

T A B L E O F C O N T E N T S
S M 4 5 J

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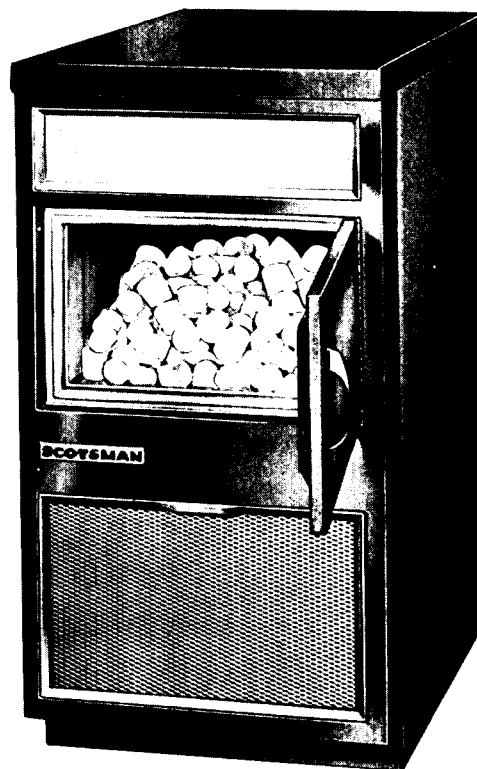
SCOTSMAN®

SUPER CUBER

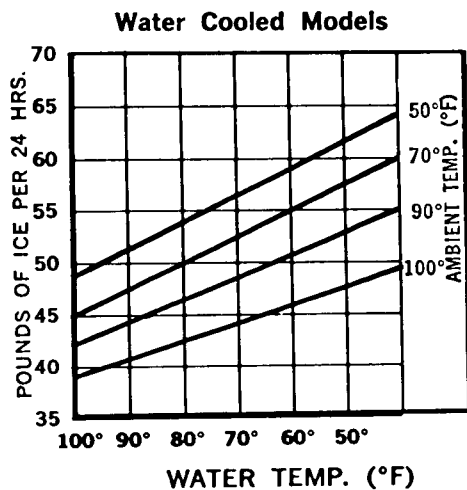
SM-45

SERIES

Storage Type

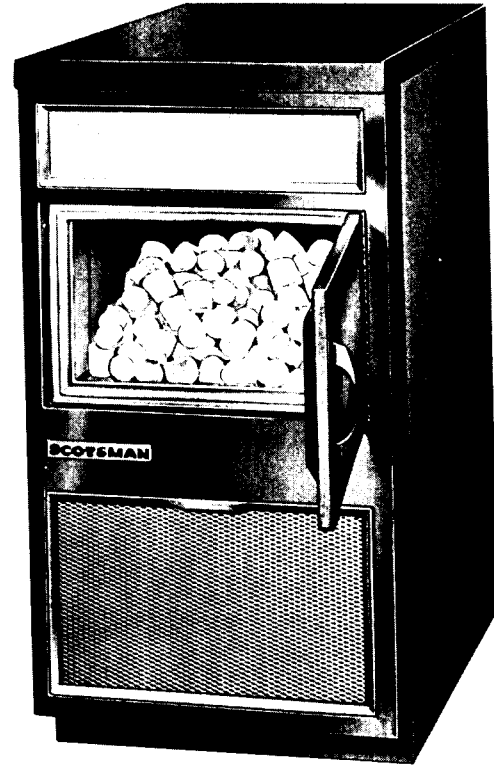


ice making capacity

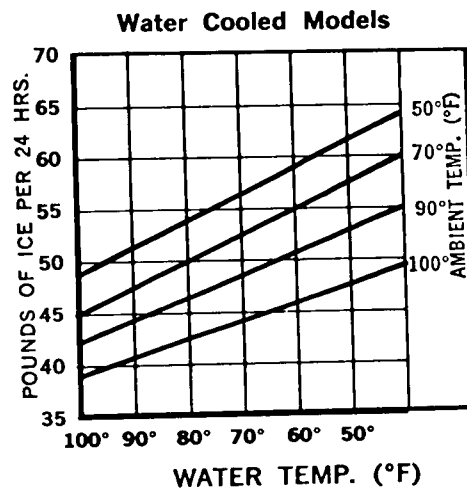


SCOTSMAN[®]

SUPER CUBER SM-45 SERIES Storage Type



ice making capacity



MECHANICAL SPECIFICATIONS

Model SM 45 J

Compressor	_____	115/60/1, 1/4 H.P.
Condenser - Receiver	_____	Water Cooled
Refrigerant	_____	Refrigerant 12
Refrigerant Charge	_____	16 ounces
Power Consumption Total	_____	5.0 Amperes
Water Consumption to Produce Ice	_____	5 Quarts per Hour
Water Used by the Condensing Unit	_____	5 Gallons per Hour Inlet - Varies with Water Temperature.
Flow Control Rate - Water Inlet Line	_____	.40 Gallons per Hour
Flow Control Rate - Defrost Valve	_____	.25 Gallons per Minute.
Ice Cubes Per Harvest	_____	24 Compact Cubes

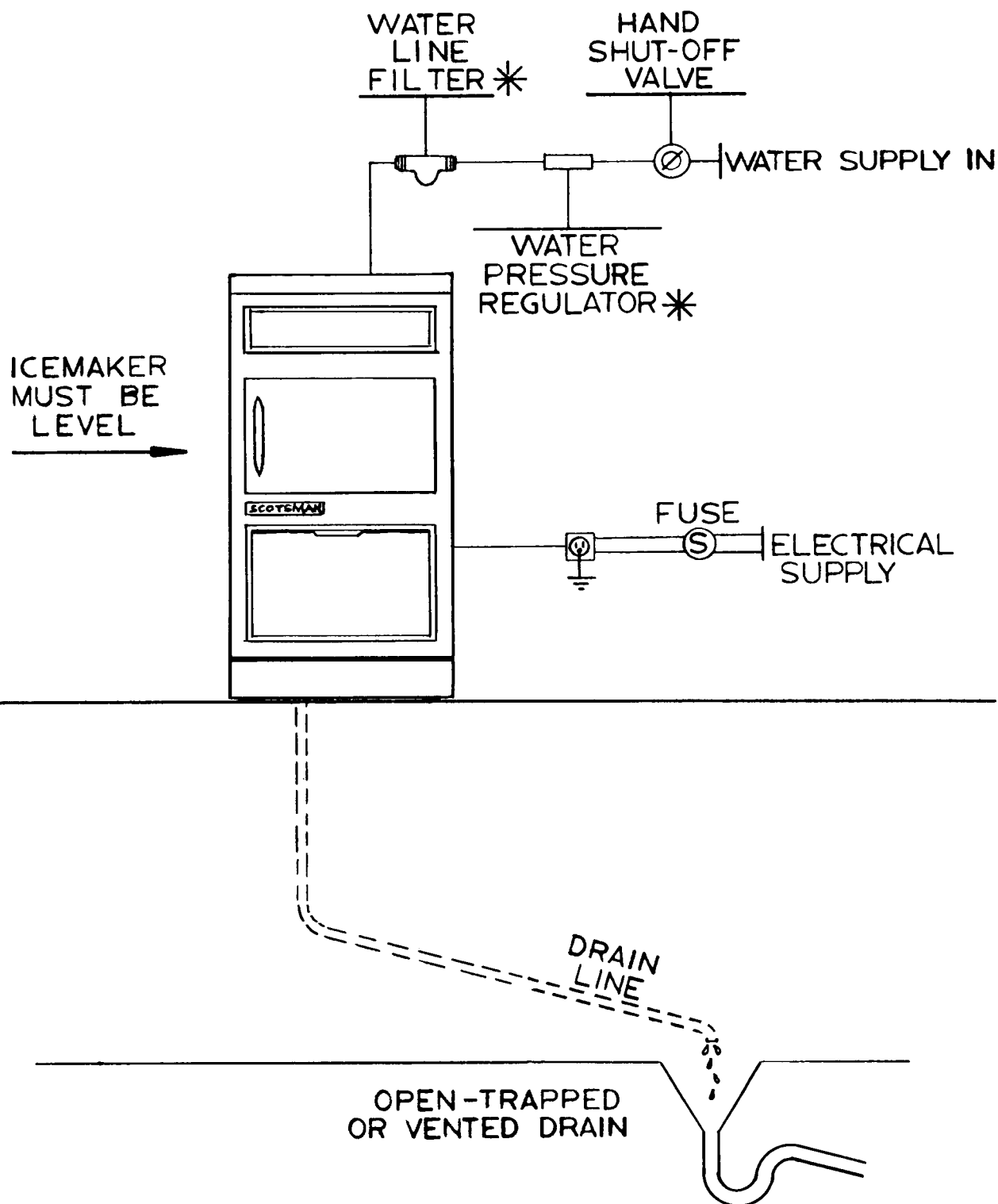
DIMENSIONS

Height	_____	36"
Width	_____	18"
Depth	_____	25"

WEIGHTS

Uncrated	_____	155 lbs.
Crated	_____	160 lbs.

INSTALLATION PRACTICE



* REGULATOR AND FILTER ARE ACCESSORY ITEMS
TO BE INSTALLED AS CONDITIONS WARRANT

LOCATION OF THE ICE CUBE MACHINE

UNDER BAR INSTALLATIONS - Locate unit so proper circulation can be attained around the unit and behind it at least four inches. Provide plumbing and electrical connections so the unit can be moved out for service if necessary.

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 the 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 eliminate any possible damage to the machine.

LOCATE THE MACHINE SO IT CAN BE SERVICED WHEN NECESSARY.

ALLOW AT LEAST FOUR INCHES OF SPACE AROUND THE MACHINE FOR CIRCULATING AIR.

UNCRATING OF MACHINE

1. Remove shipping carton.
2. Remove bolts in wood skid.
3. Remove skid, check sealing gasket on base.

PREPARATION FOR INSTALLATION

1. Inspect complete unit cabinetry for shipping damage. Notify carrier of concealed damage claims.
2. Remove all service doors and panels.
3. Remove all masking tape and packing members from curtains and inner cube making compartments. Re-align components such as sump pump or cube racks that may have shifted in transit.
4. Open electrical control box and prepare for hook up. Use knock outs, cord connectors, etc. Then check unit nameplate voltage against building source voltage to make sure they correspond. Caution - Improper voltage applied to units will void your warranty protection.
5. Select unit location prior to hook up of water, drain and electric in accordance with local and national codes, minimum room temperatures 50° Fahrenheit. Maximum room 100° Fahrenheit.
6. Remove warranty card and Users manual from storage bin and wipe bin clean with damp cloth.
7. 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.

INSTALLATION

WATER SUPPLY AND DRAIN CONNECTIONS

There are four knockouts located in back right hand corner. For electrical, drain, and water inlet see page 4.

1. Open bin door and remove lower service panel to facilitate following steps.
2. Remove packing and holding wires, all points visible around sump tank and masking tape on each of the two curtains.
3. Clean out the storage bin, check all refrigeration and control capillary lines for wear or vibration noise.

WATER SUPPLY

4. The recommended water supply line is 1/4" OD copper tubing. Connect to a cold water supply line with regular plumbing fittings. Use care in connecting up water line to the machine. Water supply must be installed to conform with local code. One connection is made inside of cabinet for both make up water and condensor water. Strainer is factory installed on flexible water inlet line.

CONDENSER DRAIN

5. The recommended drain is 5/8" OD copper tubing. Connect to drain connections. Must be run to open or trapped drain. If drain is a long run, allow a 1/4" pitch per foot. Drain must be installed to conform with local code.

BIN DRAIN

6. 5/8" tygon tubing from bottom of bin protrudes into lower machine section. Run to open drain.
7. Turn on water supply and check for water leak at connections made.
8. Models SM-45WJ cubers require minimum 20 pounds water pressure to operate properly. Water pressure in excess of 80 pound gauge may cause a vibration, chatter or squeal in water lines, install water pressure regulator set at 40 pounds to correct.

Important: Now level up unit.

INSTALLATION

ELECTRICAL SUPPLY

Standard models SM-45WJ Scotsman Cubers operate on 115 volts, 60 cycle, single phase electrical supply.

Whenever possible your Super Cuber should be hooked up to a separate circuit, individually fused for best performance. Maximum fuse size - 15 amps.

The maximum allowable voltage variation should not exceed 10% above or below nameplate ratings even under starting conditions. Low voltage can cause erratic operation and may be responsible for serious damage to the overload switches and motor windings.

Normal running amperage will be in the range of 4.5 amperes. Higher values will be normal at start of each freezing cycle, less at the end of the freezing cycle.

Motor Compressor	1/4 HP	4.5 Amps
Sump Pump	67 Watts	1.2 Amps

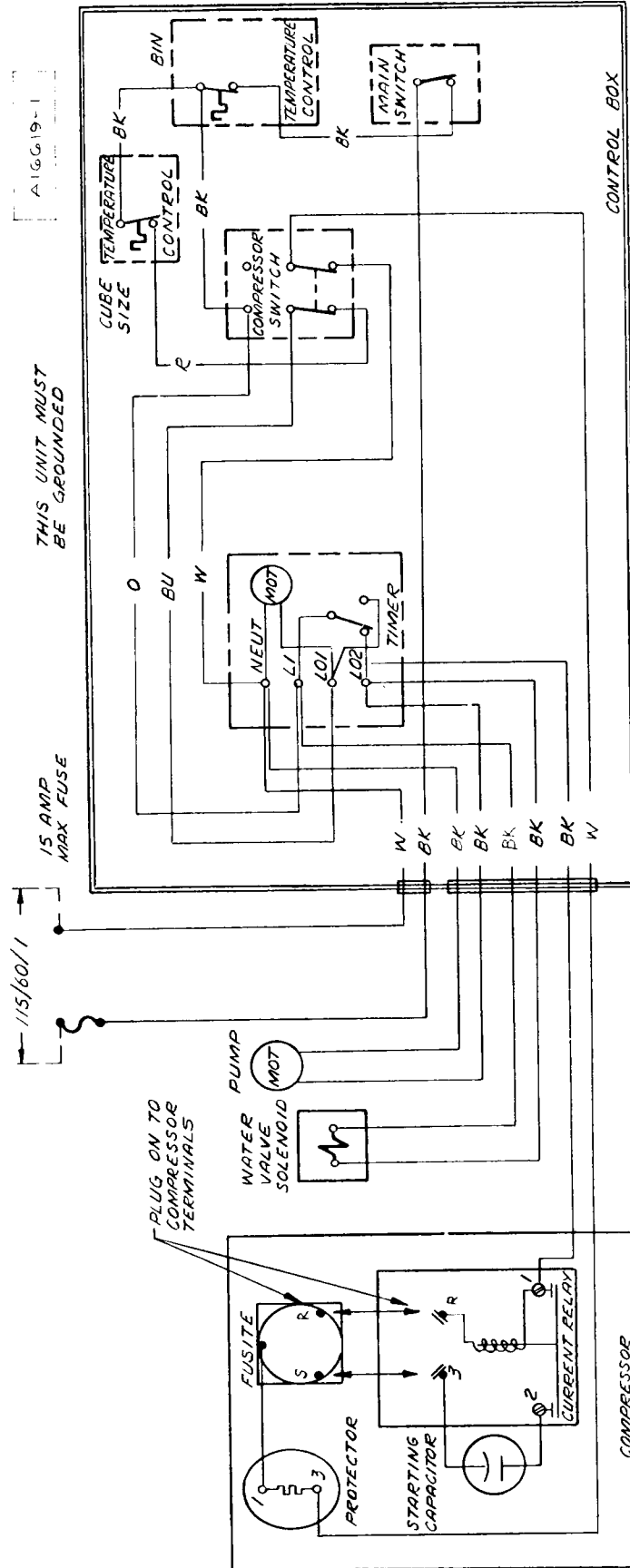
All external wiring should conform with National Underwriters, State and local codes.

START-UP

1. Remove cover from control box, check for loose or frayed wire, then turn both manual switches to "on" position.
2. Turn disc on time clock to the right just far enough for water solenoid valve to energize. Allow clock to take it through harvest cycle. This will be approximately three minutes. Dial pointer should be set on 3. After the compressor starts, turn the dial completely around and send it through another harvest cycle. This will completely flush out machine of any dust that may have accumulated in shipment.
3. After machine has been properly flushed, allow it to go into a freezing cycle - check for possible water leaks, check sump pump operation - should be running freely. Also note if jet tubes spray correctly and that none of the jets are plugged.
4. Time clock dial does not rotate at the end of the harvest cycle; it is started later by the cube size control located in the control box.
5. Freezing time will be approximately 30 minutes in a 70 degree ambient. (Longer if above, and shorter if below.) After 25 minutes of the freezing cycle, check water off condenser with a thermometer. (Should be approximately 100-104 degrees at this time.) If temperature is not correct, adjust water valve accordingly.
6. Watch first cube harvest and check to make sure that plastic curtains have not been damaged in shipment.
7. Check size of cubes made; if too small after a second complete cycle, adjust cube size control to lower or colder setting until desired cube size is reached.
8. Check texture of cubes made: partially cloudy cubes throughout suggest unit running short of water near end of freezing, or possibly and extremely bad water condition, which would indicate use of filtering or purifying equipment. Contact SCOTSMAN - Queen Products, Ice Machine Service Department, Albert Lea, Minnesota, for further details.
9. With unit on harvest cycle, take a handful of cubes made and hold on storage bin thermostat cover. Should cut unit off in one to two minutes - remove ice: unit should cut back on automatically. Thermostat is factory set at 35 degrees out, 40 degrees in.
10. Install gauges and check head and back pressures: Head pressure after twenty minutes of freezing cycle at 70 degrees ambient will be approximately 135 pounds PSI. The back pressure starts out at approximately 50 pounds PSI and gradually pulls down to approximately 4 pounds PSI just before harvest cycle. Higher ambients will cause higher head pressures.

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 unit clean?
6. Has the owner been given the operating manual, and has he been instructed on how to operate the machine?
7. Have the installation and warranty cards been filled out? This is the owner's protection as well as the sellers.
8. Check all refrigerant and conduit lines to guard against vibrations and possible failure.
9. Is there 4" clearance behind and around unit for proper air circulation?
10. Is unit in a room where ambient temperatures are minimum 50° F. even in winter months?
11. Is there at least 20 pounds pressure in water supply to insure proper operation of cuber?



WIRING DIAGRAM
SM-45J WATER COOLED
115/60/1

INTRODUCTION SM-45 J MODELS

Models SM-45 WJ incorporate several design changes over previous SM-45WH models.

A newly designed water system eliminates the 3 way water valve and is explained in following pages.

Likewise a new warm water condenser system is utilized in the "J" models.

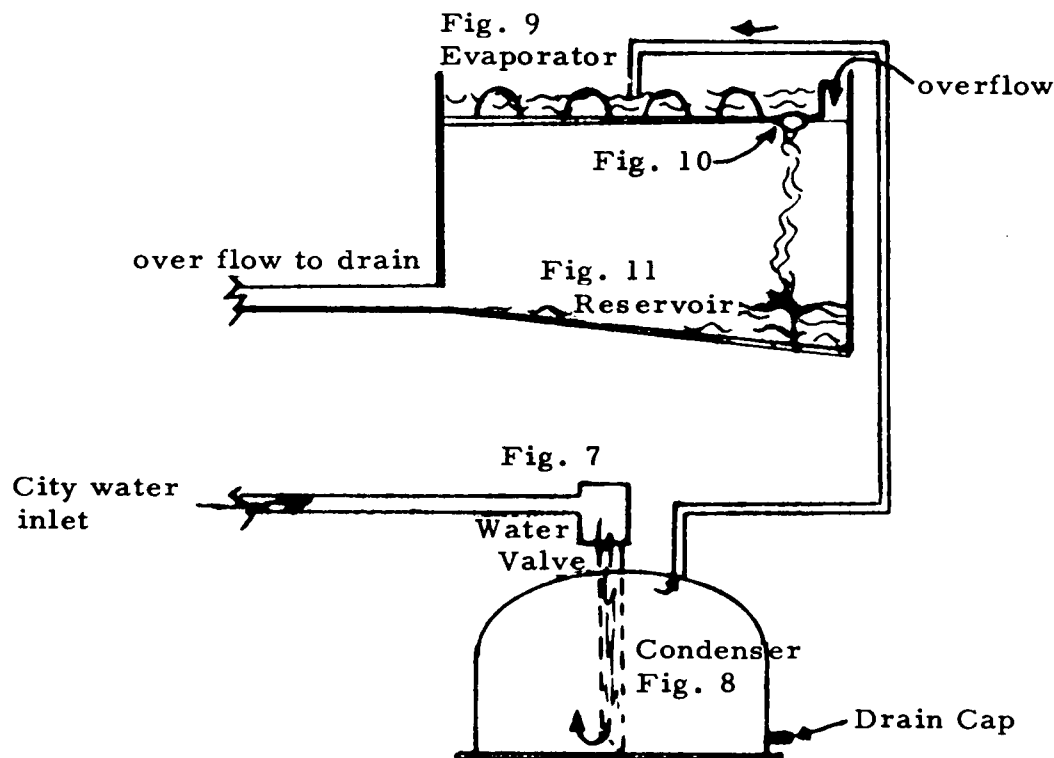
As is explained on page 14 the harvest cycle depends on a given amount of water passing thru the electrically operated water solenoid on top of the tank. The amount of water is regulated by a flow control on the outlet side of this valve, rate is approximately .25 gallons per minute. Minimum water pressure necessary to operate this circuit is 20 pounds.

Figure 10 points out a "dribbler hole" thru rubber platen base that controls overflow water and also leaks water out of the platen cavity and into sump reservoir for the freezing cycle. It is extremely important that the Scotsman Cuber be perfectly level to utilize the action of this "dribbler hole".

Outside cabinetry, panels, doors etc. remain the same as on former models SM-45WH.

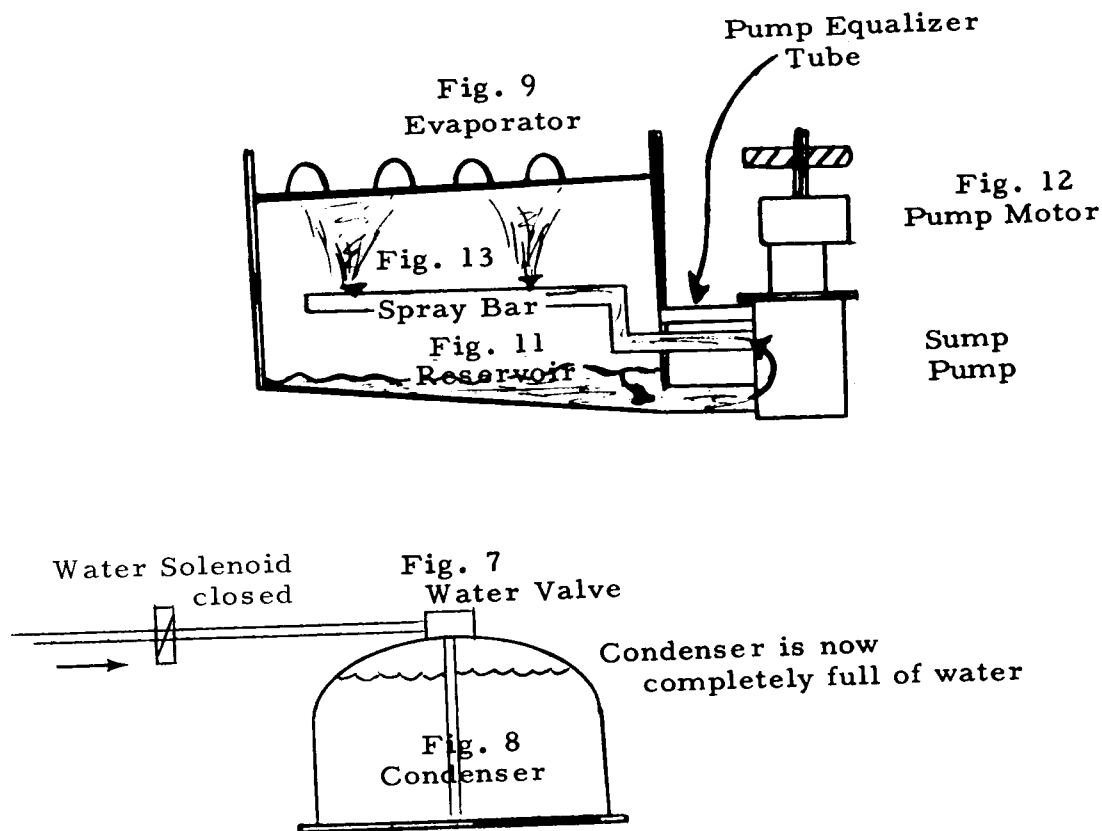
HARVEST CYCLE - SM-45WJ

This new water circuit will :
Eliminate the Hot Water Tank
Eliminate the '3' Way Water Valve
Use the same water as a condensing medium,
to release cubes and water to make cubes.



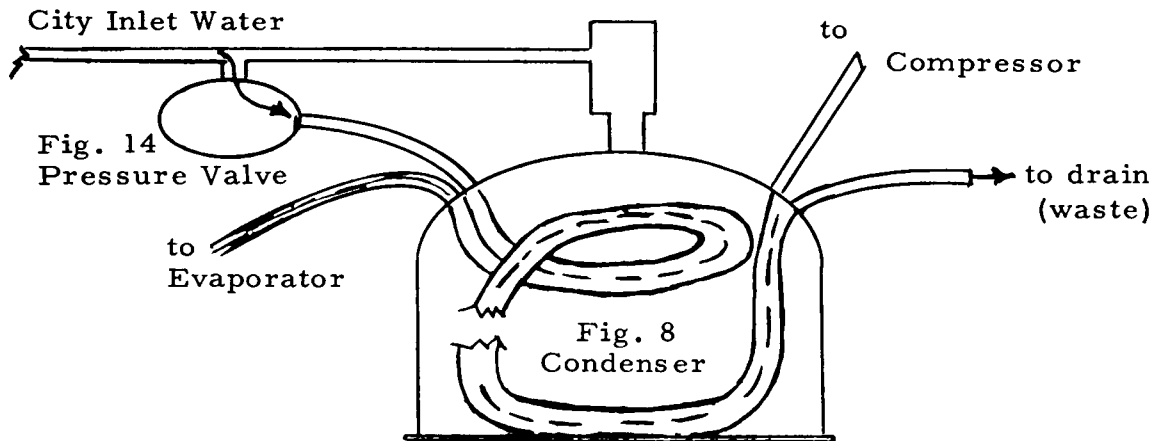
1. An electrically operated solenoid Water Valve (Fig. 7) allows fresh potable water to enter the Condenser (Fig. 8). The incoming cold water forces the hot water from the top of the Condenser (Fig. 8) into the Evaporator (Fig. 9). The hot water releases the cubes to free fall into a storage bin. In the Evaporator there is a water holding vessel, that also holds the cups in place, that is called the Platen. In this Platen there is a small hole. As water comes into the Platen, water is also slowly being released from the Platen thru this small hole (Fig. 10). The use of this small hole or 'dribbler' hole eliminates the use of the 3 way Water Valve. The water from the Evaporator (Platen) is collected in the Reservoir (Fig. 11). There is an overflow tube in the Reservoir to control the quantity of water to be stored. The water in the Reservoir is being saved for the next cycle (FREEZING) to be used in making ice cubes.

FREEZING CYCLE - SM-45 WJ



1. Solenoid Water Valve (Fig. 7) is closed preventing fresh (city) water from entering Condenser (Fig. 8) which also stops the flow of water from the Condenser into the top of the Evaporator.
2. Water that has 'dribbled' from the Evaporator (Platen) into the Reservoir is now pumped (Fig. 12) into the Spray Bar (Fig. 13) and sprayed to the underside of the Evaporator (Fig. 9) to make ice cubes.
3. The cold water that entered the Condenser (Fig. 8) is now the medium used for condensing hot refrigerant into a liquid. This also heats the water for the next cycle (HARVEST) to be used to release the cubes.
4. By using the water in the condenser, and as a heat transfer medium, we now can eliminate the use of the Hot Water Tank

Additional Condenser Cooling Circuit - SM-45WJ



1. Within the Condenser (Fig. 8) there are two (2) tubes soldered together in parallel. One tube leads from the Compressor, coiled within the Condenser, to the Evaporator. The other tube is connected to a Pressure actuated valve, coiled within the Condenser, and out to a drain source.

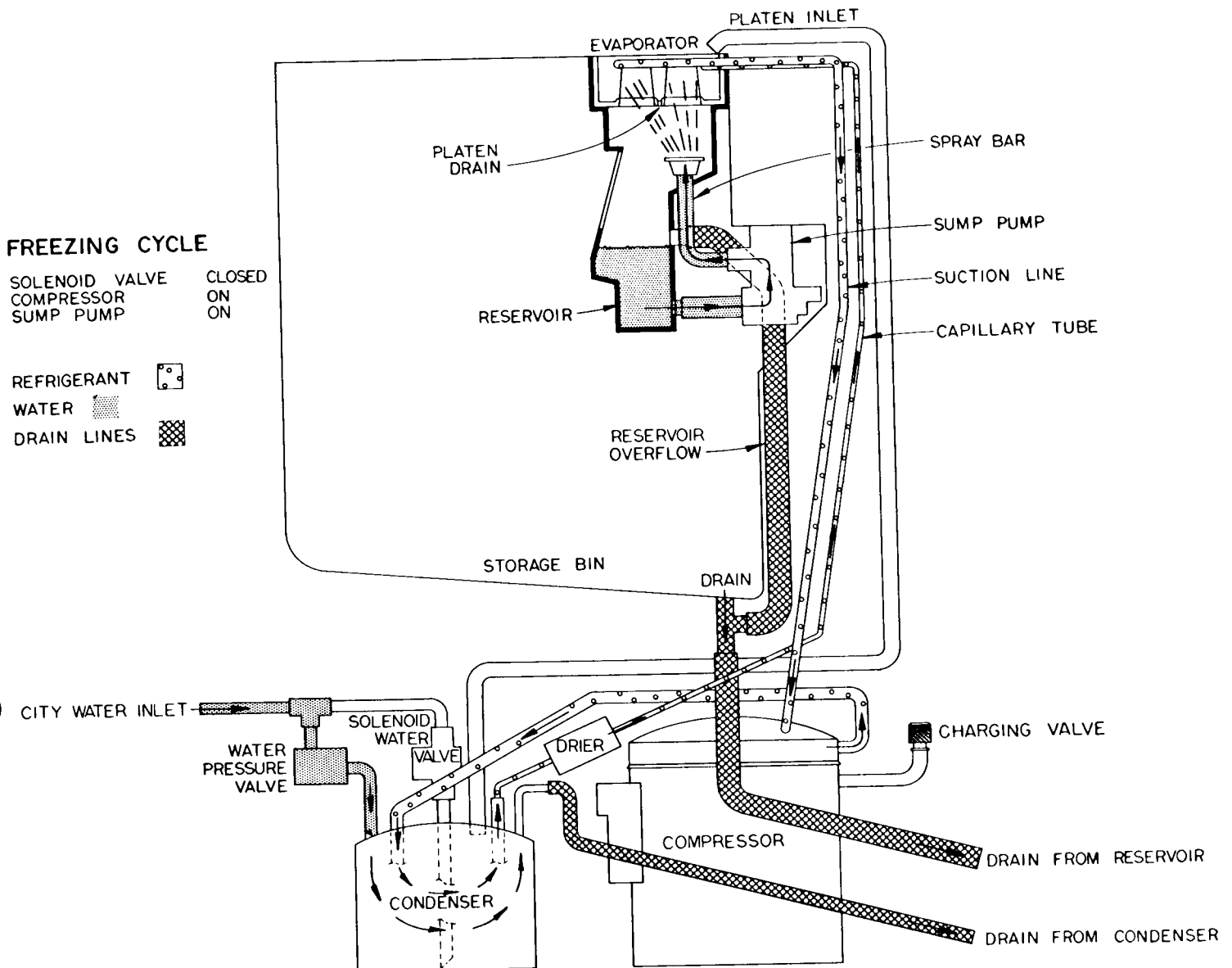
If the pressure should build up to a certain limit within the Refrigeration Circuit, the Pressure Valve (Fig. 14) will open and allow a small quantity of cold (city) water to circulate, to bring the pressure down, and be released as waste water independent and separate from the potable water circuit.

RECAP: Cold potable (city) water enters a water tight container, Condenser Fig. 8. The water within this container (Condenser) is heated because it is used as the cooling medium in the Condenser. This water is forced (by entry of new cold potable (city) water into the Evaporator where this hot water releases the cubes. The same water is allowed to escape the Evaporator (Platen) thru a small 'dribbler' hole into the Reservoir. The same water used as a condensing medium and cube release is now pumped thru a spray bar to make ice cubes.

The same water is being used three different times (Condensing medium, Cube release and to make ice cubes). All we are doing is changing the temperature of the same quantity of water to suit the needs for adequate refrigeration.

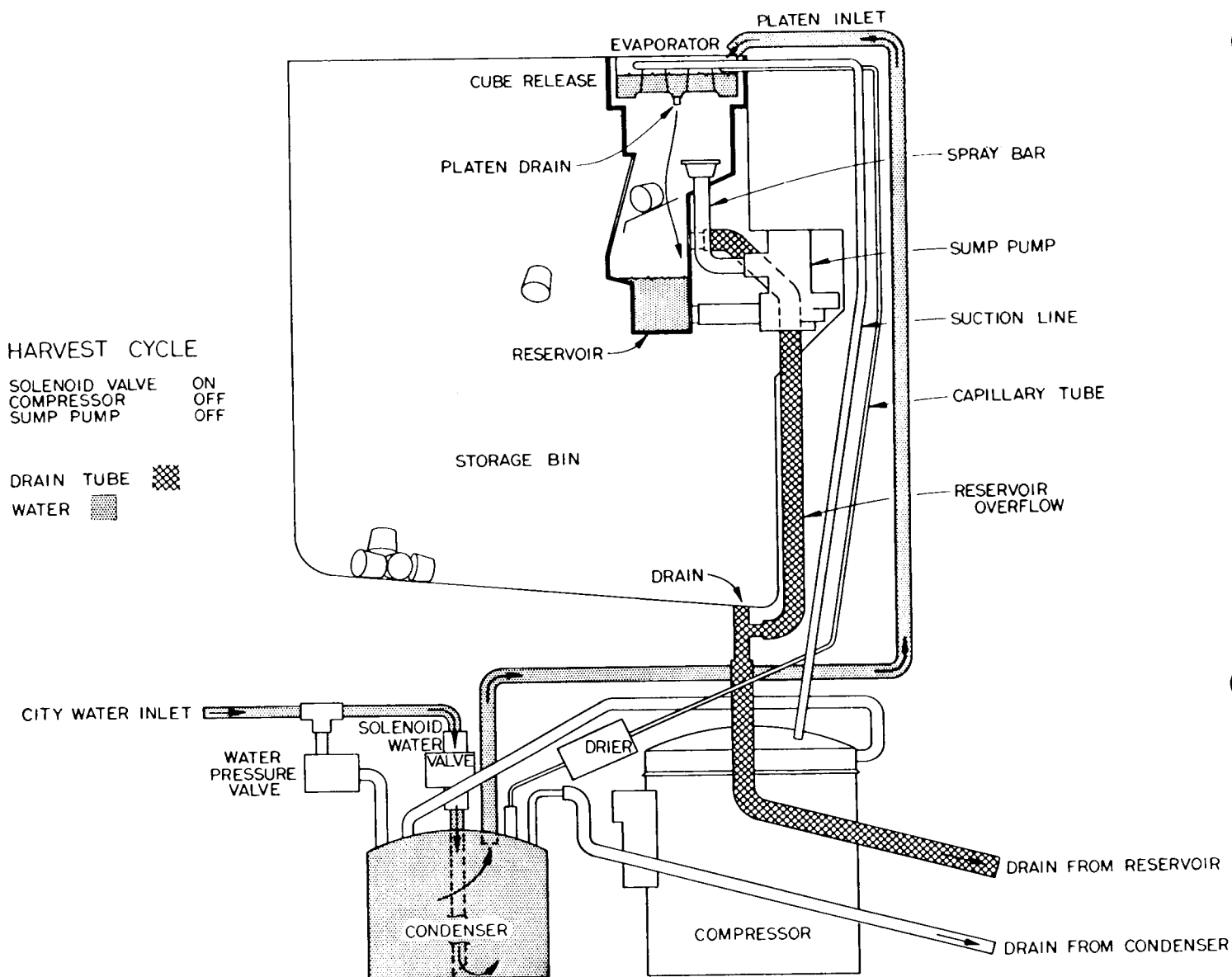
An independent water circuit, completely isolated from the potable water circuit, is used as an axillary Condenser coolant if the need so arises.

OUTLINE OF REFRIGERATION AND WATER SYSTEM



1. Solenoid Water Valve is closed preventing fresh (city) water from entering Condenser which also stops the flow of water from the Condenser into the top of the Evaporator.
2. Water that has drained from the Evaporator (Platen) into the Reservoir is now pumped into the Spray Jet and sprayed to the underside of the Evaporator to make ice cubes.
3. The cold water that entered the Condenser is now the medium used for condensing hot refrigerant into a liquid. This also heats the water for the next cycle (HARVEST) to be used to release the cubes.

OUTLINE OF REFRIGERATION AND WATER SYSTEM



1. An electrically operated solenoid Water Valve allows fresh potable water to enter the Condenser. The incoming cold water forces the hot water from the top of the Condenser into the Evaporator. The hot water releases the cubes to free fall into a storage bin. In the Evaporator there is a water holding vessel, that also holds the cups in place, that is called the Platen. In this Platen there is a small hole. As water comes into the Platen, water is also slowly being released from the Platen thru this small hole. The use of this small hole or 'dribbler' hole eliminates the use of a Water Valve. The water from the Evaporator (Platen) is collected in the Reservoir. There is an overflow tube in the Reservoir to control the quantity of water to be stored. The water in the Reservoir is being saved for the next cycle (FREEZING) to be used in making ice cubes.

FUNCTIONAL PARTS AND MAINTENANCE

PART NAME: Reverse Acting Temperature Control Ranco Type A 11-377

NUMBER: 11-345

FUNCTION: Reverse acting temperature control, closes on temperature decrease, opens on temperature rise. Control determines length of freezing cycle and by the same token, the cube size. A lower setting on control will produce larger cubes, a higher setting, smaller cubes. This control actuates time clock motor. Part No. A-19070-1, which then takes over balance of freezing cycle and also defrost period.

SETTING: Control is adjustable with a screw driver on an offset cam.

REPAIRABLE: No. Replace when inoperative.

MAINTENANCE: Check electrical connections. Blow free of dust, dirt, lint etc.

PART NAME: Timer

NUMBER: A-19070-1

FUNCTION: Heart of the cyclematic control system is the temperature control Part No. 11-345 and the time clock it actuates. All electrical components are connected to the time clock terminal board and are shunted by means of a single pole double throw micro-switch arrangement to either the freezing cycle or harvest cycle. Contact points are in turn actuated by two cams that are directly connected to the electrical time clock motor. Timer has a 12 minute cycle, 8 1/2 minutes on freezing cycle after being cut on by temperature control and 3 1/2 minutes on defrost cycle. Time clock face has numerals on face. Each numeral represents a one minute period. Face is adjustable and can be moved to lengthen or shorten defrost period.

SETTING: Normal setting for defrost is 3 1/2 minutes.

REPAIRABLE: Yes. Micro-switch, Part No. 12-1480 is replaceable as well as timer clock motor only, Part No. 12-1478-1 and plastic knob-cam assembly, Part No. 2-1651.

MAINTENANCE: Check all electrical connections, blow contact points free of dust, dirt, etc.

PART NAME: Bin Thermostat Ranco Type A-10-2012

PART NUMBER: 11-311

FUNCTION: To automatically cut unit off when cubes in bin reach control capillary location and start up again automatically when cubes removed.

SETTING: Factory set - In 40° - Out 35° - There is adjustable dial on face, colder turn to right -54" capillary.

REPAIRABLE: No.

MAINTENANCE: None.

PART NAME: Water regulating valve - H. & H. "Little Giant".

PART NUMBER: 11-314

FUNCTION: To maintain constant head pressures by regulating amounts of incoming water thru water cooled condenser.

SETTING: 135 pounds P.S.I. on head pressure gauge and about 104° leaving water off condenser.

REPAIRABLE: No - you can flush out however.

MAINTENANCE: None.

PART NAME: Inlet water solenoid Dole Valve K-20247 Detroit Controls Type S30A.

PART NUMBER: 12-1434-2

FUNCTION: Passes measured amount of defrost water to freezer during harvest cycle - stops flow during freezing cycle.

SETTING: Factory Set - Pass 1/4 gallon per minute.

REPAIRABLE: No.

MAINTENANCE: None.

PART NAME: Sump pump March AC-S2-T (115-60)

PART NUMBER: 12-1379-1

FUNCTION: To continuously re-circulate water from sump tank, thru stationary jets, up into bottom of cube cups.

SETTING: None required.

REPAIRABLE: No.

MAINTENANCE: None.

PART NAME: Hermetic Motor Compressor 115/60/1 - Copeland
1/4 H.P. 3500 RPM

PART NUMBER: 18-1205

FUNCTION: Circulates and retrieves refrigerant throughout entire system.

SETTING: None required.

REPAIRABLE: No.

MAINTENANCE: Keep clean and free of dust, grease, etc.

SERVICE-COMPLETE UNIT

Removal and Installation of Cabinet Parts

CABINET TOP (HOOD)

1. To remove cabinet top, it is first necessary to remove two rear plate screws. See page 25.
2. After screws are removed, pull top forward until side clips are free.
3. Lift off hood.

CABINET LOWER SERVICE DOOR

1. Front door pulls out, pull out and up.

ICE STORAGE DOOR

1. Remove pin thru center of hinge.
2. Door now is free-lift off.

CABINET FRONT

1. Remove top (hood).
2. See cabinet panel assembly layout drawing on page 25.
3. Remove all screws at bottom and sides of ice storage door frame.
4. Remove four screws at bottom front under lip or 90 degree edge.
5. Front will now lift out.

REMOVAL AND REPLACEMENT OF FUNCTIONAL PARTS

In order to work on the spray bar, it will be necessary to work from the front of the cabinet. This work can be done thru the storage bin door.

Spray bar is located inside of plastic sump tank. To remove tank first disconnect all hose connections to tank and two plated extension nuts located in front of sump tank. See page 24, item 11. Now lower front of tank until it clears stainless steel freezer frame. Push tank lightly forward until it drops off pins protruding from back of freezer frame.

TO REMOVE SUMP PUMP- See page 24, item A-B.

1. Disconnect complete unit electrically. Remove lower front access door, cover from control box, and disconnect pump leads from timer.
2. On back of case remove covers from pump motor well and wire protector.
3. Thru front ice access door remove 3 wing bolts and pump assembly can now be removed.
4. Replace in reverse being sure that rubber gasket is put on new pump.

TO REMOVE BIN THERMOSTAT

Study first page 25 "Complete Unit". It will be necessary to remove cabinet front before removing bin thermostat.

Now remove control box cover and then loosen two screws holding bin thermostat to front control box. This will loosen control, pull down and remove two electrical connections.

Next, up in storage bin on the left side wall is a clip holding end of bin thermal bulb, pull out thermal bulb and its capillary away from cabinet.

Replace in reverse order.

TO REPLACE CUBE SIZE CONTROL

First study Page 25 "Complete Unit". It will be necessary to remove cabinet front, top front, and top front storage before removing cube size control. Now remove screw in front of freezer frame, allowing frame to slide forward to release pigtail on capillary tube. Remove cover from control box, loosen two screws holding control, and remove electrical connection.

Replace in reverse.

FUNCTIONAL PARTS - BASE COMPARTMENT

Functional parts in the base compartment would consist of the motor compressor, compressor relay, water regulating valve, complete solenoid valve and manual on-off switch. All of these parts with the exception of the motor compressor can be worked on by merely removing lower service door.

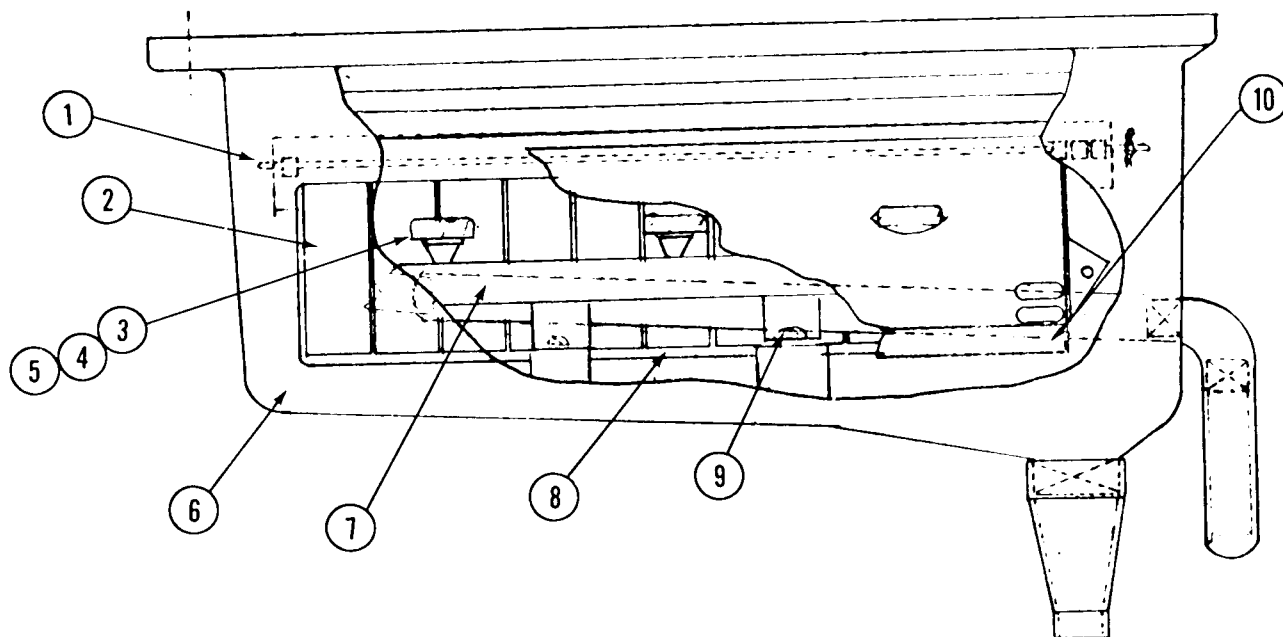
TO REPLACE MOTOR COMPRESSOR

First remove front panels, Now remove 3 screws on either side of cabinet base.

Pull assembly out to expose motor compressor. Pump unit down, then purge off excess refrigerant. Remove electrical relay from clamp holder. This relay is manually pushed on over compressor terminals, pull off the same way.

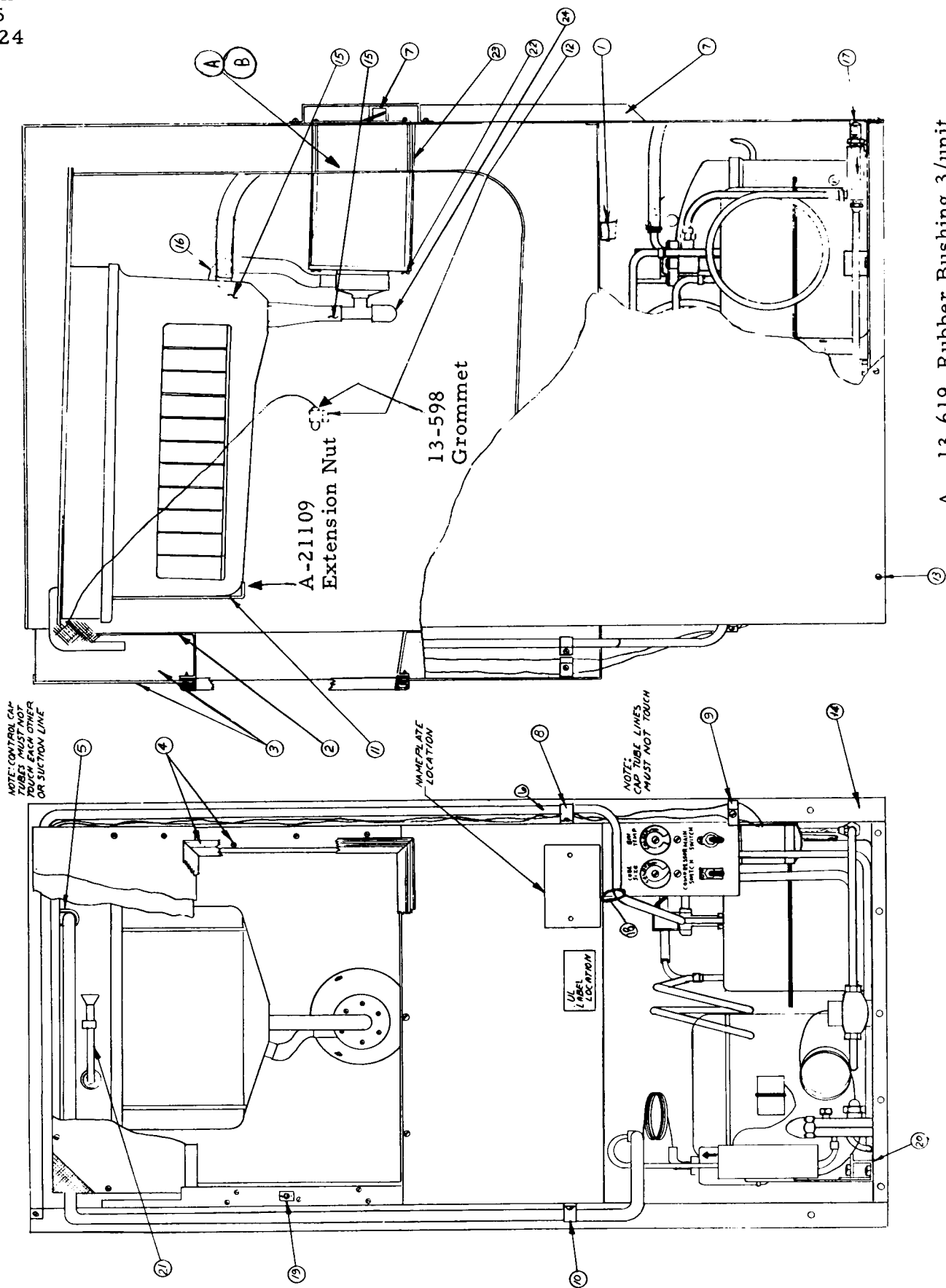
Now loosen the four bolts holding the compressor to base and lift out. Replace with new compressor in reverse of above.

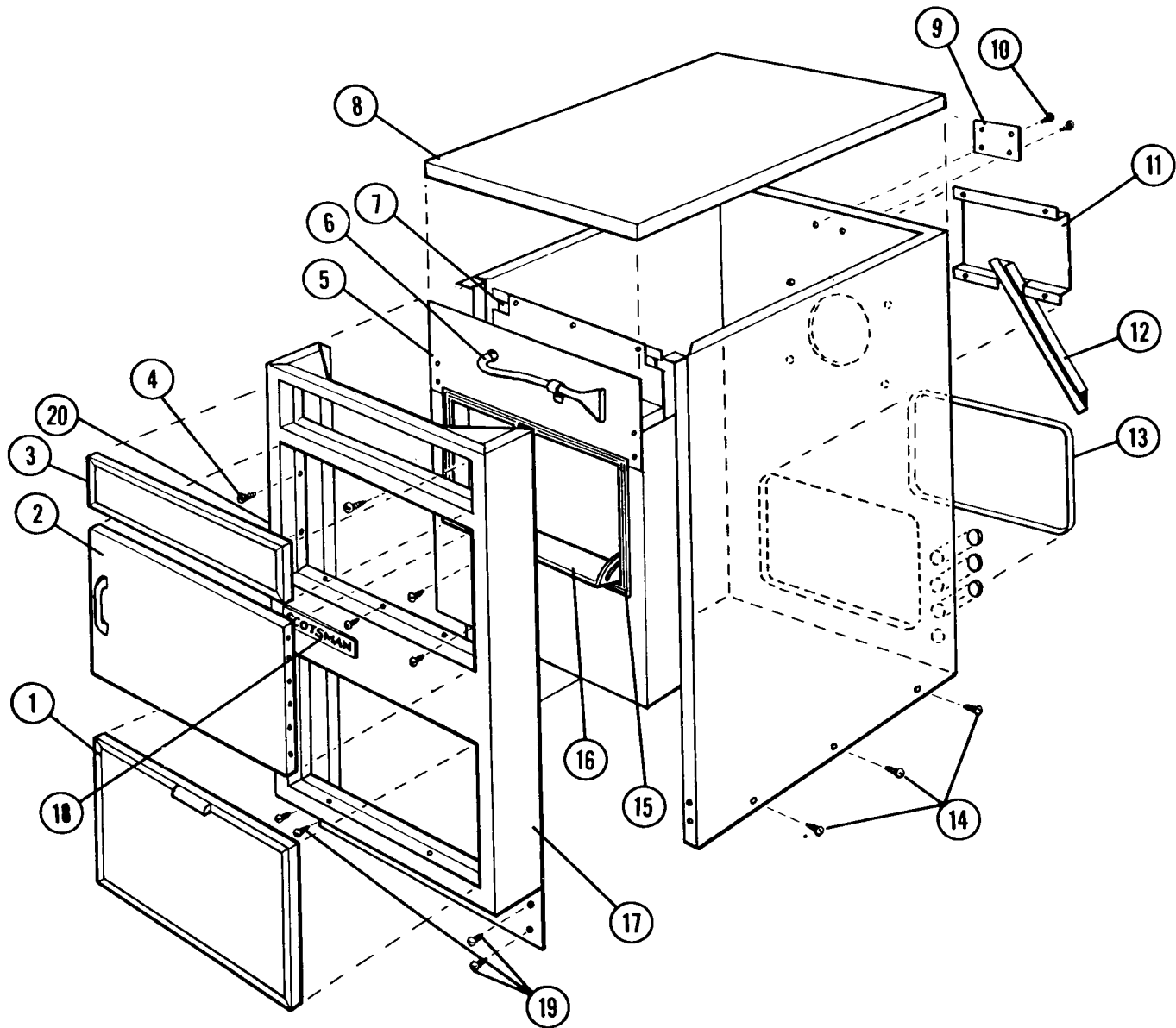
RESERVOIR ASSEMBLY SM-45J



Item No.	Part No.	Name
1.	A -17968	Curtain Rod
2.	2-1796	Curtains (2 Per Unit)
3.	13-292	Jet Caps, Rubber 6 required
4.	A -12345	Jet Top 6 required
5.	A -9543	Spinners 6 required
6.	A-19197	Sump Tank (includes Curtains)
7.	A-16991	Spray Bar Ass'y
8.	A-20567	Cube Chute
9.	3-1404-9	Screws 3 required
10.	2-1092-3	Hose Clamps

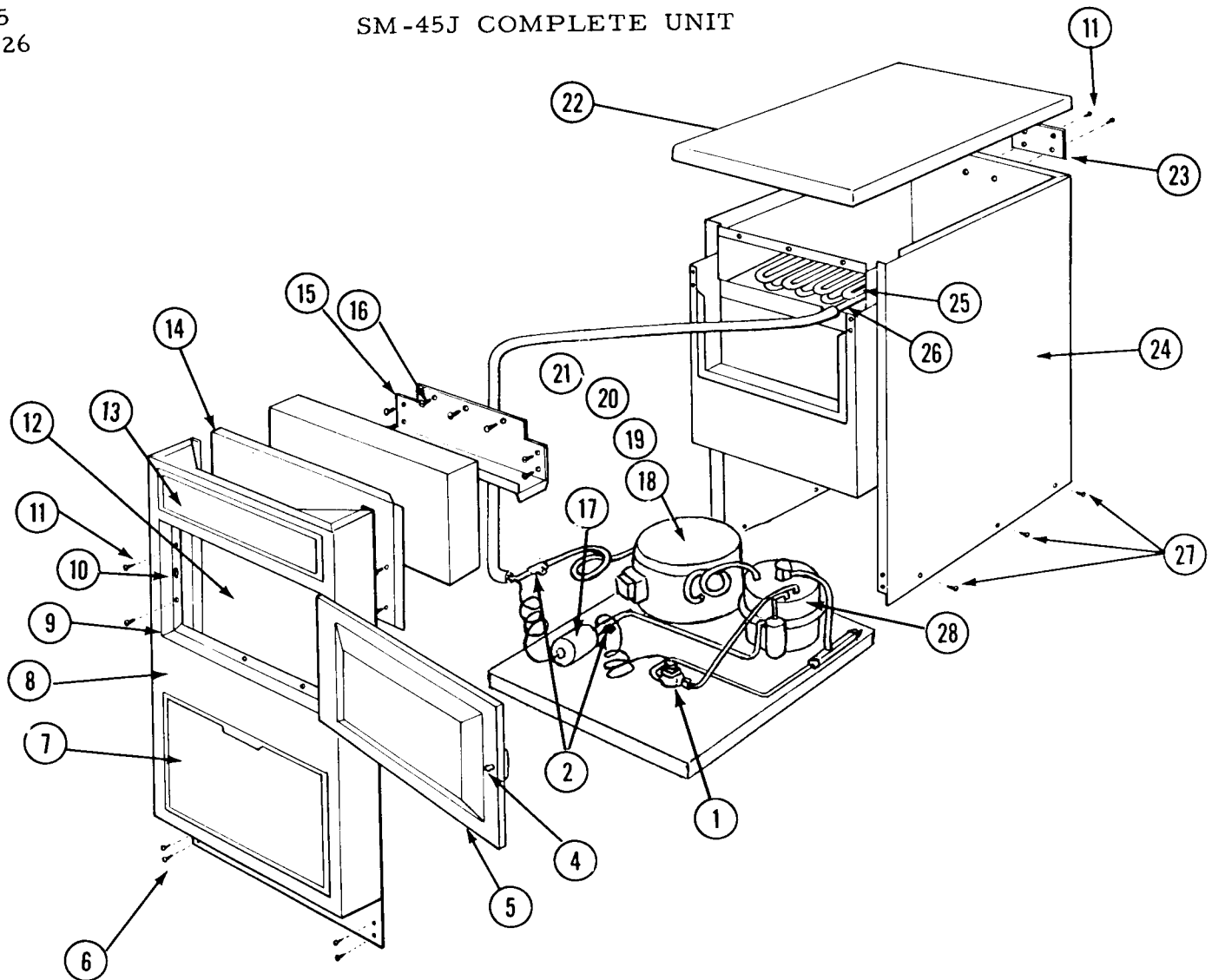
Cabinet Assembly





ITEM NO.	PART NO.	NAME	ITEM NO.	PART NO.	NAME
1.	A-9456	Lower Door	11.	A-17980	Baffle
2.	A-17415	Access Door	12.	A-17982	Wire Raceway
3.	A-14993	Top Door	13.	A-21061	Rear Door
4.	3-1404-10	Screws	14.	3-1403-26	Screws
5.	A-14997	Top Front	15.	13-615	Door Gasket
6.	13-335	Funnel	16.	A-14999	Spill Door
7.	A-17153	Top Storage Front	17.	A-14996	Case Front
8.	A-9465	Cabinet Top	18.	15-494	Emblem
9.	A-9410	Top Clip	19.	3-1403-29	Screws
10.	3-1404-7	Screws	20.	A-10103	Door Strike

SM-45J COMPLETE UNIT

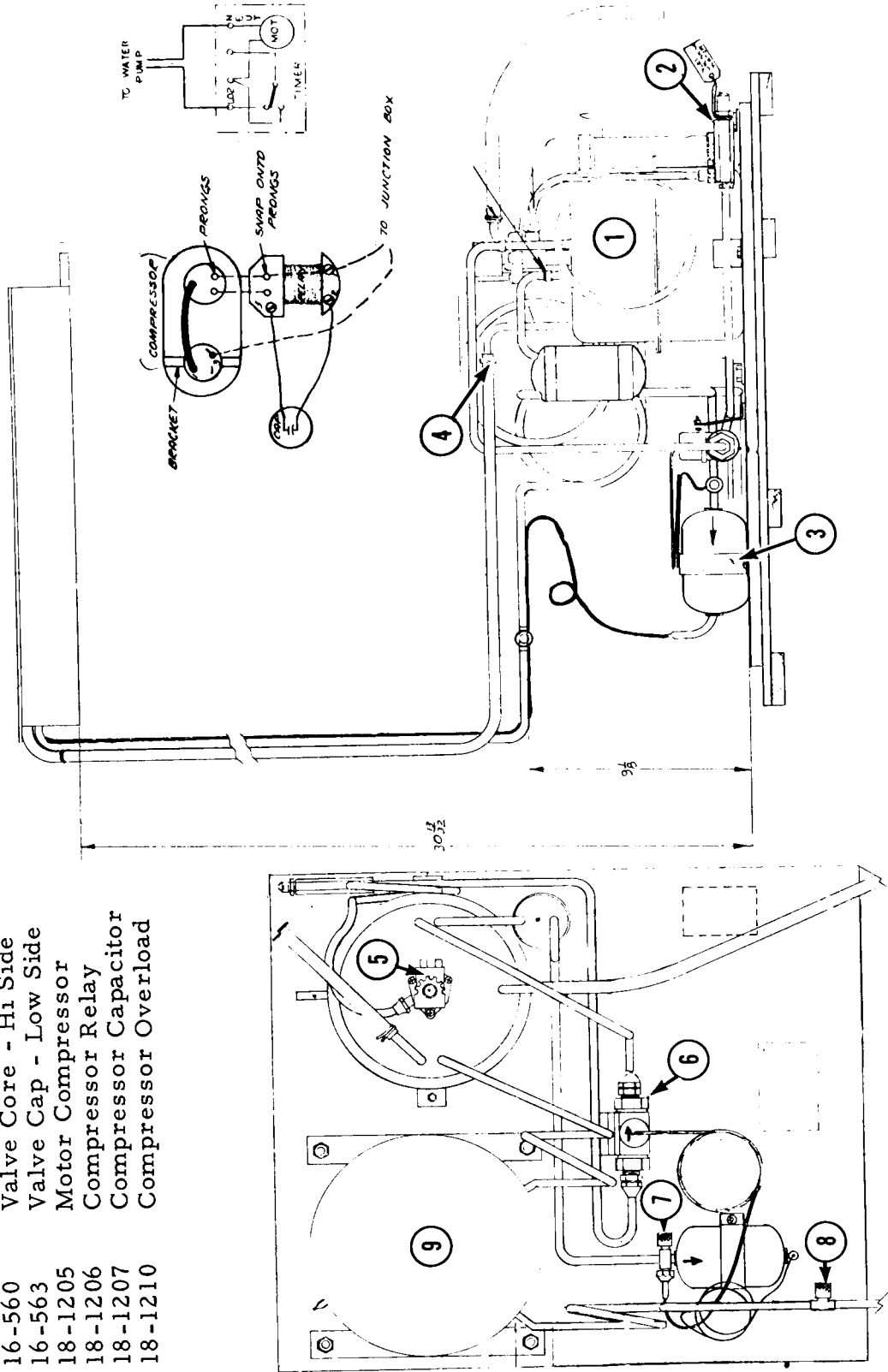


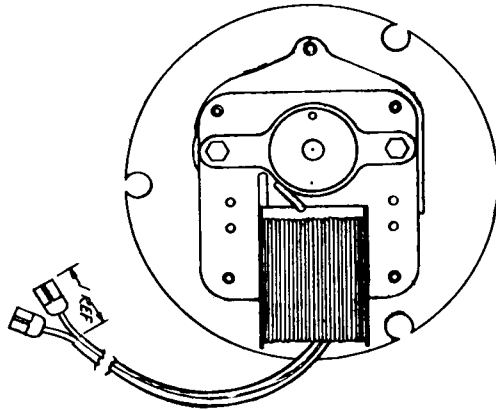
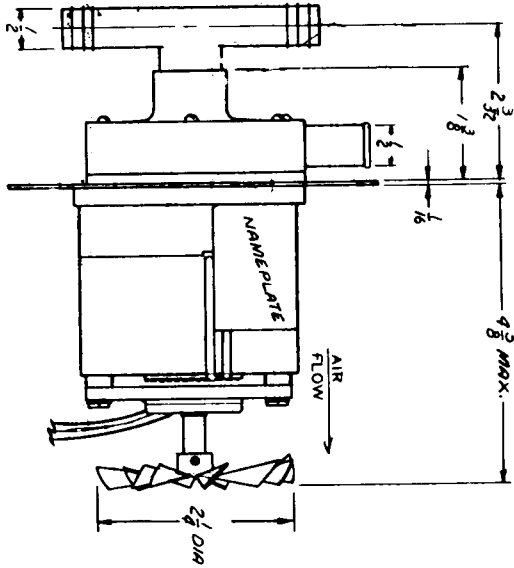
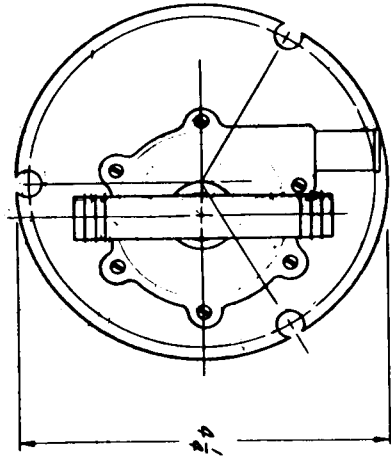
Item No.	Part No.	Name	Item No.	Part No.	Name
1	11-314	Water reg. Valve	15	A-17153	Top Front Storage
2		Service Valves	16	3-1404-7	Screws
4	A-10103	Door Strike	17	2-831	Drier
5	A-17415	Door Assembly	18	18-1200-1	Compressor
6	3-1403-29	Screws	19	18-1206	Relay
7	A-9456	Lower Door	20	18-1207	Capacitor
8	A-14996	Case Door	21	18-1210	Overload
9	13-615	Door Gasket	22	A-9465	Cabinet Top
10	2-836	Door Catch	23	A-9410	Top Clip
11	3-1404-10	Screw	24	A-17041	Cabinet Assy
12	A-14999	Spill Door*	25	A-19214	Evaporator Assy
13	A-14993	Top Door	26	13-651	Rubber Cup Holder
14	A-14997	Top Front	27	3-1403-26	Screws
			28	A-19178	Condenser

* Not Shown

CONDENSING UNIT
SM-45W J

Item No.	Part No.	Name
1	A-19178	Warm Water Condenser
2	A-19230-4	Water Flow Control .40 G.P.M.
3	2-1752-5	Refrigerant Drier
4	2-1727	Hose Clamps
5	12-1434-2	Valve
6	11-314	Water Regulating Valve
7	16-560	Valve Core - Hi Side
8	16-563	Valve Cap - Low Side
9	18-1205	Motor Compressor
	18-1206	Compressor Relay
	18-1207	Compressor Capacitor
	18-1210	Compressor Overload





SUMP PUMP 12-1379
115/60/1

SERVICE ANALYSIS

SYMPTOM	POSSIBLE CAUSE	SUGGESTED CORRECTION
Shortage of water	<p>Plugged "dribbler" hole in rubber cup holder</p> <p>Water spraying out through curtains</p> <p>Plugged flow control</p> <p>Water entering hot water tank too slowly</p>	<p>Clean out dribbler hole, flush system with ice machine cleaner, thru rubber funnel.</p> <p>Replace broken curtains if any broken</p> <p>Flush out</p> <p>Building pressure below 20#</p> <p>Partial restriction in water strainer</p> <p>Clean strainer</p>
Irregular size cubes and some cloudy	<p>Some jets plugged</p> <p>Shortage of water</p> <p>Unit not level</p> <p>Sump pump motor binding</p>	<p>Clean jets</p> <p>See shortage of water</p> <p>Water overflowing air vent holes on low side burning cubes. Level as required.</p> <p>Replace.</p>
Cubes too large	<p>Cube size control set too low</p> <p>Timer micro-switch stuck together.</p>	<p>Raise setting on cube size control towards warmer.</p> <p>Replace micro-switch only.</p>
Decreased Ice Capacity	<p>Leaky water valve</p> <p>High head pressure</p> <p>Partially restricted cap tube</p>	<p>Replace or repair</p> <p>Non-Condensable gas in the system: purge the system. Too hot a location with poor circulation: relocate the unit, or provide for ventilation by cutting openings.</p> <p>Overcharge of refrigerant. Correct the charge.</p> <p>Purge and replace charge and drier.</p>
Hole washed inside cube	Water over the top of the cube cups during harvest	Level unit.

SERVICE ANALYSIS

SYMPTOM	POSSIBLE CAUSE	SUGGESTED CORRECTION
Unit will not run	Blown fuse	Replace fuse and check for cause of blown fuse.
	Bin thermostat set too high	Adjust thermostat. Set between 35 to 40 degrees.
	Switch in off position	Turn switch to on position.
	Inoperative master switch	Replace switch.
	Timer micro-switch open	Replace.
Compressor cycles intermittently	Low voltage	Check circuit for overloading. Check voltage at the supply to the building. If low, contact the power company.
	Air circulation blocked	Allow sufficient air space all around unit.
	Non-condensable gases in system.	Purge the system.
Cubes too small	Cube size control set too high	Lower the setting. Turn towards colder.
	Partially restricted capillary	Blow charge, add new gas and drier.
	Moisture in system	Replace the drier.
	Shortage of water	See remedies for Shortage of Water.
Cloudy cubes	Shortage of refrigerant	Check for leaks and recharge.
	Shortage of water	See remedies for Shortage of Water.
	Dirty water supply	Use water softener or water filter.
Poor harvest	Accumulated impurities	Use SCOTSMAN Ice Machine Cleaner.
	Too short defrost time	Check and adjust harvest cycle. Timer should be set at 3 1/2.
	Water temperature too low	Temperature of the water in hot water tank too low. Should be between 100-105 degrees. Re-set water regulating valve.
	Restriction in incoming water	Check water feed line strainer. Clean to give greater water flow. Flow control plugged up.
	Solenoid control not opening the water tank.	Solenoid binding or burned out. Replace, also check flow control orifice.
Air vent holes in upper cube cups plugged	Clean out holes.	

CUBER MAINTENANCE INSTRUCTIONS

THE FOLLOWING MAINTENANCE MUST BE ACCOMPLISHED TWO TIMES PER YEAR ON ALL SCOTSMAN SUPER CUBERS.

1. Clean water tank and evaporator, sump tank and screen, using SCOTSMAN ice Machine Cleaner.
 2. Remove jet tube and manually clean jets by dismantalling same.
 3. Check curtain assembly.
 4. Tighten all electrical connections.
 5. Tighten all bolts.
 6. Check water supply. Clean water strainer.
 7. Check for refrigeration leaks with halide torch.
 8. Check for water leaks. Tighten drain line connections.
 9. Check size and condition of cubes. Adjust as required.
 10. Check bin thermostat setting. Factory set at approximately 35° out, 39° in.
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PROCEDURE FOR USE OF SCOTSMAN ICE MACHINE CLEANER IN SCOTSMAN ICE MACHINES.

1. Place COMPRESSOR SWITCH to 'OFF'.
2. Remove ice cubes from storage bin.
3. Mix 8 ounces of SCOTSMAN CLEANER in a quart of hot water. Pour this solution through rubber funnel. See page 25, item 6.
4. Rotate TIMER knob clockwise (toward you) until you hear the sound of running water.
5. Allow unit to operate for at least 45 minutes.
6. Mix 1 ounce of SCOTSMAN CLEANER in a pint of hot water. Wash all surfaces in storage bin. Thoroughly rinse all surfaces of bin with clean water.
7. Place COMPRESSOR SWITCH to 'ON'. Unit is in normal operation.

SM-45 J PARTS LIST

Main Control Box

Part No.	Name
12-1214	Compressor Switch
12-426	Main Switch
11-345	Cube Size Control
11-311	Bin Control
A-19070-1	Timer
12-1480	Micro-switch Timer
12-1478-1	Timer Motor
2-1651	Plastic Cam-Knob

Misc. Parts

16-162	Strainer
A-13346-4	Flow Control (.40 G.P.M.)
13-398	Bulb Grommet
A-21109	Extension Nuts
2-1299	Clamp
13-615	Door Gasket
13-335	Funnel
11-314	Water Regulating Valve
16-560	Service Valve Core
2-831	Drier
A-19214	Evaporator Assy.
13-651	Rubber Cup Holder
A-19178	Condensor
1-453	Carton
2-540	Ice Scoop
19-343	Ice Machine Cleaner (8 oz. bottle)

Case Parts

A-9465	Cabinet Top
A-17415	Ice Access Door
A-10103	Door Strike
A-9456	Lower Door
A-14996	Case Front
A-14999	Spill Door
A-14993	Top Door

Misc. Electrical

Part No.	Name
12-1379-1	Sump pump
18-1200-1	Compressor
18-1206	Relay
18-1207	Capacitor
12-1434-2	Solenoid Valve (with flow control - 25 G.P.M.)