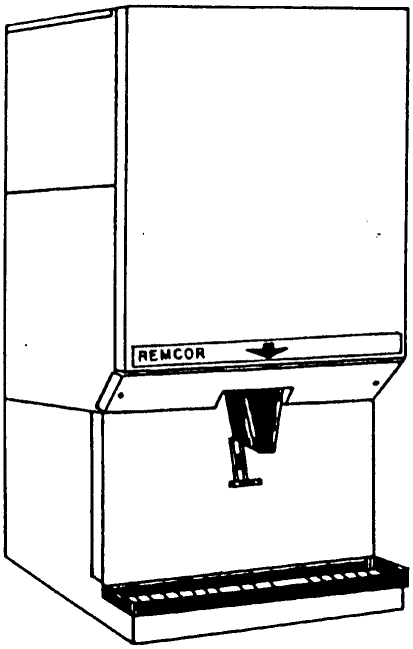
REMCOR®

SPIRAL ICE MAKER® DISPENSER (S.I.D.)

MODELS: SID650A/150
SID650A/150-B
SID650A/150-BC
SID650W/150
SID650W/150-B
SID650W/150-BC
115V, 60HZ, 1PH

Owner's Manual



Part No. 91260
August, 1995
Revision D

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION
This Manual must be read and understood before installing or operating this equipment

PRINTED IN U.S.A

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DESCRIPTION

The Remcor S.I.D. (Spiral Ice Maker®/Dispenser) is a unique, self-contained, counter top unit that automatically makes hard, clear cube quality ice and stores it in a sealed hopper for sanitary dispensing. The ice is made by a new, patented process on a spiral-shaped, stainless steel evaporator and produces true cube-quality ice on the outside of the tubes. There are no augers, no compressing of flaked ice, no bearings, and no high-gear motor loads in the ice-making process. The unit has been designed to be simple, yet effective, to provide many years of trouble-free operation.

SPECIFICATIONS

Table 1. Design Data	
Compressor	3/4 Horse Power
Refrigerant:	
Air Cooled Unit (R-502)	2 Pounds
Water Cooled Unit (R-502)	2-1/4 Pounds
Electrical:	
Voltage	115/1/60
Amps	16 Amps
Circuit Ampacity	20 Amps
Fuse Size	20 Amp Time Delay
Ice-Storage Capacity	150 Pounds
Ice-Making Capacity	Up to 750 Lbs/24 Hours
Shipping Weight	350 Pounds

POUNDS/24-HOUR ICE PRODUCTION

AIR TEMP	WATER TEMP					
	40° F	**50° F**	**60° F**	**70° F**	**80° F**	**90° F**
60° F	750	704	663	627	594	564
70° F	682	650	607	580	550	520
80° F	625	586	552	522	495	470
90° F	565	530	499	472	447	425

INSTALLATION

INSTALLATION INSTRUCTIONS

UNPACKING INSTRUCTIONS

1. With the unit upright, carefully remove the shipping crate. Inspect for shipping damage and report any such damage to the shipper immediately.
2. Unlock and open the hinged service door on upper left side panel.
3. Remove shipping tape from ice drop cover, storage hopper cover, and agitator in storage hopper.

INSTALLING ICE MAKER UNIT

NOTE: An IMI Cornelius model 81COR01PS FILTER MUST BE INSTALLED in the water supply line to the ice maker. Failure to do so may result in poor quality ice, low production output, and may cause premature failure of the ice maker evaporator and void the extended evaporator warranty.

This ice maker is provided with a stainless steel evaporator designed to last the life of the product. Some of the chemicals in treated and untreated water, specifically chlorine (sulfide), have the ability to attack stainless steel and cause premature failure. An initial investment in proper water treatment will pay for itself in increased production, quality, and long life of the product.

1. **Location.**

   Locate the ice maker/dispenser indoors in a well-ventilated area. Avoid exposure to direct sunlight and or heat caused by radiation. Ambient room temperature must be in the range of 60° F to 90° F. Do not install unit in an enclosed area where heat build up could be a problem. For proper air flow for the refrigeration system, allow a 6 inch clearance at the back of the unit and 12 inch clearance at the right side of the right side panel.

   Consult Figure 1 for utility connections. Consult Figure 3 for dimensions for mounting unit to the counter with the hardware provided. **NOTE: The unit must be level for proper operation.**

   The unit must be sealed to the counter. The mounting template drawing (see Figure 3) indicates the openings which must be cut in the counter. Locate the desired position for the unit, then mark the outline dimensions and cut-out locations using the template drawing. Cut openings in the counter. **NOTE: The unit must never be lifted or moved by the sink.**

   Apply a continuous bead of NSF *International* approved silastic sealant (Dow 732 or equal) approximately 1/4 inch inside of the unit outline dimensions and around all openings. Then, position the unit on the counter within the outline dimensions. All excess sealant must be wiped up immediately.

2. **Plumbing.**

   Connect the ice maker to a cold potable water source suitable for drinking. Do not install unit on a water softener line. It is recommended that a hand shut-off valve, strainer, and a back flow preventer be used on the incoming supply line. A 3/8 inch outside diameter compression tube is provided at the back of the unit for the water supply hook up (see Figure 2). For proper operation, the incoming water supply pressure must be in the range of 30–120 PSIG. Install a pressure regulating valve if above this range.

IMPORTANT: To ensure proper ice maker operation and also to reduce the frequency of water-related service problems, a water filter should be installed. Remcor recommends the use of IMI Cornelius filter, model number 81COR01PS.

For specific recommendations on these filter systems for your local conditions, consult with a distributor in your area or contact the filter manufacturer.

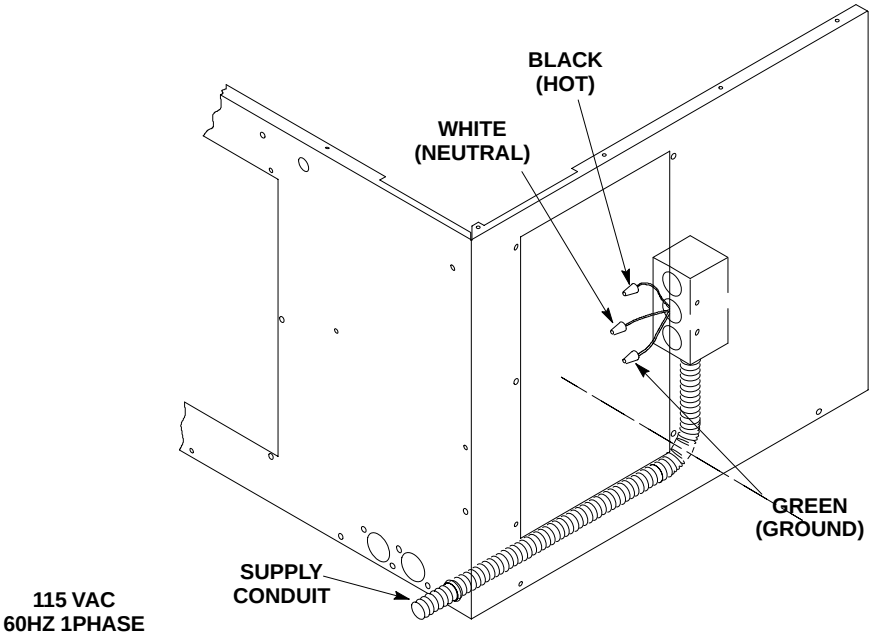
Connect two (2) 3/4 inch (or equal) drain lines to the 3/4 inch threaded drain connections at the lower rear of the unit. These lines must pitch downward to an open drain and must contain no traps or improper drainage will result.

NOTE: In areas where consistently warm water temperatures are encountered, the use of a Remcor Pre-Cooler in the water line is recommended to maximize the ice production of this unit. Contact Remcor for more information on this product.

3. **Electrical.**

   A 4 X 2 junction box is on the left side of the unit for the supply hook up. Connect the ice maker to it's own individual electrical circuit per the National Electric Code and Local Code (see SPECIFICATIONS for circuit ampacity and fuse size).

IMPORTANT: The wire size must be adequate for the circuit ampacity rating and the supply voltage must be within range of ± 10 % for proper ice maker operation.



LEFT SIDE VIEW
SERVICE PANEL REMOVED

NOTE: THE UNITS REQUIRE A 2 WIRE SYSTEM PLUS EARTH GROUND FOR PROPER OPERATION

FIGURE 1. UTILITY CONNECTIONS

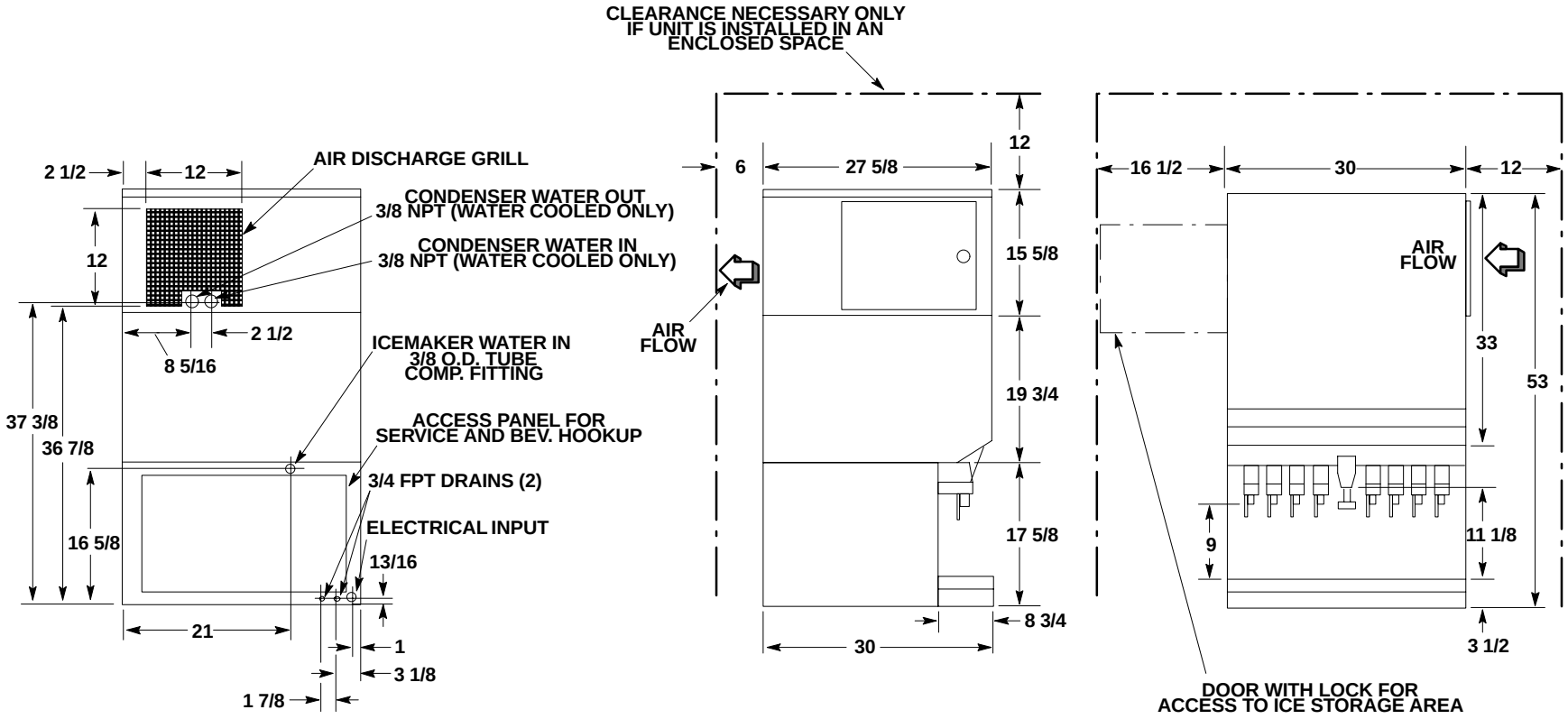


FIGURE 2. INSTALLATION DIMENSIONS

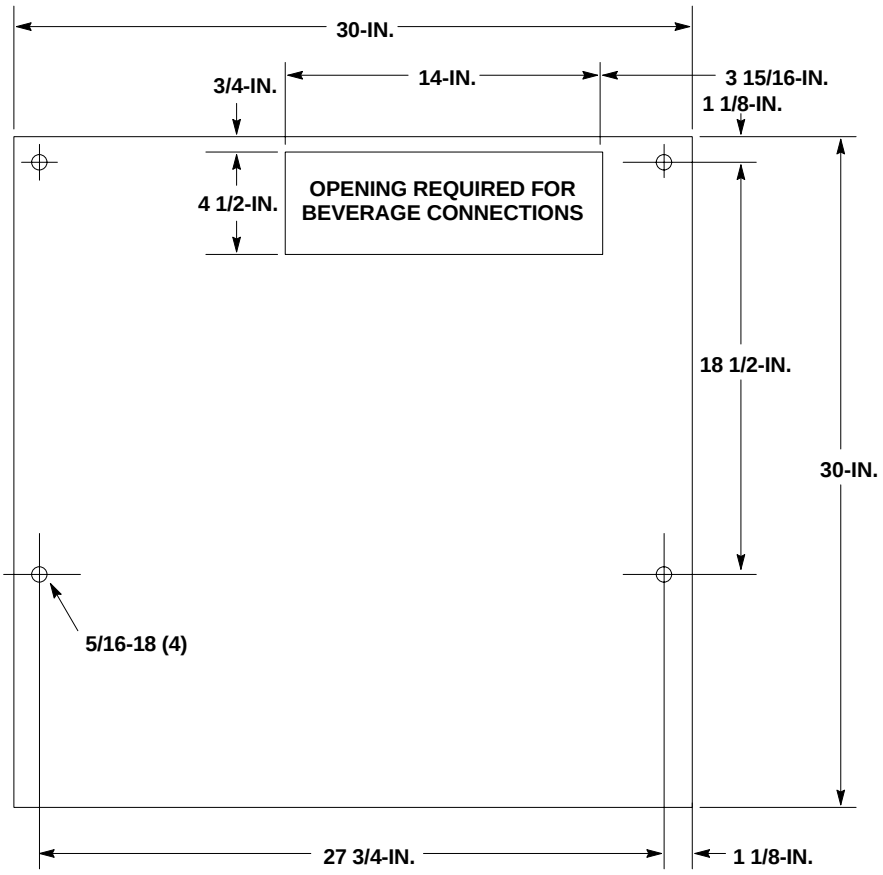


FIGURE 3. MOUNTING TEMPLATE

BEVERAGE SYSTEM INSTALLATION

"B" models contain beverage faucets only and must be supplied with cold product from any remote cold plate or refrigerated soda factory. "BC" units have a built-in cold plate, in addition to the beverage faucets and are designed to be supplied direct from syrup tanks and carbonator with no additional cooling required.

1. Locate the required openings in the counter top for the beverage lines as shown in Figure 3.
2. For "B" models, carefully pull the beverage tubes through the bottom opening in the unit and through the clearance opening in the counter.
3. For "BC" models, tube fittings are provided at the rear of the unit on the cold plate for syrup and water line hook ups.
4. Connect the beverage system product lines as indicated in Figure 4 ("B" units) and Figure 5 ("BC" units). This work should be done by a qualified service person. Note that the lines are marked with numbers 1 through 6 for syrup connections and "CW" for the carbonated water connection.

START UP

1. Open the hinged service door. Remove the ice drop cover and storage hopper cover.
2. Turn on water to ice maker.
3. Depress the flush switch to verify that the water dump valve operates and that the water drain lines are open and not plugged.

WARNING: To prevent possible personal injury, do not place fingers or hand in ice maker nozzle or hopper with power applied to the unit.

4. Place the "Stop/Run switch in the "Run" position. Observe that the ice maker goes through proper ice making and harvest cycles. If unit malfunctions, consult the **Troubleshooting Guide**.

NOTE: Due to ice melting loss because of a warm storage hopper, it will take longer to fill the hopper the first time than when the ice maker has been operating continuously.

5. Depress the vend switch lever. Check that both the gate solenoid and agitator motor are energized simultaneously to lift the gate slide and rotate the agitator in the storage hopper, respectively. If either component malfunctions, consult the **Troubleshooting Guide.**
6. For beverage units, start up the beverage system and adjust the faucets to the proper brix. Contact your local syrup distributor for complete information on the beverage system. For units with built-in cold plate, it will take approximately one (1) hour from initial machine start-up for cold plate to be at full capacity. On initial start-up, or after long idle periods with no use, dispense several large cups of ice (approximately 20 to 30 seconds total dispensing time) to allow ice to fill the cold plate cabinet.
7. The bin thermostat is calibrated at an atmospheric pressure equivalent at 500 feet above sea level. For locations at higher elevations, it may be necessary to readjust these controls. Consult the **MAINTENANCE/ADJUSTMENT PROCEDURES** section.

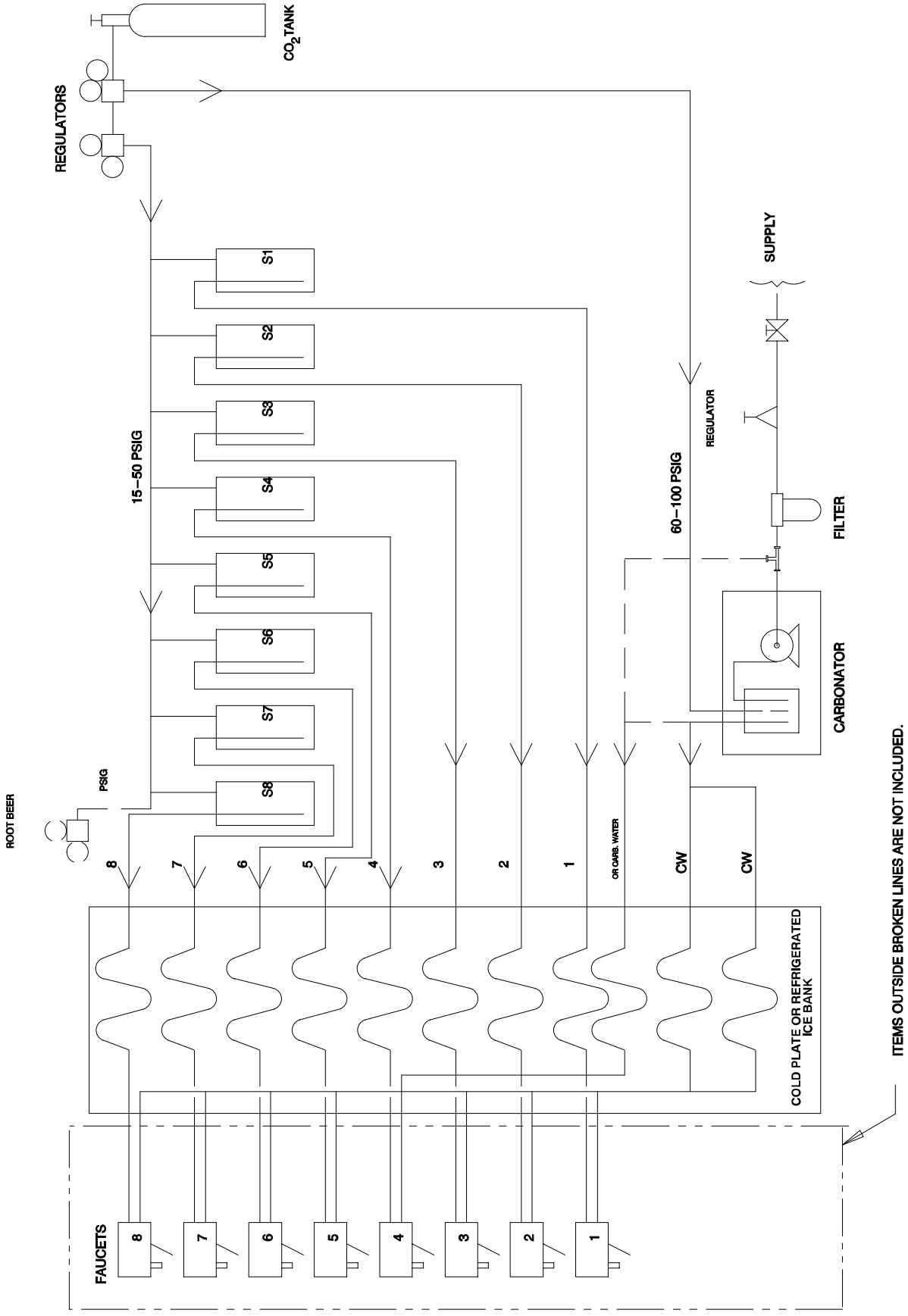


FIGURE 4. BEVERAGE SYSTEM SCHEMATIC (“B” MODELS)

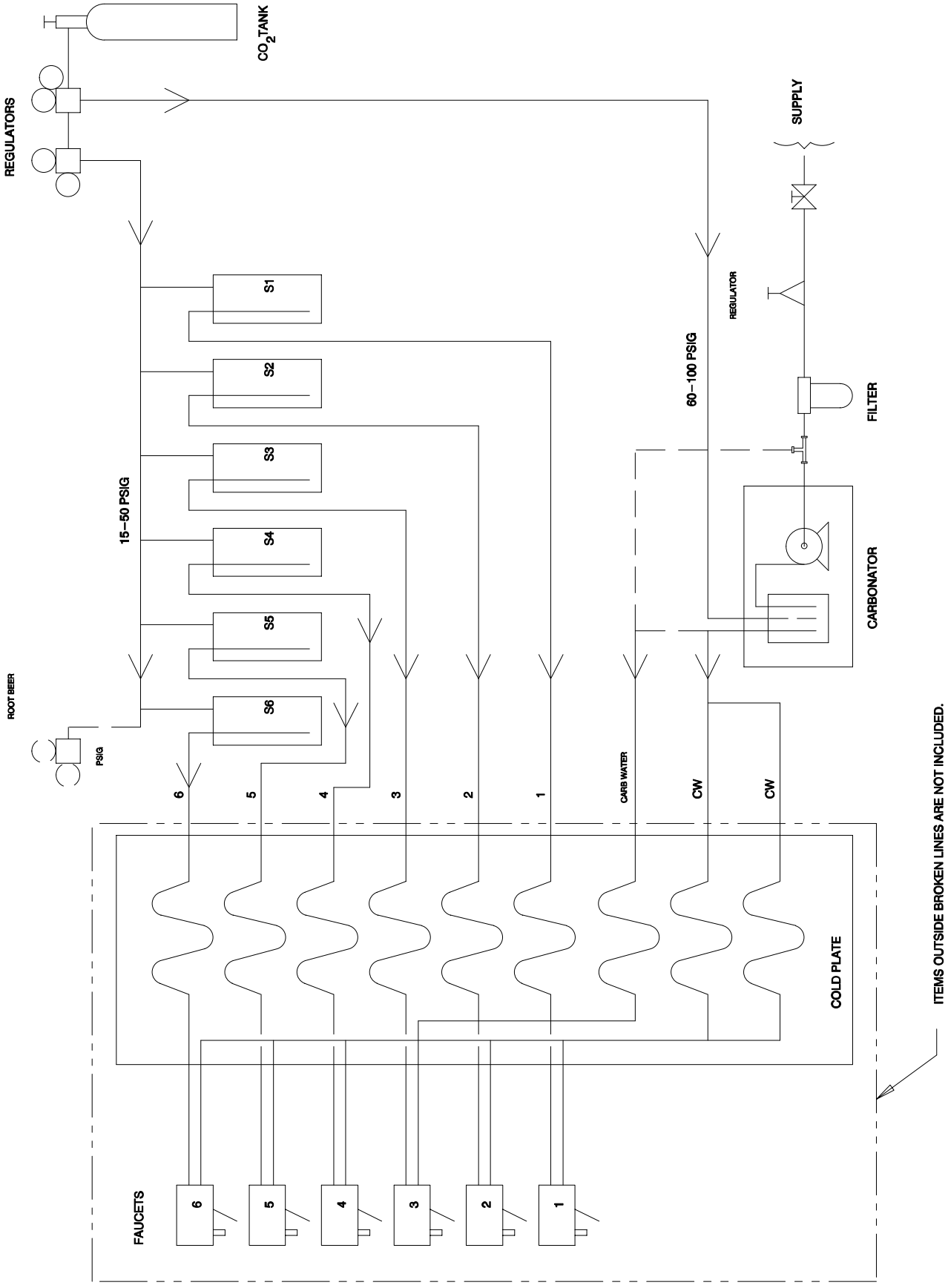


FIGURE 5. BEVERAGE SYSTEM SCHEMATIC (“BC” UNITS)

OPERATING INSTRUCTIONS

A temperature sensing control bulb, located in the storage hopper, starts and stops the ice making process in response to ice level in the hopper. With this ice level control “calling” for ice (hopper ice level is low), ice begins to form on the stainless steel tubing coils in the evaporator coils until it contacts the ice thickness probe (low voltage conductivity sensor). At this point, the conductivity probe triggers the harvest timer motor. The harvest timer contains five (5) cam operated switches which function as detailed in the following **HARVEST CYCLE** table.

HARVEST CYCLE

TIME	CAM SWITCH	ACTION
0–86 seconds	#1	Timer motor energized.
1–23±1 second	#4	Water dump valve open.
1–35±2 seconds	#2	Hot gas solenoid valve open.
37–90 seconds	#2	Air pump on.——Condenser fan motor on.—— Hot gas solenoid valve closed.
34–59	#3	Harvest motor on.
43–47	#5	Hopper agitator motor operates.

When ice contacts the ice lever control bulb in the storage hopper, the control will shut down the refrigeration system. If this signal occurs during the harvest cycle, the harvest cycle will be completed before shutdown occurs.

To dispense ice, push the lever located on the lower front panel. Ice will flow from the ice chute until the lever is released.

For units with a built-in cold plate, ice will automatically fill the cold plate cabinet. Allow one (1) hour for the cold plate to reach it’s maximum capacity. Start up the beverage system and adjust the faucets to the proper brix. Pushing the lever on any faucet will provide beverage of the appropriate flavor.

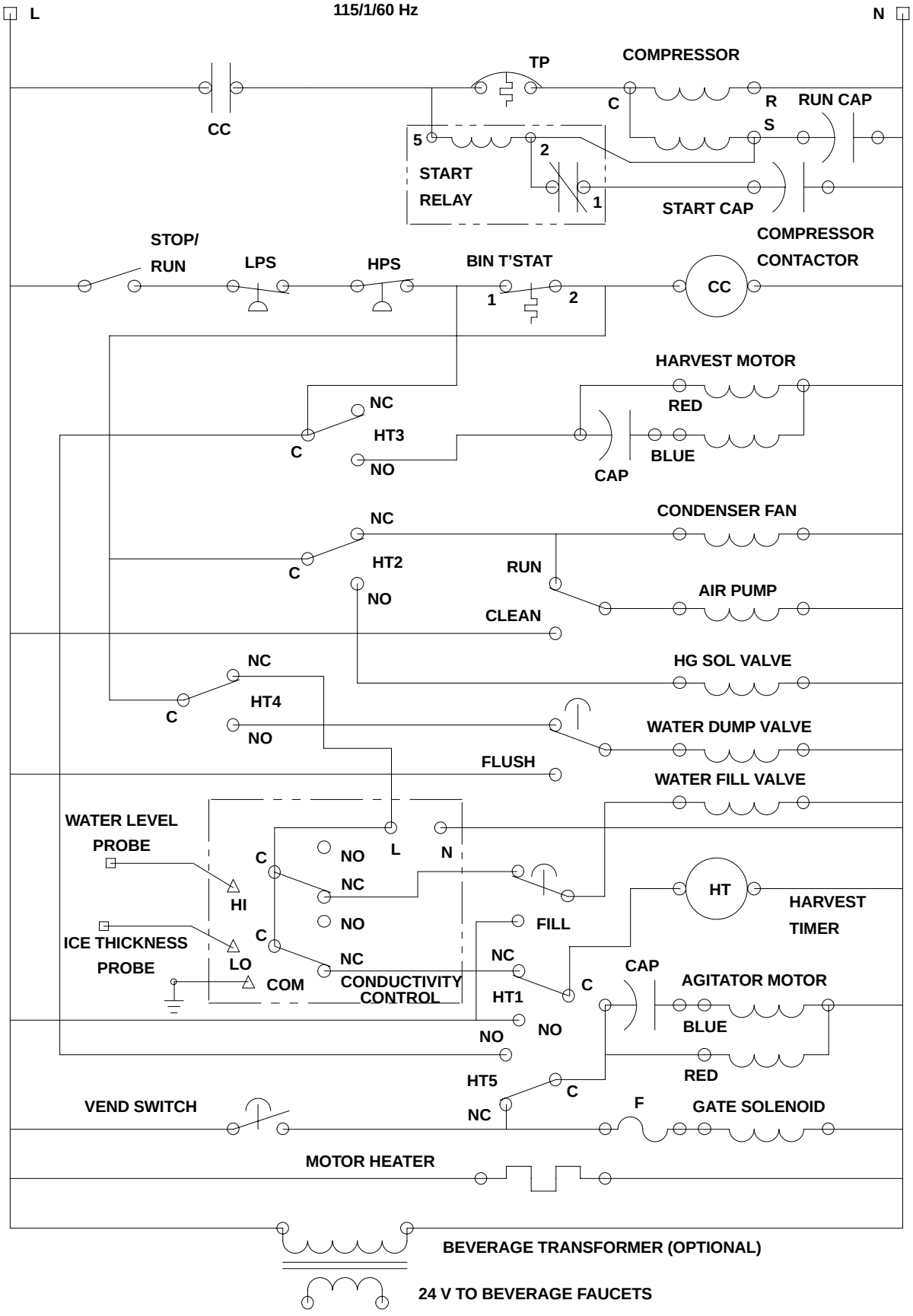


FIGURE 6. WIRING SCHEMATIC (SID 650/150)

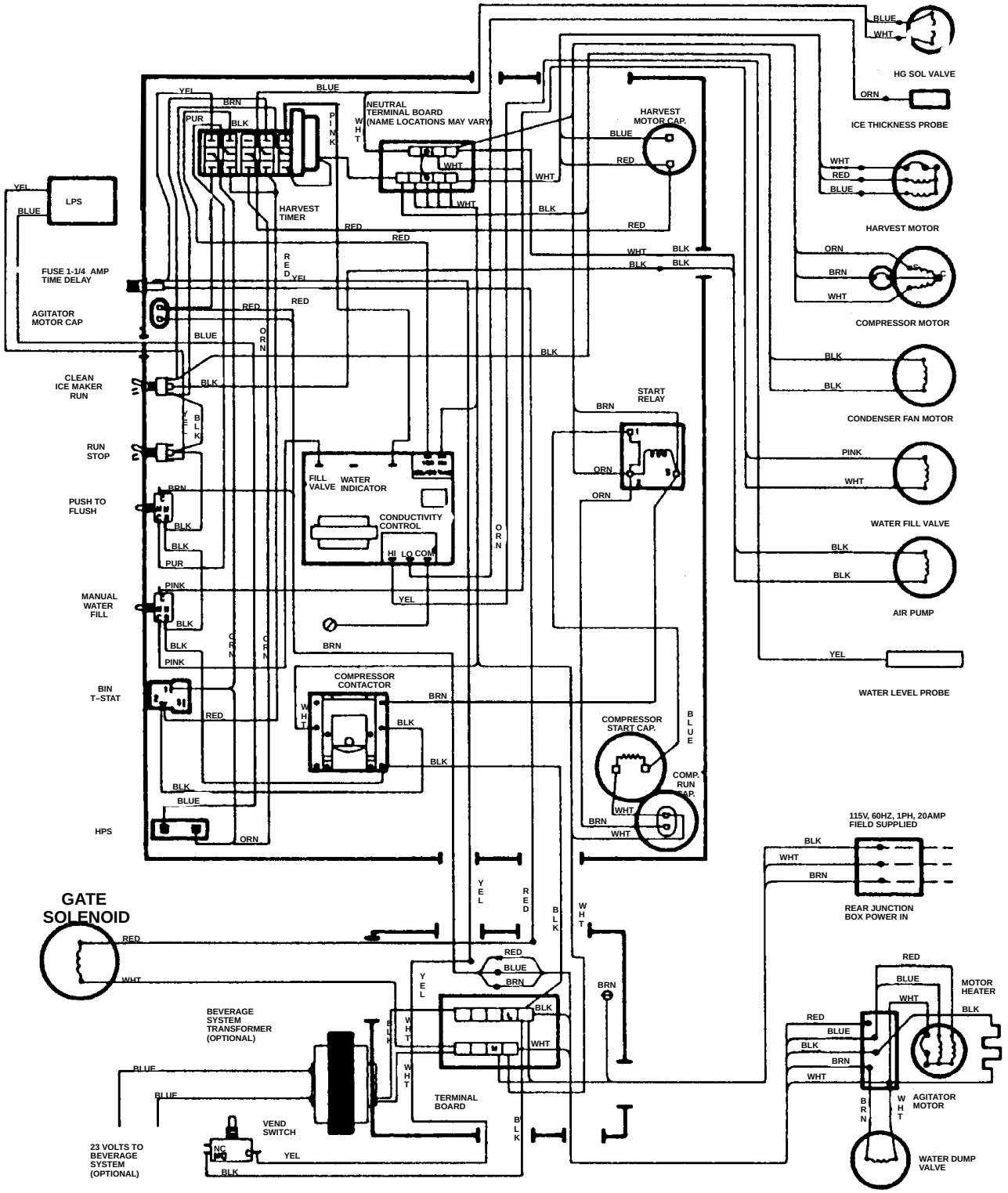


FIGURE 7. WIRING DIAGRAM (SID 650/150)

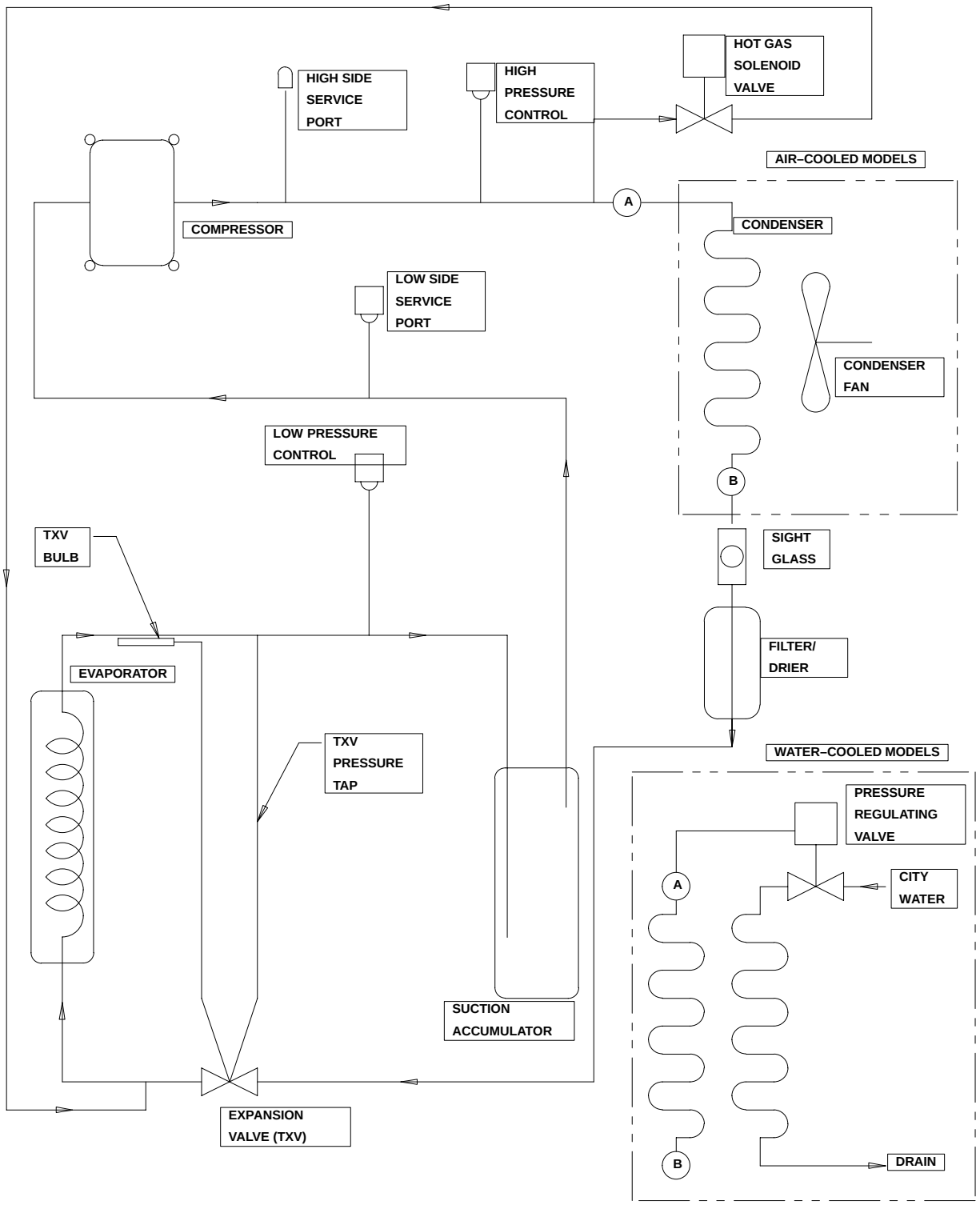


FIGURE 8. REFRIGERATION SCHEMATIC

MAINTENANCE

SCHEDULED MAINTENANCE

REGULAR BASIS (OR AS REQUIRED)

Cleaning of the ice maker is recommended on a regular basis not only for sanitary reasons, but also to maintain the performance of the unit. Build up of lime and scale can hinder ice making production rates and interfere with proper dispensing of the ice. See **CLEANING INSTRUCTIONS** for the recommended procedure.

EVERY THREE MONTHS (OR AS REQUIRED)

It is recommended that the air inlet filter be cleaned every three (3) months or sooner depending on the operating environment for proper refrigeration system performance. On air-cooled units, also check that the condenser is free of dirt/foreign material that could cause air flow blockage. Consult the **MAINTENANCE/ADJUSTMENT PROCEDURES** section for cleaning these items.

PERIODICALLY (OR AS REQUIRED)

Check the vending area sink for proper water drainage. Remove any foreign material from the sink to prevent drain blockage.

CLEANING INSTRUCTIONS

IMPORTANT: The ice maker should be cleaned at a minimum of three (3) month intervals or more frequently, depending on local water conditions. The storage hopper interior should be cleaned at least once a month.

CAUTION: Do not use metal scrapers, sharp objects, or abrasives on the surface of the storage hopper as damage may result. Do not use solvents or other cleaning agents as they may attack the plastic surfaces. Use only the recommended chemicals and solutions for both the ice maker and hopper.

ICE MAKER SECTION

1. Open hinged service door.
2. Place the “Stop/Run” switch in the “Stop” position at the end of the harvest cycle.

WARNING: Electrical power is on to unit during ice maker section cleaning. Do not reach into hopper. Do not contact exposed electrical wiring and components.

3. Remove the ice drop cover from evaporator and the storage hopper cover.
4. Seal the evaporator outlet with the plastic plug provided with the unit and replace the ice drop cover.
5. Remove cleaning fill plug and add four (4) ounces of Virginia Ice Machine Cleaner to the evaporator and replace cleaning fill plug.

CAUTION: Virginia Ice Machine Cleaner is a mild acid. Normal care should be taken. Keep out of eyes and cuts. Read warnings on package before using. Do not operate unit in the cleaning mode without the ice drop cover in place. There may be some overflow of cleaning solution through the evaporator vent tube during the cleaning cycle.

6. Push manual water fill switch and fill evaporator with water (approximately 5 seconds).
7. Place the “Clean/Run” switch in the “Clean” position. Allow unit to run in the cleaning mode for at least 30 minutes.
8. Place the “Clean/Run” switch in the “Run” position.
9. Depress the “Flush” switch push button and drain evaporator for about 1-1/2 minutes. Release push button. Push manual water fill switch and allow evaporator to refill with water. Repeat step 9 three (3) times to thoroughly remove cleaning solution from evaporator.
10. Depress the “Flush” switch push button for 1-1/2 minutes to drain the evaporator.
11. Remove the evaporator plug.
12. Place the “Stop/Run” switch in the “Run” position and allow unit to run through at least three (3) complete ice making cycles and until ice is free of “sweet” taste.

WARNING: If unit fails to harvest ice, place the “Stop/Run” switch in the “Stop” position. Depress the “Flush” switch push button for 1-1/2 minutes to drain the evaporator. Flush the evaporator with hot water to thoroughly melt all the ice in the evaporator. Repeat step 9 to remove all traces of the cleaning solution from the evaporator.

13. Dispense all ice out of storage hopper and discard.

DISPENSER SECTION

1. Turn off main electrical power supply to machine.
2. Remove agitator assembly from storage hopper and wash and rinse it thoroughly.
3. Wash down all inside surfaces of the ice storage area, including the top cover and ice drop cover with a mild detergent solution and rinse thoroughly to remove all traces of detergent.
4. Replace agitator.
5. Remove ice chute cover as follows:
   A. Flex sides outward to disengage lower pins.
   B. Lift ice chute cover to disengage upper pins.
   C. Lower ice chute cover down out of unit. **NOTE: It may be helpful to twist cover slightly.**
6. Clean the inside of the ice chute and ice chute cover with a mild detergent solution and rinse thoroughly to remove all traces of detergent.
7. Reverse above steps to reassemble ice chute.
8. Sanitize the inside of the hopper, agitator, ice chute, and the hopper and ice drop cover with a solution of 1/2 ounce of household bleach in one gallon of water (200 PPM).
9. Replace the hopper cover and ice drop cover. Turn on the electrical power supply. The ice maker is ready for normal operation.

FOR UNITS WITH BEVERAGE SYSTEM

Cold Plate.

1. Remove service panel located above the beverage faucets.
2. Remove bottom two (2) screws on the ice chute and loosen the top two (2) screws. You do not have to remove the ice chute. During reassembly, make sure the ice gate restrictor is relocated to it's correct position.
3. Remove the screws, hold the beverage faucet panel and bring forward.
4. Remove the tape holding the lower cold plate cover to the top cold plate cover.
5. Lift the lower cold plate cover up into the top cover.
6. Remove any debris from the drain trough and spring. Check that the drain hole is not clogged.
7. Wash down the inside of the cold plate tray and cover with a mild detergent solution and rinse. A small long-handled brush will be helpful in reaching the corners.
8. Slide the cover forward. Take care that it is securely positioned on the cold plate.
9. Reassemble.

Beverage System.

1. Remove faucet spouts, wash in mild detergent, rinse, and replace.
2. Disconnect electrical power to the carbonator. Shut off the water supply and close the CO_2 regulator to the carbonator.
3. Disconnect the syrup tanks from the system.
4. Energize the beverage faucets to purge the remaining soda water in the system.
5. Use a clean 5-gallon tank for each of the following:

   A. Cleaning Tank.

      Fill with hot (120° F to 140° F) potable water.

   B. Sanitizing Tank.

      Fill with a chlorine sanitizing solution in the strength of 1/2 ounce of household bleach (sodium hypo-chlorite) to one gallon of cold (ambient) potable water (200 PPM).

6. Repeat the following procedure on each of the unit's product lines:

   A. Connect the cleaning tank to the syrup line to be sanitized and to the CO_2 system.

   B. Energize the beverage faucet until the liquid dispensed is free of any syrup.

   C. Disconnect the cleaning tank and hook up the sanitizing tank to the syrup line and CO_2 system.

   D. Energize the beverage faucet until the chlorine sanitizing solution is dispensed through the faucet. Flush at least two cups of liquid to ensure that the sanitizing solution has filled the entire length of the syrup line.

   E. Disconnect the sanitizing tank. Hook up the product tank to the syrup line and to the CO_2 system.

F. Energize the faucet to flush the sanitizing solution from the syrup line and faucet. Continue draw on faucet until only syrup is dispensed.

7. Repeat step 2 in reverse order to turn on the carbonator. Dispense at least one cup of beverage from each faucet. Check taste. Continue to flush, if needed, to obtain satisfactory tasting drink.

TROUBLESHOOTING GUIDE

The following pages contain troubleshooting charts designed to aid an experienced service person in diagnosing any operating problems which may be experienced. It is assumed that normal techniques and skills are familiar to the person doing the troubleshooting. In order to gain maximum benefit from these charts, please note:

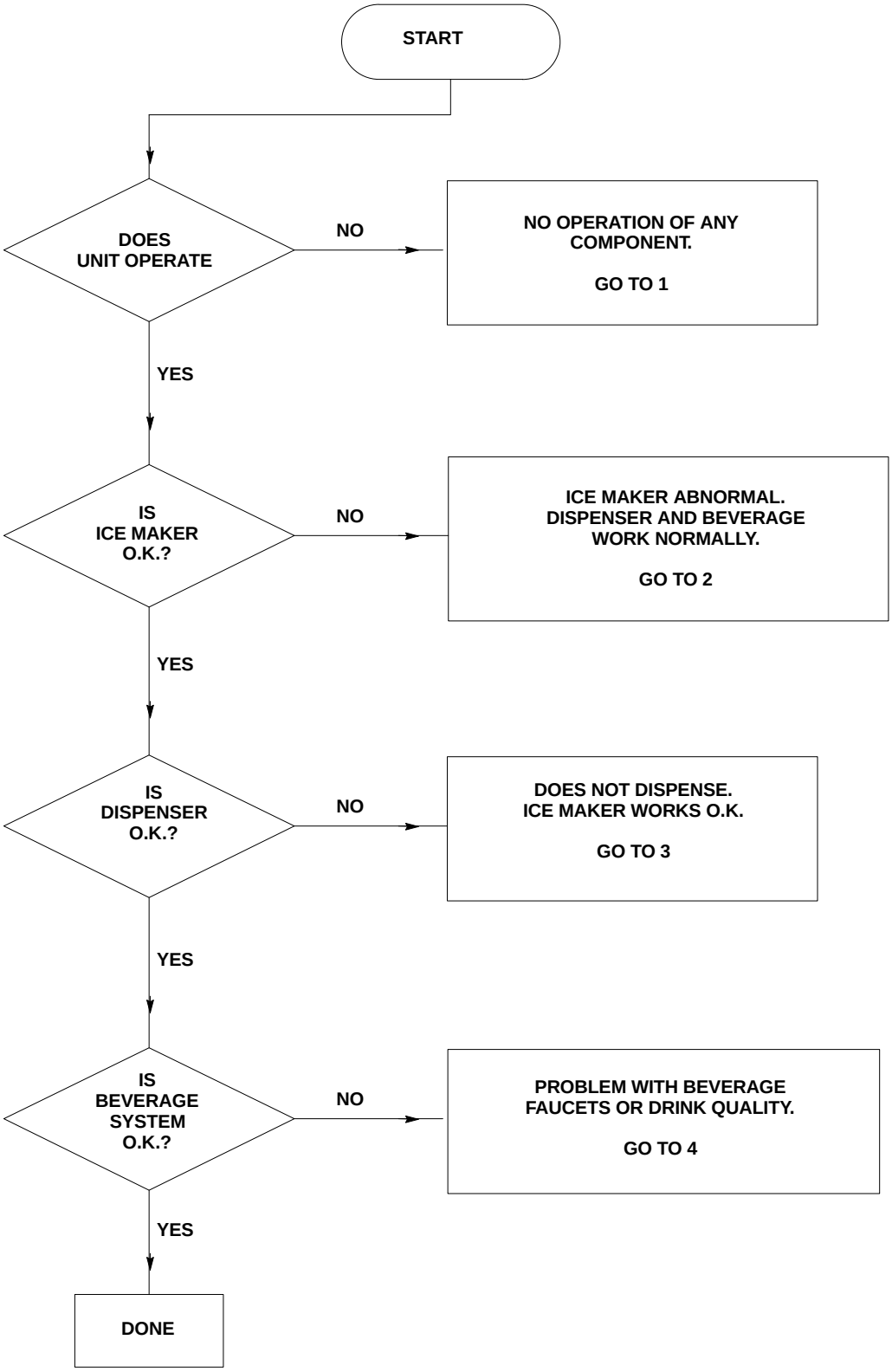
1. Start at the beginning of the chart and supply the appropriate answer to each question.

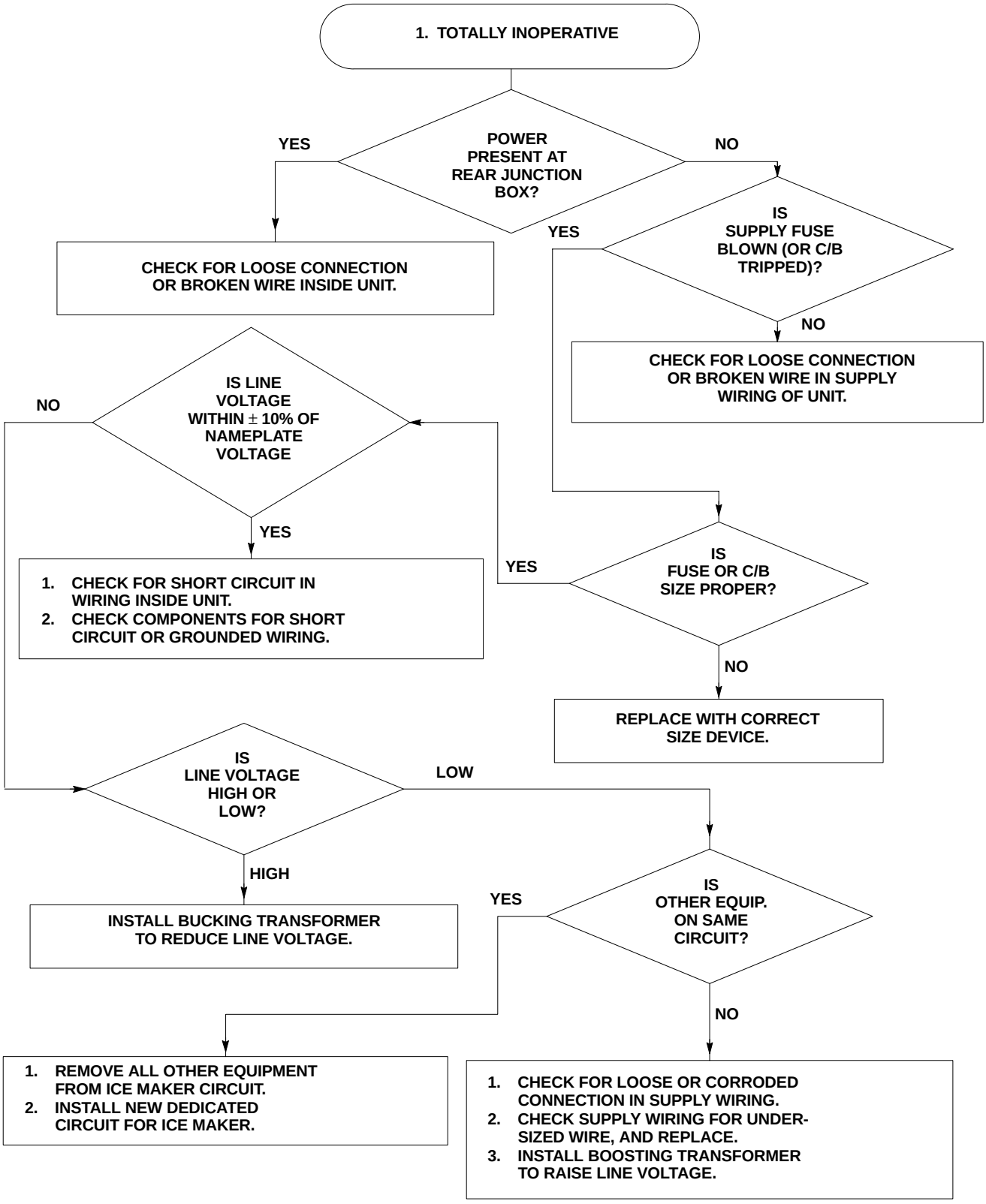
2. Do not skip any section, unless instructed to do so. You might miss the solution to your problem.

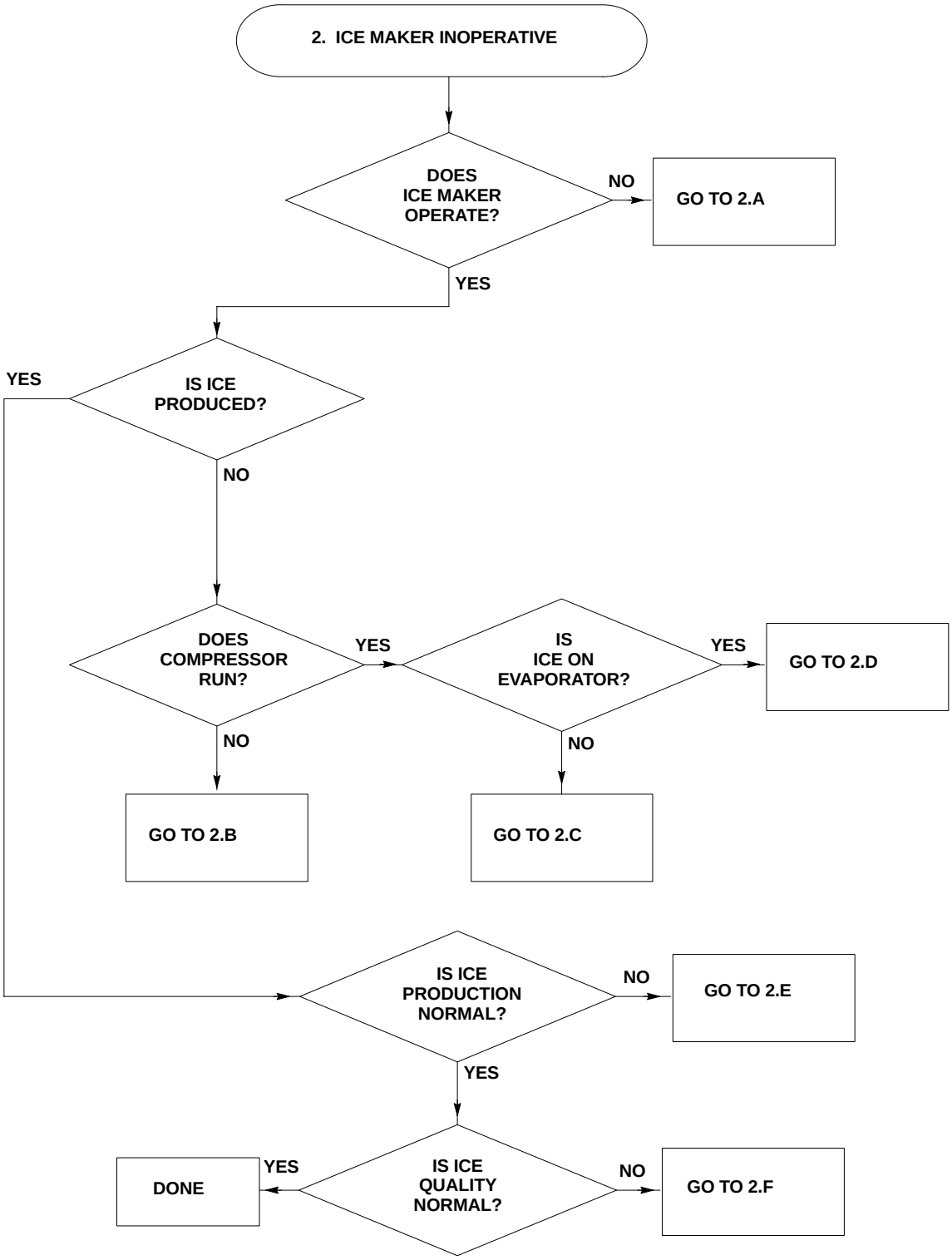
3. Evaluate the possible problem causes in the sequence in which they are presented. In general, they begin with the most likely (or easiest) to check and proceed to the less likely (or more complicated).

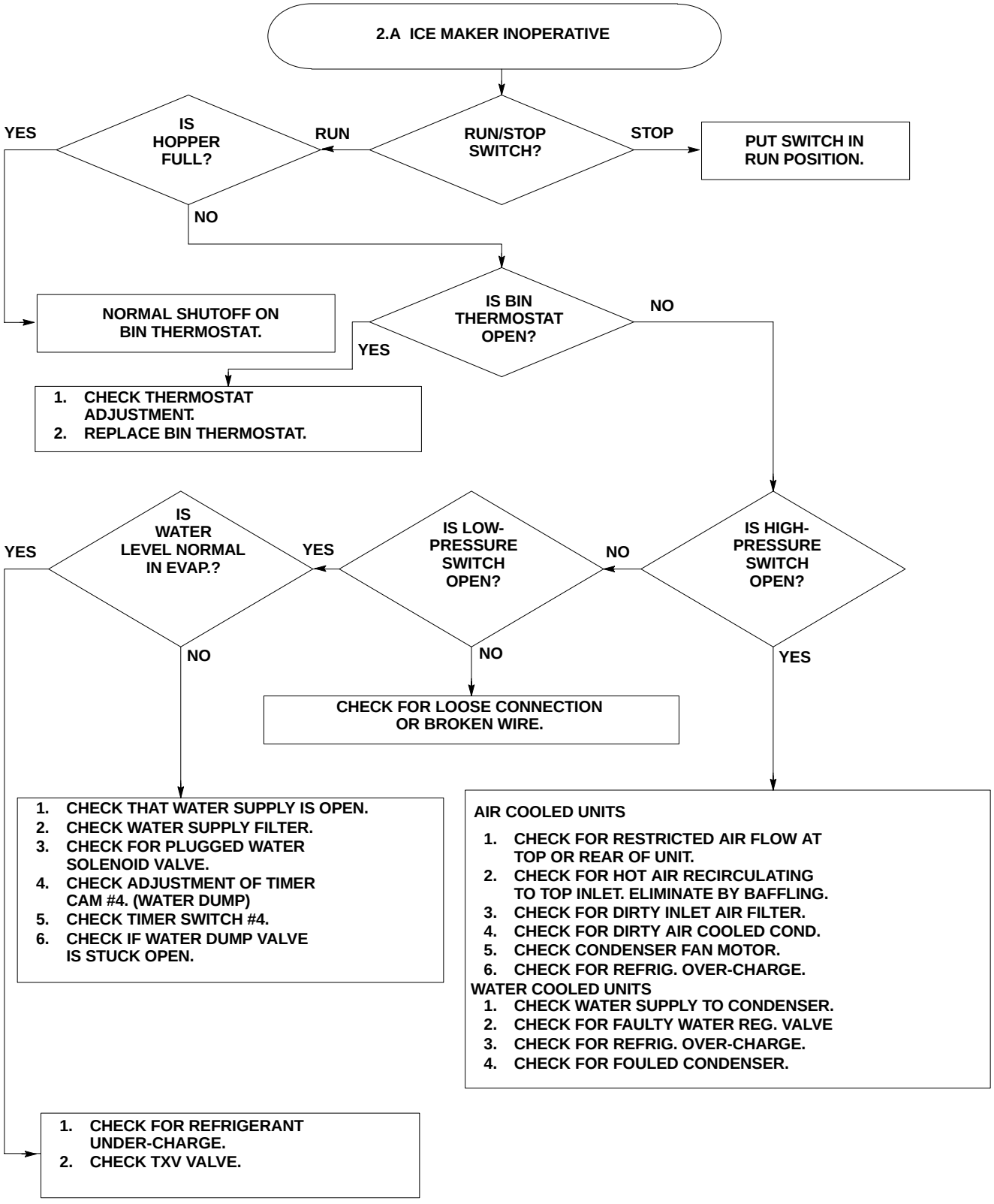
4. If, after checking all indicated causes, the problem is not resolved, it is recommended that you re-try a second time, carefully evaluating the symptoms and modifying your answers as necessary.

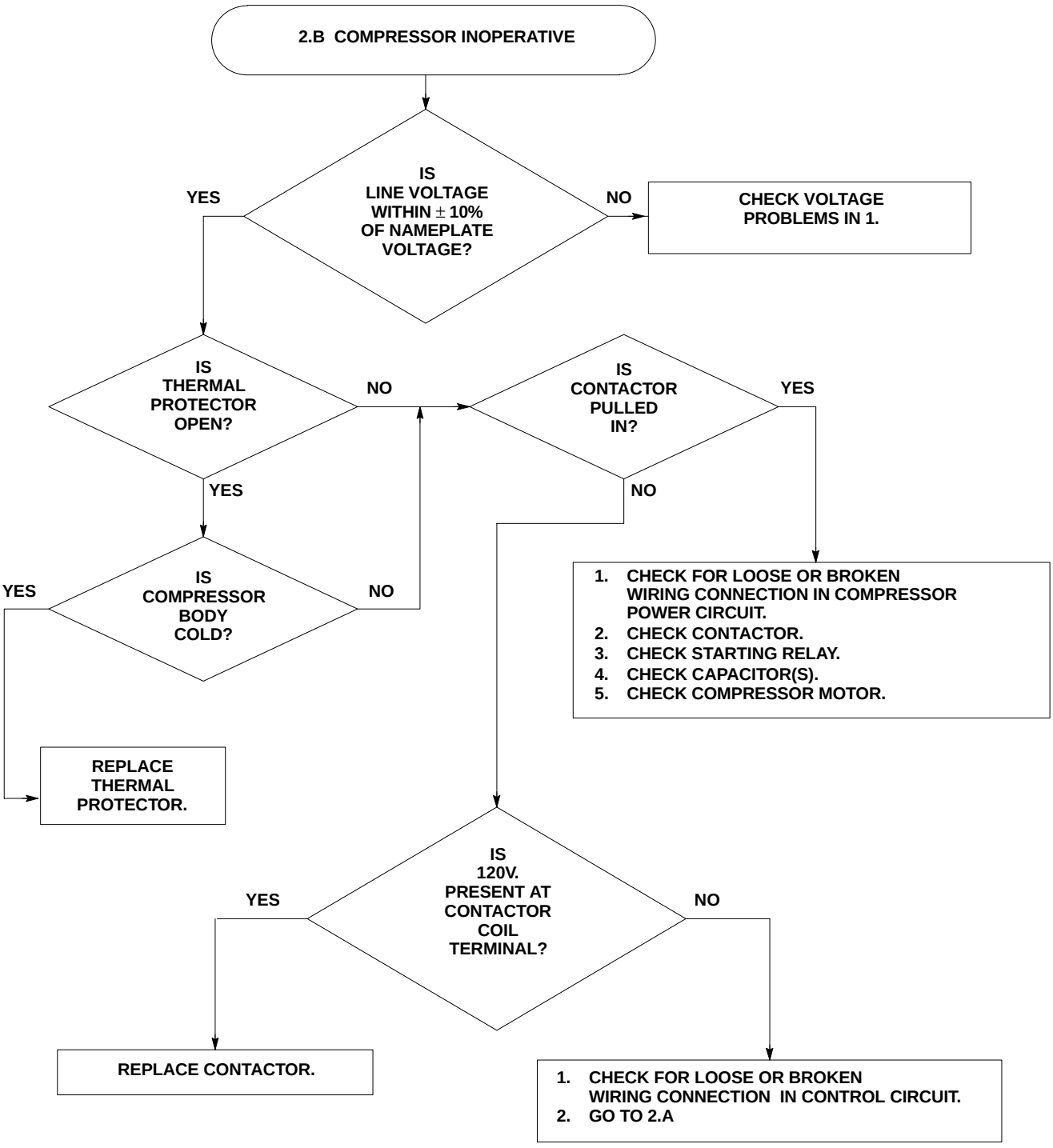
5. If you are unable to resolve a problem after several attempts, contact Remcor Customer Service for assistance.

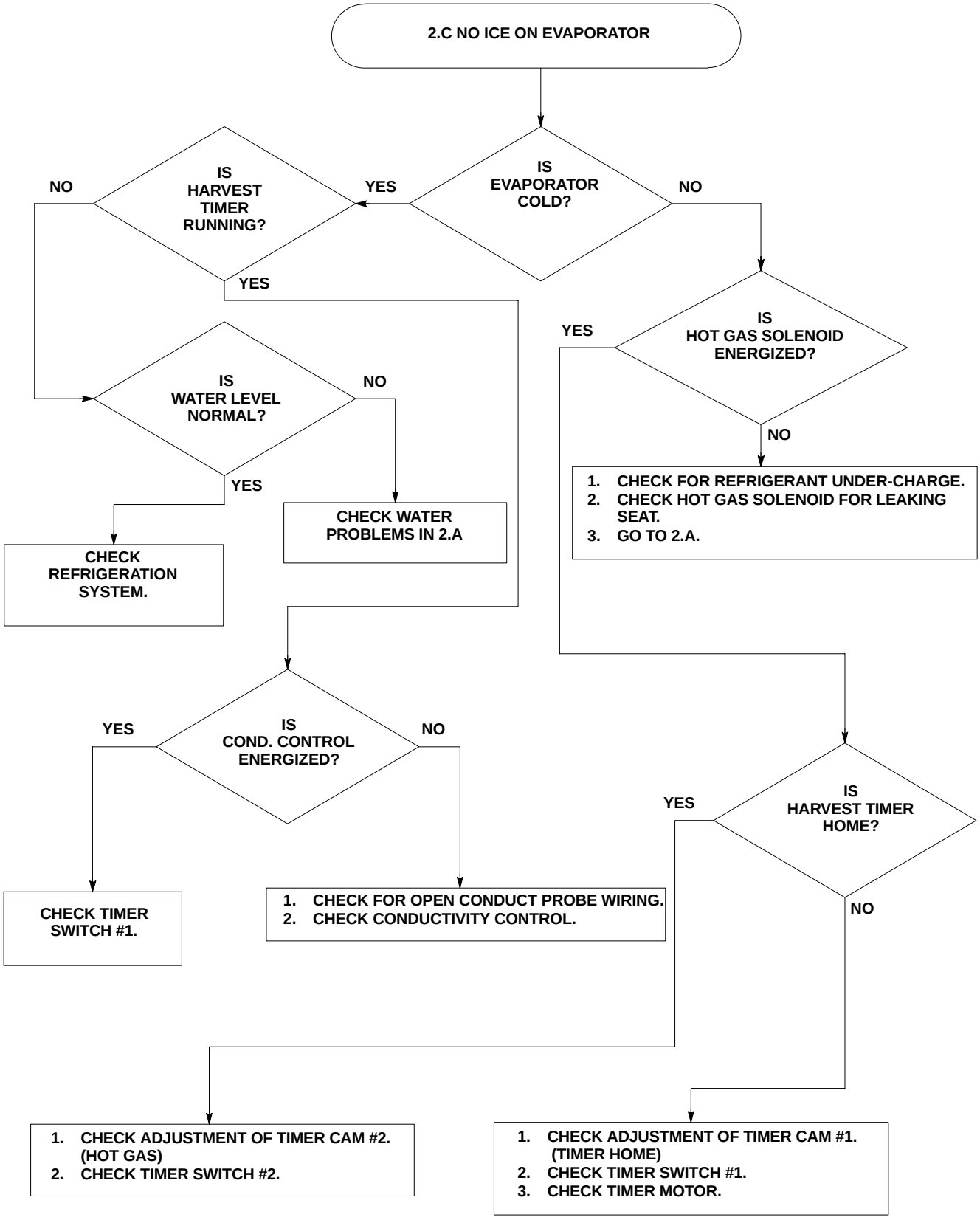

START
DOES UNIT OPERATE
NO
NO OPERATION OF ANY COMPONENT.
GO TO 1
YES
IS ICE MAKER O.K.?
NO
ICE MAKER ABNORMAL. DISPENSER AND BEVERAGE WORK NORMALLY.
GO TO 2
YES
IS DISPENSER O.K.?
NO
DOES NOT DISPENSE. ICE MAKER WORKS O.K.
GO TO 3
YES
IS BEVERAGE SYSTEM O.K.?
NO
PROBLEM WITH BEVERAGE FAUCETS OR DRINK QUALITY.
GO TO 4
YES
DONE

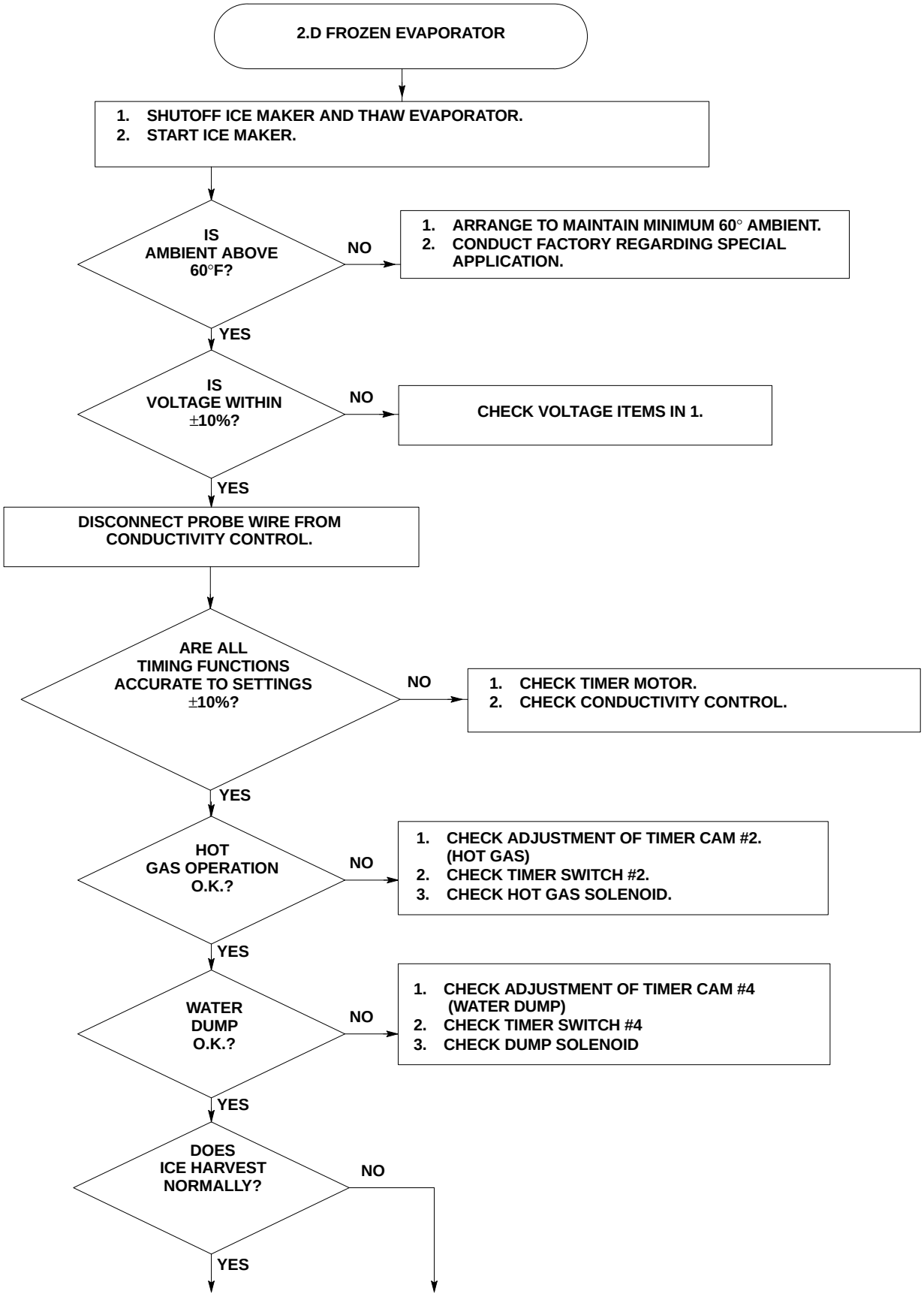

1. TOTALLY INOPERATIVE
POWER PRESENT AT REAR JUNCTION BOX?
YES
NO
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE INSIDE UNIT.
IS SUPPLY FUSE BLOWN (OR C/B TRIPPED)?
YES
NO
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE IN SUPPLY WIRING OF UNIT.
IS LINE VOLTAGE WITHIN ± 10% OF NAMEPLATE VOLTAGE
NO
YES
1. CHECK FOR SHORT CIRCUIT IN WIRING INSIDE UNIT.
2. CHECK COMPONENTS FOR SHORT CIRCUIT OR GROUNDED WIRING.
IS FUSE OR C/B SIZE PROPER?
YES
NO
REPLACE WITH CORRECT SIZE DEVICE.
IS LINE VOLTAGE HIGH OR LOW?
LOW
HIGH
INSTALL BUCKING TRANSFORMER TO REDUCE LINE VOLTAGE.
IS OTHER EQUIP. ON SAME CIRCUIT?
YES
NO
1. REMOVE ALL OTHER EQUIPMENT FROM ICE MAKER CIRCUIT.
2. INSTALL NEW DEDICATED CIRCUIT FOR ICE MAKER.
1. CHECK FOR LOOSE OR CORRODED CONNECTION IN SUPPLY WIRING.
2. CHECK SUPPLY WIRING FOR UNDER-SIZED WIRE, AND REPLACE.
3. INSTALL BOOSTING TRANSFORMER TO RAISE LINE VOLTAGE.

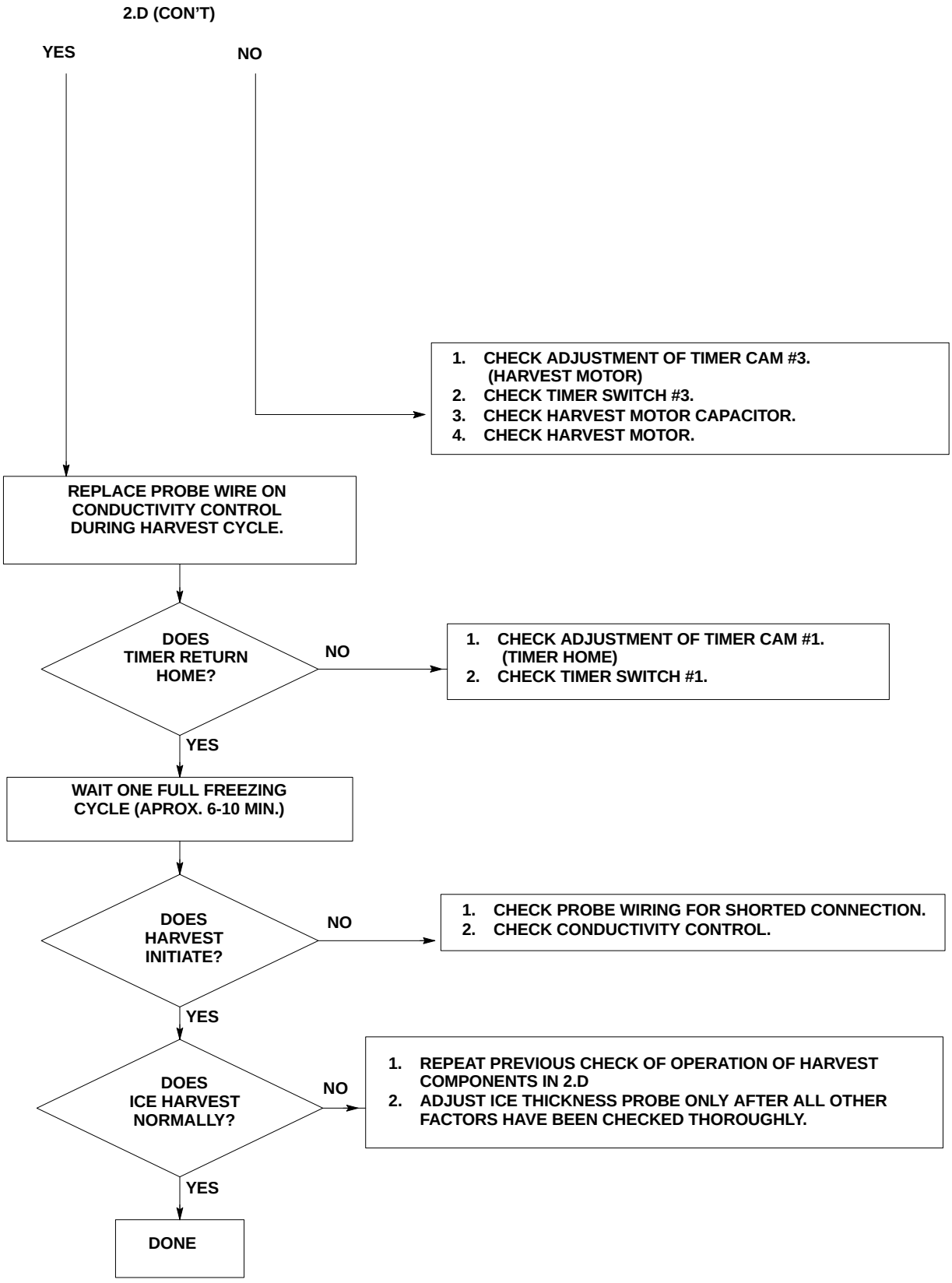

2. ICE MAKER INOPERATIVE
DOES ICE MAKER OPERATE?
NO
GO TO 2.A
YES
IS ICE PRODUCED?
YES
NO
DOES COMPRESSOR RUN?
YES
IS ICE ON EVAPORATOR?
YES
GO TO 2.D
NO
NO
GO TO 2.B
GO TO 2.C
IS ICE PRODUCTION NORMAL?
NO
GO TO 2.E
YES
IS ICE QUALITY NORMAL?
YES
DONE
NO
GO TO 2.F

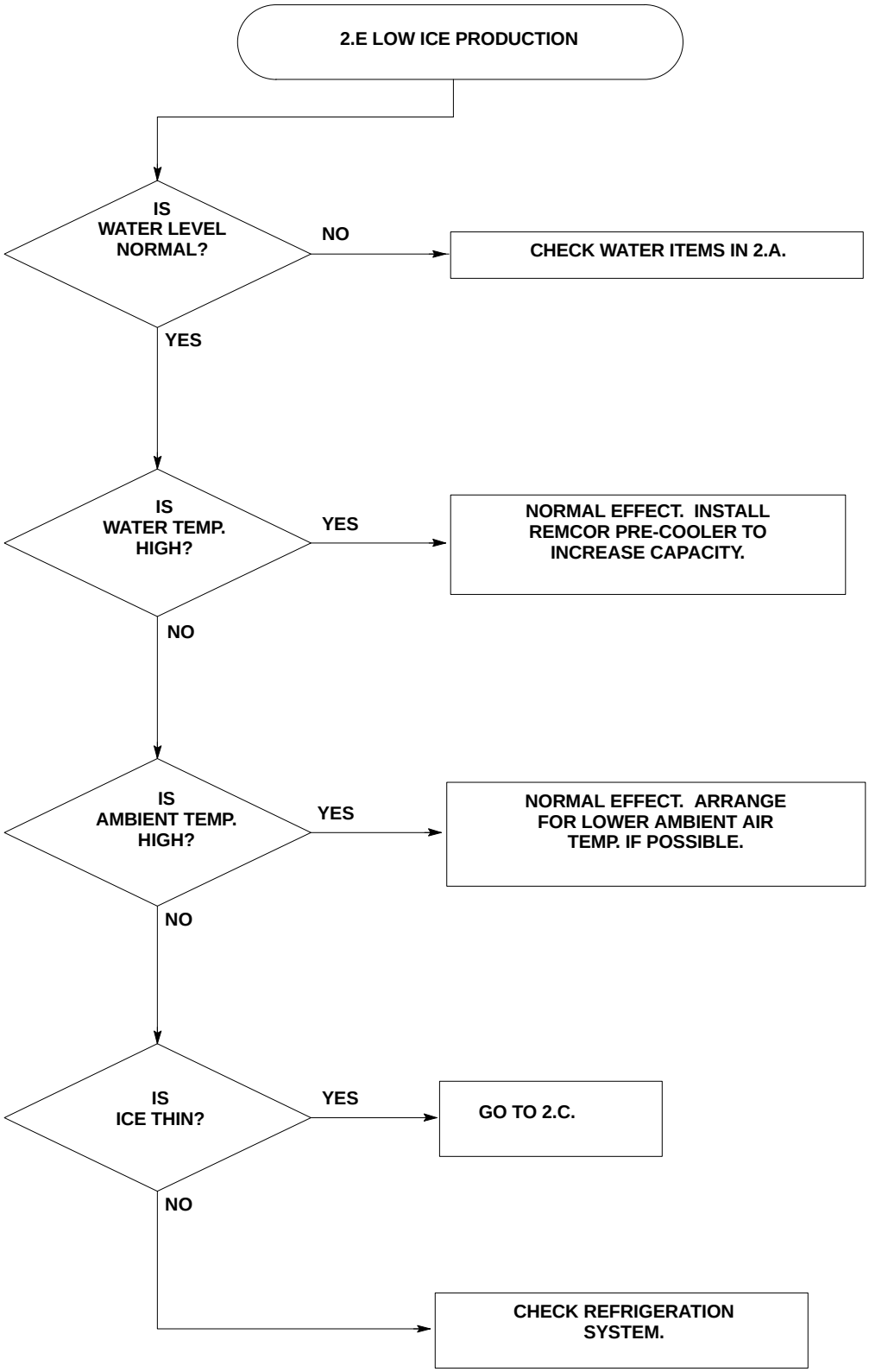

2.A ICE MAKER INOPERATIVE
RUN/STOP SWITCH?
RUN
STOP
PUT SWITCH IN RUN POSITION.
IS HOPPER FULL?
YES
NO
NORMAL SHUTOFF ON BIN THERMOSTAT.
IS BIN THERMOSTAT OPEN?
YES
NO
1. CHECK THERMOSTAT ADJUSTMENT.
2. REPLACE BIN THERMOSTAT.
IS HIGH-PRESSURE SWITCH OPEN?
YES
NO
IS LOW-PRESSURE SWITCH OPEN?
YES
NO
IS WATER LEVEL NORMAL IN EVAP.?
YES
NO
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE.
AIR COOLED UNITS
1. CHECK FOR RESTRICTED AIR FLOW AT TOP OR REAR OF UNIT.
2. CHECK FOR HOT AIR RECIRCULATING TO TOP INLET. ELIMINATE BY BAFFLING.
3. CHECK FOR DIRTY INLET AIR FILTER.
4. CHECK FOR DIRTY AIR COOLED COND.
5. CHECK CONDENSER FAN MOTOR.
6. CHECK FOR REFRIG. OVER-CHARGE.
WATER COOLED UNITS
1. CHECK WATER SUPPLY TO CONDENSER.
2. CHECK FOR FAULTY WATER REG. VALVE
3. CHECK FOR REFRIG. OVER-CHARGE.
4. CHECK FOR FOULED CONDENSER.
1. CHECK THAT WATER SUPPLY IS OPEN.
2. CHECK WATER SUPPLY FILTER.
3. CHECK FOR PLUGGED WATER SOLENOID VALVE.
4. CHECK ADJUSTMENT OF TIMER CAM #4. (WATER DUMP)
5. CHECK TIMER SWITCH #4.
6. CHECK IF WATER DUMP VALVE IS STUCK OPEN.
1. CHECK FOR REFRIGERANT UNDER-CHARGE.
2. CHECK TXV VALVE.

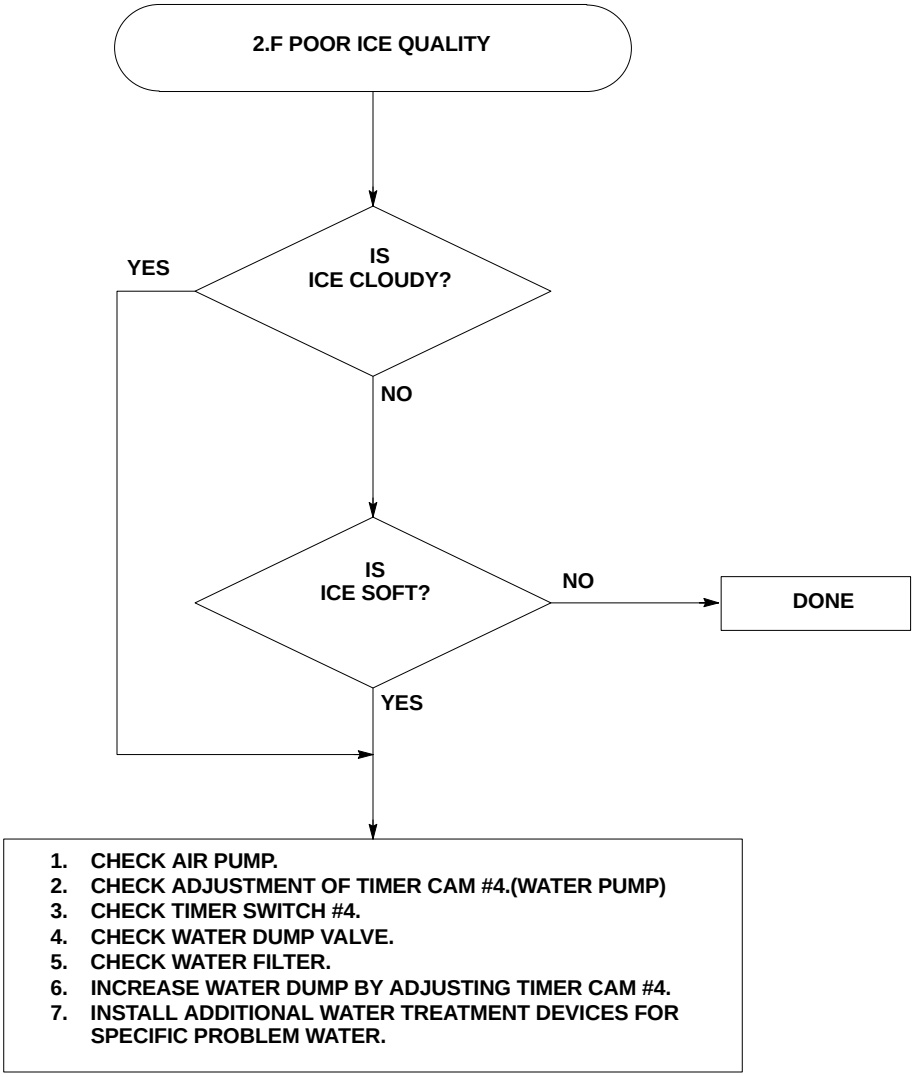

2.B COMPRESSOR INOPERATIVE
IS LINE VOLTAGE WITHIN ± 10% OF NAMEPLATE VOLTAGE?
YES
NO
CHECK VOLTAGE PROBLEMS IN 1.
IS THERMAL PROTECTOR OPEN?
NO
IS CONTACTOR PULLED IN?
YES
YES
NO
IS COMPRESSOR BODY COLD?
YES
NO
1. CHECK FOR LOOSE OR BROKEN WIRING CONNECTION IN COMPRESSOR POWER CIRCUIT.
2. CHECK CONTACTOR.
3. CHECK STARTING RELAY.
4. CHECK CAPACITOR(S).
5. CHECK COMPRESSOR MOTOR.
REPLACE THERMAL PROTECTOR.
IS 120V. PRESENT AT CONTACTOR COIL TERMINAL?
YES
NO
REPLACE CONTACTOR.
1. CHECK FOR LOOSE OR BROKEN WIRING CONNECTION IN CONTROL CIRCUIT.
2. GO TO 2.A

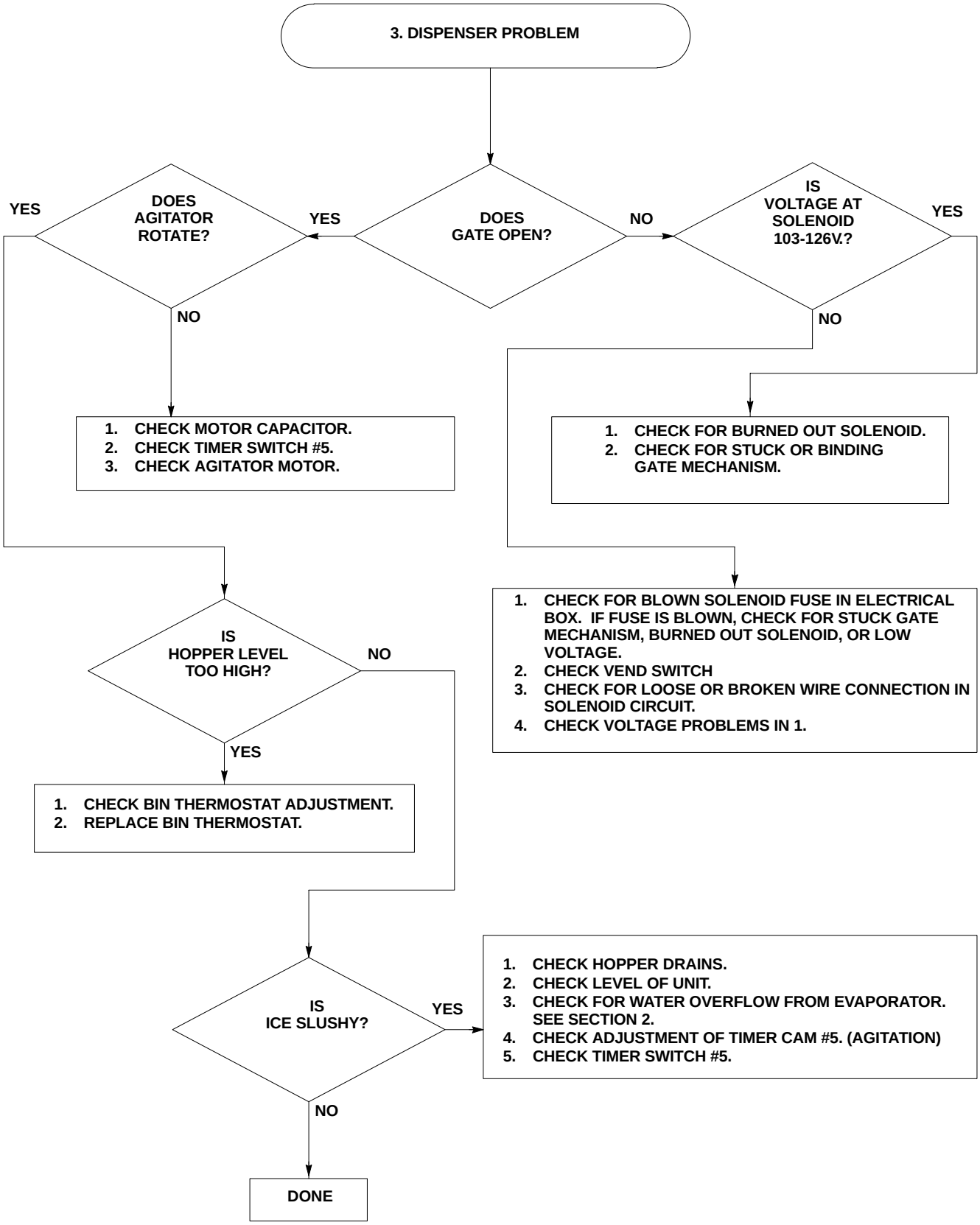

2.C NO ICE ON EVAPORATOR
IS EVAPORATOR COLD?
YES
NO
IS HARVEST TIMER RUNNING?
NO
YES
IS WATER LEVEL NORMAL?
NO
YES
CHECK WATER PROBLEMS IN 2.A
CHECK REFRIGERATION SYSTEM.
IS HOT GAS SOLENOID ENERGIZED?
YES
NO
1. CHECK FOR REFRIGERANT UNDER-CHARGE.
2. CHECK HOT GAS SOLENOID FOR LEAKING SEAT.
3. GO TO 2.A.
IS COND. CONTROL ENERGIZED?
YES
NO
CHECK TIMER SWITCH #1.
1. CHECK FOR OPEN CONDUCT PROBE WIRING.
2. CHECK CONDUCTIVITY CONTROL.
IS HARVEST TIMER HOME?
YES
NO
1. CHECK ADJUSTMENT OF TIMER CAM #2. (HOT GAS)
2. CHECK TIMER SWITCH #2.
1. CHECK ADJUSTMENT OF TIMER CAM #1. (TIMER HOME)
2. CHECK TIMER SWITCH #1.
3. CHECK TIMER MOTOR.

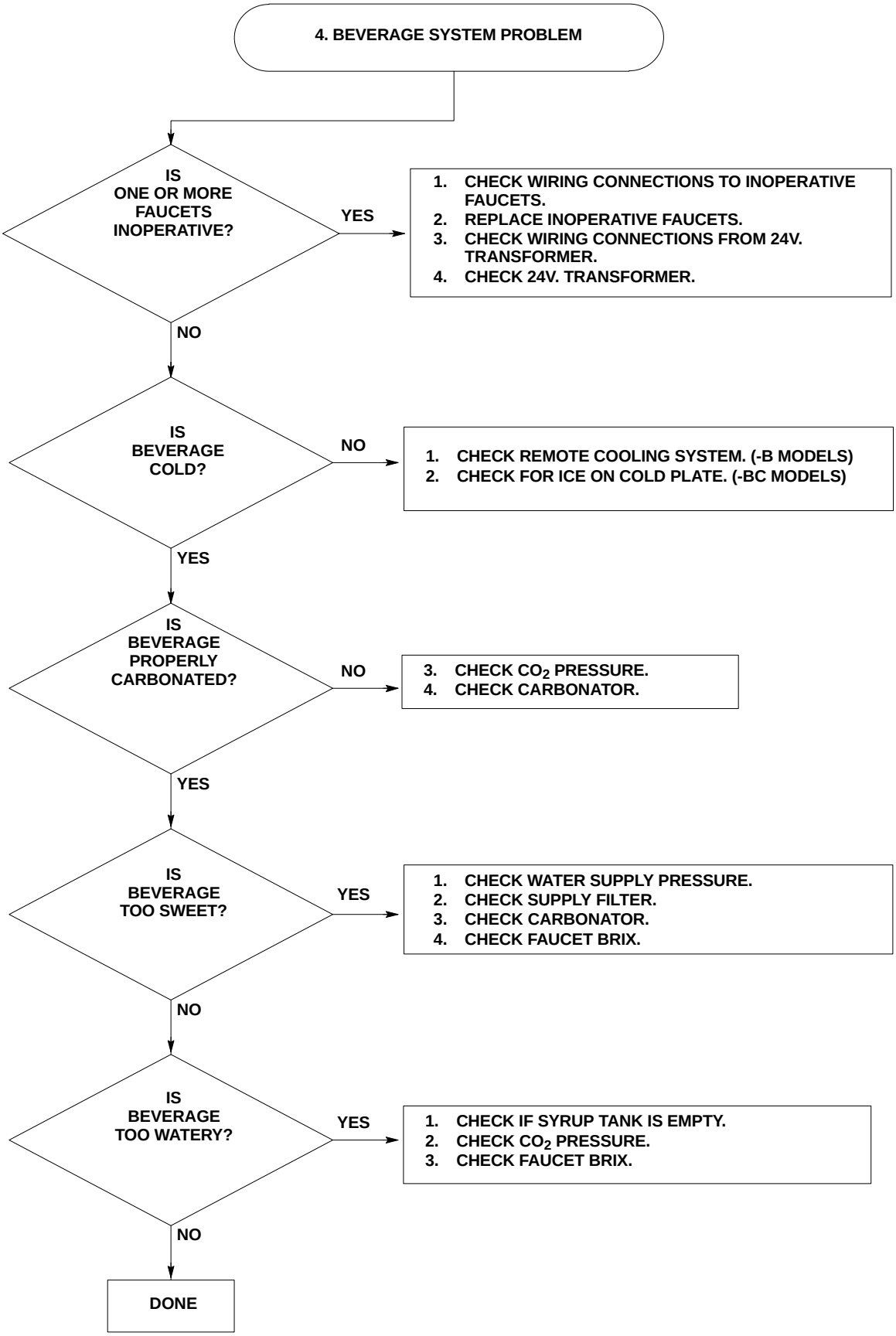

2.D FROZEN EVAPORATOR
1. SHUTOFF ICE MAKER AND THAW EVAPORATOR.
2. START ICE MAKER.
IS AMBIENT ABOVE 60°F?
NO
1. ARRANGE TO MAINTAIN MINIMUM 60° AMBIENT.
2. CONDUCT FACTORY REGARDING SPECIAL APPLICATION.
YES
IS VOLTAGE WITHIN ±10%?
NO
CHECK VOLTAGE ITEMS IN 1.
YES
DISCONNECT PROBE WIRE FROM CONDUCTIVITY CONTROL.
ARE ALL TIMING FUNCTIONS ACCURATE TO SETTINGS ±10%?
NO
1. CHECK TIMER MOTOR.
2. CHECK CONDUCTIVITY CONTROL.
YES
HOT GAS OPERATION O.K.?
NO
1. CHECK ADJUSTMENT OF TIMER CAM #2. (HOT GAS)
2. CHECK TIMER SWITCH #2.
3. CHECK HOT GAS SOLENOID.
YES
WATER DUMP O.K.?
NO
1. CHECK ADJUSTMENT OF TIMER CAM #4 (WATER DUMP)
2. CHECK TIMER SWITCH #4
3. CHECK DUMP SOLENOID
YES
DOES ICE HARVEST NORMALLY?
NO
YES


2.D (CON'T)
YES
NO
1. CHECK ADJUSTMENT OF TIMER CAM #3. (HARVEST MOTOR)
2. CHECK TIMER SWITCH #3.
3. CHECK HARVEST MOTOR CAPACITOR.
4. CHECK HARVEST MOTOR.
REPLACE PROBE WIRE ON CONDUCTIVITY CONTROL DURING HARVEST CYCLE.
DOES TIMER RETURN HOME?
NO
1. CHECK ADJUSTMENT OF TIMER CAM #1. (TIMER HOME)
2. CHECK TIMER SWITCH #1.
YES
WAIT ONE FULL FREEZING CYCLE (APROX. 6-10 MIN.)
DOES HARVEST INITIATE?
NO
1. CHECK PROBE WIRING FOR SHORTED CONNECTION.
2. CHECK CONDUCTIVITY CONTROL.
YES
DOES ICE HARVEST NORMALLY?
NO
1. REPEAT PREVIOUS CHECK OF OPERATION OF HARVEST COMPONENTS IN 2.D
2. ADJUST ICE THICKNESS PROBE ONLY AFTER ALL OTHER FACTORS HAVE BEEN CHECKED THOROUGHLY.
YES
DONE


2.E LOW ICE PRODUCTION
IS WATER LEVEL NORMAL?
NO
CHECK WATER ITEMS IN 2.A.
YES
IS WATER TEMP. HIGH?
YES
NORMAL EFFECT. INSTALL REMCOR PRE-COOLER TO INCREASE CAPACITY.
NO
IS AMBIENT TEMP. HIGH?
YES
NORMAL EFFECT. ARRANGE FOR LOWER AMBIENT AIR TEMP. IF POSSIBLE.
NO
IS ICE THIN?
YES
GO TO 2.C.
NO
CHECK REFRIGERATION SYSTEM.


2.F POOR ICE QUALITY
IS
ICE CLOUDY?
YES
NO
IS
ICE SOFT?
NO
DONE
YES
1. CHECK AIR PUMP.
2. CHECK ADJUSTMENT OF TIMER CAM #4.(WATER PUMP)
3. CHECK TIMER SWITCH #4.
4. CHECK WATER DUMP VALVE.
5. CHECK WATER FILTER.
6. INCREASE WATER DUMP BY ADJUSTING TIMER CAM #4.
7. INSTALL ADDITIONAL WATER TREATMENT DEVICES FOR SPECIFIC PROBLEM WATER.


3. DISPENSER PROBLEM
DOES GATE OPEN?
YES
NO
DOES AGITATOR ROTATE?
YES
NO
IS VOLTAGE AT SOLENOID 103-126V.?
YES
NO
1. CHECK MOTOR CAPACITOR.
2. CHECK TIMER SWITCH #5.
3. CHECK AGITATOR MOTOR.
1. CHECK FOR BURNED OUT SOLENOID.
2. CHECK FOR STUCK OR BINDING GATE MECHANISM.
1. CHECK FOR BLOWN SOLENOID FUSE IN ELECTRICAL BOX. IF FUSE IS BLOWN, CHECK FOR STUCK GATE MECHANISM, BURNED OUT SOLENOID, OR LOW VOLTAGE.
2. CHECK VEND SWITCH
3. CHECK FOR LOOSE OR BROKEN WIRE CONNECTION IN SOLENOID CIRCUIT.
4. CHECK VOLTAGE PROBLEMS IN 1.
IS HOPPER LEVEL TOO HIGH?
NO
YES
1. CHECK BIN THERMOSTAT ADJUSTMENT.
2. REPLACE BIN THERMOSTAT.
IS ICE SLUSHY?
YES
NO
1. CHECK HOPPER DRAINS.
2. CHECK LEVEL OF UNIT.
3. CHECK FOR WATER OVERFLOW FROM EVAPORATOR. SEE SECTION 2.
4. CHECK ADJUSTMENT OF TIMER CAM #5. (AGITATION)
5. CHECK TIMER SWITCH #5.
DONE


4. BEVERAGE SYSTEM PROBLEM
IS ONE OR MORE FAUCETS INOPERATIVE?
YES
1. CHECK WIRING CONNECTIONS TO INOPERATIVE FAUCETS.
2. REPLACE INOPERATIVE FAUCETS.
3. CHECK WIRING CONNECTIONS FROM 24V. TRANSFORMER.
4. CHECK 24V. TRANSFORMER.
NO
IS BEVERAGE COLD?
NO
1. CHECK REMOTE COOLING SYSTEM. (-B MODELS)
2. CHECK FOR ICE ON COLD PLATE. (-BC MODELS)
YES
IS BEVERAGE PROPERLY CARBONATED?
NO
3. CHECK CO_2 PRESSURE.
4. CHECK CARBONATOR.
YES
IS BEVERAGE TOO SWEET?
YES
1. CHECK WATER SUPPLY PRESSURE.
2. CHECK SUPPLY FILTER.
3. CHECK CARBONATOR.
4. CHECK FAUCET BRIX.
NO
IS BEVERAGE TOO WATERY?
YES
1. CHECK IF SYRUP TANK IS EMPTY.
2. CHECK CO_2 PRESSURE.
3. CHECK FAUCET BRIX.
NO
DONE

MAINTENANCE/ADJUSTMENT PROCEDURES

THERMOSTAT ALTITUDE ADJUSTMENTS

IMPORTANT: Adjust the bin thermostat setting only if storage hopper over fill is a problem.

BIN THERMOSTAT

1. Open the hinged service door.
2. The adjustment screw is located below the “Flush” switch on the left side of the electrical box.
3. For altitudes up to 6,000 feet, turn the adjustment screw COUNTERCLOCKWISE as follows:

ELEVATION (FEET)	COUNTERCLOCKWISE TURN
2,000	1/13
4,000	1/6
6,000	1/4

4. For altitudes above 6,000 feet, consult the factory.

CLEARING EVAPORATOR FREEZE-UP

WARNING: To prevent possible injury, do not place fingers or hand into ice maker nozzle or hopper with power applied to the unit.

1. Open the hinged service door.
2. Place the “stop/Run” switch in the “Stop” position.
3. Close the water supply valve to the ice maker.
4. Remove the ice drop and hopper covers.
5. Depress the “Flush” switch push button and drain the evaporator.
6. Pour hot water into the evaporator ice exit opening. It will be necessary to use either a funnel or a container with a spout. Fill the evaporator completely.
7. Drain the evaporator. Repeat steps 5 and 6 as required to ensure that all the ice in the evaporator is melted.
8. Open the water supply valve and refill evaporator.
9. Replace the ice drop and hopper covers.
10. Consult Troubleshooting Guide to determine cause of freeze-up before putting unit back in service.

ICE THICKNESS ADJUSTMENT

WARNING: Do not adjust ice thickness probe unless all other problem causes have been evaluated.

1. Open the hinged service door and remove the ice drop and hopper covers.

2. Collect and weigh the ice produced during the harvest cycle. The amount of ice harvested should weigh approximately 3-1/4 to 3-1/2 pounds. Use the following procedure to adjust the probe to obtain this weight. (A clockwise adjustment will reduce the harvest weight while counterclockwise turns will increase the amount).

CAUTION: Do not turn the screw on the end of the probe. Rotate the plastic probe body only using a 3/8 inch open end wrench. Make adjustments in 1/8 inch turn increments.

   A. Place the “Stop/Run” switch in the “Stop” position, (If unit is in the ice making cycle, stop the unit at the end of the harvest cycle).

   B. Access to the probe is obtained by removing the rear service panel. (For units without beverage faucets, the probe can be adjusted from the front by removing the lower front panel if rear access is blocked).

   C. Adjust the probe.

   D. Place the “Stop/Run” switch in the “Run” position.

   E. Collect and weigh the ice harvested. Repeat step A through E as necessary to obtain the required amount of ice.

3. In making an initial adjustment (for example, if the probe has been removed and replaced for any reason), turn probe clockwise until it just touches the evaporator coil (a slight back pressure will be felt). Turn probe counterclockwise 2-1/2 turns. Follow procedure in step 2 to obtain the required ice harvest weight.

CLEANING/REPLACE THE FILTER

1. Remove the filter from the cabinet panel by sliding it forward toward the front of the unit.

2. Wash the filter in a solution of warm water and a mild detergent. Do not use caustic detergents as they may attack the aluminum filter elements.

3. For maximum effectiveness, reactivate the filter with an air filter coating (see Parts List, Miscellaneous Components).

CLEANING THE CONDENSER

Air-Cooled Units.

1. Disconnect power to the unit.

2. Remove the upper right side panel.

3. Remove all dirt/foreign material built up from the condenser fins (fan side). Be careful not to damage the fins. It is recommended that a power vacuum cleaner with a “crevice” tool attachment be used.

HARVEST TIME ADJUSTMENT

WARNING: Disconnect electrical power to the unit before servicing the timer in the electrical box.

1. Disconnect power to ice maker.
2. Remove upper front panel and electrical control box cover.
3. Place the “Stop/Run” switch in the “Stop” position.
4. Using Figure 8 as a guide, set the timer cam tabs as follows, starting with cam wheel No. 1 (all cam tab positions are in relation to No. 1 left cam tab).

NOTE: Timer cam wheels can be manually rotated only in the normal direction of rotation-downward as viewed from the front of the unit.

A. “Manually” adjust the cam tabs by using each “click” as the cam tab is rotated, as equivalent to .75 seconds.

B. Set up cam wheel No. 1 with the left and right cam tabs back-to-back as shown in Figure 8A.

C. Adjust the cam tabs on wheels No. 2 through No. 5 in sequence as shown on the chart. Rotate the cam wheels manually downward to set each wheel.

D. After the cam tabs are manually set, reconnect power to the ice maker.

E. Rotate the cam wheels slightly to activate the timer motor (No. 1 telltail down).

F. Using a stop watch, time the cam switch telltales. Adjust the cam tabs as necessary for the required cycle times.

MANUAL FILLING

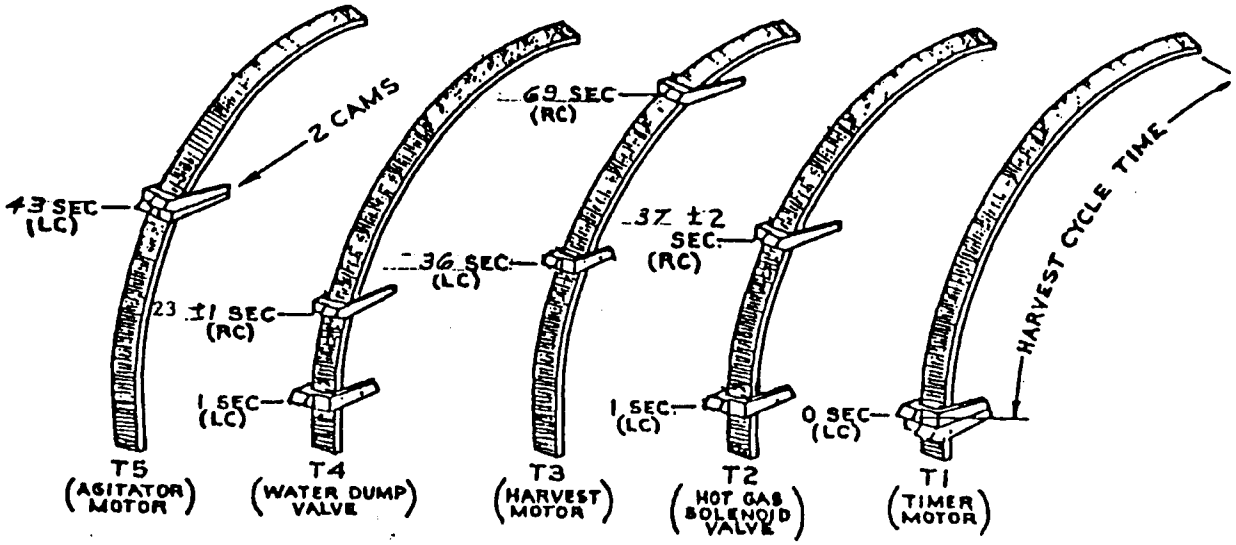
In the event that the ice maker is not functioning, the hopper may be manually filled with ice.

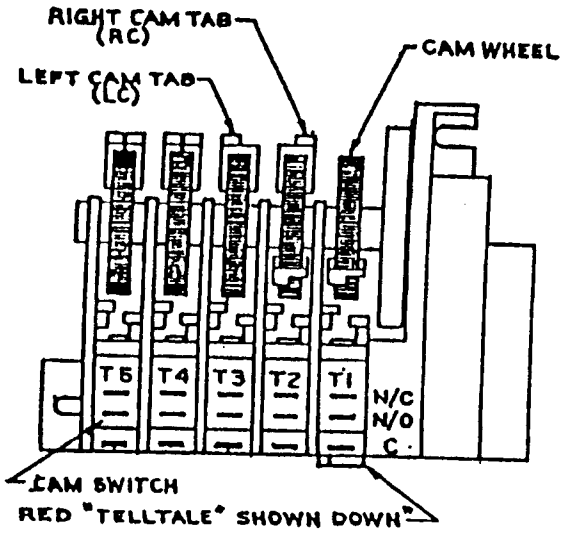
1. Open the hinged service door.
2. Place the “Stop/Run” switch in the “Stop” position.

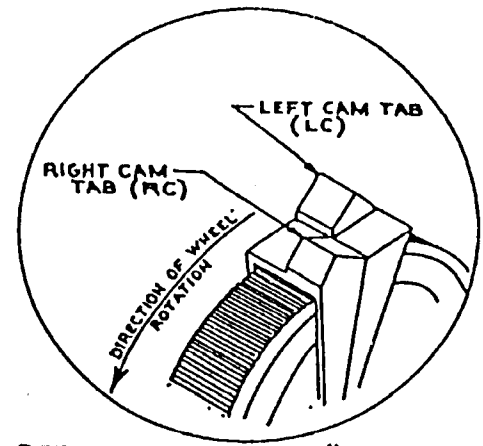
WARNING: Electrical power is <u>on</u> to the agitator motor and the gate solenoid. Avoid contact with these components.

3. Remove the ice drop and storage hopper covers.
4. Fill hopper with ice and replace covers. Unit is now ready for dispensing.

CAUTION: Do not use crushed or flaked ice. Use of bagged ice, which has frozen into large chunks, <u>can void warranty</u>. The agitator is not designed to be an ice crusher. Use of large chunks of ice which “jam up” inside the hopper will cause failure of the agitator motor and damage to the hopper. If bagged ice is used, it must be <u>carefully</u> and <u>completely</u> broken into small, cube-size pieces before filling into the storage hopper. Do not allow foreign material to enter the ice storage hopper.







DETAIL OF CAM WHEEL "T1"

FIG. 8A

FIGURE 9. HARVEST TIMER

PARTS LIST

DESCRIPTION	PART NUMBERS			
	AIR COOLED		WATER COOLED	
DISPENSER COMPONENTS	**150**	**150 "BC"**	**150**	**150 "BC"**
Gate Slide	21491	21491	21491	21491
Depressor Lever	21515	21515	21515	21515
Depressor Retainer	22644	22644	22644	22644
Agitator	24069	24069	24069	24069
Vend Switch	30895	30895	30895	30895
Switch Boot	31007	31007	31007	31007
Agitator Motor	31889	31889	31889	31889
Agitator Motor Shaft Seal	50454	50454	50454	50454
Agitator Motor Gasket	50806	50806	50806	50806
Sink	51430	51430	51430	51430
Sink Grill	70570	70570	70570	70570
Ice Chute, Back Section	53015	53015	53015	53015
Ice Chute Cover	53016	53016	53016	53016
Gate Gasket	50770	50770	50770	50770
Gate Solenoid Assembly	31093	31093	31093	31093
Gate Rebuilding Kit	70438	70438	70438	70438
Agitator Motor Heater	———	30794	———	30794

DESCRIPTION	PART NUMBERS			
	AIR COOLED		WATER COOLED	
Electrical Controls	150	150 "BC"	150	150 "BC"
Contactor	30379	30379	30379	30379
Toggle Switch	30385	30385	30385	30385
Capacitor, Agitator Motor	30774	30774	30774	30774
Flush Switch	30895	30895	30895	30895
Bin Thermostat	31001	31001	31001	31001
Fuse, 1-1/4 Amps (Gate Solenoid)	31406	31406	31406	31406
Timer, Harvest	31838	31838	31838	31838
Conductivity Control	31743	31743	31743	31743
Capacitor, Harvest Motor	31673	31673	31673	31673
Compressor Start Relay	31671	31671	31671	31671
Capacitor, Compressor Start	31672	31672	31672	31672
Capacitor, Compressor Run	31673	31673	31673	31673
Compressor Overload	31674	31674	31674	31674
High Pressure Control	60501	60501	60501	60501
Low Pressure Control	60369	60369	60369	60369
Transformer Beverage	———	31091	———	31091

PARTS LIST (cont'd)

DESCRIPTION	PART NUMBERS			
	AIR COOLED		WATER COOLED	
REFRIGERATION COMPONENTS	**150**	**150 "BC"**	**150**	**150 "BC"**
Compressor	60642	60642	60642	60642
Compressor Mounting Kit	31607	31607	31607	31607
Air Pump	31568	31568	31568	31568
Hose Adaptor, 3/8 NPT X 3/8 Barb	51189	51189	51189	51189
Hose Adaptor 90°, 3/8 NPT X 3/8 Barb	51190	51190	51190	51190
Condenser Fan Motor	31738	31738	———	———
Condenser Fan Blade	31844	31844	———	———
Water Valve Inlet	40672	40672	40672	40672
Condenser Air-Cooled	60619	60619	———	———
Condenser Shroud	51434	51434	———	———
Tinnerman Clip, Shroud	70704	70704	———	———
Filter (Drier)	60623	60623	60623	60623
Hot Gas Solenoid Valve	60620	60620	60620	60620
Hot Gas Solenoid Coil (115 Volt)	32576	32576	32576	32576
TXV R-502	60947	60947	60947	60947
Condenser, Water-Cooled	———	———	60933	60933
Water Regulating Valve	———	———	40122	40122
Water Drain Valve	40652	40652	40652	40652
Tubing, Water Drain, 1/2 inch I.D.	50351	50351	50351	50351
Tubing, Air Pump, 3/8 inch I.D.	50096	50096	50096	50096

DESCRIPTION	PART NUMBERS			
	AIR COOLED		WATER COOLED	
EVAPORATOR COMPONENTS	**150**	**150 "BC"**	**150**	**150 "BC"**
Evaporator Assembly, Compressor With Motor	60665	60665	60665	60665
Evaporator Housing, Foamed With Gaskets	60666	60666	60666	60666
Evaporator Coil Assembly With Gaskets	60664	60664	60664	60664
Harvest Bar Assembly With Gaskets	51182–1	51182–1	51182–1	51182–1
Gasket Kit	51356	51356	51356	51356
Ice Thickness Probe	51179	51179	51179	51179
Harvest Motor With Gaskets	31560–1	31560–1	31560–1	31560–1
Hose Adaptor, 1/4 NPT X 3/8 Barb	51191	51191	51191	51191
Hose Adaptor, 1/4 NPT X 1/2 Barb	51192	51192	51192	51192
10-32 X 5/8 Phillips Flat Head Screw	70746	70746	70746	70746
Evaporator Cleaning Plug	51300	51300	51300	51300

DESCRIPTION	PART NUMBERS			
	AIR COOLED		WATER COOLED	
MISCELLANEOUS COMPONENTS	**150**	**150 "BC"**	**150**	**150 "BC"**
Filter	70542	70542	70542	70542
Filter Coating, 16 Ounces	51355	51355	51355	51355

REMCOR®

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WARRANTY

REMCOR warrants that all equipment and parts are free from defects in material and workmanship under normal use and service. For a copy of the warranty applicable to your REMCOR product, in your country, please write, fax or telephone the IMI Cornelius office nearest you. Please provide the equipment model number and the date of purchase.

IMI Cornelius Offices

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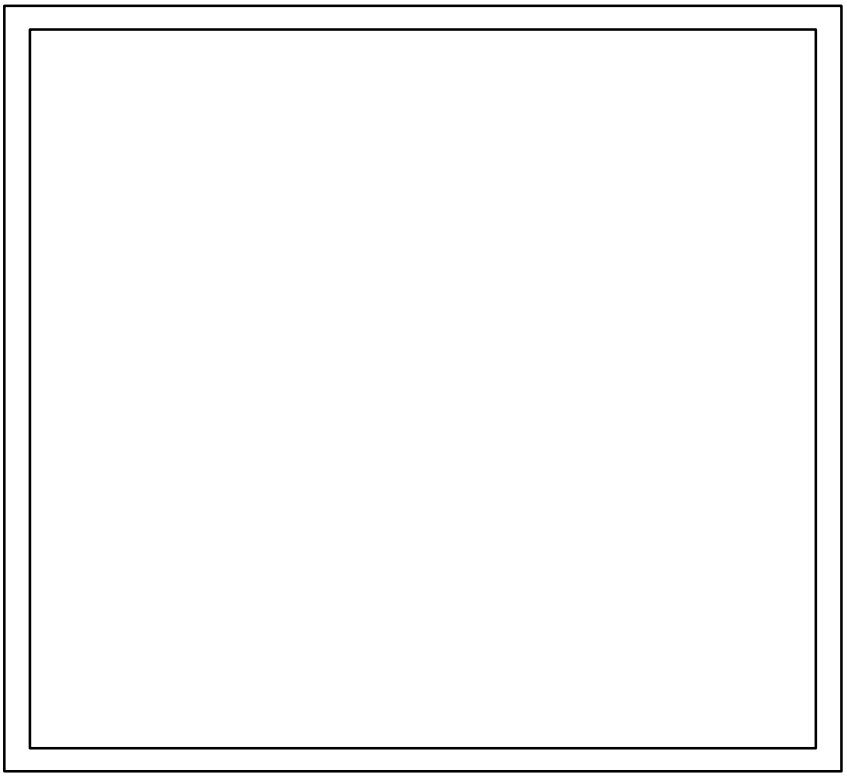

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