

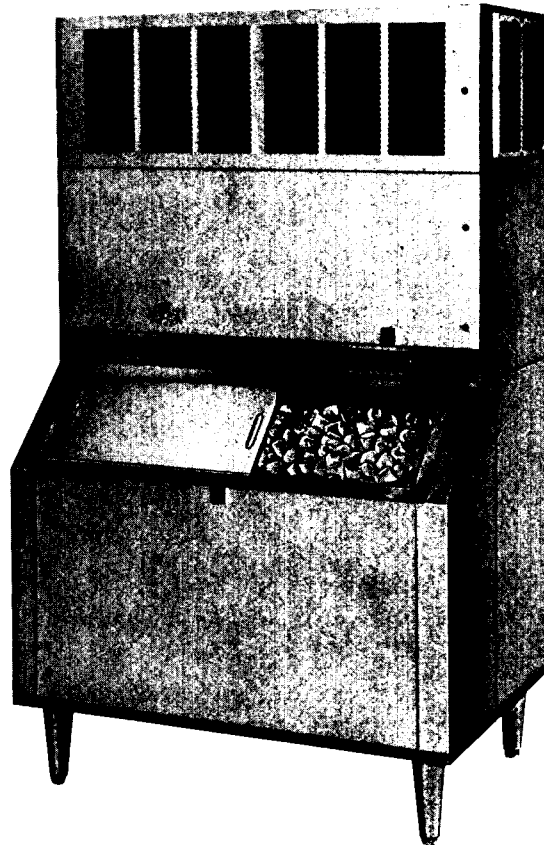
**TABLE OF CONTENTS**  
**SC-300J**

Table of Contents .....	1
Photograph and Ice Making Capacity .....	2
Specifications and Dimensions .....	3-4
Selection Location:	
Location .....	5
Uncrating .....	5
Preparation for Installation .....	5-6
Installation .....	6-7
Water Supply and Drain .....	7
Electrical Connection and Characteristics .....	7
Wiring Diagrams:	
Water Cooled 115/60/1 .....	8
Air Cooled 115/60/1 .....	9
Air Cooled 230/60/1 .....	10
Water Cooled 230/60/1 .....	11
Air Cooled 208/60/1 .....	12
Water Cooled 208/60/1 .....	13
Diagram Installation Plumbing .....	14
Final Check List .....	15
Start-Up .....	16
Cycle of Operation:	
Harvest Cycle .....	17
Freezing Cycle .....	18
Service Analysis Charts .....	19
Exploded Views - Component Parts:	
Sump Pump .....	20
Control Box .....	21
Complete Unit (Front) .....	22
Complete Unit Top, Air Cooled .....	23
Complete Unit Top, Water Cooled .....	24
Compressor Assy. ....	25
Spray Tube .....	26
Drive Linkage .....	27
Water Valve .....	28
Case Assembly .....	29
Service Information	
Functional Parts Description .....	30
Service Complete Unit .....	31
Maintenance Instructions .....	32

**THIS PAGE  
INTENTIONALLY  
LEFT BLANK**

# SCOTSMAN

## SUPER CUBER SC-300J SERIES



### ice making capacity

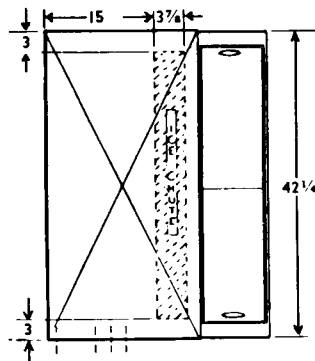
Daily Ice Capacity is directly related to condenser air inlet temperature, water temperature, and age of machine. Average daily capacity at 90° air and 70° water is air cooled: 230 lbs. and water cooled: 250 lbs.

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

## SPECIFICATIONS

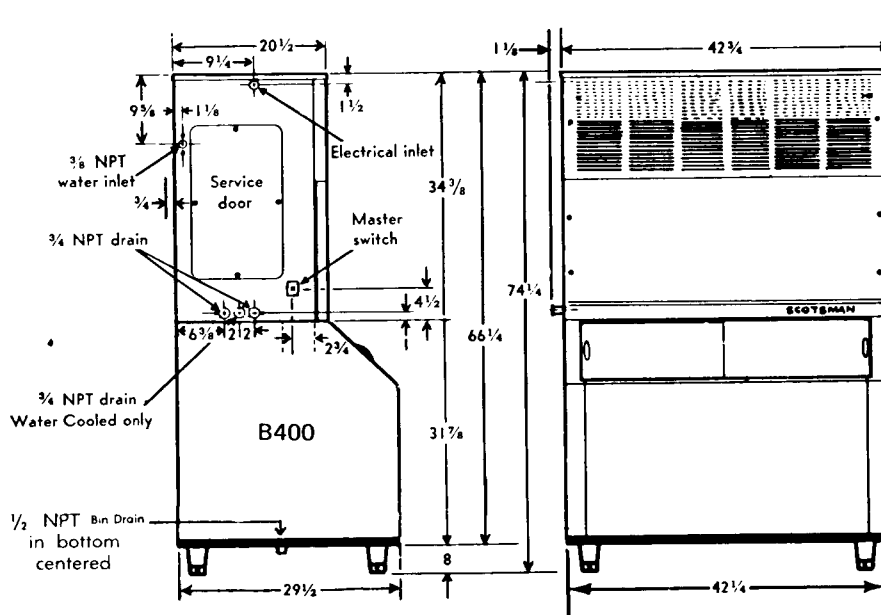
SUPER CUBER SC-300 SERIES	MODEL SC-300J	MODEL SC-300WJ	MODEL SC-300J-SS	MODEL SC-300WJ-SS
CONDENSER, Air Cooled	X		X	
CONDENSER, Water Cooled		X		X
COMPRESSOR 3/4 HP	X	X	X	X
FINISH, Hammerloid Grey	X	X		
FINISH, Stainless Steel			X	X
SHIPPING WEIGHT (Machine Section)	425	420	430	425

STANDARD ELECTRICALS	MINIMUM WIRE SIZES	TOTAL AMPERAGES
115/60/1	2 wire 12 gauge	15.0 Amperes
115/230/60/1	3 wire 14 gauge	8.3 Amperes
115/208/60/1	3 wire 14 gauge	10.4 Amperes



STORAGE BIN: 400, 650 or 1250 lb.  
 Stainless Steel Lined  
 DEPTH: 20-1/2"  
 WIDTH: 43-7/8"  
 HEIGHT: 34-3/8"

NOTE: Shown here on B400 Bin



**INSTALLATION SPECIFICATIONS**

	<u>Model SC-300J</u>	<u>Model SC-300WJ</u>
Compressor Copelaweld No. RSL2-0075 1AA-218	230/60/1 3/4 HP	230/60/1 3/4 HP
Compressor Amperage	6.1 Amps	6.1 Amps
Condenser	Air Cooled	Water Cooled
Fan Motor amps.	.38 Amps	None
Refrigerant	R-12	R-12
Refrigerant Charge	37 ounces	36 ounces
Power Consumption	8.5 Amps	8.5 Amps
Water Consumption to Produce Ice	4 Gal. per hour	4 Gal. per hour

**NOTE:**

All Scotsman Super Cubers require neutral wire for secondary 115 volt components circuit. 3 phase cubers require 4 wire service with neutral. Special voltages upon request.

Companion Bins	B-650 or B-400	B-650 or B-400
Cube Size	Scotsman Super cube	Scotsman Super cube
Cubes Per Harvest	80	80

**DIMENSIONS – Cuber Only**

Height	34-3/8"	34-3/8"
Width	42-1/4"	42-1/4"
Depth	20-1/2"	20-1/2"

**WEIGHTS**

Uncrated	410 lbs.	410 lbs.
Crated	430 lbs.	430 lbs.

## INSTALLATION

### LOCATION OF THE ICE CUBE MACHINE

1. Select a location as convenient as possible for the user.
2. Accessible to the necessary electrical and plumbing connections.
3. If possible, have a minimum space of 12 inches above top and from left end panel for service.
4. A minimum of 24 inches for the convenience of the user in front of the machine.
5. Room temperature — minimum of 50 degrees, maximum of 100 degrees.

**ALL INSTALLATIONS**—Locate, if possible, so left end panel is accessible. 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 where the entire top can be removed and the unit can still be operated.

**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 INSTALLATION**—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 INSTALLATION**—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

1. If possible, do not uncrate until equipment is in permanent location.
2. Storage bin and machine compartments are shipped in separate crates.
3. Remove hold-down bolts from skids.
4. Remove crate in usual manner for wood crating.

### 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 leg package from bin and install 4 legs in bin base sockets.
4. Remove all masking tape and packing members from curtains and inner cube making compartment. Re-align components such as sump pump or cube racks that may have shifted in transit.
5. Remove water strainer from compressor section for installation on unit or in water supply line feeding unit.
6. 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 parts program.
7. Select unit location prior to hook up of water, drain and electric in accordance with local and national codes, minimum room temperatures 50° Fahrenheit. On air cooled models select well ventilated location.
8. Remove registration card from storage bin and wipe bin clean with damp cloth.
9. Fill out registration 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.

### SETTING UP MACHINE

1. Be sure floor strength is capable of 1,000 pounds in an area of 46 inches by 35 inches.
2. Storage bin must be absolutely level. (This is important).

### PLACING MACHINE SECTION IN POSITION ON ICE STORAGE COMPARTMENT

1. Remove front top service door and large front service door to facilitate handling.
2. Extreme caution must be used to prevent damage to the equipment or injury to the personnel.
3. Have four men available at this installation.
4. Place 2 x 4's or other available shims at all four corners which allows clearance for fingers.
5. Place 2 x 4's lengthwise across storage bin a short distance in from front and back which will allow clearance for fingers when section is set in place.
6. Each man should take a position at corners of machine section using one hand to lift with and the other hand to steady machine. (Caution - all four men should be instructed to lift together so as not to tip unit over.)
7. After machine is in position on 2 x 4's on bin section, tilt machine forward and backward to remove 2 x 4's, being careful of ice opening gasket on bin.
8. Place machine section in exact position on storage compartment.
9. Bolt two back tie straps to hold machine section in place.

## INSTALLATION

### WATER SUPPLY AND DRAIN CONNECTIONS

Page 14 shows recommended water piping connections and drain facilities for Model SC-300J and SC-300WJ.

### WATER SUPPLY

The water supply line is 3/8" N.P.T. for all units. Connect to a cold water supply line with regular plumbing fittings with a shut-off valve installed in an accessible place between supply line and machine. The water strainer supplied with the unit would be mounted with clean-out plug down. Locate the strainer next to the machine and the arrow in the direction of the flow.

Use care in connecting up water line to the machine. Water supply must be installed to conform with local code.

Water connection for the SC-300WJ water-cooled units should be at least 1/2" OD copper tubing to the water cooled condenser. One connection is made inside of cabinet for both make-up water and condenser water. Note: Water pressures over 50 P.S.I. will cause heavy vibration and excess waste water during defrost periods, use water pressure regulator to adjust flow pressures.

## DRAIN

The recommended drain 3/4" OD copper tubing. Sweat to drain connection (See Page 14). 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. Run separate 3/4" bin drain.

## ELECTRICAL CONNECTIONS AND CHARACTERISTICS

Standard Voltage	3 Wire	230/60/1	Total Amperage Draw 8.5
------------------	--------	----------	-------------------------

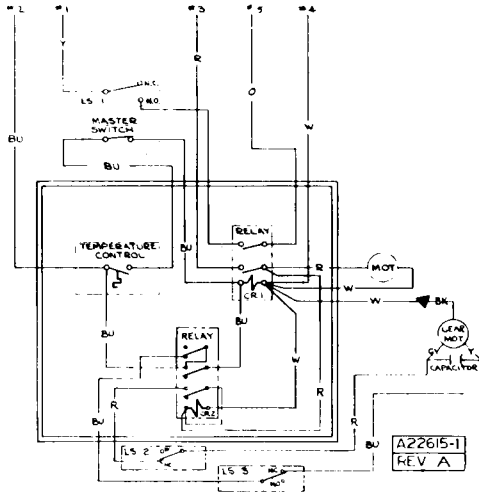
All external wiring should conform with National, State and local code requirements. Check the voltage on the line before connecting the machine.

The SC-300J should be wired to a 20 Amp. circuit. Be certain that the Super Cubers are on their own circuit and individually fused. The maximum allowable voltage variation should not exceed 10% of the nameplate rating even under starting conditions. Low voltage can cause erratic operation, and may be responsible for serious damage to the overload switches and motor windings. Do not install 230 volt units on 208 volt supply. If necessary, use boost-buck transformer to correct voltage.



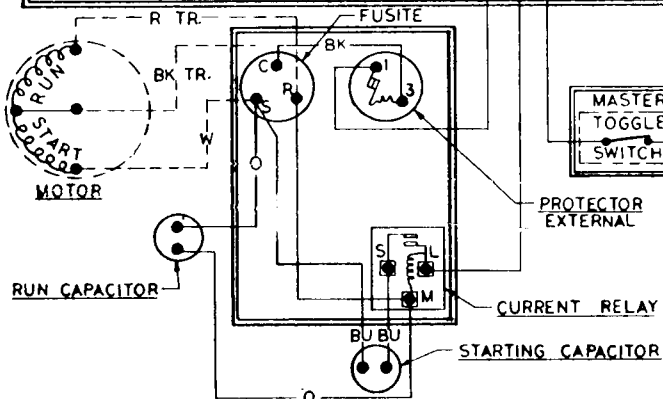
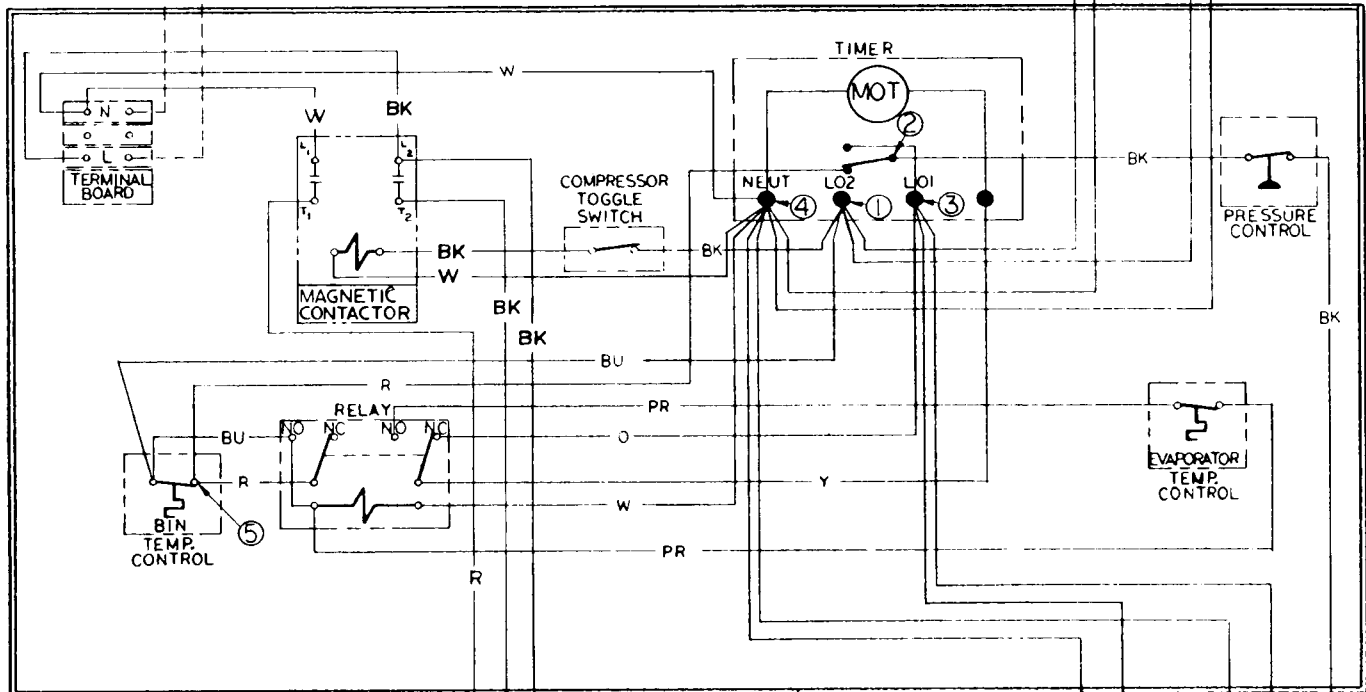
A-22615-1  
Optional C55J  
Crusher

**WIRING DIAGRAM**  
**115/60/1**  
**Water Cooled**



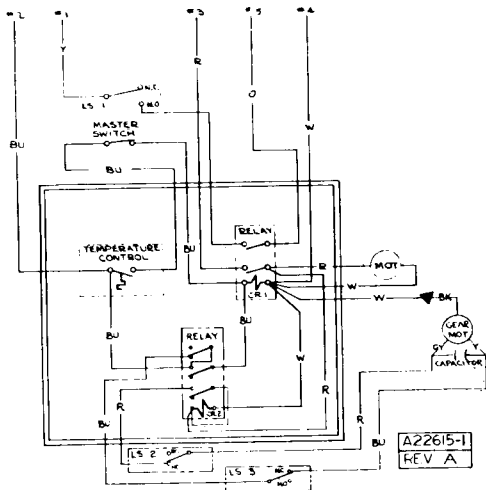
LINE VOLTAGE  
115/60/1  
30 AMP FUSE MAXIMUM

SUMP PUMP (MOT)    AGITATOR (MOT)



THIS UNIT MUST BE GROUNDED

A19804-1  
REV. C

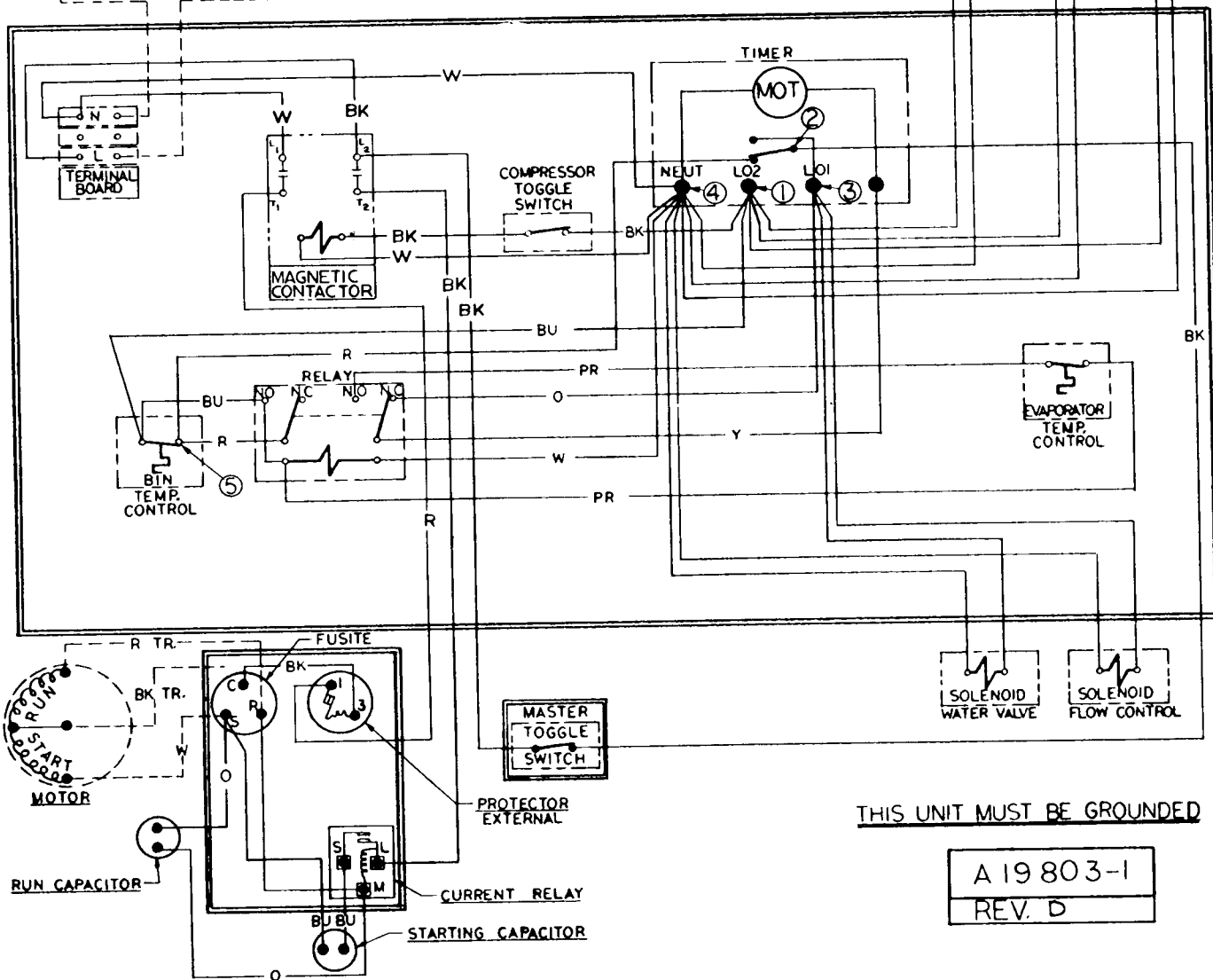


A-22615-1  
Optional C55J  
Crusher

WIRING DIAGRAM  
115/60/1  
Air Cooled



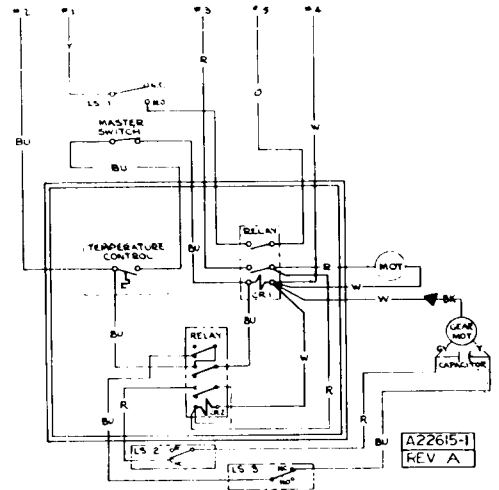
LINE VOLTAGE  
115/60/1  
30 AMP FUSE MAXIMUM



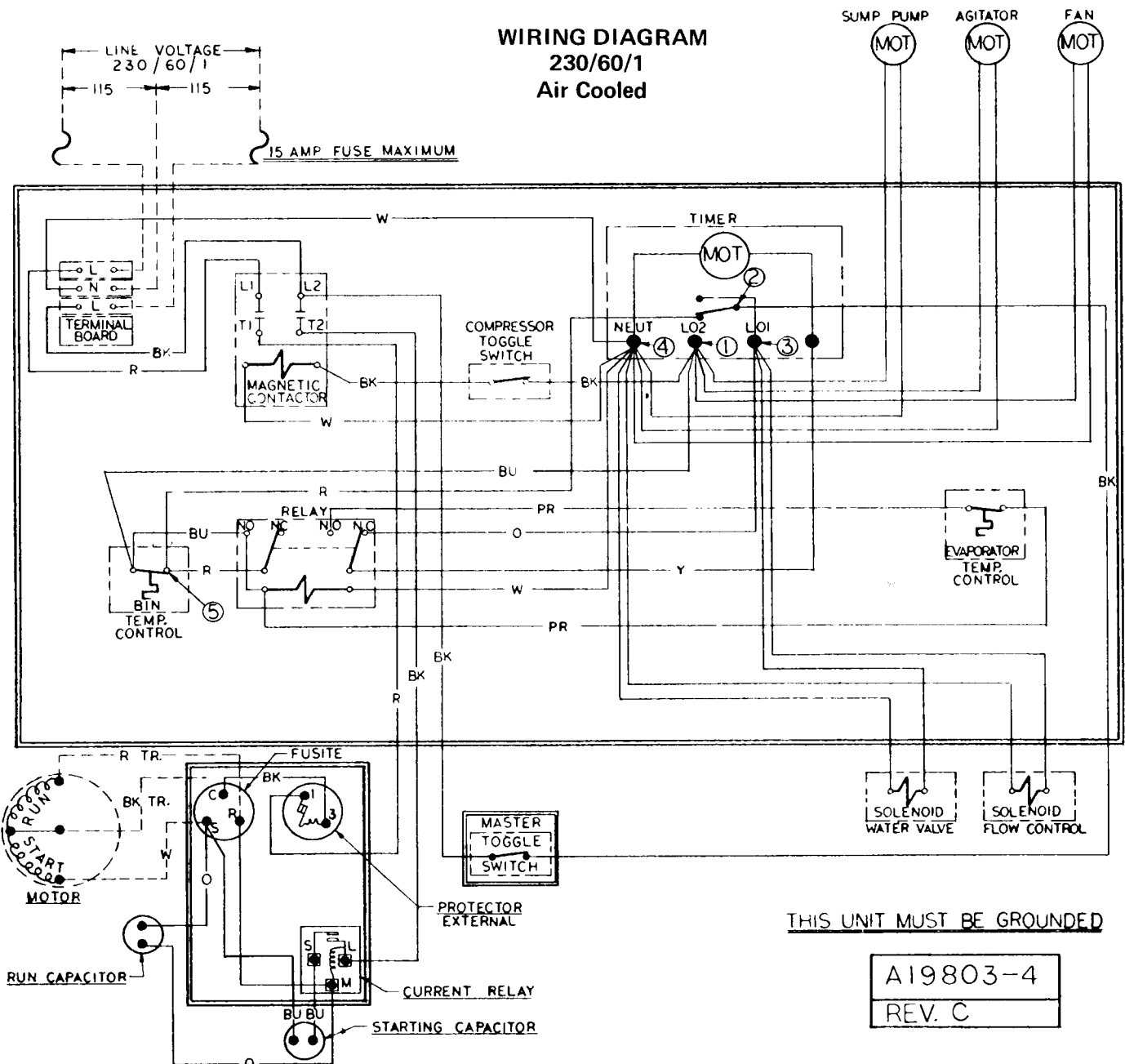
THIS UNIT MUST BE GROUND

A 19803-1  
REV. D

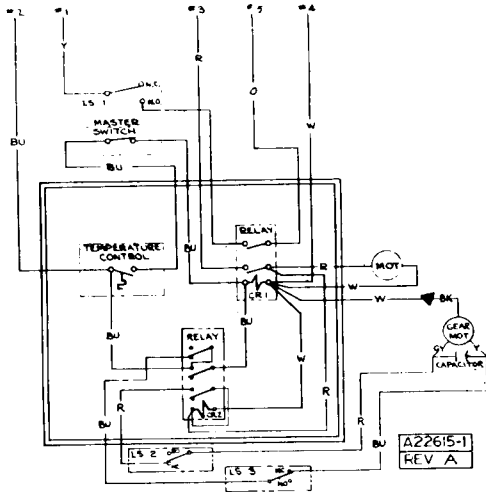
**A22615-1  
Optional C-55J  
Crushers**



**WIRING DIAGRAM  
230/60/1  
Air Cooled**



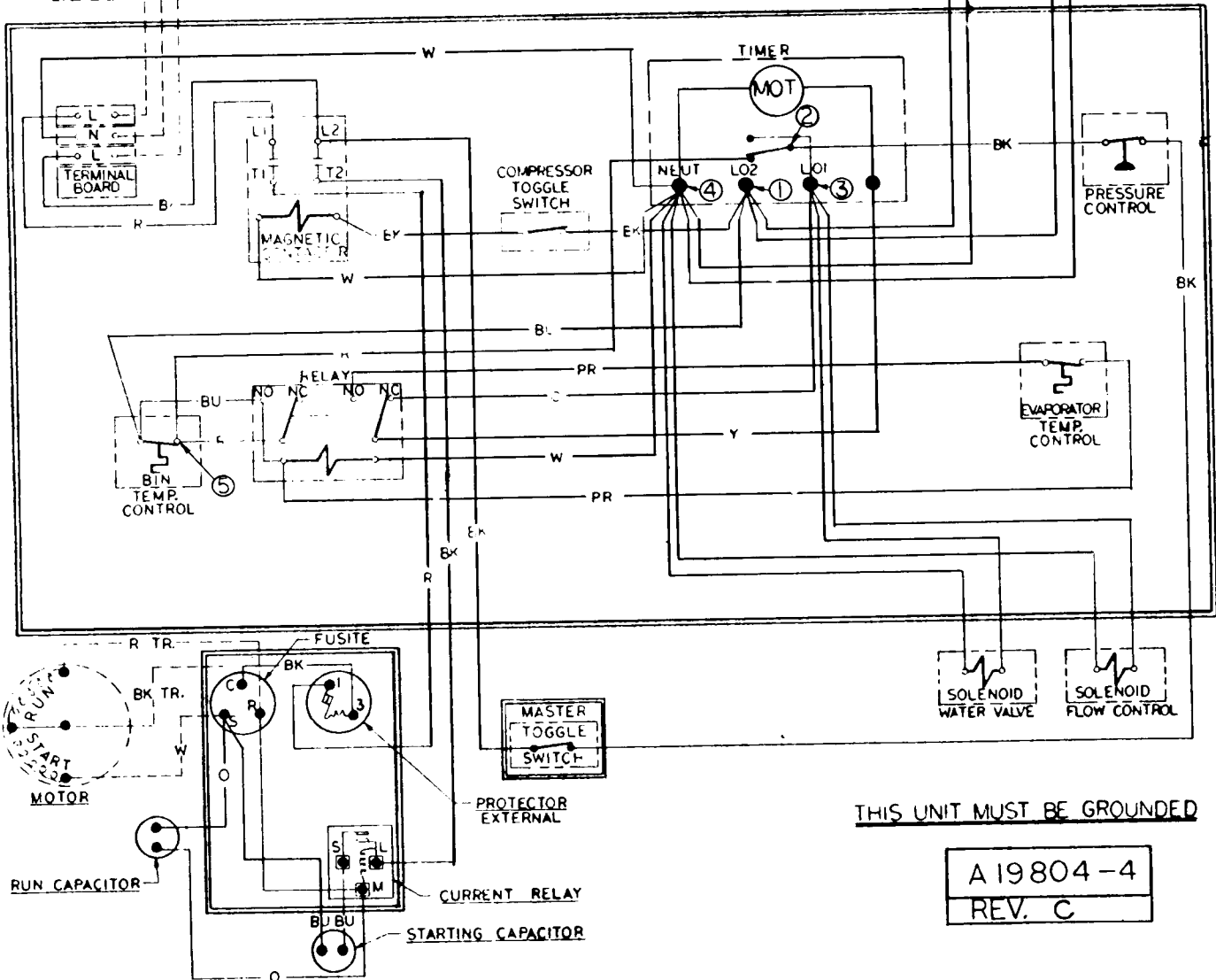
A22615-1  
Optional C55J  
Crusher



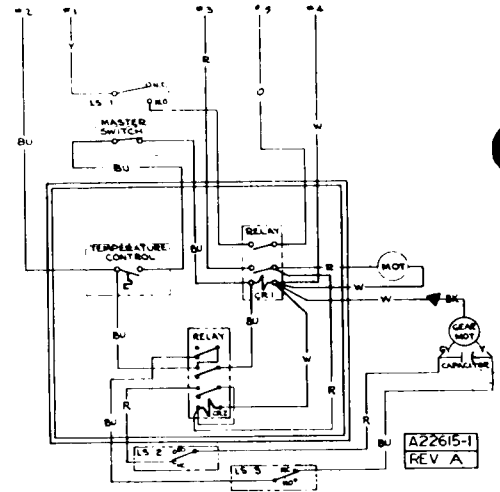
WIRING DIAGRAM  
230/60/1  
Water Cooled

SUMP PUMP (MOT)    AGITATOR (MOT)

LINE VOLTAGE 230/60/1  
115    115  
15 AMP FUSE MAXIMUM

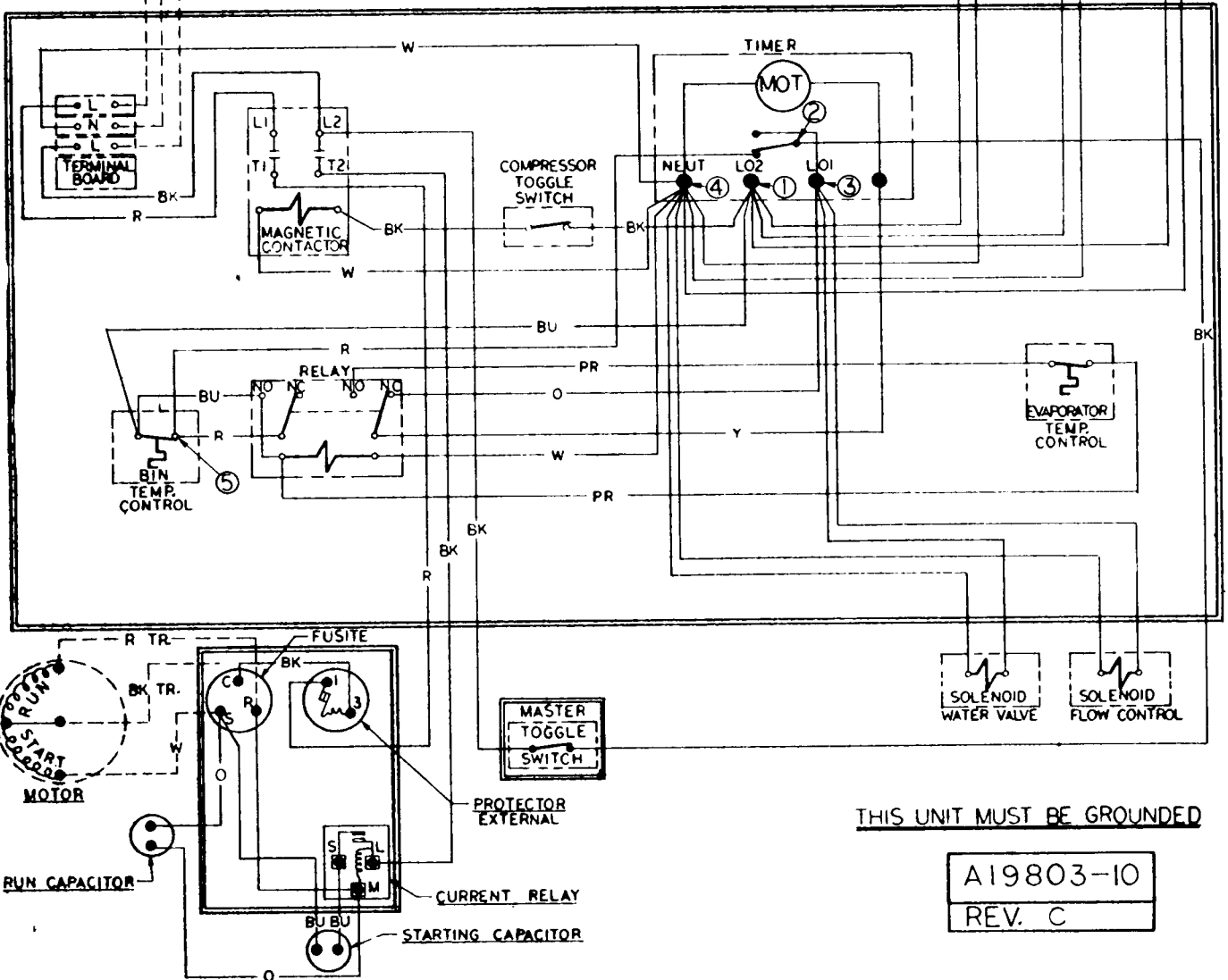
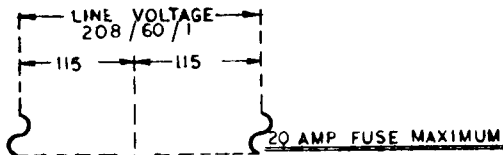


A22615-1  
Optional C55J  
Crusher



WIRING DIAGRAM  
208/60/1  
Air Cooled

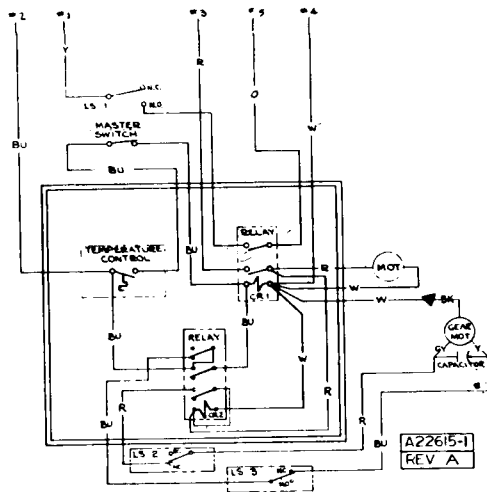
SUMP PUMP (MOT)    AGITATOR (MOT)    FAN (MOT)



THIS UNIT MUST BE GROUND

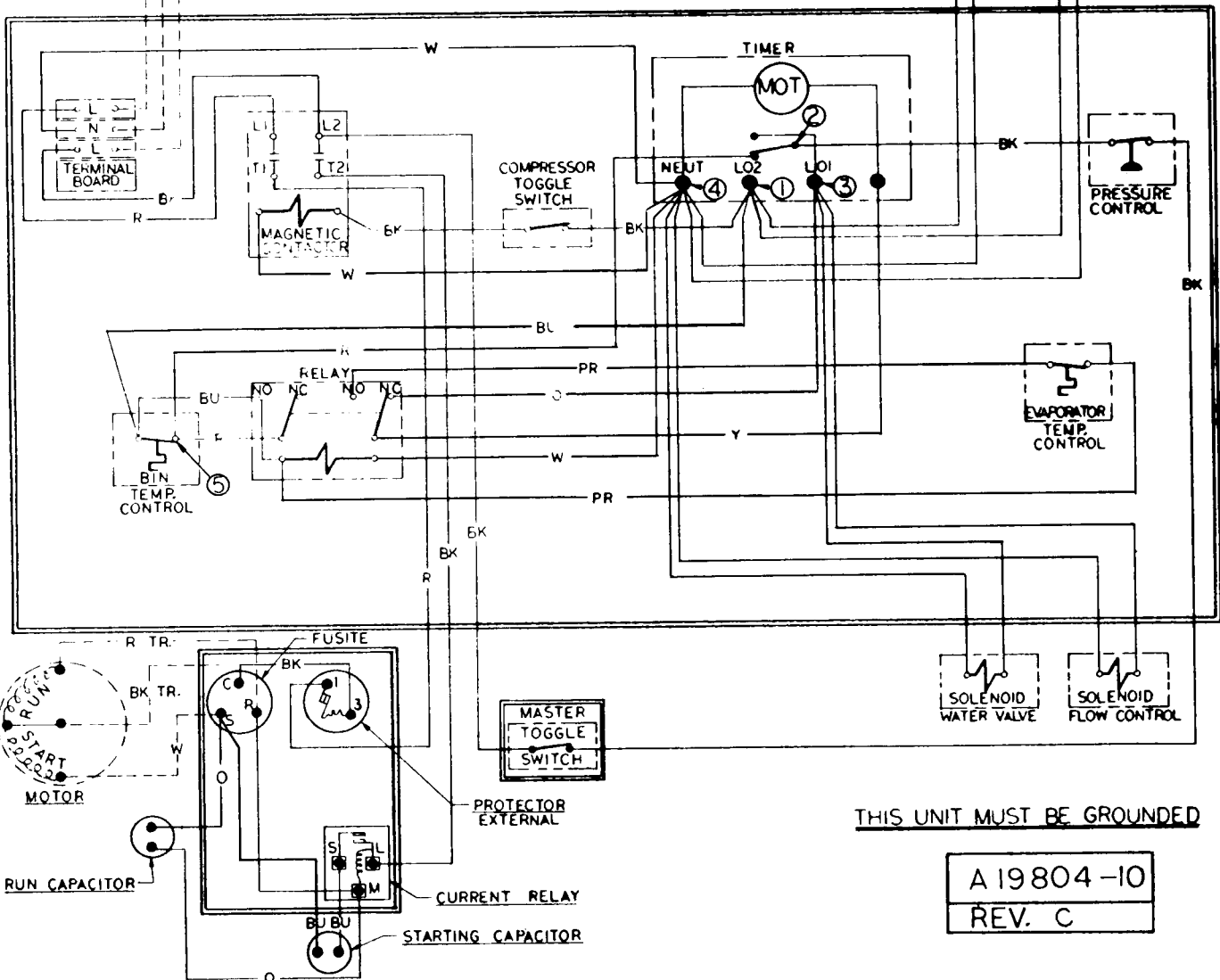
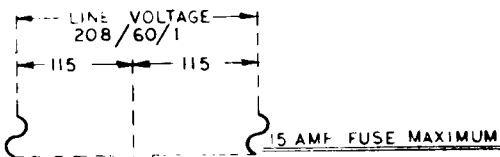
A19803-10  
REV. C

A22615-1  
Optional  
C55J Crusher



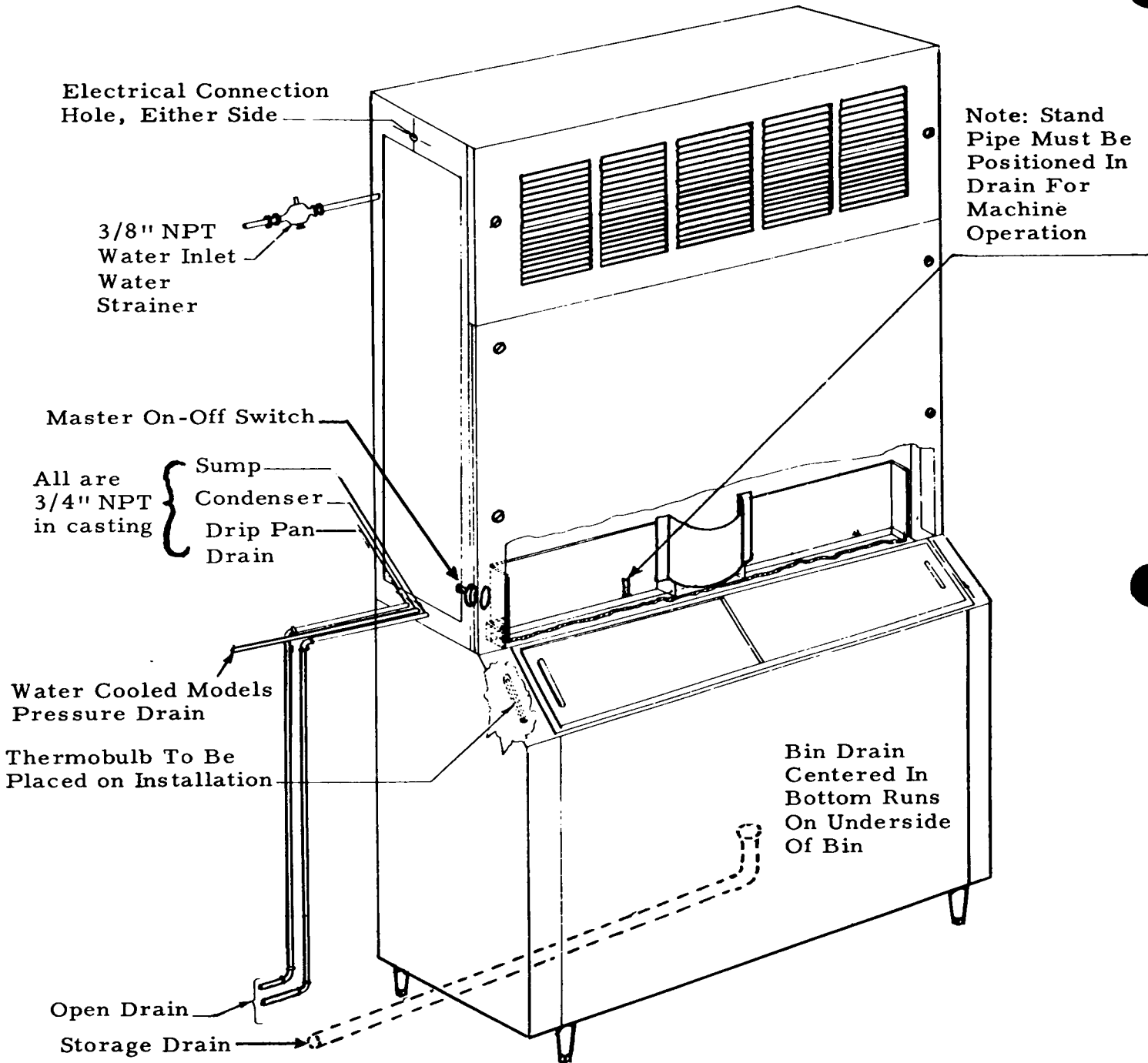
WIRING DIAGRAM  
208/60/1  
Water Cooled

SUMP PUMP MOT  
AGITATOR MOT



THIS UNIT MUST BE GROUND

A 19804-10  
REV. C



NOTE: Hand shut off valve to be located ahead of water strainer.  
Air cooled models do not use condenser or pressures drain.

SC-300 INSTALLATION

### 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. Have the compressor hold-down bolts been checked to insure the compressor is snug to its mounting pads?
5. Is the water supply valve open and the electric power properly hooked up?
6. All masking tape removed from doors, panels and inner freezer curtain?
7. Is the unit clean? Has storage bin been wiped clean with cold water cloth?
8. Has the owner been given the operating manual, and has he been instructed on how to operate the machine?
9. Have the installation and registration cards been filled out? Check for correct model and serial numbers from serial plate on unit then promptly mail card to factory.
10. Check all refrigerant and conduit lines to guard against vibrations and possible failure.
11. Is there 4" clearance behind and around unit for proper air circulation?
12. Is unit in a room where ambient temperatures are minimum 50° F. even in winter months?
13. Has water supply pressure been checked to insure at least a minimum pressure of 20 pounds?



## INSTALLATION

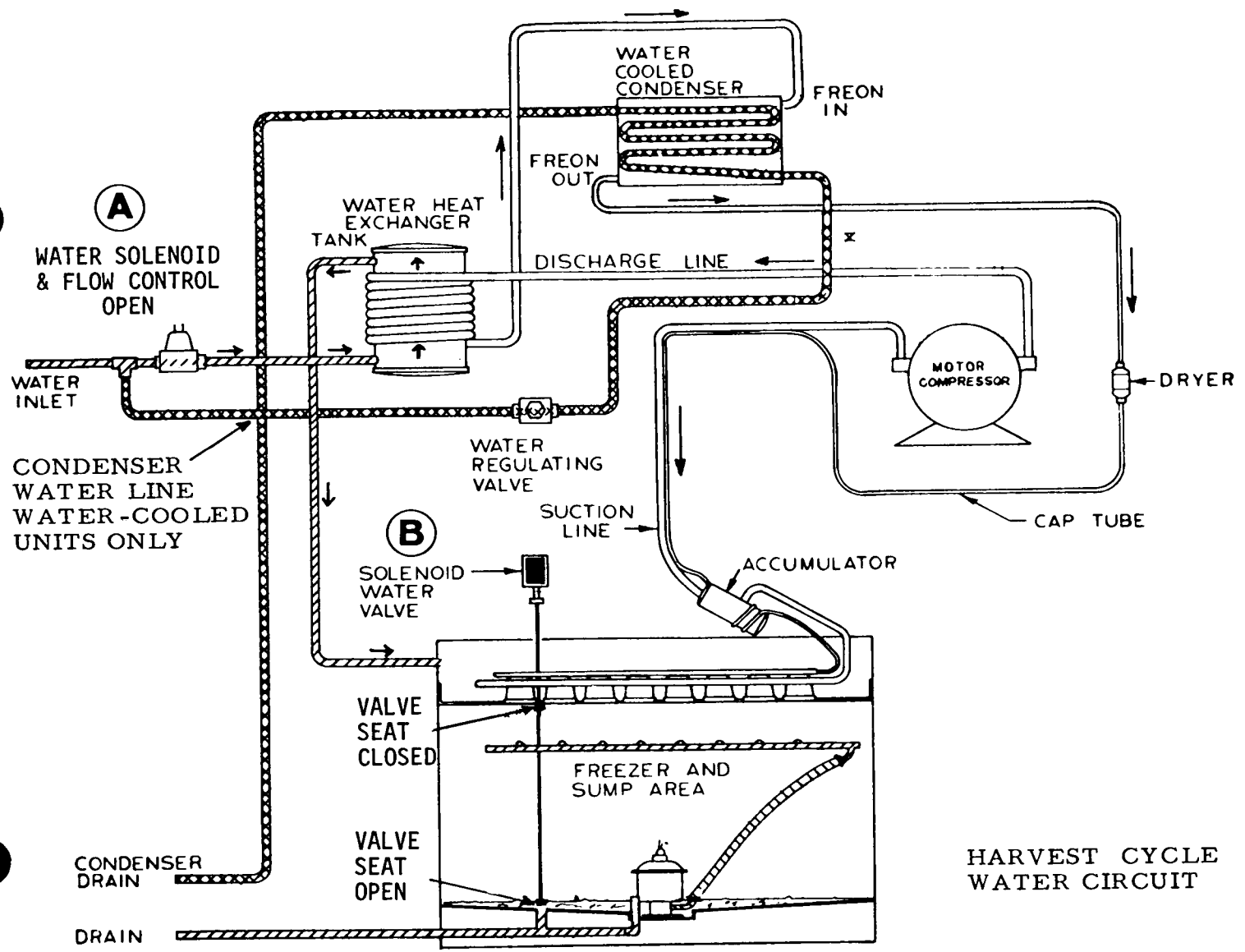
### START UP

1. On all water cooled models, turn on water supply to water-cooled condenser and check for leaks in connections made.
2. Turn on cube supply at hand shut-off valve. Make sure hot water tank fills to overflow, if it does not, adjust timer lever to 3-1/2 minute setting. NOTE: Unit has built-in water flow control set to reduce flow rate to approximately .75 gallons per minute.
3. Check electrical circuit. Do not connect with other appliances into one ordinary wall outlet.
4. Inspect components in electrical control box, check for loose or frayed wire, then turn both manual switches to "on" position. NOTE: All "J" model cubers have two manual on-off switches. One is for motor compressor only during cleaning operation, one is master switch for complete unit.
5. 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 3-1/2 minutes. Dial pointer should be set on Number 3-1/2. After the compressor starts, turn the dial completely around and send it through another harvest cycle. Do this several times. This will completely flush out machine of any dust that may have accumulated in shipment.
6. 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 tube travel is correct, and that none of the jets are plugged. Jet spray of water should hit the middle of the cups.
7. 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.
8. Freezing time will be approximately 25 minutes in a 70 degree ambient. (Longer if above, and shorter if below.) Average complete cycle time is 30 minutes.
9. Watch first cube harvest and check to make sure that plastic curtain has not been damaged in shipment.
10. Check size of cubes made: If too small, after a second cycle, adjust cube size control to lower or colder setting - until desired cube size is reached. Normal cube size is with a 3/8" depression in crown.
11. Check texture of cubes made: Partially cloudy cubes throughout suggest unit running short of water near end of freezing or possible an extremely bad water condition, which would indicate use of filtering or purifying equipment. Contact SCOTSMAN - Queen Products, Div., Ice Machine Service Department, Albert Lea, Minnesota, for further details.
12. With unit on harvest cycle, take a handful of cubes made and hold on storage bin thermostat cover. Should cut unit off in one or two minutes - remove ice: unit should cut back on auto-matically. Thermostat is factory set at 35 degrees out, 39 degrees in.
13. Install gauges and check head and back pressure: air-cooled models, head pressure after twenty minutes of freezing cycle at 70° ambient will be approximately 125 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 and dirty condenser will cause higher pressures. Water-cooled models have water regulating valves factory set at 125 PSI: check reading and adjust if necessary. Back pressure will operate the same as on air-cooled models.
14. Remove gauges, replace control box cover and all service panels.
15. Instruct owner on how to operate and clean machine.

### HOW IT WORKS

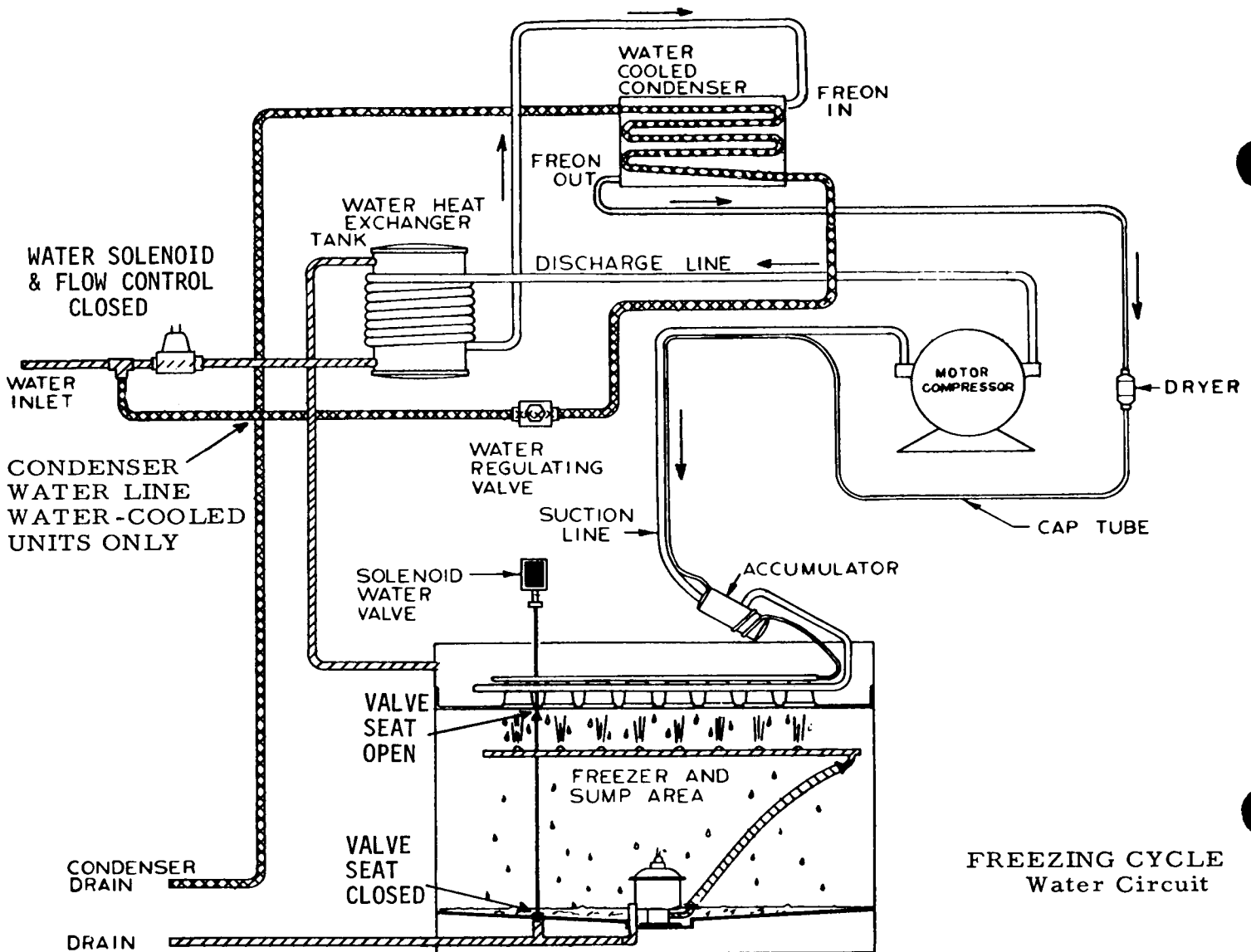
During our freezing cycle, water is trapped in heat exchanger tank, (1-3/4 gallons). Here it picks up heat from the compressor discharge line which is coiled and soldered externally to its outer circumference. The closed control type solenoid keeps fresh water from entering tank and also holds water in the tank from leaking back out. During defrost period, our open type water valve solenoid is energized allowing warm water to be trapped in the platen cavity, also the closed control type solenoid is opened allowing new incoming water to force stored warm water out of heat exchanger tank into platen cavities, performing our defrost.

At the end of the freezing cycle, time clock operated cam opens, stopping compressor, spray bar motor and sump pump and closes circuit to both solenoid operated water valves. Energizing solenoid flow control (A) allows heated water in hot water tank to flow out top by inlet water pressure through solenoid operated valve, and into upper cavity of the freezing chamber, and at the same time solenoid allows (B) the surplus water from the preceding batch of ice cubes to go down the drain. The hot water from the water tank flows into the rubber platen holding the cups and by conduction on back of cups causes cubes to defrost. The platen cavity is completely filled up to the overflow point, and

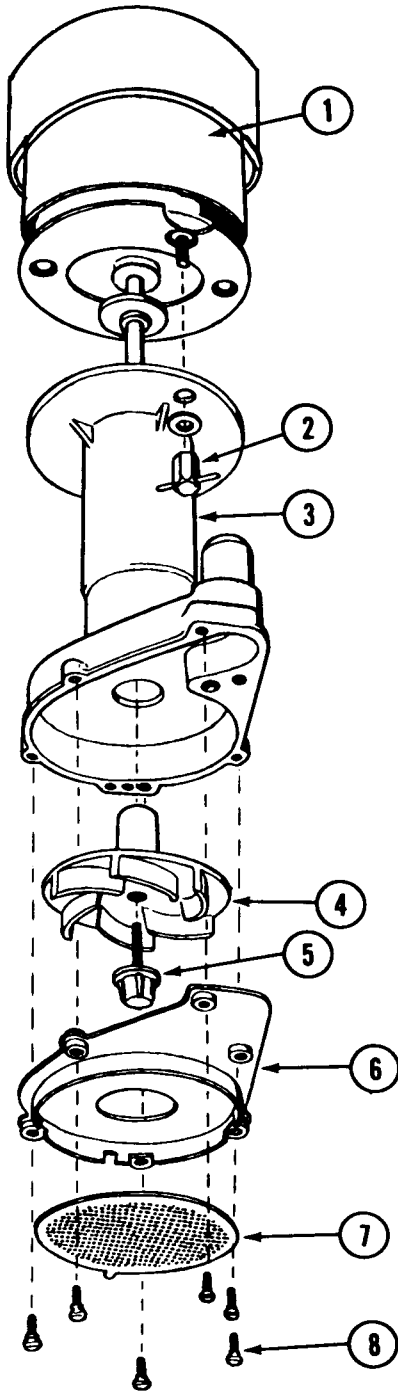


continues to overflow while in the defrost cycle; the amount of this water running over the overflow pipe is controlled by the flow control and the length of harvest time setting on the clock; overflow water goes down the drain also. Meanwhile, cubes being released from the cups drop by gravity onto the cube chute, through curtained opening and into storage bin. At completion of harvest cycle, the micro-switch on the timer now drops points holding defrost components in cycle and switches to freezing cycle set of contacts. Clock motor now stops and will not start until cube size control closes once more. The freezing cycle starts and the water valve allows the hot water tank to refill. The chilled water from the upper cavity flows by gravity through the water valve to the sump tank and reservoir. This water is used to produce the next batch of cubes.

All water used by the cuber enters first thru the water supply inlet and goes directly into the condenser receiver. During a normal freezing cycle, water then goes to a tee to the water regulating valve which is on the inlet side of the condenser water circuit and down the drain. At the start of the freezing cycle, reservoir and sump tank contain enough water to make a complete batch of ice cubes, plus approximately an extra cup. When time clock closes load circuit, it starts the compressor, sump pump. At the same time, it opens the circuit to the clock motor. (Clock motor does not run first part of freezing cycle—this is approximately 15 minutes.) This timer has a double cam, double contacts arrangement for carrying and directing current. After a predetermined amount of ice is frozen, the cube size or reverse acting temperature switch closes, actuating the time clock motor circuit which continues the freezing cycle approximately 12 more minutes. (After clock motor starts, freezing time will be 15 minutes less defrost time setting.)



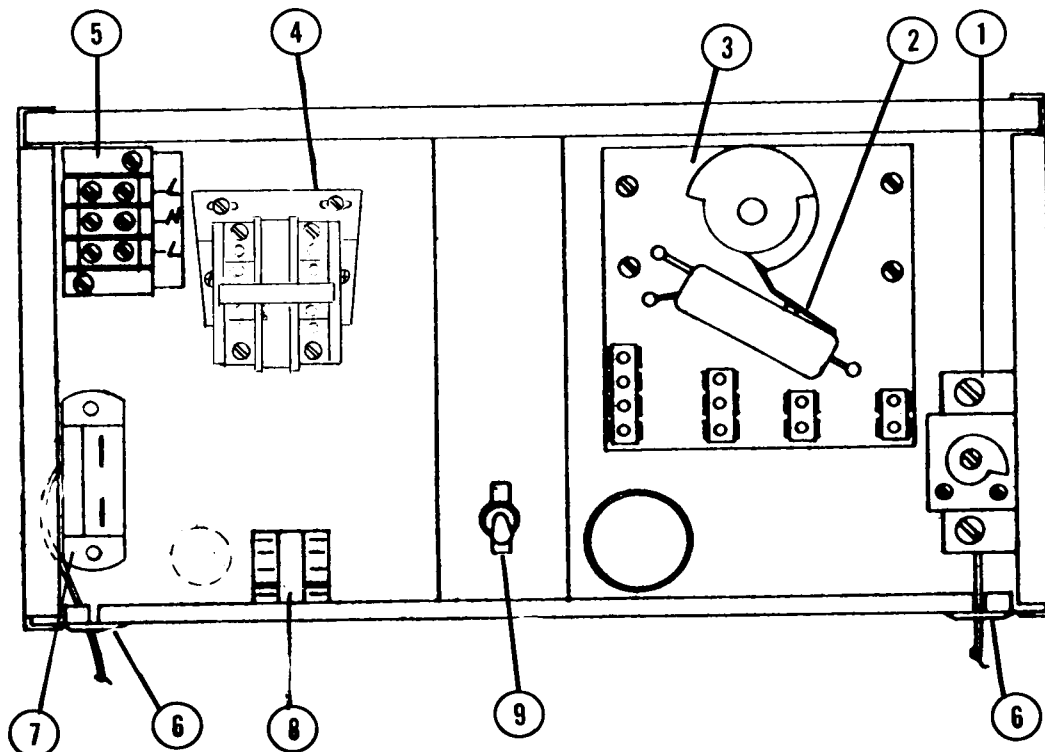
SYMPTOM	POSSIBLE CAUSE	SUGGESTED CORRECTION
Unit will not run	Blown fuse Bin thermostat set too high  Switch in OFF position Inoperative master switch Timer contacts open	Replace fuse & check for cause of blown fuse. Adjust thermostat. Set between 35° to 39° degrees.  Turn switch to ON position Replace switch Replace timer contacts.
Compressor cycles intermittently	Low voltage  Dirty condenser  Air circulation blocked. Inoperative condenser fan motor Non-condensable gases in system	Check circuit for overloading. Check voltage at the supply to the building. If low, contact the power company.  Clean with vacuum cleaner, air or stiff brush. (Do NOT use wire brush.) Allow sufficient air space all around unit. Check to see if defective, If defective, replace. Purge the system.
Cubes too small	Cube size control set too high Partially restricted capillary Moisture in system Shortage of water Shortage of refrigerant	Lower the setting. Blow charge, add new gas & drier. Replace the dryer. See remedies for Shortage of water. Check for leaks and recharge.
Cloudy Cubes	Shortage of water Dirty water supply Restricted drain on pump Accumulated impurities	See Remedies for Shortage of Water. Use water softener or water filter. Clean pump strainer. Use SCOTSMAN Ice Machine Cleaner.
Poor harvests	Too short defrost time  Water temperature too low  Restriction in incoming water Insufficient quantity of hot water  Solenoid valve not opening the water valve Air vent holes in upper cube cups plugged	Check and adjust harvest cycle. Timer should be set at 3-1/2.  Temperature of the water in hot water tank too low. Should be between 100-110 degrees.  Check water feed line strainer and flow control. Water pressure too low. Flow control needs replacing or cleaning.  Solenoid binding or burned out. Replace. Clean out holes.
Shortage of water	Water spraying out through curtains  Water valve leaking  Water entering hot water tank too slowly	Replace broken curtains if any broken. Adjust travel of jet tube if spraying too far forward.  Check the valve for foreign matter. Check valve seats and replace if necessary. Travel on Solenoid not enough. Holding valve open.  Check water pressure and flow control. Clean strainer.
Irregular size cubes and some cloudy	Some jets plugged Shortage of water Unit not level	Clean jets. See Shortage of Water. Water overflowing air vent holes on low side burning cubes. Level as required.
Cubes too large	Cube size control set too low	Raise setting on cube size control.
Decreased ice capacity	Inefficient compressor Timer points stuck together Leaky water valve High head pressure  Partially restricted cap tube	Replace. Replace Micro switch. Replace or repair. Dirty condenser. Clean Bad fan motor. Replace. 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. Overcharge of refrigerant. Correct the charge. Purge & replace charge and drier.
Hole washed inside cube	Water over the top of the cube cups during harvest	Level unit



SC-300 J SUMP PUMP

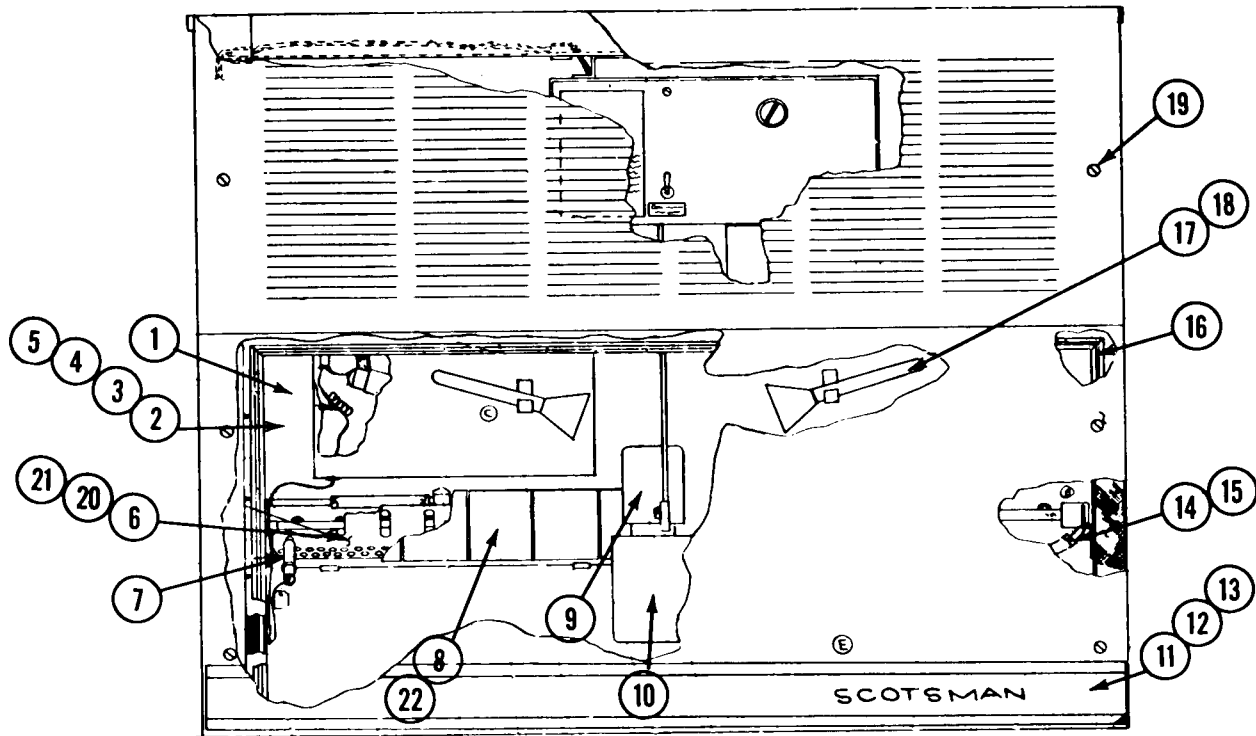
ITEM	PART NO.	NAME
1	12-1701-50	Motor Only
2	12-1351-32	Wing Hex Nuts
3	12-418-30	Pump Body
4	12-1351-21	Impellar and Spring
5	12-1351-31	Impellar Screw and Gasket
6	12-1351-27	Bottom Inlet Plate
7	12-1351-26	Inlet Screen
8	12-1351-29	Wing Screws
	12-1701-1	Complete Pump

## SC-300 J CONTROL BOX ASSEMBLY



ITEM	PART NO.	NAME
1	11-345	Cube Size Control
2	12-1721-50	Micro Switch
3	A-21038-1	Timer Assembly Complete
4	12-820-1	Contactor
5	12-813	Terminal Board
6	13-124	Grommet
7	11-353	Bin Thermostat
8	12-1645	Relay
9	12-426	Switch

SC-300 J MODEL



ITEM	PART NO.	DESCRIPTION
1	A-16458	Face Plate
2	A-19805	Freezer Ass'y Complete
3	A-16264	Left Cup Ass'y
4	A-16261	Right Cup Ass'y
5	13-109-1	Rubber Cup Holder
6	A-16718	Cube Chute Left
7	3-727	Thumb Screw (curtain)
8	A-16778	Left Curtain Ass'y
9	12-1701-1	Sump Pump
10	A-17521	Stand Pipe *
11	15-474	Emblem Decal
12	A-5720-9	Moulding Trim
13	15-61	Moulding Clip
14	2-536-1	Hose Clamp
15	5-179	Tygon (per ft.)
16	A-17126	Door Gasket
17	13-335	Funnel
18	2-1396-1	Clamp
19	3-789	Screw (6 required)
20	A-16720	Cube Chute, Right
21	A-16716	Deflector
22	A-16777	Curtain Ass'y., Right

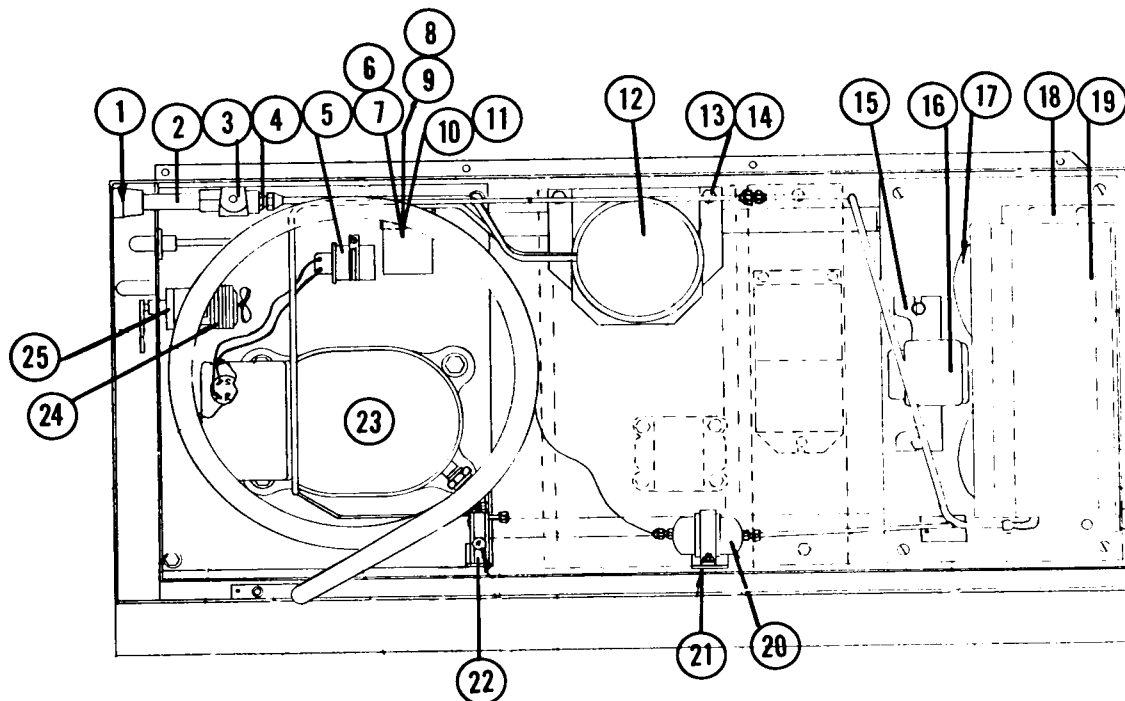
\* Not Shown

IN PACKAGE:

A-16108	Buttons
13-590	Bulb Gasket
A-15759	Bulb Cover

## SC-300 J AIR COOLED CHASSIS

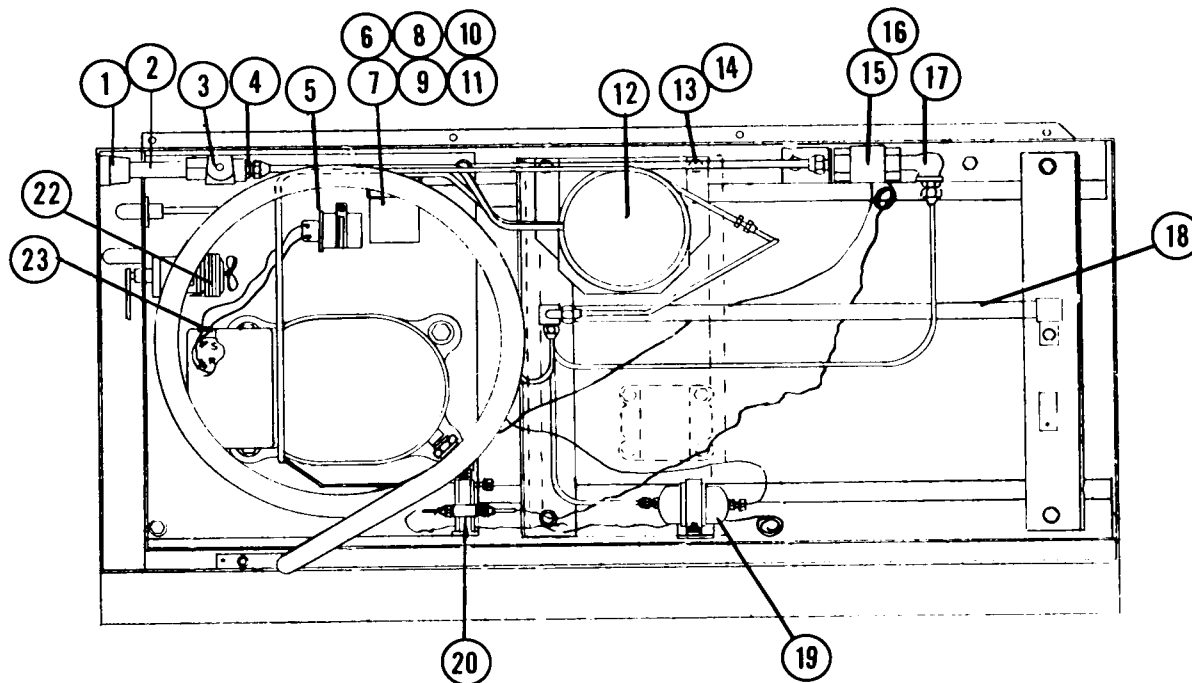
Top View



ITEM	PART NO.	DESCRIPTION
1	A-10706	Inlet Casting
2	16-115-1	Nipple
3	12-621A-1	Solenoid Valve
4	12-621-21	Flow Control
5	18-1902-17	Run Capacitor
	13-666	Terminal Cover
6	12-796-1	Defrost Solenoid
7	S-8995	Solenoid Key
8	3-1403-31	Screw (4)
9	13-610	Grommet (4)
10	3-1407-4	Washer (4)
11	3-1269	Nut (4)
12	A-19792	Hot Water Tank Ass'y.
13	13-1405-3	Screw (2)
14	3-1407-5	Washer (2)
15	18-388	Fan Mtr. Bracket
16	18-559-1	Fan Motor
17	18-625	Fan Blade
18	18-334	Condenser
19	A-12111	Condenser Shroud
20	2-544	Dryer
21	A-9388	Drier Brace
22	18-138	Hi Side Service Valve
23	18-2400-1	Compressor 115/60/1
24	A-23391-1	Drive Motor
25	3-1513	Screw (4)
	3-1406-3	Nut (4)
	3-1410-2	Washer (4)

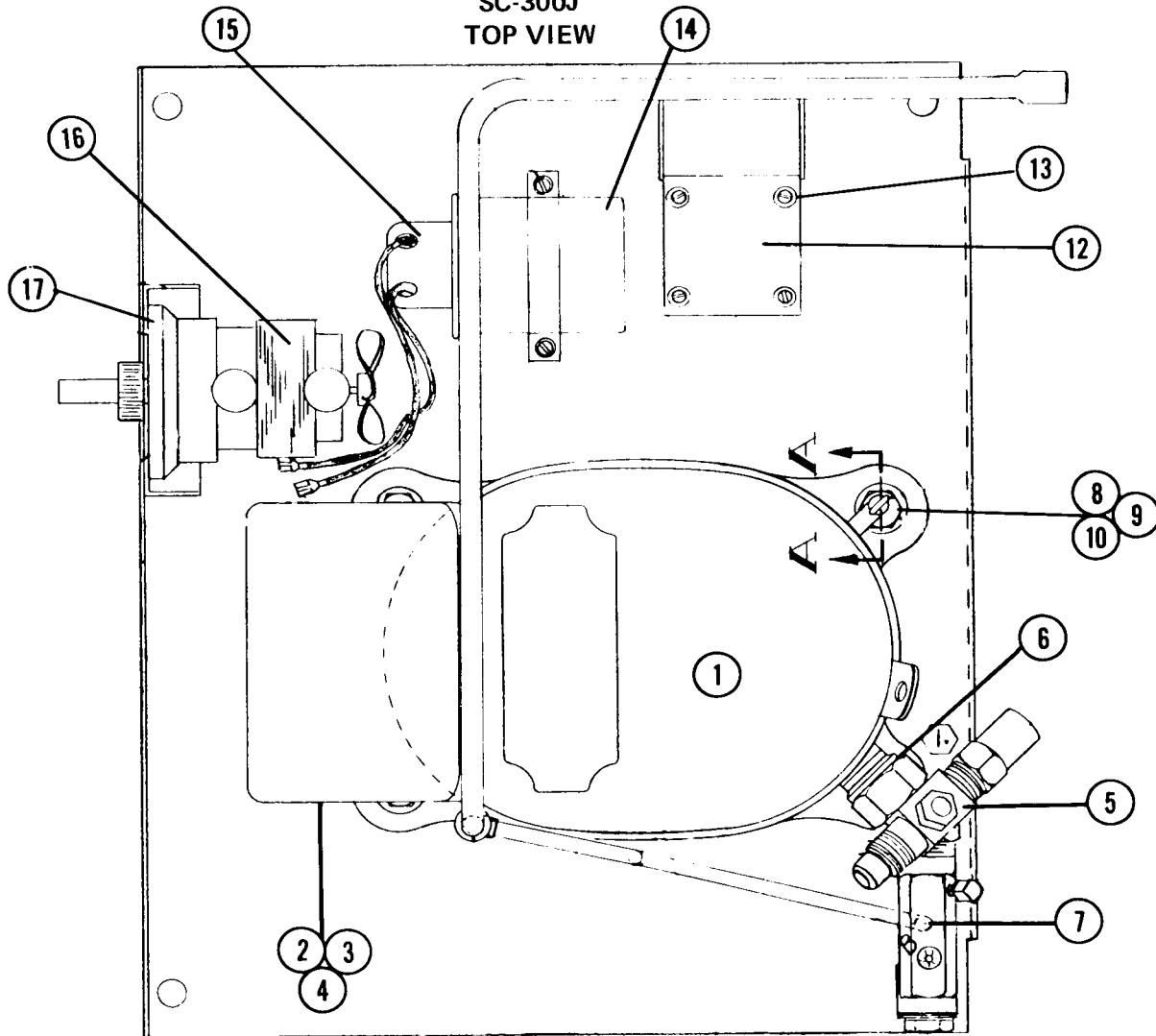


SC-300 J WATER COOLED CHASSIS  
Top View



ITEM	PART NO.	NAME
1	A-10706	Inlet Casting
2	16-98-2	Nipple
3	12-621A-1	Solenoid Valve
4	12-621-21	Flow Control
5	18-1902-17	Run Capacitor
	13-666	Terminal Cover
6	12-796-1	Defrost Solenoid
7	S-8995	Solenoid Key
8	3-1403-31	Screw (2 required)
9	13-610	Grommet (4 required)
10	3-1407-4	Washer (4 required)
11	3-1269	Nut (4 required)
12	A-19835	Hot Water Tank Ass'y.
13	13-1405-3	Screw (2 reqd)
14	13-1407-5	Washer (2 reqd)
15	11-198	Water Valve
16	A-11899	Valve Bracket
17	16-355	Half Union
18	18-354	Condenser
19	2-544	Drier
20	18-138	Hi-Side Service Valve
21	18-2400-1	Compressor 115/60/1
22	A-23391-1	Drive Motor
23	3-1513	Screw (4 required)
	3-1406-3	Nut (4 required)
	3-1410-2	Washer (4 required)

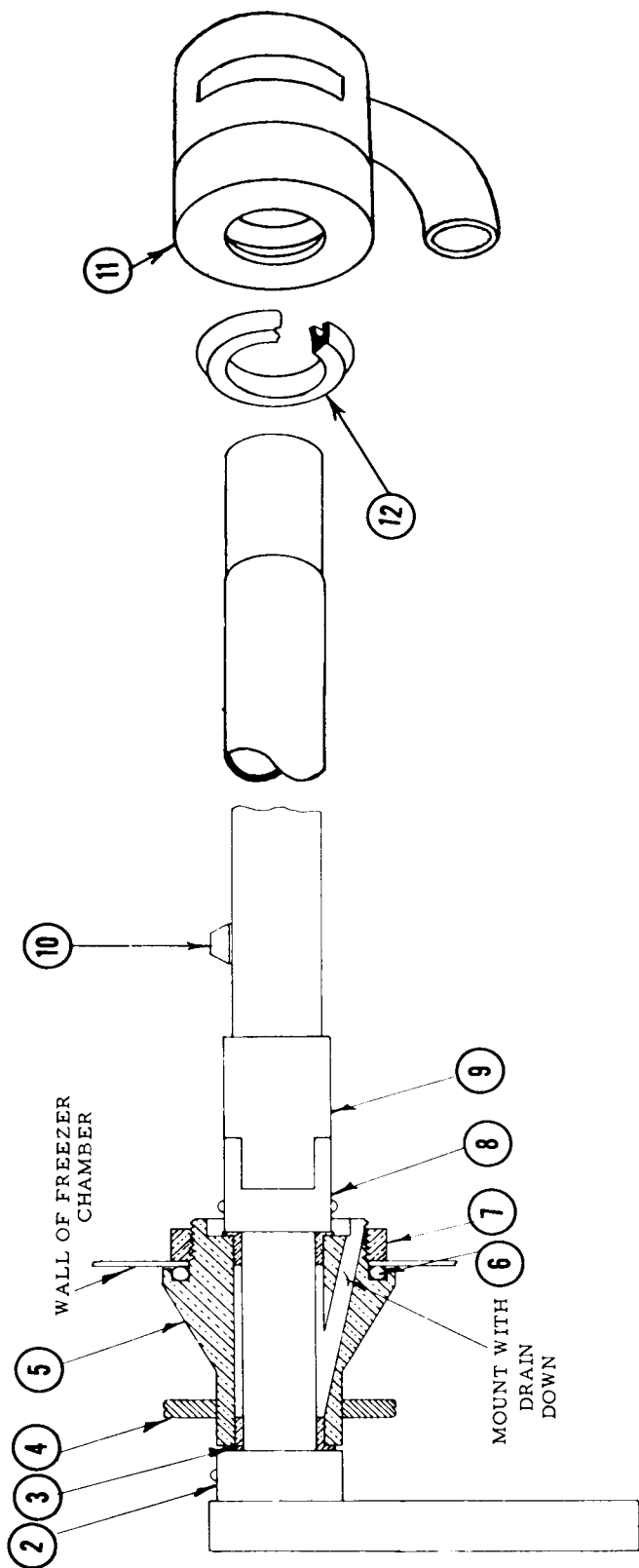
## COMPRESSOR ASSEMBLY

SC-300J  
TOP VIEW

ITEM	PART NO.	NAME
1	18-2400-1	Compressor 115/60/1
2	18-2400-25	Overload *
3	18-2410	Relay *
4	18-2420	Start Capacitor *
5	18-2201-30	Suction Valve
6	18-2300-29	Valve Seal *
7	18-138	Hi-Side Service Valve
8	3-1405-20	Screw (4 required)
9	3-1407-7	Washer (4 required)
10	18-2200-27	Mounting Sleeve (4 required)
11	18-2200-28	Mounting Grommet (4 required)
12	12-796-1	Solenoid
	S-8995	Solenoid Key *
13	3-1403-31	Screw (4 required)
	3-1269	Nut (4 required)
	3-1407-4	Washer (4 required)
	13-610	Grommet (4 required)
14	18-1902-17	Run Capacitor
15	13-666	Terminal Cover
16	A-23391-1	Drive Motor
17	3-1513	Screw (4 required)
	3-1406-3	Nut (4 required)
	3-1410-2	Washer (4 required)

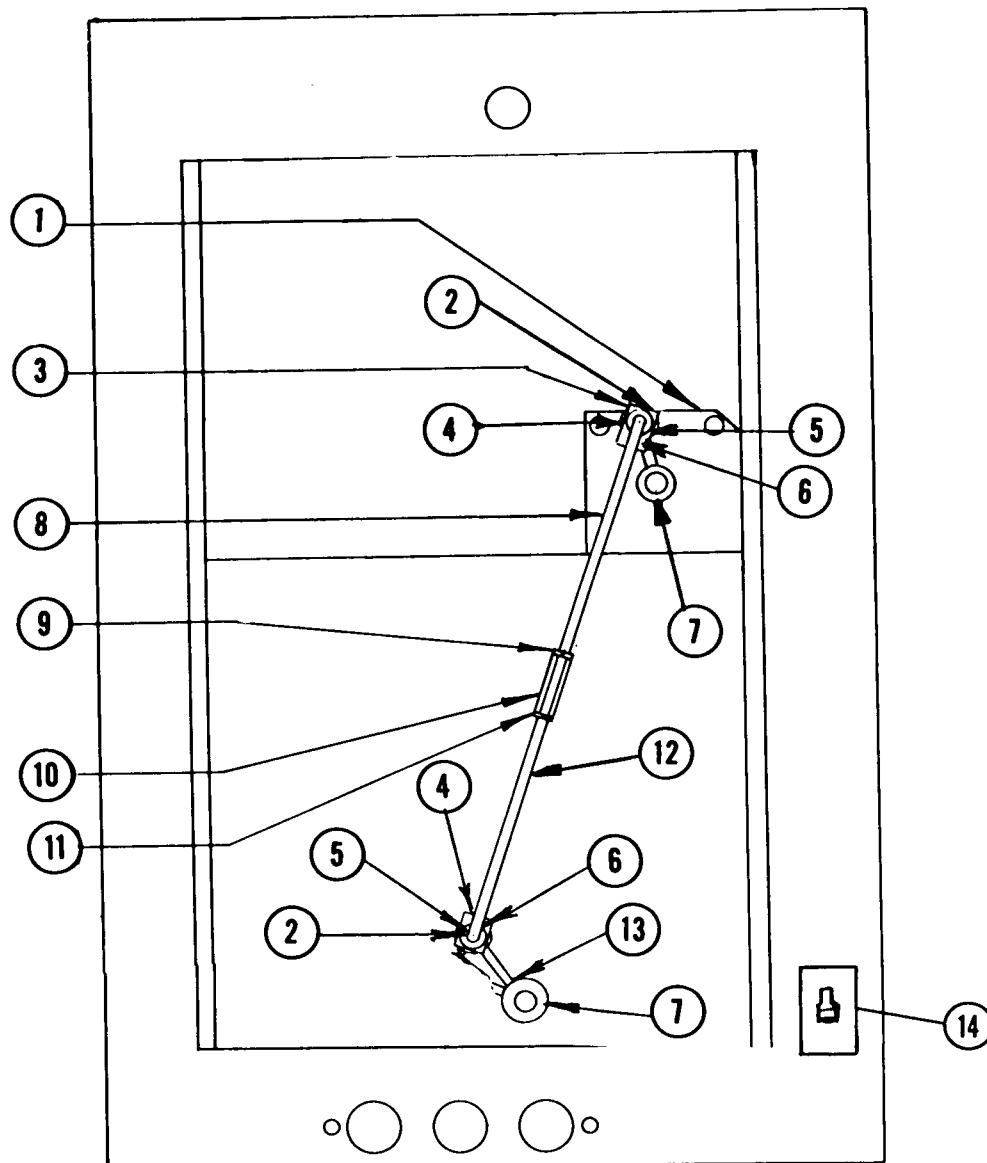
\* Not Shown

SC-300 SPRAY TUBE AND  
 SPRAY TUBE DRIVE ASSEMBLY  
 "J" Models



ITEM	PART NO.	NAME
1	S-7130	Collar
2	2-438	Flange Bearing
3	13-169	Grommet
4	A-5660	Drive Bearing Support
5	2-610	"O" Ring
6	S-7635	Nut
7	A-5679	Driving Journal Ass'y
8	A-16714	Sprayer Tube Complete
9	2-1803-1	Jet
10	A-16963	End Bearing Ass'y
11	13-168	"U" Cup

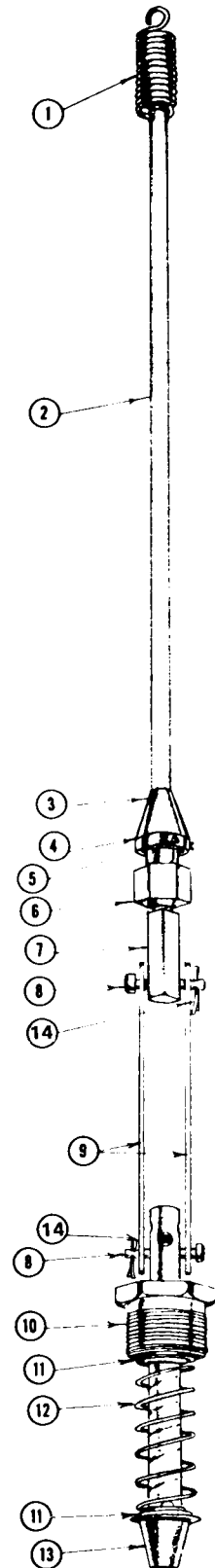
SPRAY BAR DRIVE LINKAGE  
SC-300 J Model



ITEM	PART NO.	NAME
1	A-23391-1	Drive Motor
2	3-396-1	Cotter Key
3	S-9666	Driver Arm
4	A-7033	Bearing
5	3-1407-5	Washer
6	S-7558	Bearing Clip
7	3-431	Set Screw
8	A-10641	Left Upper Linkage
9	S-7937	Left Lock Nut
10	S-7936	Linkage Coupling
11	3-1406-9	Right Lock Nut
12	S-7938	Bottom Linkage
13	S-9619	Driven Arm
	A-10716	Complete Linkage Ass'y (Less Motor)
14	12-537	Switch 115/60/1

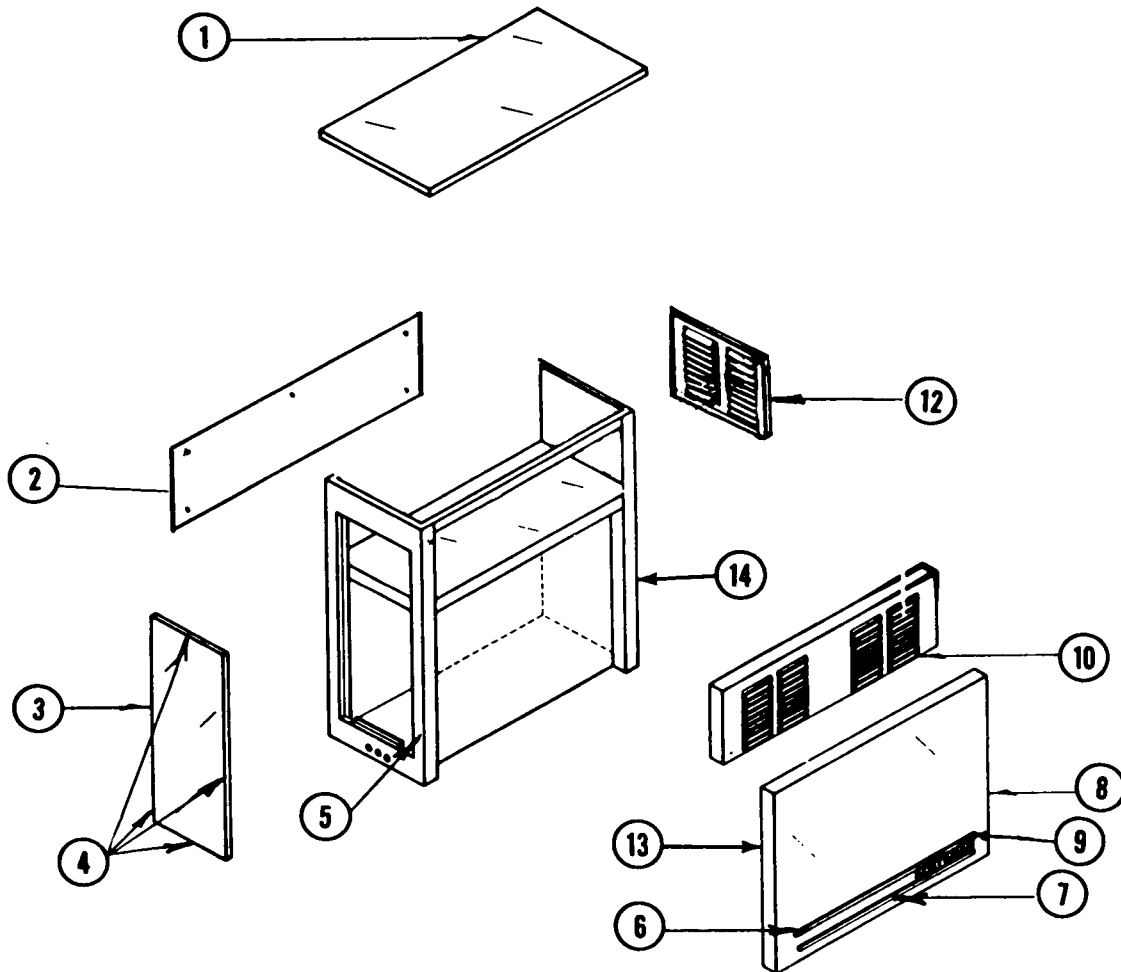
**WATER VALVE ASSY**  
**SC-300 Thru "J" Models**

ITEM	PART NO.	NAME
1	2-549	Spring
2	A-10642	Lower Valve Rod
3	S-8949	Valve Guide
4	2-545	"O"Ring *
5	3-1069	Cotter Pin
6	S-8948	Lock Nut
7	S-8950	Valve Nut
8	S-7974	Stainless Pin
9	S-8953	Lower Link
10	S-8578	Drain Nut
11	S-6924	Valve Seat Washer
12	2-419	Compression Spring
13	S-8942	Valve Guide Assembly (includes pin and tube)
14	3-396-1 * Not Shown	Cotter Pins
	A-18875	Valve Complete



## SC-300 AIR and WATER COOLED CASE ASSY

"J" Models



ITEM	PART NO		NAME
	Gray	S.S.	
1	A-17452	A-17452-1	Top Panel
2	A-9321	A-9321-S	Back Assy
3	S-6713	S-6713-S	Left Side Door
4	3-1419-9	S	Screws
5	A-16876	A-16876-1	Left Panel
6	2-1512		Door Liner
7	A-5720-9		Moulding Trim (2)
8	15-61		Moulding Clip
9	A-17571		Door Gasket
10	A-16875	A-16875-1	Top Front Door
12	A-11910	A-16875-1	A.C. Right Side Door
	A-12024	A-12024-S	W.C. Right Side Door
13	A-16903	A-16903-1	Front Lower Door
14	A-11909	A-11909-S	Right Side Panel

**FUNCTIONAL PARTS DESCRIPTION**

- 11-353 Bin Thermostat  
Cutler Hammer No. 9530 N 213  
Cut Off 35° cut in 39°  
Adjustable calibrate for altitude over 2,000 ft.
- 11-345 Cube size thermostat  
Ranco A11-377  
Reverse acting, closes on temperature  
Decrease - Has adjustment dial
- 12-1645 Relay 115/60/1  
Ameco or Potter Bumfield  
3 PDT No. KU-11A-45  
Holds cuber drive motor thru Harvest cycle
- 12-1701-50 Water recirculating, sump pump  
Hartell Inc.  
3000 RPM - shaded pole, thermally protected motor - 1/25 H.P. 115/60/1
- 18-2400 Motor compressor 230/60/1  
Copeland refrigeration - Copelaweld RSL2-0075-1AA 2 Pole, 3500 RPM  
Hermetic for use with refrigerant R-12.
- 18-1902-17 Running Capacitor  
Copeland Refrigeration No. 0124-0001-00  
10 Microfarad rating
- A-21038-1 Finishing Clock or Timer  
Manufactured by Queen Products Division  
12-1721-50 — Micro switch.
- A23391-1 Drive Motor  
Merkle Korff Model No. 3724UP-115  
39 RPM 115/60/1 Shaded Pole
- 12-820-1 Contactor  
Furnas No. 41NA20AF-B  
110/120/60/1
- 12-621A-1 Inlet water solenoid/flow control valve  
Detroit Control Company No. SSV-4552  
.75 GPM Flow rate.
- 12-796-1 Solenoid (open type)  
Control's company of America No. 813-210-2
- 11-198 Water Valve (water cooled models only)  
Penn type V46AA-12

## SERVICE – COMPLETE UNIT

ALL STEPS LISTED BELOW SHOULD ONLY BE STARTED WHEN WATER AND ELECTRICAL SUPPLY ARE OFF TO PREVENT ACCIDENTS.

To remove cabinet top.

1. Remove two screws on each end.
2. Lift top straight up.

To remove sump pump

1. Remove lower front door (4 screws)
2. Remove top front panel. (2 screws)
3. Remove screw holding wire tube bracket to pump.
4. Loosen hose clamp on sump pump discharge tube.
5. Pull sump pump out.
6. Disconnect wires in control box.
7. Pull wire from tube.
8. Replace pump in reverse of above. Note: Always try new pump in shop before putting on the job.

To remove drive motor

1. Remove left side panel.
2. Loosen set screw on drive journal arm to motor.
3. Take 4 nuts loose on mounting bracket to motor, including the four rubber grommets.
4. Disconnect leads from terminal board.
5. Install new motor in reverse of above.
6. Check and adjust spray bar travel as required.

To remove spray tube assembly

1. Remove lower front door.
2. Remove plastic curtain and cube trays.
3. Lift right end of spray bar out of holder. This loosens spray bar, also the tygon tubing connection and elbow.
4. Pull tygon tubing and stationary elbow off this end of spray tube. (Has rubber O-Ring sealer)
5. Replace in reverse of above

To remove water inlet solenoid/flow control

1. Remove cabinet top.
2. Pull electrical leads from spade terminals on top of solenoid.
3. Loosen the 3/8" S.A.E. flare nut on outlet side of valve (2 flare nuts on water cooled models)
4. Unscrew entire valve body assembly from its pipe fitting on inlet side.
5. Replace in reverse of above.

To remove open type solenoid – Water Valve Linkage

1. Remove cabinet top.
2. Pull two electrical jacks from solenoid coil.
3. Remove 4 screws and rubber mounts holding solenoid to bracket
4. Solenoid coil and plunger will fall free.
5. Remove old solenoid core and the wire yoke that attaches to pull spring. Put this in new core and fasten to spring on valve linkage.
6. Re-assemble in reverse procedure, check operation after completion. When de-energized face space between coil and plunger faces is 3/4" to 7/8".



## MAINTENANCE INSTRUCTIONS FOR SCOTSMAN SUPER CUBERS

THE FOLLOWING MAINTENANCE SHOULD BE SCHEDULED EACH (6) SIX MONTHS ON ALL SCOTSMAN SUPER CUBERS.

1. Clean air-cooled condenser; This is to be done frequently with the machine shut off.
2. Clean hot water tank and evaporator, sump tank and screen, using Scotsman Ice Machine Cleaner or equivalent.
3. Remove jet tube and manually clean jets by unscrewing jets.
4. Check curtain assembly.
5. Tighten all electrical connections.
6. Tighten all bolts.
7. Check water supply. Check water pressure flow through flow control. Clean water strainer.
8. Oil jet tubes drive motor three (3) places. Use SAE 20 oil - 2 oil cups and slotted screw.
9. Check plunger on water solenoid valve. Should be 3/4" between faces.
10. Oil Condenser fan motor. Punch sealed cap or remove screws where possible.
11. Check for refrigeration leaks with halide torch.
12. Check for water leaks. Tighten drain line connections.
13. Check size and condition of cubes. Adjust as required. See Service Analysis Section.
14. Check bin thermostat setting. Factory set at 35° out, 39° in.

## CLEANING INSTRUCTIONS FOR SCOTSMAN ICE MACHINES MODELS SC-300J

1. Remove front access doors.
2. Locate control box with time clock knob protruding thru cover.
3. Put unit through a harvest cycle manually. This may be done by turning time clock knob clockwise until a loud snap is heard.
4. Locate the rubber funnels which are on the face plate to the right and left of the sump pump. Pour 8 ounces (full bottle) of "Scotsman Ice Machine Cleaner" into each funnel, immediately after the loud snap in Step No. 3 is heard.
5. Let unit finish cube harvest cycle and start into freezing cycle. This will be approximately 5 minutes after the loud snap in Step No. 3 is heard. At this time turn off the compressor switch.
6. Let unit operate normally for 10 - 15 minutes into the freezing cycle. No ice will be made because the motor compressor is not in operation.
7. At the end of this time put the unit through 2 or 3 harvest cycles manually to allow fresh make up water to clean out remaining solution. Each time waiting approximately 5 minutes after the loud snap until the next harvest cycle is done manually.
8. Turn the compressor switch back on.
9. Check each new batch of cubes until they are clear and until acid taste has been removed from cubes.
10. Put hot water in storage bin to melt the cubes and thereby clean the drains with the same solution that has just cleaned the unit.
11. Use a damp cloth to wipe off curtains and inside of storage bin.
12. Replace all access doors.
13. Unit is now ready for continued automatic operation.