tubing approved by SCOTSMAN for use with the EC900, and also use only hose clamp provided.**

4. Route the ice transport tube up through the gusset in the rear, left-hand corner of the EC900, through the hole in the base and mounting pan of the RPD100, continuing up through the hole in the foam insulation and out into the bin.
5. Guide the end of the tubing under the saddle, through the two U-clamps, with the end of the tubing extending about one inch beyond the last U-clamp. Excess tubing should be worked back down into the EC900 Cabinet.
6. Route electrical wiring from the bin level control of the RPD100, to the terminal block located in the small control panel on the rear of the EC900 Control Box. Refer to the wiring diagram. These wires may be routed along the ice transport tubing.

B. ICE TRANSPORTED TO BIN:

The ice transport tubing may exit from the top, rear, side or base of the EC900. When the EC900 is mounted on top of the Bin, the ice transport tube will exit through the hole in the base, see Specification page; otherwise, punch a three inch hole in other selected exit panels, to allow room for the ice transport tube and insulation covering. A smaller hole can be punched if no insulation is to be used.

Follow the precautions given in paragraph I-VI-A above, when routing the ice transport tubing; and, secure the ice transport tubing in the Bin using the clamps provided. Also, install the bin thermostat temperature control provided, and similarly route and connect the wiring to the EC900 Control Box.

VII. INSTALLATION - OPTIONAL KITS

Install kits ordered with the EC900:

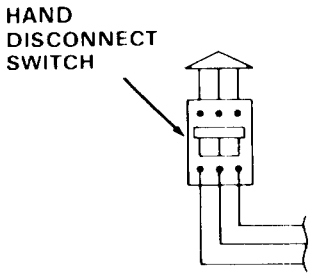
1. SPKEC900 - Stainless Steel Panel Kit.
2. KTX25 - 25-foot length of Nylon reinforced, one-inch I.D. tubing for ice transporting.
3. KTX50 - 50-foot length of Nylon reinforced, one-inch I.D. tubing for ice transporting.
4. KTX100 - 100-foot length of Nylon reinforced, one-inch I.D. tubing for ice transporting.

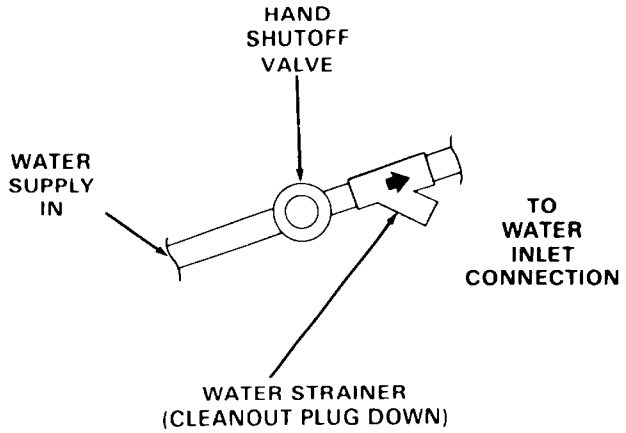
The installation instructions for each of the above listed kits are shipped in the individual kit package.

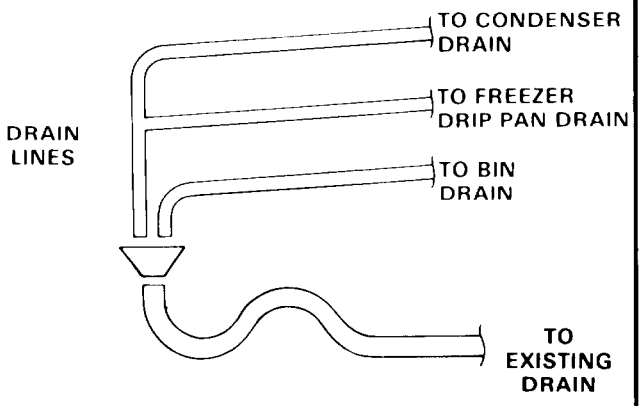
VIII. FINAL CHECK LIST

1. Is the Cabinet level? (IMPORTANT)
2. Have all kits, if any, been installed and properly checked?
3. Have all electrical and piping connections been made?

4. Has the ice transport tubing been installed and properly routed for good drainage?
5. Has the voltage been tested and checked against the nameplate rating?
6. Is the water supply line shutoff valve installed and electrical wiring properly connected?
7. Have the Bin and Cabinet been wiped clean?
8. Have the Compressor hold down nuts been checked, to be sure the Compressor is snug on the mounting pads?
9. Has the owner/user been given the User Manual and instructed on how to operate the Icemaker?
10. Has the Manufacturer's Registration Card been properly filled out? Check for correct Model and Serial numbers from Serial nameplate, then mail the completed card to the SCOTSMAN factory.
11. Check all refrigerant lines and conduit lines, to guard against vibration or rubbing and possible failure.
12. Is there at least six inches clearance behind and around the Cabinet for proper air circulation?
13. Is the Cabinet in a room where ambient temperatures are a minimum of 50-degrees F. all year around?
14. Has the water supply pressure been checked to ensure a minimum of 20 PSI?
15. Has the owner been given name and telephone number of the authorized SCOTSMAN Service Agency serving him?







OPEN, TRAPPED OR VENTED DRAIN. RECOMMENDED 1/4-INCH FALL PER FOOT OF RUN ON DRAIN LINES.

WARNING

THIS ICEMAKER IS NOT DESIGNED FOR OUTSIDE INSTALLATION AND WILL NOT OPERATE IN AMBIENT TEMPERATURES BELOW 50-DEGREES F., NOR ABOVE 100-DEGREES F.

THIS ICEMAKER WILL NOT OPERATE WHEN WATER TEMPERATURES ARE BELOW 40-DEGREES F., NOR ABOVE 100-DEGREES F.

77 116A

Figure 1-1. Installation Practice

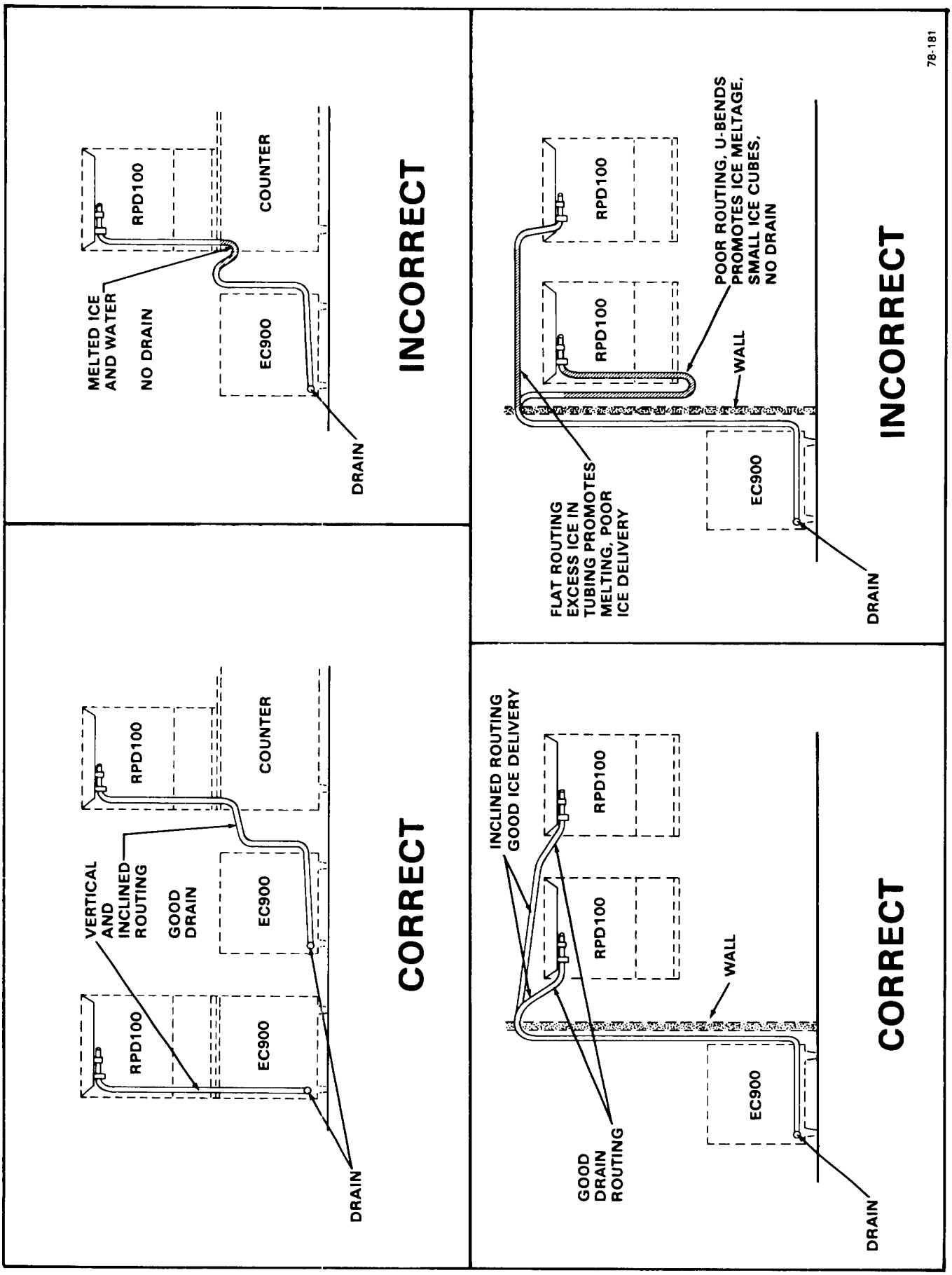


Figure 1-2. Examples of Ice Transport Tube Routing

SECTION II
START UP OPERATION

I. START UP

1. Remove screws and the Front Panel and the Left Side Panel.
2. OPEN the water supply line shutoff valve.
3. Observe the water filling operation, see Figure 2-1:
   a. Water flows into Water Reservoir.
   b. Float moves up as water rises.
   c. Water flows through water feed line to bottom of Freezer Assembly.
   d. Float stops water flow, when water level reaches 3/8-inches below the raised molded line, on the side of the body of the Water Reservoir.
4. Move the two manual ON-OFF toggle switches, on the front of the Control Box, to the ON position to start the automatic ice-maker operation.
5. Observe startup of the Compressor, Fan Motors, Freezer Assembly Drivemotor, and the Extruder which is powered by the belt-driven motor; then, check belt tightness and that it is rotating in a CLOCKWISE direction.
6. After two or three minutes of operation, observe that flaked ice will begin dropping from the ice spout at the upper end of the Freezer Assembly into the Extruder feeder hose.
7. Within the next two minutes or so, rectangular broken ice pieces should be emerging from the Breaker end of the Extruder Assembly and into the ice transport tubing that delivers the ice to the ice storage bin in the RPD100 Dispenser, or to an auxiliary Bin.

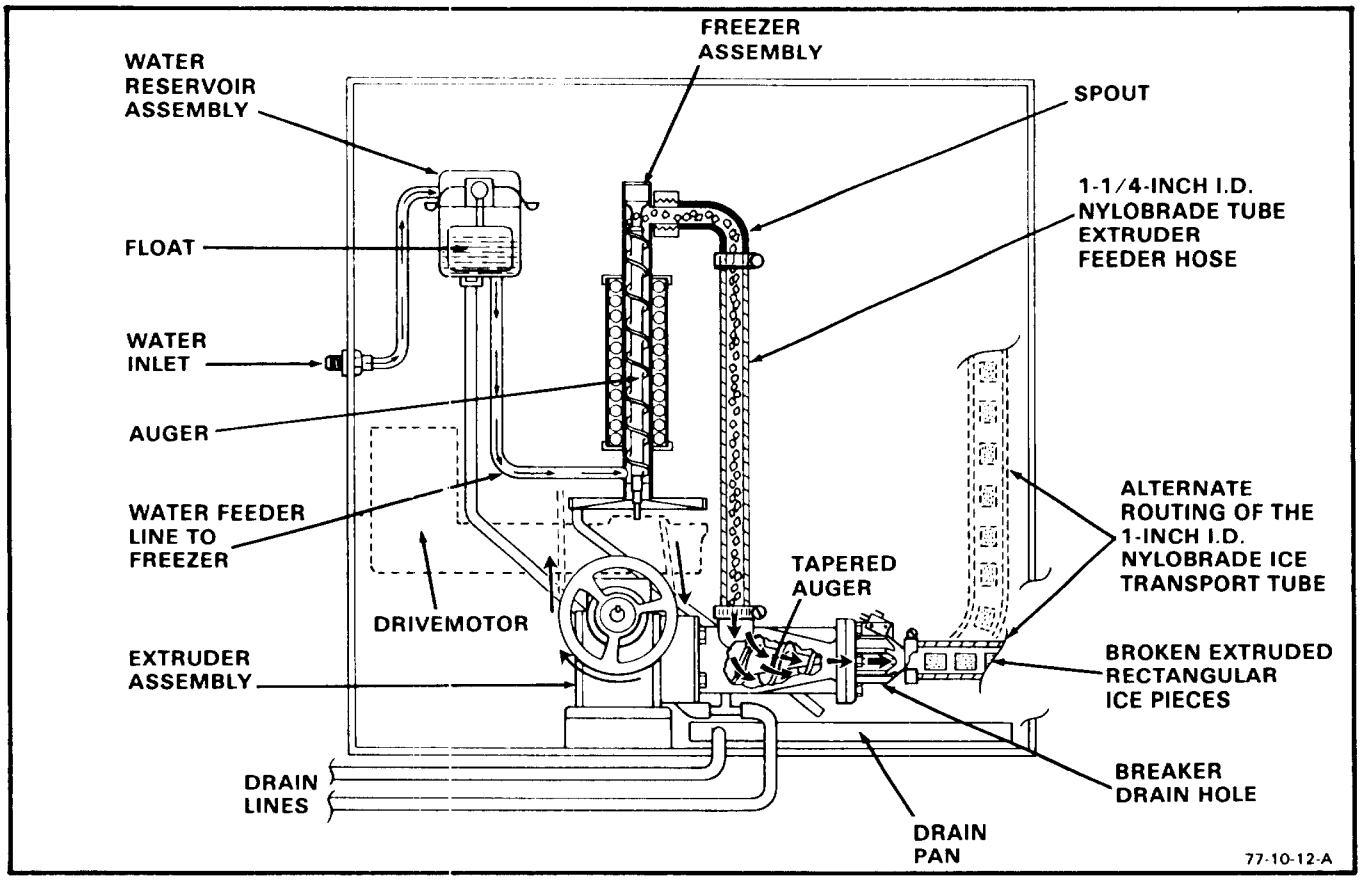


Figure 2-1. Water Schematic

NOTE

During the next phase, the time required to transport ice from the Breaker end of the Extruder Assembly, through the ice transport tubing and into the ice storage bin of the RPD100, or an auxiliary Bin, will vary according to type of installation. for example;

1. *RPD100 mounted on top of EC900: Travel time is about four to five minutes.*
2. *RPD100 or auxiliary Bin remote from EC900: Travel time equals the length of the ice transport tube, in feet, multiplied by roughly two-feet-per-minute. So, travel time through a 16-foot tube would require roughly eight minutes. These time figures are median examples, and any, or all can be increased or decreased by variation in local ambient air temperatures and water supply.*

8. Observe the time required for ice to be transported from the Extruder Breaker to the ice storage cylinder in the Dispenser, or the auxiliary Bin, for future reference. That is, how long in minutes it takes for the first ice to be deposited in the ice storage bin.

NOTE

Let the icemaking process continue without interruption, until the ice storage bin in the RPD100, or the auxiliary Bin, is filled with ice up to the bin thermostat. Check for any excess noises beyond normal Compressor noise and Extruder noise:

1. *Fan noises, when Air-Cooled: Blades touch other surfaces; blades bent, and out-of-balance.*
2. *Vibrating type: From touching lines.*
3. *Chattering: Lack of water in Freezer.*
4. *Grinding: Extruder auger bent or chipped and scraping inner walls of Extruder body.*
5. *Compressor loose at one or more hold-down bolts.*
6. *Belt too tight and screeching or too loose and slipping.*

WARNING

DO NOT operate this Icemaker when the water supply is shut OFF, or is BELOW the recommended 20 PSI water pressure. Move the manual ON-OFF toggle switch on the front of the Control Box to the OFF position immediately.

9. Hold ice against the bin control bulb, in the RPD100, or auxiliary Bin, to test EC900 icemaker shut OFF. Less than one minute is about normal for Bulb shutoff function to cause the Compressor to stop.

NOTE

Within minutes after the ice is removed from the sensing bulb, the bulb will warm up and cause the EC900 icemaker to restart. This control is factory set and should not be reset until testing is performed. Normal seting is about 35-degrees F. CUT-OUT and 45-degrees F. CUT-IN.

10. Thoroughly explain to the owner/user the significant specifications of the Icemaker, the startup and operation, going through the procedures in the operating instructions. Answer all questions about the Icemaker, by the owner; and, inform the owner of the name and telephone number of the authorized SCOTSMAN Service Agency serving him.

SECTION III
PRINCIPLES OF OPERATION
How It Works

I. ICEMAKER/EXTRUDER

The water supply flows from the building source through the inline water strainer, enters at the Cabinet fitting and on to the Water Reservoir. The Water Reservoir functions to maintain a constant water level inside the Freezer Assembly. Water from the Water Reservoir enters at the bottom of the Freezer Assembly and is changed into ice by low temperatures inside the Freezer.

A stainless steel Auger within the Freezer is powered by the Drivemotor Assembly, a direct-drive gearmotor, and the rotating Auger carries the ice upward to the flared end of the Auger, see Figure 3-1, where excess water is pressed out of the ice, as it is extruded or flaked out through the Ice Spout, through the short one and one-fourth inch I.D. Nylobrade tubing and into the inlet of the Extruder chamber.

After the Bin Control has been wired into the EC900 Control Panel, the 24-volt circuit is complete through the contactor coil and the Extruder safety spout switch. Then, by moving the two manual ON-OFF toggle switches, on the front of the Control Box, to the ON position, the automatic and continuous icemaking process begins.

A continuous supply of flaked ice, from the spout of the Freezer Assembly, is delivered through the short Extruder feeder hose to the Extruder Assembly. A stainless steel tapered Auger compresses the flaked ice within the tapered brass chamber of the Extruder, where water forced out of the compressed ice is drained out the bottom of the chamber. The ice is extruded through a three-fourths inch square hole in a continuous square shaft of ice and afterward into the Breaker, where it is broken off into rectangular pieces.

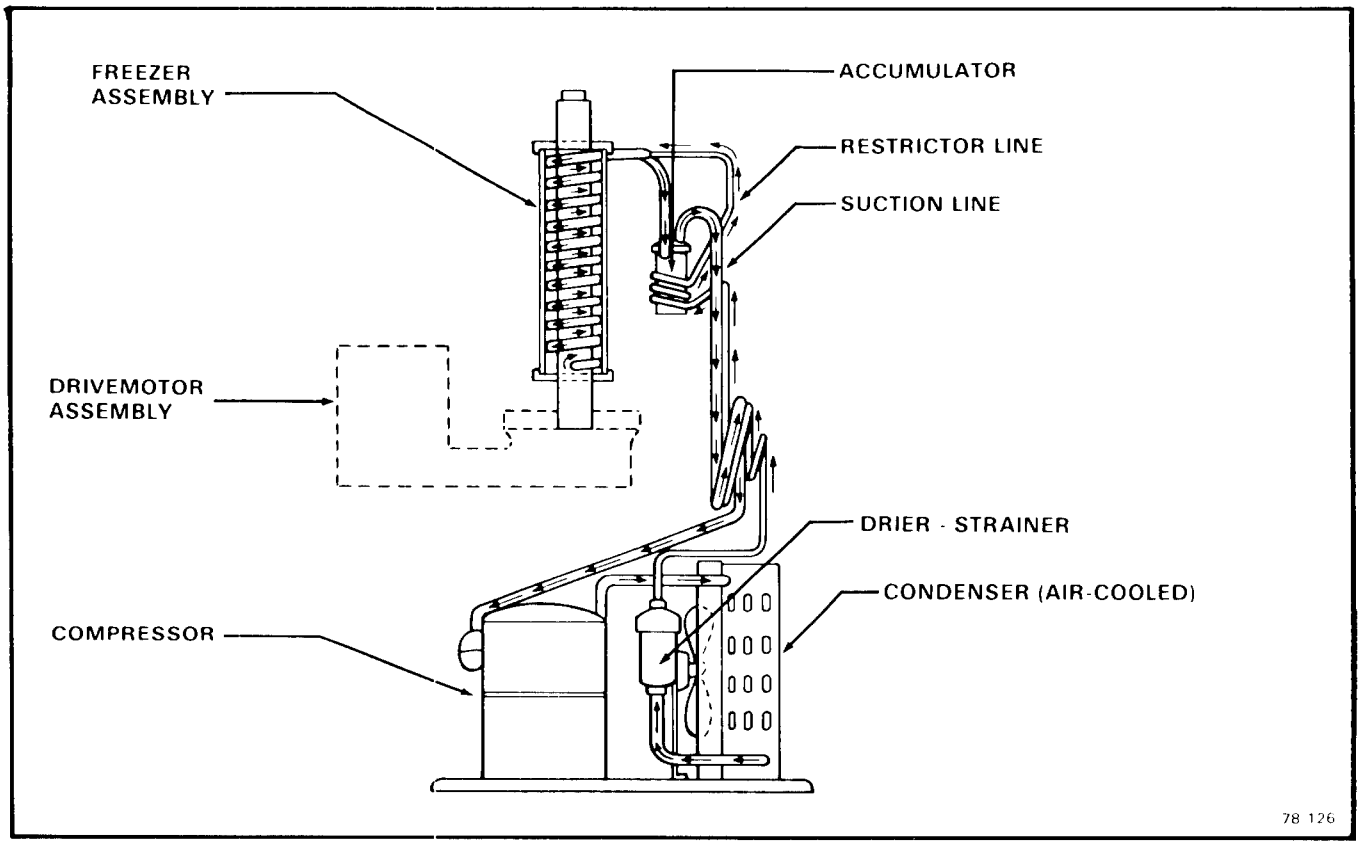


Figure 3-1. Refrigeration Cycle

Powered by the one-half horsepower motor and a continuous supply of flaked ice from the Freezer Assembly, the Extruder Assembly produces rectangular broken ice pieces, plus the power to transport the ice from the outlet of the Breaker through a one-inch I.D. Nylobrade transport tube to the ice storage bin of the RPD100, or to an auxiliary Bin.

When the ice storage bin has been filled with ice, up to the level of the Bin Control Bulb, the sensing bulb shuts off the icemaking process. As the ice is removed from the ice storage bin, the Bin Control Bulb warms up, restarting the automatic icemaking process in the EC900.

Factory settings are 35-degrees F. CUT-OUT and 45-degrees F. CUT-IN.

Altitude adjustment should ONLY be performed on icemakers installed at 2000-feet level locations and ABOVE, and adjust only in increments of one-fourth turn of screw at a time.

II. ELECTRICAL/REFRIGERATION

The EC900 Extruder Cubers are designed to operate on 230 volts, 60 Hertz, single phase. Special voltage requirements are available on special order. Therefore, always CHECK NAMEPLATE for electrical information BEFORE proceeding with electrical wiring connections to the Icemaker.

Cold ambient temperatures and interruptions in water supply are conditions that can cause excessively hard ice and overloads within the Freezer Assembly, which is directly transmitted to the Drivemotor; and in turn, will cause speed reduction or ultimate freezeup.

When the Drivemotor is slowed to a predetermined RPM, a sensing switch mounted on top of the motor is designed to open the electrical circuit to the Compressor. The Compressor stops operating, no more ice is produced, and the Drivemotor continues to operate rotating the Auger to clear the overload and gradually build up to full speed.

At a pre-determined higher RPM Drivemotor speed, the speed sensing switch closes the electrical circuit to the Compressor, causing the normal icemaking process to resume. Refer to specific details in paragraph V-II-9, on centrifugal sensing switch operation.

A Spout Switch is mounted on the side of the Ice Spout and is actuated by the movement of the spring retained spout tube against the switch actuator. The Spout Switch acts as a backup safety switch, should the Bin Control Bulb fail and cause ice to jam up in the Ice Spout. The switch will shut off the icemaker only when actuated. It is an immediate and complete shut down of the entire icemaker. The Spout switch is manually reset.

There are three safety controls in the Control Box on the Water-Cooled models and two safety controls in the Control Box for the Air-Cooled Models. On the EC900 Air-Cooled Models only, a Fan Pressure Control is added to the Control Box. The Low Pressure Control, a manual reset, non-adjustable control is used on both models and is set to electrically open at zero to four PSIG to stop the entire icemaker. The Auger Delay Switch, a single-pole, double-throw (SPDT) switch, functions as a control device to allow the gearmotor to rotate the Auger to clear the Freezing Chamber while the compressor circuit is OFF.

Refer to the appropriate Wiring Diagram and trace circuitry and control functions, as described in the following paragraph.

As shown on all SCOTSMAN wiring diagrams, the controls are in the ICEMAKING MODE. Thus, the 1-2 contacts are CLOSED. At STARTUP the 1-2 contacts are OPEN and the 3-2 contacts are CLOSED. As the icemaker begins to operate, the low side pressure starts to decrease from the stabilized or at-rest pressure. As soon as the pressure is reduced to 20 PSIG, the 3-2 contacts OPEN and the 1-2 contacts CLOSE.

This removes the operating controls, such as the Bin Thermostat, from the gearmotor circuit. If one of the operating controls OPENS, it will SHUT OFF the compressor circuit. The gearmotor will operate until the low side pressure increases to 32 PSIG. Then, the 1-2 contacts OPEN and SHUTS OFF the gearmotor, usually within one to two minutes, depending upon ambient conditions. This brief period of time allows the Auger to transport all the ice out of the freezing chamber. Consequently, when called on to STARTUP again, there is no ice load to start up against. Again, on STARTUP, the 1-2 contacts are OPEN and the 3-2 contacts are CLOSED.

On all models, a low-water pressure switch functions to discontinue the Icemaking process whenever incoming water pressure is reduced to below five PSIG. The Switch will automatically restart the Icemaking process when the water pressure is increased to 20 PSIG.

On the Water-Cooled models only, a manual reset, high head pressure control is factory set to stop the entire icemaker should the head pressure reach 250 PSIG.

On Water-Cooled models, correct head pressure is 135 PSIG. Adjustments can be made on the Water Regulator Assembly valve. On Air-Cooled models, the head pressure is normal about 130 PSIG, however, it will vary depending upon ambient air temperature.

On the Air-Cooled model only, a Fan Pressure Control maintains the head pressure between limits set on the Control. Certain low ambient conditions will cause low head pressure; which will open the Fan Pressure control, in turn, stopping the upper Fan. This reduction in air will allow the head pressure to build up and Fan to restart.

Suction pressure should be 15 PSIG with proper refrigerant charge and the frost line should extend out from the accumulator about eight inches. Suction pressure will vary about two PISG plus or minus, depending upon ambient temperatures and incoming water supply temperatures to the Freezer Assembly.

When charging the system with refrigerant, always CHECK NAMEPLATE for specific refrigerant charge for individual icemaker. On Water-Cooled Models, set the compressor head pressure at 135 PSIG. Charge with refrigerant so the frost line extends out of the Accumulator to within no closer than eight to twelve inches of the Compressor, after 15 minutes of operation, for best capacity and performance.

MODEL	EC900 Refrig. Chg.
Air-Cooled	42 oz. R-12 (Approx.)
Water-Cooled	32 oz. R-12 (Approx.)

SECTION IV

ADJUSTMENT AND REMOVAL AND REPLACEMENT

The procedures provided in this Section are arranged in alphabetical order, to make specific Adjustment and Removal and Replacement information easy to locate.

Read the instructions thoroughly before performing any Adjustment or Removal and Replacement Procedures.

I. ADJUSTMENT OF THE BIN THERMOSTAT CONTROL

The control for the Bin Thermostat is the Temperature Control, located on the upper part of the Bin section saddle in the RPD100 Dispenser, or the individual selected mounting location, in the case of an auxiliary Bin.

WARNING

The adjusting screws on the Temperature Control device have very sensitive response to adjustment. DO NOT attempt to adjust the screw until after thoroughly reading and understanding the following instructions and illustrations. Over-adjusting or erratic guessing, can foul the instrument and cause ultimate delay and part replacement, WHICH COULD HAVE BEEN PREVENTED.

See Figure 4-1 for location and direction of rotation, clockwise (CW) or counterclockwise (CCW), in the particular Temperature Control the adjustment is to be performed.

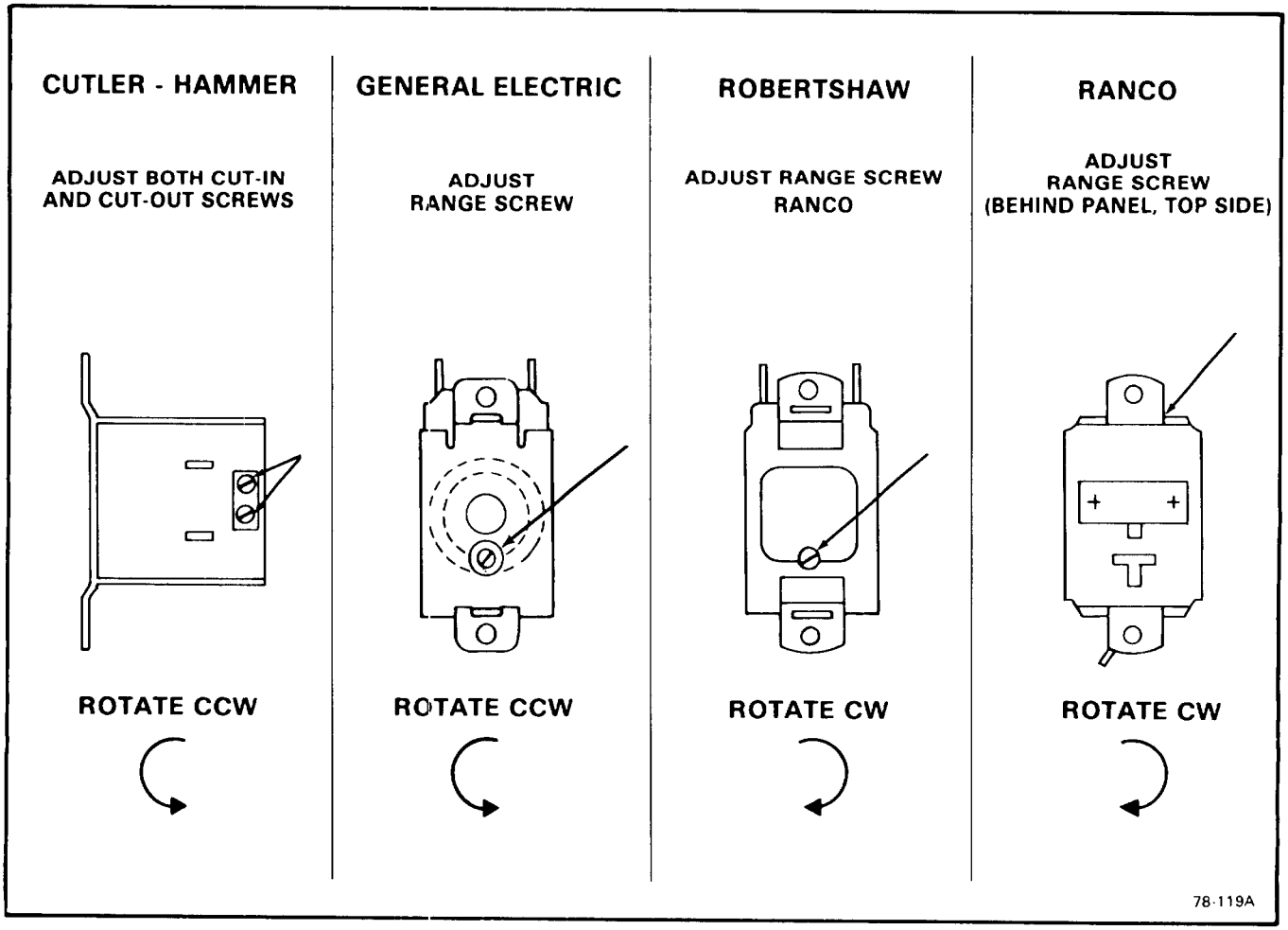


Figure 4-1. Adjustment of the Temperature Control.

II. ADJUSTMENT OF THE LEG LEVELERS

When the EC900 Extruder Cuber is ordered with the optional leg levelers, the Cabinet must be leveled in the front-to-rear and side-to-side directions. This adjustment should be performed during initial installation of the Cabinet and anytime the Cabinet is moved from the original location to another site.

A. Using an open-end wrench, and a carpenter's bubble level, rotate the threaded Leveler in each Leg to RAISE or LOWER the Cabinet until the Cabinet is level in the front-to-rear direction.

B. Repeat step A, for leveling in the side-to side direction.

C. Recheck both the front-to-rear and the side-to-side leveling and repeat adjustments, as necessary.

III. ADJUSTMENT OF THE WATER REGULATOR ASSEMBLY

The correct head pressure on Water-Cooled models is 135 PSIG. Adjustments can be performed on the Water Regulator Assembly to increase or decrease the head pressure.

To Adjust the Water Regulator Assembly:

A. To INCREASE the Head Pressure: Rotate the adjusting Screw, on the Water Regulator Assembly COUNTERCLOCKWISE.

B. To DECREASE the Head Pressure: Rotate the adjusting Screw, on the Water Regulator Assembly CLOCKWISE.

IV. ADJUSTMENT OF THE WATER RESERVOIR FLOAT

The correct water level in the Water Reservoir should be 3/8-inch below the raised molded line, on the side of the body of the Water Reservoir. When the water line level is above or below the raised molded line, adjustment can be performed to raise or lower the water level by raising or lowering the Water Reservoir in the slots on the Mounting Brackets, which in turn will adjust the action of the float.

A. To RAISE the Water Level: Loosen the two Screws which attach the Water Reservoir Assembly to the Mounting Bracket and RAISE the Water Reservoir Assembly, in the slots, the desired amount; then, tighten the Screws.

B. To LOWER the Water Level: Loosen the two Screws which attach the Water Reservoir Assembly to the Mounting Bracket and LOWER the Water Reservoir Assembly, in the slots, the desired amount; then, tighten the Screws.

WARNING

Be sure the electrical power supply and the water supply are OFF, before starting any of the following REMOVAL AND REPLACEMENT procedures, as a precaution to prevent possible personal injury or damage to equipment.

V. REMOVAL AND REPLACEMENT OF THE AUGER, WATER SEAL, BEARINGS AND COUPLING

A. To Remove the Auger, Water Seal, Bearings, and Coupling:

1. Remove screws and the Front Panel and the Left Side Panel.
2. Remove the Freezer Cap from the top of the Freezer Assembly.
3. Perform the steps in procedure IV-XIV to remove the Spout Assembly.
4. Grasp the wire Cap Hook at the top of the Freezer Assembly and pull out the Auger and attached Cap, Bearing/Retainer, Bearing and O-Rings, at the top of the Auger; and, the top half of the Water Seal at the bottom of the Auger.

NOTE

When the Auger cannot be pulled out, proceed to steps 12 and 13, to gain access to the bottom of the Auger. Then, with a rawhide mallet or placing a piece of wood on the bottom end of the Auger, tap the bottom of the Auger to break it loose and pull the Auger out, as in the step 4 above.

5. Remove the Cap Hook from the Bearing/Retainer.
6. Remove the Retaining Ring and the Cap.
7. Remove the Cap Screw and Washer and remove the Bearing/Retainer from the Auger.
8. Clean away the old grease from the top of the Auger, the Bearing/Retainer, Cap, Cap Screw and Washer, and the O-Ring and Retaining Ring.

9. Inspect the O-Ring at the top of the Bearing/Retainer and the O-Ring at the bottom outside of the Bearing/Retainer, for cuts, tears and general worn condition to determine replacement.
10. Inspect the Bearing pressed into the top of the Bearing/Retainer and, if it is to be replaced, remove the Retaining Ring and press the Bearing out of the Bearing/Retainer.
11. Slide the upper half of the Water Seal off of the bottom of the Auger.

NOTE

1. *Any time the Auger is removed for replacement, or, for the inspection and replacement of the Bearings or Coupling, use extra care in handling the Water Seal parts, so no dirt or foreign matter are deposited on the surfaces of the Seal.*
2. *If there is any doubt about the effectiveness of the Water Seal or O-Ring REPLACE THEM. A dirty, worn or faulty Water Seal or O-Ring will cause a leak and ultimately require a second, time consuming removal and replacement procedure to be performed, that COULD HAVE BEEN PREVENTED.*

12. Remove four screws and lockwashers which attach the Freezer Assembly to the Adaptor on the Drivemotor Assembly.
13. Raise the Freezer Assembly off of the Adaptor, to gain access to the Bearing and Retainer; then, temporarily secure the Freezer Assembly out of the way to allow room to work. Be careful not to damage the gasket.
14. Using a suitable length and size wooden dowel or stick inserted through the top of the open Freezer Assembly, tap the lower half of the Water Seal and the lower Bearing in the Retainer, out the bottom of the Freezer Assembly.
15. Inspect the lower half of the Water Seal. If reusable, use care to protect it from dirt, etc. prior to replacement procedure.
16. Inspect the lower Bearing in the Retainer; and, if the Bearing is to be replaced, press the Bearing out of the Retainer.
17. Reach through the Adaptor and remove the Coupling on the Drivemotor for inspection.
18. Check the Coupling for cracks, chipping and excessive wear.

B. To replace the Auger, Water Seal, Bearings, and Coupling, reverse the removal procedure.

NOTE

1. *When installing the Retainer assembled with Bearing, in the bottom of the Freezer Assembly, some Retainers will insert as a slip fit, and some will have to be forced into place because of very tight fit. Carefully tap a piece of wood positioned across the bottom of the Retainer, to evenly seat the Retainer in the chamber of the Freezer.*
2. *After assembling the parts on the upper end of the Auger and BEFORE installing the Cap and Cap Hook, apply an ample coating of Shell Alvania 3 Grease, P/N 19-0309-01, to the upper part of the Bearing/Retainer to cover the Retaining Ring and the Cap Screw and Washer. Then, install the Cap and Cap Hook in place.*

VI. REMOVAL AND REPLACEMENT OF THE COMPRESSOR ASSEMBLY

NOTE

Always install a replacement Drier, any time the sealed refrigeration system is opened. Do not replace the Drier until all other repair or replacement has been completed.

A. To Remove the Compressor Assembly:

1. Remove screws and the Right Side Panel.
2. Remove two screws and the Cover from the Compressor Junction Box.
3. Disconnect the electrical leads at the Compressor Junction Box, that originate in the Control Box.
4. Bleed off or blow the refrigerant charge through the Schrader valves.
5. Unsolder the suction line from the Compressor.
6. Unsolder the discharge line from the Compressor.
7. Unsolder the process header tube from the Compressor and retain for installation on the replacement Compressor.
8. Remove four bolts, lockwashers and washers which secure the Compressor to the Chassis mounting base.
9. Slide the Compressor and remove through the right side opening of the Cabinet.

NOTE

Thoroughly evacuate the system to remove moisture and non-condensables.

B. To replace the Compressor Assembly, reverse the removal procedure.

VII. REMOVAL AND REPLACEMENT OF THE CONDENSER — AIR-COOLED MODELS

NOTE

Always install a replacement Drier, any time the sealed refrigeration system is opened. Do not replace the Drier until all other repair or replacement has been completed.

A. To Remove the Condenser:

1. Remove screws and the Front Panel and the Right Side Panel.
2. Bleed off or blow the refrigerant charge through the Schrader valve.
3. Unsolder and disconnect the refrigerant inlet and outlet lines at the Condenser.
4. Remove three screws, lockwashers and washers securing the Condenser to the Chassis Base.
5. Remove the Condenser out through the front opening of the cabinet.

NOTE

Thoroughly evacuate the system to remove moisture and non-condensables.

B. To replace the Condenser, reverse the removal procedure.

VIII. REMOVAL AND REPLACEMENT OF THE CONDENSER—WATER-COOLED MODELS

NOTE

Always install a replacement Drier, any time the sealed refrigeration system is opened. Do not replace the Drier until all other repair or replacement has been completed.

A. To Remove the Condenser:

1. Remove screws and the Front Panel and the Right Side Panel.
2. Bleed off or blow the refrigerant charge through the Schrader valve.
3. Unsolder the refrigerant inlet and outlet lines from the Condenser.
4. Disconnect the water inlet and outlet lines from the Condenser.
5. Remove two bolts, lockwashers and washers which secure the Condenser to the Chassis mounting base.
6. Remove the Condenser from the Cabinet.

NOTE

Thoroughly evacuate the system to remove moisture and non-condensables.

B. To replace the Condenser, reverse the removal procedure.

IX. REMOVAL AND REPLACEMENT OF THE DRIER

NOTE

Always install a replacement Drier, any time the sealed refrigeration system is opened. Do not replace the Drier until all other repair or replacement has been completed.

A. To Remove the Drier:

1. Remove screws and the Front Panel.
2. Remove screw and Drier Brace attaching the Drier to the Chassis base.
3. Bleed off or blow the refrigerant charge through the Schrader valve.
4. Unsolder refrigeration lines at each end of Drier, remove the Drier and separate the Drier from the Drier Brace.

B. To replace the Drier:

CAUTION

1. If the factory seal is broken on the replacement Drier, exposing it to the atmosphere more than a few minutes, the Drier will absorb moisture from the atmosphere and lose substantial ability for moisture removal.

2. Be sure the replacement Drier is installed with the arrow positioned in the direction of the refrigerant flow.

1. Remove the factory seals from the replacement Drier and install the Drier in the refrigerant lines with the arrow positioned in the direction of the refrigerant flow.
2. Install the Drier Brace on the Drier.
3. Solder the Drier into the lines, two places.
4. Purge the system and check for leaks.
5. Thoroughly evacuate the system to remove moisture and non-condensables.
6. Charge the system with refrigerant, by weight. SEE NAMEPLATE.
7. Replace the Front Panel and attach the screws removed earlier.

X. REMOVAL AND REPLACEMENT OF THE DRIVEMOTOR ASSEMBLY

A. To Remove the Drivemotor Assembly:

1. Perform all steps in procedure IV-XIII to gain access for removal of the Drivemotor Assembly.
2. Remove bolts, lockwashers and washers which attach the Drivemotor to the Chassis base.
3. Lift the Drivemotor from the Chassis base and out of the Cabinet.

B. To replace the Drivemotor Assembly, reverse the removal procedure.

XI. REMOVAL AND REPLACEMENT OF THE EXTRUDER ASSEMBLY - AUGER AND BREAKER

A. To Remove the Extruder Assembly:

1. Remove screws and the Rear and Left Side Panels.
2. Remove hose clamp and ice transport tube from the outlet end of the Breaker.
3. Remove the hose clamp, two Extruder clamps and the Extruder Feed Hose from the top inlet of the Extruder Body.
4. Disconnect electrical leads from the terminals of the safety switch on top of the Breaker.
5. Remove four hex bolts and lockwashers and lift the Extruder Assembly off of the Extruder Mounting Plate.

NOTE

Steps 6 through 8 detail further disassembly of the Extruder Assembly for the removal of the Breaker and the Auger. See Figure 4-2.

6. Remove two screws and nuts and the safety switch from the Breaker.
7. Remove four screws and two washers and the two-part Hose Clamp Assembly and the Breaker from the outlet end of the Extruder Body.
8. Remove four screws and washers and separate the Extruder Body from the Gear Reducer.
9. Unscrew the Auger, standard thread, and remove the Auger and Mounting Pad from the Gear Reducer.

NOTE

Thoroughly inspect all parts for breaks, chipping, cracks, or excessive wear and warping. Repair or replace as necessary.

B. To replace the Extruder Assembly, reverse the removal procedure.

XII. REMOVAL AND REPLACEMENT OF THE FAN MOTOR ASSEMBLY – AIR-COOLED MODELS

NOTE

Before beginning this procedure, observe the Fan Blade position on the shaft of the Fan Motor and mark the Fan Blade so it will be correctly positioned during reassembly. Direction of air flow should be toward the Fan Motor.

A. To Remove the Fan Motor Assembly:

1. Remove screws and the Front Door and the Right Side Panel.
2. Disconnect the electrical lead from the Fan Motor.
3. Remove four screws securing the two Fan Mounting Brackets to the Condenser Shroud and remove the Fan Motor and Brackets out through the left side opening of the Chassis.
4. Remove the nut from the end of the Fan Motor shaft and remove the Fan Blade.
5. Remove four screws securing each fan Mounting Bracket, upper and lower, to the Fan Motor and separate the Motor from the Brackets.

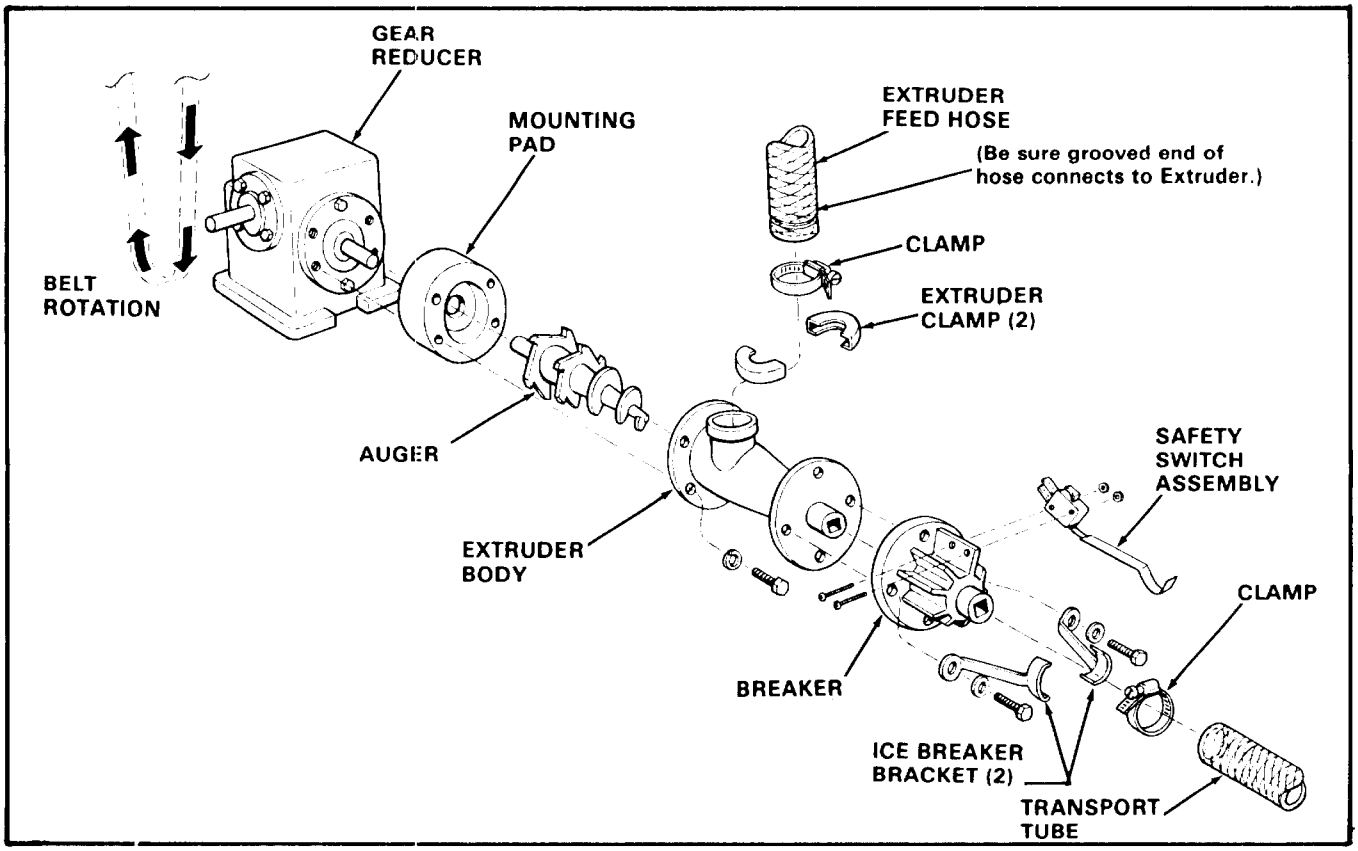


Figure 4-2. Removal of the Extruder Assembly - Auger - Breaker.

B. To replace the Fan Motor Assembly, reverse the removal procedure.

XIII. REMOVAL AND REPLACEMENT OF THE FREEZER ASSEMBLY

NOTE

1. *The Cabinet may have to be removed from its permanent location, especially if located in a corner, in order to have access to the left side and rear of the Chassis.*
2. *In addition to shutting OFF electrical power and inlet water to the icemaker, be sure to disconnect the inlet water line at the rear of the Cabinet BEFORE moving the icemaker from the permanent location.*
3. *Always install a replacement Drier, anytime the sealed refrigeration system is opened. Do not replace the Drier until all other repair or replacement has been completed.*

A. To Remove the Freezer Assembly, see Figure 4-3:

1. Remove screws and right side, front and rear panels.
2. Refer to procedure IV-XIV and remove the Spout Assembly.
3. Remove Corbin clamp and Tygon tube from the Freezer Assembly that connects to the Water Reservoir Assembly.
4. Bleed off or blow the refrigerant charge through the Schrader valve.
5. Unsolder the suction line from the Compressor.
6. Unsolder the capillary line at the Drier.
7. Remove four screws, lockwashers and washers which attach the bottom of the Freezer Assembly to the Adaptor on the Drivemotor Assembly.
8. Lift the Freezer Assembly up and off of the Adaptor and Drivemotor Assembly.

NOTE

Thoroughly evacuate the system to remove moisture and non-condensables.

B. To replace the Freezer Assembly, reverse the removal procedure.

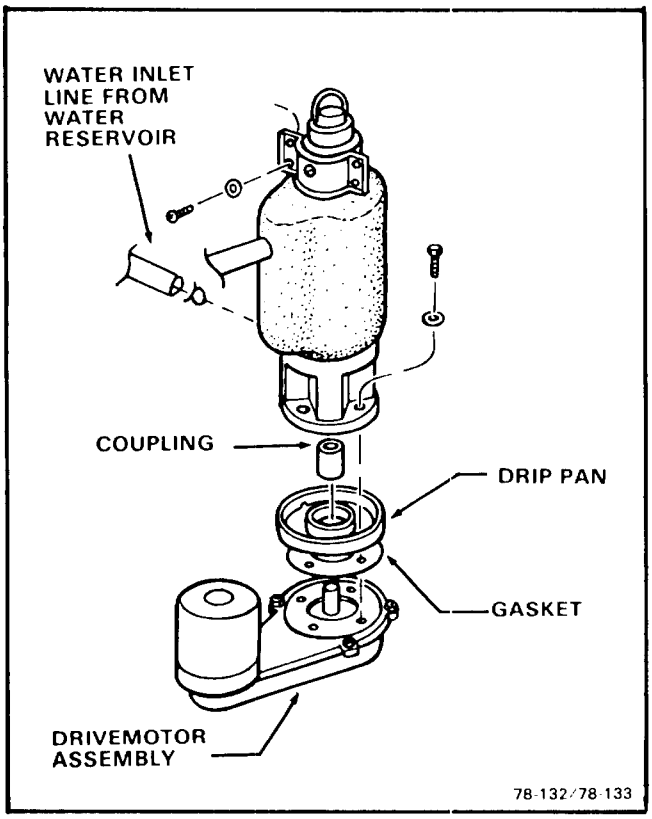


Figure 4-3. Removal of the Freezer Assembly.

XIV. REMOVAL AND REPLACEMENT OF THE SPOUT ASSEMBLY

A. To Remove the Spout Assembly, see Figure 4-4:

1. Remove screws and the Front Panel and Left Side Panel.
2. Remove the Hose Clamp and disconnect the Nylobrade tube from the end of the spout.
3. Remove the Freezer Cap from the top of the Freezer Assembly.
4. Disconnect the electrical leads from the Spout Switch.
5. Remove four screws and washers and separate the Spout Assembly from the Spout Plate on the Freezer Assembly.

NOTE

At this time, inspect the spout Gasket and retain for the replacement procedure. Replace a torn, cut or worn, defective gasket.

B. To replace the Spout Assembly, reverse the removal procedure.

XV. REMOVAL AND REPLACEMENT OF THE WATER PRESSURE CONTROL

A. To Remove the Water Pressure Control:

1. Remove screws and the Front and Rear Panels.
2. Remove screws and the Control Box Cover.
3. Disconnect the two blue electrical leads of the Water Pressure Control, from the terminals on the Auger Delay Control and the Bin Thermostat device in the Control Box Assembly.
4. Unscrew the flare nut fitting and disconnect the Water Pressure Control from the Utility Bracket and the Tee on the inlet water tubing.

NOTE

At this time, inspect the O-Ring and retain for the replacement procedure. Replace O-Ring that is cut, torn or indicates excessive wear.

B. To replace the Water Pressure Control, reverse the removal procedure.

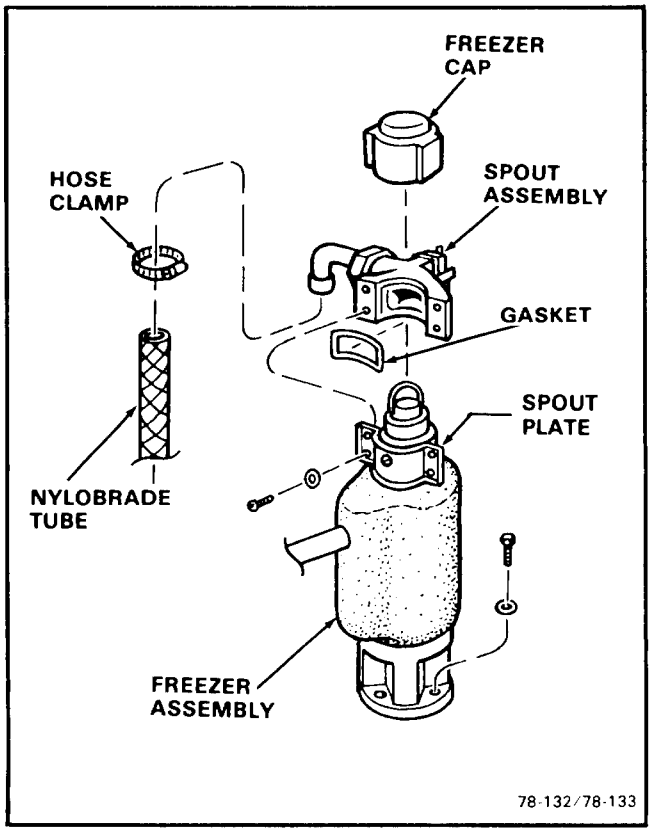


Figure 4-4. Removal of the Spout Assembly.

XVI. REMOVAL AND REPLACEMENT OF THE WATER REGULATOR ASSEMBLY — WATER-COOLED MODELS

A. To Remove the Water Regulator Assembly:

NOTE

Always install a replacement Drier, any time the sealed refrigeration system is opened. Do not replace the Drier until all other repair or replacement has been completed.

1. Remove screws and the Front Panel.
2. Bleed off or blow the refrigerant charge through the Schrader valve.
3. Unsolder the Capillary line from the Water Regulator Assembly, where connected at the process header.
4. Disconnect the water inlet line at the rear of the Water Regulator.
5. Disconnect the Condenser inlet tube at the front of the Water Regulator.
6. Remove two screws, lockwashers and washers which attach the Water Regulator Assembly bracket to the Chassis base and remove the Water Regulator Assembly and bracket.

NOTE

Thoroughly evacuate the system to remove moisture and non-condensables.

B. To replace the Water Regulator Assembly reverse the removal procedure.

XVII. REMOVAL AND REPLACEMENT OF THE WATER RESERVOIR ASSEMBLY

A. To Remove the Water Reservoir Assembly, see Figure 4-5:

1. Remove screws and the Front Panel and the Left Side Panel.

NOTE

Be prepared with container or rags, to catch water left in lines, when lines are disconnected in next steps, to prevent draining water on parts, components, electrical lines, etc.

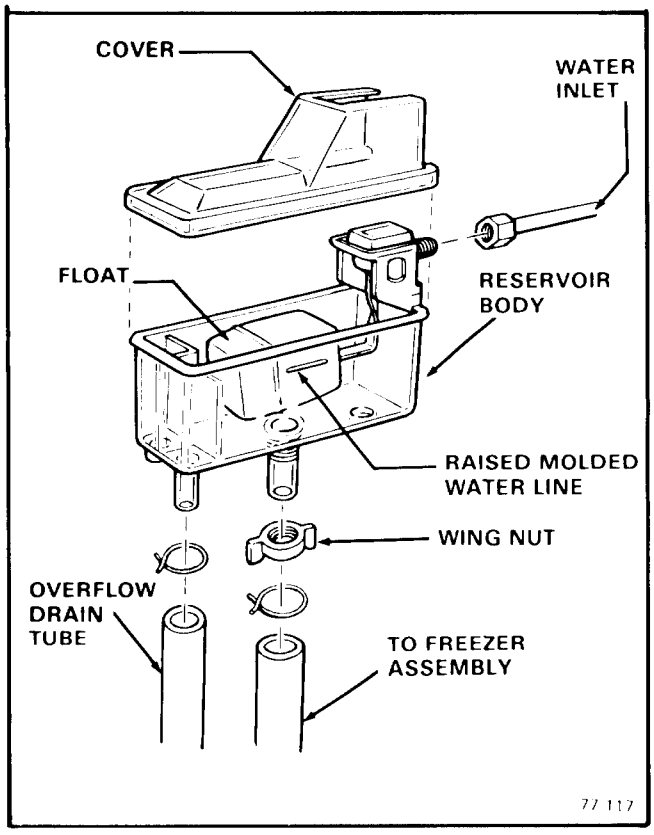


Figure 4-5. Removal of the Water Reservoir Assembly.

2. Disconnect the water inlet tube from the Water Reservoir Assembly.
3. Remove two Corbin clamps and two tubes from the bottom of the Water Reservoir Assembly.
4. Unscrew and remove the wing nut from the bottom of the Water Reservoir Assembly.
5. Lift and remove the Water Reservoir Assembly from the mounting bracket.

B. To replace the Water Reservoir Assembly, reverse the removal procedure.

NOTE

Check that the installed replacement Water Reservoir Assembly float moves freely. The correct water level in the Water Reservoir is 3/8-inch below the raised molded line, on the side of the body of the Water Reservoir.

SECTION V
MAINTENANCE & CLEANING INSTRUCTIONS

I. GENERAL

The periods and procedures for maintenance and cleaning are given as guides and are not to be construed as absolute or invariable. Cleaning especially will vary, depending upon local water conditions and the ice volume produced and, each Icemaker must be maintained individually, in accordance with its own particular location requirements.

II. ICEMAKER

THE FOLLOWING MAINTENANCE SHOULD BE SCHEDULED AT LEAST TWO TIMES PER YEAR ON THIS ICEMAKER. CALL YOUR AUTHORIZED SCOTSMAN SERVICE AGENCY.

1. Check and clean water line Strainers.
2. Remove cover from Water Reservoir and depress the float to ensure that a full stream of water enters the Reservoir.
3. Check that the Icemaker cabinet is level, in side-to-side and front-to-rear directions.
4. Check that the water level in the Water Reservoir is below the overflow, but high enough that it does not run out of the spout opening.

NOTE

It is not abnormal for some water to emerge from the Ice Spout with flaked ice during normal ice production.

5. Clean the Water Reservoir and interior of the Freezer Assembly, using a solution of SCOTSMAN Ice Machine Cleaner. Refer to procedure V-III, CLEANING-Icemaker.

NOTE

Cleaning requirements vary according to local water conditions and individual user operation. Visual inspection of the Auger before and after cleaning will indicate frequency and procedure to be followed in local areas.

6. When doubtful about refrigerant charge, install refrigerant gauges on Schrader valves and perform steps 6 and 7. Check gauge for Compressor head pressure:

   AIR-COOLED MODELS: Varies between 130 to 145 PSIG.

   WATER-COOLED MODELS: Set at 135 PSIG. Adjust screw on top of Water Regulator Valve to raise or lower head pressure.
7. Check gauge for Suction line pressure:

   Varies between 12 to 16 PISG, depending upon inlet water temperature and ambient air temperature.
8. Check Drivemotor operation:

   Normal operating temperatures are about 160-degrees F., which is hot to touch.
9. Check operation of the centrifugal sensing switch:

   EC900: 1/4 HP Motor.

   Switch will OPEN between 850-950 RPM and the Compressor STOPS, with the Drivemotor operating. Switch will CLOSE between 1100-1250 RPM and the Compressor will RESTART, with Drivemotor building back up to normal operating speed.
10. Remove the Freezer Cap, the Retaining Ring and the Hook and Cap from the top of the Freezer Assembly.
11. Inspect the Top Bearing. If moisture is around Bearing, wipe clean of all grease and apply a coating of Shell Alvania 3 Grease, Scotsman P/N 19-0309-01, 1-lb. Can. Replace parts removed in step 10.

NOTE

BEFORE next step, move both manual ON-OFF toggle switches, on the front of the Control Box, to the OFF position to stop the Fan Motor and Icemaker.

12. Clean the Air-Cooled Condenser, using vacuum cleaner, whisk broom or brush. Instruct customer to clean frequently and to be sure Icemaker and Fan Motor are OFF.
13. Check that Fan Blades move freely, are not touching any surfaces and are not bent or out of balance.

14. Check for refrigerant leaks and for proper frost line, which should frost out of accumulator at least half way to the compressor and in some areas, back to service valve.
15. Check for water leaks. Tighten drain line connections. Pour water down Bin drain to be sure that drain line is open and clear.
16. Check the quality of ice. Ice should be wet when formed, but will cure rapidly to normal hardness in the Bin.
17. Check the Bin Control Bulb.

NOTE

The Bin Control is factory set at 10-degrees F. differential and should keep the entire Icemaker system shut off at least 10 minutes in high ambient temperatures, longer in low ambient temperatures during normal operation. Settings are 35-degrees F. CUT-OUT and 45-degrees. F. CUT-IN.

18. Check the Spout Switch.

NOTE

The Spout Switch is manually reset and functions as a safety switch, to automatically stop the icemaking process if the Bin Control Bulb were to fail and cause ice to jam up in the Ice Tube.

III. CLEANING - Icemaker

1. Remove screws and the Front Panel.
2. Move the two manual ON-OFF toggle switches, on the front of the Control Box, to the OFF position.
3. Remove all ice from the ice storage Bin.
4. CLOSE the water supply shutoff valve; or block the float in the Water Reservoir.
5. Disconnect the tube between the Water Reservoir and the bottom of the Freezer Assembly and drain water from the Reservoir and tube. Reconnect the tube.

WARNING

SCOTSMAN Ice Machine Cleaner contains Phosphoric and Hydroxyacetic acids. These compounds are corrosive and may cause burns if swallowed. DO NOT induce vomiting. Give large amounts of water or milk. Call Physician immediately. In case of external contact flush with water. KEEP OUT OF THE REACH OF CHILDREN.

6. Prepare cleaning solution: Mix four ounces of SCOTSMAN Ice Machine Cleaner with three quarts of hot water.
7. Remove the Cover to the Water Reservoir.
8. Disconnect the Extruder feeder hose at the Extruder and place the end of the hose in a container to catch ice made from the cleaning solution, in the next steps.
9. Slowly pour the cleaning solution into the Water Reservoir.
10. Move the two manual ON-OFF toggle switches, on the front of the Control Box, to the ON position.
11. Continue to slowly pour the cleaning solution into the Water Reservoir, maintain level just below the Reservoir overflow.
12. Continue icemaking, using the cleaning solution, until all the solution is used up and the Water Reservoir is almost empty. DO NOT allow the icemaker to operate with empty Reservoir.
13. Move the two manual ON-OFF toggle switches, on the front of the Control Box to the OFF position.
14. Wash and rinse the Water Reservoir.
15. Reconnect the Extruder feeder hose at the Extruder.
16. Refer to RPD100 instructions and perform cleaning and sanitizing in the RPD100 to be sure complete cleaning and sanitizing have been performed. Refer to SANITIZING procedure V-IV in this section and perform sanitizing of the EC900.
17. OPEN the water supply shutoff valve; or remove the block from the float in the Water Reservoir.
18. Move the two manual ON-OFF toggle switches, on the front of the Control Box, to the ON position.
19. Continue icemaking for at least 15 minutes, to flush out any cleaning solution. Check ice for acid taste - continue icemaking until ice tastes sweet.
20. Move the two manual ON-OFF toggle switches, on the front of the Control Box, to the OFF position.

CAUTION

DO NOT use ice produced from the cleaning solution. Be sure none remains in the bin.

21. Remove all ice from the ice storage bin.
22. Add hot water to the ice storage Bin and thoroughly wash and rinse all surfaces within the Bin.
23. Clean and sanitize the ice storage Bin each week.

IV. SANITIZING

Sanitizing is an important phase of the ice-making and dispensing operation. The following sanitizing procedure should be performed after every repair or replacement of parts in the EC900, in or through which ice is formed or transported and water is drained. Additional requirements for performing the sanitizing procedure should be followed in accordance with the requirements of the Local Health Authorities.

NOTE

Contact your Local Health Authorities and obtain their approval of the sanitizer you intend to use when sanitizing the EC900.

Prior to performing the sanitizing procedure, it is assumed the Front Panel and Left Side Panel have been removed and the cleaning procedure performed up through step V-III-15.

WARNING

Read WARNING thoroughly BEFORE preparing sanitizing solution, in next stop.

1. STERILEX 3-Q SANITIZING TABLETS

DANGER: KEEP OUT OF REACH OF CHILDREN. Tablets may be harmful or fatal if swallowed. May cause skin irritation or eye damage. Avoid prolonged skin contact. Do not get in eyes. In case of contact, flush with plenty of water. If irritation persists get medical attention. Avoid contamination of food.

FIRST AID: If tablets are swallowed drink promptly a large quantity of milk, egg whites or gelatin solution. Avoid alcohol.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulator shock, respiratory depression and convulsion may be needed.

Rinse empty carton container thoroughly with water and discard. Always follow your health department regulations.

2. MIKRO-QUAT

DANGER: Causes high damage and skin irritation. Do not get into eyes, on skin, or on clothing. Protect eyes when handling concentrated product. Harmful if swallowed. Avoid contamination of food.

FIRST AID: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse. If swallowed, drink promptly a large quantity of milk, egg whites or gelatin solution, or if these are not available, drink a large quantity of water. Call physician immediately.

1. Move the two manual ON-OFF toggle switches, on the front of the Control Box, to the OFF position.
2. Remove all ice from the ice storage bin.
3. CLOSE the water supply shutoff valve; or block the float in the Water Reservoir.
4. Disconnect the tube between the Water Reservoir and the bottom of the Freezer Assembly and drain water from the Reservoir and tube. Reconnect the tube.
5. Prepare one gallon of sanitizing solution composed of 450 PPM active quaternary ammonium germicide solution, using a quaternary ammonium sanitizing solution.

NOTE

Carefully follow directions and observe all precautions on the container of the compound.

*Three *Sterilax 3-Q sanitizing tablets per gallon of water; or, 2/3-ounce of *Mikro-Quat per gallon of water will yield a solution of about 450 PPM active quaternary.*

6. Remove the lid to the Reservoir and place the lid in the container of sanitizing solution.
7. Slowly pour the sanitizing solution into the Water Reservoir, to just below the Reservoir overflow.
8. Move the two manual ON-OFF toggle switches, on the front of the Control Box, to the ON positon.
9. Continue to slowly pour the sanitizing solution into the Water Reservoir, maintain level just below the Reservoir overflow.
10. Continue icemaking, using the sanitizing solution, until the one gallon of solution is used up, in about 15 minutes time.

NOTE

The last part of the sanitizing solution should be rapidly poured into the Water Reservoir, to cause a small amount of the solution flow into the overflow pipe.

11. Remove the lid of the Reservoir from the container used for the sanitizing solution; then, rinse the lid in clear water and replace the lid on the Water Reservoir.
12. When the last of the sanitizing solution in the Water Reservoir recedes, OPEN the water supply shutoff valve, or remove the block from the float in the Water Reservoir.

13. Continue icemaking with tap water for 30 minutes.
14. Remove all ice from the ice storage bin in the RPD100 or the auxiliary Bin, rinse the bin with clear tap water and drain off all liquid.
15. Replace all panels.
16. Clean and sanitize interior ice storage bin, parts and surfaces each week.

* Sterilax 3-Q sanitizing tablets are distributed by Pittsburgh Chemical Laboratory, Inc., Pittsburgh, PA 15222, and may be obtained through most restaurant supply houses.

* Mikro-Quat is manufactured by Economics Laboratory, Inc., Osborn Building, St. Paul, MN 55102, and may be obtained from them through their Magnus Division, The Klenzade Division or from restaurant supply houses.

SECTION VI
SERVICE DIAGNOSIS

The Service Diagnosis Section is for use in aiding the serviceman in diagnosing a particular problem for pin-pointing the area in which the problem lies, thus an ever available reference for proper corrective action.

The following charts list corrective actions for the causes of known symptoms of certain problems that can occur in the Icemaking - Refrigeration System and in the Extruder Assembly.

I. ICEMAKING - REFRIGERATION SYSTEM

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Water Leaks.	Defective water seal.	Replace Seal.
	Gravity feed line leaking.	Check hose clamps.
	Water level in reservoir too high.	Adjust water level to 3/8-inch below reservoir overflow, then raise reservoir until water flows out freezer spout, then lower reservoir 3/4-inch.
	Storage bin drain and connecting fittings.	Check and repair.
Excessive noise or chattering.	Mineral or scale deposit on auger and inner freezing chamber walls.	For severe deposit, remove and manually polish auger, sand inner chamber walls of freezer barrel.
		For lighter concentration, use Scotsman Ice Machine Cleaner periodically.
	Intermittent water supply.	Check and clean water strainer.
		Check gravity feed line for air lock.
		Remove air lock.
	Water level in reservoir too low.	See CORRECTION for Water Leaks above.
	Gear Reducer loose on frame.	Tighten Gear Reducer.
	Motor compressor not solid on rubber mounts.	Repair or replace rubber mounts.
	Gearmotor end-play or worn bearing.	Repair or replace bearing.
Making wet ice. (Ice melts too quickly, is not cold enough to properly cure in the Bin.)	Surrounding air temperature too high.	Correct or move cabinet.
	Under or over-charge of refrigerant.	Recharge with proper amount. Should frost out of accumulator at least 8-inches. See nameplate for correct charge. See CORRECTION for Water leaks above.

ICEMAKING - REFRIGERATION SYSTEM (Cont'd.)

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Making wet ice (cont'd)	Back pressure too high.	Overcharge of refrigerant. Faulty compressor or high head pressure. Lower pressure as indicated.
	Faulty compressor or valve plate.	Repair or replace compressor or valve plate.
Low ice production.	Loss of refrigerant. Under or over-charge of refrigerant.	Check and recharge. See NAMEPLATE for correct charge.
	Drivemotor weak.	Replace Drivemotor.
	Dirty or plugged condenser.	Clean condenser.
	Low water level in water reservoir.	See CORRECTION for Water leaks above.
	Partial restriction in capillary tube or drier.	Moisture in system. Overcharge of oil in system. Remove charge by blowing back through cap tube. Replace drier and recharge.
	Inlet water strainer partially plugged.	Remove screen and clean.
	Corroded or stained auger due to water condition.	Remove auger and clean, or use Scotsman Ice Machine Cleaner. See Maintenance Section.
Gearmotor noise.	Low on oil.	Remove case cover to check for proper oil level. Top of gears should be covered. Use: Sun Oil Company Prestige 50-EP
Icemaker will not operate.	Blown fuse in line.	Replace fuse and check for cause of blown fuse.
	Bin thermostat set too high.	Adjust thermostat. Set at 35-degrees cut-out, 45-degrees cut-in.
	Loose electrical connection.	Check wiring.
	Switch in OFF position.	Set switch to ON position.
	Inoperative master switch.	Replace switch or thermal overload.
	Off on manual-reset pressure control.	Reset.
Icemaker continues to operate with full storage bin.	Bin thermostat not properly set or is defective.	Re-set or replace bin thermostat Re-set to 35-degrees cut-out, 45-degrees cut-in.
Compressor cycles intermittently.	Low voltage.	Check for overloading.
	Dirty condenser.	Clean condenser.
	Air circulation blocked.	Remove cause or move unit.
	Inoperative condenser fan motor.	Replace motor.

ICEMAKING - REFRIGERATION SYSTEM (Cont'd)

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Compressor Cycles intermittently (cont'd)	Non-condensable gases in system.	Check for gas leaks, evacuate and recharge.
	Bin thermostat differential too small causing short cycling.	Widen differential 35-degrees cut-out, 45-degrees cut in.
	Cycling on ice spout microswitch.	Set or replace Bin thermostat.
Icemaker operates but makes no ice.	Loss or undercharge of refrigerant.	Check for leaks and recharge. See NAMEPLATE for correct charge.
	Water not entering freezing chamber.	Plugged strainer or supply line. Check and clean. Air lock in gravity feed line. Check and remove air lock.
	Moisture in system	Check, evacuate, replace drier.
		Recharge. See NAMEPLATE for correct charge.
	Water seal leaking.	Replace seal.
	Water turned off while unit was operating.	Freezer inlet water line froze shut. Unit must be turned off and defrosted.
	Drivemotor or drive coupling stripped.	Repair or replace drivemotor or drive coupling.

II. EXTRUDER MOUNTING ASSEMBLY

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Excessive noise or chattering.	Mineral or scale deposit on auger and inner Extruder chamber walls.	For severe deposit, remove and manually polish auger, sand inner chamber walls of Extruder.
		For lighter concentration, use Scotsman Ice Machine Cleaner periodically.
	Gear Reducer low on oil.	Add oil to Gear Reducer.
	Loose bolts on Extruder Assembly. Pulleys loose on shafts.	Check for damage, tighten bolts. Check for damage, tighten set screws.
Extruder will not operate.	Blown fuse in line.	Replace fuse and check for cause of blown fuse.
	Bin thermostat set too high.	Adjust thermostat. Set at 35-degrees cut-out, 45-degrees cut-in.
	Loose electrical connection.	Check wiring.
	Switch in OFF position.	Set switch to ON position.
	Inoperative master switch.	Replace switch or thermal overload.

EXTRUDER MOUNTING ASSEMBLY (Cont'd)

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Extruder will not operate. (Cont'd)	Off on manual-reset pressure control	Reset.
	Flaker spout switch tripped.	Reset spout switch and check operation.
	Discharge tube off of Extruder.	Replace tube and check for restrictions.
Repeated tripping of Flaker spout switch.	Extruder not operating.	Repair or replace Motor, Gear Reducer or belt.
	Low refrigerant charge.	Add refrigerant. SEE NAMEPLATE
	Corroded Flaker discharge tube.	Replace tube.
	Restriction in Extruder discharge tube.	Eliminate restriction or replace tube.
	Damaged or worn Extruder Breaker.	Replace Breaker.

SECTION VII
WIRING DIAGRAMS

This Section is provided as an aid in understanding the electrical circuitry of the Extruder Cuber.

The Wiring Diagrams in this Section are:

Figure 7-1. Wiring Diagram Air-Cooled Model— EC900A-2A & EC900A-7A.

Figure 7-2. Wiring Diagram Water-Cooled Model — EC900W2A & EC900W-7A.

Figure 7-3. Wiring Diagram Air-Cooled Model — EC900A-3A.

Figure 7-4. Wiring Diagram Water-Cooled Model — EC900W-3A.

WARNING

When conducting a continuity check of the Extruder Cuber:

1. **Disconnect the main power source.**
2. **DO NOT use an incandescent lamp or jumper wire, conduct all tests with a volt-ohm-meter.**

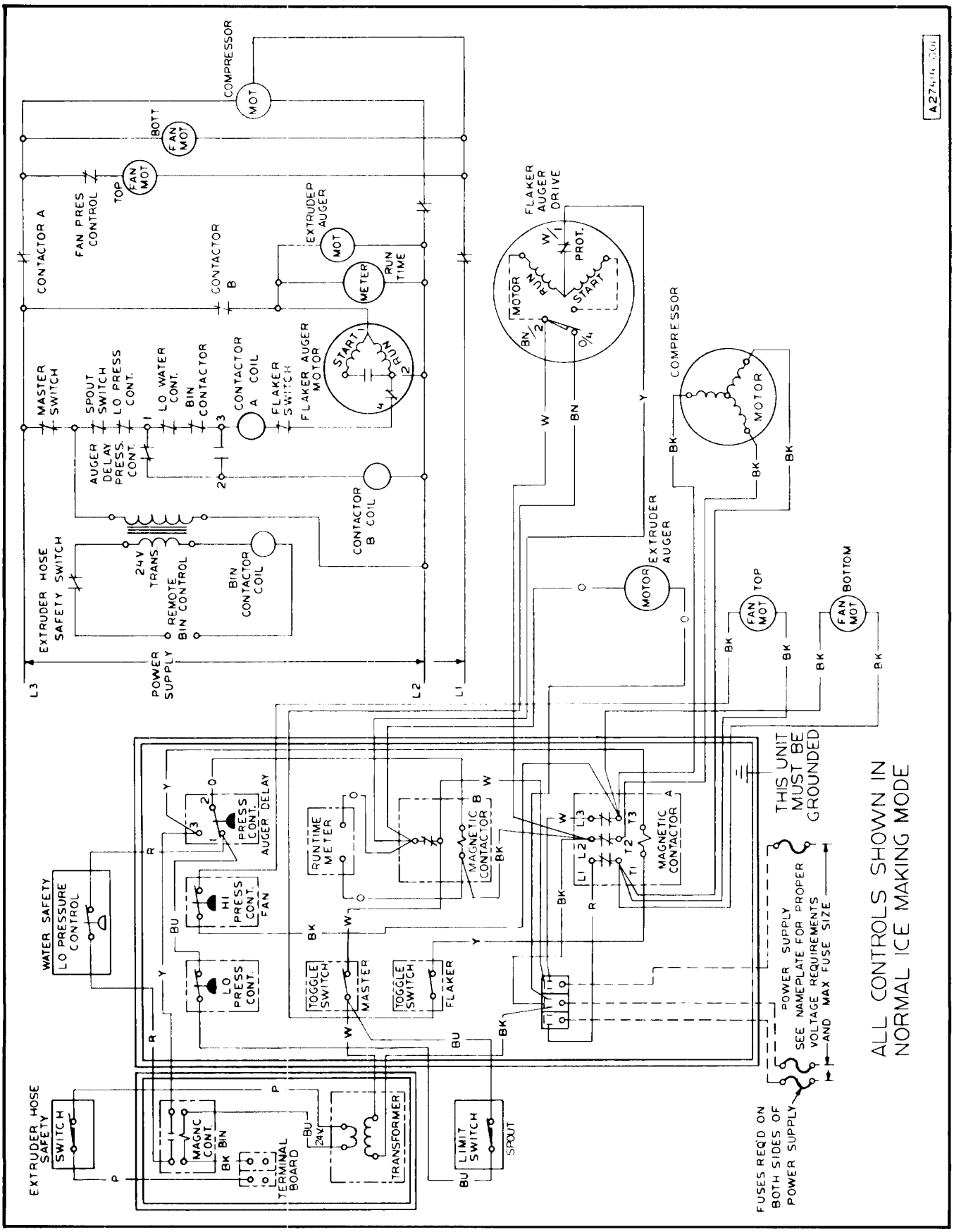


Figure 7-1. Wiring Diagram - Air-Cooled Model EC900A-2A & EC900A-7A

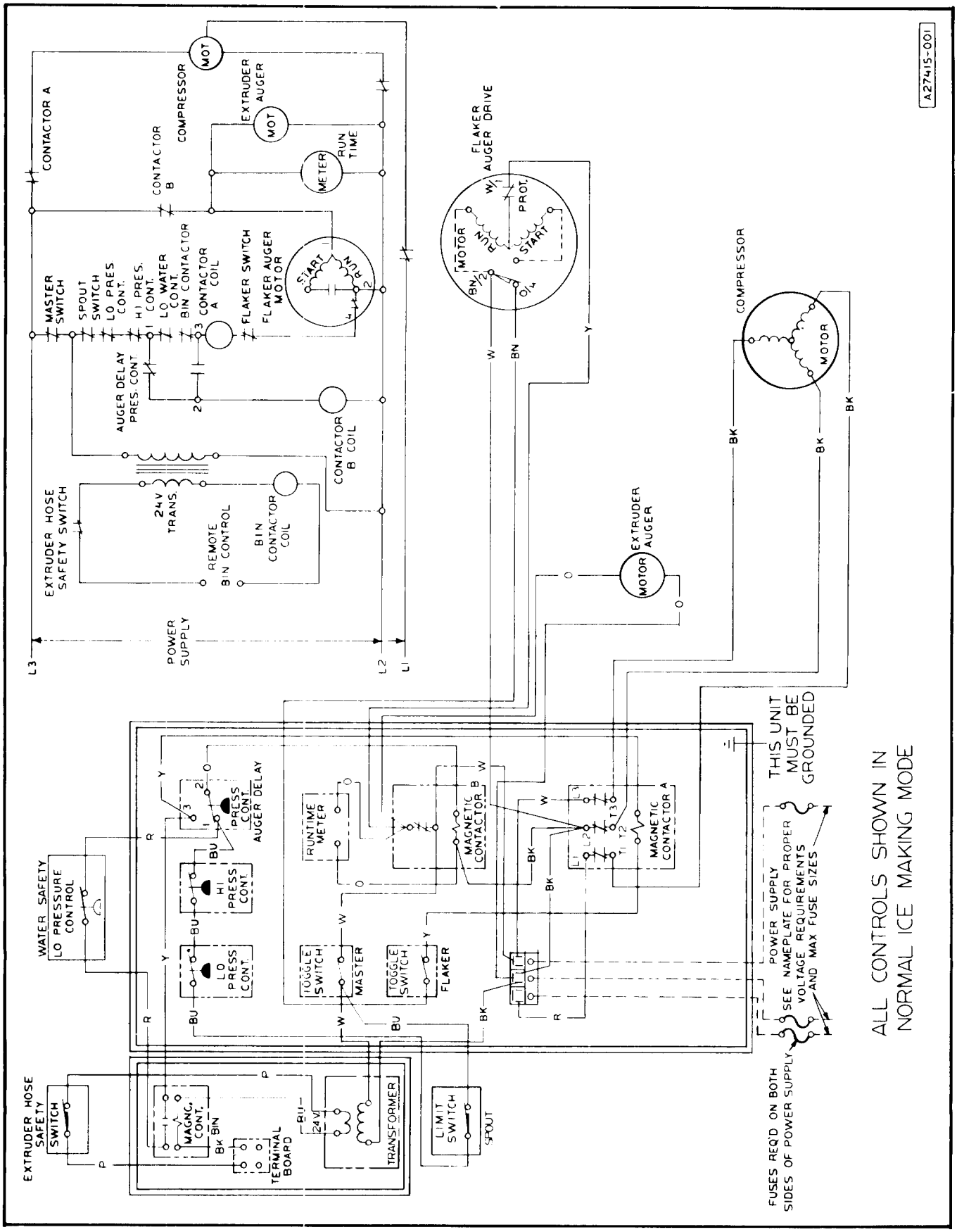


Figure 7-2. Wiring Diagram Water-Cooled EC900W-2A & EC900W-7A.

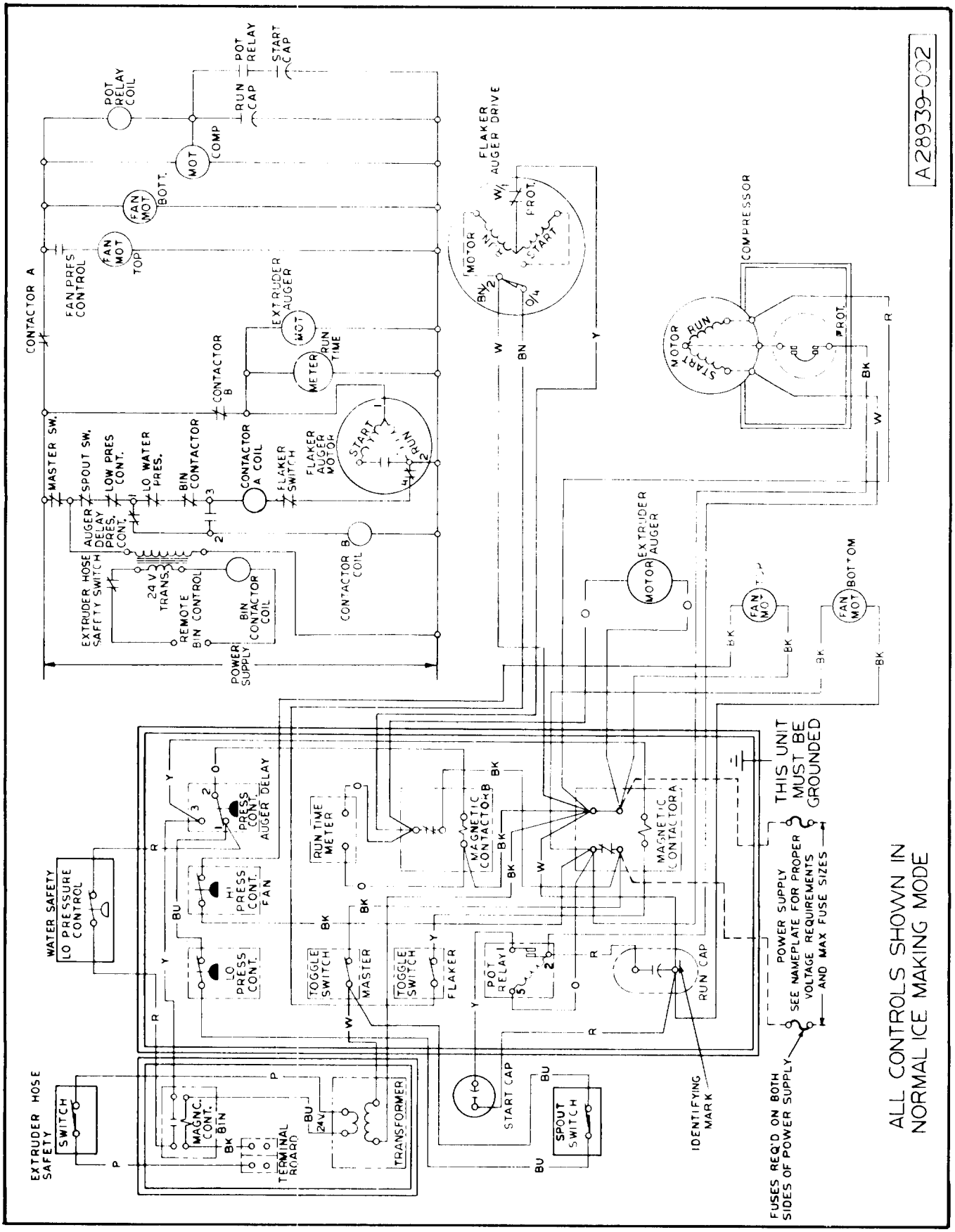


Figure 7-3. Wiring Diagram Air-Cooled EC900A-3A.

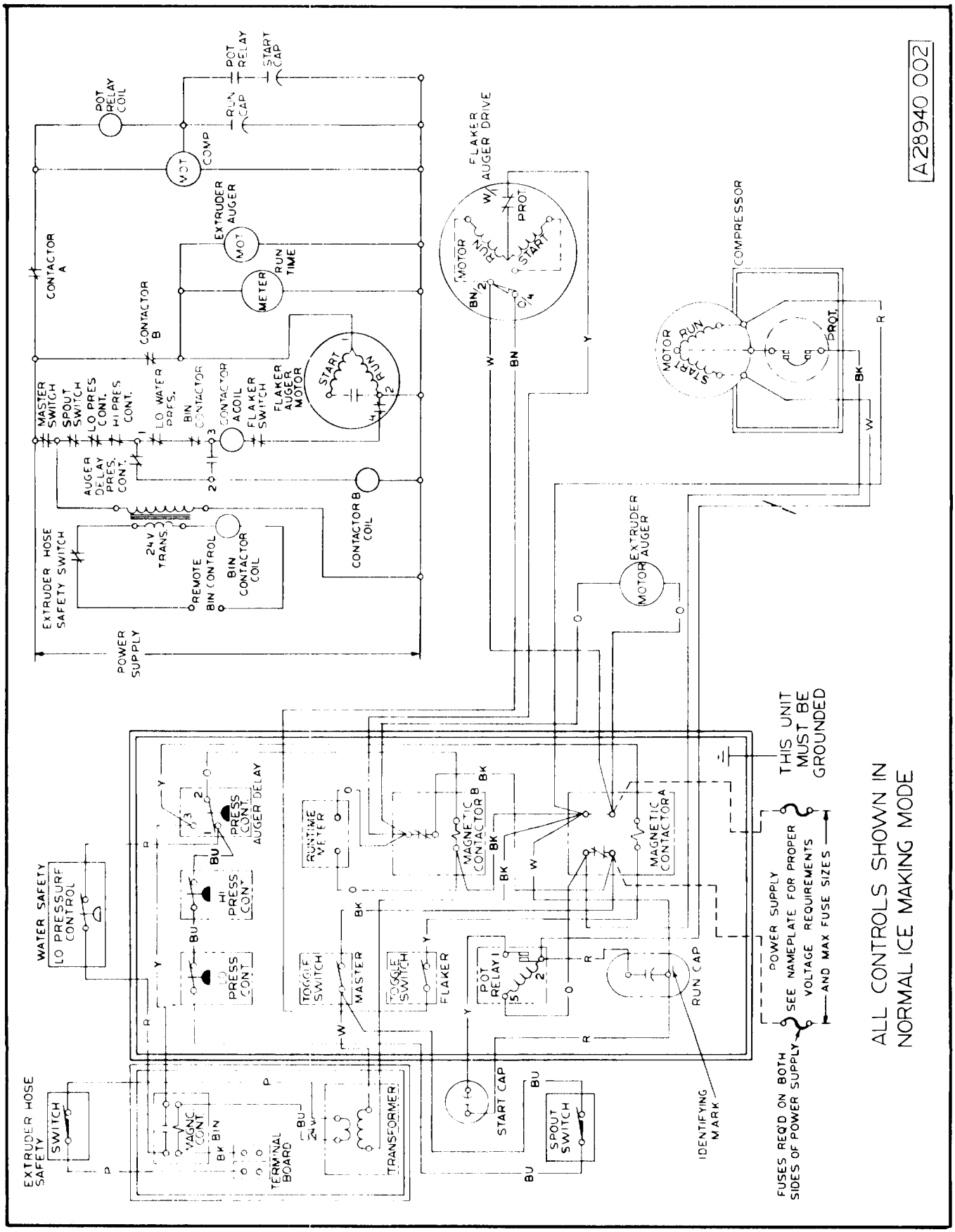


Figure 7-4. Wiring Diagram Water-Cooled EC900W-3A.

SECTION VIII
THE PARTS ILLUSTRATIONS AND PARTS LISTS

I. GENERAL

This section contains the Parts Illustrations and the Parts List for each of the major assemblies in the EC900 Extruder Cuber.

Each Parts Illustration shows an assembly as an exploded view, with an Index Number for each part or sub-assembly, given in disassembly order. These Index Numbers key with the Parts List for the assembly and are found in the Parts List Column headed Index Number. The Description Column gives the identifying nomenclature for the item indexed. The Part Number Column gives the number of item. The Number Required Column gives the number of items required per assembly, but not necessarily the total number of parts required per Cuber.

All assemblies are cross-referenced both from the major assembly listing where they first appear in the Parts Listing to their break-down listing, and from the break-down listing, back to the major assembly (next higher assembly) listing.

A *No Number* designation, when used in the Part Number Column indicates the unit is not available from SCOTSMAN as an assembly. This designation is used only for the convenience and clarity of division in cataloging.

When an Index Number is followed by a letter (e.g. la. lb.), the letter indicates the part listed is part of the assembly indexed by the basic Index Number. The number required of the part indexed by the number and letter combination is for only one of the assemblies indexed by the basic Index Number and not necessarily the total number or parts used in the Cuber. Where the notation *Ref* occurs in the Number Required Column the number of the assemblies or parts required for use in the Cuber will be found under previous Index Number or in the next higher assembly Parts Listing. The next higher listing Figure/Index number is shown in the Description Column immediately following the items description.

II. HOW TO USE THE ILLUSTRATIONS AND PARTS LIST

To find the part number of a required part or assembly, turn to the List of Illustrations and find the page number of the Parts Illustration of the major or sub-assembly containing the part. Turn to the indicated page and locate the part and its Index Number on the specific illustration. Find the Index Number on the required part in the Parts List to determine the complete description of the part.

III. HOW TO ORDER PARTS OR ASSEMBLIES

When ordering parts or assemblies, to avoid costly delays and errors in shipment, give the part number, the complete description shown in the list, and the quantities of each part or assembly required. Also include the Model name, the serial number of the Cuber for which the part is required, and for parts which require color matching, the color of the Cabinet. See Figure 8-00, at the end of this section for detailed ordering instructions.

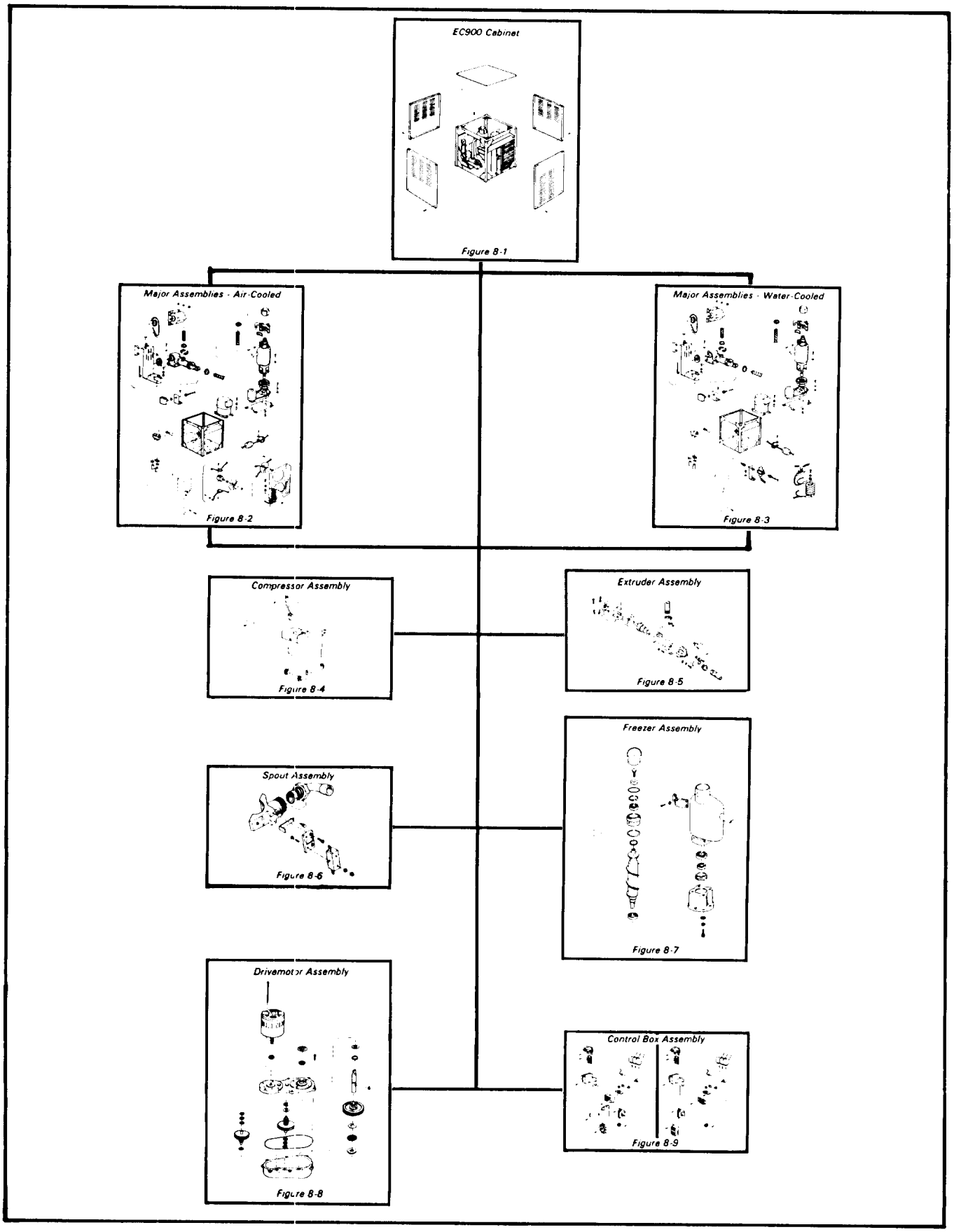


Figure 8-A. EC900 Extruder Cuber Flow Chart

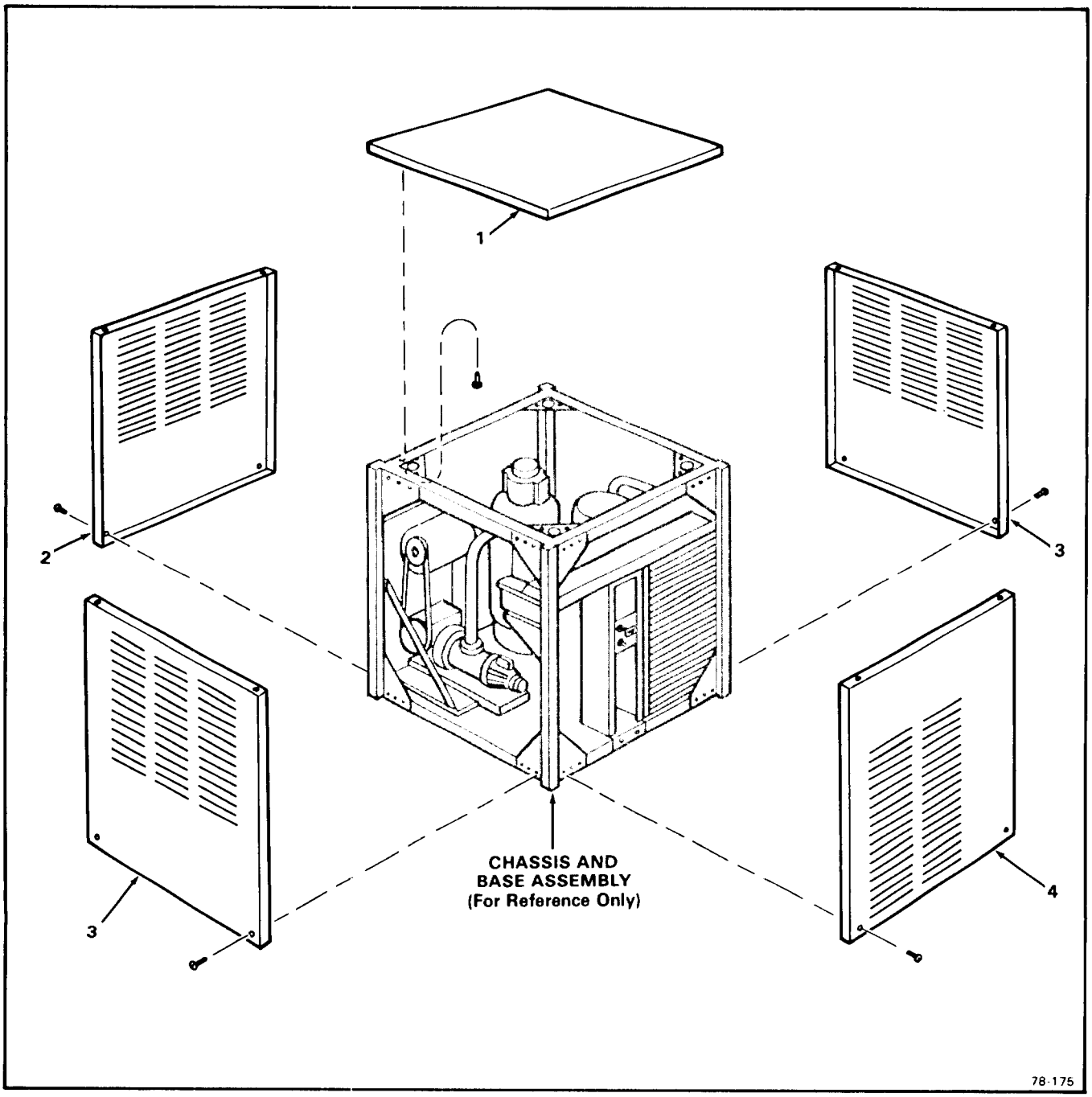


Figure 8-1. EC900 Cabinet.

Figure 8-1. EC900 Cabinet

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	EC900 Cabinet	No. Number	1
	* * *		
1	Top, Cabinet (C.R.S Painted)	A27260-001	1
	Top, Cabinet (Stainless Steel)	A27260-002	1
	attaching parts, Index 1		
	Screw, No. 5/16-18 x 1/2 Hex Cap	03-1405-15	4
	* * *		
2	Panel, Rear (C.R.S. Painted)	A27253-001	1
	Panel, Rear (Stainless Steel)	A27253-002	1
	attaching parts, Index 2		
	Lockwasher, No. 8 Countersunk External	03-1417-15	4
	Screw, No. 8 x 1-1/4 S/T Flat Hd	03-1419-24	4
	* * *		
3	Panel, Side (C.R.S. Painted) (Left & Right)	A27252-001	2
	Panel, Side (Stainless Steel) (Left & Right)	A27252-002	2
	attaching parts, Index 3		
	Lockwasher, No. 8 Countersunk External	03-1417-15	4 (8)
	Screw, No. 8 x 1-1/4 S/T Flat Hd	03-1419-24	4 (8)
	* * *		
4	Panel, Front (C.R.S. Painted)	A27254-001	1
	Panel, Front (Stainless Steel)	A27254-002	1
	attaching parts, Index 4		
	Lockwasher, No. 8 Countersunk External	03-1417-15	4
	Screw, No. 8 x 1-1/4 S/T Flat Hd	13-1419-24	4
	* * *		

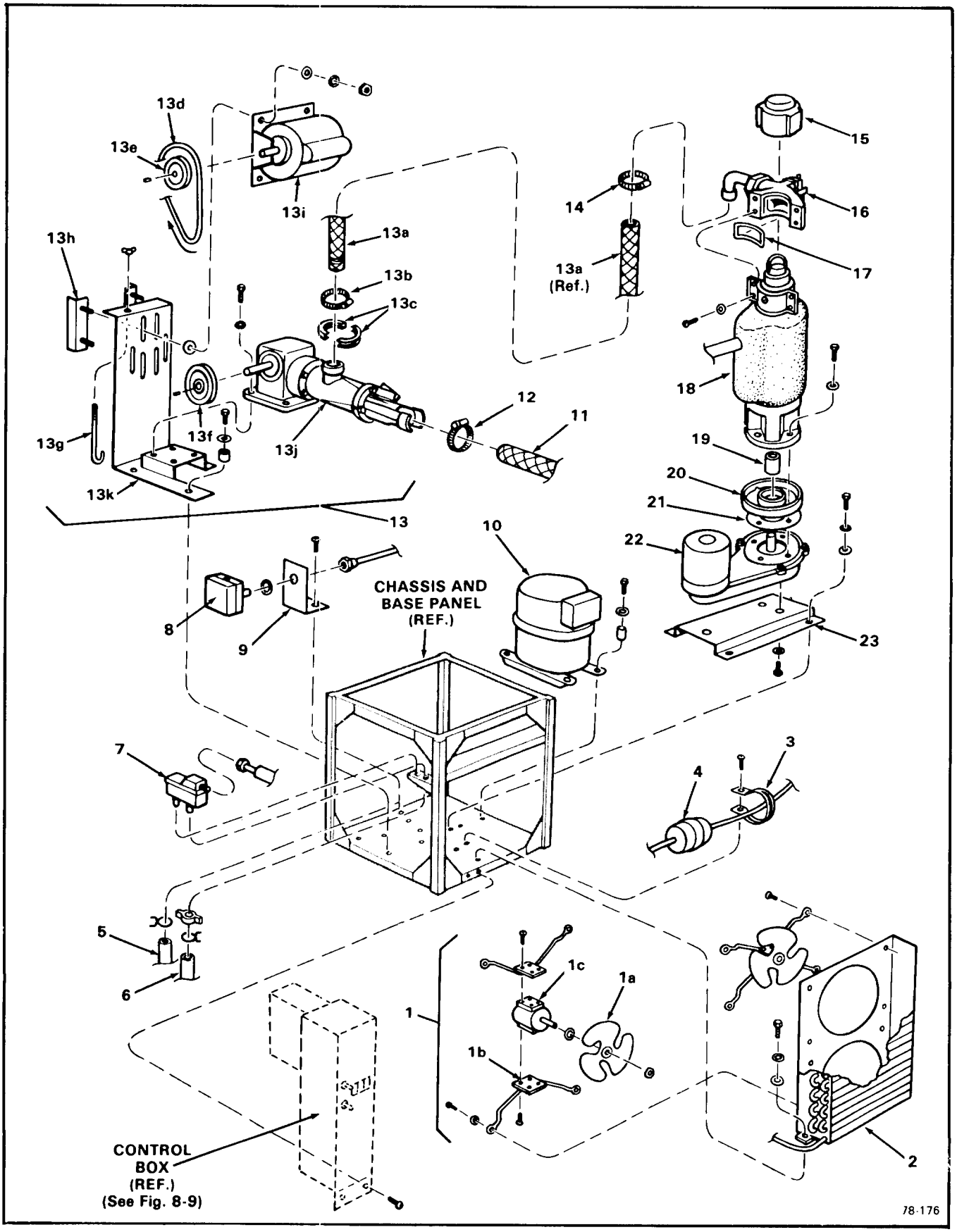


Figure 8-2, Major Assemblies - Air-Cooled

Figure 8-2, Major Assemblies - Air-Cooled

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Major Assemblies - Air-Cooled	No Number	Ref.
	* * *		
1	Bracket Assembly, Fan Motor and Mounting	No Number	2
1a	Blade, Fan	18-0231-00	1 (2)
	Pad, Vibration (p/o Fan Motor)	No Number	1 (2)
	Nut, Fan Mounting (p/o Fan Blade)	No Number	1 (2)
1b	Bracket, Fan Mounting	02-2378-01	1 (2)
1c	Motor, Fan	12-1575-02	1 (2)
	attaching parts, Index 1c to 1b		
	Screw (p/o Fan Motor)	No. Number	4 (8)
	attaching parts, Index 1 to Condenser Shroud		
	Screw, No 8 x 3/8 T/F Tap	03-1404-08	4 (8)
	* * *		
2	Condenser - Air-Cooled	18-3714-01	1
	attaching parts, Index 2		
	Lockwasher, No. 1/4 External Tooth	03-1417-09	3
	Screw, No. 1/4-20 x 3/8 Hex Cap	03-1405-01	3
	* * *		
3	Brace, Drier	A09388-001	1
	* * *		
4	Drier	02-0544-01	1
	attaching parts, Index 3 & 4		
	Screw, No. 10-24 x 3/4 Pan Hd Mach	03-1403-31	1
	* * *		
5	Tube (Reservoir Overflow to Drip Pan)	13-0079-03	1
	(Order by foot) (28-inch lg.)		
	* * *		
6	Tube (Reservoir to Freezer Inlet)	13-0674-09	1
	(Order by foot) (20 inch lg.)		
	attaching parts, Index 5 & 6		

Figure 8-2. Major Assemblies - Air-Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Clamps, Tube (Index 5)	02-0534-00	1
	Clamp, Tube (Index 6)	02-0694-00	2
	* * *		
7	Reservoir	02-2217-01	1
	Valve Assembly, Float (Not Shown)	02-2217-02	1
	attaching parts, Index 7		
	Wing Nut (p/o Reservoir)	No Number	1
	* * *		
8	Control, Lo Pressure	11-0296-00	1
	* * *		
9	Bracket, Switch - Water Pressure	A28871-001	1
	O-Ring	03-1409-21	1
	attaching parts, Index 8 & 9		
	Screw, No. 10-16 x 1/2 S/T	02-1360-00	2
	* * *		
10	Compressor (See Figure 8-4)	No Number	1
	attaching parts, Index 10		
	Grommet	18-2300-27	4
	Sleeve, Mounting	18-2300-26	4
	Lockwasher, No. 5/16 External Tooth	03-1417-12	4
	Washer, Special	03-1408-29	4
	Screw, No. 5/16-18 x 1-3/4 Hex Cap	03-1405-40	4
	* * *		
11	Tube, Nylobrade (1-inch I.D. x 110-inch lg.)	13-0816-01	1
	attaching part, Index 11		
	* * *		
12	Clamp, Hose	02-0179-02	1
	* * *		

Figure 8-2. Major Assemblies - Air-Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
13	Mounting Assembly, Extruder	No Number	1
13a	Hose, Extruder Feed (15-inch lg.) (order by foot)	13-0805-02	1
	attaching parts, 13a to 13j		
13b	Clamp	02-0706-01	1
13c	Clamp, Extruder	02-2391-01	2
	* * *		
13d	V-Belt	13-0814-01	1
13e	Pulley - 3-1/2-inch Dia.	02-2392-01	1
13f	Pulley - 5-inch Dia.	02-2393-01	1
	Key (attaches 13f to 13j)	02-1951-01	1
13g	Bolt, Adjusting	No Number	2
	Wing Nut - 5/16-18 (attaches 13g)	No Number	2
13h	Plate	No Number	2
13i	Motor	12-2073-02	1
	attaching parts, Index 13h & 13i to 13k		
	Keeper, Fiber Washer	No Number	4
	Washer, No. 5/16 Flat	No Number	4
	Lockwasher, No. 5/16	No Number	4
	Nut, No. 5/16 - 18 Hex	No Number	4
	* * *		
13j	Extruder Assembly (See Figure 8-5)	No Number	1
	attaching parts, Index 13j to 13k		
	Lockwasher, No. 3/8 Helical Spring	No Number	4
	Bolt, No. 3/8-16 x 1-1/4 Hex	No Number	4
	* * *		
13k	Plate, Mounting	No Number	1
	attaching parts Index 13k to Base Panel		
	Grommet	18-2300-27	4
	Sleeve, Mounting	18-2300-26	4
	Lockwasher, No. 5/16 External Tooth	03-1417-12	4

Figure 8-2. Major Assemblies - Air-Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Washer, Special	03-1408-29	4
	Screw, No. 5/16-18 x 1-3/4 Hex Cap	03-1405-40	4
	* * *		
14	Clamp, Hose (attaches 13a to Spout 16)	02-0179-02	1
	* * *		
15	Cap, Freezer	13-0809-01	1
	* * *		
16	Spout Assembly	No Number	1
	(See Figure 8-6)		
	attaching parts, Index 16 & 17		
17	Gasket, Spout	02-1437-00	1
	Lockwasher, No. 1/4 Internal Tooth - Phosphor Bronze	03-1417-07	4
	Screw, No. 1/4-20 x 1 Soc-Hd Cap	03-1544-03	4
	* * *		
18	Freezer Assembly	No Number	1
	(See Figure 8-7)		
	attaching parts, Index 18		
	Washer, Special	03-1408-35	3
	Lockwasher, No. 5/16 Helical Spring	03-1410-04	3
	Screw, No. 5/16-18 x 7/8 Hex Cap	03-1420-01	3
	* * *		
19	Coupling	15-0573-01	1
	* * *		
20	Pan, Drip	A24156-002	1
	* * *		
21	Gasket	13-0704-00	1
	* * *		
22	Drivemotor Assembly	A24317-022	1
	(See Figure 8-8)		

Figure 8-2. Major Assemblies - Air-Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	attaching parts, Index 22 to 23		
	Washer, Special	03-1408-35	3
	Lockwasher, No. 5/16 Helical Spring	03-1410-04	3
	Screw, No. 5/16 - 18 x 7/8 Hex Cap	03-1420-01	3
	* * *		
23	Plate, Motor	No Number	1
	attaching part, Index 23 to Base Panel		
	Washer, No. 1/4 Plain	No Number	4
	Lockwasher, No. 1/4 Helical Spring	No Number	4
	Screw, No. 1/4-20 x 5/8 Hex Cap	No Number	4
	* * *		
	NOTE: See Figure 8-9 for replacement parts within the Control Box Assembly.		

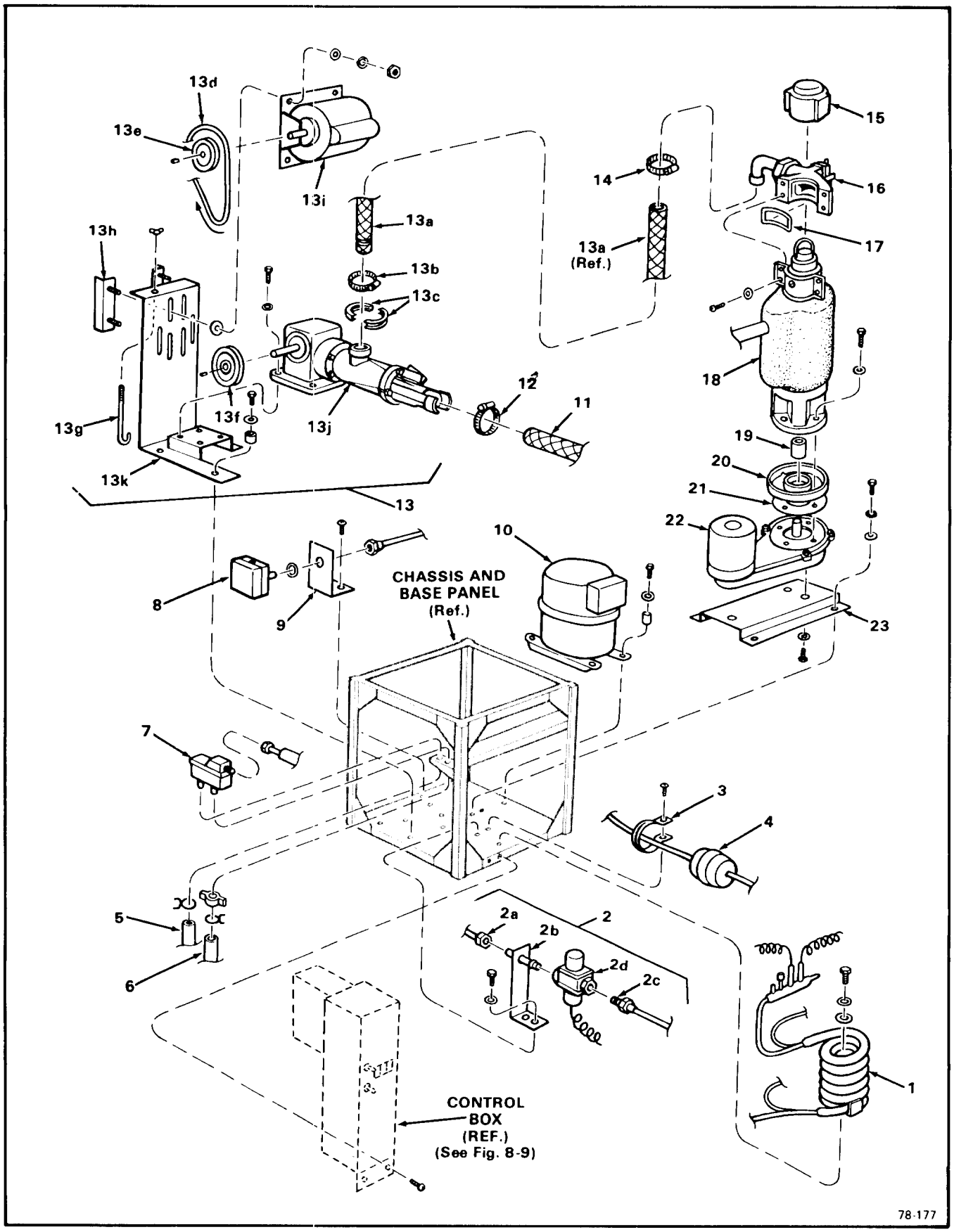


Figure 8-3. Major Assemblies - Water- Cooled

Figure 8-3. Major Assemblies - Water- Cooled

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Major Assemblies - Water-Cooled	No Number	Ref.
	* * *		
1	Condenser - Water-Cooled	18-3306-02	1
	attaching parts, Index 1		
	Washer, No. 1/4 Plain	03-1407-05	2
	Screw, No. 1/4-20 x 3/8 Hex Cap	03-1405-01	2
	* * *		
2	Regulator Assembly, Water	No Number	1
	attaching parts, Index 2		
	Washer, No. 1/4 Plain	03-1407-05	2
	Screw, No. 1/4-20 x 3/8 Hex Cap	03-1405-01	2
2a	Union, Half - No. 5/8-18 x 3/8 Flare	16-0677-01	1
2b	Nipple Assembly, Pipe (w/Bracket)	A15924-000	1
2c	Coupling - 3/8 NPT x 3/8 Flare Brass	16-0355-00	1
2d	Valve, Water Regulator	11-0198-02	1
	* * *		
3	Brace, Drier	A09388-001	
	* * *		
4	Drier	02-0544-01	1
	attaching parts, Index 3 & 4		
	Screw, No. 10-24 x 24 Pan Hd Mach	03-1403-31	1
	* * *		
5	Tube, (Reservoir Overflow to Drip Pan)	13-0079-03	1
	(Order by foot) (28-inch lg.)		
	* * *		
6	Tube (Reservoir to Freezer Inlet) (20-inch lg.)	13-0674-09	1
	(Order by foot)		
	attaching parts, Index 5 & 6		
	Clamp, Tube (Index 5)	02-0534-00	1
	Clamp, Tube (Index 6)	02-0694-00	1
	* * *		

Figure 8-3. Major Assemblies - Water- Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
7	Reservoir	02-2217-01	1
	Valve Assembly, Float (Not Shown)	02-2217-02	1
	attaching parts, Index 7		
	Wing Nut (p/o Reservoir)	No Number	1
	* * *		
8	Control, Lo Pressure	11-0296-00	1
	* * *		
9	Bracket, Switch - Water Pressure	A28871-001	1
	O-Ring	03-1409-21	1
	attaching parts, Index 8 & 9		
	Screw, No. 10-16 x 1/2 S/T	03-1360-00	2
	* * *		
10	Compressor (See Figure 8-4)	No Number	1
	attaching parts, Index 10		
	Grommet	18-2300-27	4
	Sleeve, Mounting	18-2300-26	4
	Lockwasher, No. 5/16 External Tooth	03-1417-12	4
	Washer, Special	03-1408-29	4
	Screw, No. 5/16-18 x 1-3/4 Hex Cap	03-1405-40	4
	* * *		
11	Tube, Nylobrade (1-inch x 110-inch lg.)	13-0816-01	1
	attaching part, Index 11		
	* * *		
12	Clamp, Hose	02-0179-02	1
	* * *		
13	Mounting Assembly, Extruder	No Number	1
13a	Hose, Extruder Feed (15-inch lg.) (Order by foot)	13-0805-02	1
	attaching parts, 13a to 13j		
13b	Clamp	02-0706-01	1

Figure 8-3. Major Assemblies - Water- Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
13c	Clamp, Extruder	02-2391-01	2
	* * *		
13d	V-Belt	13-0814-01	1
13e	Pulley - 3-1/2-inch Dia.	02-2392-01	1
13f	Pulley - 5-inch Dia.	02-2393-01	1
	Key (attaches 13f to 13j)	02-1951-01	1
13g	Bolt, Adjusting	No Number	2
	Wing Nut - 5/16-18 (attaches 13g)	No Number	2
13h	Plate	No. Number	2
13i	Motor	12-2073-02	1
	attaching parts, Index 13h & 13i to 13k		
	Keeper, Fiber Washer	No Number	4
	Washer, No. 5/16 Flat	No Number	4
	Lockwasher, No. 5/16	No Number	4
	Nut, No. 5/16-18 Hex	No Number	4
	* * *		
13j	Extruder Assembly (See Figure 8-5)	No Number	1
	attaching parts, Index 13j to 13k		
	Lockwasher, No. 3/8 Helical Spring	No Number	4
	Bolt, No. 3/8-16 x 1-1/4 Hex	No Number	4
	* * *		
13k	Plate, Mounting	No Number	1
	attaching parts, Index 13k to Base Panel		
	Grommet	18-2300-27	4
	Sleeve, Mounting	18-2300-26	4
	Lockwasher, No. 5/16 External Tooth	13-1417-12	4
	Washer, Special	03-1408-29	4
	Screw, No. 5/16-18 x 1-3/4 Hex Cap	03-1405-40	4
	* * *		
14	Clamp, Hose (attaches 13a to Spout 16)	02-0179-02	1
	* * *		

Figure 8-3. Major Assemblies - Water- Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
15	Cap, Freezer	13-0809-01	1
	* * *		
16	Spout Assembly	No Number	1
	(See Figure 8-6)		
	attaching parts, Index 16 & 17		
17	Gasket, Spout	02-1437-00	1
	Lockwasher, No. 1/4 Internal Tooth - Phosphor Bronze	03-1417-07	4
	Screw, No. 1/4-20 x 1 Soc - Hd. Cap	03-1544-03	4
	* * *		
18	Freezer Assembly	No Number	1
	(See Figure 8-7)		
	attaching parts, Index 18		
	Washer, Special	03-1408-35	3
	Lockwasher, No. 5/16 Helical Spring	03-1410-04	3
	Screw, No. 5/16-18 x 7/8 Hex Cap	03-1420-01	3
	* * *		
19	Coupling	15-0573-01	1
	* * *		
20	Pan, Drip	A24156-002	1
	* * *		
21	Gasket	13-0704-00	1
	* * *		
22	Drivemotor Assembly	A24317-022	1
	(See Figure 8-8)		
	attaching parts, Index 22 to 23		
	Washer, Special	03-1408-35	3
	Lockwasher, No. 5/16 Helical Spring	03-1410-04	3
	Screw, No.5/16-18 x 7/8 Hex Cap	03-1420-01	3
	* * *		

Figure 8-3. Major Assemblies - Water- Cooled (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
23	Plate, Motor	No Number	1
	attaching part, Index 23 to Base Panel		
	Washer, No. 1/4 Plain	No Number	4
	Lockwasher, No. 1/4 Helical Spring	No Number	4
	Screw, No. 1/4-20 x 5/8 Hex Cap	No Number	4
	* * *		
	NOTE: See Figure 8-9 for replacement parts within the Control Box Assembly.		

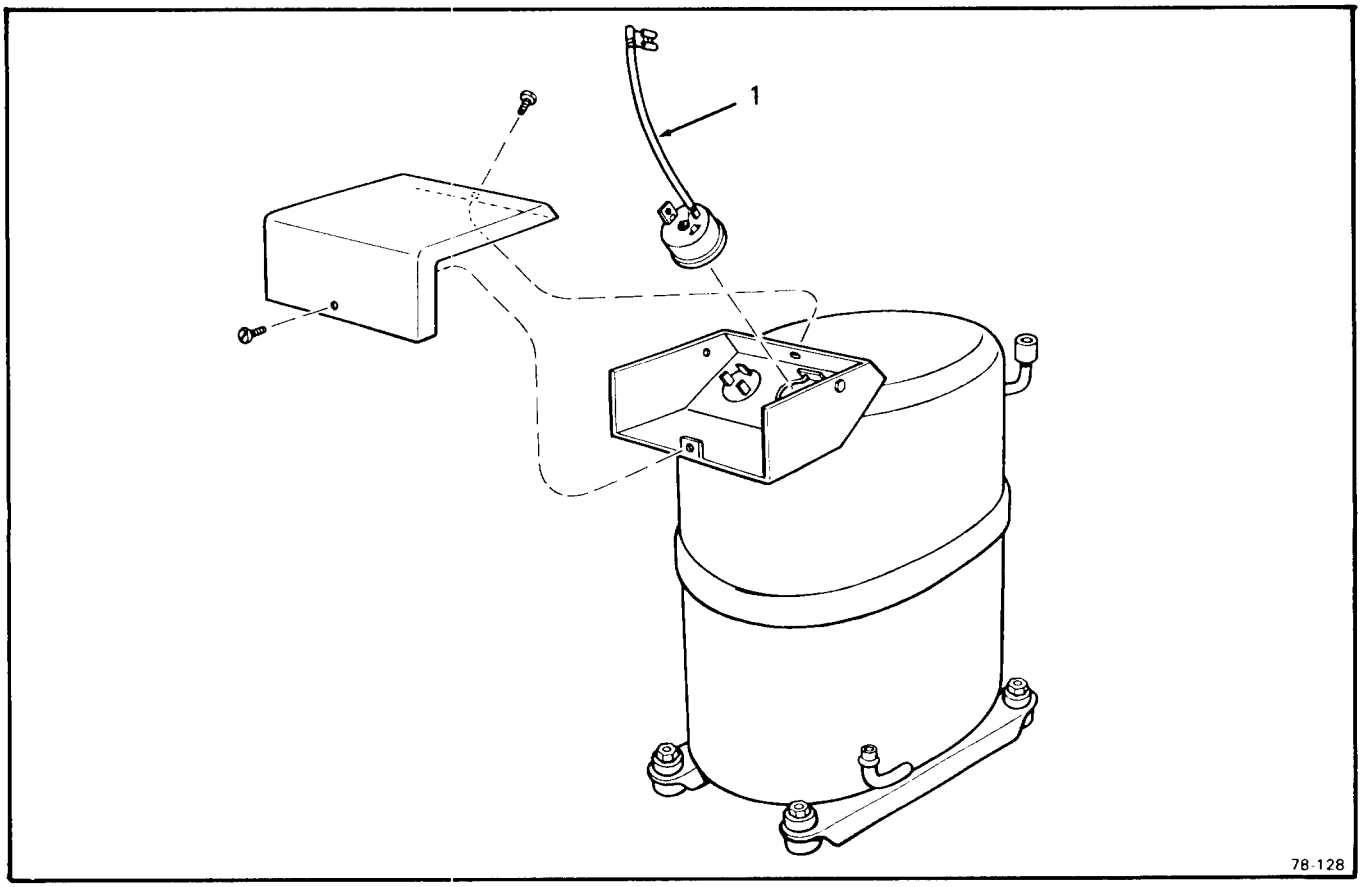


Figure 8-4. Compressor Assembly

Figure 8-4. Compressor Assembly

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Compressor Assembly — 230/60/1	18-3800-02	Ref.
	Compressor Assembly — 208/240/60/3	18-3800-03	Ref.
	Compressor Assembly — 208/60/1	18-3800-07	Ref.
	(See Figure 8-2/10 and 8-3/10 for next higher Assembly)		
	* * *		
1	Overload — (230/60/1)	18-2300-25	1
	Overload — (208/60/1)	18-2300-32	1
	* * *		
	NOTE: 208-240/60/3 internally protected. No service replacement part.		

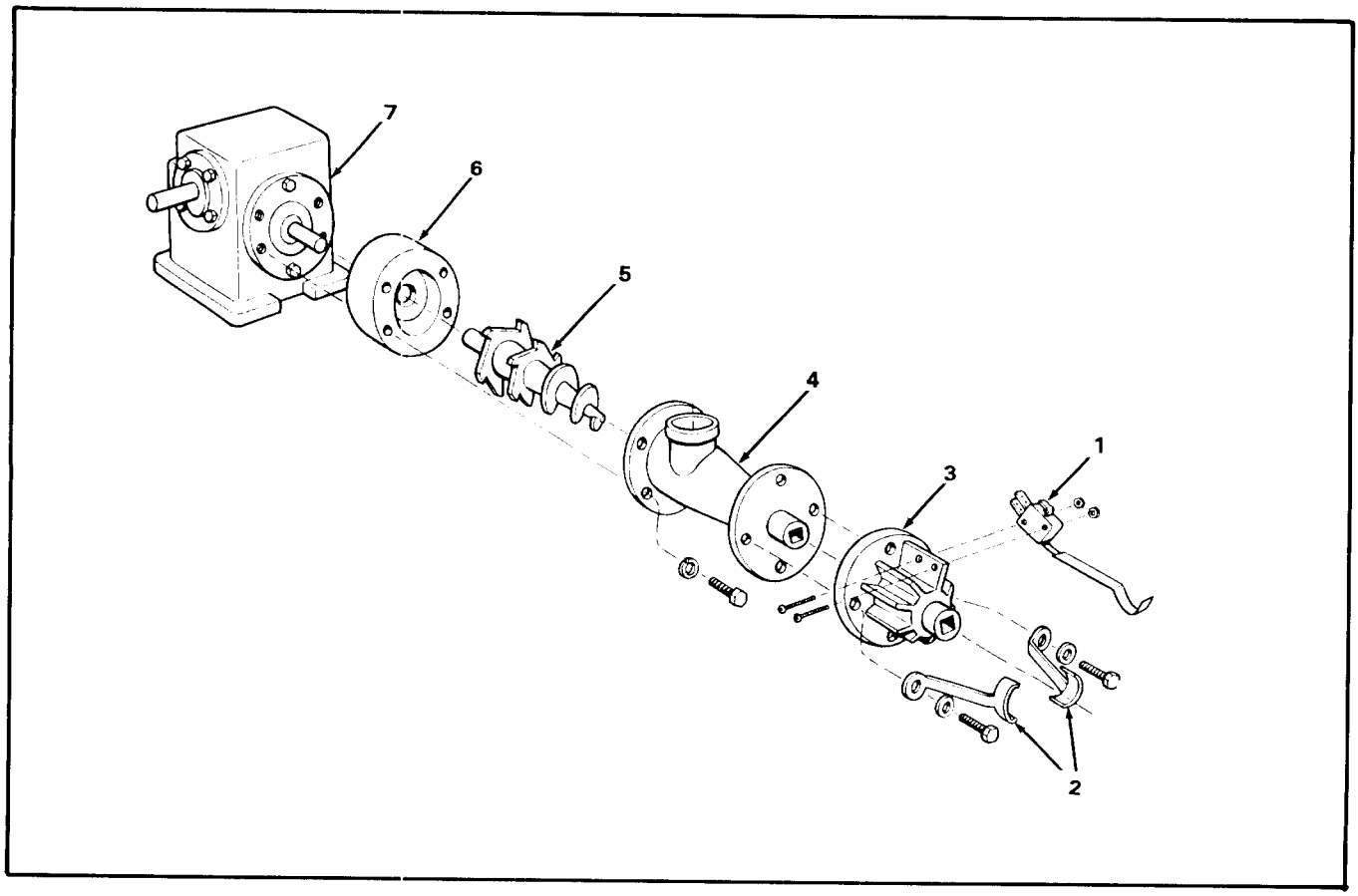


Figure 8-5. Extruder Assembly.

Figure 8-5. Extruder Assembly.

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Extruder Assembly	No Number	1
	(See Figure 8-2/13j and 8-3/13j		
	for next higher Assembly)		
	* * *		
1	Switch, Bending	A28201-001	1
	attaching parts, Index 1 to 3		
	Washer	03-1410-01	2
	Screw, No. 4-40 x 7/8	03-1403-62	2
	Nut, No. 4-40	03-1406-14	2
	* * *		
2	Clamp Assembly, Hose	A28197-001	2
	* * *		

Figure 8-5. Extruder Assembly (Cont'd)

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
3	Breaker	02-2388-01	1
	attaching parts, Index 2 & 3 to 4		
	Washer, No. 1/4	03-1407-05	2
	Screw, No. 1/4-20 x 7/8 Hex Cap	03-1405-45	4
	* * *		
4	Body, Extruder	A28959-001	1
5	Auger	A27507-001	1
6	Pad, Mounting	A27509-001	1
	attaching parts, Index 4, 5, 6 to 7		
	Washer, No. 1/4	03-1410-03	4
	Screw, No. 1/4-20 x 2-1/4 Hex Cap	03-1405-12	4
	* * *		
7	Reducer, Gear	02-2385-01	1
	* * *		

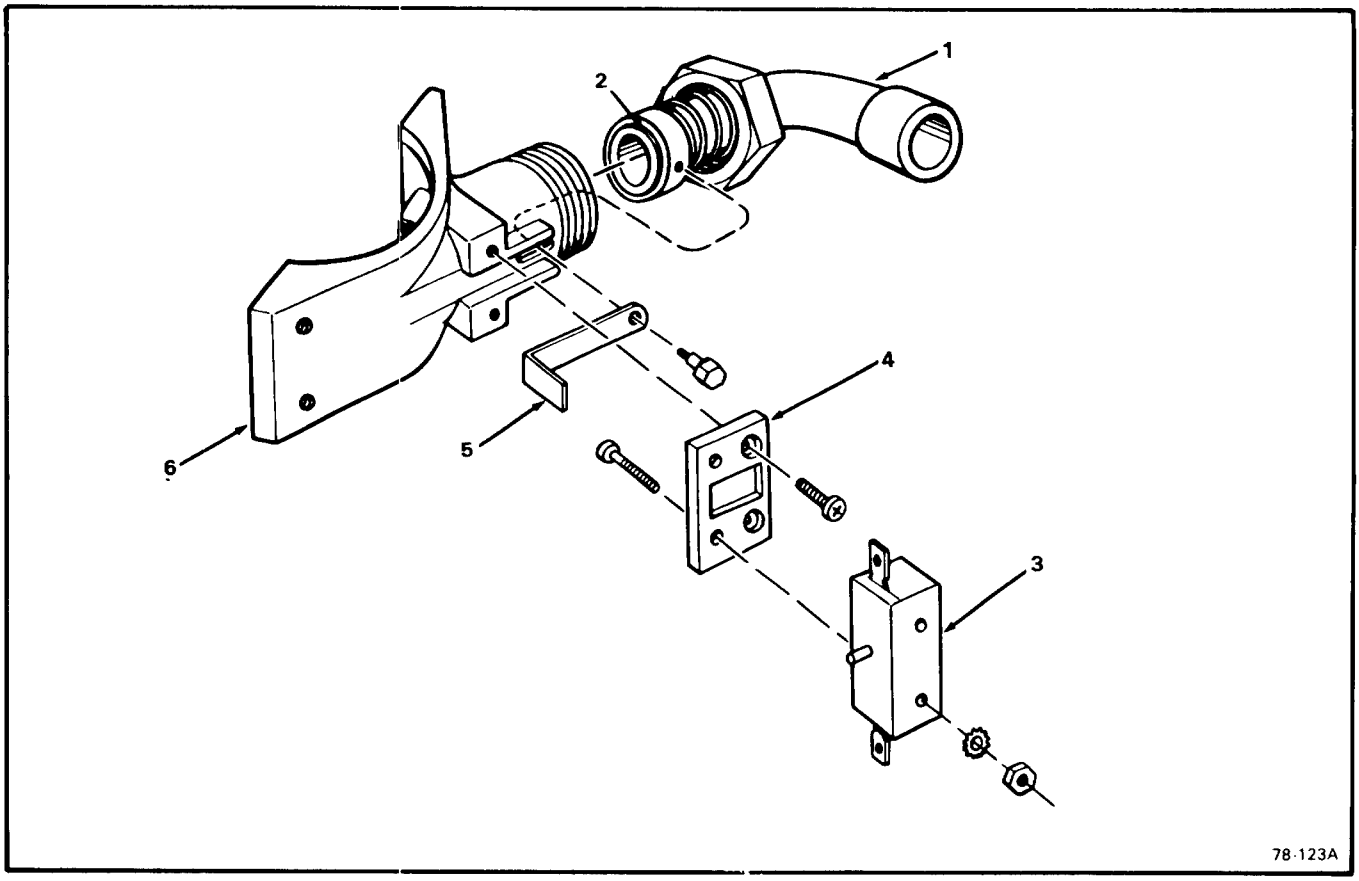


Figure 8-6. Spout Assembly.

Figure 8-6. Spout Assembly.

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Spout Assembly	No Number	Ref.
	(See Figure/Index 8-2/16 and 8-3/16		
	for next higher Assembly)		
	* * *		
1	Tube, Ice Discharge	A26542-001	1
	* * *		
2	O-Ring	13-0617-41	1
	* * *		
3	Switch	12-1664-00	1
	attaching parts, Index 3 to 4		
	Screw, No. 6-32 x 1 Flat Hd. Mach - Phil Recess	03-1418-38	2

Figure 8-6. Spout Assembly (Cont'd)

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Lockwasher No. 6 External Tooth - Phosphor Bronze	03-1417-01	2
	Nut, No. 6-32 Hex Mach Screw	03-1406-01	2
	* * *		
4	Barrier, Thermal	02-2377-01	1
	attaching parts, Index 4 to 6		
	Screw, No. 6-32 x 3/8 Flat Hd Mach - Phil Recess	03-1418-01	2
	* * *		
5	Actuator, Switch	A27511-001	1
	attaching parts, Index 5 to 6		
	Screw, Shoulder	A25305-001	1
	* * *		
6	Spout	A26441-001	1
	* * *		

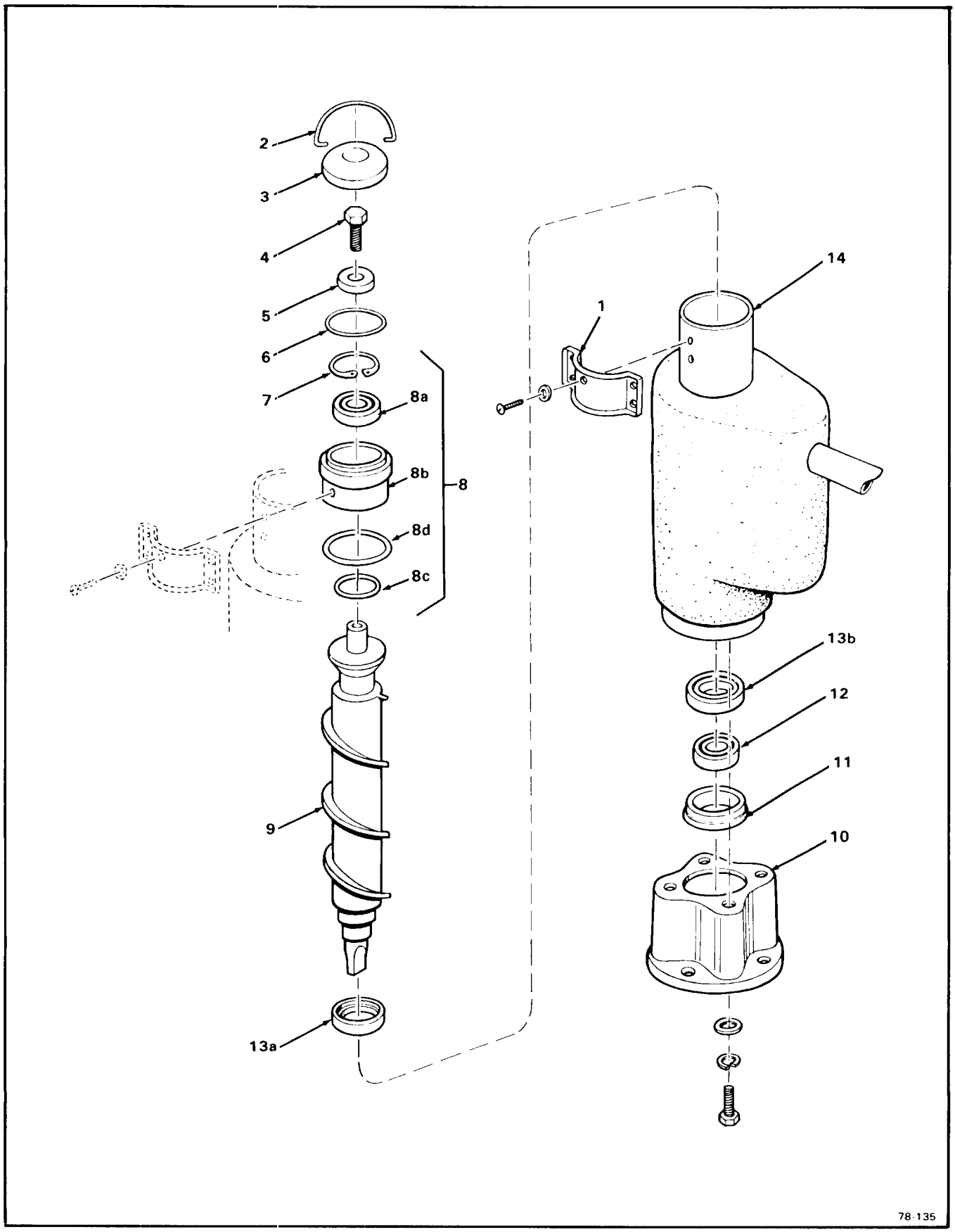


Figure 8-7. Freezer Assembly.

Figure 8-7. Freezer Assembly.

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Freezer Assembly	No Number	Ref.
	(See Figure/Index 8-2/18 and 8-3/18		
	for next higher Assembly)		
	* * *		
1	Plate, Spout	A24928-001	1
	attaching parts, Index 1		
	Washer, Non-Metallic .250 I.D.	03-1409-20	1
	Screw, No. 1/4-20 x 3/8 Phil Recessed Hd Sealing	03-1506-03	1
	* * *		
2	Hook	A08582-000	1
	* * *		
3	Cap	A08581-000	1
	* * *		
4	Screw, No. 1/2-20 x 1 Hex Cap	03-1405-36	1
	* * *		
5	Washer, Brass 17/32 I.D. x 1-5/8 O.D. x 5/16	A06273-000	1
	* * *		
6	O-Ring (Fits into outside groove, Index 8)	13-0617-20	1
	* * *		
7	Ring, Internal Retaining	02-1558-04	1
	* * *		
8	Retainer, Top Bearing — w/Bearing	A26708-001	1
8a	Bearing (Top)	02-0646-00	1
8b	Retainer (Order P/N A26708-001)	No Number	1
8c	O-Ring - (Internal)	13-0617-15	1
8d	O-Ring - External)	13-0617-40	1
	* * *		
9	Auger	02-2048-01	1
	* * *		

Figure 8-7. Freezer Assembly (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
10	Adaptor	02-1629-00	1
	attaching parts, Index 10, 11, 12, 13 to 14		
	Washer, Special	03-1408-03	4
	Lockwasher No. 5/16 Helical Spring	03-1410-04	4
	Screw, No. 5/16-18 x 1-1/4 Hex Cap	03-1405-41	4
	* * *		
	Gasket (Not Shown)	13-1704-00	1
	* * *		
11	Retainer, Bearing	A10591-000	1
	* * *		
12	Bearing	02-0619-00	1
	* * *		
13	Seal, Water	A22569-000	1
13a	Seal, Upper (Fits on Index 9)	No Number	Ref.
13b	Seal, Lower (Fits on top of Index 12)	No Number	Ref.
	* * *		
14	Freezer - (Repair Assembly)	A27276-020	1
	* * *		

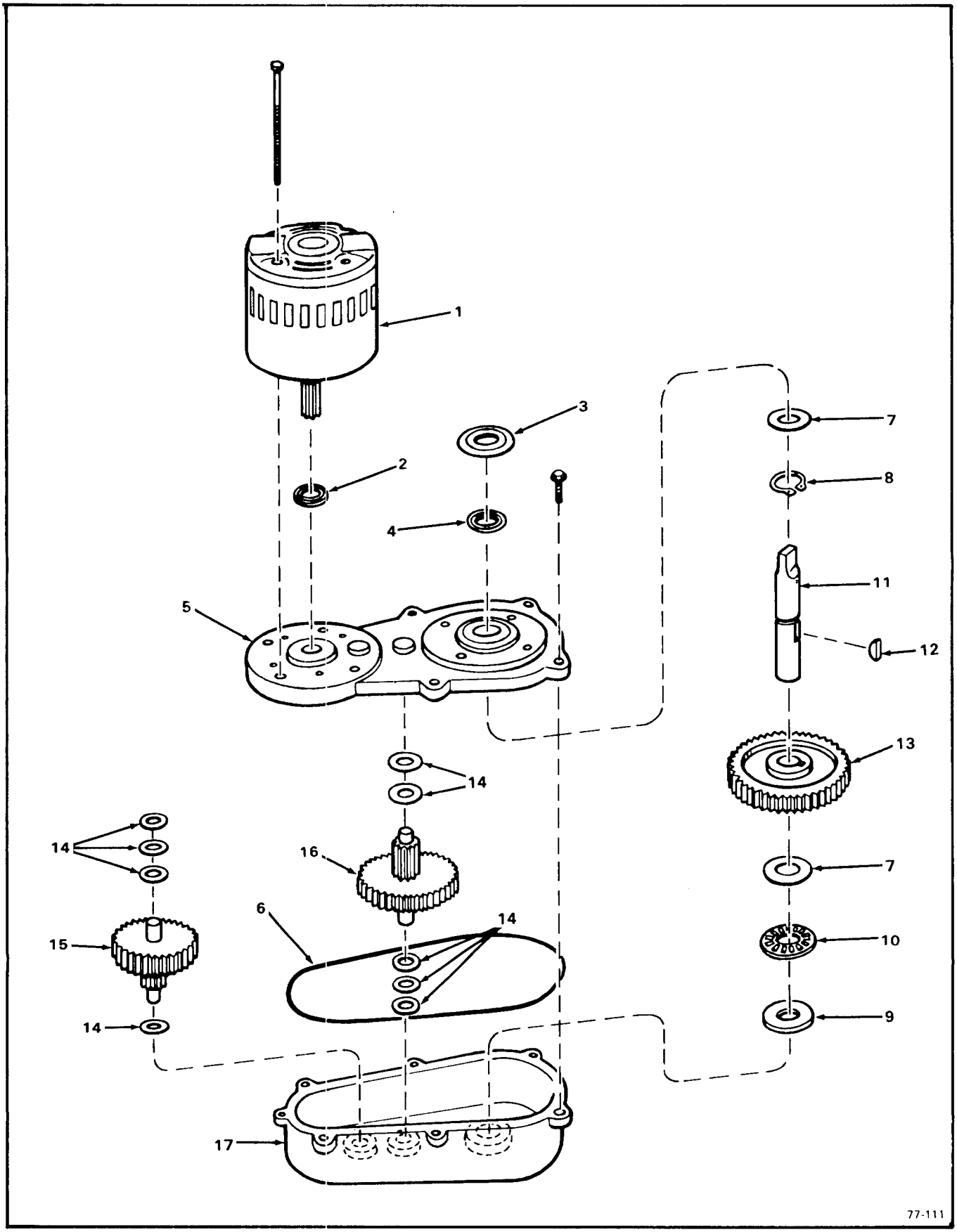


Figure 8-8. Drivemotor Assembly.

Figure 8-8. Drivemotor Assembly.

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	Drivemotor Assembly (1/4 H.P.) (12.2 R.P.M.)	A24317-022	Ref.
	(See Figure/Index 8-2/22 and 8-3/22		
	for next higher Assembly)		
	* * *		
1	Motor, Drive 115/60/1 (1/4 H.P. Split Phase)	A26455-002	1
	attaching parg, Index 1 to 5		
	Screw, Motor (p/o Index 1)	No Number	4
2	Seal, Oil	02-1606-00	1
	* * *		
3	Shed, Water	13-0709-02	1
	* * *		
4	Seal, Oil	02-1607-00	1
	* * *		
5	Cover Assembly, Gear Case	A22200-000	1
	attaching parts, Index 5 to 17		
	Screw, No. 5/16 x 1 Flange	03-1251-01	6
	* * *		
6	O-Ring	A26103-001	1
	* * *		
7	Race, Trust	02-1681-00	2
	* * *		
8	Ring, Retaining	03-1363-00	1
	* * *		
9	Race, Thrust	02-1679-00	1
	* * *		
10	Bearing	02-1680-00	1
	* * *		
11	Shaft, Output	02-1652-00	1

Figure 8-8. Drivemotor Assembly. (cont'd).

INDEX NO.	DESCRIPTION	PART NUMBER	REQ'D. NUMBER
	attaching part, Index 11 to 13		
12	Key (No. 91 Woodruff, Nickel Steel) * * *	03-1364-00	1
13	Gear, Output * * *	02-1653-00	1
14	Washer, Special (.515 I.D. x 875 O.D. x .028 Steel) * * *	03-1408-24	9
15	Second Pinion Assembly, First Gear and * * *	02-2072-00	1
16	Third Pinion Assembly, Second Gear and * * *	02-2071-00	1
17	Case Assembly, Gear * * *	A22199-000	1

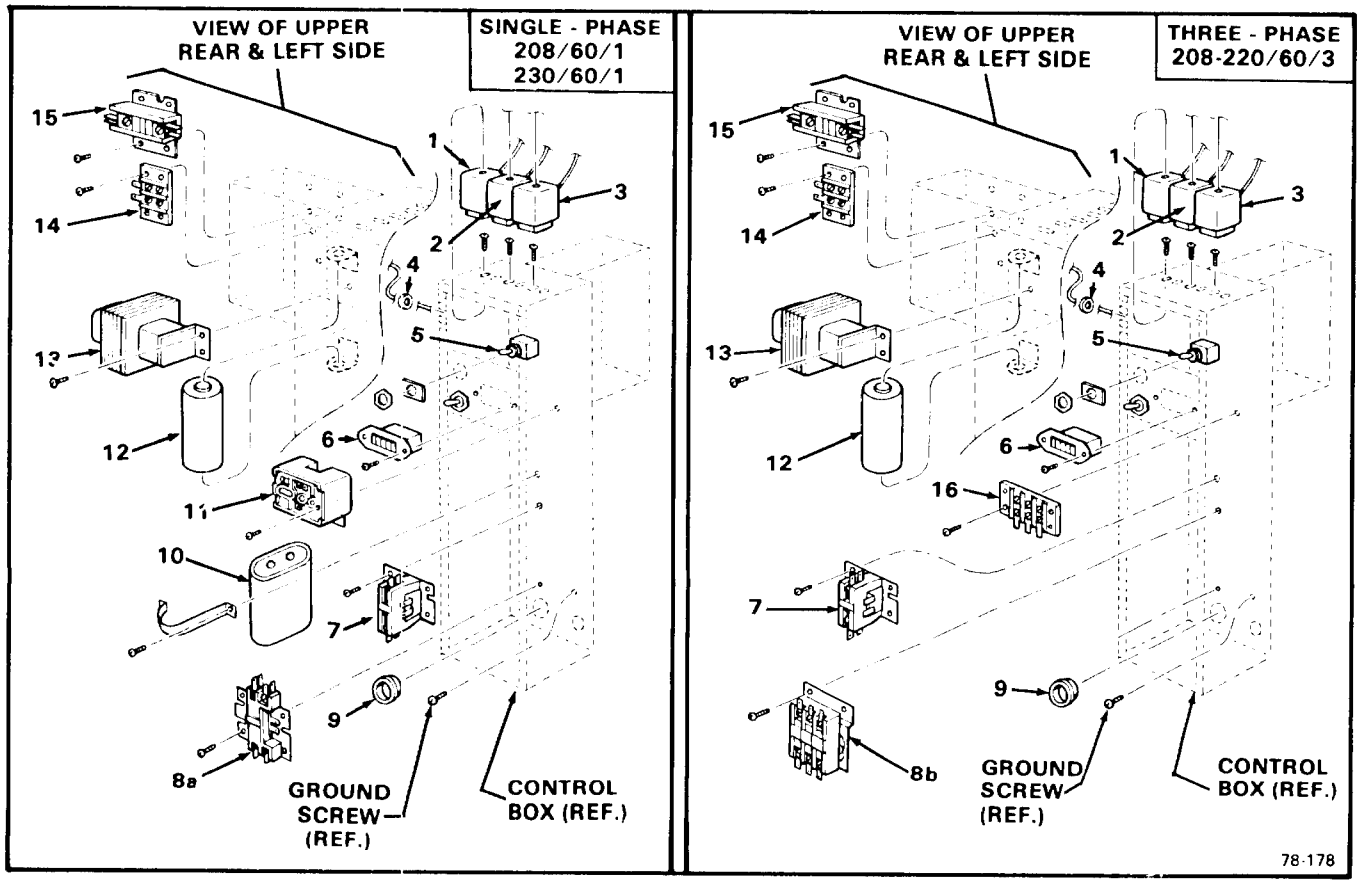


Figure 8-9. Control Box Assembly.

Figure 8-9. Control Box Assembly.

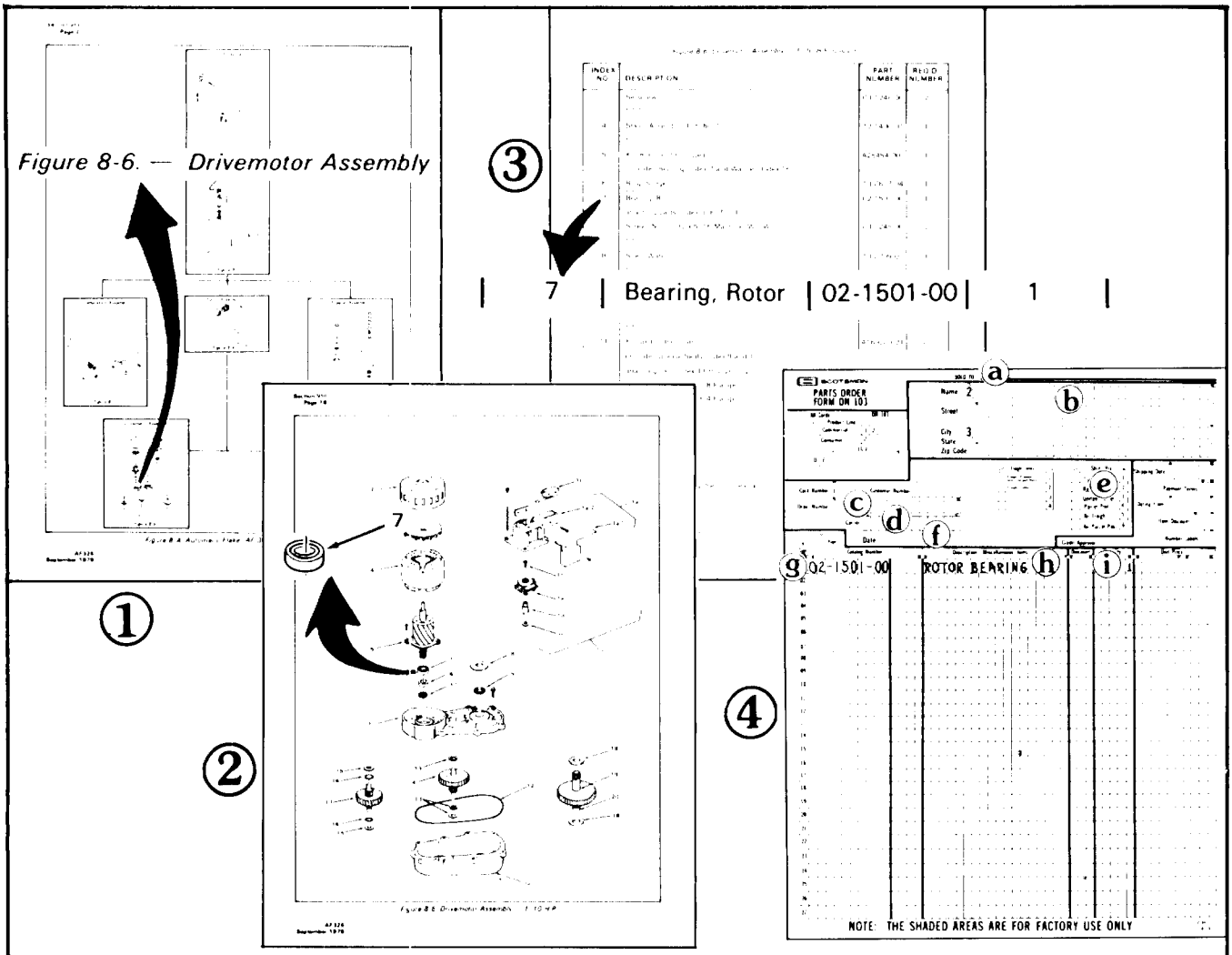
NO. INDEX	DESCRIPTION	A/C W/C	AIR-COOLED WATER-COOLED	PART NUMBER	PHASE 1 208 60	PHASE 1 230 60	PHASE 3 208 240 60
	Control Box Assembly			No Number	1	1	1
	(See Figure 8-2 and 8-3						
	for next higher Assembly)						
	* * *						
1	Control, Low Pressure	(A/C)	(W/C)	11-0358-01	1	1	1
	attaching parts, Index 1						
	Screw, No. 6-32 x 1/4 Pan Hd			03-1403-02	2	2	2
	* * *						
2	Control, Fan Pressure	(A/C)		11-0403-01	1	1	1
	Control, Hi Pressure		(W/C)	11-0338-02	1	1	1

Figure 8-9. Control Box Assembly (cont'd.)

NO. INDEX	DESCRIPTION		A/C W/C	AIR-COOLED WATER-COOLED	PART NUMBER	PHASE 1 208 60	PHASE 1 230 60	PHASE 3 208 240 60
	attaching parts, Index 2							
	Screw, No. 6-32 x 1/4 Pan Hd				03-1403-02	2	2	2
	* * *							
3	Control, Auger Delay		(A/C)	(W/C)	11-0402-01	1	1	1
	attaching parts, Index 3							
	Screw, No. 6-32 x 1/4 Pan Hd				03-1403-02	2	2	2
	* * *							
4	Grommet		(A/C)	(W/C)	13-0557-00	3	3	3
	* * *							
5	Switch, Toggle		(A/C)	(W/C)	12-0426-01	2	2	2
	* * *							
6	Hourmeter		(A/C)	(W/C)	12-2058-02	1	1	1
	attaching part, Index 6							
	Screw, No. 1/4-20 x 5/8 Hex Cap				03-1405-05	2	2	2
	* * *							
7	Contactor		(A/C)	(W/C)	12-2041-04	1	1	1
	attaching parts, Index 7							
	Screw, No. 8-32 x 3/8 Pan Hd				03-1403-17	2	2	2
	* * *							
8a	Contactor		(A/C)	(W/C)	12-2048-02	1	1	—
8b	Contactor		(A/C)	(W/C)	12-0739-02	—	—	1
	attaching parts, Index 7							
	Screw, No. 8-32 x 3/8 Pan Hd	(8a)			03-1403-17	2	2	—
	Screw, No. 10-24 x 3/8 Pan Hd	(8b)			03-1403-26	—	—	2
	Speednut, No. 10-24 (Flat Type)	(8b)			03-1421-07	—	—	2
	* * *							
9	Bushing, Snap		(A/C)	(W/C)	12-1213-12	1	1	1
	* * *							
10	Capacitor, Run		(A/C)	(W/C)	18-1902-29	—	1	—
	Capacitor, Run		(A/C)	(W/C)	18-1902-34	1	—	—

Figure 8-9. Control Box Assembly (cont'd.)

NO. INDEX	DESCRIPTION	A/C W/C	AIR-COOLED WATER-COOLED	PART NUMBER	PHASE 1 208 60	PHASE 1 230 60	PHASE 3 208 240 60
	attaching parts, Index 10						
	Bracket, Capacitor			A24767-001	1	1	—
	Screw, No. 8-32 x 1-1/4 Phil Recess Pan Hd			03-1403-23	1	1	—
	* * *						
11	Relay	(A/C)	(W/C)	18-1903-29	—	1	—
	Relay	(A/C)	(W/C)	18-1903-34	1	—	—
	attaching part, Index 11						
	Screw, No. 6-32 x 3/8 Phil Recess Pan Hd			03-1403-04	1	1	—
	* * *						
12	Capacitor, Start	(A/C)	(W/C)	18-1901-15	1	1	—
	* * *						
13	Transformer	(A/C)	(W/C)	A27404-001	1	1	—
	Transformer	(A/C)	(W/C)	A27404-002	—	—	1
	attaching parts, Index 13						
	Screw, No. 10 x 3/8 T/F Tap			03-1404-15	2	2	2
	* * *						
14	Strip, Terminal			12-1444-00	1	1	1
	attaching parts, Index 14						
	Screw, No. 8 x 3/4 T/F Tap			03-1404-27	2	2	2
	* * *						
15	Contactor			12-2041-03	1	1	1
	attaching part, Index 15						
	Screw, No. 8-32 x 3/8 Pan Hd			03-1403-17	2	2	2
	* * *						
16	Block, Terminal			12-2114-01	—	—	1
	attaching parts, Index 16						
	Washer, No. 6 External Tooth - Phosphor Bronze			03-1417-01	—	—	2
	Screw, No. 6-32 x 5/8 Phil Recess Pan Hd			03-1403-58	—	—	2
	* * *						



HOW TO USE A SCOTSMAN PARTS MANUAL WHEN ORDERING PARTS FOR ICE SYSTEMS PRODUCTS

IMPORTANT A. All Part Numbers have TEN DIGITS (spaces), required for use in the Computer System. BE SURE to fill in **ALL SPACES** in the CATALOG NUMBER columr, on the Parts Order form as shown above.

B. Enter the QUANTITY of the Parts ordered, in the last digit column under the QUANTITY column heading, the one under the small 55 number, for parts from 1 thru 9. For 10 or more parts use two columns.

To be sure you receive the proper parts in the proper quantities, ALWAYS use the PART NUMBERS and DESCRIPTIONS given in the Parts Manuals.

The figures above illustrate the way a Parts Manual would be used, if the Part being ordered were the ROTOR BEARING that is used in the DRIVEMOTOR ASSEMBLY of an AF325 Automatic Flaker, for example.

PROCEDURE:

1. At the beginning of Section VIII, THE PARTS ILLUSTRATIONS AND PARTS LISTS, in each Parts and Service Manual, is Figure 8-A; which, is a flow chart prepared from exploded views in Section VIII. Use the flow chart to quickly determine which Figure contains the Assembly, Component or Part.

FIGURE 1: Since the Part required in the above example is in the DRIVEMOTOR ASSEMBLY, shown as FIGURE 8-6.

2. Open the Manual to page showing FIGURE 8-6.

3. Locate the PART and its INDEX NUMBER on the exploded view illustration.

FIGURE 2: The INDEX NUMBER for the PART is 7.

4. Check the numerical sequence in the associated Parts List following the illustration.

5. LOCATE the INDEX NUMBER 7, in the INDEX NO. column, the first column on the left side of the Parts List page.

FIGURE 3: INDEX NO. 7 is listed as a BEARING, ROTOR in the DESCRIPTION column. The Part Number for the Rotor Bearing is 02-1501-00 as listed in the PART NUMBER column on the right side of the Parts List page. And, one Rotor Bearing is listed in the REQ'D NUMBER column, or that ONLY one of those parts is required for one Drivemotor Assembly.

6. Write an order for the Part. (Use SCOTSMAN Parts Order Form DN103)

FIGURE 4: a. Distributor Name.
b. (Use for DROP-SHIP order ONLY).
c. Distributor Purchase Order Number.
d. Carrier
e. How shipped (Truck, Rail, UPS, etc.)
f. Date ordered
g. Part Catalog Number
(use full TEN digits (spaces) listed in Parts Manual, including dashes between numbers.
h. Description - as listed in Parts Manual.
i. Quantity - number of parts ordered.
(use far right column)

Figure 8-00. How To Use The Illustrated Parts List.