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MECHANICAL SPECIFICATIONS

	SF-75
Compressor	1/4 HP Tecumseh
Condenser	Air-Cooled
Refrigerant	19 oz. R 12
Refrigerant Control	Capillary Tube
Power Consumption - Compressor	5.2 Amps.
Power Consumption - Gear Motor	2.6 Amps.
Current	115 V, 60 Hertz, 1 Ph.
Gear Motor Drive	1/10 HP
Worm - R.P.M.	10.5
Water Consumption - Freezer	2 Gallons per hour

CABINET DIMENSIONS

Depth	24 1/2"
Width	32 1/2"
Height	40"
Height with 6" legs	46"

SHIPPING WEIGHT

Uncrated	330
Crated	360

SPECIFICATIONS

SCOTSMAN Flakers are designed for restaurants, super markets, soda fountains, hospitals, bakeries, fish markets, poultry stores, packing plants, etc. It is the finest Ice Maker on the market today. It will work 24 hours a day for you, or only as needed. It produces the highest quality ice available at any price.

SCOTSMAN ICE SYSTEMS are easily installed requiring only standard water, drain and electrical connections.

ATTRACTIVE COMPACT CABINET. *Sandlewood Micomatte with chrome trim, rounded corners, and removable panels for easy access to mechanical parts. *Adjustable and removable legs are under cabinet.

SEALED REFRIGERATION SYSTEM. Provides quiet, efficient operation of the machine. Compressor motor is internally spring mounted for quiet operation. Compressor motor is covered by a 5-Year Warranty.

HOW IT WORKS. An exclusive patented ice-making system, wherein water in the constant level float reservoir is fed to the bottom end of the freezing cylinder and turns to ice on the inside of this cylinder. Ice from the refrigerated walls of this cylinder is extruded past the ice breaker at the top of the cylinder through a side opening by means of a stainless steel auger directly driven by a motor gear reduction drive.

SCOTSMAN Model SF-75 are completely automatic. A manual switch on the front starts the machine, and from then on, produces flakes automatically. When the storage bin fills, the machine automatically shuts off and starts up again when ice is taken from the storage compartment.

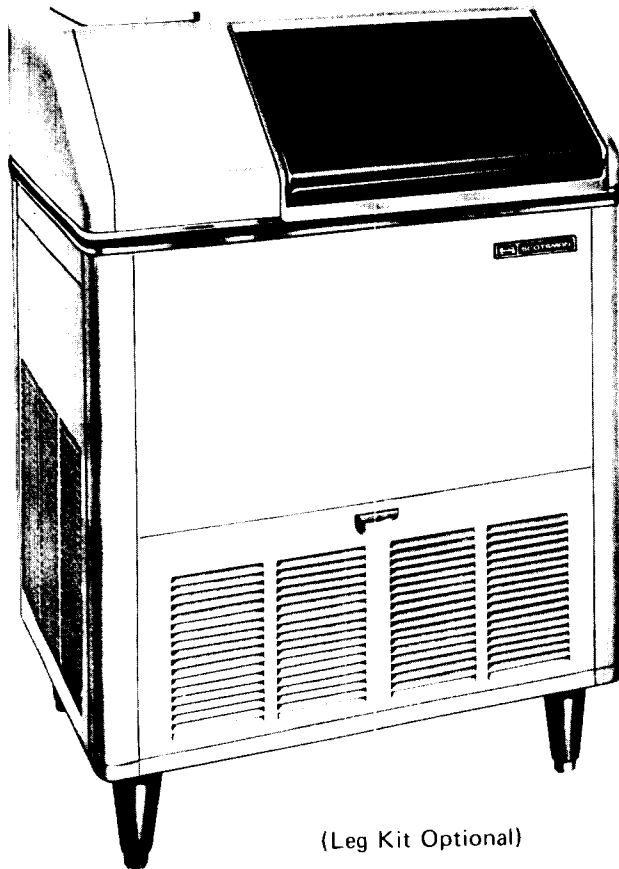
*Also available in stainless steel cabinet.

NOTE: this unit is not supplied with legs

*Optional leg kit available thru sales department.

INSTALLATION INSTRUCTIONS

The following installation instructions were written for use by a authorized tradesman only, not the user or customer. We suggest you call your local authorized Scotsman Service Agency for hook-up, start-up, and check out. He's listed under "Ice Making Machinery & Equipment" in your telephone book, yellow pages.



(Leg Kit Optional)

SF 75 series flaker with storage

The SF75 has a compact, cabinet with big production and storage capacity. Ideal for small food operations or where multiple locations offer greater efficiency in ice handling. The SF75 is an air-cooled condenser unit which produces Scotsman flake ice. The bin is made of heavy gauge stainless steel, for easy cleaning and holds up to 100 pounds of ice. A sensitive thermostat, located inside the bin automatically shuts off the flaker when bin is full and re-starts unit when ice is removed. Scotsman has an exclusive, patented flaker mechanism which produces hard bits of ice.

ice making capacity

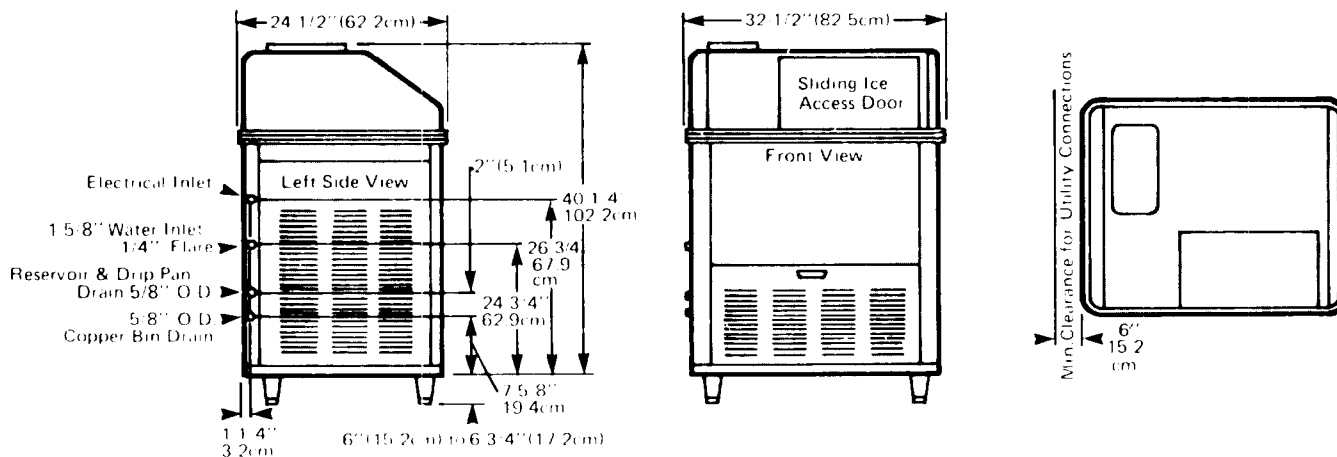
Daily Ice Capacity is directly related to condenser air inlet temperature, water temperature, and age of machine.

NOTE: To keep your SCOTSMAN FLAKER performing at it's maximum capacity, it is necessary to perform periodic maintenance as outlined on page 30 of this manual.

MANUFACTURER:

QUEEN PRODUCTS DIVISION
KING-SEELEY THERMOS CO.
ALBERT LEA, MINNESOTA 56007

SF 75 series flaker with storage



Storage Bin: 100 lbs. (45.02 kg.)
Height: 40-1/4'' (102.2 cm) w/o legs
Width: 32-1/2'' (82.5 cm)
Depth: 24-1/2'' (62.2 cm)
Weight: 268 lbs. (121 kg.)

OPTIONAL LEG KITS

Four metal legs screw into mounting plates on cabinet base. Provide 6'' minimum height including adjustable leveling foot. N.S.F. approved.

KLP2E: Black enamel finish. Recommended for enameled cabinets.

KLP2S: Nickel plated, brushed metal finish with stainless steel foot. Recommended for stainless steel cabinets.

IMPORTANT OPERATING REQUIREMENTS

Electrical Voltage: Machine requires voltage indicated on rating name plate. Failures caused by improper voltage are not considered factory defect.

Ambient Temperature: Machine is not designed for outdoor installation. Machine will not operate when air temperature is below 50° F or above 100° F.

Water Pressure & Temperature: Requires 20-lbs. flowing water pressure, without interruption. Machine will not operate when water supply temperature is below 40° F or above 100° F.

SPECIFICATIONS – SF75

Model Number	Condensing Unit	Compressor Horsepower	Finish*	Shp. Wt. lbs./kgs.
SF75WSJ	Air	1/4	Enamel	268/121
SF75WSJSS	Air	1/4	Stainless Steel	268/121

*Sandalwood baked enamel finish or all heavy gauge stainless steel

Basic Electricals	Max. Oper. Amps	No. of Wires	Max. Fuse Size	
Air-Cooled:	115/60/1	9.8	2	15

INSTALLATIONS

UNDER BAR INSTALLATIONS: Locate, if possible, so left end panel is accessible. Locate so proper circulation can be attained around the unit and behind it at least four inches.

KITCHEN INSTALLATIONS: As a rule, the kitchen is not the most practical place to install an air-cooled condensing unit, as grease is almost always present and makes cleaning of the condensing unit difficult. Do not locate near range or steam table or other heating devices that may be used in the kitchen.

STOREROOM INSTALLATIONS: Be sure storeroom is of adequate size and properly ventilated. A small, poorly ventilated room will greatly impair the efficiency of the unit. The storeroom must be kept above 50° in the winter months.

BASEMENT INSTALLATIONS: Locate machine in the coolest place. Locate machine in a dry place. Keep away from furnace and boiler room. Keep away from service chutes and runways; also coal and other dust of any kind. If the machine is set over a floor drain, block the machine up enough to level it. If there is any chance of basement flooding, block the machine up to eliminate any possible damage to the machine.

UNCRATING OF MACHINE: The complete machine comes in one carton. After the carton is removed, inspect for concealed damage. When installing the machine. Remove the bottom skids by removing all bolts. Then check all refrigerant lines for rubbing or touching other surfaces. Also check for possible transportation damage.

PRE-INSTALLATION CLEANING: Before machine is in final location, remove top service door, water reservoir cover, and leave cover off for float adjustment. Make adjustment (if necessary) and re-install.

PREPARATION FOR INSTALLATION

1. Inspect complete unit cabinetry for shipping damage. Notify carrier of concealed damage claims.
2. Remove all service doors and panels.
3. If optional legs are used, install at this time being sure to properly level unit using adjustable levelers.
4. Remove water strainer from storage bin for installation on unit or in water supply line feeding unit.
5. Open electrical control box and prepare for hook up, use knock outs, cord connectors etc. Then check unit nameplate voltage against building source voltage and make sure they correspond. Caution - Improper voltage supplied to units will void your warranty protection.
6. Select unit location prior to hook up of water drain and electricals in accordance with local and national codes. Minimum room temperatures is 50° Fahrenheit. On air cooled models, select well ventilated location.
7. Remove Users manual from storage bin, then wipe bin clean with damp cloth.
8. Fill out registration card completely including model and serial numbers as taken from serial plate found behind front service panel.
9. Level Unit.

INSTALLATION LIMITATIONS

ELECTRICAL

1. Scotsman, like most manufacturers, purchases electrical motors that are rated to operate within 10% variance above or below nameplate ratings.
2. Improper voltages applied to Scotsman equipment can cause premature failures and burnouts. Failures of this type are not considered as factory fault or defect.

AMBIENT

WARNING — This machine is not designed for outdoor installations. This machine will not operate when air temperatures are below 50° F. or above 100° F.

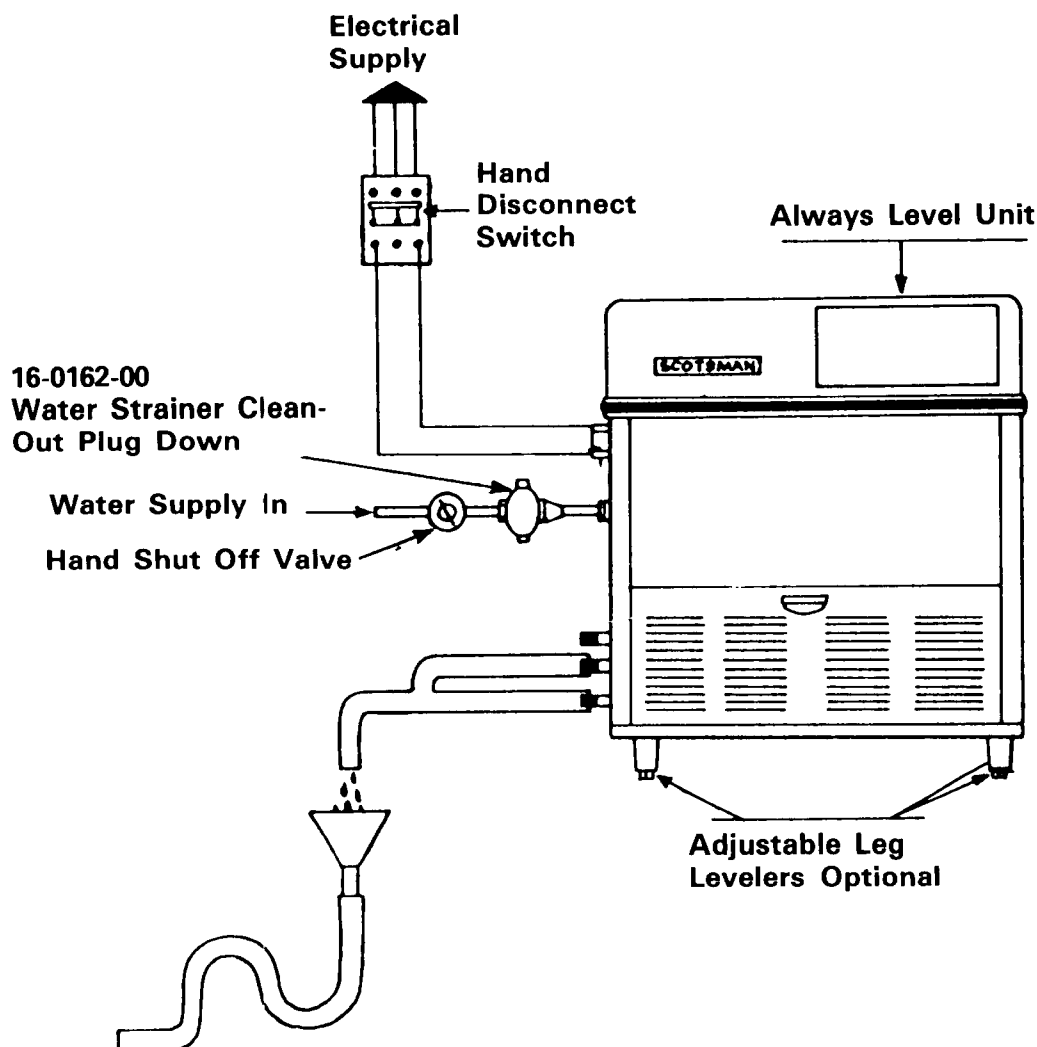
This unit was not fabricated nor intended to be installed outdoors.

WATER

3. Scotsman Ice Systems require 20 pounds flowing water pressure to operate satisfactorily. Pressures lower than 20 pounds or interruptions in the water supply can cause serious mechanical damage to this product.

This machine will not operate when water supply temperatures are below 40° F. or above 100° F.

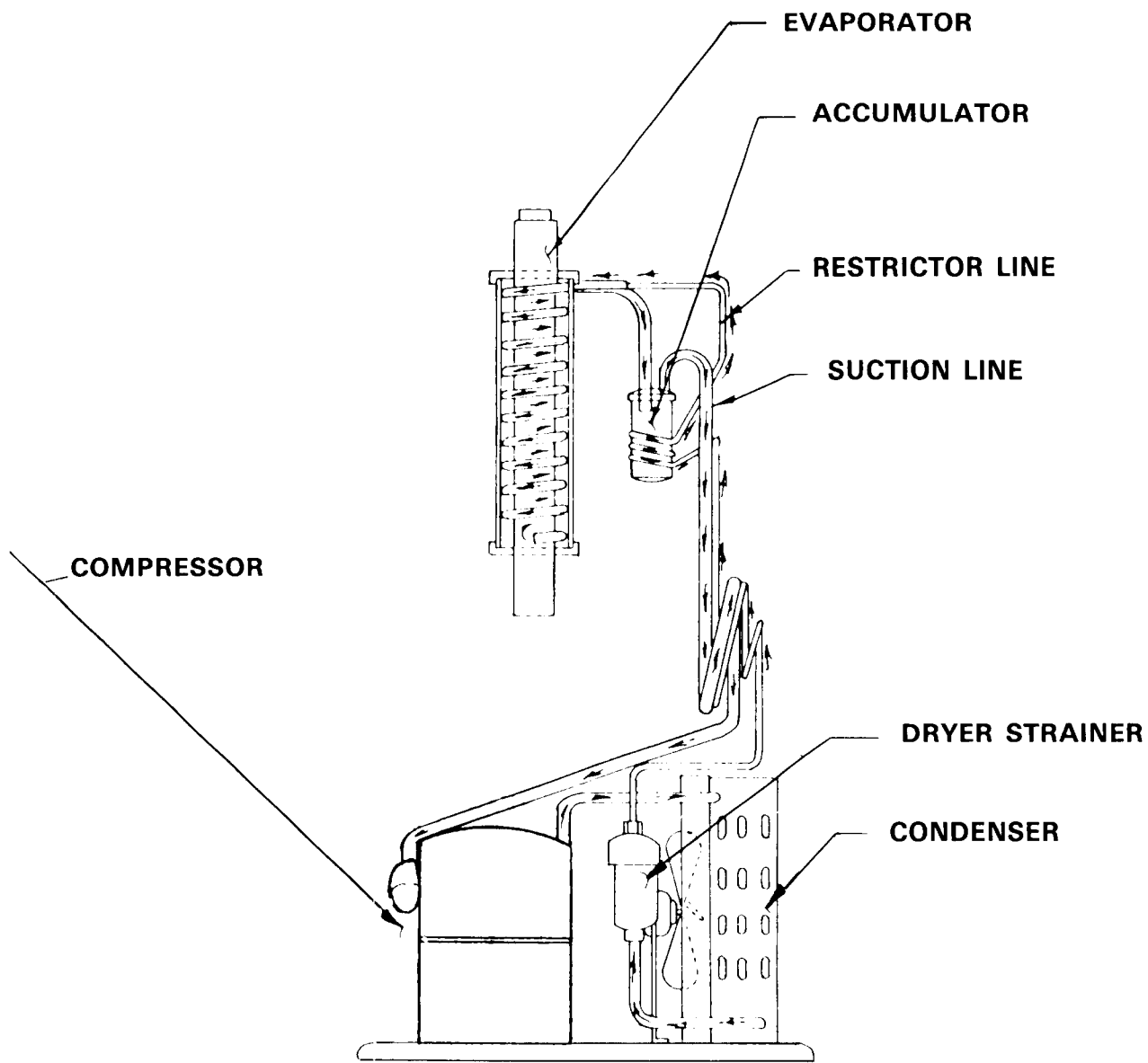
INSTALLATION PRACTICES



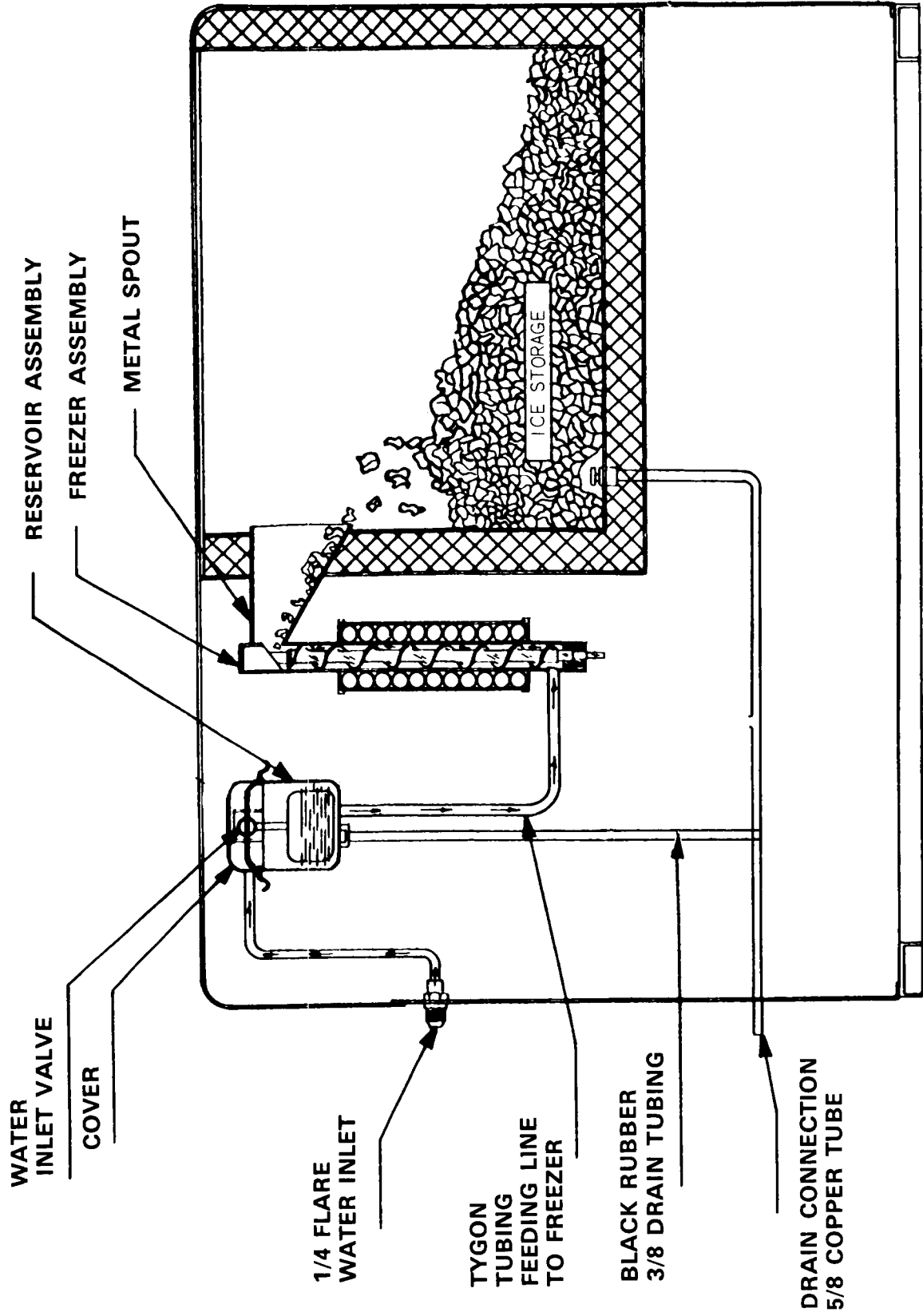
WATER SUPPLY. The recommended water supply line is 1/4 inch OD copper tubing. Connect to cold water supply line with regular plumbing fittings, with shut-off valve installed in an accessible place between supply line and machine. A water strainer must be installed with the unit and mounted with clean-out plug down. Locate the strainer next to the machine with the arrow in the direction of the flow. Most plumbing codes also call for double check valves in the supply water line.

The water supply line connects to the 1/4 inch flare fitting on the machine. Water supply must be installed to conform with local code. In some cases a licensed plumber and /or a plumbing permit will be required.

DRAIN. The recommended drain from the bin is 5/8 inch OD copper tubing. Must be run to an open trapped and vented drain. If drain is a long run, allow a 1/4 inch pitch per foot. Drain must be installed to conform with local code.



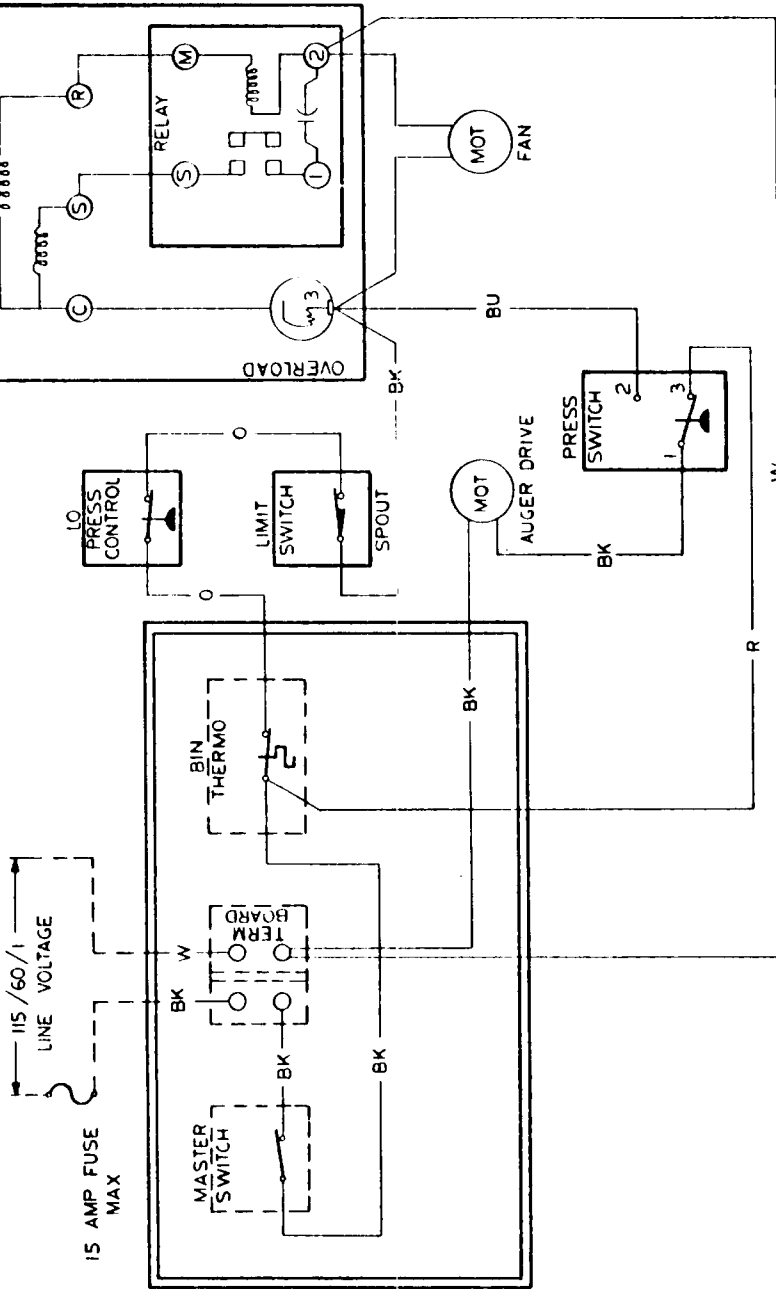
REFRIGERATION CYCLE



WATER SCHEMATIC

SF-75

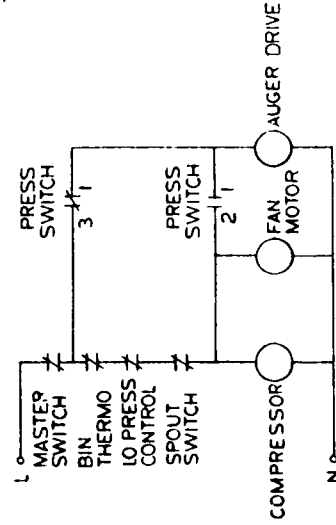
A26803-001



THIS UNIT MUST BE
GROUNDED

WIRING DIAGRAM

SF 75 115-60-1



ALL CONTROLS SHOWN IN NORMAL ICE MAKING MODE

FINAL CHECK LIST

1. Is the unit level? (IMPORTANT)
2. Have all electrical and piping connections been made?
3. Has the voltage been tested and checked against the nameplate rating?
4. Is the water supply valve open and the electric power on?
5. Is the water reservoir filled and shut off?
6. Have unit and bin been wiped clean?
7. Has owner been given the Users Manual, and has he been instructed on how to operate the machine?
8. Have the installation and registration cards been filled out? This is the owner's protection.
9. Check all refrigerant and conduit lines to guard against vibration and possible failure.
10. Installed in a well ventilated room where ambient temperatures do not fall below 50° Fahrenheit.
11. Is unit installed with a minimum 4" air space around sides and back?

SERVICE

STARTING THE MACHINE: When the machine is placed and inspected as per instructions and all plumbing and electrical connections are completed and tested, turn on the water supply. Be sure the float cover is removed to check on the float operation and water level in the water reservoir. Be sure the water reservoir is filled before starting the machine. Water level should be 1/4 inch below the reservoir overflow.

When this is completed, turn on the manual switch on the front of the cabinet and the machine is in automatic operation. In two to three minutes ice will start dropping off the worm shaft and out the ice chute. Let the machine operate for at least 30 minutes and check for any excess noise other than the normal compressor noise. Test the ice storage control bulb by holding a handful of ice around the bulb until the machine shuts off. One minute should be normal for the control to function. Within minutes after the ice is removed, the bulb will warm up and the machine will automatically start up. The control is factory set and should not be reset until this test is made. Normal setting of this control should be approximately 35 degrees cut out, 45 degrees cut in.

Check low pressure setting at the time of start-up. The frost line should extend 8" out of the accumulator if properly charged with refrigerant and suction pressure will range between 15 and 16 PSI with 50° F. inlet water.

Explain the machine to the owner, showing him how the machine works and go over the owner's instruction sheet with him. Answer all the owner's questions about the machine, and do not leave with any doubt in the owner's mind about the machine, how to operate it or where to reach you should he need service on the machine. Call back the next day to check the machine again and answer any other questions the owner may have.

Service gauge connection is available on low side. Purge free of any non-condensable gases before starting any test operation.

REFRIGERANT CHARGE: The below refrigerant charge is approximate. Charge so that the frost line extends 8" out of the accumulator after fifteen minutes of operation. Factory charge 19 oz. refrigerant 12.
Hi Side Pressure 135-145 P.S.I.

SERVICE

WATER SYSTEM: A water level is maintained in the water reservoir by a float operated valve. Water is piped from the water reservoir to the freezing chamber by a gravity feed line maintaining an equal water level. A safety overflow is in the water reservoir to prevent damage should the inlet water valve fail.

The water reservoir is equipped with an air gap to prevent back siphoning and meet all health codes.

The water level in the water reservoir is adjusted by bending float arm. The water level should be set 1/4 inch below the overflow pipe.

A water strainer must be installed in the supply line. Use strainer sent with machine.

ELECTRICAL SYSTEM: The SF-75 is designed to work on standard electrical supply 115 volts, 60 Hertz single phase.

Supply voltage should not vary more than plus or minus 10 percent over nameplate rating.

Special voltage requirements are available on special order. Therefore always check nameplate for this information before checking electrical supply.

The electrical circuit consists of compressor, freezer gear motor, storage bin thermostat, ON and OFF switch and spout micro (safety) switch, and low pressure control switch.

A. **COMPRESSOR:** The starting capacitor and starting relay are housed and fastened to the motor compressor. Some models do not use a start capacitor.

B. **GEAR MOTOR TO FREEZER:** Model SF75 is equipped with a 1/10 horsepower direct drive gearmotor.

C. STORAGE BIN THERMOSTAT: Thermostat control body is located in electrical control box. The thermostat sensing tube is threaded into the ice storage bin where it automatically stops the icemaker when ice bin fills to sensing tube level and restarts icemaker when ice is removed. Factory settings are 35° cut out, 45° cut in.

Altitude correction begins at 2,000 feet, cut in and cut out screws should be adjusted equally, not more than 1/4 turn at a time.

D. MICRO SAFETY SWITCH: The micro switch is located in the top of the ice chute. The switch is operated by a pressure plate inside the ice chute. Ice backs up in the chute if the storage bin thermostat fails. Micro switch will shut off the condensing unit only, when operated.

E. ON-OFF SWITCH: A manual on-off switch is located in control box.

Description of the Function of the Texas Instruments Low Pressure Control Switch When Used on 1/10 H.P. Gear Motors

F. On all Scotsman units using a 1/10 H.P. gear motor, the centrifugal switch mechanism, mounted on top of the motor, was removed and replaced, in the system, with a low pressure control switch. This is a single pole double throw (SPDT) switch manufactured by Texas Instruments. (Queen Products Part No. 11-0396-01*).

*Refer to a typical wiring diagram, showing contacts, for description of switch function.
Page 13

On all Queen Products wiring diagrams, the controls are shown in the ice making mode. Thus, the 1-3 contacts are shown as closed. On machine start up the 1-3 contacts are open and the 1-2 contacts are closed. As the unit begins to run, the low side pressure starts to fall from the stabilized or "at rest" pressure. As soon as the pressure drops to 21 Psig, the 1-2 contacts open and the 1-3 contacts close. This removes the operating controls, such as the bin thermostat, from the "gear motor circuit". If one of the operating controls opens, it will shut off the "compressor circuit". The gear motor will run until the low side pressure rises to 29 Psig. At this point the 1-3 contacts open and turns the gear motor off. This usually takes 1-3 minutes depending on ambient conditions. This length of time allows the auger to transport all the ice out of the freezing chamber. Consequently, when called on to start up again, there is no load to start up against. On start up, again, the 1-3 contacts are open and the 1-2 contacts closed.

*Function 11-0396-01 Low Pressure Control Switch

1-3 Contacts - Open on Pressure Rise
Opens at 29 Psig
Closes at 21 Psig

1-2 Contacts - Open on Pressure Fall
Opens at 21 Psig
Closes at 29 Psig

REMOVAL & INSTALLATION OF PARTS

CABINET TOP (HOOD)

1. Remove two back end screws of chrome strip.
2. Pull out tape concealing screws.
3. Remove balance of screws in chrome strip.
4. Lift off hood.

HOOD SERVICE DOOR, TOP

1. Remove screw from front edge.
2. Lift up and back to unhook pin.

CABINET SIDE SERVICE DOOR

1. Remove four screws on edges.
2. Lift out door.

CABINET FRONT SERVICE DOOR

1. Remove two screws on edge.
2. Lift out door.

CABINET REAR SERVICE DOOR

1. Remove two screws on edge.
2. Pull door out.

ICE STORAGE DOOR

1. Lift door up, slide back 6". Remove thumb screw that attaches safety lanyard to back of door.
2. Door will now slide out. Lift front edge slightly to clear hood lip.

ICE STORAGE DOOR FRAME

1. Remove six screws at bottom and sides.
2. Remove screw in frame back.
3. Frame will now lift out.

MOTOR COMPRESSOR

1. Remove gas charge.
2. Disconnect wiring from the compressor.
3. Loosen suction and discharge lines and cap off.
4. Remove the compressor hold-down nuts and lift compressor out of the unit.
5. Reverse steps 1 through 4 in replacing compressor.

SERVICE

FREEZER ASSEMBLY

1. In most instances, it will be faster to remove freezer by first removing cabinet top or hood. (See Removing and Installing Cabinet Parts.) Assembly can be changed if necessary through hood top panel.
2. Shut off water supply to unit, remove top and left side service panels.
3. Disconnect water inlet line at reservoir. Remove water supply tube at freezer and drain freezer.
4. Purge off refrigerant, unsweat suction line, disconnect capillary line at drier. Cap off all lines so no moisture can enter system.
5. Remove insulation pieces around spout, also the spout proper.
6. Remove 3 bolts holding adapter base to gearmotor top cover, lift freezer out of cabinet.
7. Remove adaptor, spout front and back plates from old freezer and install on new replacement.
8. Re-install in reverse of above.

FREEZER WORM SHAFT

1. Turn unit off, before removing worm shaft.
2. Shut off water supply to unit.
3. Remove hood service doors.
4. Remove top and bottom straps around spout insulation pieces, remove pieces.
5. Remove two slotted head screws which fit through top chamber wall into ice breaker.
6. Tap spline coupling loose on bottom end of freezer worm shaft.
7. Complete worm shaft with ice breaker attached will now come out by lifting up on freezer cap pull ring. NOTE: Top half of water seal will come with worm shaft.
8. To remove ice breaker from shaft, first remove retainer ring in top of ice breaker.
9. Remove freezer cap and pull ring from ice breaker.
0. Remove cap screw holding shaft through bearing and pull worm shaft free from ice breaker and bearing.
1. If shaft is defective, remove water seal top half and put on new worm shaft before reassembling—when reassembling, by reversing above, put a small amount of Vaseline on shaft end. This will allow shaft to slide smoothly through rubber bottom half of water seal without tearing it.

WATER SEAL

1. To replace water seal, follow steps 1 through 7 under Worm Shaft Removal.
2. Remove 3 bolts holding freezer to fiber mounting adapter.
3. Lift freezer off adapter just high enough to allow bottom bearing and bottom half of water seal to be removed from bottom of freezer tube.
4. Lightly grease bottom half of new water seal and insert face up approximately 1/2" in bottom of freezer tube.
5. Insert bottom bearing in bottom of freezer tube, force approximately 1/8" past bottom tube end. This will allow the positioning ring on fiber adaptor to properly position freezer tube when tightening up the three mounting bolts.
6. After securing mounting bolts, put new top half of water seal on worm shaft the same way as the old seal was removed.
7. Carefully insert worm shaft assembly in freezer tube and into spline coupling on bottom.
8. Replace ice breaker screws, insulation pieces and unit is ready to resume operation.

SERVICE

STORAGE BIN THERMOSTAT:

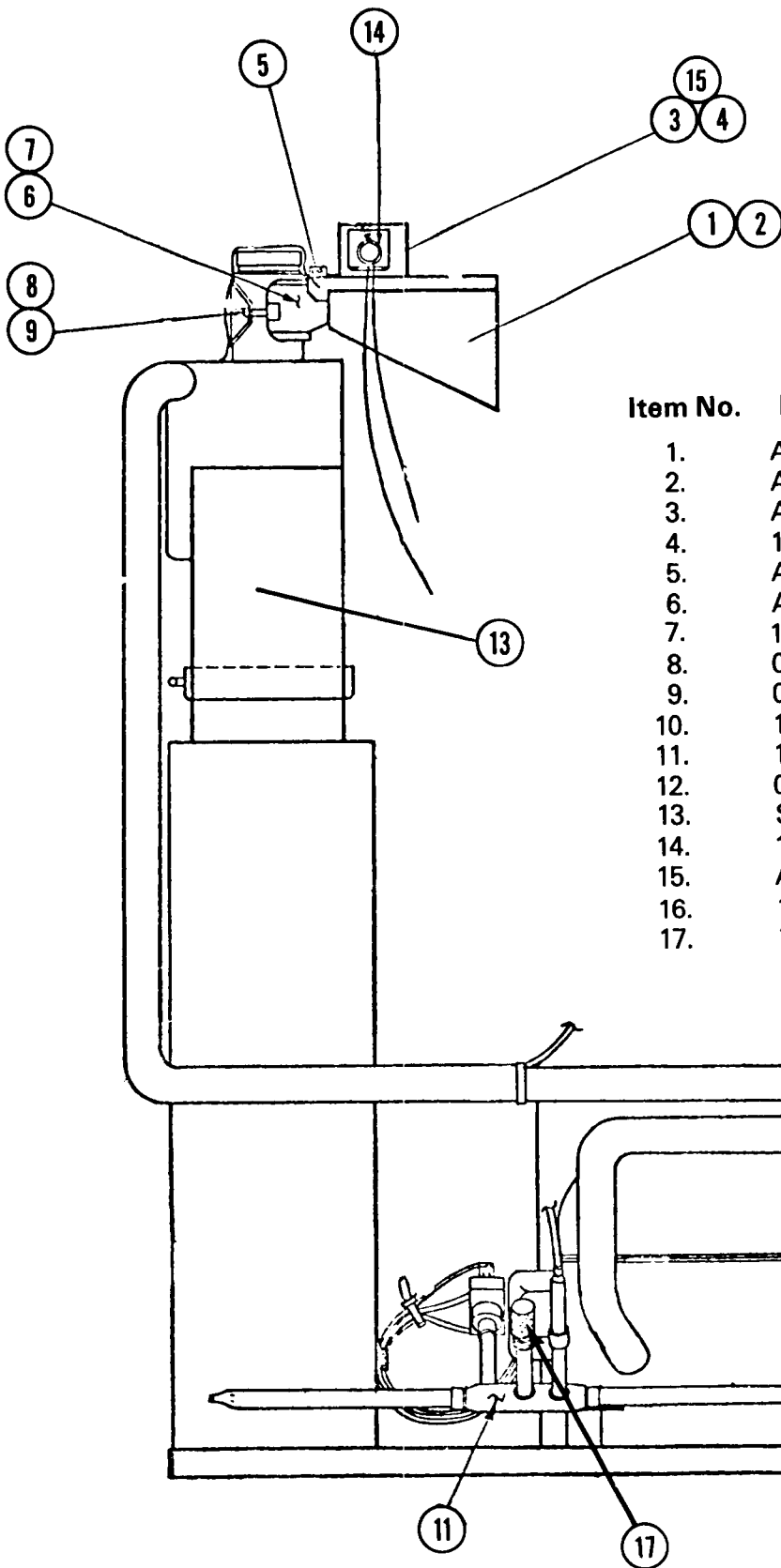
1. Disconnect electrical supply.
2. Remove bin thermostat bulb from bin location along with its capillary tube.
3. Remove control box cover.
4. Disconnect two spade type electrical leads.
5. Loosen two screws in control mounting bracket.
6. Replace with new control and reassemble in reverse of above.
7. CAUTION: Always check new control power element charge before installation to assure receiving an operative control. A handful of ice on bulb will register an audible 'click' at cut off.

WATER RESERVOIR

1. Remove service panel in cabinet hood.
2. Turn off water supply and drain reservoir.
3. Remove 1/4 inch copper inlet water line.
4. Remove 1/2 inch plastic feed line to freezer.
5. Remove two screws holding reservoir bracket to wall.
6. Lift out reservoir.
7. To replace, reverse procedure.

CHASSIS ASSEMBLY

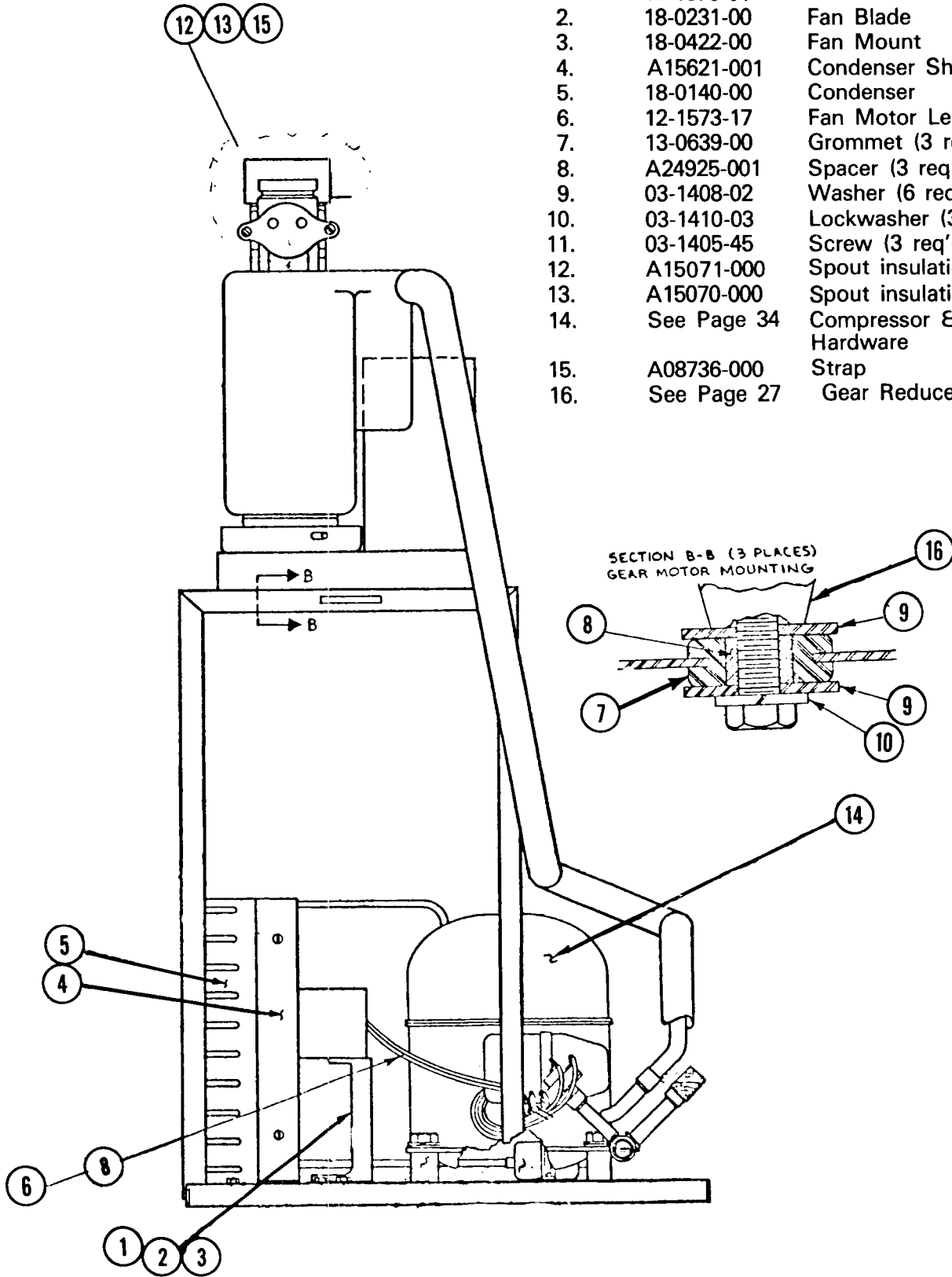
Section
SF 75-C
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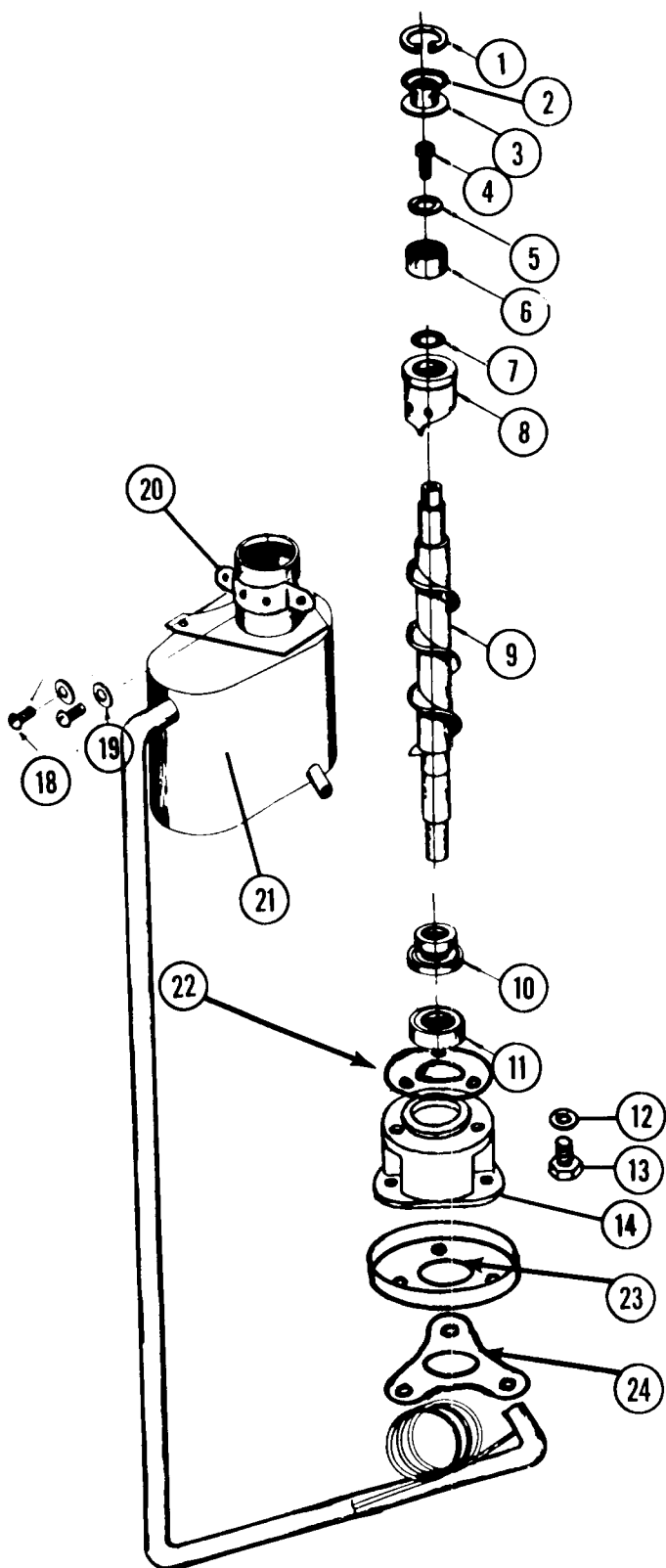
Item No.	Part No.	Description
1.	A16357-000	Spout (Less Pressure Plate)
2.	A16360-000	Pressure Plate, Spout
3.	A14975-000	Switch Box Assy.
4.	12-1018-00	Switch
5.	A14256-000	Nut
6.	A14254-000	Front Spout Casting
7.	13-0679-00	Spout Gasket
8.	03-1403-53	Spout Screw (2 req'd)
9.	03-1417-07	Lockwasher (2 req'd)
10.	16-0673-02	Process Header
11.	16-0673-22	Process Header
12.	02-0831-00	Drier
13.	See Page 23	Freezer Components
14.	12-1213-10	Bushing
15.	A14241-000	Cover, Limit Box
16.	11-0396-01	Low Pressure Switch
17.	16-0563-00	Brass Cap

CHASSIS ASSEMBLY

Item No.	Part No.	Description
1.	12-1575-01	Fan Motor
2.	18-0231-00	Fan Blade
3.	18-0422-00	Fan Mount
4.	A15621-001	Condenser Shroud
5.	18-0140-00	Condenser
6.	12-1573-17	Fan Motor Lead
7.	13-0639-00	Grommet (3 req'd)
8.	A24925-001	Spacer (3 req'd)
9.	03-1408-02	Washer (6 req'd)
10.	03-1410-03	Lockwasher (3 req'd)
11.	03-1405-45	Screw (3 req'd)
12.	A15071-000	Spout insulation
13.	A15070-000	Spout insulation
14.	See Page 34	Compressor & Mounting Hardware
15.	A08736-000	Strap
16.	See Page 27	Gear Reducer

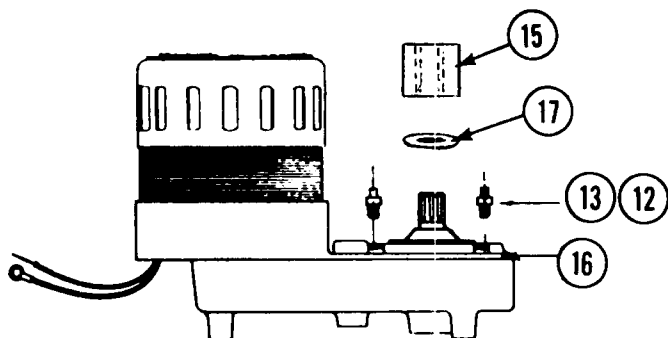


FREEZER ASSEMBLY SF75 MODELS



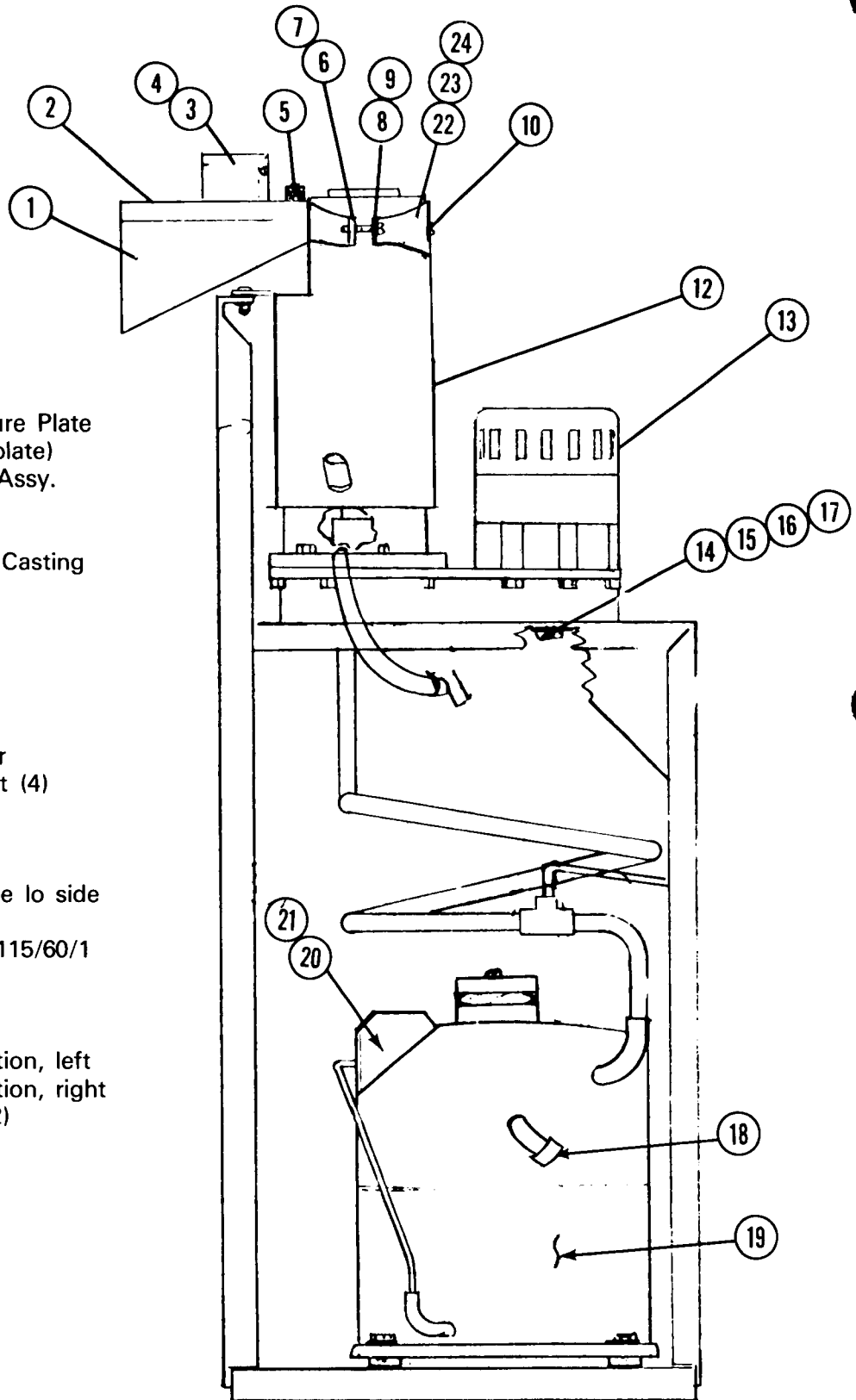
Item No.	Part No.	Description
1.	03-1558-03	Snap Ring
2.	A08162-000	Cap Hook
3.	A07701-000	Cap
4.	03-0758-000	Cap Screw
5.	03-1410-03	Washer
6.	02-0547-01	Top Bearing
7.	13-0617-16	"O" Ring
8.	A26706-001	Breaker With Bearing
9.	02-1313-00	Auger
10.	A18945-000	Water Seal
11.	02-0417-00	Lower Bearing
12.	03-1410-04	Washer
13.	03-1405-42	Screw
14.	08-0595-01	Base Adapter
15.	15-0575-01	Spline Adapter
16.	A25995-021	Gear Reducer See Breakdown
17.	02-1347-00	Drip Shield
18.	03-1403-48	Screws
19.	03-1410-03	Washers
20.	A18430-000	Spout Plate
21.	A27212-020	Worm Tube
22.	03-1505-00	Gasket
23.	A18153-000	Drip Pan
24.	13-0628-00	Gasket

*Breaker Comes With Bearing

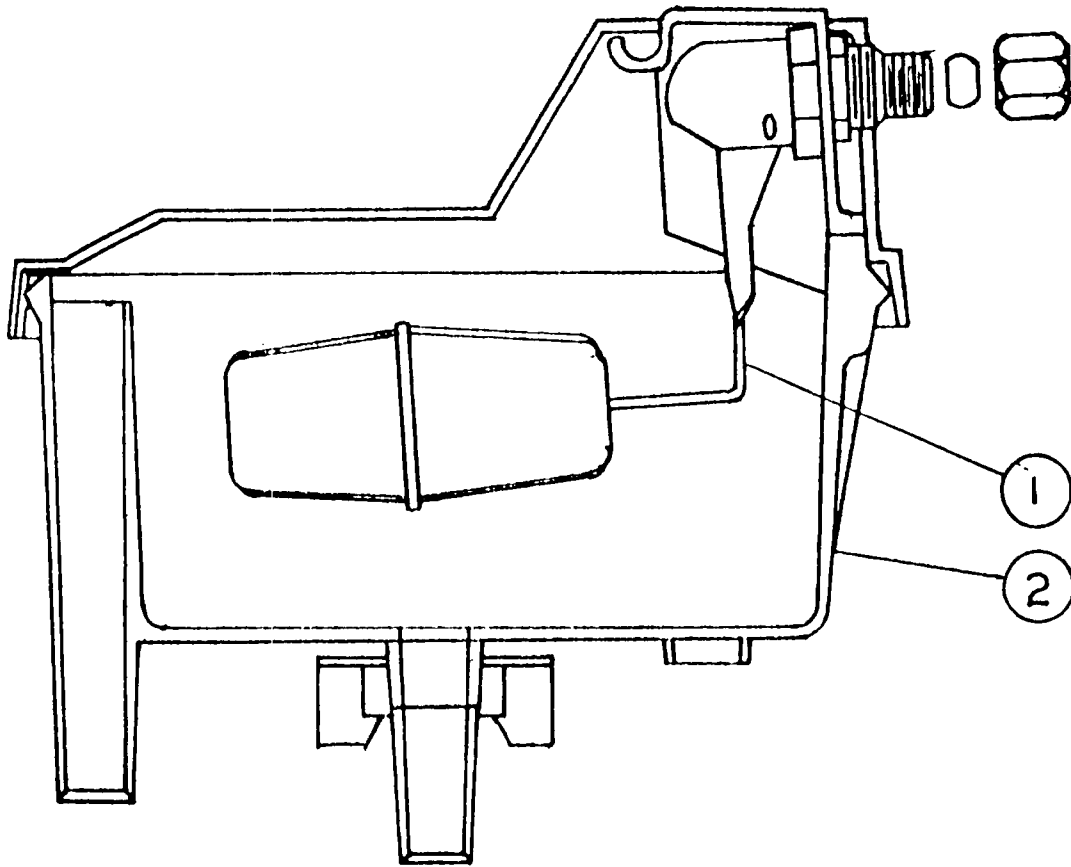


SF-75 FLAKER CHASSIS
B-MODEL

15-0175-01



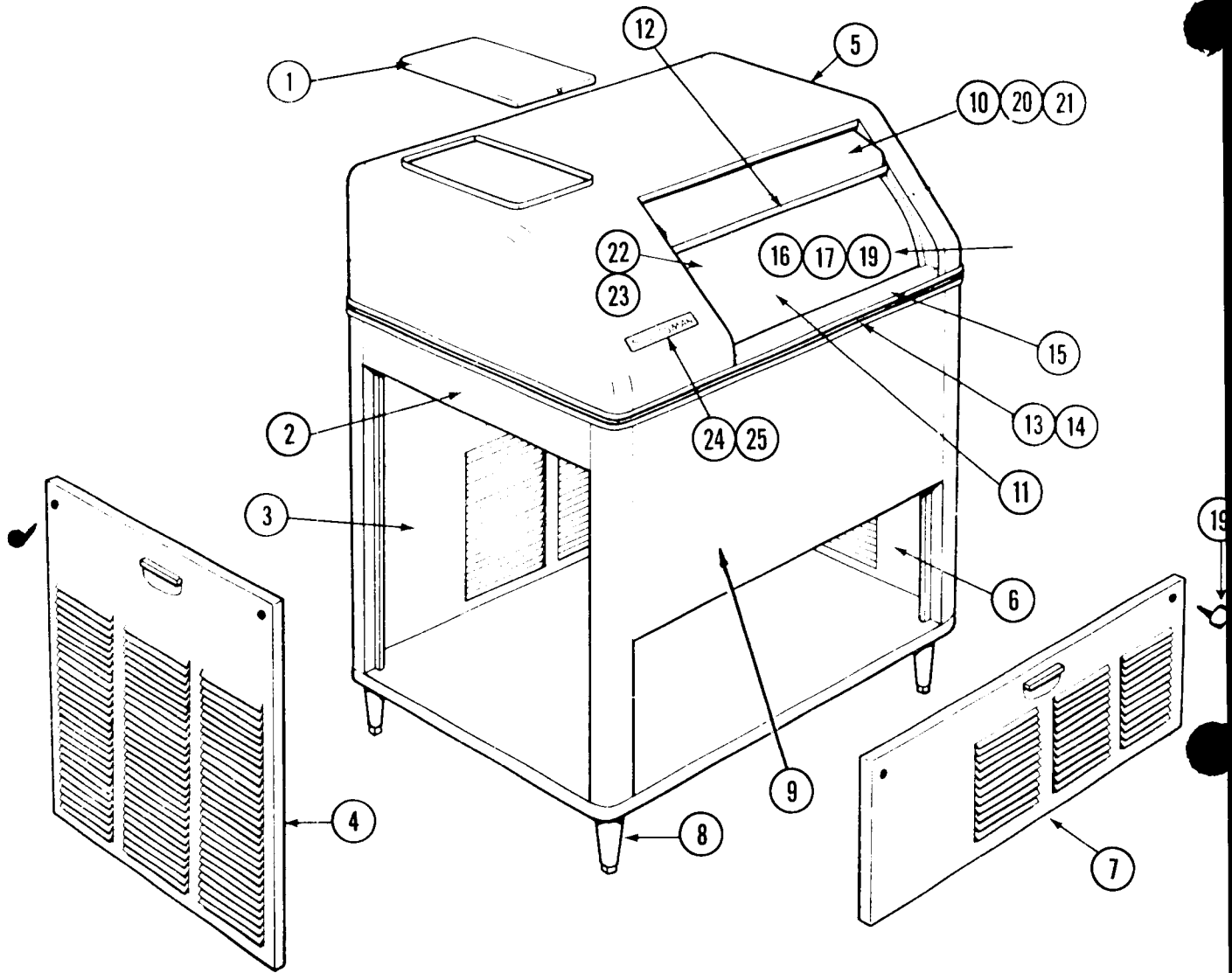
Item No.	Part No.	Name
1.	A16360-000	Spout Pressure Plate
2.	A16357-000	Spout (less plate)
3.	A14975-000	Switch Box Assy.
4.	12-1018-00	Switch
5.	A14256-000	Nut
6.	A14254-000	Front Spout Casting
7.	13-0679-00	"O" Ring
8.	03-1403-53	Screws
9.	03-1417-07	Washers
10.	A18430-000	Spout Plate
11.	022217-01	Reservoir
12.	A27212-020	Freezer
13.	A25995-021	Gear Reducer
14.	A18301-000	Shoulder Bolt (4)
15.	13-0115-00	Grommet (4)
16.	03-1407-005	Washer (4)
17.	03-1407-009	Washer (4)
18.	16-0560-00	Schader type lo side
19.	18-4700-01	valve core
20.	18-4700-30	Compressor 115/60/1
21.	18-4700-29	Relay
22.	A15050-000	Capacitor
23.	A15071-000	Overload
24.	A08736-000	Spout Insulation, left Spout Insulation, right Tin Straps (2)



RESERVOIR ASSEMBLY

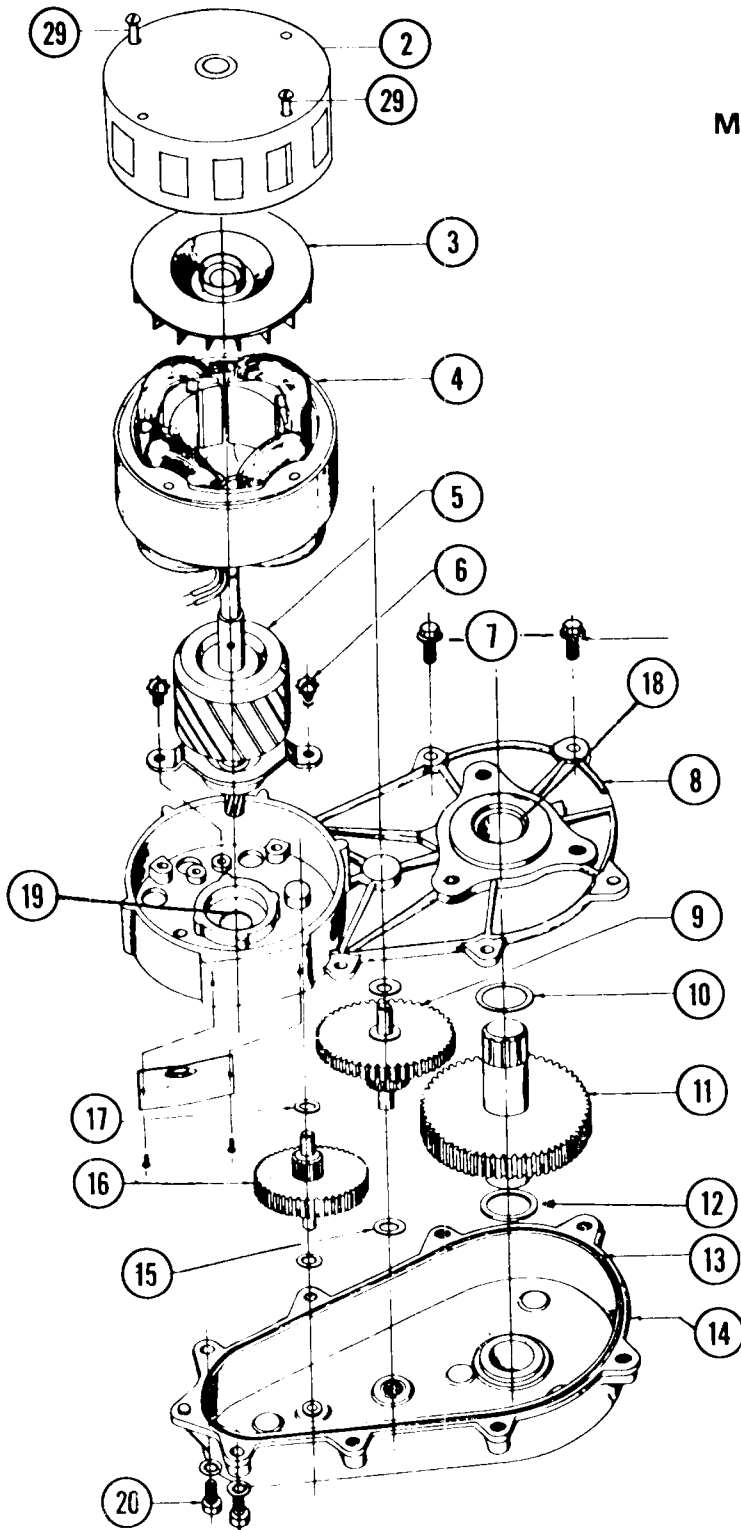
Item No.	Part No.	Description
1.	02-2217-02	Valve Assy.
2.	02-2217-01	Reservoir Complete ✓

SF-75 CASE AND HOOD ASSEMBLY



Item No.	Painted Part No.	S.S. Part No.	Description	Item No.	Painted Part No.	Description
1.	A06767-008	A06767-005	Top Door Assy.	13.	A06510-000	Front Moulding
2.	A07714-008	A07714-005	Left Panel	14.	15-0324-00	Insert (order per foot)
3.	A16563-008	A16563-002	Back Door	15.	A16208-000	Door Track Assy.
4.	S09405-008	S09405-005	Left Door	*16.	02-1741-00	Drain Fitting, Top
5.	A20939-008	A20939-001	Hood Assy.	*17.	02-1742-00	Drain Fitting, Bottom
6.	A16561-008	A16561-002	Right Door	*18.	13-0617-11	Drain 'O' Ring
7.	A16563-008	A16563-002	Front Door	19.	03-1419-09	Screws, Panel
8.	KLP2E	KLP2S	Legs Optional (4 in set)	*20.	03-0640-00	Door Glides
9.	A18291-008	A18291-001	Case Assy.	*21.	03-1195-00	Door Glides, Hood
10.	02-1735-01	A15559-000	Door Assy.	22.	02-1615-00	Bulb Holder
Common to all				23.	13-0557-00	Grommets
11.	A18891-000		Storage Bin Assy.	24.	15-0156-00	Emblem
*12.	02-1616-00		Door Catch	25.	03-0271-00	Speed Nuts (2 req'd)

*Not Shown



M NO.	PART NO.	DESCRIPTION
1.	03-1246-00	Set Screw (2)
2.	A17047-000	Motor Housing
3.	A16915-000	Cooling Fan
4.	12-1400-01	Stator Assy.
5.	A26454-001	Rotor Assy & 1st Gear
6.	03-1245-00	Screws (6)
7.	03-1251-00	Flange Screws
8.	A24184-001	Gear Case Cover
9.	02-1521-00	Gear and Pinion
10.	03-1408-25	Washer
11.	A26650-001	Gear and Output Shaft
13.	02-1505-00	"O" ring
14.	A16919-000	Gear Case Assy.
15.	03-1408-06	Washer
16.	02-2224-01	1st Gear and Pinion
17.	03-1408-20	Washer
17.	03-1407-19	Washer
18.	02-1503-00	Grease Seal
19.	02-1504-00	Grease Seal
20.	03-1252-00	Screw (2)
21.	08-0579-00	Switch Bracket
22.	03-1403-43	Motor Bolts

A25995-021 Gear Motor Assy. Complete

Output Shaft turns at 11.5 RPM

GEAR MOTOR ASSEMBLY

1/10 H.P.

115/60/1

SERVICE ANALYSIS

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Unit will not run	Blown Fuse Thermostat set too high Loose electrical connection Switch in OFF position Inoperative master switch	Replace fuse and check for cause of blown fuse. Adjust thermostat. 35° cut-out and 45° cut-in. Check wiring. Turn switch to ON. Replace switch.
Compressor cycles intermittently	Low voltage Dirty Condenser Air circulation blocked Inoperative condenser motor Non-condensable gases in system	Check for overloading. Clean. Move unit to correct Replace. Purge off.
Making wet ice	Surrounding air temperature Over 100 Degrees Under or over-charge of refrigerant High water level in water reservoir Faulty compressor	Correct or move unit to Cooler location Recharge with the proper amount. Lower to 1/4 inch below overflow pipe. Repair or replace.
Low ice production	Loss of refrigerant, under or over-charge of refrigerant. Dirty or plugged condenser Low water level in water reservoir reservoir Partial restriction in capillary tube or drier Inlet water strainer partially plugged. Corroded or stained worm shaft due to water condition	Check and recharge with proper amount of refrigerant. Clean condenser Adjust to 1/4 inch below overflow pipe. Moisture in system. Over-charge of oil in system. Remove charge and drier. Replace and recharge system. Remove screen and clean. Remove worm shaft and clean.
Machine runs but makes no ice	Loss or under-charge of refrigerant Drive gearmotor or drive coupling stripped. Water not entering freezing chamber Moisture in system Water seal leaking	Check for leaks and recharge Check. Repair and/or replace Plugged strainer or supply line. Check and clean. Air lock in gravity feed line. Check and remove air lock. Check and remove charge and Drier. Replace and recharge. Replace seal.

MAINTENANCE INSTRUCTIONS - FLAKERS

THE FOLLOWING MAINTENANCE MUST BE ACCOMPLISHED TWO TIMES PER YEAR ON ALL SCOTSMAN FLAKERS. CALL YOUR AUTHORIZED SCOTSMAN SERVICE DEPARTMENT.

1. Check and clean water strainers and float valve. Depress float valve to insure full stream of water.
2. Check water level and machine level, keep water level below overflow, but as high as possible and still not run out of spout opening with machine off. Water droplets come out of spout with ice at all times. Adjust as required.
3. Clean reservoir and interior of freezer using SCOTSMAN Ice Machine Cleaner.
 - A. If machine has been cleaned regularly and no problems such as dry ice or chatter are noticed, clean as per the following instructions:
 - a. Set main switch to OFF.
 - b. Remove all ice from storage bin.
 - c. Turn off water supply or block float. Drain reservoir.
 - d. Set main switch to ON and pour cleaning solution into reservoir. Do not fill above overflow tube.

Models SF75—Use 4 oz. of Scotsman cleaner and 1 qt. hot water.
 - e. Continue to make ice on solution until the solution is used up and reservoir is empty.
 - f. Set main switch to Off. Wash and rinse reservoir, turn water on or remove float block.
 - g. Turn MAIN SWITCH to ON. Let unit run for at least (15) minutes to flush out any cleaning fluid. Check ice for acid taste.—run until ice tastes sweet.
 - h. Turn MAIN SWITCH to OFF. Add hot water to ice bin, using this melt water, thoroughly wash and rinse all surfaces within the storage bin.
 - i. Turn MAIN SWITCH to On. Replace Service Door. Unit is ready for normal operation.

MAINTENANCE INSTRUCTIONS (Continued)

NOTE: Cleaning requirements vary according to local water conditions. Visual inspection of the auger before and after cleaning will indicate best procedure to be followed in local areas.

4. Check high and low side pressures. On air-cooled models head pressures range between 130 and 145 PSI. Suction pressure should be above 12 PSI and will range up to 16 PSI depending upon water and ambient temperatures.
5. Check gearmotor operation. Normal running temperatures are in the area of 160° Fahrenheit, which is hot to the touch.
6. Check top bearing of freezing tube. Remove retainer ring around edge of stamped brass cap. If moisture is around bearing, wipe up and remove grease. Add new grease. Replace cap and retainer ring.
7. Clean air-cooled condenser. Inform customer to clean frequently. Always shut off machine when cleaning.
8. Oil condenser fan motor when possible.
9. Check for refrigerant leaks and proper frost line. Should frost out of accumulator at least one-half way to compressor, and in some areas back to service valve.
10. Check for water leaks. Tighten drain line connections. Run water down bin drain line to make sure it is open.
11. Check quality of ice. Ice should be wet when formed, but will cure rapidly to normal hardness in bin.
12. Check thermostat and pressure plate cut off in spout. Micro switch cuts off only compressor. Bin thermostat should be set at 10° differential and should keep entire machine off at least twenty minutes in high ambients (longer in low) during normal operation. Settings are 35° cut out, 45° cut in.

CARE OF STAINLESS STEEL STORAGE BIN LINERS

All commercial grades of stainless steel will corrode or rust when in contact with certain chemicals or salts. One element that attacks stainless readily, is chlorine, and most compounds of chlorine, such as hydrochloric acid, and certain salts containing chlorine. The "speed" with which this corrosion takes place depends on the concentration of the chlorine, and the length of time it is left in contact with the stainless steel.

ICE BIN LINER RUSTING

In many ice bin applications, a rust stain, or brown deposit, will appear at the top of the side and rear walls of the bin liner, and also on any exposed stainless parts inside the bin, which do not normally get covered with ice; such as stainless steel door back pans. The lower portions of the liner walls usually stay clean if the bin is being used regularly, due to the "washing" action of the ice and meltage water draining down these walls. This brown staining on the liner may appear more rapidly in some installations than other, depending on the way the ice is being made in the ice machine, and the water conditions.

This staining or rusting, can come from basically two sources:

1. Foreign materials—For example; many ice machine casings are made of painted steel. If this steel should be exposed at the joint where the ice machine sits on the bin, it could rust, and the rust stain could "drip" down the liner walls. Also, particles of plain steel could fall down into the bin and, in turn, start rusting.
2. Materials expelled during ice making—Practically all icemakers produce clear ice by "freezing out the impurities" normally found in tap water. Chlorine gas, other gases and solids, are expelled during the making of ice. Being heavier than air, these foreign materials drop down into the bin through the same opening that the ice enters the bin. (This oftentimes explains why this staining is more noticeable on an installation where the opening on the bottom of the ice machine is quite large). The chlorine gas will combine with water vapor and condense on the liner walls as a mild hydrochloric acid. Above the normal ice level, this never gets removed by the action of the ice, and will eventually form a brown stain.

CLEANING OF A STAINLESS STEEL BIN LINER

Because the brown staining or rusting is due to expelled material during ice-making, **every bin liner should be cleaned periodically**, to prevent this staining from causing pitting of the stainless steel. The time between cleanings will depend on the water conditions, type of ice machine, etc. **It may be necessary only every 3 to 6 months.**

1. **General Cleaning** — When the staining is light, it can usually be removed by washing with ordinary cleaning powder, such as Bon-Ami, or Copper Glo, and water. (Do not use cleaners that contain bleaching agents, as most of these are compounds of chlorine.) After cleaning, rinse thoroughly with clear water.

It may be necessary to use a stainless steel wool to remove bad stains. **DO NOT USE** plain steel wool, as the steel particles will get imbedded in the liner and cause more serious rusting.

2. **Cleaning of heavy deposits** — If the liner has not been cleaned for a long time, and heavy deposits and pitting have occurred, a chemical cleaner may be necessary. Several of these are as follows:

Oakite No. 33, Oakite Products, Inc., 19 Rector St., New York, N.Y. Texo No. 12, and Texo-N.Y., Texo Corp., 2200 Dana Ave. Cincinnati 7, Ohio. Metalprep No. 10, Nelson Chem. Co., 6564 Benson St., Detroit 7, Mich, Dilac, Diversey Corp., 1820 Roscoe St., Chicago 13, Illinois.

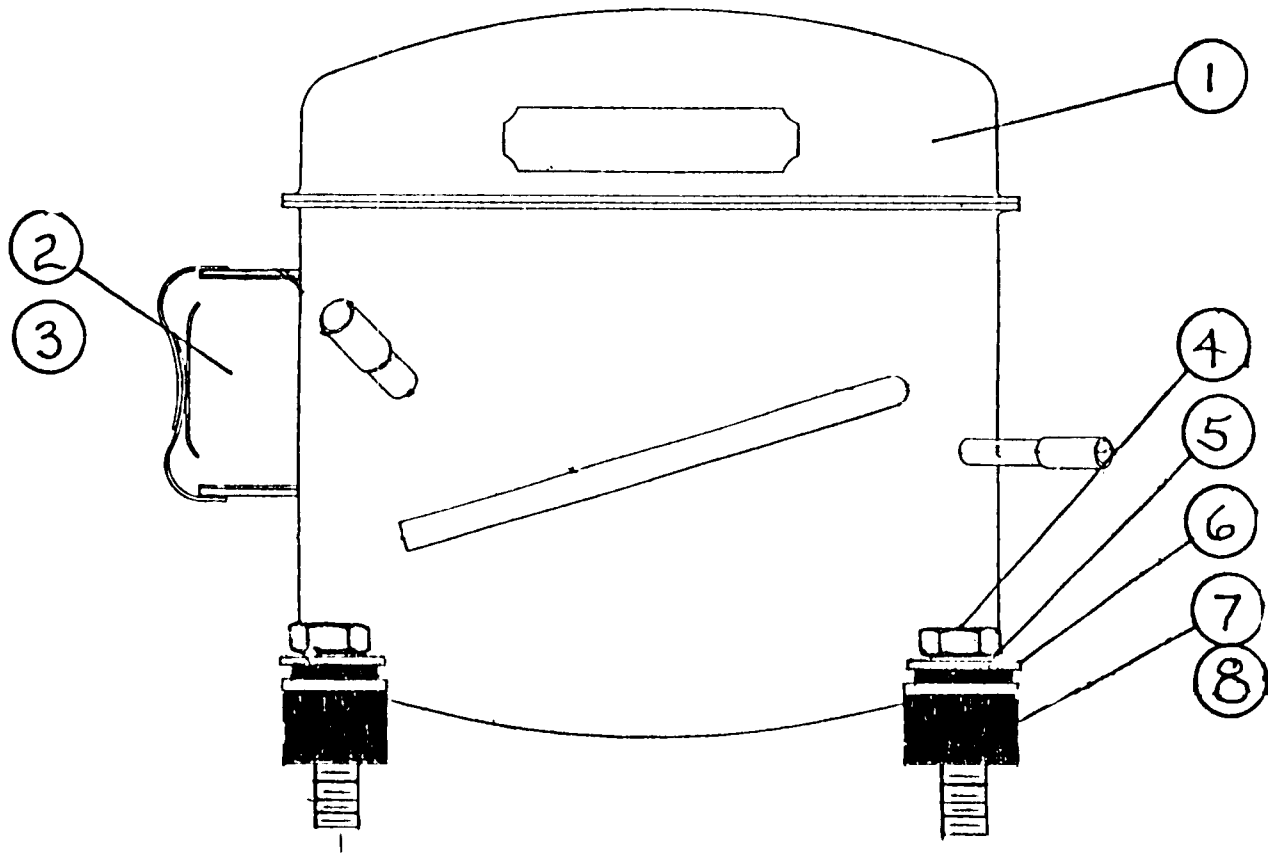
A solution of one part cleaner and two parts water is used. First, wash the bin liner thoroughly with water and soap as described above. Then simply swab the solution on the area to be cleaned, and allow to stand for about 20 minutes. Rinse with clear water. If this doesn't completely remove the deposit, repeat the procedure.

Synthetic rubber gloves should be used by the operator, and goggles and aprons are advisable even though the solution is relatively nonhazardous.

These cleaners may possibly harm paint, wood, or fabrics, They will probably cause a dull grey color on galvanized steel and should not be allowed to remain long in contact with rubber. Therefore, provision should be made to avoid contact with such materials when cleaning stainless.

3. **Protection of Stainless Steel against further staining** — After the stainless steel has been cleaned, installations where the staining is recurring so frequently, the surface should be rejuvenated. This process restores the characteristic to the surface of the stainless, that best prevents corrosion.

First, be sure that the liner is clean and is thoroughly rinsed with water. Then use a nitric acid solution of two parts water to one part nitric acid (by volume). Swab this on the liner and allow to stand for about 30 minutes. Rinse the liner with clean water. This will then provide maximum corrosion resistance.



COMPRESSOR ASSEMBLY
115/60/1

ITEM NO.	PART NO.	DESCRIPTION		
1.	18-4700-01	Compressor		
2.	18-4700-30	Relay - Tecumseh	820RR12B11	GE3ARR12-WR17
			82003CRB15	TI3CR211-179
3.	18-4700-29	Overload - Tecumseh	830MRTC21	TIMRT28AGK-298
4.	03-1405-20	Screw		
5.	03-1410-04	Lockwasher		
6.	03-1408-29	Flat Washer		
7.	18-4700-28	Mounting Grommet		
8.	18-4700-29	Mounting Sleeve		