

TABLE OF CONTENTS

	Page
FOREWARD	1
TABLE OF CONTENTS	2
SPECIFICATIONS	3
PHOTO AND ICE MAKING CAPACITY , Cont. Flow	4-5
PHOTO AND ICE MAKING CAPACITY, with Storage	6-7
SPECIFICATIONS How It Works	8
INSTALLATIONS	
Preparation for Installation	9
Uncrating and Location	10
Water Supply	10
Drain	10-12
Electrical Connections & Installation	11
Installation Practice	12
REFRIGERATION CYCLE	13
WATER SCHEMATIC	14-15
WIRING DIAGRAMS, All models	16-21
SERVICE	
Starting the Machine	22
Refrigerant Charge	23
Water System	23
Electrical System	24
Condensing Unit	24
Drive Motor	24
High-Low Pressure Cut-Out	24
Storage Bin Thermostat	24
Micro Safety Switch	24
On-Off Switch	24
Head Pressure Control Kit	25
REMOVAL & INSTALLATION OF PARTS	26-29
CHASSIS ASSEMBLY (AC)	30
FREEZER ASSEMBLY	31
RESERVOIR	32
WINSMITH GEAR REDUCER	33
GEAR REDUCER MEMO AND CHART	34
Case Assembly, with Storage	35
Case Assembly, Cont. Flow	36
Condensing Unit W.C.	37
Condensing Unit A.C.	38
MAINTENANCE INSTRUCTIONS	39-40
SERVICE ANALYSIS	41-42
PARTS LIST	43-47
OVERLOAD CHART	48

**THIS PAGE  
INTENTIONALLY  
LEFT BLANK**

**THIS PAGE  
INTENTIONALLY  
LEFT BLANK**

MECHANICAL SPECIFICATIONS

	SF-3H, SF-3WSH	SF-3WH, SF-3WWSH
Compressor	1 HP	1 HP
Condenser	Air-Cooled	Water-Cooled
Refrigerant	37 oz. R 12	34 oz. R 12
Refrigerant Control	Capillary Tube	Capillary Tube
Power Consumption	7.8 Amps.	7.8 Amps.
Voltage- Standard Unit	230 V., 60 cycle 1 ph.	230 V., 60 cycle, 1ph.
Worm Drive Motor NEMA #56	1/3 HP	1/3 HP
Worm - R.P.M.	12	12
Water Consumption - Condensing Unit		1-2 G.P.M. Dependent on incoming water temperature

SF-3H

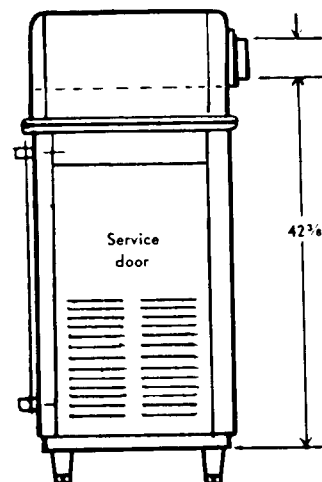
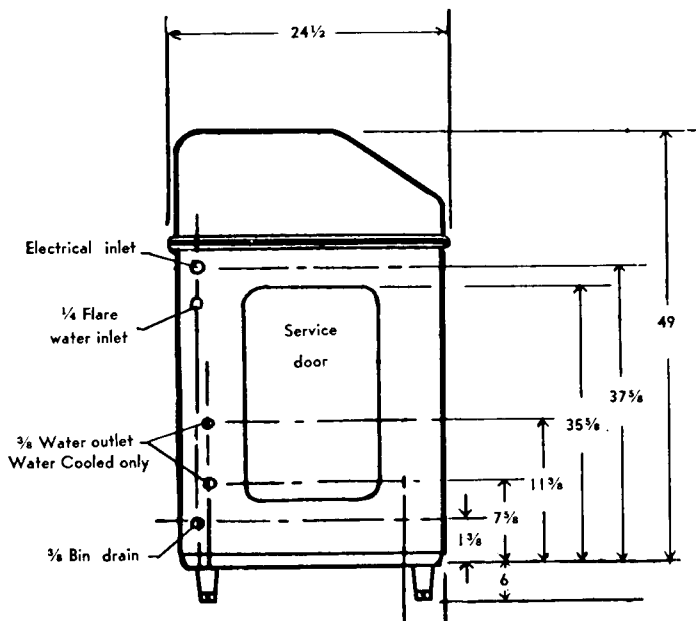
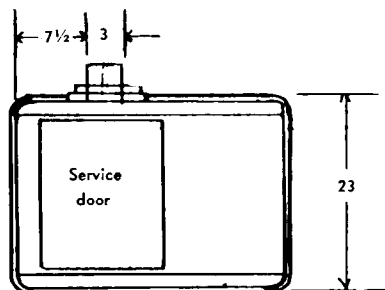
SF-3WSH

DIMENSIONS

Width	23"	48 1/2"
Depth	24 1/2"	26 1/2"
Height	49"	49"
Height With Legs	55"	55"
Approximate Shipping Weight	454	614

# SPECIFICATIONS

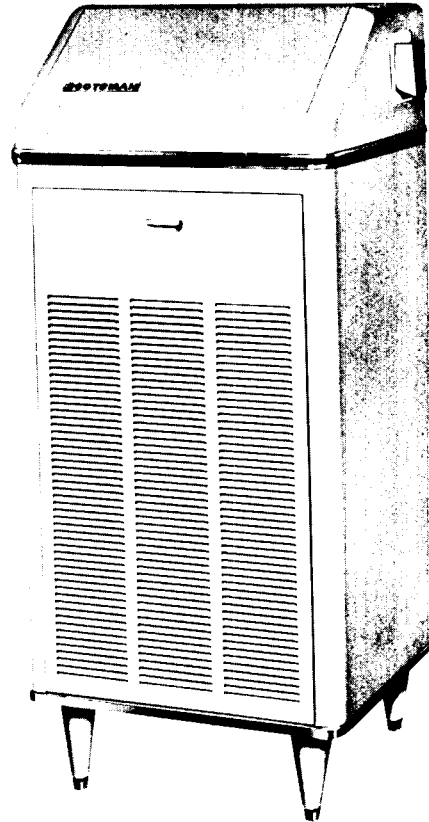
SUPER FLAKER SF-3 SERIES (Cont. Flow)	MODEL SF-3H	MODEL SF-3WH	MODEL SF3H-SS	MODEL SF-3WH-SS
Daily capacity up to 1050 lbs.	X	X	X	X
Stainless steel bin liner				
Air cooled condenser	X		X	
Water cooled condenser		X		X
Heavy duty 1 HP. Compressor	X	X	X	X
Standard 230 V, 60 cy, 1 ph, 2 wire	X	X	X	X
1/4" water inlet SAE Flare	X	X	X	X
3/8" condenser water inlet NPT		X		X
3/8" bin drain ID	X	X	X	X
5/8" bin drain OD				
3/8" water outlet OD		X		X
Hammerloid grey exterior	X	X		
Stainless steel exterior			X	X
55" height (with legs)	X	X	X	X
49" height (without legs)	X	X	X	X
23" width	X	X	X	X
24 1/2" depth	X	X	X	X
Approximate shipping weight	454	454	454	454



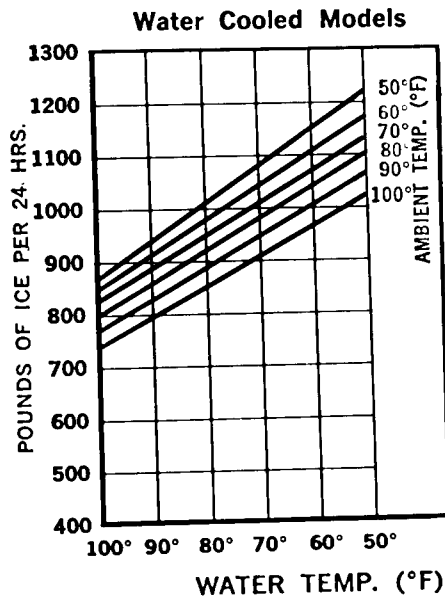
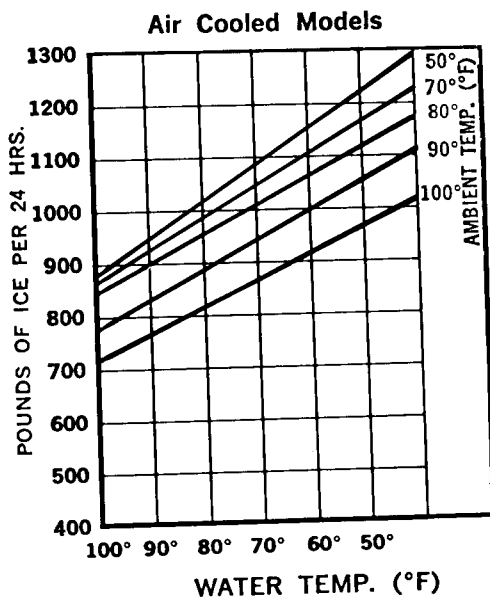
# SCOTSMAN®

Section  
F5-3  
Page 5

## SUPER FLAKER SF-3 SERIES Continuous Flow



ice making capacity



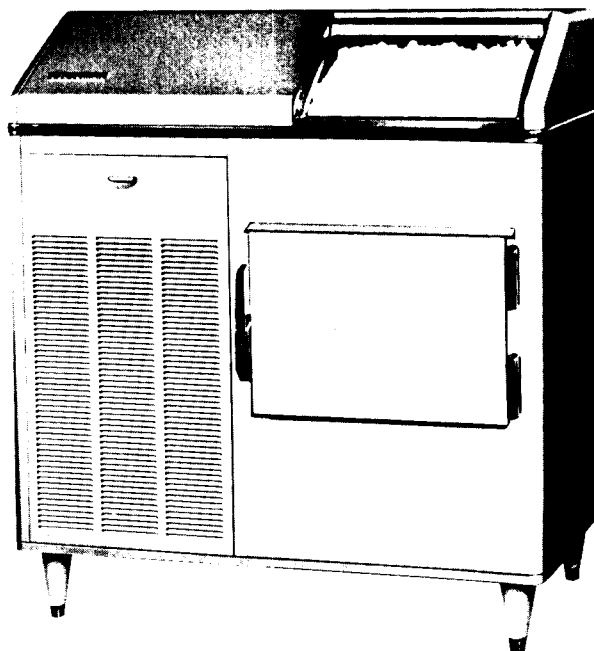


# SUPER FLAKER

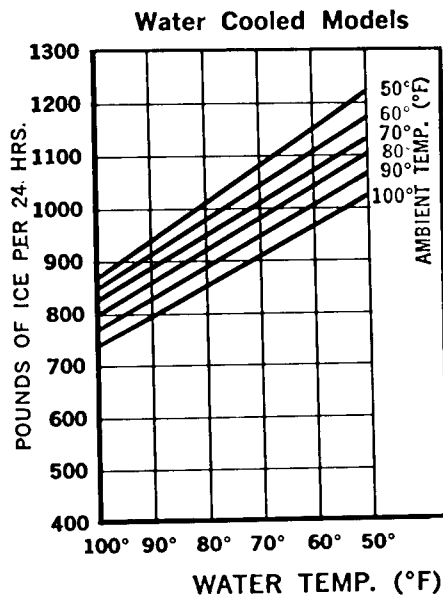
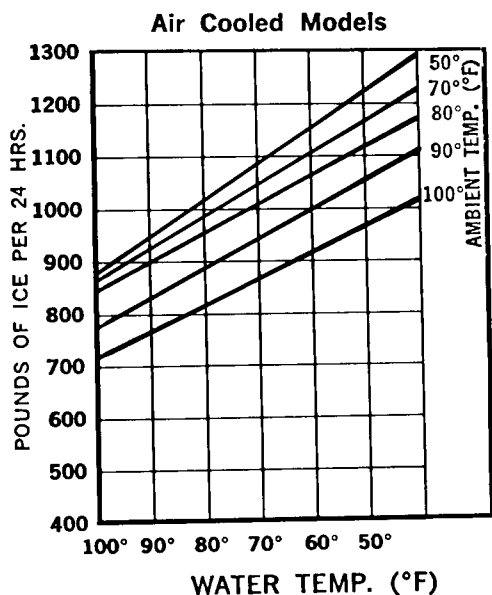
## SF-3

## SERIES

## Storage Type

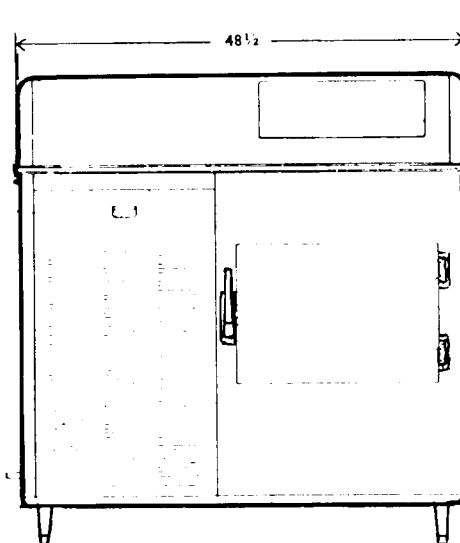
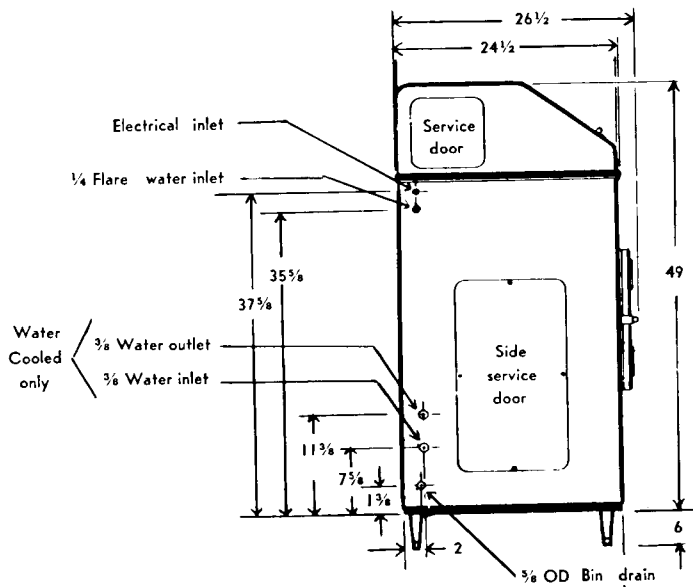
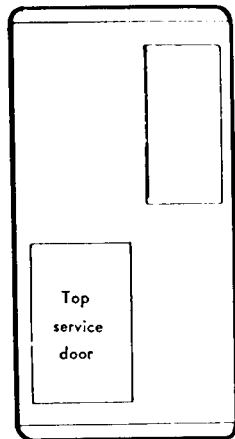


### ice making capacity



# SPECIFICATIONS

SUPER FLAKER SF-3 SERIES (Storage Type)	MODEL SF-3WSH	MODEL SF-3WWSH	MODEL SF-3WSH-SS	MODEL SF-3WWSH-SS
Daily capacity up to 1050 lbs.	X	X	X	X
300 lb. storage bin capacity	X	X	X	X
Stainless steel bin	X	X	X	X
Air cooled condenser	X		X	
Water cooled condenser		X		X
Heavy duty 1 HP. Compressor	X	X	X	X
Standard 230 V, 60 cy, 1 ph, 2 wire.	X	X	X	X
1/4" water inlet SAE Flare	X	X	X	X
3/8" condenser water inlet NPT		X		X
3/8" bin drain OD	X	X	X	X
3/8" water outlet OD		X		X
Hammerloid grey exterior	X	X		
Stainless steel exterior			X	X
55" height (with legs)	X	X	X	X
49" height (without legs)	X	X	X	X
48 1/2" width	X	X	X	X
26 1/2" depth	X	X	X	X
Approximate Shipping weight	614	614	614	614





## SPECIFICATIONS

SCOTSMAN SF-3 Super Flaker is designed for restaurants, super markets, bakeries, dairies, fish markets, hospitals, cafeterias, poultry stores, soda fountains, etc., and will deliver a continuous flow of ice flakes at a capacity up to 1,050 lbs. per day.

Attractive compact cabinet. Silver grey hammerloid finish with chrome trim, rounded corners, and removable panels for easy access to mechanical parts. Also available in clad stainless steel with a ground finish.

Sealed refrigeration system. Provides quiet, efficient operation of the machine. Compressor motor is spring mounted, and the worm motor is rubber mounted for quiet operation.

How it works. Water in the constant level float reservoir is fed to the bottom end of a freezing cylinder and turns to ice on the inside of this cylinder. The stainless steel auger inside of this evaporator is driven by a motor through a V belt and gear reduction drive. Ice is carried upward by the action of this auger and extruded past the ice breaker at the top of the cylinder.

A manual switch starts the machine, and from then on, ice is produced automatically in small, uniform pieces. When the storage bin fills, a thermostat shuts the machine off, and causes it to start up again when ice is taken from the storage compartment.

Model No. SF-3H is a continuous flow type machine, and is manually started by an OFF and ON switch located on the front of the cabinet as are the SF-3WSH models. Since the SF-3H does not have its own attached bin, it is necessary to use an auxillary bin such as the Model SB1500 SCOTSMAN Super Bin for ice storage. A bin thermostat is mounted in each SF-3H continuous flow type machine for the purpose of mounting control bulb from machine to bin.

When using a SCOTSMAN Vertical Bin in conjunction with continuous flow models SF-3H. A machine stand SCOTSMAN model MS-3 is required.

## INSTALLATION

### UNCRATING OF MACHINE

The complete machine comes in one crate. After the crate is removed, inspect for concealed damage. When installing the machine, remove the bottom skids by removing all bolts. Then cut all wires holding support packing from refrigerant lines. Then loosen the hold-down bolts on the compressor so that the compressor is floating free on spring mounts. Remove leg levelers from the carton and install on base as desired. Then check all refrigerant lines for rubbing or touching other surfaces. Also check for possible transportation damage. Check free movement of ice worm.

### PRE-INSTALLATION CLEANING

Before machine is in final location, remove warranty card and other information from machine compartment. Remove top service door, water reservoir cover and packing under float. Then leave cover off for float adjustment after machine is installed.

### LOCATION OF THE SUPER FLAKER

Select the location before delivering Super Flaker to the job. The following points should be considered when making selection:

1. Convenience. Place the unit as close as possible to the place of ice consumption.
2. Servicing. Install the machine on continuous flow models so it can be serviced from all three sides except the side containing the ice chute opening. Important to leave 24 inches access to front (containing on-off switch) and left side on both with storage and continuous flow models.
3. Room Temperature. Minimum - 50 degrees. Maximum - 100 degrees.
4. Continuous Flow Models.

A. Bins. Care should be exercised in proper bin selection. Too small a bin will give unsatisfactory performance. A bin should have a minimum of 1/2 of machine's capacity per day, when the machine shuts off on thermostat. Make sure that user's demands are met by proper bin as well as by proper machine selection. Plan relative location of the machine so as to enter the bin as close to the top as possible. Bins should also be higher than their width and length dimensions, so the maximum ice can be stored in the minimum cubic feet of space. A Scotsman bin is designed in this fashion and will be the most convenient to the user. Too large a bin can cause trouble. Excessive melting of ice will occur if the bin is larger than required. Proper bin selection is important to the success of the ice machine installation.

## INSTALLATION

B. Stands. A Scotsman Machine stand should be used if the machine is located beside the Scotsman bin. In designing the installation, plan for servicing of the machine from front, top, and sides.

C. Erection. For elevations in excess of four feet or in close quarters, chain falls should be used. For locations under four feet, the use of skid boards and rollers are practical.

D. Bin Thermostat. Locate the thermostat bulb as high as possible in the bin and still allow the machine to cut off before ice builds up in the chute. If this occurs, ice can stick in the chute keeping the machine off after there is a need for ice production. The capillary can usually enter through the chute opening. Keep the bulb and capillary line away from shovels.

E. Ice Chutes. If the outlet of the machine is remote from the bin, a chute will be required. Stainless steel is an excellent material for this purpose where its cost is not prohibitive. Angles or ledges of less than 45° should not be used. Ice will cling to this surface and either melt excessively or jam in the chute. The sharper the drop, the better. If straight down, do not insulate, unless necessary.

### WATER SUPPLY

The recommended water supply line is 3/8 inch OD copper tubing for SF-3. 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 a 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

Be certain that the Super Flakers are on their 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.

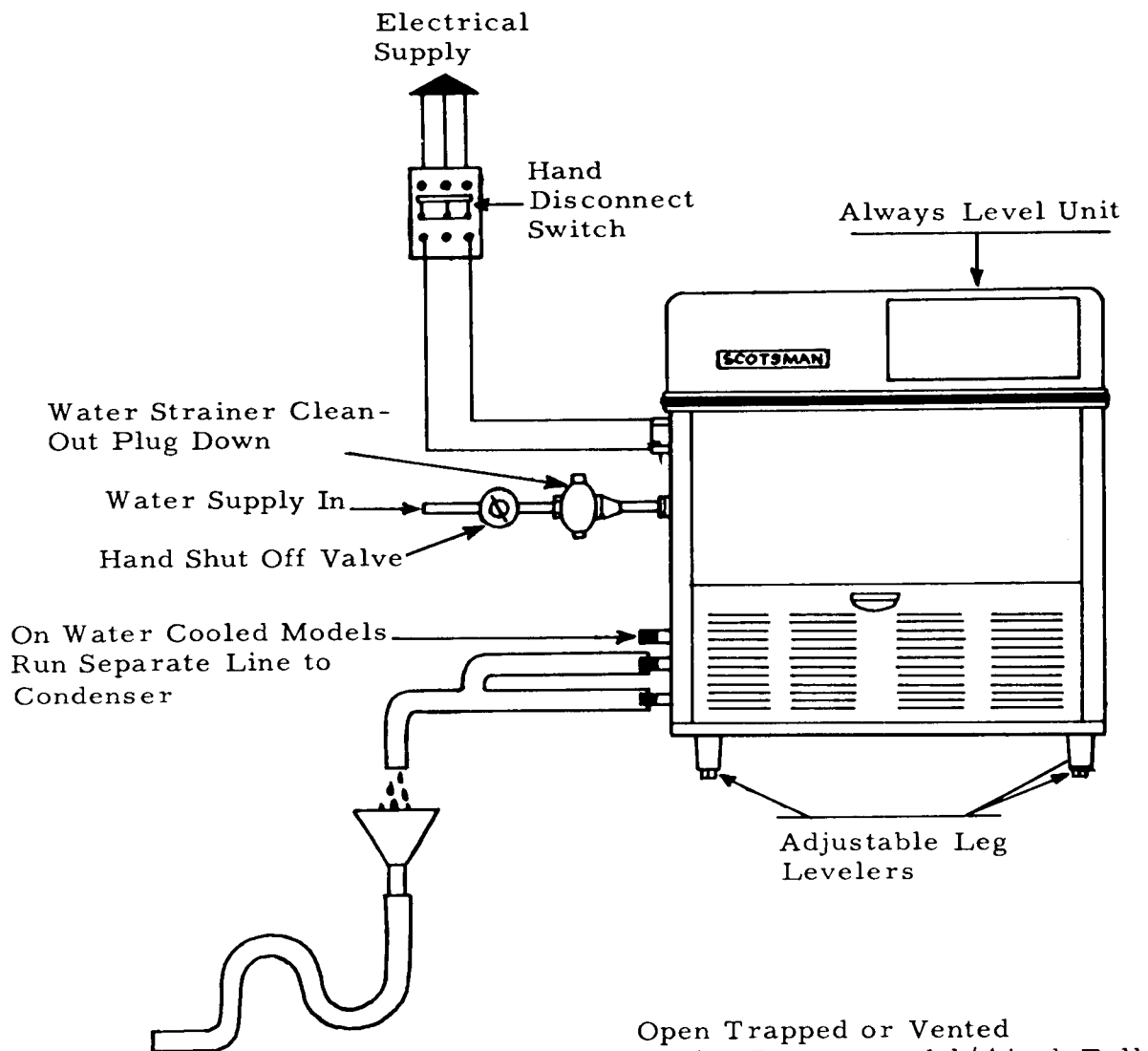
All external wiring should conform to National Underwriters and local electrical code requirements. Usually an electrical permit and the services of a licensed electrician will be required.

	SF-3-2
Voltage	230 volts
Phase	Single
Amperage - Total	7.8
Number of Motors	2
H.P. of largest Motor	1
Amperage Rating (Largest Motor)	5.0
Cycle	60

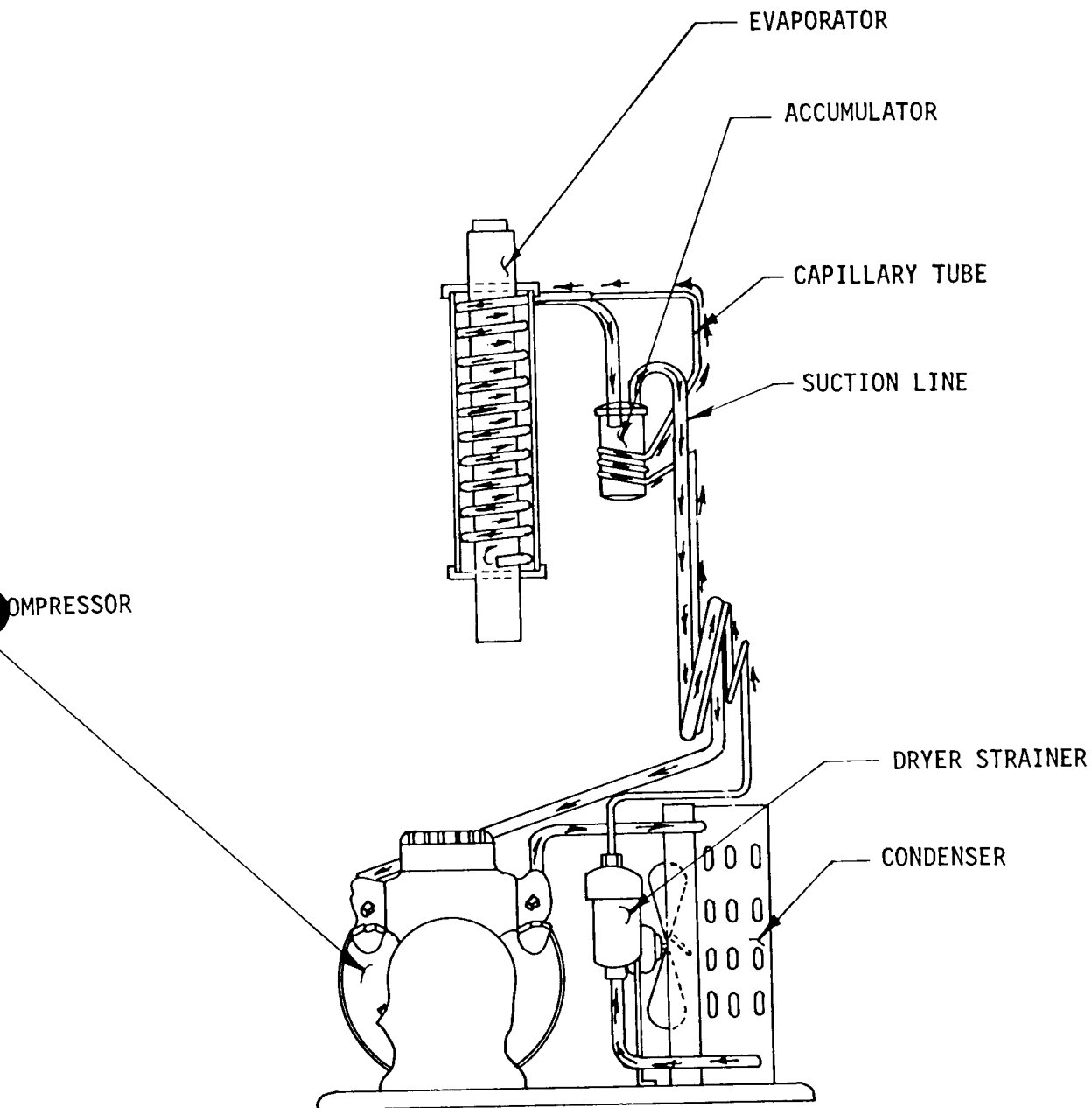
Open electrical control box and prepare for hook up, use knock outs, cord connectors, etc. Then check unit nameplate voltage against building source voltage and make sure they correspond. Caution - Improper voltage supplied to units will void your warranty protection.

Note: Check wiring diagrams pages 16 thru 21 for proper amperage fusing on all voltages.

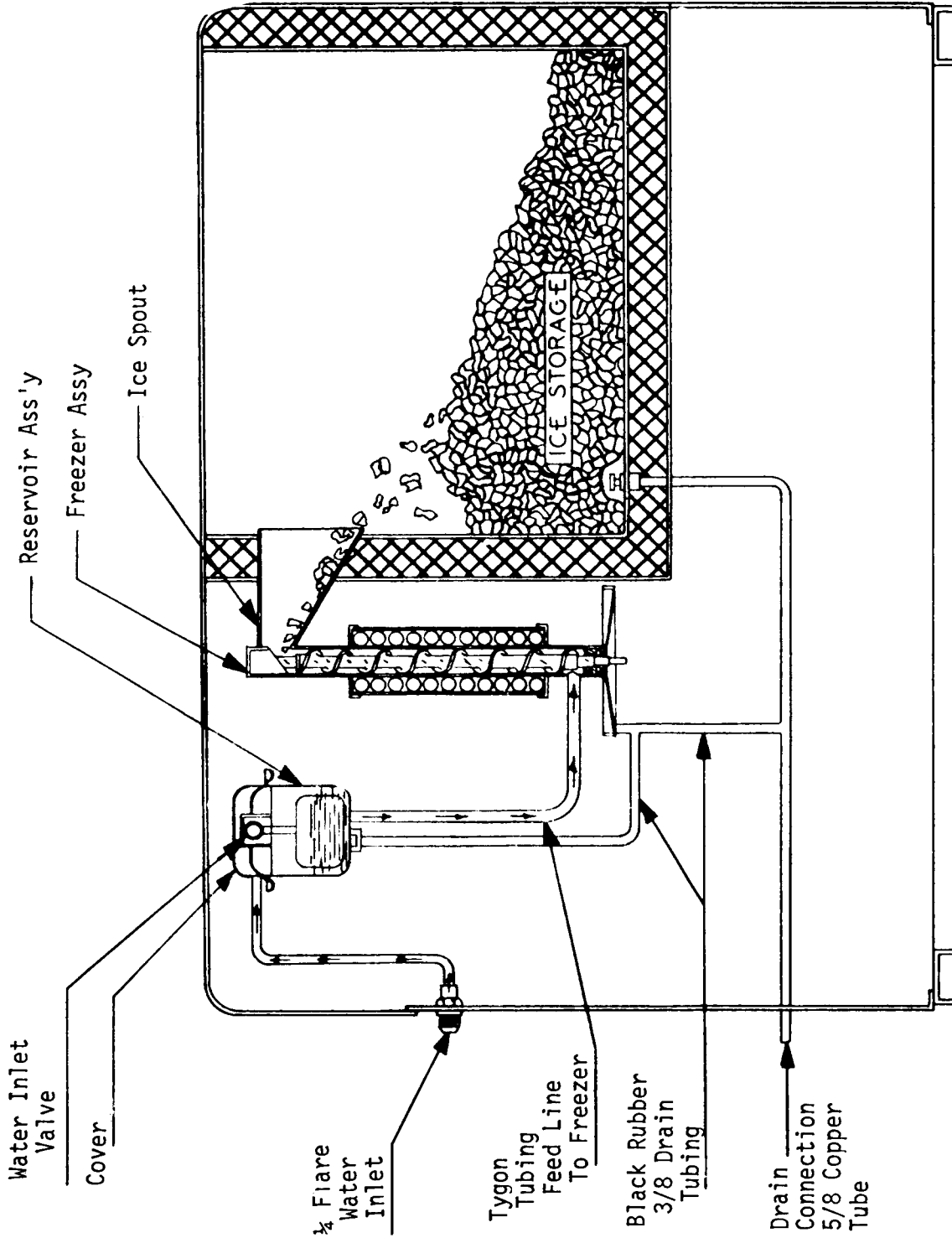
### INSTALLATION PRACTICE



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

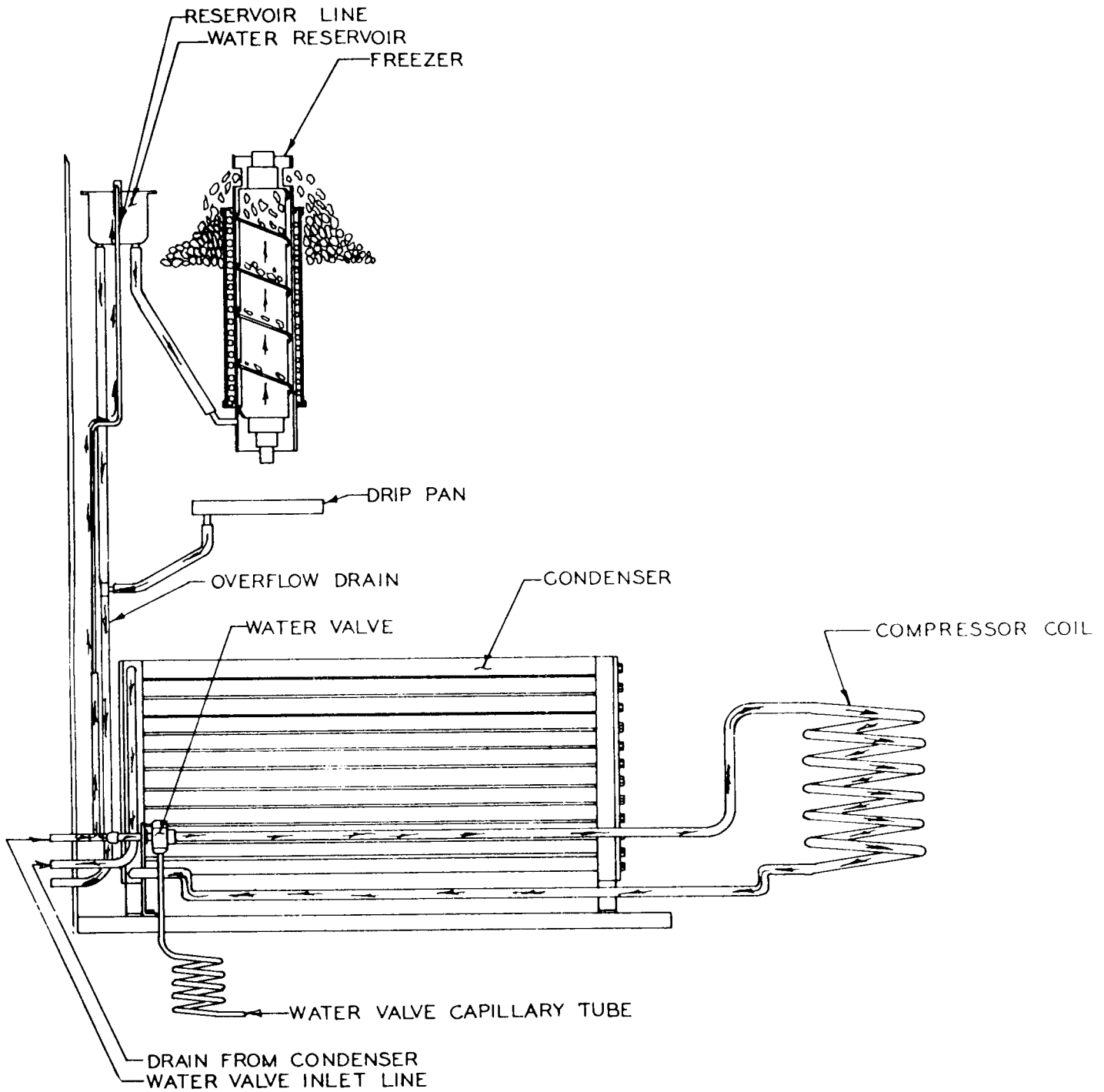


REFRIGERATION CYCLE SF-3 ALL MODELS



WATER SCHEMATIC

SF-3WSH

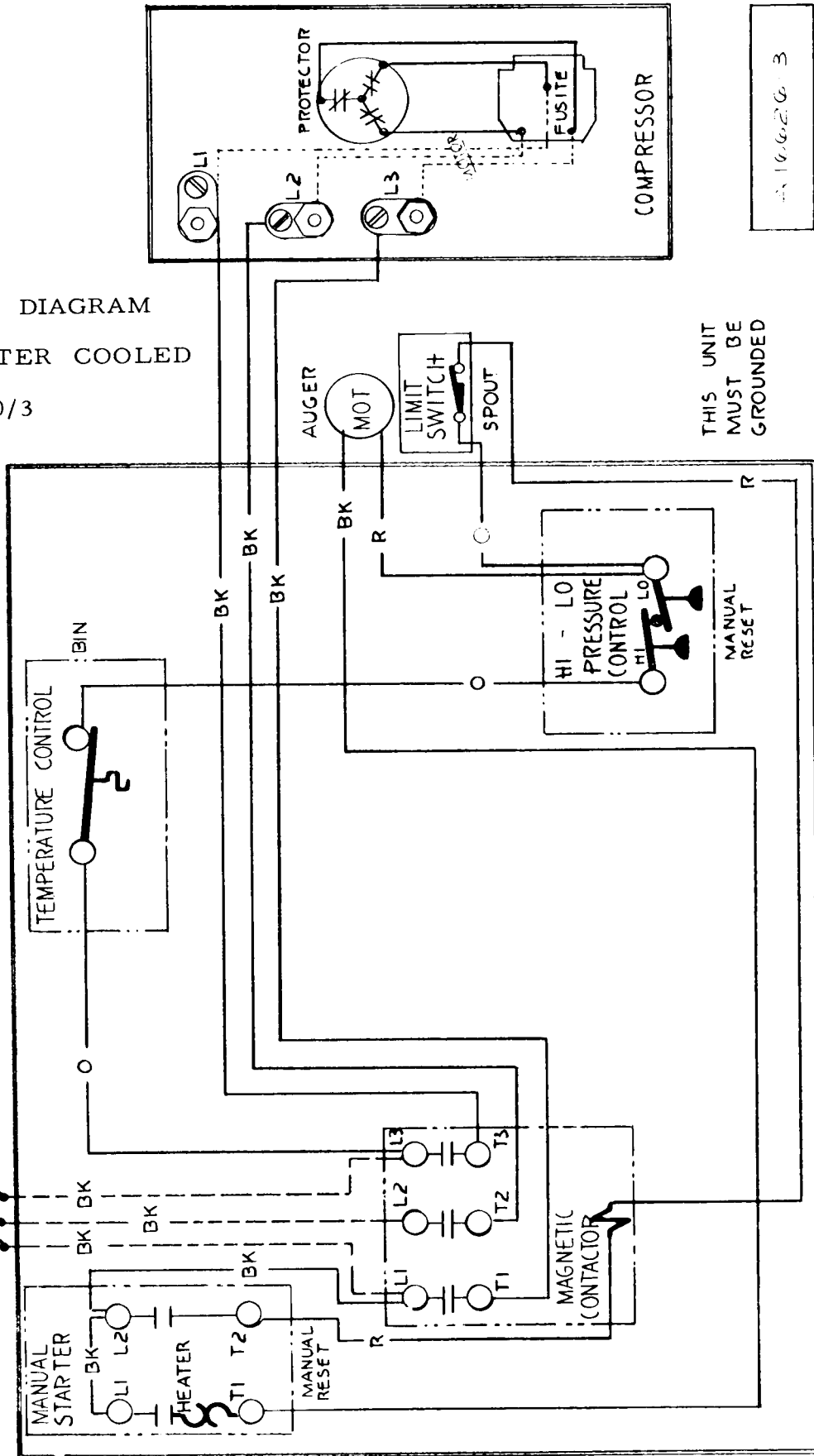


**WATER CYCLE SF-3 WATER COOLED MODELS**



WIRING DIAGRAM  
SF-3 WATER COOLED  
208/220/60/3

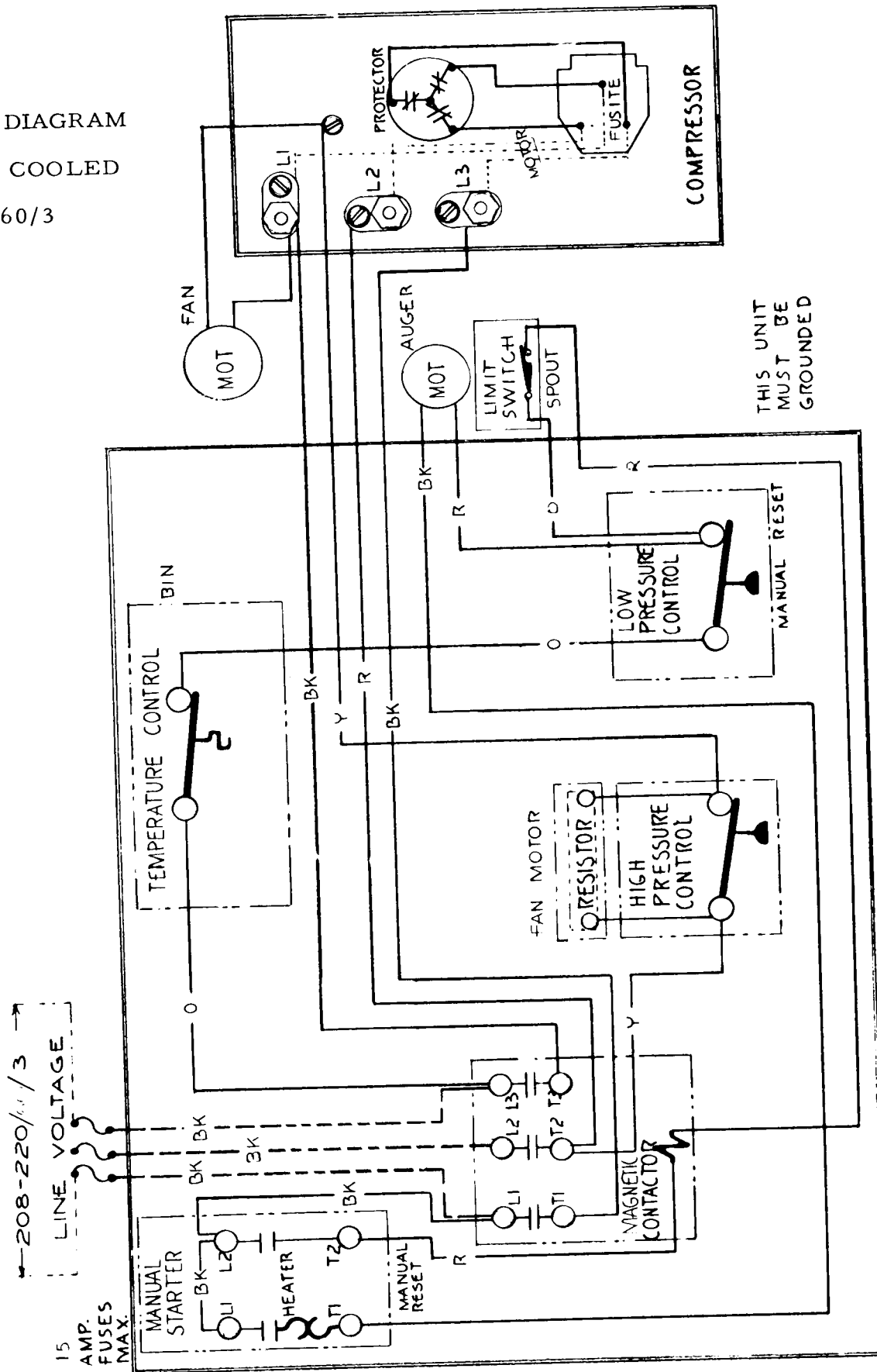
208-220/60/3  
15 AMP. FUSES MAX.  
LINE VOLTAGE



WIRING DIAGRAM

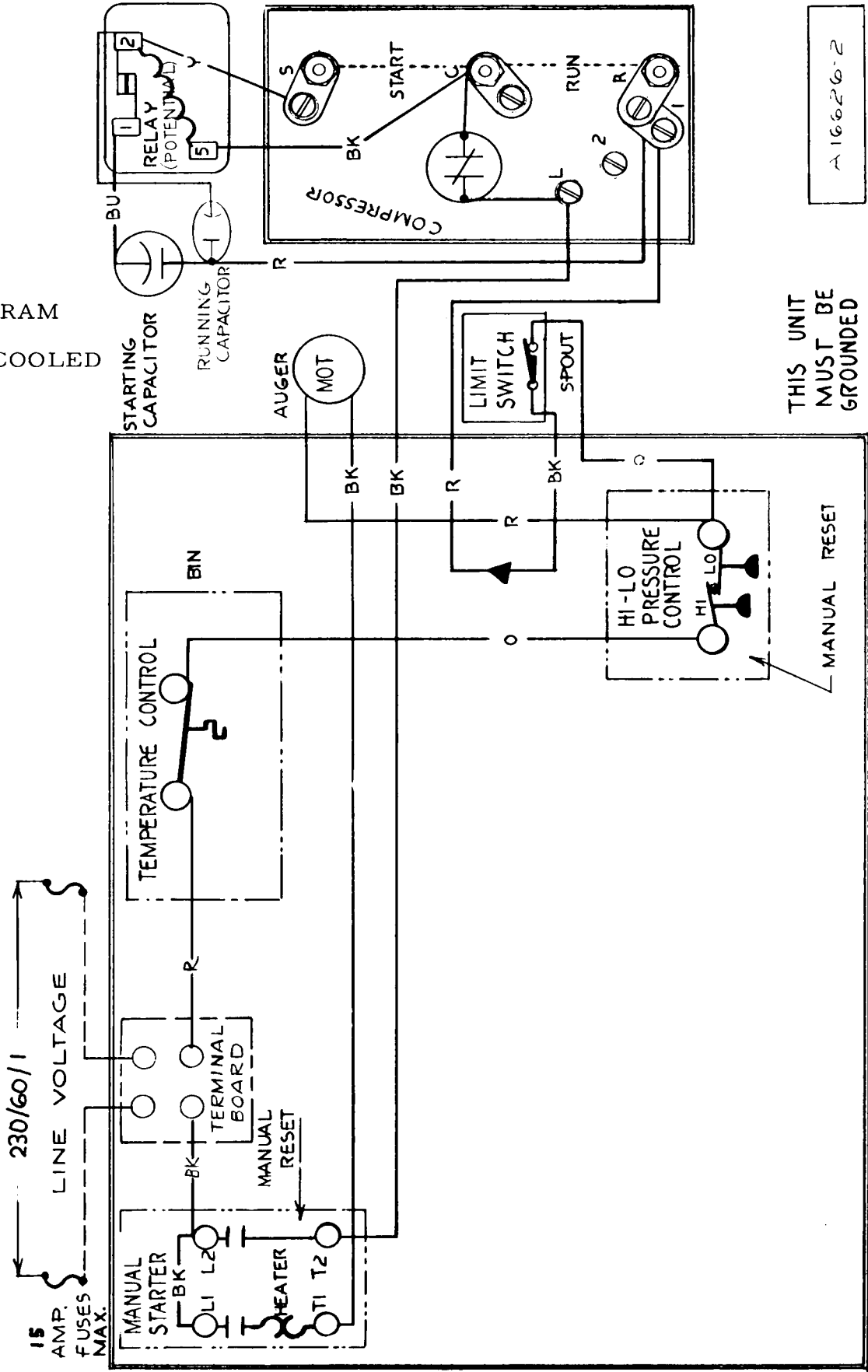
SF-3 AIR COOLED

208/220/60/3

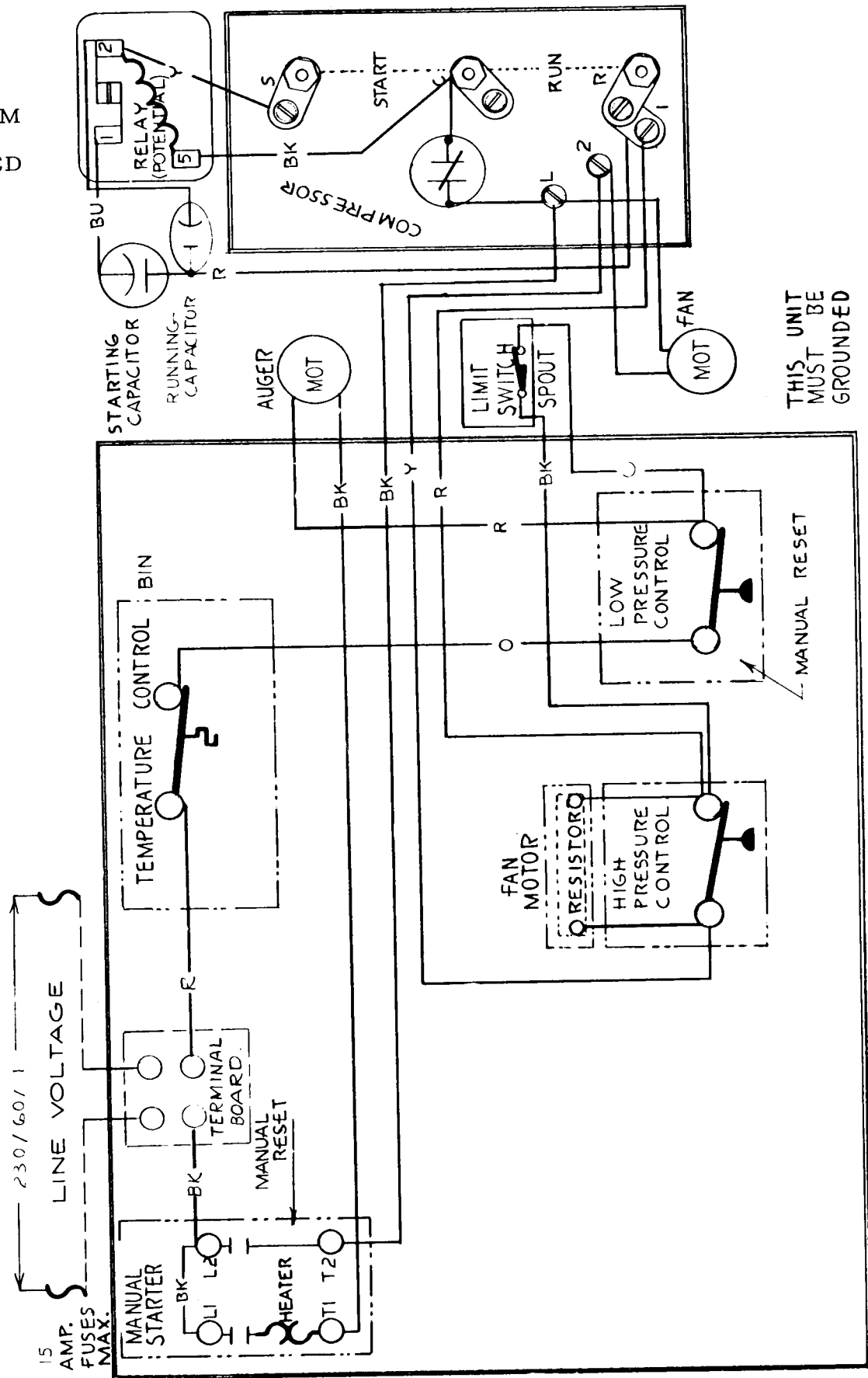


WIRING DIAGRAM  
SF-3 WATER COOLED

230/60/1

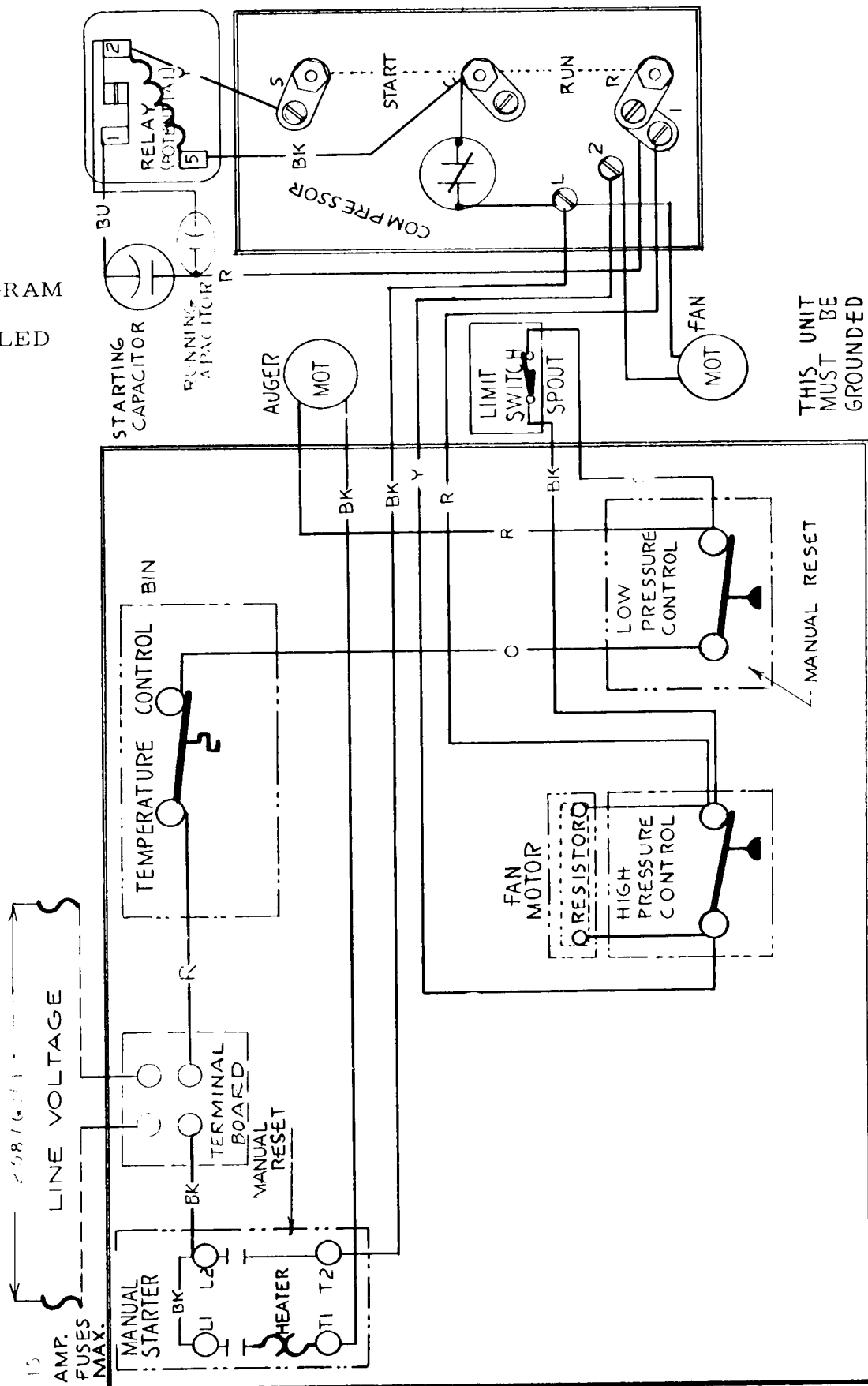


WIRING DIAGRAM  
SF-3 AIR COOLED  
230/60/1

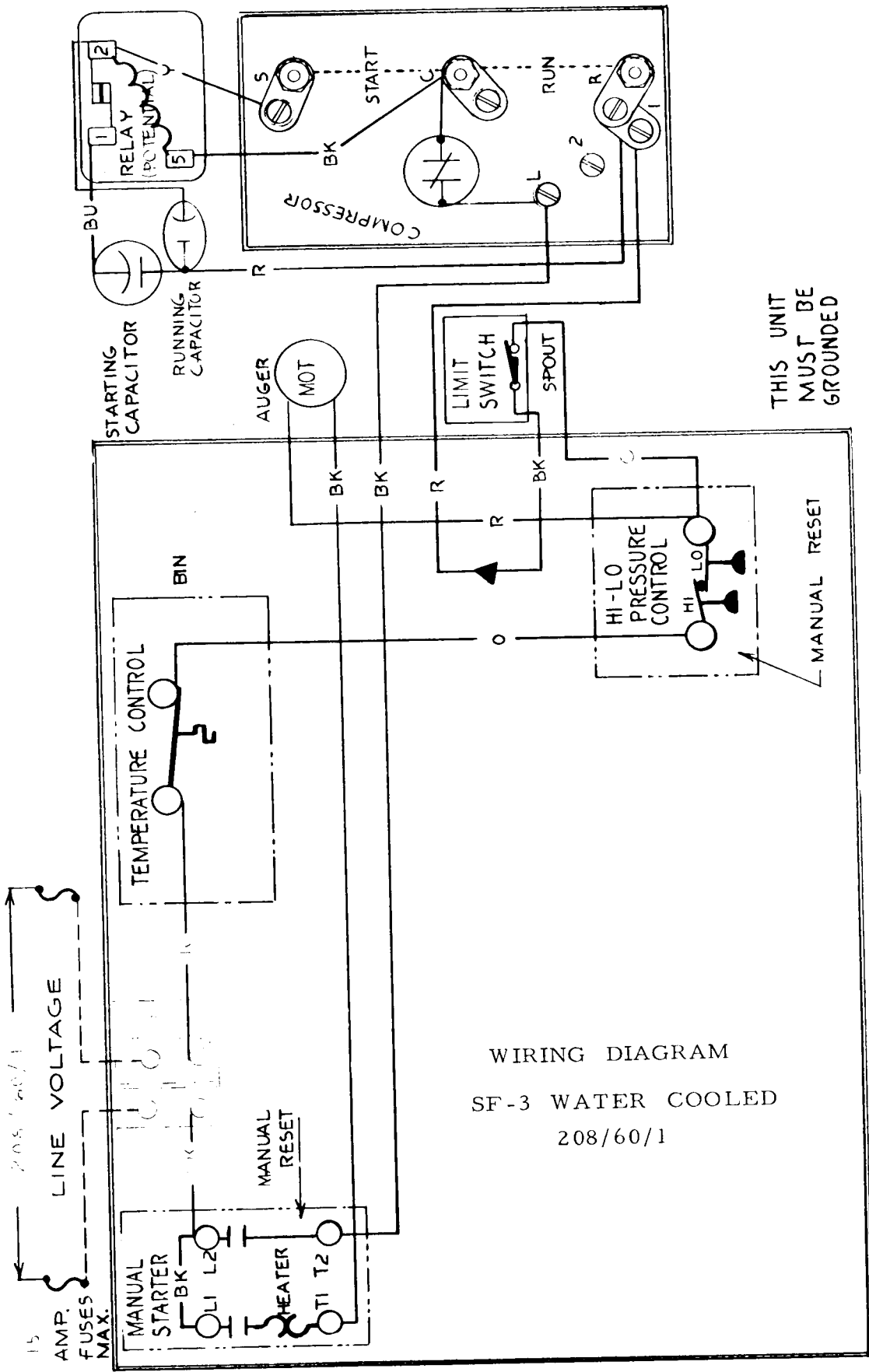


THIS UNIT  
MUST BE  
GROUNDED

WIRING DIAGRAM  
 SF-3 AIR COOLED  
 208/60/1



THIS UNIT  
 MUST BE  
 GROUNDED



WIRING DIAGRAM  
SF-3 WATER COOLED  
208/60/1

## 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 behind front service door 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 P S I. On the air cooled models the reverse acting high pressure control should be set on approximately 15 P S I differential and to cut in at 130 and out at 145 P S I head pressure. The frost line should extend 18 inches out of the accumulator if properly charged with refrigerant and suction pressure will range between 15 and 16 P S I with 50° F. inlet water.

Check the hand reset low pressure control setting. This safety device should be set at approximately 8 P S I 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 pressures. Observe pressure that machine pulls down to when first starting up. Set just below this pressure to avoid nuisance calls.

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

Service gauge connections are available on both high and low side service valves.

To install gauges to any of these connections, replace 1/8 inch I P plug with 1/8 inch M P T x 1/4 inch flare half union. 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 P S I head pressure and charge so the frost line extends 18 inches down suction line after fifteen minutes of operation. Frost out of accumulator at least 18 inches and up to one-half way to compressor for best results.

Model	Refrigerant Charge	Oil Level
SF-3H - air cooled	37 oz. R-12	Oil level should be kept at 1/3 way up sight glass. Do not fill over 1/2.
SF-3H - water cooled	34 oz. R-12	

## 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 removable overflow pipe is installed in the water reservoir for cleaning the reservoir as well as preventing damage should the inlet water valve fail.

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 the float linkage adjustment. The water level should be set 1/4 inch below the overflow pipe. A condensate drip pan is connected to the drain circuit to automatically dispose of condensate moisture.

A water strainer must be installed in the supply line.



## SERVICE

### ELECTRICAL SYSTEM

The electrical circuit consists of condensing unit, drive 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 house and fastened to the unit chassis frame.

B. Drive Motor. Model SF-3 Flakers are equipped with standard 5/8 inch shaft. 1/3 HP, capacitor start, induction motors. These motors turn counter-clockwise and may be replaced with any standard make motor corresponding to the nameplate rating. (Be sure motor runs counter-clockwise viewed from the shaft end.) Nema - 56 Frame Size.

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 P S I 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.) Ranco control is located in the control box. Factory settings cut-out at 5 P S I. 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. White Rodgers 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. Switches.

1. The manual on-off switch also has an inherent overload feature wired into the drive motor circuit. Excessive current draw on drive motor will cause this switch to trip out, see page 48 for correct overload.

2. A two pole contactor carries the electrical load on the single phase units, a three pole contactor is used on the three phase units since the motor compressors are now inherently protected by the manufacturers.

#### 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 in chrome strip.
2. Pull out tape concealing screws.
3. Remove balance of screws in chrome strip.
4. Lift off hood.

### HOOD SERVICE DOOR

1. Remove screws on front edges.
2. Lift door up and back.

### 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. Raise and push door six inches rear of track. Hold up on underside of door - pull forward.
2. Door will now slide out.

### ICE STORAGE DOOR FRAME

1. Remove six screws at bottom and sides.
2. Frame will now lift out.

### MOTOR COMPRESSOR - Power off at fuse box.

1. Front seat both suction service valve and discharge service valve on compressor.
2. Disconnect wiring from the compressor.
3. Remove the bolts holding the service valve to the compressor.
4. Remove the compressor hold-down nuts and lift compressor out of the units.
5. Reverse steps 1 through 4 in replacing compressor.
6. Check the oil in the compressor before connecting lines. Sight glass not over 1/2 full.

## SERVICE

### MICRO SWITCH IN SPOUT

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

### DRIVE MOTOR

1. Remove case hood - See Cabinet Top Removal Section.
2. Remove electrical connections.
3. Remove four base bolts.
4. Remove drive belt.
5. Lift out defective motor.
6. Remove pulley and install on new motor.
7. To replace, reverse procedure.
8. CAUTION: Drive motor rotation is COUNTER-CLOCKWISE facing shaft end.

### MANUAL ON AND OFF SWITCH

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

### GEAR REDUCER AND COUPLING

1. Remove rear door if accessible.
2. Remove drive pulley.
3. Loosen drive coupling set screw and slide down on gear reducer shaft.
4. Loosen four mounting bolts.
5. Lift out from rear of machine.
6. To replace, reverse procedure.
7. Check new gear reducer for proper oil level.

SERVICE

FREEZER ASSEMBLY

1. In most instances, it will be faster to facilitate freezer removal by removing cabinet top or hood. (See Removing & Installing Cabinet Parts.) Assembly can be changed if necessary through hood top panel.
2. Shut off water supply and drain water reservoir.
3. Remove refrigerant from system.
4. Remove suction and liquid line connections. (CAUTION: Plug all connections to prevent moisture from entering system.)
5. Remove tygon tube to water inlet connection at base on freezing chamber.
6. Loosen knurled nut holding spout to freezer and remove.
7. Remove two bolts holding freezer chamber to frame.
8. Lift freezer assembly up and out of unit.
9. Remove rubber drip pan from defective assembly and install it on new assembly.
10. Reverse above procedure to install new assembly.

WORM SHAFT

1. Turn unit off, before removing worm shaft.
2. Shut off water supply to unit.
3. Remove hood service door.
4. Remove two slotted head screws which fit through chamber wall into ice breaker.
5. 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 out with worm shaft.
6. To remove ice breaker from shaft, first remove retainer ring in top of ice breaker.
7. Remove freezer cap and pull ring from ice breaker.
8. Loosen hex head bolt holding shaft through bearing and pull worm shaft free from ice breaker and bearing.
9. 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 squared 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 6 under Worm Shaft Removal.
2. Next slide three-jaw drive coupling down on reducer or else remove top half of coupling.
3. Pull rubber drip pan down.
4. Remove large brass nut holding lower bearing and lower portion of water seal in place.
5. Lightly force lower bearing out.
6. Reach in and pull bottom portion of water seal out.
7. Reassembly is reverse of above.

## 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. Remove screws in control mounting bracket.
5. Disconnect leads.
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. Lift out reservoir.
6. To replace, reverse procedure.

### FAN CONTROL RESISTOR

1. Remove cover to box.
2. Disconnect two connections.
3. Install new resistor, reversing above steps.

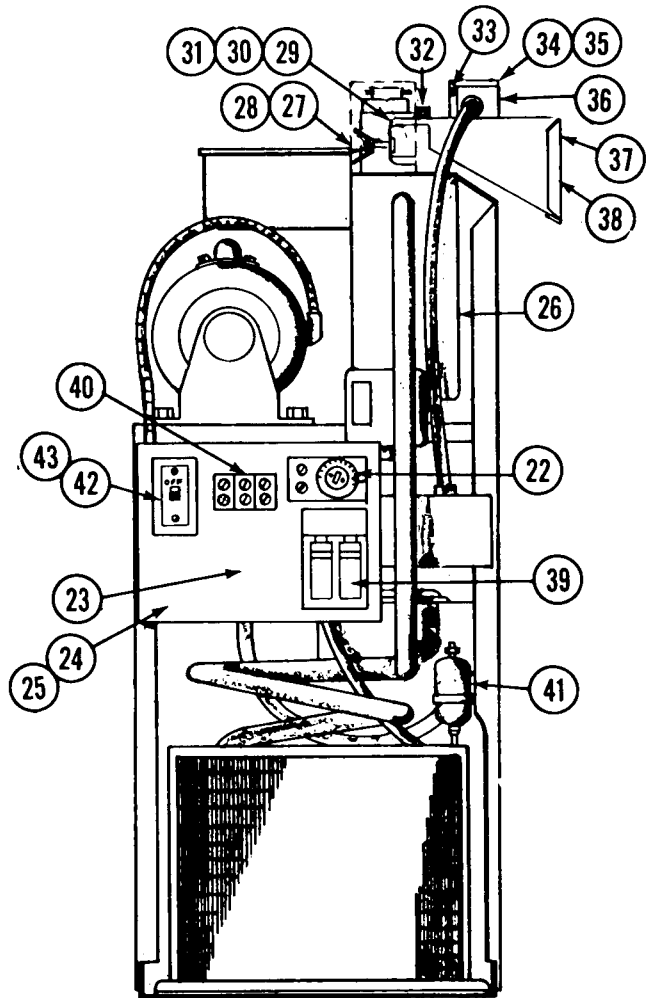
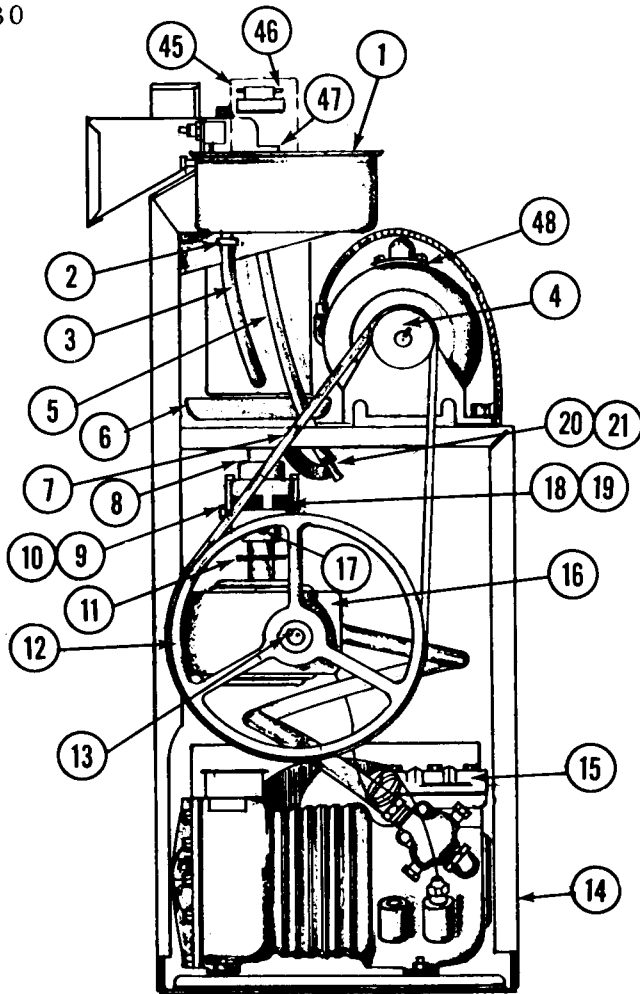
### HAND RE-SET LOW PRESSURE CUT-OUT SWITCH

1. Disconnect electrical supply.
2. Remove control box cover.
3. Put jumper across control wires if needed. Connect electrical supply and pump down to one pound PSI on lowside gauge.
4. Disconnect electrical supply again, then remove electrical lead to the control.
5. Loosen cap tube from crankcase and remove complete control. Cap up 1/4 inch flare fitting.
6. Install new control, being sure to purge at crankcase fitting when tightening up refrigerant connection.

### REVERSE ACTING HEAD PRESSURE CONTROL

1. Disconnect electrical supply.
2. Remove control box cover.
3. Front seat discharge service valve.
4. Remove capillary control to compressor head connection and wire leads to control.
5. Replace with new control reversing above steps.

## SF-3 H CHASSIS ASSEMBLY



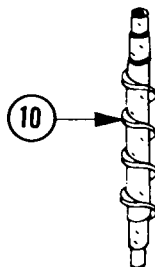
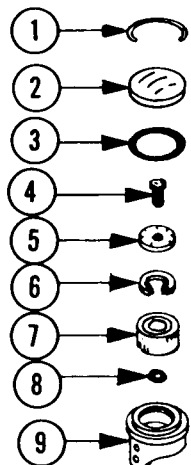
ITEM NO.	PART NO.	NAME
1.	A-8339	Reservoir Assy.
2.	2-694	Clamp
3.	5-186	Tygon Tubing 1/2 ID x 3/4 OD (per foot)
4.	2-1491	Pulley
5.	13-79	Tubing (rubber)
6.	13-208	Rubber Drip Pan
7.	13-583	Belt
8.	A-8594	Coupling, top
9.	S-8496	Coupling clamp (2)
10.	3-206	Cap Screws (2)
11.	13-152	Rubber Shield
12.	2-1492	Pulley (10" dia.)
13.	S-6035	Key
14.	A-15979	Frame
15.	18-521	Motor Compressor 230/60/1 AC
	18-555	Motor Compressor 230/60/1 WC
16.	2-641	Gear Reducer
17.	3-385	Set Screw
18.	A-8593	Coupling, bottom
19.	13-217	Coupling Insert (rubber)
20.	A-7387	Tee Assy. (7/16")
21.	2-534	Clamp (4)
22.	11-99	Bin Control
23.	11-346	High-Pressure Control (not on water cooled)
24.	A-14369	Cover Resistor (not on water cooled) *

ITEM NO.	PART NO.	NAME
25.	12-481	Resistor (not on water cooled) *
26.	A-8592-3	Freezer
27.	A-14275	Casting, Spout Holder
28.	3-679	Lockwasher (2)
29.	3-721	Screw (2)
30.	2-1437	"O" Ring
31.	A-14269	Casting, Spout
32.	A-14256	Nut, Knurled
33.	3-173	Screw (2)
34.	A-14241	Limit Box Cover
35.	12-1018	Micro Switch (*)
36.	A-14976	Limit Box
37.	A-16353	Pressure Plate (*)
38.	A-16350	Spout
39.	11-273-1	Low-Pressure Control (not on water cooled)
40.	12-1308-1	Terminal Board
41.	2-544	Drier
42.	12-530	Manual Switch (w/case) (*)
	12-530A	Manual Switch (less case) (*)
43.	12-708**	Overload (state mfg.) (*)
44.	A-15078	Left Spout Insulation
45.	A-15079	Right Spout Insulation
46.	A-8733	Clamps (2)
47.	12-649-2	Drive Motor 230/60/1
	12-649-7	Drive Motor 208/60/1

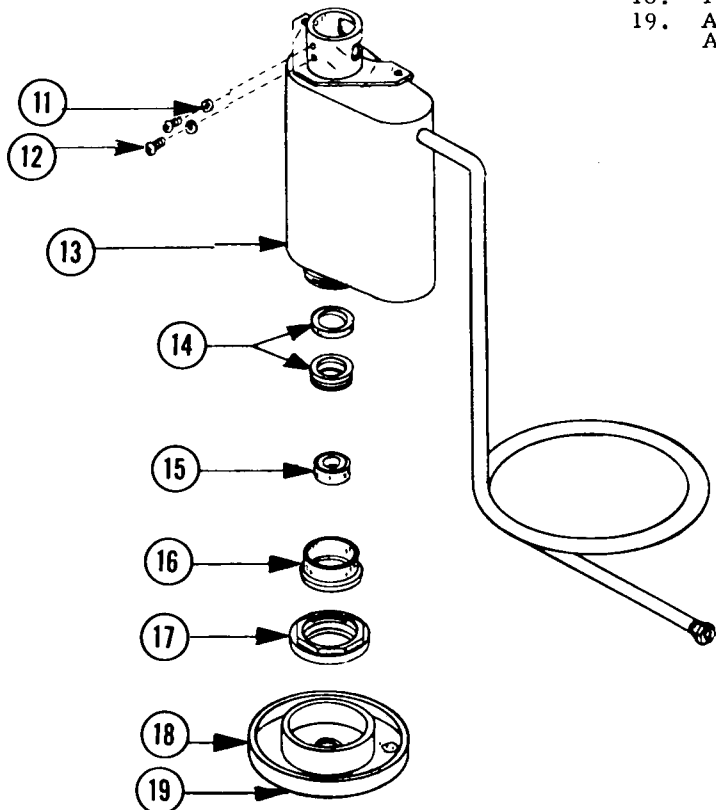
(\*) Not Shown

(\*\*) See Overload chart on page 48 for correct dash no.

## SF-3 H FREEZER ASSEMBLY



ITEM NO.	PART NO.	NAME
1.	A-8582	Cap Hook
2.	A-8581	Worm Shaft Cap
3.	2-560	'O' Ring
4.	3-715	Cap Screw
5.	A-6273	Washer
6.	3-712	Retainer Ring
7.	2-646	Top Bearing
8.	2-643	'O' Ring
9.	A-8585	Ice Breaker
10.	2-751	Worm Shaft
11.	3-679	Lock Washer (2)
12.	3-207	Brass Screws (2)
13.	A-8587	Worm Tube-Suction Line Assembly
14.	2-929	Water Seal
15.	2-619	Lower Bearing
16.	A-10591	Bearing Retainer
17.	A-6153	Worm Tube Nut
18.	13-208	Rubber Drip Pan
19.	A-8002 A-8592-3	Drain Tube Complete Freezer

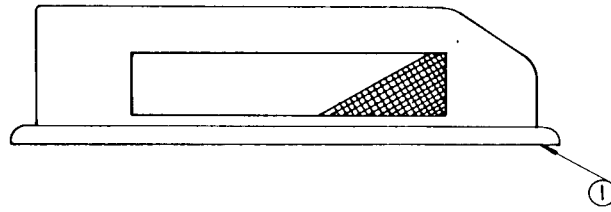




# RESERVOIR ASSEMBLY

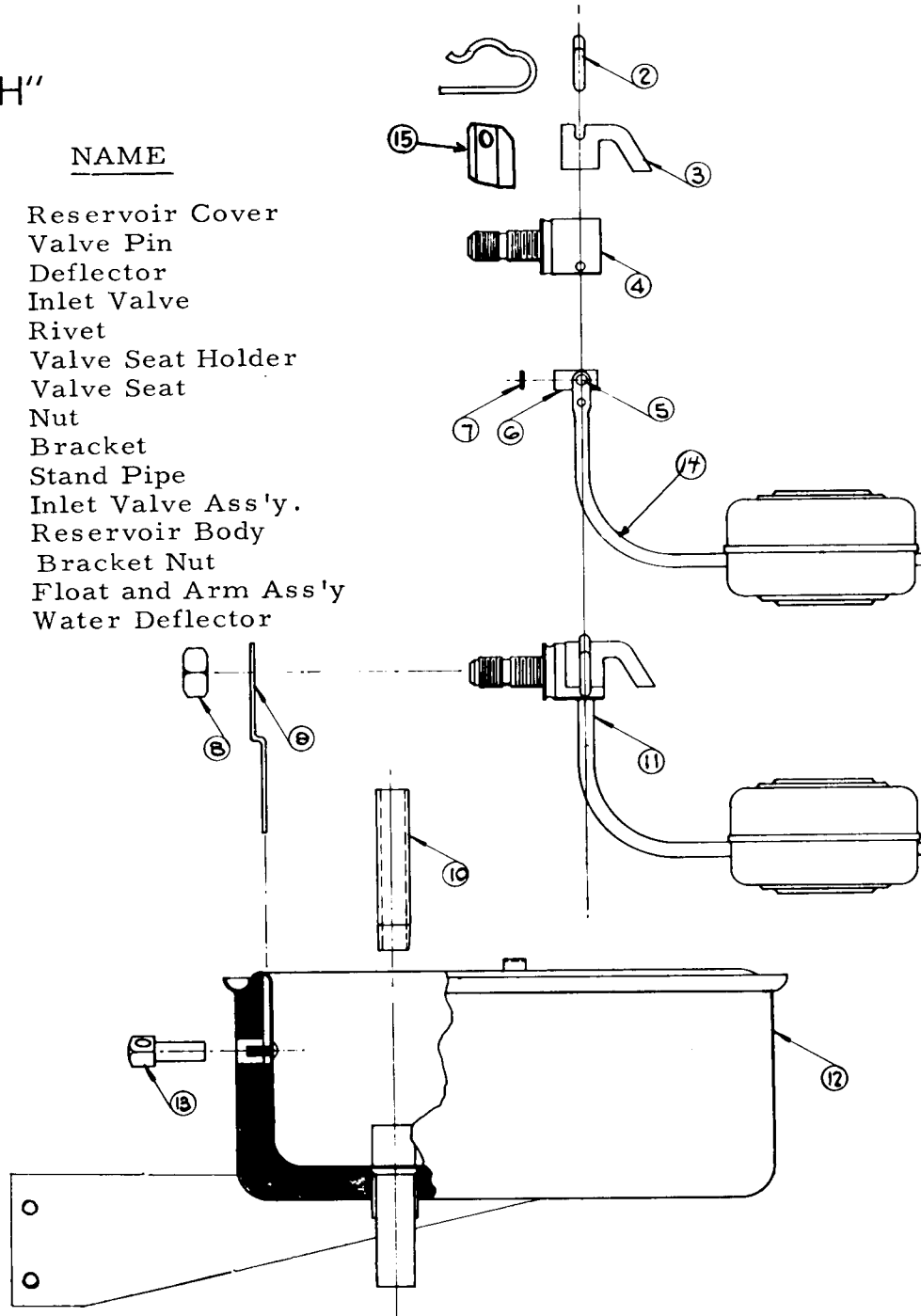
Part No. A-8339

LESS COVER



thru "H"

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>NAME</u>
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.	S-7044	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	Water Deflector



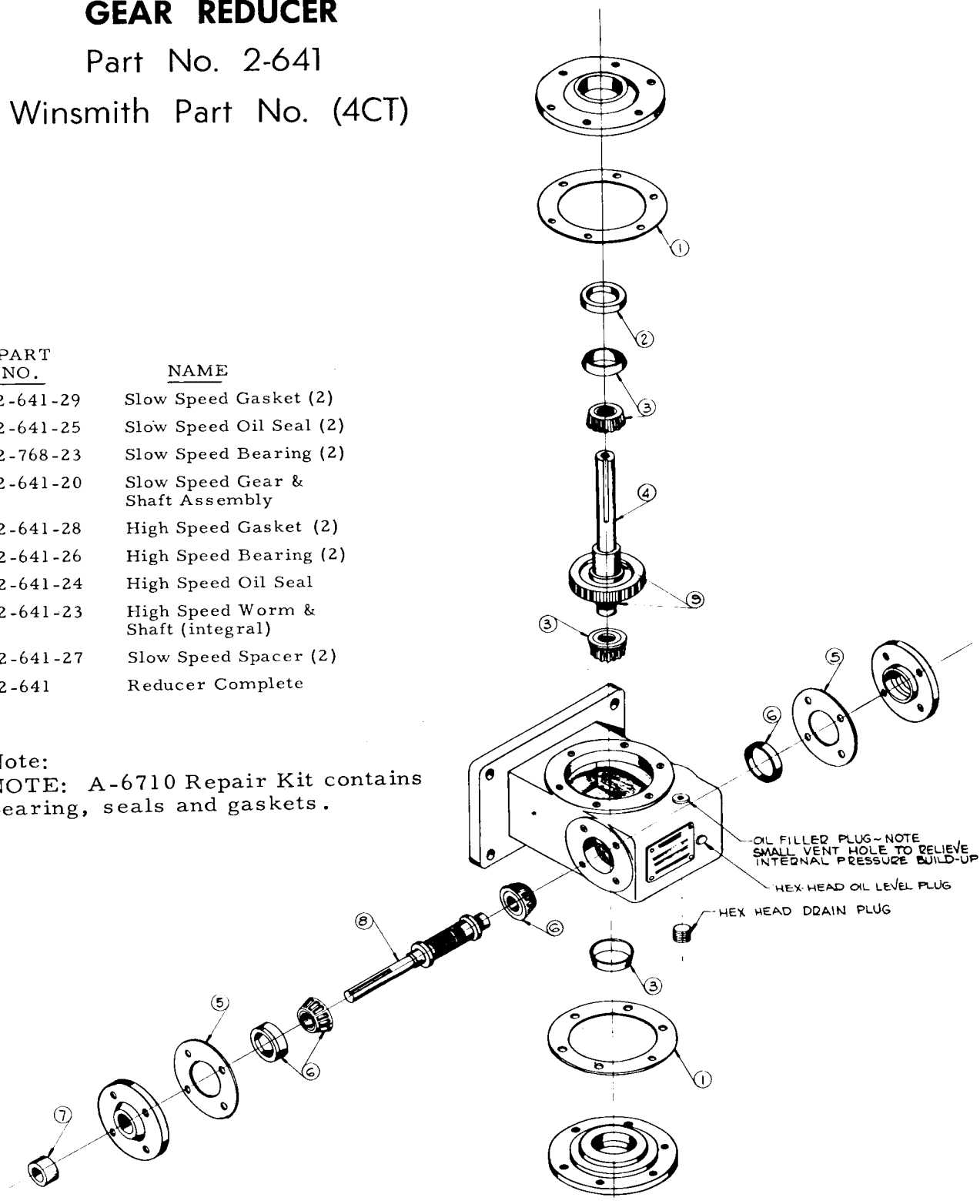
# GEAR REDUCER

Part No. 2-641

Winsmith Part No. (4CT)

ITEM NO.	PART NO.	NAME
1.	2-641-29	Slow Speed Gasket (2)
2.	2-641-25	Slow Speed Oil Seal (2)
3.	2-768-23	Slow Speed Bearing (2)
4.	2-641-20	Slow Speed Gear & Shaft Assembly
5.	2-641-28	High Speed Gasket (2)
6.	2-641-26	High Speed Bearing (2)
7.	2-641-24	High Speed Oil Seal
8.	2-641-23	High Speed Worm & Shaft (integral)
9.	2-641-27	Slow Speed Spacer (2)
	2-641	Reducer Complete

Note:  
NOTE: A-6710 Repair Kit contains bearing, seals and gaskets.



GEAR REDUCER

In answer to many field requests, we are pleased to release the following chart showing the companies whose products are acceptable substitutes for the 600W supplies by Winsmith as factory recommended.

Note the third column which most accurately represents the normal temperature operating range. Also the Alemite or Zerk fitting to bearing is greased with Mobil-grease BRB No. 1, or any good ball bearing grease as obtained from local service stations.

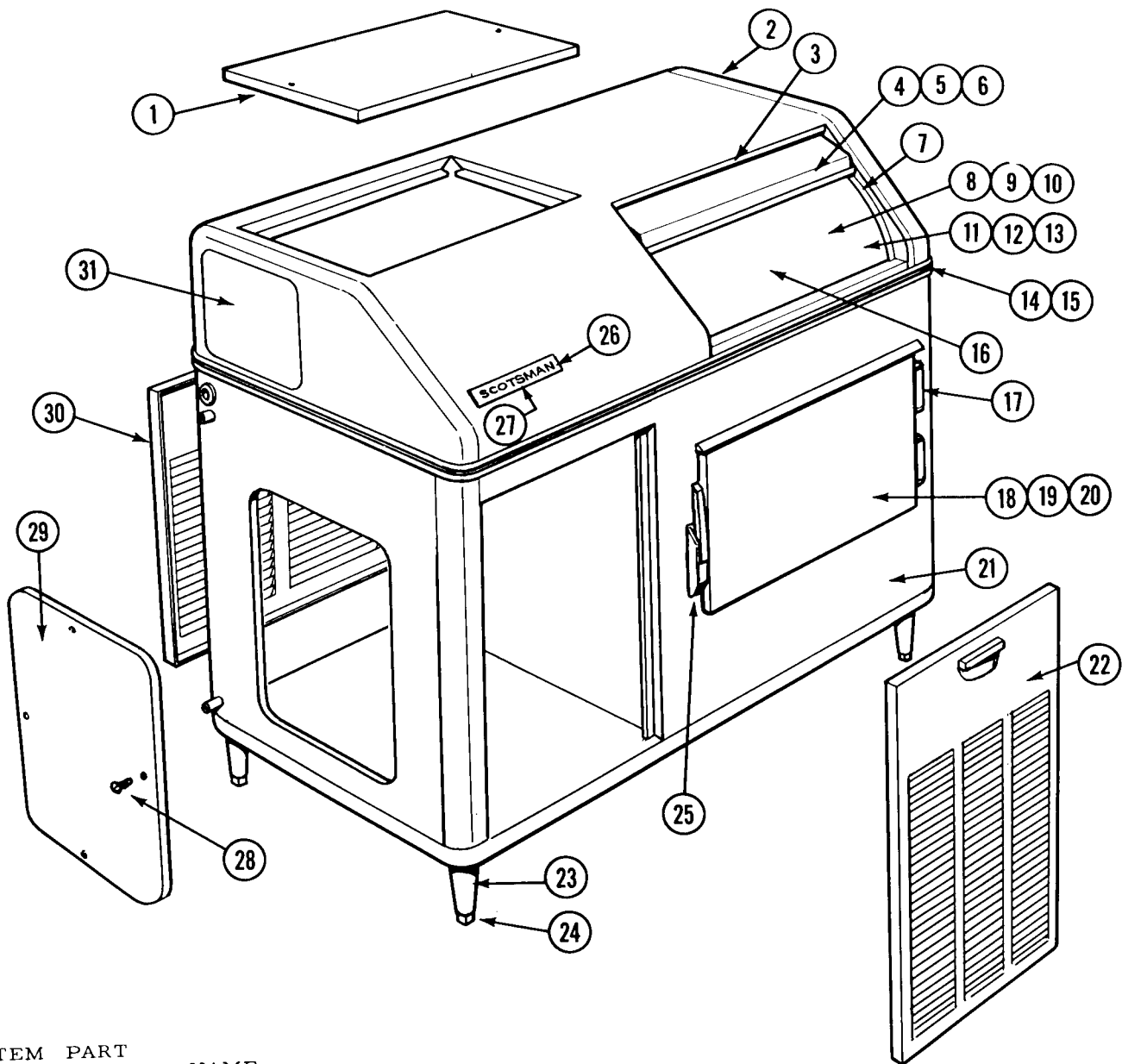
600W oils and equivalents are classified as industrial oils and most likely will be found in bulk plants rather than local service stations.

WORM GEAR REDUCERS

CB-CT-CV-CBD-CTD-CVD-CBX-CTX-CVX-DBI-TSR

Ambient Temperature °F	-30 to 15	16 to 50	51 to 110	111 to 165
Maximum Operating Temp. °F	150	185	225	225
Viscosity @ 210°F, SUS	40 to 90	90 to 125	125 to 190	190 to 350
Compounded with	(Optional)	3 to 10% Acidless Tallow or E. P. Base	3 to 10 % Acidless Tallow or E. P. Base	3 to 10% Acidless Tallow or E. P. Base
AGMA Lubricant		#7 Compound	# 8 Compound	
Cities Service Oil Co.	Pacemaker Oil # 5	Optimus Oil # 10	Optimus Oil # 6	Optimus Oil # 12
Fiske Bros. Refining Co.	#3 Lubriplate	Lubriplate # 8	Lubriplate # 8	Lubriplate APG
Gulf Oil Corporation	Multipurpose Gear Lubri-cant	E. P. Lubri-cant # 115	E.P. Lubri-cant # 145	E.P. Lubri-cant # 250
Shell Oil Company	Vitrea Oil 71	Valvata Oil #J 78	Valvata #J 78	Valvata #J 83
Sinclair Refining Co.	Duro Oil 160	#87 Heavy Duty Oil	#101 Super-Heat Valve Oil	#212 Super-Heat Valve Oil
Standard Oil Co.	Stanogear Compound #1	Stanogear Compound #4	Standard Worm Gear Oil	Calumet SH Cylinder Oil
Sun Oil Company Socony Mobil Oil Co., Inc.	Sunep 70 Vactra Oil # 1	Sunep # 110 Mobil Com-pound DD	Sunep #150 Mobil Cyl. Oil #600W	HV Cyl. Oil Mobil Cyl. Oil #600W
The Texas Company	Meropa Lub. # 1	Meropa Lub. # 3	Meropa Lub. # 6	Meropa Lub. # 6

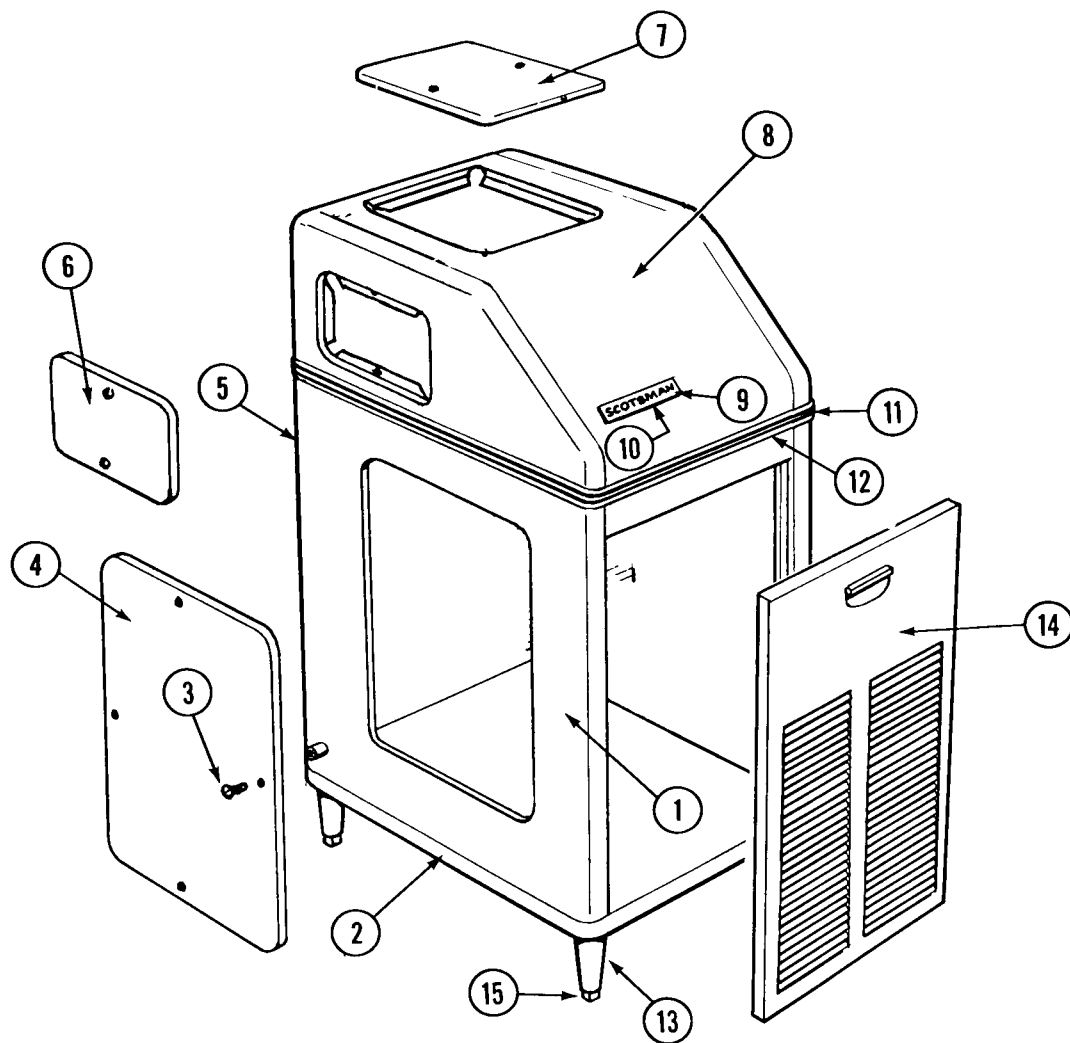
SF3 WSH CASE ASSEMBLY



ITEM NO.	PART NO.	NAME
1.	A-7676	Top Door
2.	A-15602	Hood Assy.
3.	A-16209	Door Catch
4.	A-15559	Sliding Door
5.	3-640	Door Glides (door)
6.	3-1195	Door Glides (hood)
7.	A-16208	Door Track
8.	A-15780	Storage Bin
9.	A-15785	Insulation Layout
10.	A-18093	Drain Assy.
11.	2-530	"O" Ring
12.	A-18090	Drain Fitting (male)
13.	A-6448	Strainer
14.	15-324	Plastic Trim (per ft.)
15.	S-6413	Front Moulding Strip
16.	3-1212	Bulb Holder
17.	2-1569	Hinge (2 reqd.)
18.	A-18300	Door Assy. Complete

ITEM NO.	PART NO.	NAME
19.	13-264	Door Gasket
20.	2-1000	Door Liner
21.	A-18298	Case Assy. (less doors)
22.	A-15864	Front Door
23.	A-15803	Leg
24.	8-522	Leg Leveler
25.	2-1568	Door Latch
26.	15-156	Emblem
27.	3-271	Speednut
28.	3-775	Screw
29.	S-6713	Side Door
30.	A-7247	Rear Door
31.	A-6530	Top Side Door

## SF-3H CASE ASSEMBLY

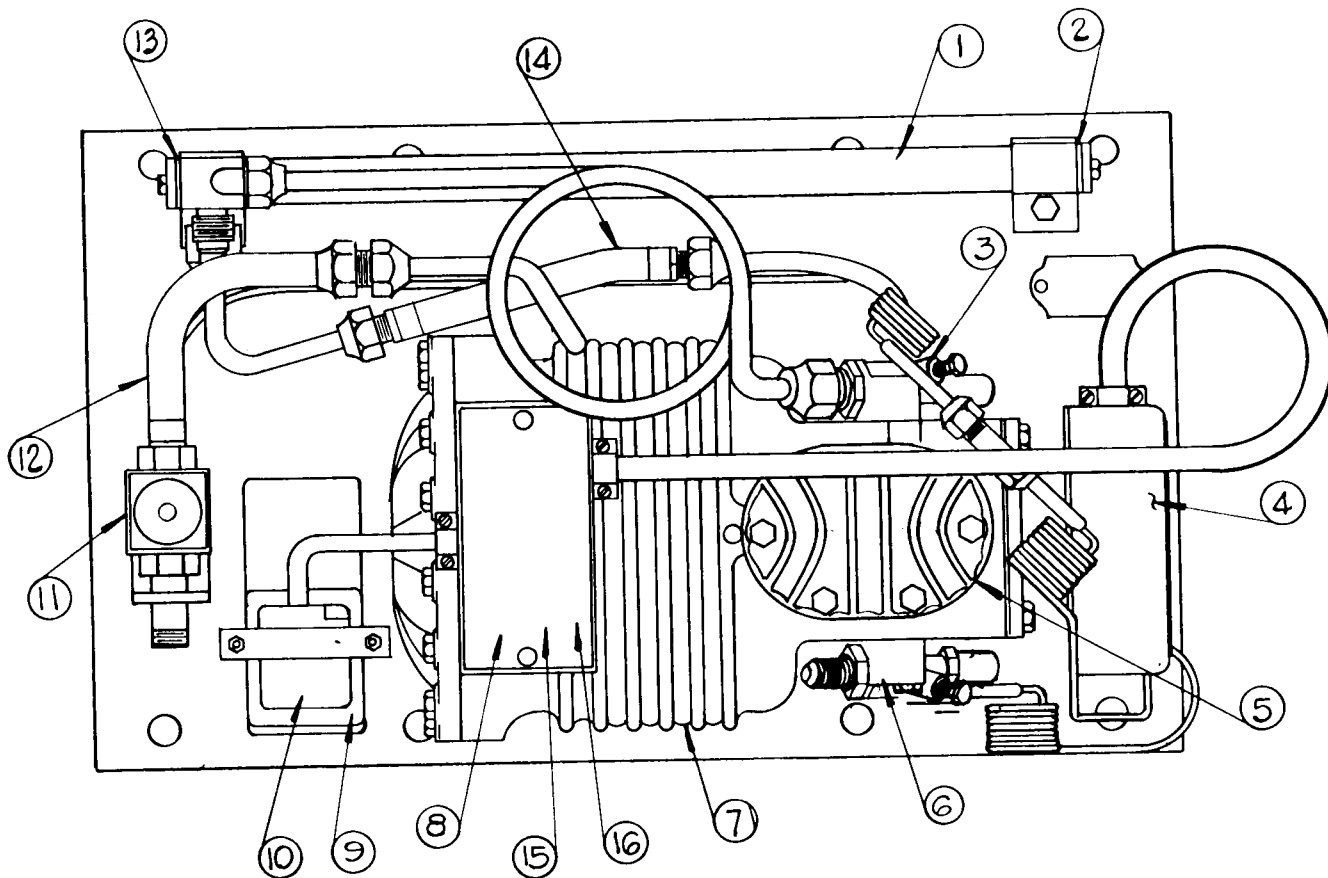


ITEM NO.	PART NO.	NAME
1.	A-16079	Case Assembly (less doors)
2.	A-8902-3	Moulding Strip (bottom) (2 reqd.)
3.	3-775	Screw (s.s.)
4.	S-6713	Side Door
5.	A-7247	Rear Door (*)
6.	A-6530	Top Side Door
7.	A-7676	Top Door
8.	A-16606	Case Hood (less doors)
9.	15-156	Scotsman Emblem
10.	3-271	Speed Nuts
11.	15-324	Plastic Trim Insert (per foot)
12.	S-6686	Moulding Strip (top)
13.	A-15803	Legs (4 reqd.)
14.	A-15864	Front Door
15.	8-522	Leg Levelers

(\*) Not Shown

## CONDENSING UNIT SF-3

1 HP Water Cooled, Copeland



NOTE: Not available as a complete mounted assembly.

ITEM NO.	PART NO.	NAME
1.	18-354	Condenser
2.	18-548	Plain Gasket
3.	18-1908	Discharge Service Valve
4.	11-286-1	High Pressure Control ***
5.	18-326	Valve Plate & Gasket Kit Assembly (*)
6.	18-561	Suction Service Valve
7.	18-555	Motor Compressor
	18-569	230/60/1
	18-553	208-220/60/3 ***
	18-553	208/60/1
8.	18-533	Klixon Overload (*)
9.	18-1901-15	Starting Capacitor (**)
	18-1902-17	Running Capacitor
10.	18-1903-18	Relay (**)
11.	11-198	Water Valve
12.	18-260	Compressor to Valve Water Hose

ITEM NO.	PART NO.	NAME
13.	18-549	Manifold Gasket
14.	18-261	Compressor to Condenser Water Hose
15.	18-270	Terminal Board (*)
16.	18-241	Terminal Assembly (*)
17.	18-1902-17	Running Capacitor

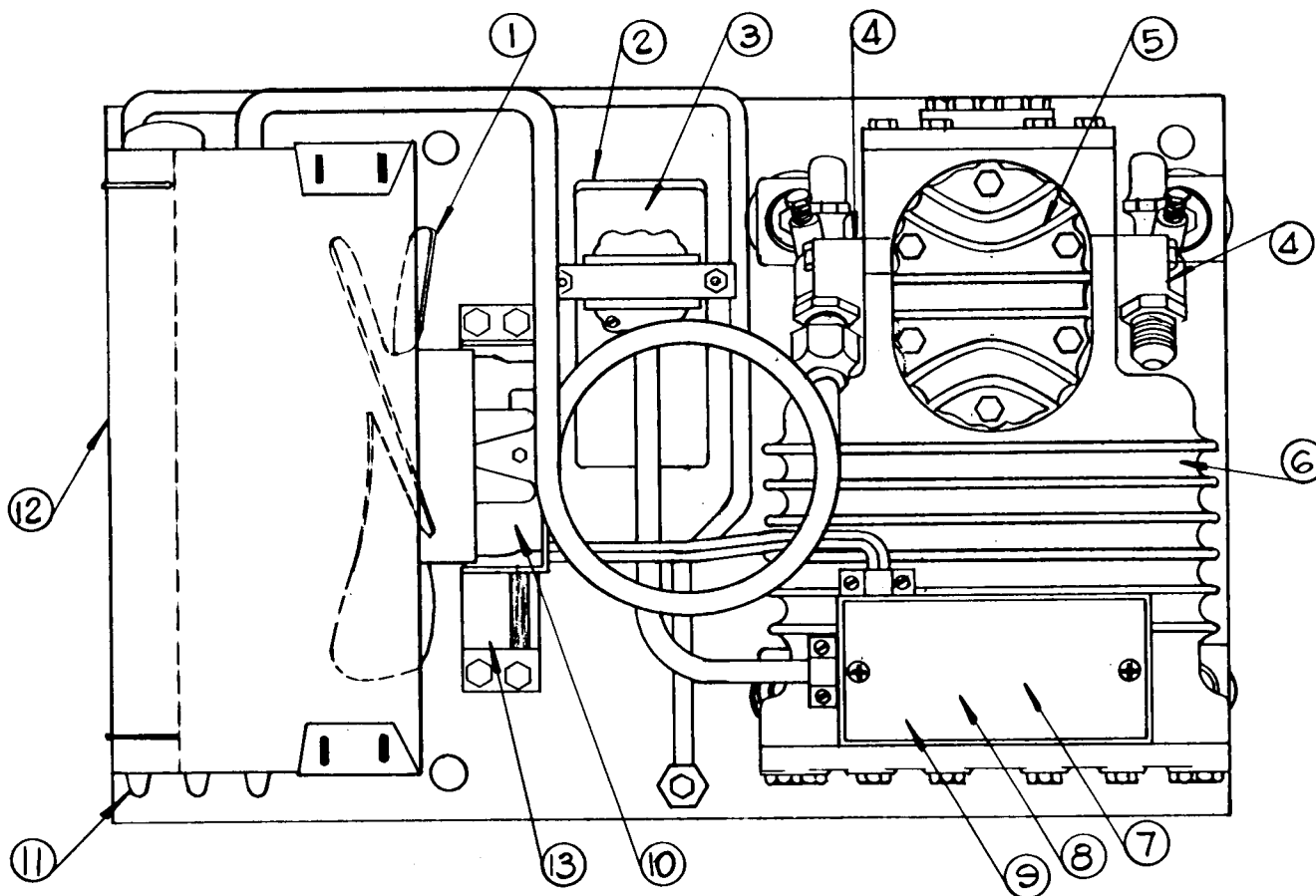
NOTE: If possible use Copeland Part No. when ordering capacitors and relays. Overload not used on units that are inherent protected.

\*\*\*  
11-286 High Pressure Control located in main control box on "H" models

(\*) Not Shown

## CONDENSING UNIT

1 HP Air Cooled, Copeland



NOTE: Not available as a complete mounted assembly.

ITEM NO.	PART NO.	NAME
1.	18-751	Fan Blade
2.	18-1901-15	Starting Capacitor **
3.	18-1903-18	Relay **
4.	18-561	Suction Service Valve (18-237 discharge valve)
5.	18-326	Valve Plate & Gasket Kit Assembly *
6.	18-521	Motor Compressor 230/60/1
	18-573	208-220/60/3
	18-534	208/60/1
7.	18-533	Overload Klixon (*)
8.	18-241	Terminal Assembly (*)
9.	18-270	Terminal Board (*)
10.	18-595-2	Fan Motor

ITEM NO.	PART NO.	NAME
11.	18-530	Condensator
12.	A-17901	Shroud
13.	18-597	Fan Motor Bracket
14.	18-1902-17	Running Capacitor (*)

NOTE: Overload not used on units that are inherent protected. If possible use Copeland Part No. when ordering capacitors and relays.

(\*) Not Shown

MAINTENANCE INSTRUCTIONS  
FOR  
SCOTSMAN SUPER FLAKERS

The following services must be accomplished a minimum of two (2) times per year on all Scotsman Super Flakers.

1. Check and clean water strainers and float valves. 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 should come out of spout with ice at all times. Adjust as required.
  3. Clean reservoir and interior of freezer assembly using Scotsman Ice Machine Cleaner.
    - A.
      1. Set main switch to OFF.
      2. Remove all ice from storage bin.
      3. Turn off water supply or block float. Drain reservoir by removing overflow tube (gray plastic tube) in reservoir. Replace overflow tube.
      4. Set main switch to ON and pour cleaning solution into reservoir. Do not fill above overflow tube.  
Models SF2 & SF3 -- Use 6 oz. of Scotsman cleaner  
1 qt hot water.
      5. Continue to make ice on solution until the solution is used up and reservoir is empty.
      6. Set main switch to OFF. Remove overflow tube, wash and rinse reservoir, replace overflow tube, turn water on or remove block float.
      7. 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.
      8. 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.
      9. Turn MAIN SWITCH to ON. Replace Service Door. Unit is ready for normal operation.
    - B. If heavy mineral deposits on auger and walls, or sediment at inlet to freezer are encountered, clean by pouring strong solution (1/2 acid - 1/2 water) into reservoir and operate drive motor only for agitation. Allow 1/2 hour or longer as required. Drain by disconnecting tygon at water inlet to freezer.
- 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, set pressure at 135 P S I. Suction pressure should be above 12 P S I and will range up to 16 P S I depending upon water and ambient temperatures.



5. Set hand reset low pressure control to cut off in event of water supply interruption or low ambient temperature at approximately 5 P S I.
6. Change oil in gear reducer. Use Mobiloil 600 W or equivalent good grade of gear oil with a viscosity of 125 to 190. For unit with grease fittings use Mobilgrease BRB No. 1 or any good grade ball bearing grease. Particularly important when there is evidence that water has gotten into gear housing. Remove gear reducer to facilitate.
7. Oil drive motor. Use S A E Oil.
8. Check top bearing of freezing tube. Pry upward around edge of stamped brass cap. If moisture is around bearing, wipe up and remove grease. Add new grease. To replace cap, insert small wire under cap edge to vent air and remove when cap is on tight.
9. Check and adjust belt tension.
10. Clean air cooled condenser. Inform customer to clean frequently. Always shut off machine when cleaning.
11. Oil condenser fan motor when possible.
12. Check for refrigerant leaks and proper frost line. Should frost out of accumulator approximately one-half way to compressor.
13. Check for water leaks. Tighten drain line connections. Run water down bin drain line to make sure it is open.
14. Check quality of ice. Ice should be wet when formed, but will cure rapidly to normal hardness in the bin.
15. Check thermostat and pressure plate cut off. Micro - switch cuts off only compressor. Bin thermostat should be set at 10<sup>o</sup> differential and should keep entire machine off at least twenty minutes in high ambients (longer in low) during normal operations.

## SERVICE ANALYSIS

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Unit will not run	<p>Blown fuse</p> <p>Thermostat set too high</p> <p>Loose electrical connection</p> <p>Switch in OFF position</p> <p>Inoperative master switch</p> <p>OFF on the hand reset low pressure control</p>	<p>Replace fuse and check for cause of blown fuse.</p> <p>Adjust thermostat. Set between 35° - 45°.</p> <p>Check wiring</p> <p>Turn switch to ON</p> <p>Replace switch</p> <p>Push hand reset.</p>
Compressor cycles intermittently	<p>Low voltage</p> <p>Dirty condensor</p> <p>Air circulation blocked</p> <p>Non-condensable gases in system</p>	<p>Check for overloading.</p> <p>Clean.</p> <p>Move unit to correct.</p> <p>Purge off.</p>
Making wet ice	<p>Surrounding air temperature above 100° F.</p> <p>Under or over-charge of refrigerant.</p> <p>High water level in water reservoir</p> <p>Faulty compressor valve plate</p>	<p>Correct or move unit to cooler location.</p> <p>Recharge with proper amount.</p> <p>Lower to 1/4 inch below overflow pipe.</p> <p>Repair or replace.</p>
Low ice production	<p>Loss of refrigerant, under or over-charge of refrigerant</p> <p>Dirty or plugged condensor</p> <p>Low water level in water reservoir.</p> <p>Overcharge of oil in system</p> <p>Partial restriction in capillary tube or drier</p> <p>Inlet water strainer partially plugged</p> <p>Corroded or stained worm shafts due to water condition.</p>	<p>Check and recharge with proper amount of refrigerant.</p> <p>Clean condensor</p> <p>Adjust to 1/4 inch below overflow.</p> <p>Check at oil sight glass. Lower to 1/2 sight glass.</p> <p>Moisture in system. Over-charge of oil in system. Remove charge and drier. Replace and recharge system.</p> <p>Remove screen and clean</p> <p>Remove worm shafts and clean.</p>

## SERVICE ANALYSIS

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Machine runs but makes no ice	<p>Loss or under-charge of refrigerant</p> <p>Drive motor, gear reducer or drive coupling inoperative</p> <p>Water not entering freezing chamber</p> <p>Moisture in system</p> <p>Water seal leaking</p> <p>Defective manual overload switch</p>	<p>Check for leaks and recharge.</p> <p>Check. Repair or replace.</p> <p>Plugged strainer or supply line. Check and clean. Air lock in gravity feed line. Check and remove air lock.</p> <p>Check and remove charge and drier. Replace and recharge.</p> <p>Replace seal.</p> <p>Replace switch</p>
Water leaks	<p>Defective water seal</p> <p>Gravity feed line leaking</p> <p>Water level in reservoir too high</p>	<p>Replace</p> <p>Check hose clamps.</p> <p>Adjust to 1/4 inch below overflow pipe.</p>
Excessive noise or chattering	<p>Mineral or scale deposit on auger and inner freezing chamber walls</p> <p>Low suction pressure</p> <p>Intermittent water supply</p> <p>Water level in reservoir too low</p> <p>Misaligned drive coupling</p> <p>Gear reducer low on oil charge</p> <p>Gear reducer loose on frame</p> <p>Drive motor end-play or worn bearings</p> <p>Motor compressor not floating on springs</p>	<p>Remove and manually polish auger, sand inner chamber walls of freezer barrel with approx. 100 grit paper. Use vertical strokes. For lighter concentrations use Scotsman Ice Machine Cleaner periodically.</p> <p>Add gas to raise suction pressure. Raise head pressure control setting.</p> <p>Check and clean water strainer. Check gravity feed line for air lock. Remove air lock.</p> <p>Adjust to 1/4 inch below overflow pipe.</p> <p>Repair or replace</p> <p>Check oil level and refill to oil level plug.</p> <p>Tighten</p> <p>Repair or replace</p> <p>Loosen hold-down bolts.</p>
Machine continues to run with full storage bin	Storage bin thermostat not properly set	Reset or replace, 45° in, 35° out.

PARTS LIST

SF-3H

FREEZER ASSEMBLY

DESCRIPTION

PART NO.

Freezer Assembly- Complete	A-8592-3
Ice Breaker	A-8585
'O' Ring	2-560
'O' Ring	2-643
Top Bearing	2-646
Lock Washer	3-679
Unit Cap	A-8581
Cap Screw	3-715
Washer	A-6273
Worm Shaft	2-751
Retaining Ring	3-712
Water Seal	2-929
Lower Bearing	2-619
Bearing Retainer	A-10591
Worm Tube Nut	A-6153
Worm Tube Suction, Accumulator Assembly	A-8587
Drip Pan Assembly	13-208
Front Casting, Spout Holder	A-14269
Rear Casting, Spout	A-14275
Knurled Nut (Spout to Casting)	A-14256
'O' Ring-Spout Casting	2-1437
Spring-Spout	2-1321
SS Spout Only	A-16350
Brass Machine Screw-1/4-20x2 1/2 inches casting to casting	3-721
Spout Micro Switch	12-1018
Brass Machine Screw-1/4-20x5/8 inch-spout casting to ice breaker-top	3-207
Lockwasher-1/4 inch for screws above	3-679

PARTS LIST

SF-3H

CABINET PARTS	SF-3H	SF-3WSH
DESCRIPTION	PART NO.	PART NO.
Case Assembly	A-16079	A-18298
Case Door Assembly		A-18300
Storage Bin Assembly		A-15780
Case Door Liner, Plastic		2-1000
Drain Assembly, Male		A-18090
Latch and Strike		2-1568
Drain 'O' Ring		2-530
Hinge, Case Door		2-1569
Case Hood Assembly, Less Doors	A-16606	A-15602
Hood Reservoir Cover	A-7676	A-7676
Top Side Door	A-6530	A-6530
Door Slide Assembly		A-16208
Sliding Door		A-15559
Left Side Door Panel	S-6713	S-6713
Front Door Panel	A-15864	A-15864
Rear Door Panel	A-7247	A-7247
Rear Moulding Strip		A-5829
Front Moulding Strip	S-6686	S-6413
Scotsman Emblem	15-156	15-156
Leg for raising base	A-15803	A-15803
Plywood Crate	1-647	1-646
Leg Leveler	8-522	8-522
Insulation Layout		A-15785
<u>WATER CIRCUIT</u>		
Water Reservoir Assembly	A-8339	A-8339
Water Reservoir Body Only	A-13409	A-13409
Water Inlet Valve	S-8138	S-8138
Rubber Valve Seat for S-8138	S-6947	S-6947
Valve Seat Holder	A-5777	A-5777
Valve Pin	2-1259	2-1259
Float Arm Ass'y	A-12067	A-12067

## PARTS LIST

SF-3H

Section  
F5-3  
Page 45WATER CIRCUIT (Continued)  
DescriptionSF-3H  
Part No.SF-3WSH  
Part No.

Plastic Water Deflector

2-1320

2-1320

Standpipe

S-6715

S-6715

Inlet Water Bracket

A-12869

A-12869

Reservoir Cover Assembly

A-16012

A-16012

Water Strainer, Supply Line

16-162

16-162

Plastic Ice Scoop

2-540

2-540

## DRIVE CIRCUIT

SF-3H &amp; SF-3WSH

## DESCRIPTION

PART NO.

Gear Reducer

2-641

Gear Reducer Repair Kit

A-6710

3 Jaw Coupling - Bottom Half

A-8593

3 Jaw Coupling - Top Half

A-8594

Rubber Coupling Insert

13-217

Allen Set Screw

3-385

Clamp - 2 per coupling

S-8496

Cap Screw - 2 per coupling

3-206

Rubber Drip Shield - Gear Reducer Shaft

13-152

Drive Belt

13-583

1/3 H P Drive Motor 230/60/1  
208/60/112-649-2  
12-649-7

Pulley - For Drive motor 2 1/2"

2-1491

Pulley - For Gear Reducer 8"

2-1492

## ELECTRICAL COMPONENTS

Bin Thermostat

11-99-1

Head Pressure Control - Penn

11-346

Resistor for Head Pressure Control Kit

12-481

Resistor Box Cover Only

A-14369

Low Pressure Control - Ranco - Hand Reset

11-273-1

Micro Switch for Spout

12-1018

Drive Motor Overload (See Page 48)

12-708

On -Off Toggle Switch (drive motor)

12-530A

PARTS LIST

SF-3H

	SF-3H & SF-3WSH Part No.
ELECTRICAL COMPONENTS (Cont'd.)	
Contactor 208/220/60/3	12-739-2
Water Regulating Valve - Water Cooled Units	11-198
CONDENSING UNITS	
Drier	2-544
Motor Compressor Only 230/60/1, 1 H P	18-521
Valve Plate	18-326
Cylinder Head	18-329
Relay	18-1903-18
Starting Capacitor	18-1901-15
Running Capacitor	18-1902-17
Motor, Fan	18-788-2
Fan Blade	18-787
Bracket for Fan Motor	18-597
Condenser - Air Cooled	18-530
Condenser Shroud	A-17901
Compressor Discharge Service Valve	18 - 327
Compressor Suction Service Valve	18-561
Klixon Thermal Overload	18-533
Terminal Assembly	18-241
Service Valve Gasket	18-242
Condensing Unit - Water Cooled -230-/60/1	
Uses same capacitor, relays, Klixon, etc., as above, does NOT same condenser, fan motor, etc.	
Motor Compressor only	18-555
Condenser	18-354
Compressor to Water Valve Hose	18-260
Compressor to Condenser Hose	18-261
Plain Gasket - Water Cooled Condenser	18-548
Manifold Gasket - Water Cooled Condenser	18-549
Water Regulating Valve	11-198
Dual Pressure Control	11-286

## PARTS LIST

Section  
F5-3  
Page 47

SF-3H

CONDENSING UNITS (Cont.)  
DESCRIPTIONSF-3H & SF-3WSH  
PART NO.Air Cooled - 1 H P -  
208/60/1

1 H P Motor Compressor only - KK100C - 208/60/1	18-534
Valve Plate and Gasket Kit Assembly	18-326
Relay	18-1903-17
Starting Capacitor	18-1901-15
Running Capacitor	18-1901-17
Fan Motor	18-788-7
Fan Blade	18-787
Air Cooled Condenser	18-530
Condenser Shroud	A-17901
Complete Terminal Assembly	18-241

Air Cooled - 1 H P -  
208 - 220/60/3

1 H P Motor Compressor only	18-573
Valve Plate and Gasket Kit	18-326
Fan Blade	18-787
Motor	18-788-7
Condenser	18-530
Shroud	A-17901
Complete Terminal Assembly	18-241

NOTE: 3 phase use no relay, running or starting capacitors.

## MISCELLANEOUS

Ice Scoop	2-540
Ice Machine Cleaner - 8 oz. bottle	19-343
Grey Spray - On Touch - Up Paint	10-153
Upper Bearing Grease - Freezer Assembly - Pint Cans Only	19-309
600 W Gear Reducer Transmission Oil - Pint Cans Only	19-359
Tygon Tubing (1/2" I D x 3/4" O D) Per ft.	5-186
Rubber Tubing (3/8" I D) Per ft.	13-79
Clamp (for tygon tubing - Freezer end)	2-694
Clamp (for tygon tubing - Reservoir end)	2-535
Clamp (for rubber tubing - Reservoir end)	2-534
Clamp (for rubber tubing - Tee end)	2-538



OVERLOAD HEATER CHART FOR MANUAL STARTER SWITCH

QUEEN PART NO. 12-530, GE PART NO. CR101H1, QUEEN PART NO. 12-1221 AND WESTINGHOUSE PART NO. MST02SN

Queen Motor No.	Manufacturer	Electrical Characteristics	Manuf. Part No.	Queen Part No. for G.E. Overload	Manuf. Part No.	Queen Part No. For Westinghouse Overload	Manuf. Part No.
12-864-1	G. E.	115/60/1 1/3 HP	KC35KG312	12-708-29	123H6.25A	12-1221-27	MSH6.0A
12-864-1	Westinghouse	115/60/1 1/3 HP	S309P520	12-708-27	123H5.29A	12-1221-27	MSH6.0A
12-864-1	Century	115/60/1 1/3 HP	CSF48HKA	12-708-26	123H4.86A	12-1221-25	MSH5.0A
12-864-2	G. E.	230/60/1 1/3 HP	KC35KG319	12-708-21	123H3.17A	12-1221-20	MSH3.1A
12-864-2	Westinghouse	230/60/1 1/3 HP	S309P334	12-708-20	123H2.91A	12-1221-19	MSH2.8A
12-864-2	Century	230/60/1 1/3 HP	CSF48HKA	12-708-18	123H2.45A	12-1221-19	MSH2.8A
12-864-7	G. E.	208/60/1 1/3 HP	KC35KG317	12-708-22	123H3.46A	12-1221-21	MSH3.4A
12-864-7	Westinghouse	208/60/1 1/3 HP	S309P334	12-708-19	123H2.67A	12-1221-18	MSH2.5A
12-864-7	Century	208/60/1 1/3 HP	CSF48HKA	12-708-20	123H2.91A	12-1221-19	MSH2.8A
12-649-1	Westinghouse	115/60/1 1/3 HP	311P096	12-708-33	123H8.73A	12-1221-31	MSH8.8A
12-649-1	Century	115/60/1 1/3 HP	CSJ56-KKA	12-708-29	123H6.25A	12-1221-27	MSH6.0A
12-649-1	G. E.	115/60/1 1/3 HP	5KC42JG24	12-708-30	123H6.80A	12-1221-28	MSH6.6A
12-649-2	Westinghouse	230/60/1 1/3 HP	311P061	12-708-25	123H4.46A	12-1221-24	MSH4.5A
12-649-2	Century	230/60/1 1/3 HP	CSJ56-KKA	12-708-21	123H3.17A	12-1221-20	MSH3.1A
12-649-2	G. E.	230/60/1 1/3 HP	5KC42JG2	12-708-22	123H3.46A	12-1221-21	MSH3.4A
12-649-7	Century	208/60/1 1/3 HP	CSJ56-KKA	12-708-22	123H3.46A	12-1221-21	MSH3.4A
12-649-7	G. E.	208/60/1 1/3 HP	5KC42JG31E	12-708-22	123H3.46A	12-1221-21	MSH3.4A
12-649-7	Westinghouse	208/60/1 1/3 HP	311P061	12-708-24	123H4.10A	12-1221-31	MSH8.8A

NOTE: The overloads as listed are in accordance with Underwriters requirements.  
Any deviation will be in violation.