

## TABLE OF CONTENTS

Table of Contents .....	1
Mechanical Specifications .....	2
Specifications – Continuous Flow .....	3
Photo – Continuous Flow .....	4
Specifications with Storage .....	6
Machine Description .....	7
Preparation for Installation .....	8
Selecting Location .....	9
Installation .....	10-11
Refrigerent Cycle .....	12
Water Schematic .....	13
Wiring Diagram – Air Cooled .....	14
Wiring Diagram – Water Cooled .....	15
Final Check List .....	16
Service:	
Starting Machine .....	17
Refrigerent Charge .....	17
Water System .....	18
Electrical System .....	18
Disassembly Procedures:	
Cabinet Assy .....	19
Water Reservoir .....	19
Freezer Assy .....	20
Freezer Worm Shaft .....	20
Water Seal .....	20
Electrical Components .....	21
Freezer Gearmotor .....	21
Compressor .....	21
Parts Breakdown	
Control Box .....	22
Reservoir Assy .....	23
Gear Motor Assy .....	24
Freezer Assy .....	25
Chassis Assy – Water Cooled .....	26
Chassis Assy – Air Cooled .....	27
Case Assy Cont. Flow .....	29
Case Assy with Storage .....	29
Service Analysis .....	30-31
Maintenance Instructions .....	32

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**MECHANICAL SPECIFICATIONS**

	<b>SF-2J</b>	<b>SF-2WJ</b>
Compressor	3/4 HP	3/4 HP
Condenser	Air Cooled	Water Cooled
Refrigerant	33 oz. R-12	30 oz. R-12
Refrigerant Control	Capillary Tube	Capillary Tube
Power Consumption - Amps.	19.45	18.60 Voltage - Std. Unit
Voltage-Std Unit	115V - 60 cycle	115V - 60 cycle
Gear Drive Motor	1/4 HP	1/4 HP

\* Copelaweld model No. RSL2-0075-1AA-218

<b>DIMENSIONS</b>	<b>SF-2J</b>	<b>SF-2WSJ</b>
Width	20"	49-1/4"
Depth	24-1/2"	24-1/2"
Height less legs	43-1/2"	43-1/2"
Height w/legs	49-1/2 to 50-1/4"	49-1/2 to 50-1/4"
Shipping Weight	295 lbs.	415 lbs.

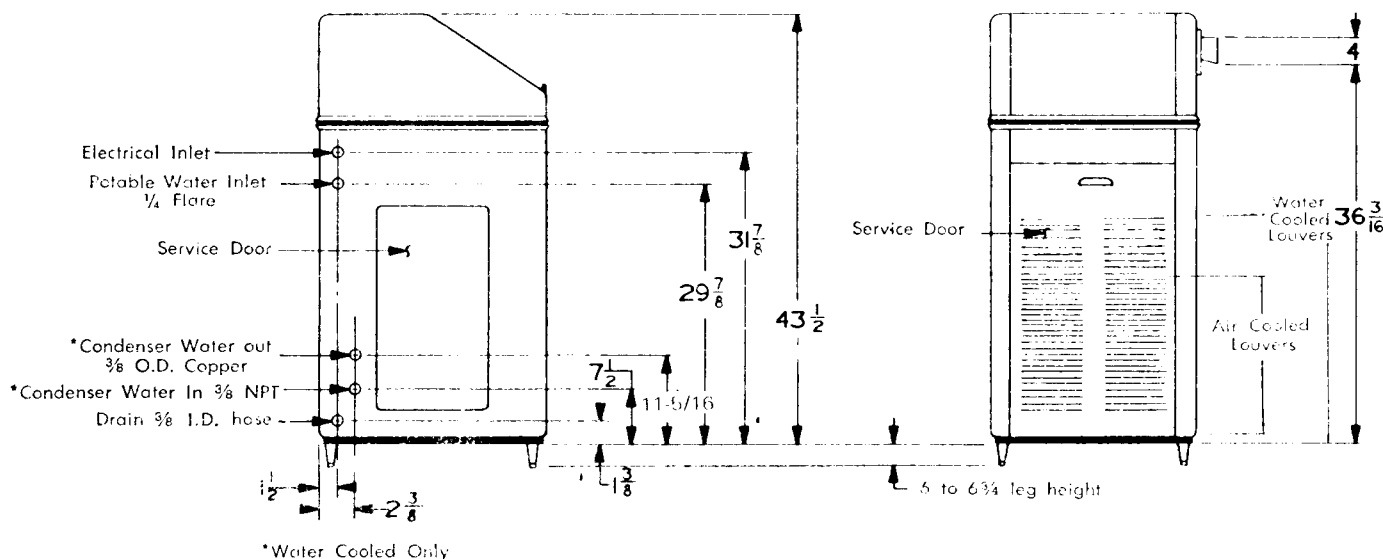
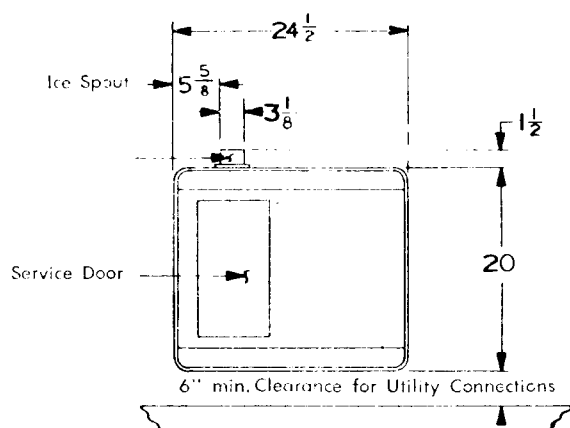
## SPECIFICATIONS

SUPER FLAKER SF-2 SERIES (Continuous Flow)	MODEL SF-2J	MODEL SF-2WJ	MODEL SF-2J-SS	MODEL SF-2WJ-SS
CONDENSER, Air Cooled	X		X	
CONDENSER, Water Cooled		X		X
COMPRESSOR 3/4 HP	X	X	X	X
FINISH, Hammerloid Grey	X	X		
FINISH, Stainless Steel			X	X
SHIPPING WEIGHT	290	295	290	295

STANDARD ELECTRICALS	MINIMUM WIRE SIZES	TOTAL AMPERAGES
115/60/1	2 wire 10 gauge	19.45 Amperes (Air)
115/60/1	2 wire 10 gauge	18.60 Amperes (Water)

CAPACITY: Refer to Production Chart  
 STORAGE BIN: 500, 750, or 1000 lb.  
 Stainless Steel Lined  
 DEPTH: 24-1/2"

WIDTH: 20"  
 HEIGHT: (with legs) 49-1/2" to 50-1/4"  
 HEIGHT: (without legs) 43-1/2"



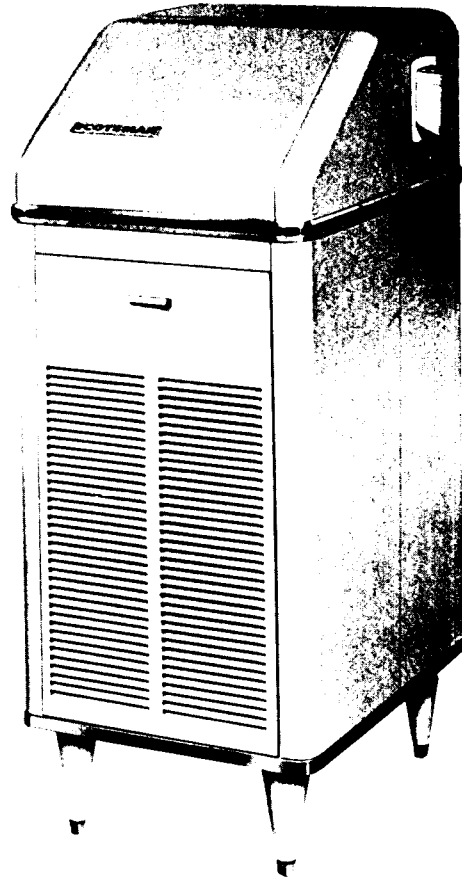
# SCOTSMAN<sup>®</sup>

## SUPER FLAKER

### SF-2J

### SERIES

## Continuous Flow



## ice making capacity

Daily Ice Capacity is directly related to condenser air inlet temperature, water temperature, and age of machine. Average daily capacity at 90° air and 70° water is Air Cooled: 550 lbs. and Water Cooled: 640 lbs.

NOTE: To keep your SCOTSMAN SUPER FLAKER performing at it's maximum capacity, it is necessary to perform periodic maintenance as outlined on page 32 of this manual.

# SCOTSMAN<sup>®</sup>

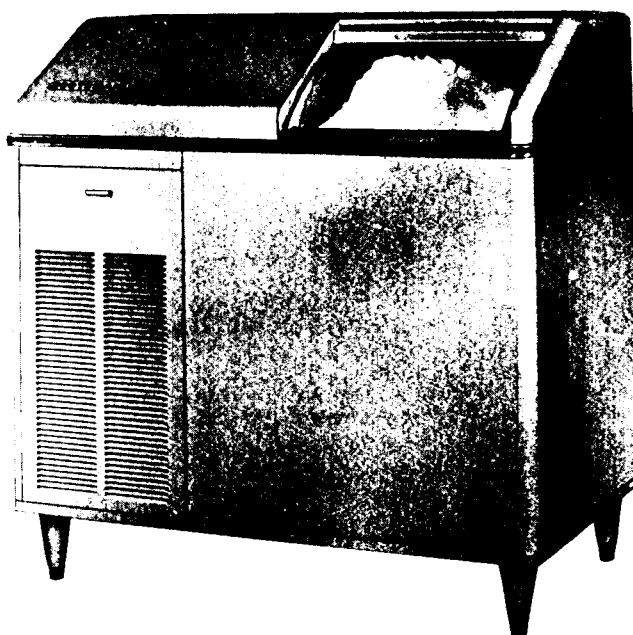
Page 5

## SUPER FLAKER

### SF-2J

### SERIES

### Storage Type



## ice making capacity

Daily Ice Capacity is directly related to condenser air inlet temperature, water temperature, and age of machine. Average daily capacity at 90° air and 70° water is Air Cooled: 550 lbs. and Water Cooled: 640 lbs.

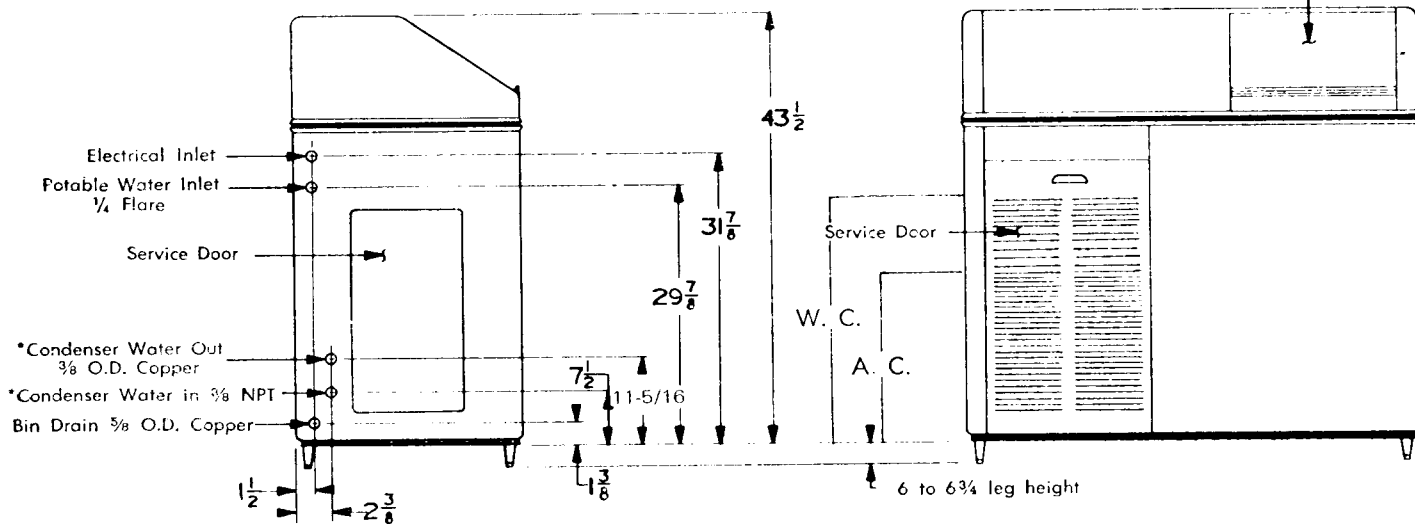
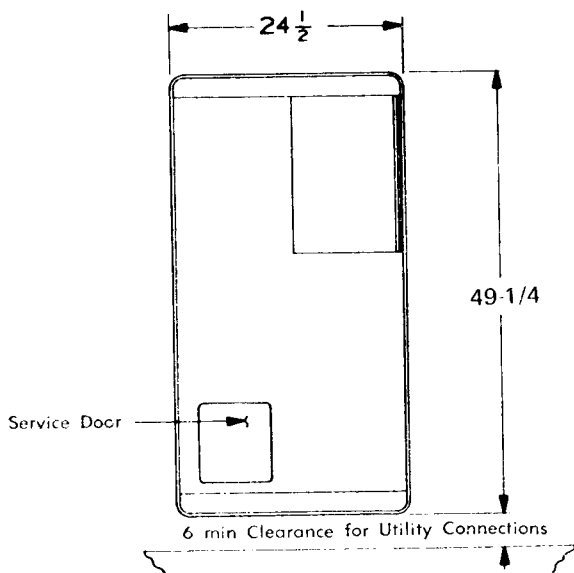
NOTE: To keep your SCOTSMAN SUPER FLAKER performing at it's maximum capacity, it is necessary to perform periodic maintenance as outlined on page 32 of this manual.

## SPECIFICATIONS

SUPER FLAKER SF-2 SERIES (Storage Type)	MODEL SF-2WSJ	MODEL SF-2WWSJ	MODEL SF-2WSJ-SS	MODEL SF-2WWSJ-SS
CONDENSER, Air Cooled	X		X	
CONDENSER, Water Cooled		X		X
COMPRESSOR 3/4 HP	X	X	X	X
FINISH, Hammerloid Grey	X	X		
FINISH, Stainless Steel			X	X
SHIPPING WEIGHT	415	415	415	415

STANDARD ELECTRICALS	MINIMUM WIRE SIZES	TOTAL AMPERAGES
115/60/1	2 wire 10 gauge	19.45 Amperes (Air)
115/60/1	2 wire 10 gauge	18.60 Amperes (Water)

CAPACITY: Refer to Production Chart  
 STORAGE BIN: 350 lbs. Stainless Steel Lined  
 DEPTH: 24-1/2"  
 WIDTH: 49-1/4"  
 HEIGHT: (with legs) 49-1/2" to 50-1/4"  
 HEIGHT: (without legs) 43-1/2"



\*Water Cooled Only

## SPECIFICATIONS

SCOTSMAN Super 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.

Approximately 600 pounds of SCOTSMAN crushed ice is delivered each 24 hours to the storage bin for immediate use.

SCOTSMAN Super Flakers are easily installed requiring only standard water, drain and electrical connections.

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

SEALED REFREIGERATION SYSTEM. Provides quiet, efficient operation of the machine. Compressor motor is internally spring mounted for quiet operation. Compressor motor is covered by a full 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 driven by a gearmotor drive.

All SCOTSMAN Models SF2J and SF2WSJ are completely automatic. A manual switch in control box 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.

Model No. SF2J is a continuous flow type machine, and is manually started by an OFF and ON switch located inside the cabinet as are the SF-2WSJ models. Since the SF-2J does not have its own attached bin, it is necessary to use an auxillary bin such as the Model SB-500 SCOTSMAN Super Bin for ice storage. A bin thermostat is mounted in each SF2J continuous flow type machine for the purpose of mounting control bulb from machine to bin.



## SCOTSMAN SUPER FLAKERS PREPARATION FOR INSTALLATION

### 1. UNCRATING

The entire unit comes in one crate. Upon delivery a visual inspection of the crate should be made 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. Remove crate by pulling nails driven through sides of crate into the bottom skid. A nail puller is best suited here. Next remove (4) four bolts from underside of skid which connect to complete unit base. Unit now free from all crating.

2. Remove all service doors and panels.
3. Remove water reservoir cover and take out paper packing around float ball.
4. Remove leg packages in compartment base and install 4 legs in unit base sockets. On continuous flow models with separate storage bins, legs are put on companion machine stand, not on Ice Maker.
5. Check motor compressor hold down nuts to insure motor compressor rides snug on mounting pads.
6. Remove water strainer from storage bin for installation on unit or in water supply line feeding unit.
7. 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.
8. 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.
9. Remove warranty card and Users manual from storage bin, then wipe bin clean with damp cloth.
10. Fill out warranty card completely including model and serial numbers as taken from aluminum plate found behind front service panel and forward to Scotsman Factory using self mailing card.
11. Level unit with adjustable legs.

## SELECTING LOCATION

**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 degrees 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 or 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 enough to eliminate any possible damage to the machine.

**WATER SUPPLY:** The recommended water supply line is 1/4 inch I.D. copper tubing for SF-2. Connect to cold water supply line with regular plumbing fittings, with a 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, particularly for water-cooled models.

On air-cooled models the water supply line connects to the 1/4 inch flare fitting on the machine. On water-cooled models connections are made to a 3/8 inch male pipe nipple inside of the machine compartment. Incoming water goes through the water regulating valve first and then to the water-cooled condenser. Observe arrow on water regulating valve. 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 1/4 inch pitch per foot. Drain must be installed to conform with local code. Run separate line for condenser discharge water on water-cooled models.

## INSTALLATION

### ELECTRICAL CONNECTIONS:

SF2WSJ  
 115 Volts, 60 Cycle, 1 Phase  
 30 Amp. Circuit

10 Gauge wire should be used for electrical hook-up. Conductors with third or ground wire are desirable.

Be certain that the Super Flaker is on its own circuit and individually fused. The maximum allowable voltage variation should not exceed 10 per cent of the nameplate rating even under starting conditions. Low voltage can cause erratic operation and may be responsible for serious damage to the overload switch and motor windings.

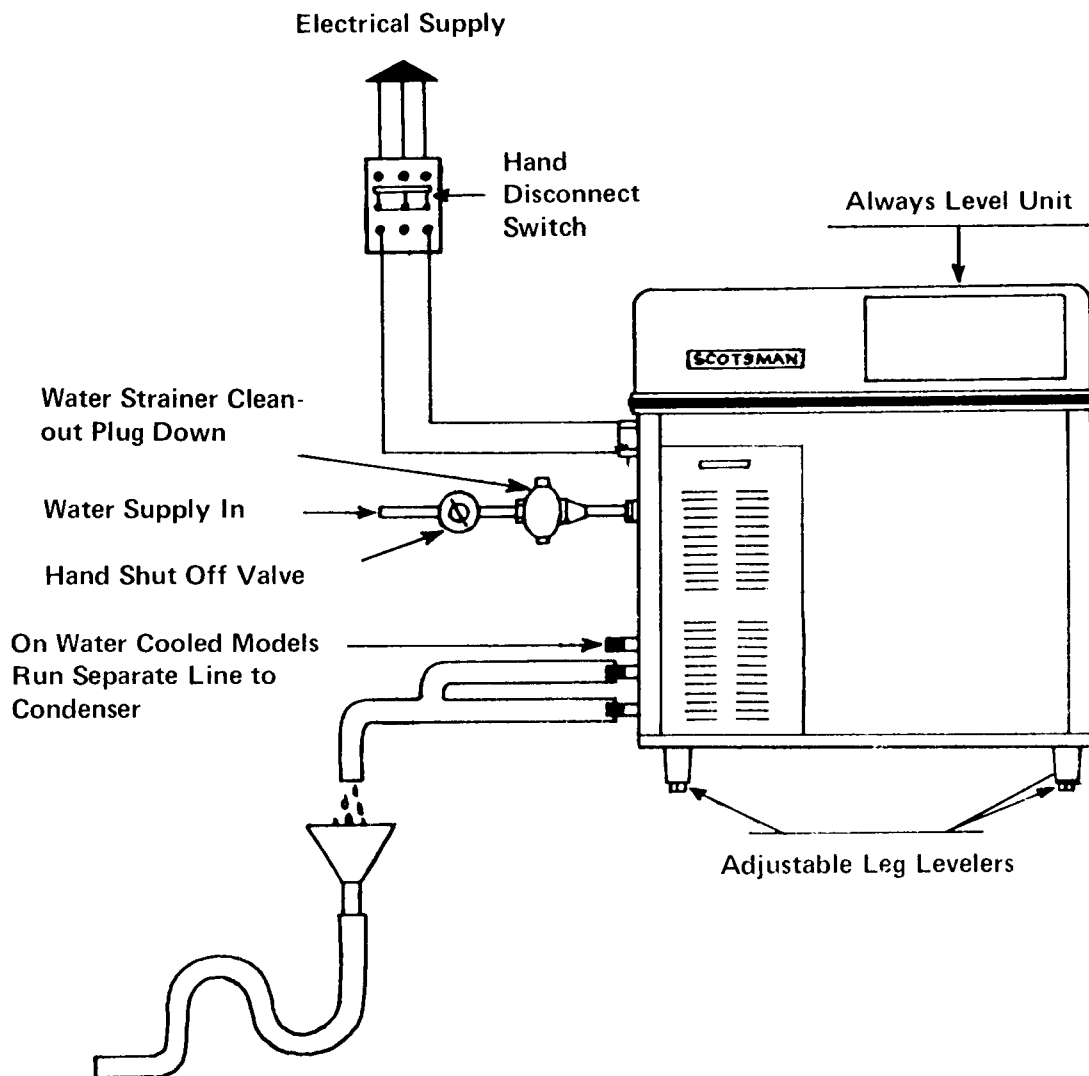
All external wiring should conform to the National Underwriters and local Electrical Code requirements. Usually an electrical permit and the services of a licensed electrician will be required.

### ELECTRICAL INSTALLATION:

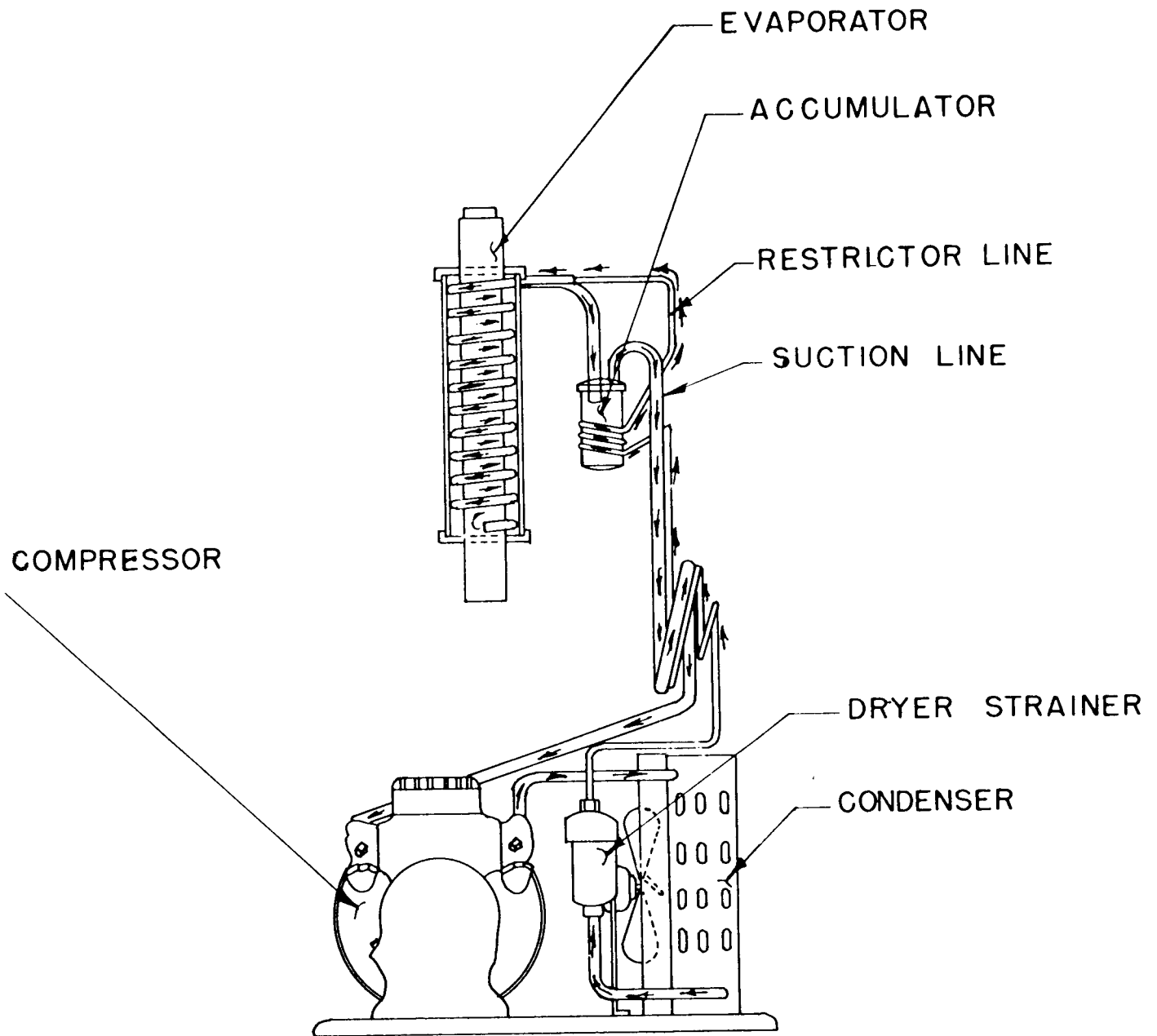
SF2WSJ

Compressor	3/4 HP	Copelaweld: RSL2-0075-1AA-218 2 pole, 3500 RPM
	Voltage	115
	Amp. rating F.L.A.	14.0
	Cycle	60
	Phase	Single
Gear Drive Motor	1/4 HP	Queen Products
	Voltage	115
	Amp. rating	4.6
	Cycle	60
	Phase	Single Thermally Protected

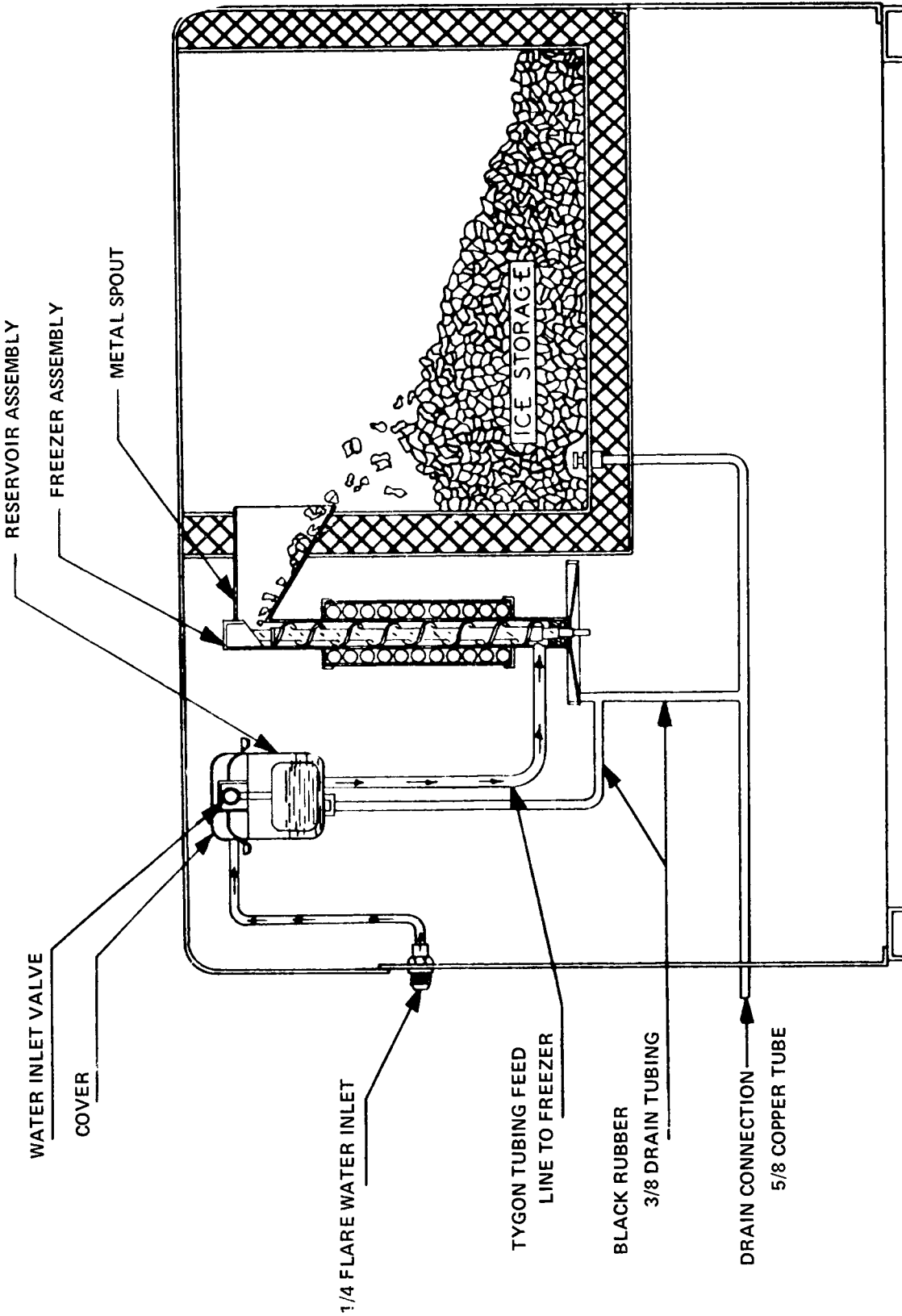
### INSTALLATION PRACTICE



Open Trapped or Vented  
Drain. Recommend 1/4 Fall  
per foot of run on drain lines.



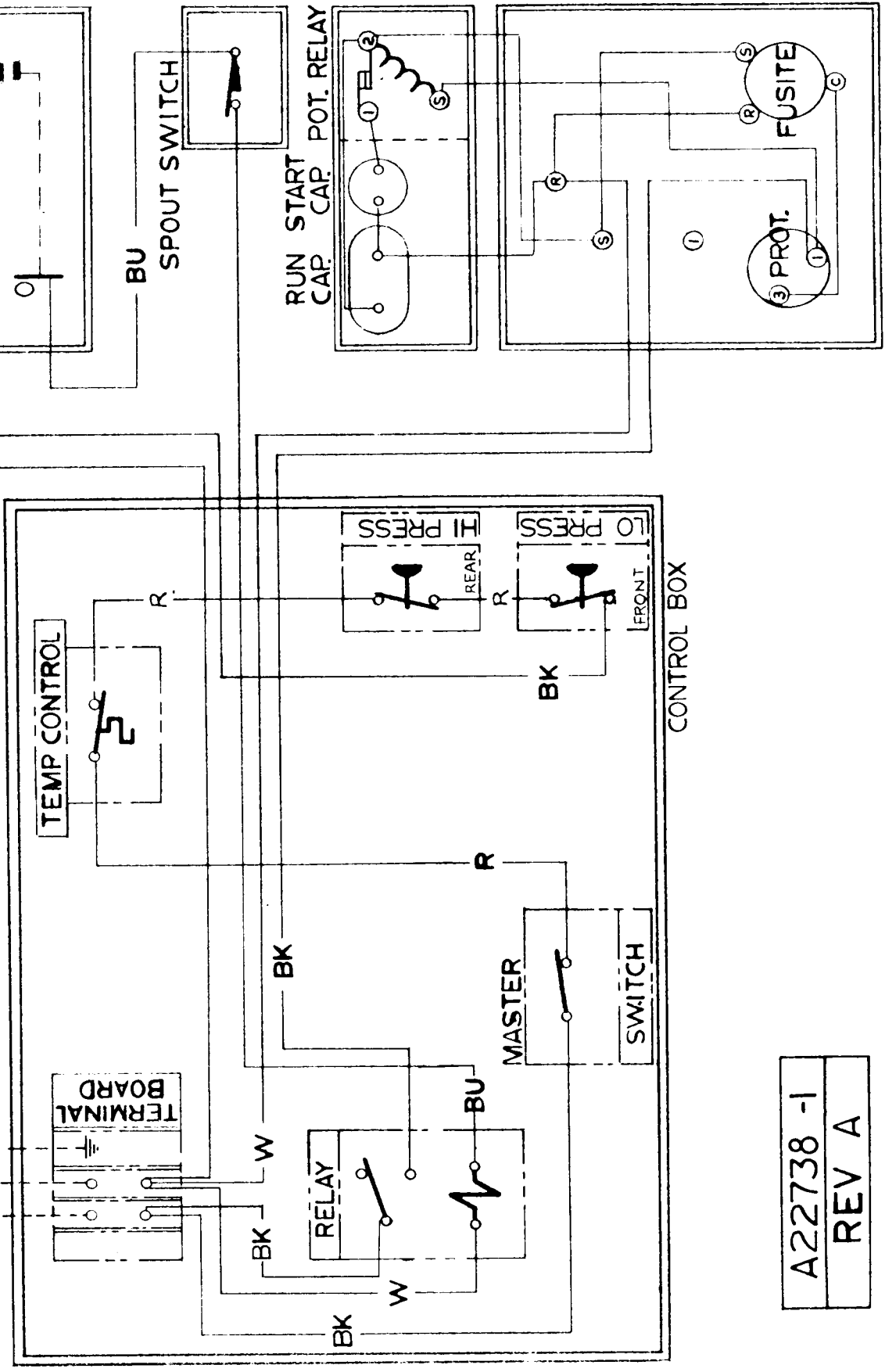
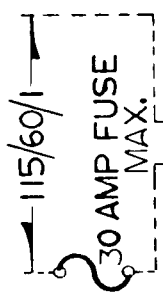
REFRIGERATION CYCLE SF-2 ALL MODELS



WATER SCHEMATIC  
SF-2WSJ

WIRING DIAGRAM  
SF-2J Water Cooled

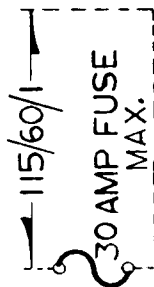
THIS UNIT MUST BE GROUNDED



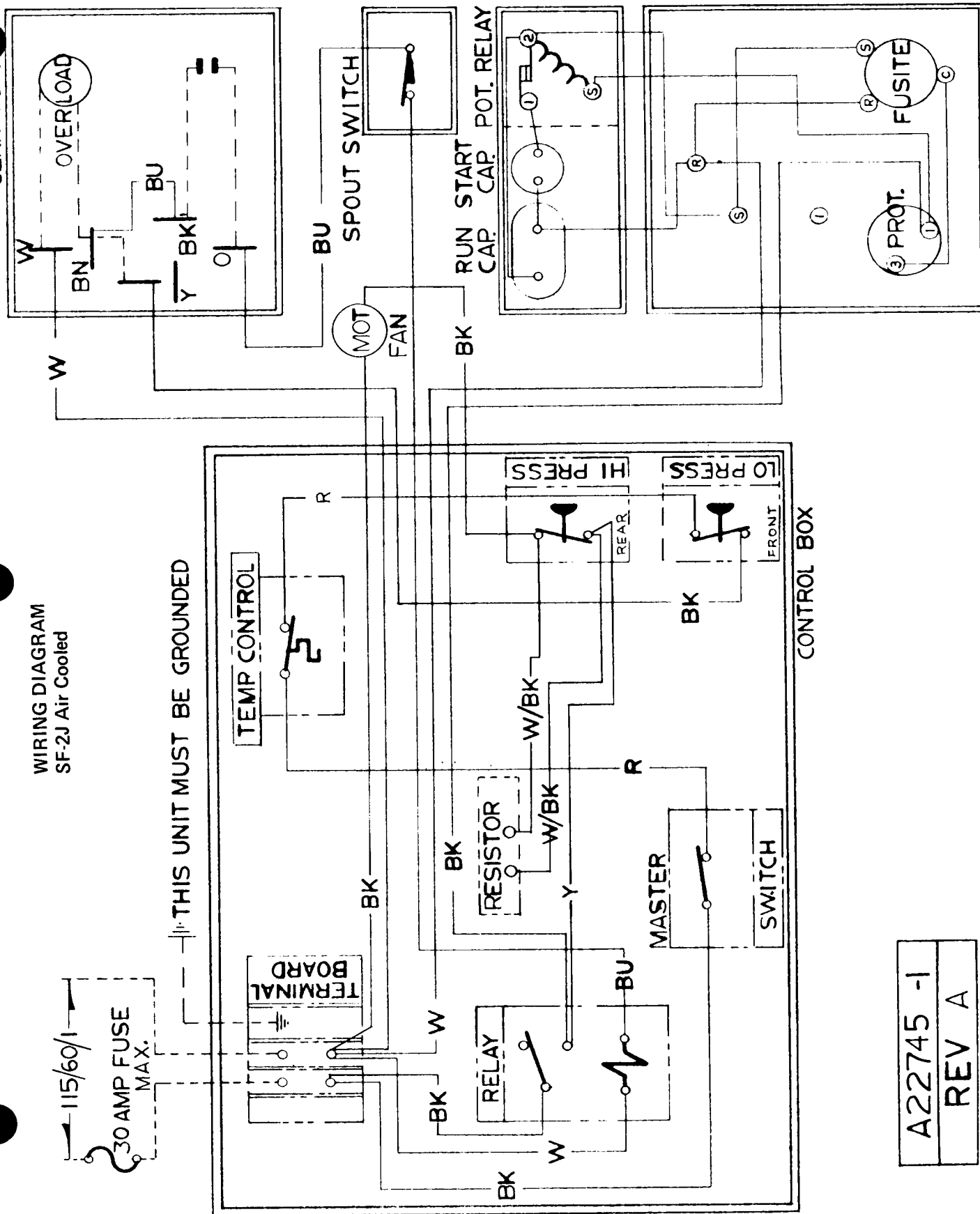
A22738 -1  
REV A

GEAR MOTOR

WIRING DIAGRAM  
SF-2J Air Cooled



THIS UNIT MUST BE GROUNDED



A22745 -1  
REV A



### 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? All packing removed?
6. Have unit and bin been wiped clean?
7. Has owner been given the Operating Instruction Sheet, and has he been instructed on how to operate the machine?
8. Have the installation and warranty cards been filled out and mailed to the factory?
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 and 45 degrees cut-in.

Check pressure settings at the time of start-up. On the water-cooled models set the head pressure at 135 PSI. On the air-cooled models the head pressure will vary between 130 and 145 PSI head pressure. The frost line should extend out of the accumulator if properly charged with refrigerant and suction pressure will range between 14 and 16 PSI with 50° F inlet water.

Check the hand reset low pressure control setting. This safety device should be set at approximately 5 PSI below normal operating suction pressure and should cut off in case of interruption in water supply, shortage of refrigerant, low ambient or any other cause of abnormally low suction pressure.

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 connections are available on both high and low side service valves on water cooled models, suction valve only on air cooled models.

To install gauges to any of these connections, use lines with tire type service valve adapter. Purge free of any non-condensable gases before starting any test operation.

**REFRIGERANT CHARGE:** The below refrigerant charge is approximate. When charging, set at 135 PSI head pressure and charge so that the frost line extends out of the evaporator and into the accumulator after fifteen minutes of operation.

Model	Freon Charge
Air-Cooled	33 oz. R-12
Water-Cooled	30 oz. R-12

## 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.

The water reservoir is equipped with a 2 inch 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 moulded in overflow well.

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

**ELECTRICAL SYSTEM:** The electrical circuit consists of condensing unit, gear motor, hand reset combination or low pressure cut-out, storage bin thermostat, on and off switch, micro (safety) switches and head pressure control.

A. Condensing Unit. The compressor terminal box houses the motor compressor terminal block, and the overload Klixon. To gain access to the terminal box, remove the two screws holding the beveled metal cover. The starting capacitors, running capacitors and starting relays are housed and fastened to the unit chassis frame.

B. Gear Motor. All Model SF2J series flakers are equipped with a direct drive gearmotor to freezer shaft. 1/4 Horsepower motors are split phase, output shaft turns at 10 R.P.M. manufactured by Queen Products.

C. High-Low Pressure Cut-Out. (Automatic reset on water cooled models only.) Dual pressure control is located on the frame assembly. Factory settings cut-out 5 lbs. on low pressure and 180 PSI on high pressure. This control prevents operation at abnormal pressures. Some models utilize reset low pressure - automatic reset high pressure control.

D. Low Pressure Cut-Out. (Hand reset on all air cooled models.) Control is located in the control box. Factory settings cut-out at 5 PSI. Safety device to cut off machine and keep it off in case of water supply failure, loss of refrigerant, low ambient temperature or other causes of low pressure.

E. Storage Bin Thermostat. Control located on frame assembly. Factory settings 35° cut-out, 45° cut-in. This control shuts off complete machine when ice in storage bin builds up to control.

F. Micro Safety Switch. The micro switch is located in the top of the ice chute. The switch is operated by a plate in top of the ice chute by the ice backing up in the chute should the thermostat fail. Micro switch will shut off the condensing unit only, when operated.

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

### Air Cooled Models

H. Head pressure Control Kit. A reverse acting high pressure control is used and connected electrically to the fan motor. As the head pressure drops below the cut-out setting, the control opens allowing the current to pass entirely through a resistor in the line feeding the fan motor. This slows the shaded pole motor down to approximately 1/4 speed thus increasing the head pressure. When the control cuts in the full voltage again flows directly to the fan motor allowing it to operate at full speed. This feature protects unit against low ambient conditions.

## 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 screws from edges.
2. Lift out door.

### CABINET SIDE SERVICE DOOR

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

### CABINET FRONT SERVICE DOOR

1. Front door pulls out.

### CABINET REAR SERVICE DOOR

1. Remove four screws on corners of rear service door.
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.

### 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.

## SERVICE

### FREEZER ASSEMBLY

1. Remove cabinet top (Hood). (See Removing and Installing Cabinet Parts.)
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 fiber adapter base to gearmotor top cover, lift freezer out of cabinet.
7. Remove fiber 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 drive 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.
10. Remove cap screw holding shaft through bearing and pull worm shaft free from ice breaker and bearing.
11. 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 drive coupling on bottom.
8. Replace ice breaker screws, insulation pieces and unit is ready to resume operation.

**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.

**MICRO SWITCH IN SPOUT**

1. Remove hood service panel.
2. Remove insulation pieces around freezer spout.
3. Remove micro box cover, loosen two screws at rear of box holding switch in place, lift up.
4. Disconnect electric leads.
5. Reassemble with new micro switch.

**MANUAL ON AND OFF SWITCH**

1. Remove front service door.
2. Remove two screws holding switch to bracket.
3. Disconnect electrical leads from switch.
4. Remove switch.
5. To replace, reverse procedure.

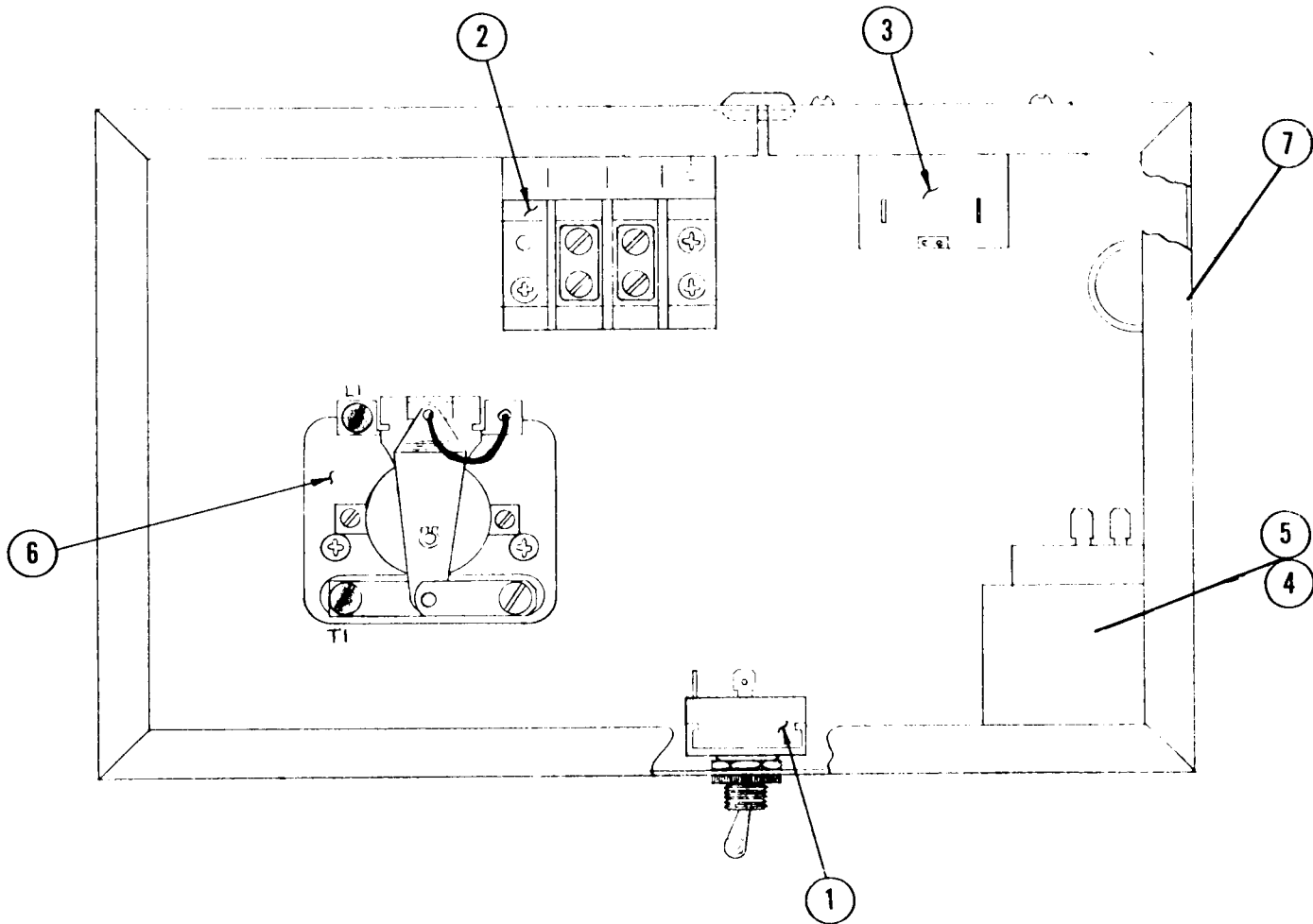
**FREEZER GEARMOTOR**

1. The easiest way to change the gearmotor is to remove complete cabinet hood as explained earlier in this section. If necessary because of location you can change by removing top service panel.
2. Pull off left side service panel and look up on underside of left side cabinet panel: 4 screws secure this gearmotor to frame.
3. Remove the four wire leads (2 on micro switch on top of motor, 2 from motor into control box.)
4. Remove 3 bolts thru fiber adapter into gearmotor cover and the 4 bolts holding gearmotor to mounting base.
5. Lift freezer adapter assembly off gearmotor and pull gearmotor out thru left side.

**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.

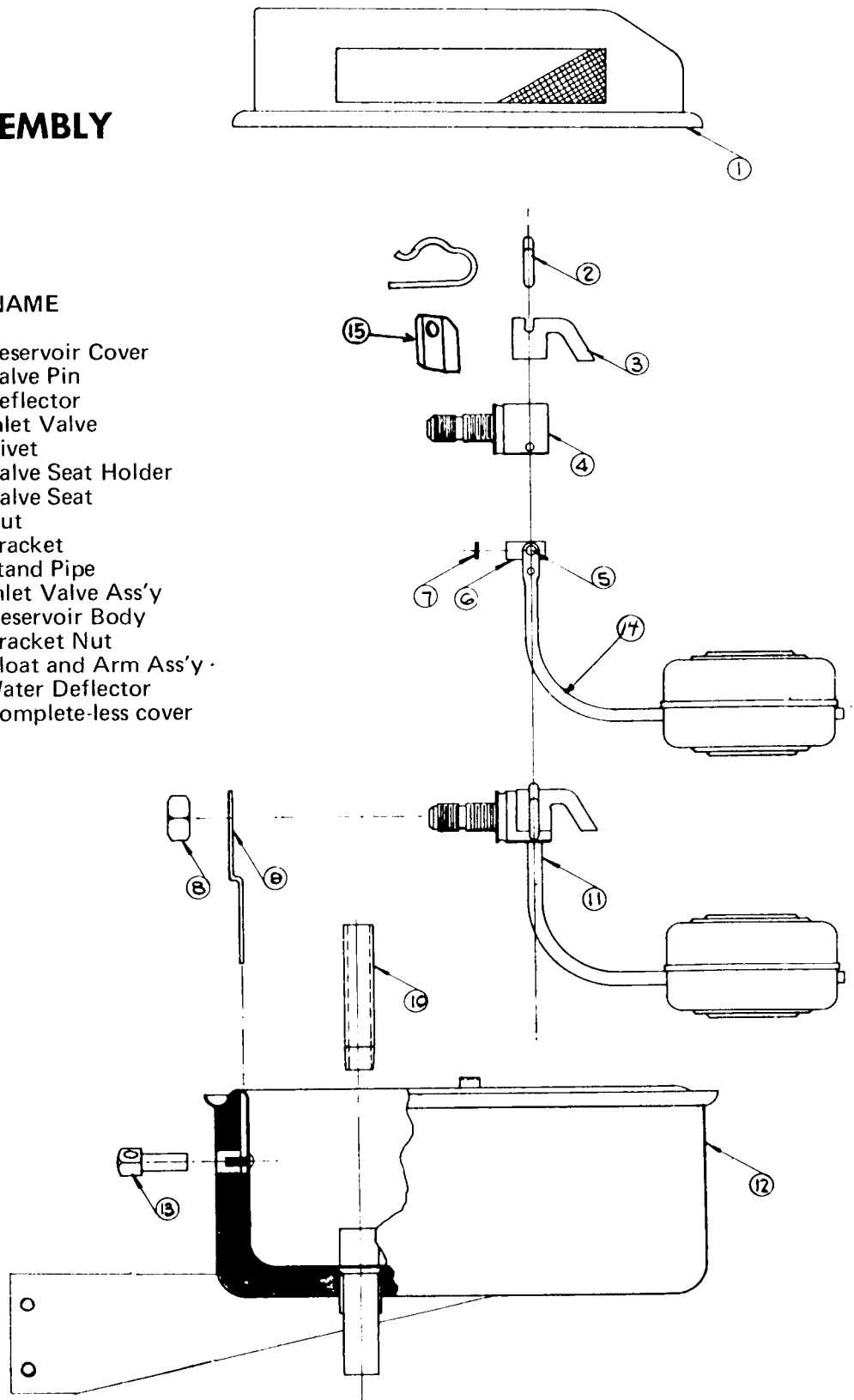
CONTROL BOX



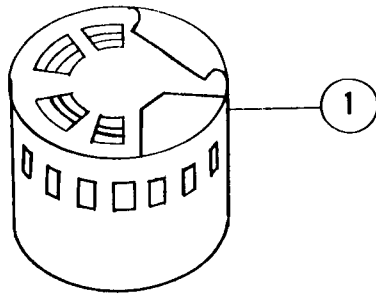
ITEM	PART NO.	DESCRIPTION
	A22737-1	Control Box Assembly (Water cooled) 115/60/1
	A22737-2	Control Box Assembly (Water Cooled) 230/60/1
	A22746-1	Control Box Assembly (Air Cooled) 115/60/1
	A22746-2	Control Box Assembly (Air Cooled) 230/60/1
1.	12-426-2	Switch – On-Off
2.	12-813-4	Terminal Board
3.	11-354	Bin Thermostat
4.	11-362	Fan Speed Control (Air Cooled only)
4.	11-357	High Pressure Control (Water Cooled only)
5.	11-358	Low Pressure Control
6.	12-419	Relay 115/60/1
7.	12-474	Resistor - Fan Speed 115/60/1
	12-562	Resistor - Fan Speed 230/60/1
		} Air Cooled Only

# RESERVOIR ASSEMBLY

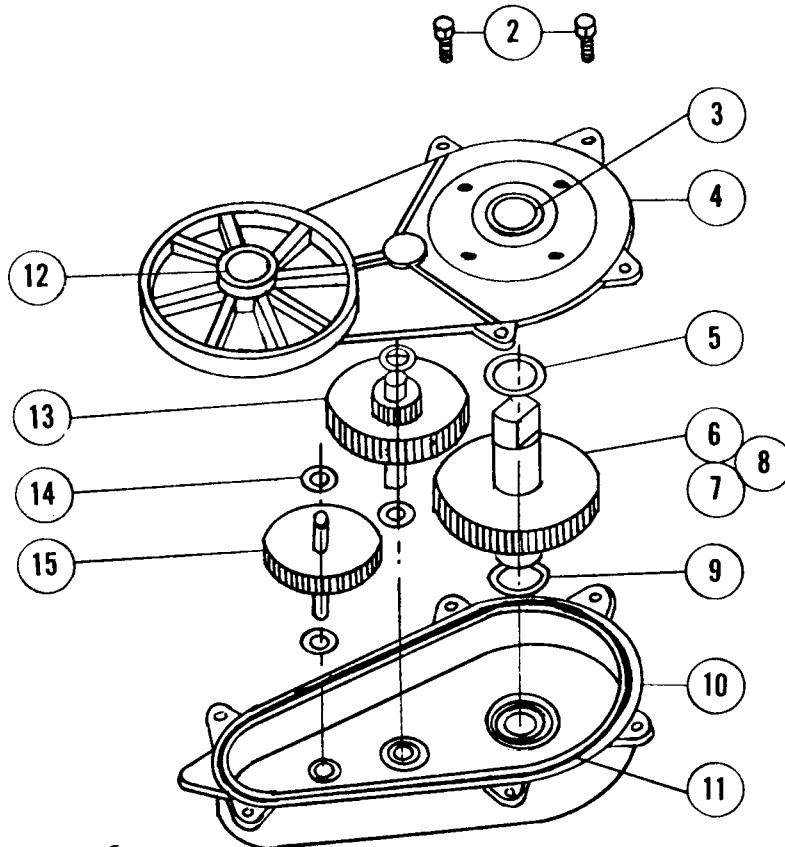
ITEM NO.	PART NO.	NAME
1.	A-16012	Reservoir Cover
2.	2-1259	Valve Pin
3.	2-1320	Deflector
4.	S-8770	Inlet Valve
5.	3-1001	Rivet
6.	A-5777	Valve Seat Holder
7.	S-6947	Valve Seat
8.	3-1394	Nut
9.	A-12869	Bracket
10.	S-6715	Stand Pipe
11.	S-8138	Inlet Valve Ass'y
12.	A-13409	Reservoir Body
13.	A-8055	Bracket Nut
14.	A-12067	Float and Arm Ass'y
15.	A-18418-1	Water Deflector
	A-8339	Complete-less cover







SF-2J 1/4 HP GEAR MOTOR ASSY



*MTR. ROTOR  
REPLACEMENT  
A32425-001 115V  
-002 230V*

ITEM NO.	PART NO.	NAME
1.	12-1741-01	Drive Motor 115/60/1
	12-1641-05	Drive Motor 115/50/1
2.	03-1251-01	Flange Screws
3.	2-1607	Grease Seal
4.	A22200	Gear Case Cover
5.	02-1681-00	Washer
6.	2-1653	Gear
7.	2-1652	Shaft
8.	03-1364-00	Key
9.	2-1680	Washer
10.	A22199	Gear Case Assy.
11.	2-1608	O'Ring
12.	2-1606	Grease Seal
13.	2-1604	Gear and Pinion
14.	3-1321	Washer
15.	2-1603	Gear and Pinion

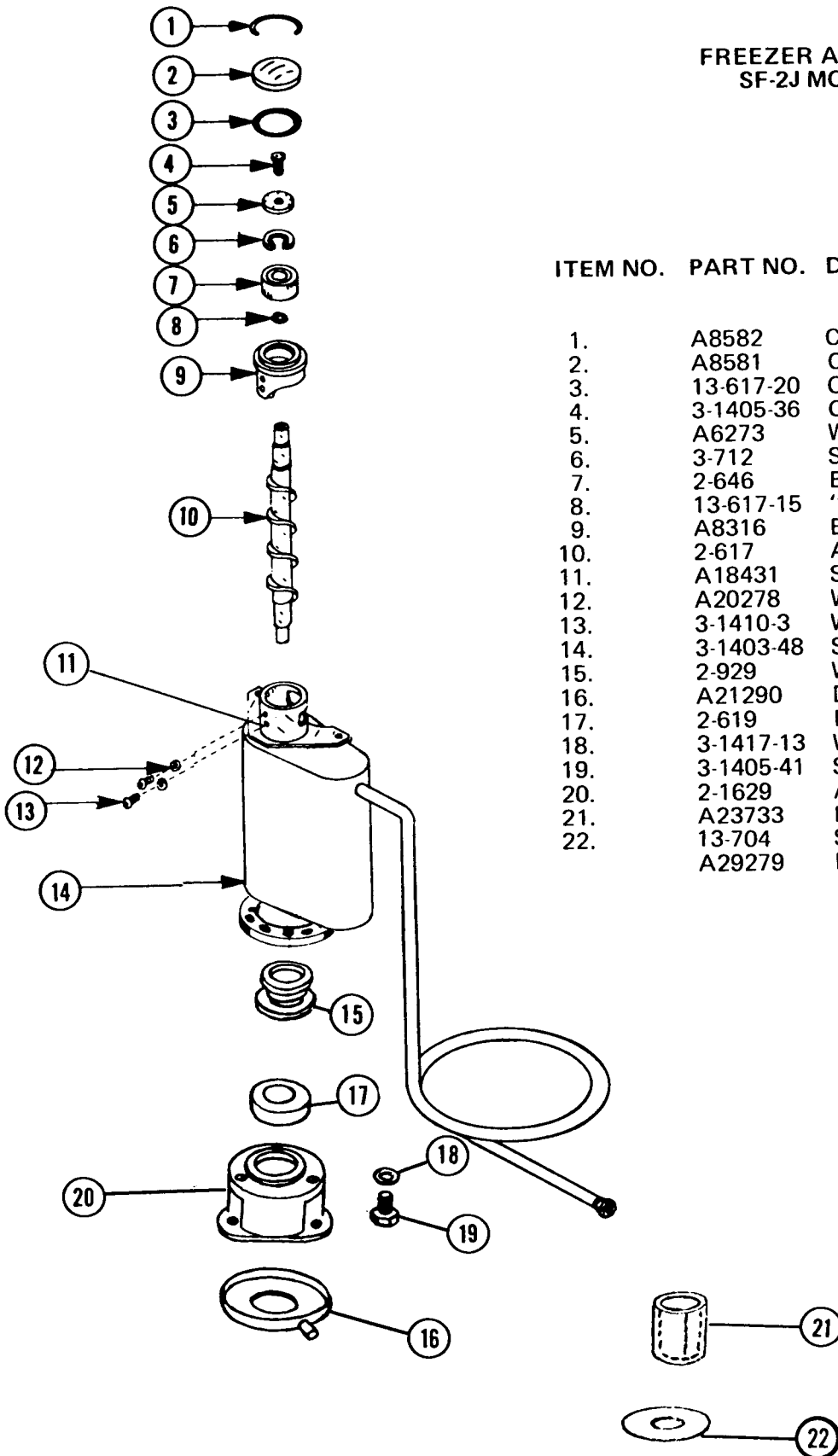
Output Shaft Turns at 10 RPM.

A22750-1	Gear Motor Complete 115/60/1
A22750-5	Gear Motor Complete 115/50/1

**FREEZER ASSEMBLY  
SF-2J MODELS**

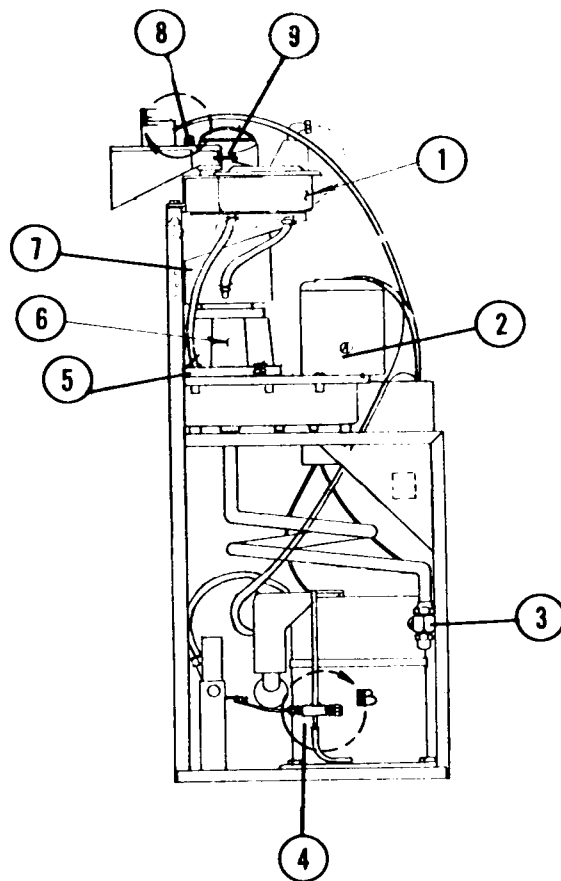
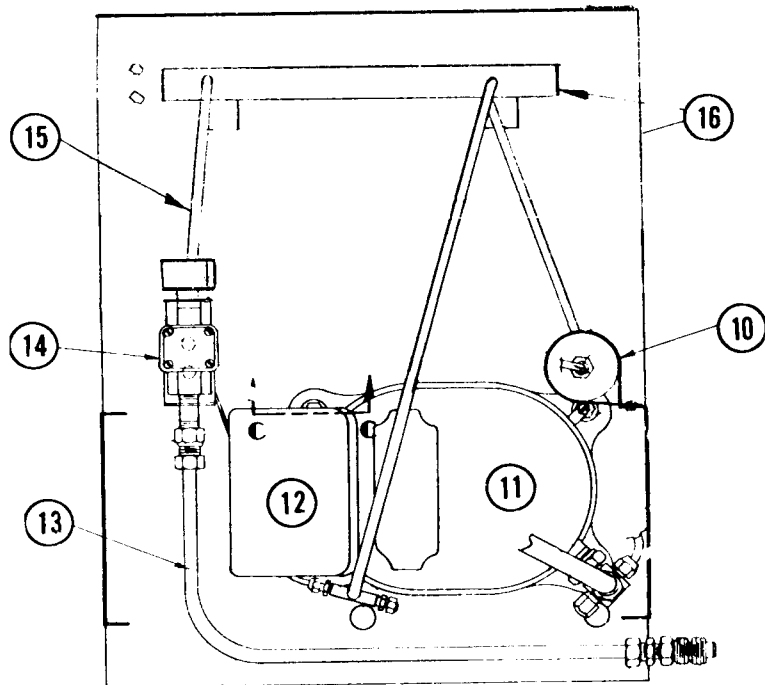
**ITEM NO. PART NO. DESCRIPTION**

1.	A8582	Cap Hook
2.	A8581	Cap
3.	13-617-20	O'Ring
4.	3-1405-36	Cap Screw
5.	A6273	Washer
6.	3-712	Snap Ring
7.	2-646	Bearing
8.	13-617-15	"O" Ring
9.	A8316	Breaker
10.	2-617	Auger
11.	A18431	Spout Plate
12.	A20278	Worm Tube – Suction Line
13.	3-1410-3	Washer
14.	3-1403-48	Screw
15.	2-929	Water Seal
16.	A21290	Drip Pan
17.	2-619	Lower Bearing
18.	3-1417-13	Washer
19.	3-1405-41	Screw
20.	2-1629	Adapter
21.	A23733	Drive Coupling
22.	13-704	Shaft Drip Shield Rubber
	A29279	Freezer Complete



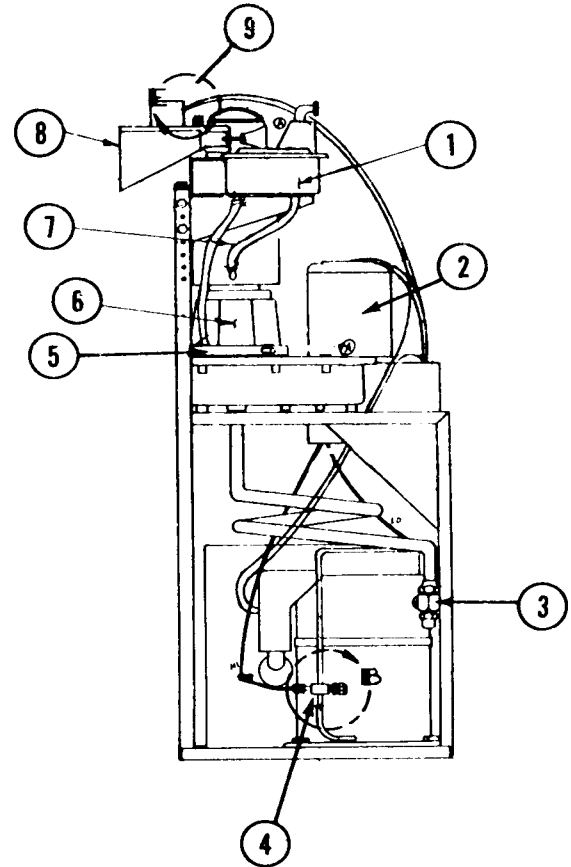
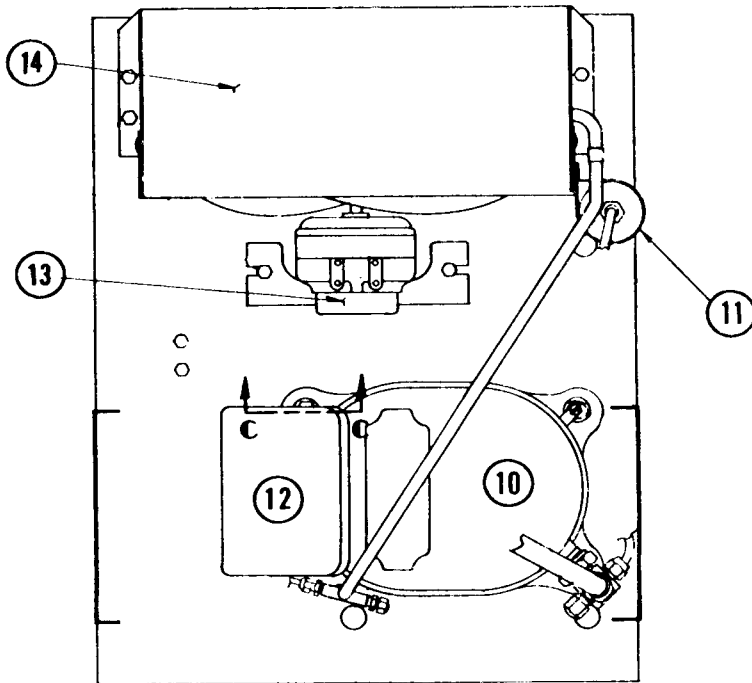
CHASSIS ASSEMBLY

SF2WJ - Water Cooled



ITEM NO. PART NO. DESCRIPTION

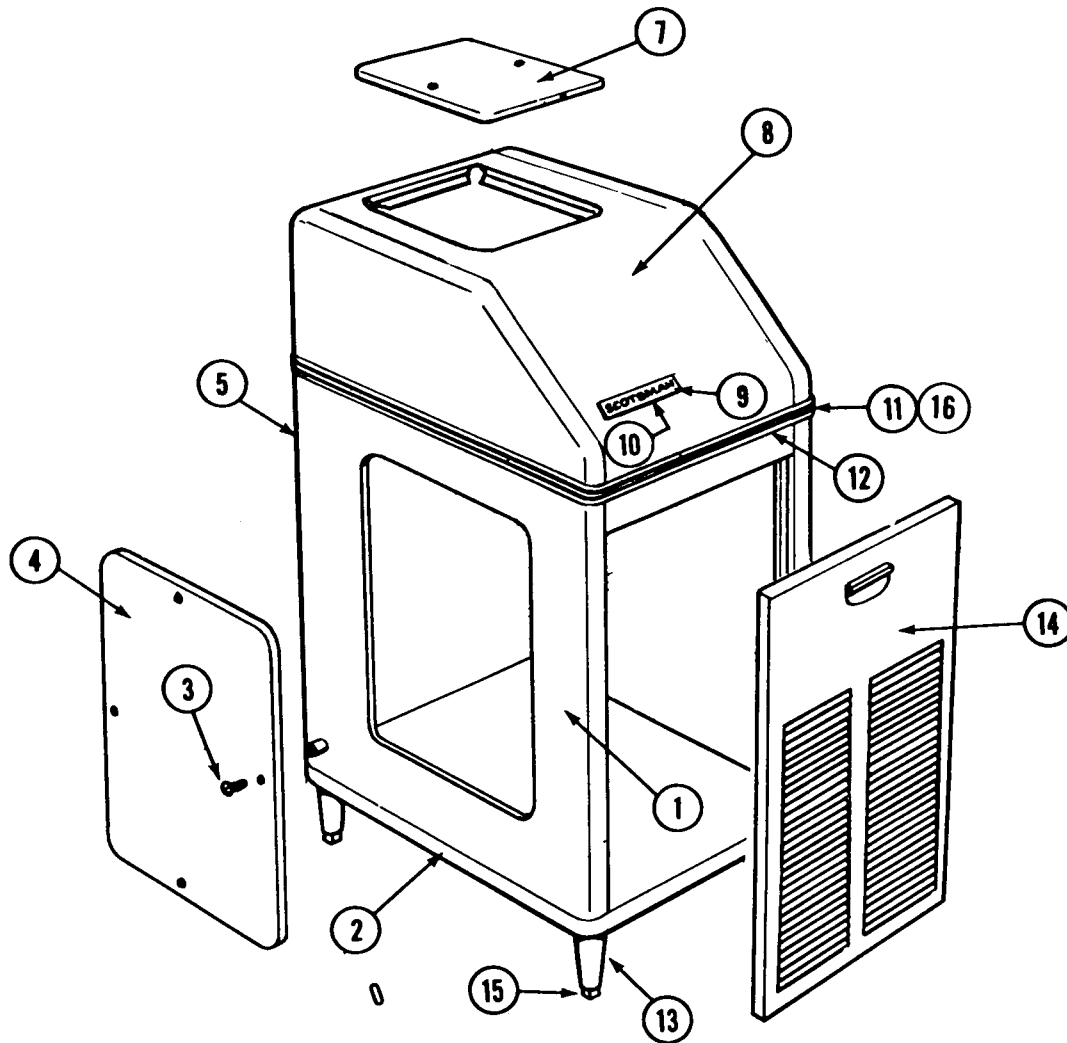
- |     |            |                                   |
|-----|------------|-----------------------------------|
| 1.  | A23410-5   | Water Reservoir                   |
| 2.  | A22750-1   | Gear Motor                        |
| 3.  | 18-2201-30 | 1/2" Flare, Suction Service Valve |
| 4.  | 16-563     | Discharge Valve Cap               |
|     | 16-560     | Discharge Valve Core              |
| 5.  | A-21290    | Drip Pan                          |
|     | 13-704     | Gasket                            |
| 6.  | 2-1629     | Fiber Adapter                     |
|     | A23733     | Coupling Assembly                 |
|     | 3-1405-41  | Screws Into Gearmotor (4/unit)    |
|     | 3-1417-13  | Lockwashers for above             |
| 7.  | A-20279    | Freezer Assembly                  |
| 8.  | A-14256    | Knurled Nut                       |
|     | A-14269    | Front Spout Casting               |
| 9.  | 3-1403-55  | Screws thru Casting Halves        |
| 10. | 2-544      | Drier                             |
| 11. | 18-2400-1  | Motor Compressor                  |
| 12. | 18-2400-25 | Compressor Overload               |
|     | 18-2410    | Compressor Relay                  |
|     | 18-2420    | Starting Capacitor                |
| 13. | A23411     | Water Inlet Line                  |
| 14. | 11-198     | Water Regulating Valve            |
| 15. | A-21604-4  | Condenser Inlet Line              |
| 16. | 18-368     | Condenser (Halstead-Mitchell)     |



ITEM NO. PART NO. DESCRIPTION

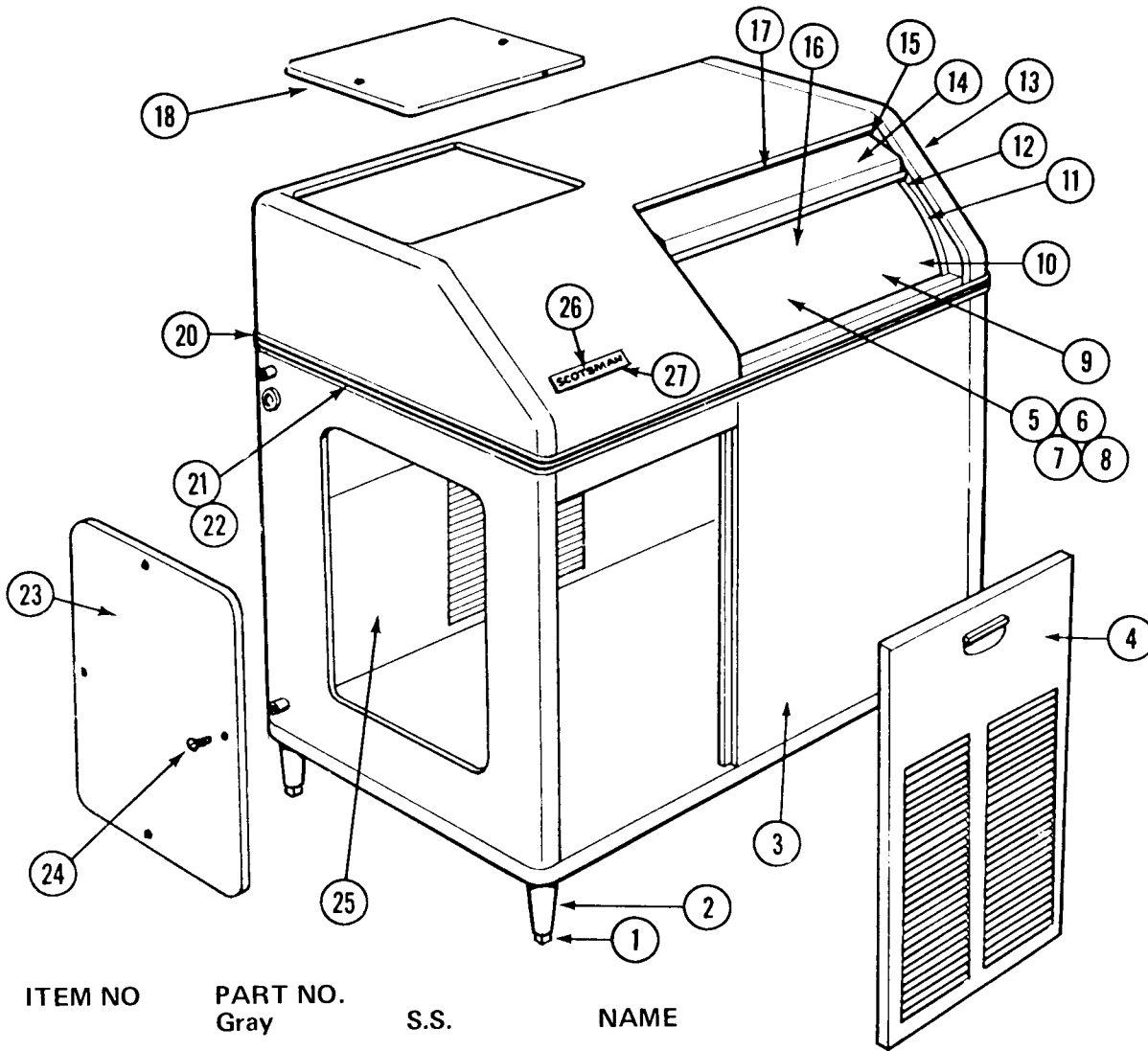
1.	A23410-5	Water Reservoir
2.	A22750-1	Gear Motor
3.	18-2201-30	1/2" Flare Suction Service Valve.
4.	16-563	Discharge Valve Cap
	16-560	Discharge Valve Core
5.	A-21290	Drip Pan
	13-704	Gasket
6.	2-1629	Fibre Adapter
	A23733	Coupling Assembly
	3-1405-41	Screws into Gear Motor (4/unit)
	3-1417-13	Lockwasher for above
7.	A-20279	Freezer Assembly
8.	A16350	Spout
9.	12-1018	Spout Micro Switch
10.	18-2400-1	Compressor (50 & 60 cycle)
11.	2-1752-2	Drier
12.	12-1576-1	Fan Motor
	18-2420	Capacitor 115V
	18-2421	Capacitor 208-230V
	18-2410	Relay 113 V
	18-2411	Relay 208 - 230 V
13.	12-1573-3	Fan Motor Cord
	18-363	Fan Blade
	18-388	Motor Mount
14.	18-334	Condenser
	A-12111	Condenser Shroud

SF-2J CASE ASSEMBLY



ITEM NO.	PARTS NO.	S.S.	NAME
	Gray		
1.	A-20304	A-20304-1	Case Assembly (less doors)
2.	A8901-8		Moulding Strip (bottom)
3.	3-1419-9		Screw (s.s.)
4.	S-6713	S-6713-S	Side Door
5.	A-8741	A-8741-S	Rear Door (*)
7.	A-7676	A-7676-S	Top Door
8.	A-20991	A-20991-1	Case Hood (less doors)
9.	15-156		Scotsman Emblem
10.	3-271		Speed Nuts
11.	15-324		Plastic Trim Insert (per foot)
12.	S-6211		Moulding Strip (top)
13.	A-15803	A-15803-1	Legs (4 reqd.)
14.	A-21250	A-21250-2	Front Door
15.	A18766	A18766-1	Leg Levelers (4 reqd.)
16.	A8901-4		Moulding Track

(\*) Not Shown



ITEM NO	PART NO. Gray	S.S.	NAME
1.	A18766	A18766-1	Leg Leveler
2.	A-15803	A-15803-1	Leg
3.	A-20288	A-20288-1	Case Assy.
4.	A21250	A-21250-2	Front Door
5.	A-21022		Drain Assy.*
6.	13-617-11		"O" Ring*
7.	2-1741		Drain (Top)*
8.	2-1742		Drain (Bottom)*
9.	A-19736		Storage Bin Assy.*
11.	3-640		Door Glides (door)
12.	3-1195		Door Glides (hood)
13.	A-20992	A-20992-1	Case Hood Assy.
14.	2-1735	A-15559	Sliding Door
15.	A-16208		Door Track
16.	2-1615		Bulb Holder*
17.	A-16209		Door Catch*
18.	A-7676	A-7676-S	Top Door
20.	A5829		Rear Trim Strip*
21.	15-324		Plastic Moulding Strip
22.	5-6413		Front Moulding Strip
23.	S-6713	S-6713-S	Side Door
24.	3-1419-9		Screw S.S.
25.	A-8741	A-8741-S	Rear Door
26.	15-156		Emblem
27.	3-271		Speednut

\* Not Shown

## 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 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 ¼ 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 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 ¼ inch below overflow pipe.  Moisture in system. Overcharge 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 Water supply to unit off	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 Restore water supply to icemaker.

## SERVICE ANALYSIS

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Water Leaks	Defective water seal Gravity feed line leaking 'O' ring in spout casting leaking  Storage bin drain & connecting fittings leaking. Water level in reservoir too high	Replace. Check hose clamps Remove spout casting and install new 'O' ring.  Check and repair.  Adjust to ¼ inch below overflow pipe.
Excessive noise or chattering	Mineral or scale deposit on auger and inner freezing chamber walls.  Low suction Intermittent water supply  Water level in reservoir too low. Gear motor loose on frame Gearmotor end-play or worn bearings.	Remove and manually polish auger, polish inner chamber walls of freezer barrel. For lighter concentrations use Scotsman Ice Machine Cleaner periodically. Add gas to raise suction pressure. Check & clean water strainer. Check gravity feed line for air lock. Remove air lock  Adjust to ¼ inch below overflow pipe. Tighten  Repair or replace.
Machine continues to run with full storage bin	Storage bin thermostat not properly set.	Reset or replace. Rese 35° cut-out, 45° cut-in Check operation with handful of ice.
Gearmotor noise	Low on oil	Remove case cover to check for proper oil level. Top of gears should be covered. Use Sun Oil Co. Prestige 50 EP.



## MAINTENANCE INSTRUCTIONS – FLAKERS

THE FOLLOWING MAINTENANCE SHOULD BE SCHEDULED THREE TIMES PER YEAR ON ALL SCOTSMAN SUPER 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 by disconnecting tube between reservoir and freezer. After draining, reconnect tubing.
    - d. Set main switch to ON and pour cleaning solution into reservoir. Do not fill above overflow tube.

Use 6 oz. of Scotsman cleaner and 1-1/2 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. Remove overflow tube, wash and rinse reservoir, replace overflow tube, 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.

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 15 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. Use Beacon No. 325. 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 = 35° cut out, 45° cut in.