MEMORANDUM

To: Jim Prescott

From: kent

Subject: Manual 90846

Date: August 29, 1997

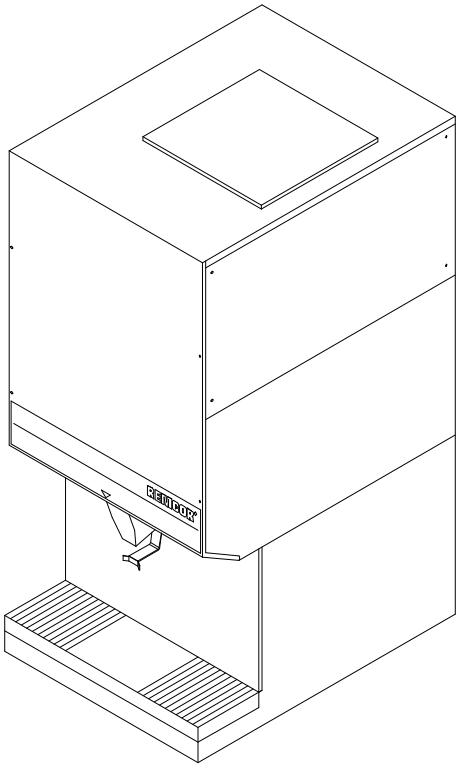
cc:

Printing you purchasing copy for you. The last page will be the back cover, let me know if you receive the complete manual.

SPIRAL ICEMAKER-DISPENSER

MODEL: SID650A/80
SID650W/80
SID650A/80–BC
SID650W/80–BC

Operator's Manual



Part No. 90846
August 1997
Revision F

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION

This Manual must be read and understood before installing or operating this equipment

PRINTED IN U.S.A

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

Page

LIST OF FIGURES

LIST OF TABLES

SAFETY PRECAUTIONS

Always disconnect power to the dispenser before servicing or cleaning.

Never place hands inside of hopper or gate area without disconnecting power to the dispenser. Agitator rotation occurs automatically when the dispenser is energized!

This ice dispenser has been specifically designed to provide protection against personal injury and eliminates contamination of ice. To insure continued protection and sanitation, observe the following

ALWAYS be sure the removable lid is properly installed to prevent unauthorized access to the hopper interior and possible contamination of ice.

ALWAYS be sure the upper and lower front panels are securely fastened.

ALWAYS keep area around the dispenser clean of ice cubes.

IMPORTANT INSTALLATION NOTICE

An Everpure System CSA, part number 9329-43, or equal, icemaker quality water treatment unit MUST BE INSTALLED in the water supply line to the icemaker. Failure to do so may result in poor quality ice, low production output and may cause premature failure of icemaker evaporator and void the extended evaporator warranty.

This icemaker is provided with a stainless steel evaporator, designed to last the life of the product. However, some of the chemicals in treated and untreated water, specifically chlorine and sulfur (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.

DESCRIPTION

The REMCOR LOW PROFILE S.I.D. (Spiral Iceâ Icemaker Dispenser) is a unique, self-contained, free standing style unit which 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 tube 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 icemaking process. The unit has been designed to be simple, yet effective, to provide many years of trouble free operation.

Table 1. Specifications

Model	
Compressor:	**HP 3/4**
Refrigerant:	R-404A/25 oz. (Air Cooled); 25 oz. (Water Cooled)
Voltage:	115 / 1 / 60
Amps:	16 Amps
Circuit Ampacity:*	20 Amps
Fuse Size:	20 Amps Time Delay
Ice Storage Capacity:	80 lbs.
Ice Making Capacity:	Up to 750 lbs./24 hrs.
Shipping Weight:	350 lbs.

Air	**Water Temperature**			
Temperature	**40°**	**50°**	**60°**	**70°**
60°	672	644	622	586
70°	640	599	566	538
80°	560	544	520	488
90°	503	479	456	428

UNPACKING

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

INSTALLATION

WARNING: Only qualified personnel should service internal components or electrical wiring.

LOCATION

Locate the icemaker/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° 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 6" clearance at the back of the unit and a 12" clearance at the right side panel.

Consult Figure 3 for utility connection locations.

Consult Figure 2 for dimensions for mounting unit to the counter with the hardware provided. **NOTE: that the unit must be level for proper operation.**

The unit must be sealed to the counter. The MOUNTING TEMPLATE drawing (Figure 2) 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 counter.

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

PLUMBING

Connect the icemaker to a cold, potable water source, suitable for drinking. This water source must comply with the basic plumbing code of the Building Officials and Code Administrators International Inc. (BOCA) and the Food Service Sanitation Manual of the Food and Drug Administration. Do not install unit on a water softener line. It is recommended that a hand shut-off valve and strainer be used on the incoming supply line. A 1/4" outside diameter for the water supply hook up (See Figure 3). For proper operation of the incoming water supply pressure must be in the range of 30-90 PSIG. Install a pressure regulating valve if above this range!

IMPORTANT: To insure proper icemaker 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 water conditions, consult with a distributor in your area or contact the filter manufacturer.
Connect two (2) 3/4" IPS (or equal) drain lines to the 3/4" threaded drain connections at the lower rear of the unit. These lines must pitch downward to and open drain and must contain no traps, or improper drainage will result. All drain connections must be in accordance with the basic plumbing code of the Building Officials and Code Administrators International (BOCA) and local codes.

NOTE: In areas where consistently warm water temperatures are encountered, the use of a pre-cooler in the water line is recommended to maximize the ice production of this unit.

ELECTRICAL (see figure 1)

A 4 X 2 junction box is located at the rear of the unit for the supply hook-up. Connect the icemaker to its' own individual circuit per the National Electric Code and Local Code (see SPECIFICATIONS for ampacity and fuse size).

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

NOTE: That the unit requires a 2-wire systems plus earth ground for proper operation.

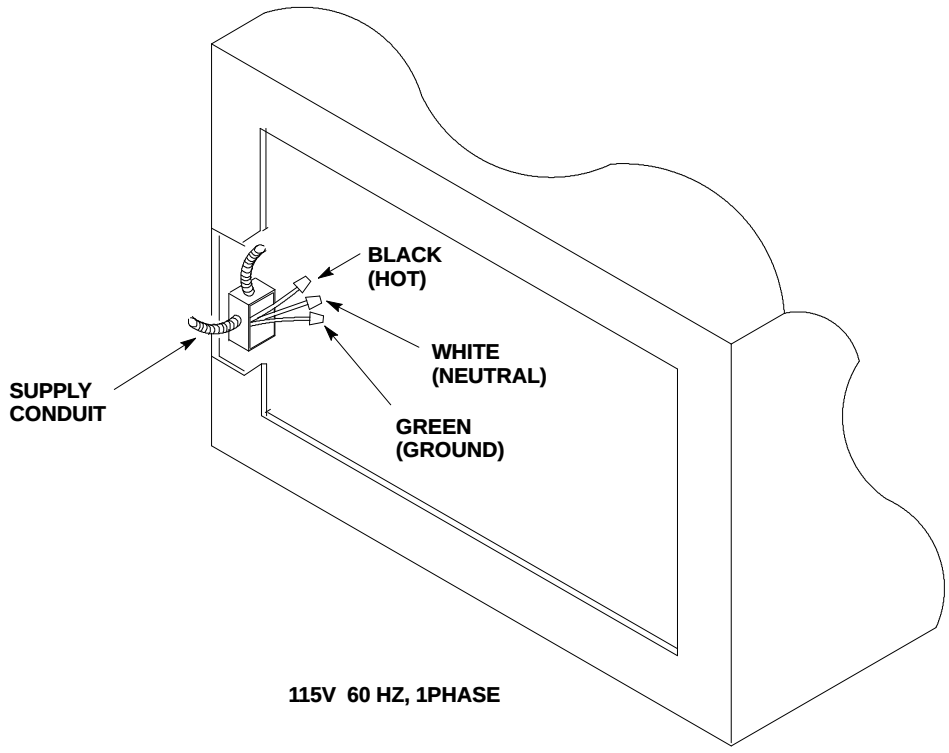


FIGURE 1. REAR VIEW - BOTTOM SECTION SERVICE PANEL REMOVED

BEVERAGE SYSTEM

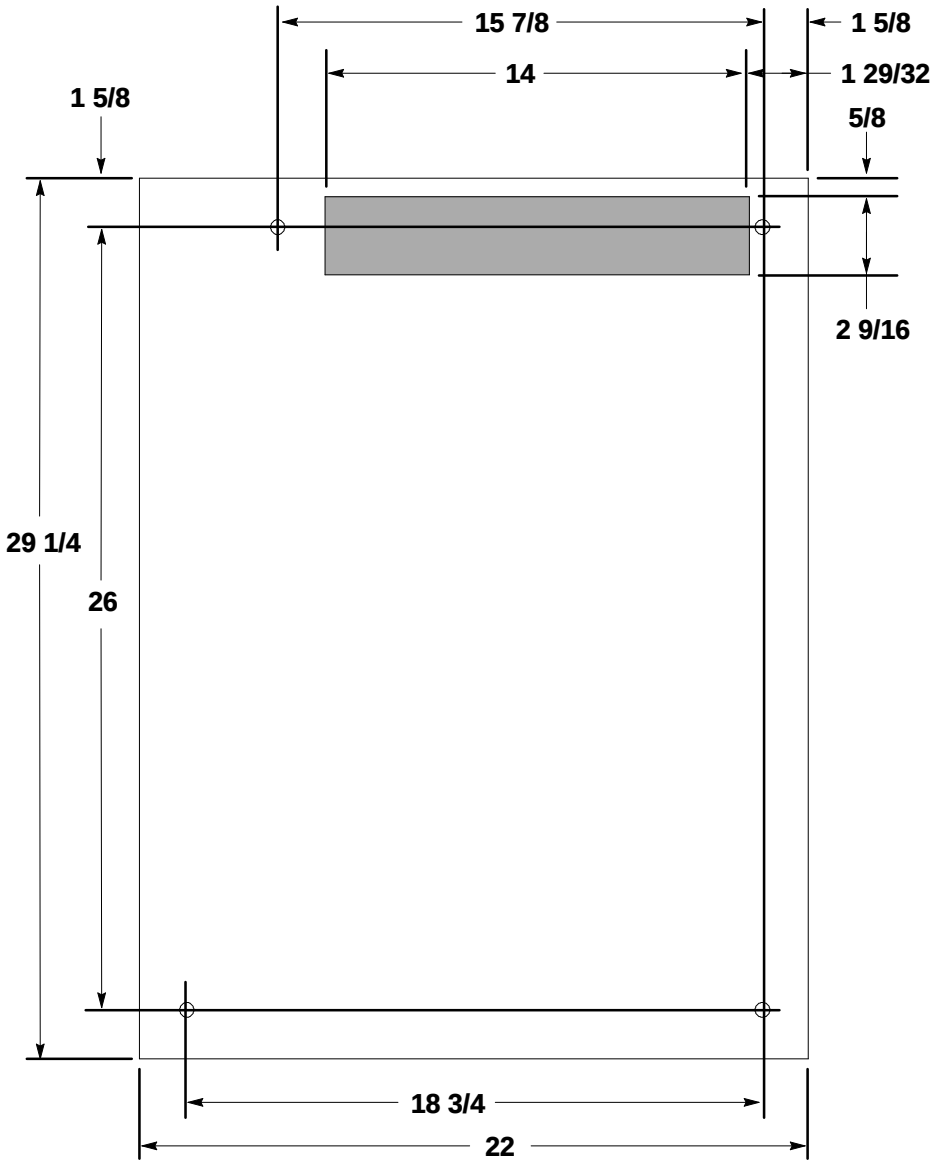
"B", Models: contain beverage faucets only and must be supplied with cold product from any remote cold plate or refrigerated soda factory. "BC" units have a built-in cold plate, in addition to the beverage faucets and are designed to be supplied direct from syrup tanks and carbonator with no additional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

Installation

NOTE: This work should be done by a qualified service person.

1. Locate the required openings in the counter top for the beverage lines as shown in Figure 2.
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 up.
4. Connect the beverage system product lines as indicated in figure 3 ("B" UNITS) AND fIGURE 4 ("BC" Units).

NOTE: That the hoses are marked with number (1 through 6) for syrup connections and "CW" for carbonated water connection.



SHADED AREA INDICATES OPENING IN CABINET BOTTOM FOR BEVERAGE TUBING FOR –B, –BC MODELS ONLY

FIGURE 2. MOUNTING TEMPLATE MODEL SID650–80

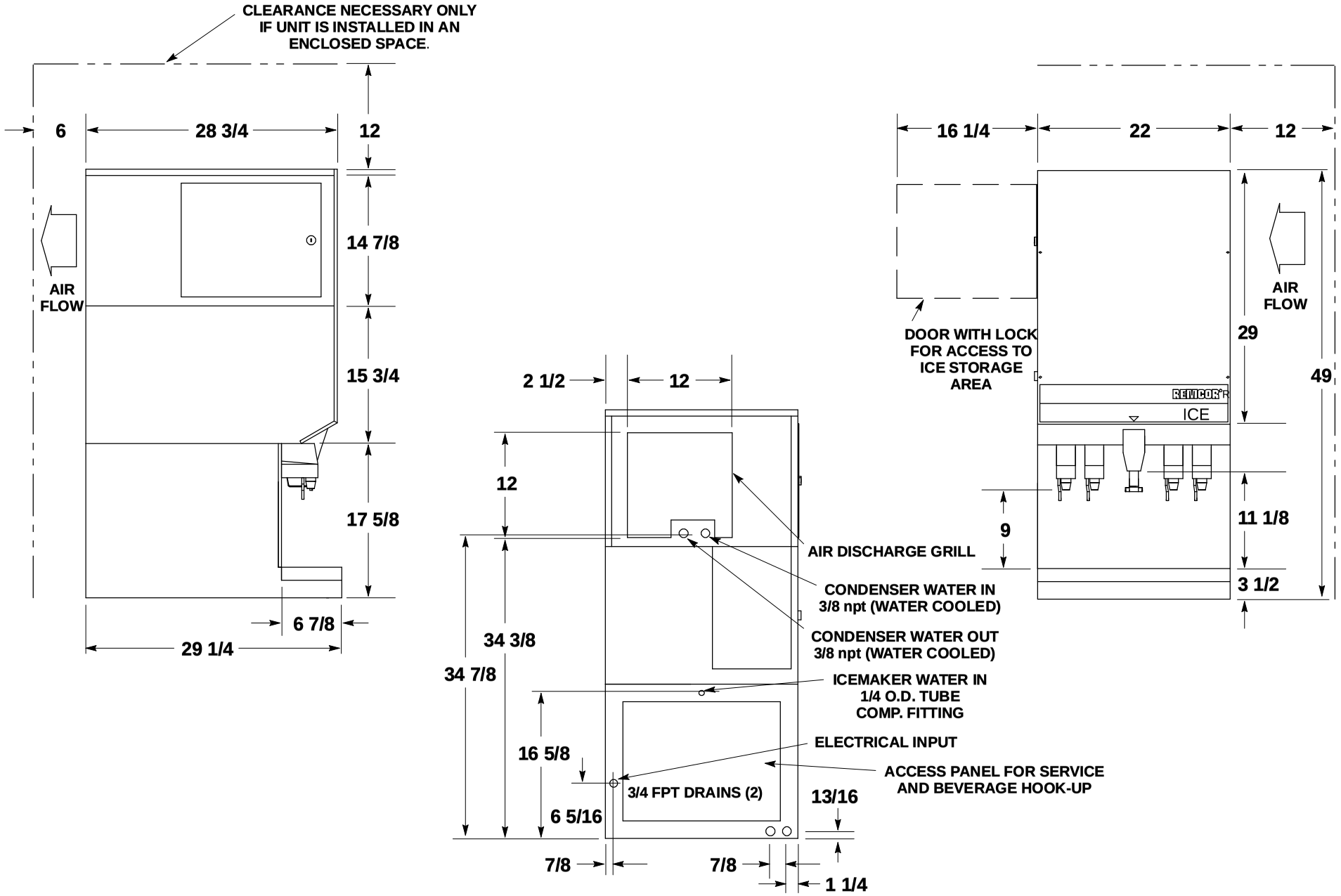


FIGURE 3. MOUNTING TEMPLATE

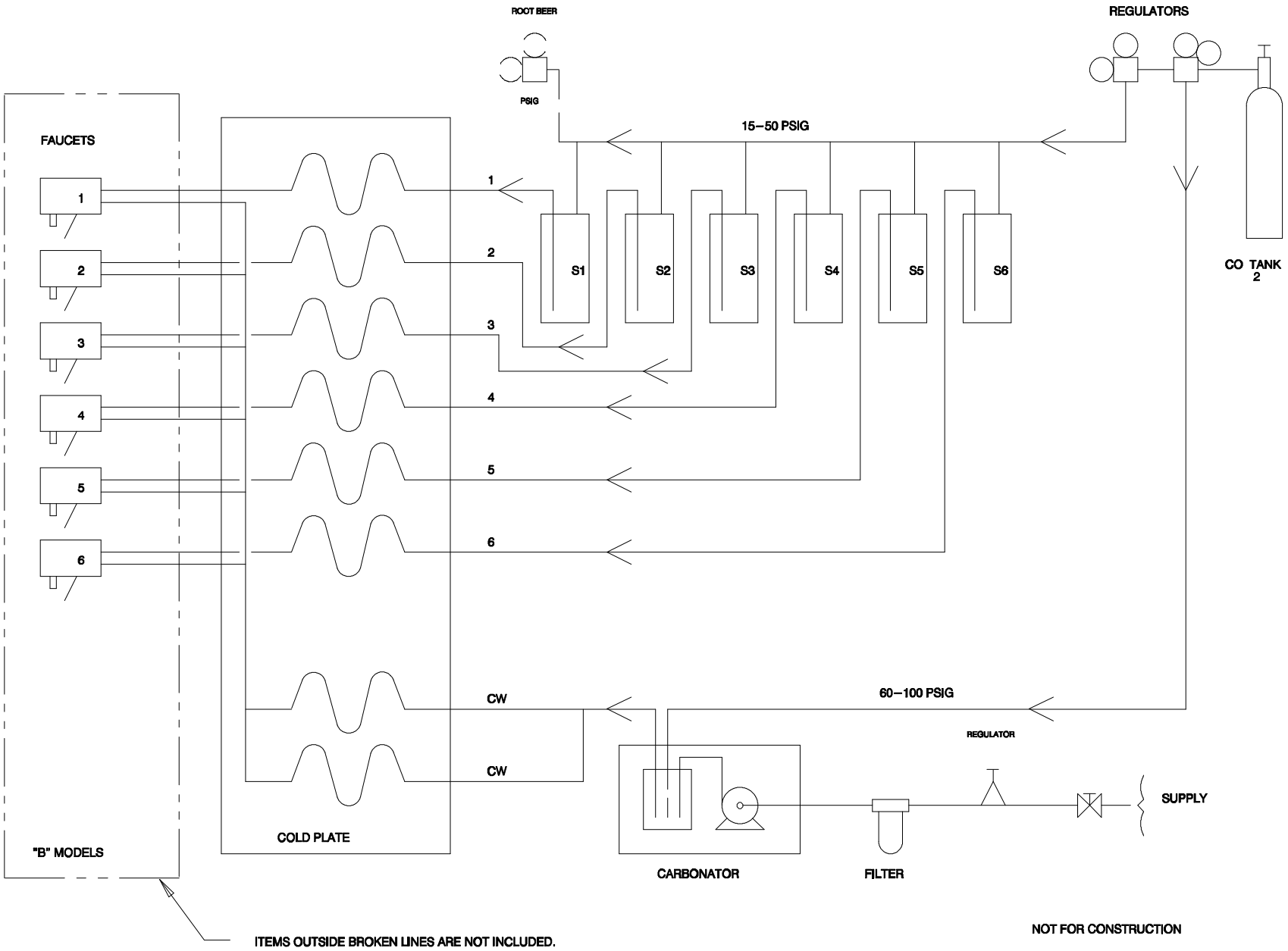


FIGURE 4. “B” MODELS POST MIX BEVERAGE SYUSTEM SCHEMATIC

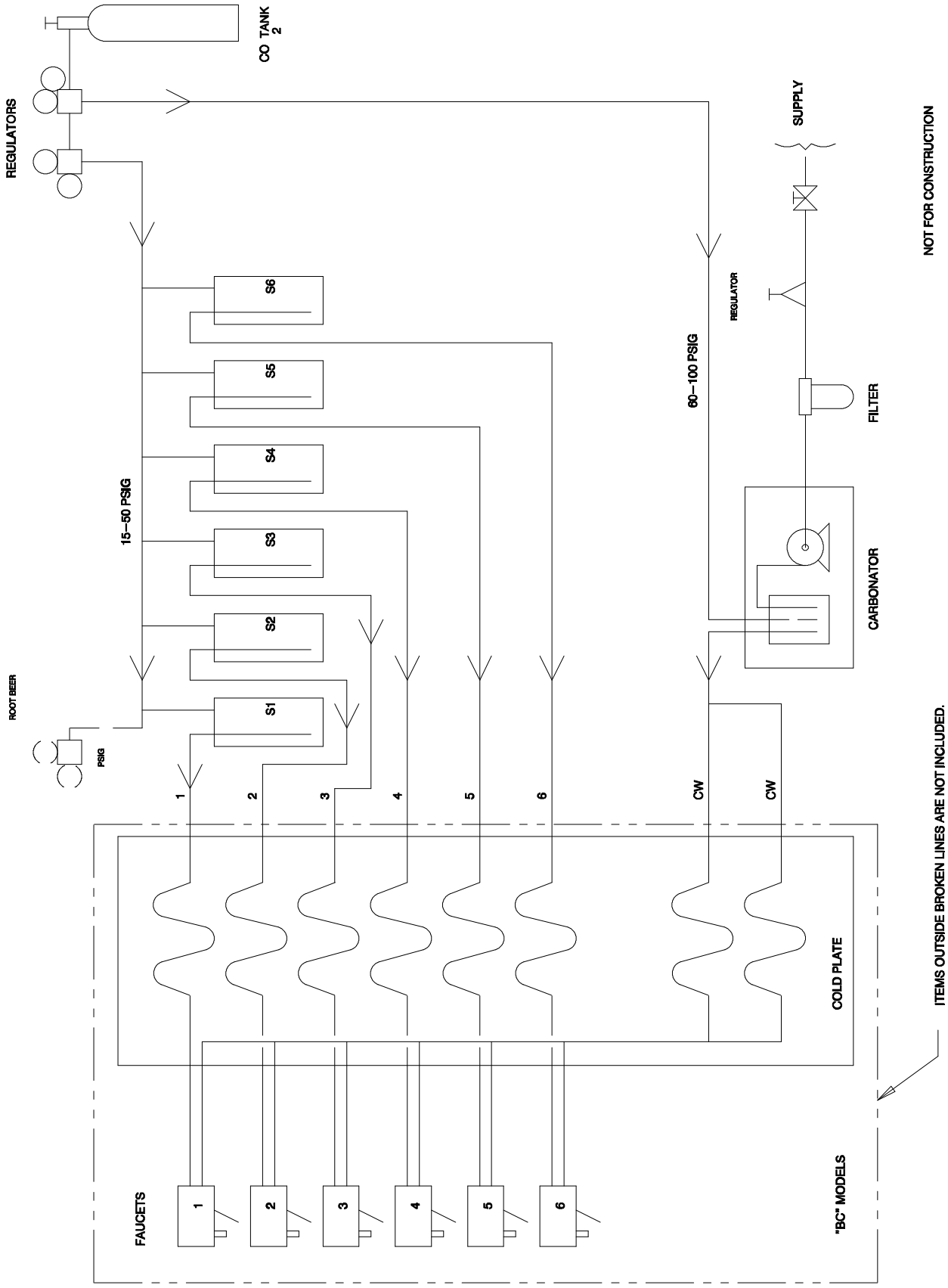


FIGURE 5. "BC" MODELS POST MIX BEVERAGE SYSTEM SCHEMATIC

START UP

ICEMAKER

1. Open the hinged service door on the upper left side panel. Remove ice drop cover and storage hopper cover.

2. Turn on water to icemaker. Make sure that the proper water level is attained in the float chamber before starting unit.

3. Depress the flush switch for 30 seconds to verify that water dump valve operates and that the water drain lines are open and not plugged.

4. Put the "stop/run" switch in the "run" position. Observe that the icemaker goes through proper icemaking and harvest cycles. If unit malfunctions, consult the TROUBLESHOOTING GUIDE.

NOTE: Do to meltage loss because of warm storage hopper, it will take longer to fill the hopper the first time than when the icemaker 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 slid and rotate the agitator in the storage hopper, respectively. If either component malfunctions, consult the TROUBLESHOOTING GUIDE. Replace the ice drop and hopper covers.

BEVERAGE SYSTEM

6. 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 late to be at full capacity.

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 re-adjust these controls. Consult the MAINTENANCE/ADJUSTMENT PROCEDURES.

8. Purge all carbonated plain water lines until a steady stream of water flows out of each faucet.

OPERATING INSTRUCTIONS

ICEMAKER OPERATING INSTRUCTIONS

A temperature sensing bulb located in the storage hopper starts and stops the icemaking process (compressor) in response to the ice level in the hopper. With this ice level control "calling" for ice (hopper ice level is low), the total cycle timer energized. This timer , in turn energizes the harvest and agitation timers for their respective "on" times. The chart below details this sequence of events:

HARVEST CYCLE		
Time	**Cam Switch**	**Action**
0 – 86 seconds	#1	Timer motor energized.
1 – 9 Seconds ± 1 Second	#4	Water dump valve open.
1 – 35 Seconds ± 2 Seconds	#2	Hot gas solenoid valve open. Air pump off. Condenser fan motor off.
35 – 90 Seconds	#2	Air pump one. Condenser fan motor on. Hot gas solenoid valve closed.
34 – 59 Seconds	#3	Harvest motor on.
40 – 44 Seconds 47 – 51 Seconds	#5 (Double set of cams)	Hopper agitator motor operated.

When ice contacts the ice level 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 1 hour for the cold plate to reach its 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.

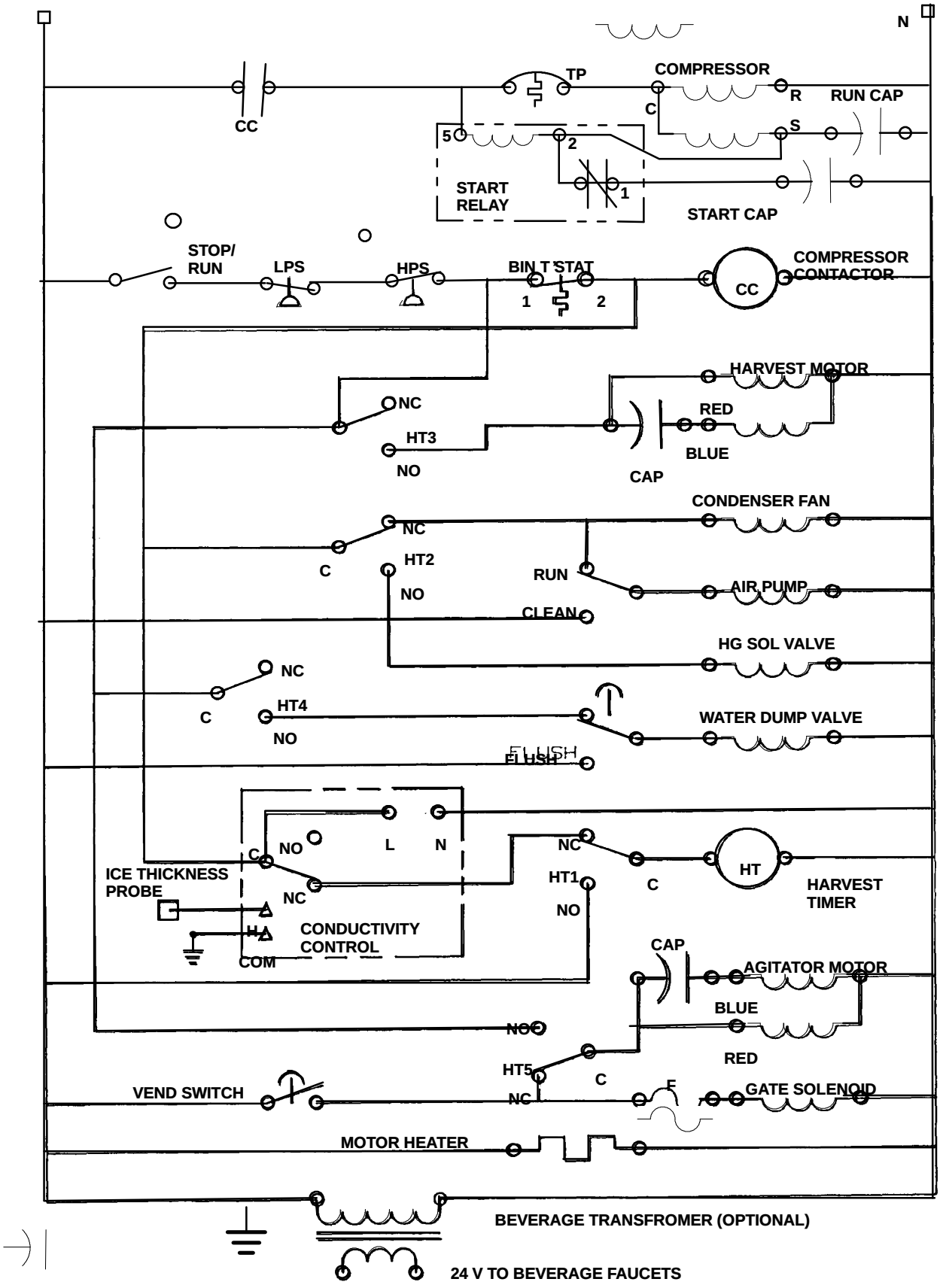


FIGURE 6. WIRING SCHEMATIC 115 / 1 / 60 HZ

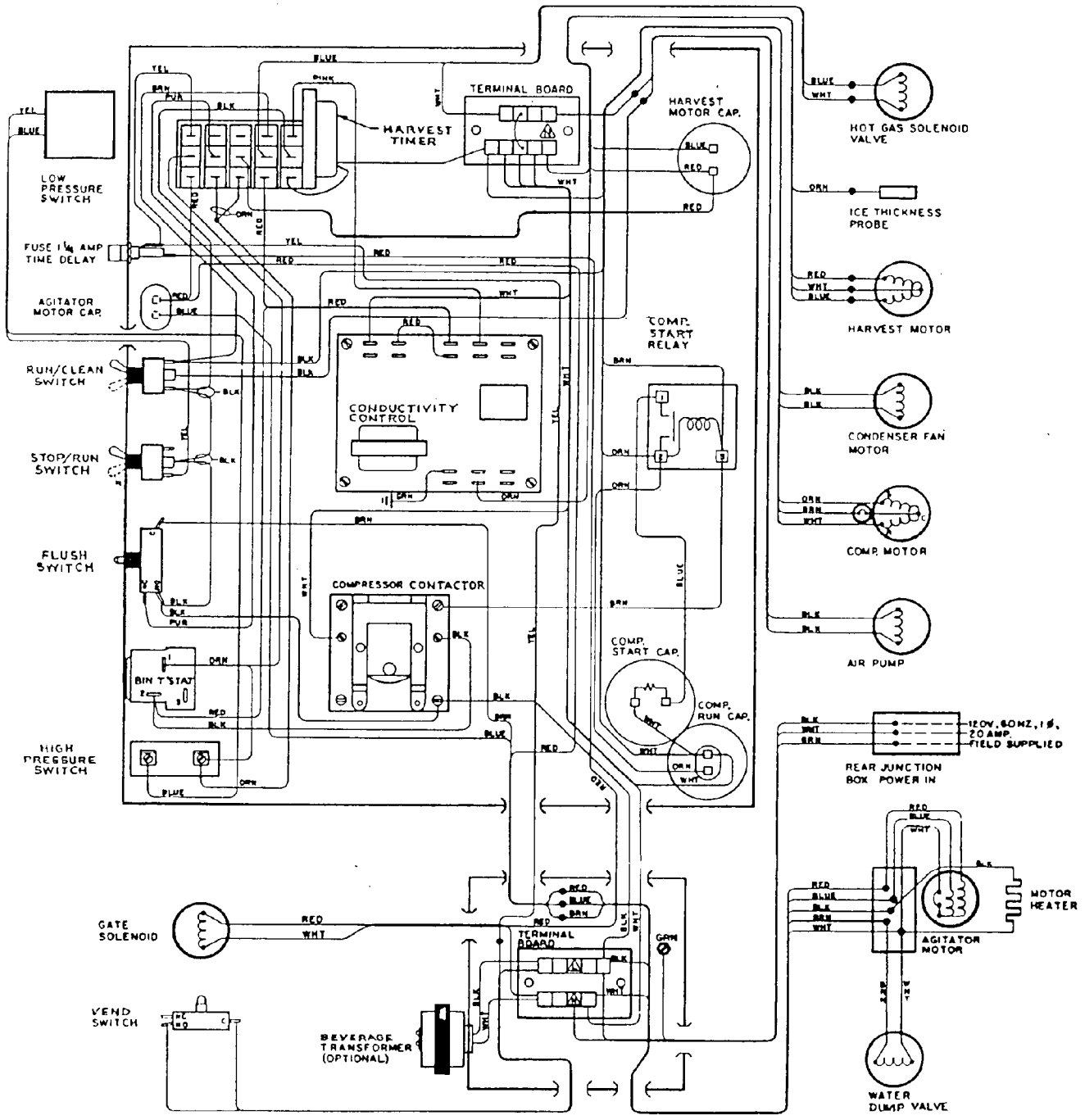


FIGURE 7. WIRING DIAGRAM

REFRIGERATION SCHEMATIC

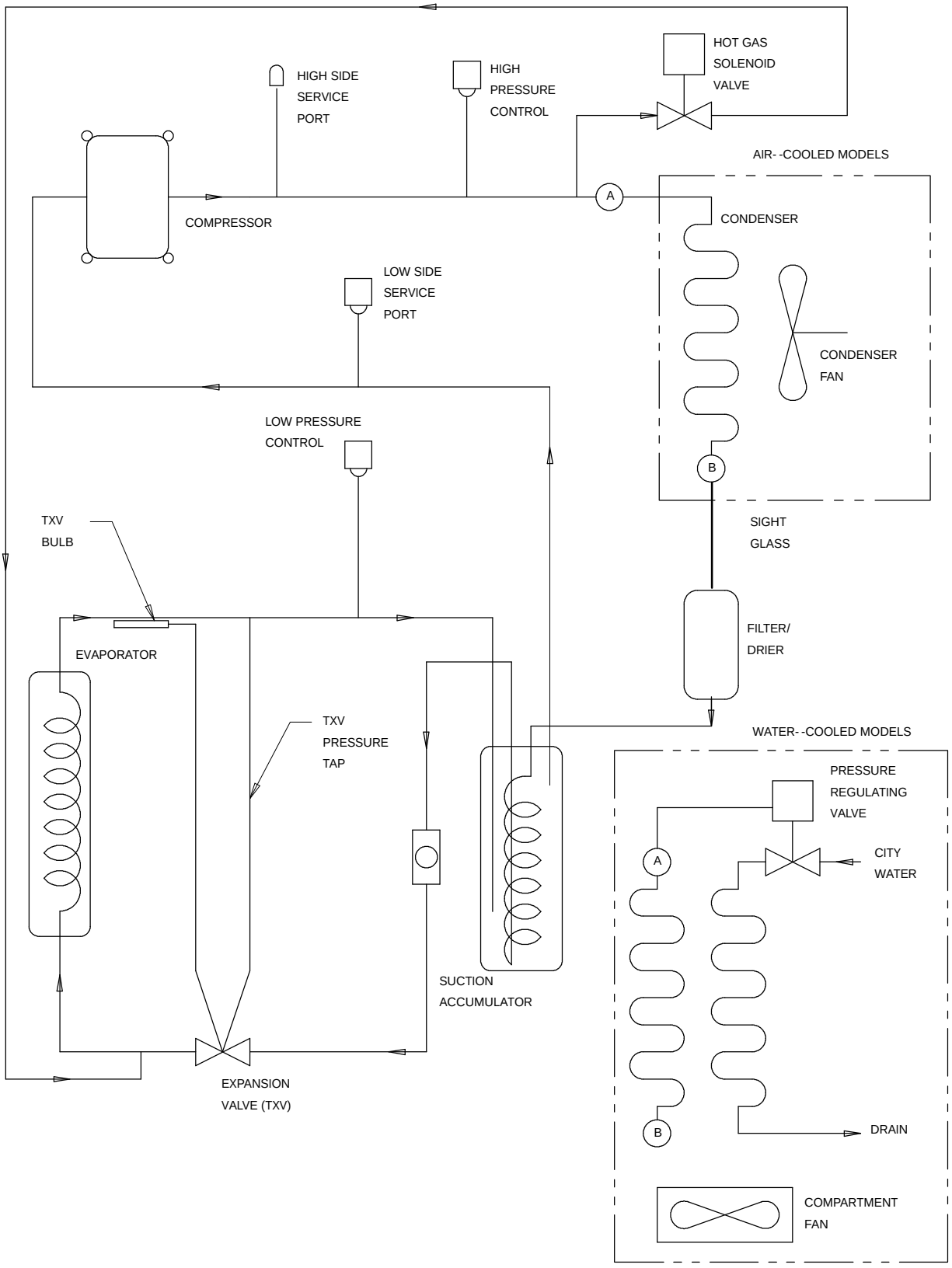


FIGURE 8. REFRIGERATION SCHEMATIC

MAINTENANCE

It is recommended that the air inlet filter be cleaned ever 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 for cleaning these items.

Cleaning of the icemaker 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 icemaking production rates and interfere with proper dispensing of the ice. See the CLEANING SECTION for the recommended procedure.

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

CLEANING INSTRUCTIONS

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

WARNING: 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 surface. Use only recommended chemicals and solutions for both the icemaker and hopper.

Ice Maker Section

1. Open the hinged service door on the upper left side panel.
2. Put the stop/run switch in the "stop" position at the end of the harvest cycle. An alternate method would be to stop the unit during the icemaking cycle and allow ice in the evaporator to melt by waiting for at least 1 hour before beginning the cleaning procedure. The "Flush" switch can be depressed to bring in warmer water help the melting process.

WARNING: Electrical power is on to unit during icemaker section cleaning. To avoid possible injury doe not reach into hopper or into icemaker nozzle. Do not contact exposed electrical wiring and components.

3. Close the water supply valve to the ice maker.
4. Remove the ice drop cover from evaporator and the storage hopper cover.
5. Seal the evaporator outlet with the plastic plug provided with the unit and replace the ice drop cover.
6. Move the water float valve reservoir to the "Clean" position by lifting slightly and pulling forward to raise the reservoir to the upper mounting screws.
7. Remove the float valve cover and add 4 ounces of Virginia Ice Machine Cleaner to the reservoir.

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.

8. Open the water supply valve and fill evaporator with water (level is up in float reservoir).
9. Put the clean/run switch in the "clean" position. Allow unit to run in the cleaning mode for at least 30 minutes.
10. Put the clean/run switch in the "run" position.
11. Close the water supply valve.
12. Depress the "Flush" switch push button and drain evaporator for about 1-1/2 minutes. Release push button. Open the water supply valve. Allow evaporator to refill with water. Repeats Steps 11 and 12 three (3) times to thoroughly remove cleaning solution from evaporator.
13. Close water supply valve. Depress the "Flush" switch push button for 1 1/2 minutes to drain the evaporator.
14. Lower float valve reservoir to "Run" position. Remove the evaporator plug.
15. Open the water supply valve and fill the evaporator with water.
16. Put the "Stop/Run" switch in the "run" position and allow unit to run through at least 3 complete ice making cycles and until ice is free of "sweet" taste.

WARNING: If unit fails to harvest, put the stop/run switch in the "stop" position. Close the water supply valve. Depress the "Flush" switch push button for 1 1/2 minutes to drain the evaporator. Flush the evaporator with hot water to melt remaining ice. Repeat step 12, to remove all traces of the cleaning solution from the evaporator.

17. 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 t races of detergent.
7. Reverse step above to reassemble ice chute.
8. Sanitize the inside of the hopper, agitator, ice chute and the hopper and ice drop covers with a solution of (1) ounce of household bleach in two (2) gallons of water. (200 PPM).
9. Replace the hopper cover and ice drop cover. Turn on the electrical power supply. The icemaker is ready for normal operation.

FOR UNITS WITH BEVERAGE SYSTEM

Cold Plate

1. Carefully remove the lower front panel.

2. Remove cold plate cover by loosening thumbscrew on the ice drop chute and lowering chute from plastic drop tube. then, remove cover by lifting slightly in front and slide forward.

3. Wash down the inside of the cold plate, tray and cover with mild detergent solution and rinse. A small, long-handled brush will be found helpful in reaching the corners.

4. Replace the cover, taking care that it is securely positioned in cold plate tray.

5. Replace ice drop chute.

6. Replace the lower front panel, carefully feeding the tubing and wires into the cabinet. Be sure not to pinch any tubing or wires between the panel and cabinet.

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° - 140° F) potable water.

   B. **Sanitation Tank** - Fill with a chlorine sanitizing solution in the strength of 1 ounce of household bleach (sodium hypochlorite) to 2 gallons cold (ambient) potable water (200 PPM).

6. Repeat the following procedure on each of the unit's syrup 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 (2) cups of liquid to insure that the sanitizing solution has filled the entire length of the syrup line. Allow solution to set in line for twenty (20) minutes.

   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 to draw on faucet until only syrup is dispensed.

7. Repeat Step 2 in reverse order to turn on the carbonator. Dispense at least (1) cup of beverage from each faucet. Check taste. Continue to flush, if needed, to obtain a satisfactory tasting drink.

MAINTENANCE/ADJUSTMENT PROCEDURE

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 on the upper left side panel.
2. The adjustment screw is located below the "Flush" switch on the left side of the electrical box.
3. For altitudes up to 6000 feet, turn the adjustment screw COUNTER CLOCKWISE as follows:

Elevation (Feet)	CCW Turn
2000	1/13
4000	1/6
6000	1/4

4. For altitudes above 6000 feet, consul the factory.

CLEARING EVAPORATOR FREEZE-UP

WARNING: Tp prevent possible injury, do not stick fingers or hands into icemaker nozzle or hopper with power applied to unit.

1. Open the hinged service door on the upper left side panel.
2. Put the stop/run switch in the "stop" position.
3. Close the water supply valve to the icemaker.
4. Remove the ice drop and hopper covers.
5. Depress the "Flush" switch push button on the electrical control box 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 insure that all of 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 the 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 on the upper left aide panel 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 be 3¼ to 3½ pounds. Use the following procedure to adjust the probe to obtain this weight. (A clockwise adjustment will reduce the harvest weight, while counter clockwise 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" open end wrench. Make adjustments in 1/8" turn increments.

   A. Put the "Stop/Run" switch in the "Stop" position. (If unit is in the icemaking 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. Put the "Stop/Run" switch in the "Run" position.

   E. Collect and weigh the ice harvested. Repeat Steps 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 remove and replaced for any reason), turn probe clockwise until it just touches the evaporator coil (a slight back pressure will be felt). turn probe counter clockwise 2-1/2 turns. Follow procedure in Step 2 to obtain the required ice harvest weight.

CLEANING / REPLACING THE FILTER

1. Remove the filter from the right side cabinet panel by sliding it forward towards 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 attach 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 UNIT)

1. Disconnect power to the unit.
2. Remove the upper front and right side panels.
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 TIMER ADJUSTMENT

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

1. Disconnect power to Ice Maker.
2. Remove upper front panel and electrical control box cover.
3. Put the "Stop/run" switch in the "Stop" position.
4. Using Figure 9 as a guide, set the timer cam tabs as follow, starting with cam wheel #1 (all cam tab positions are in relation to #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 #1 with the left and right cam tabs back-to-ack as shown in figure NO TAG.

C. Adjust the cam tabs on wheels #2 through #5 in sequence as shown in 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 (#1 tell-tale down).

F. Using stopwatch, time the cam switch tell-tales. Adjust the cam tabs as necessary for required cycle times.

MANUAL FILLING

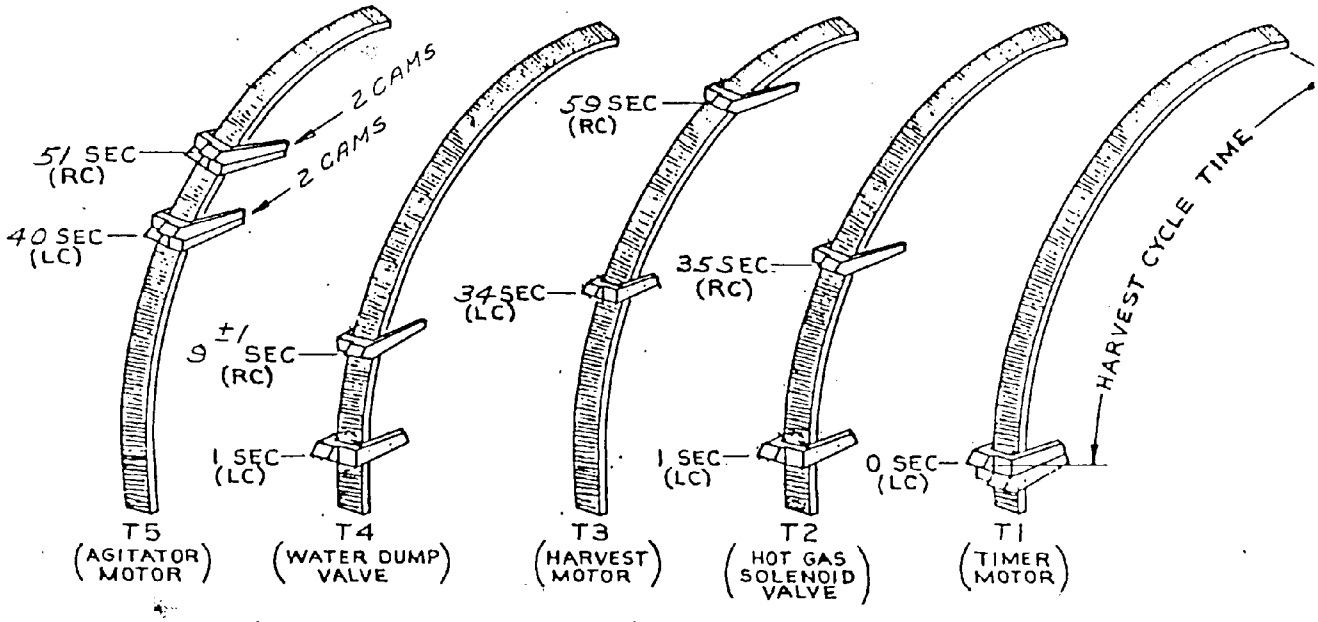
In the event that the icemaker is not functioning, the hopper may be manually filled with ice.

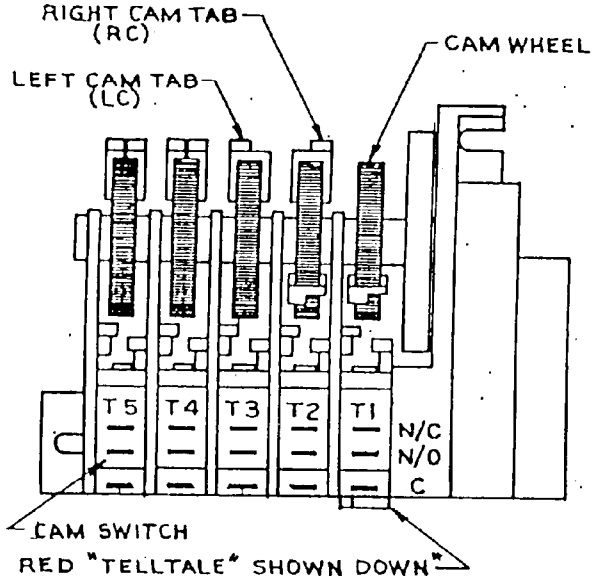
1. Open the hinged service door on the upper left aide panel.
2. Put the "Stop/Run" switch in the "Stop" position.

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

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

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





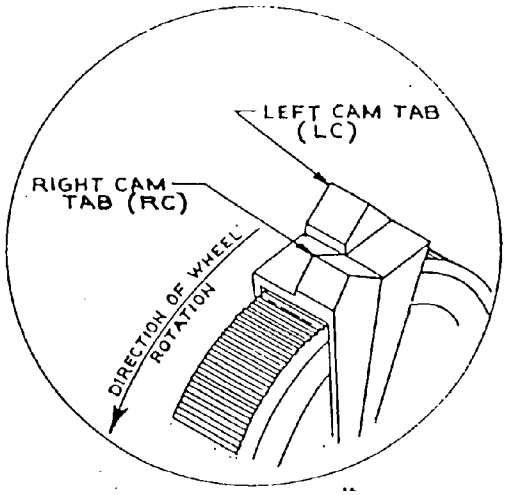


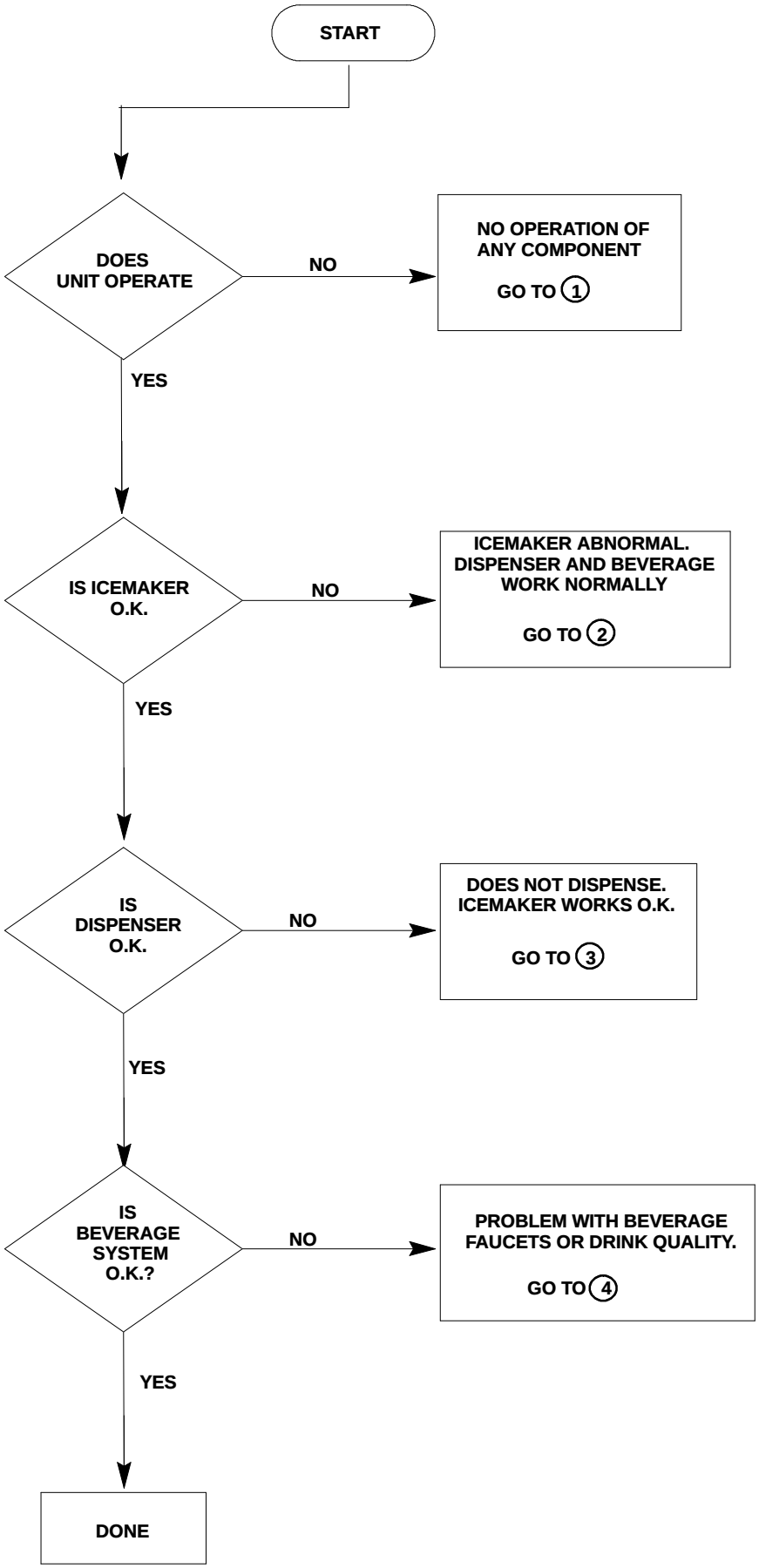
FIGURE 9A. DETAIL OF CAM WHEEL # T1

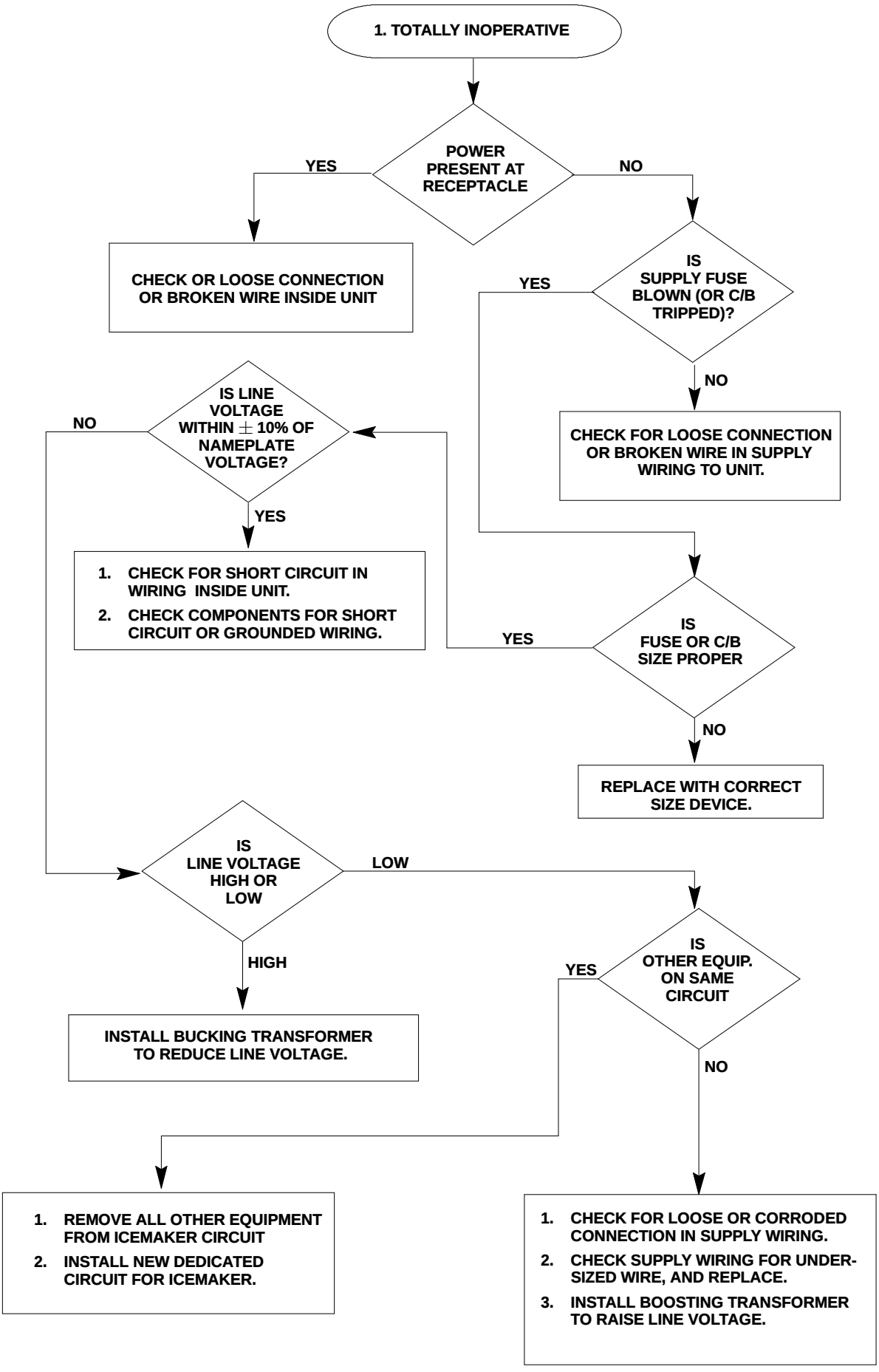
FIGURE 9. HARVEST TIMER

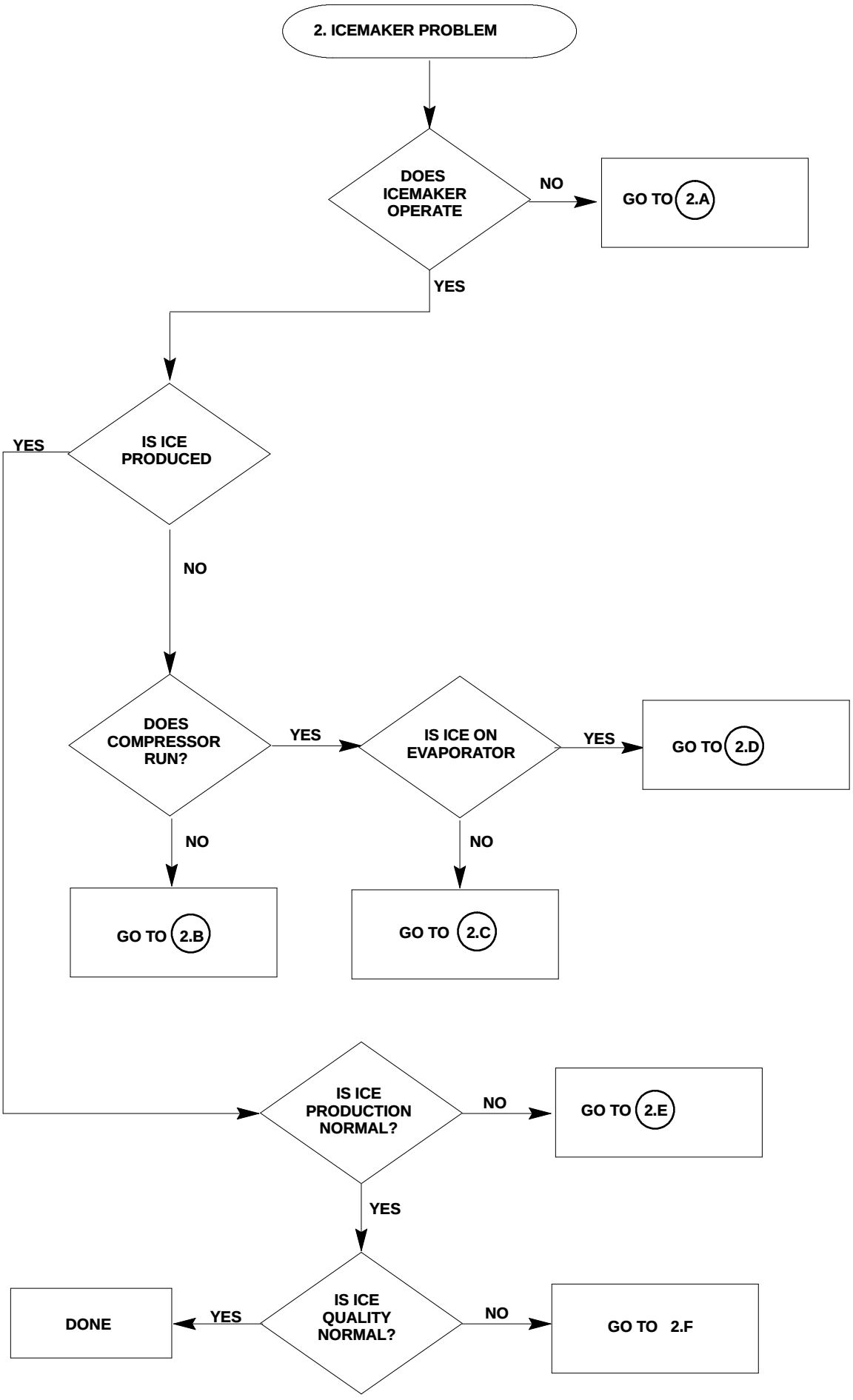
TROUBLESHOOTING GUIDE

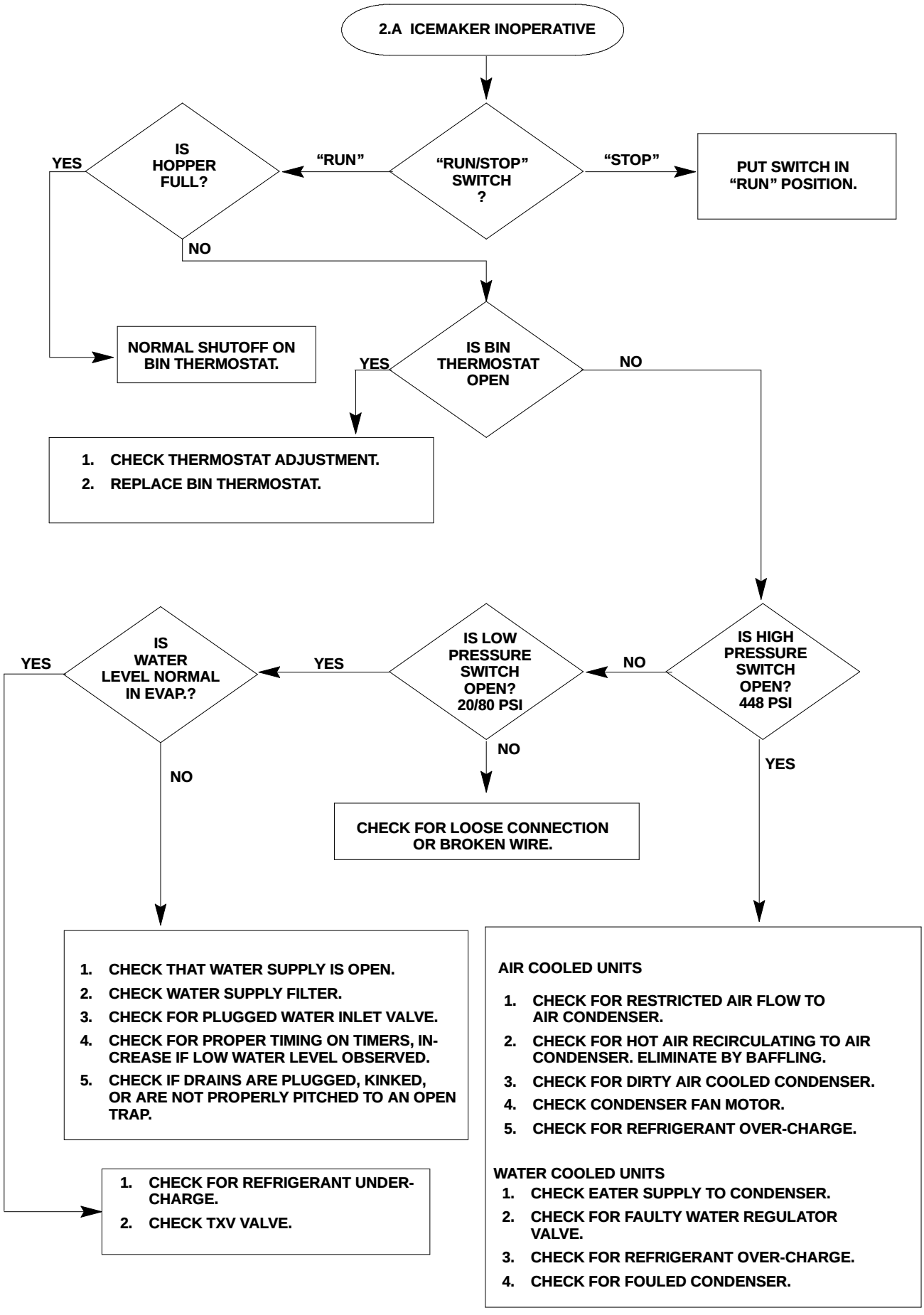
The following pages contain troubleshooting charts designed to aid and experienced service person in diagnosing any operating problems which may be experienced. It is assumed that normal service techniques and skill are familiarly to the person doing the trouble shooting. In order to gain maximum benefit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

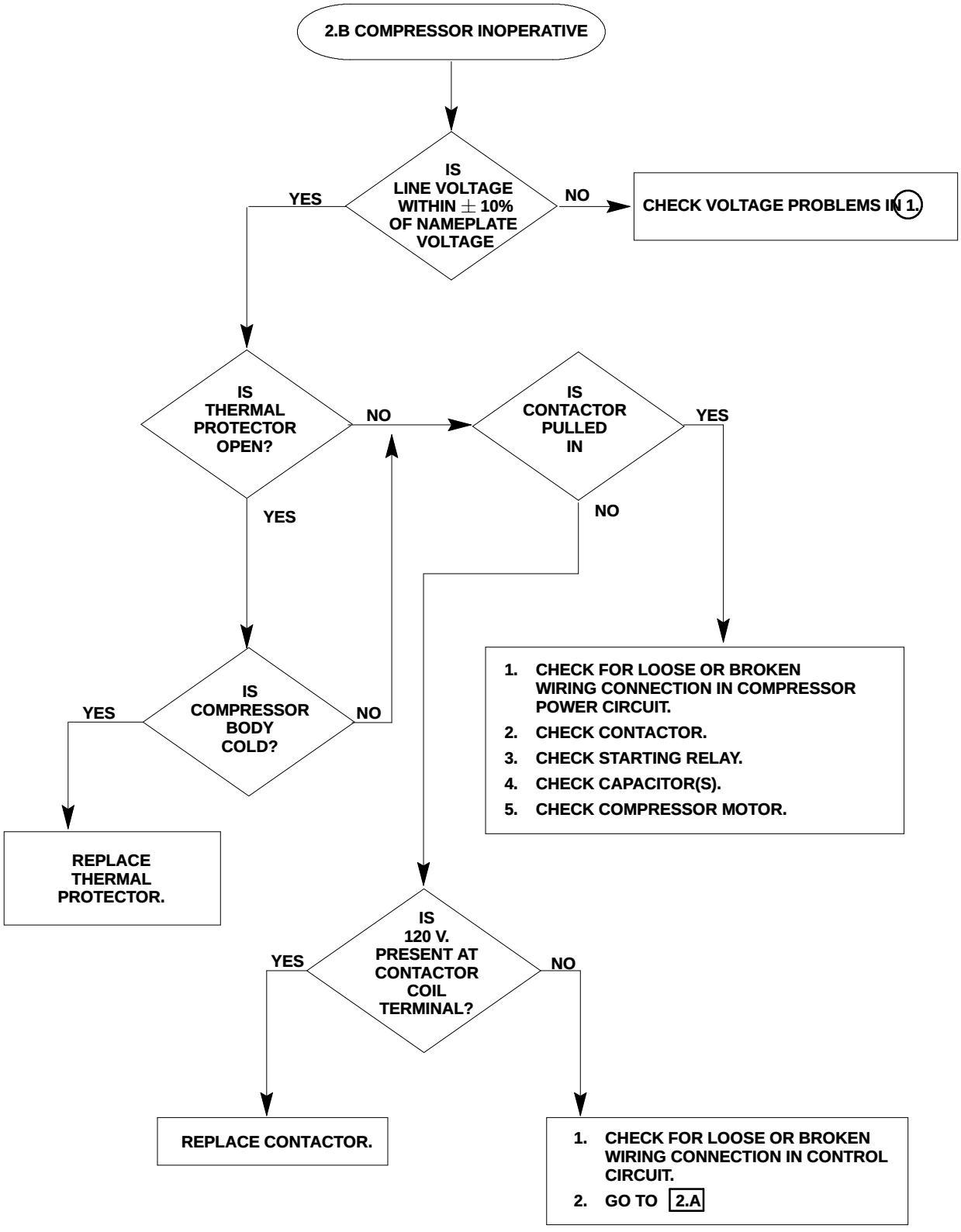
1. Start at the beginning of the chart and supply the appropriate answer to each question.
2. Dot not skip any section, unless instructed to do so. You might miss the solution to your problem.
3. Evaluate the possible problem causes in the sequence in which they are presented. In general, they begin 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 retry 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.

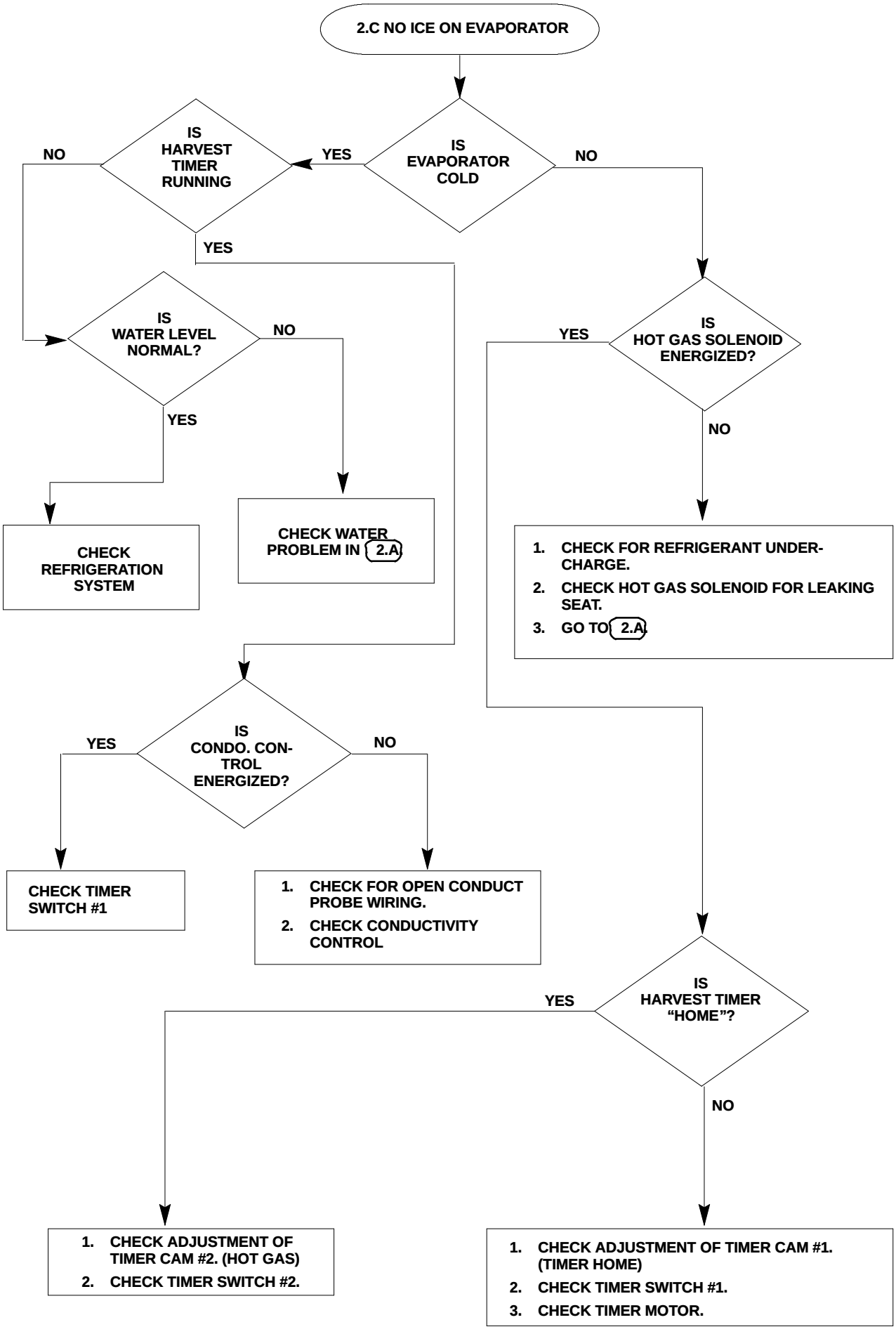

START
DOES UNIT OPERATE
NO
NO OPERATION OF ANY COMPONENT
GO TO 1
YES
IS ICEMAKER O.K.
NO
ICEMAKER ABNORMAL. DISPENSER AND BEVERAGE WORK NORMALLY
GO TO 2
YES
IS DISPENSER O.K.
NO
DOES NOT DISPENSE. ICEMAKER WORKS O.K.
GO TO 3
YES
IS BEVERAGE SYSTEM O.K.?
NO
PROBLEM WITH BEVERAGE FAUCETS OR DRINK QUALITY.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

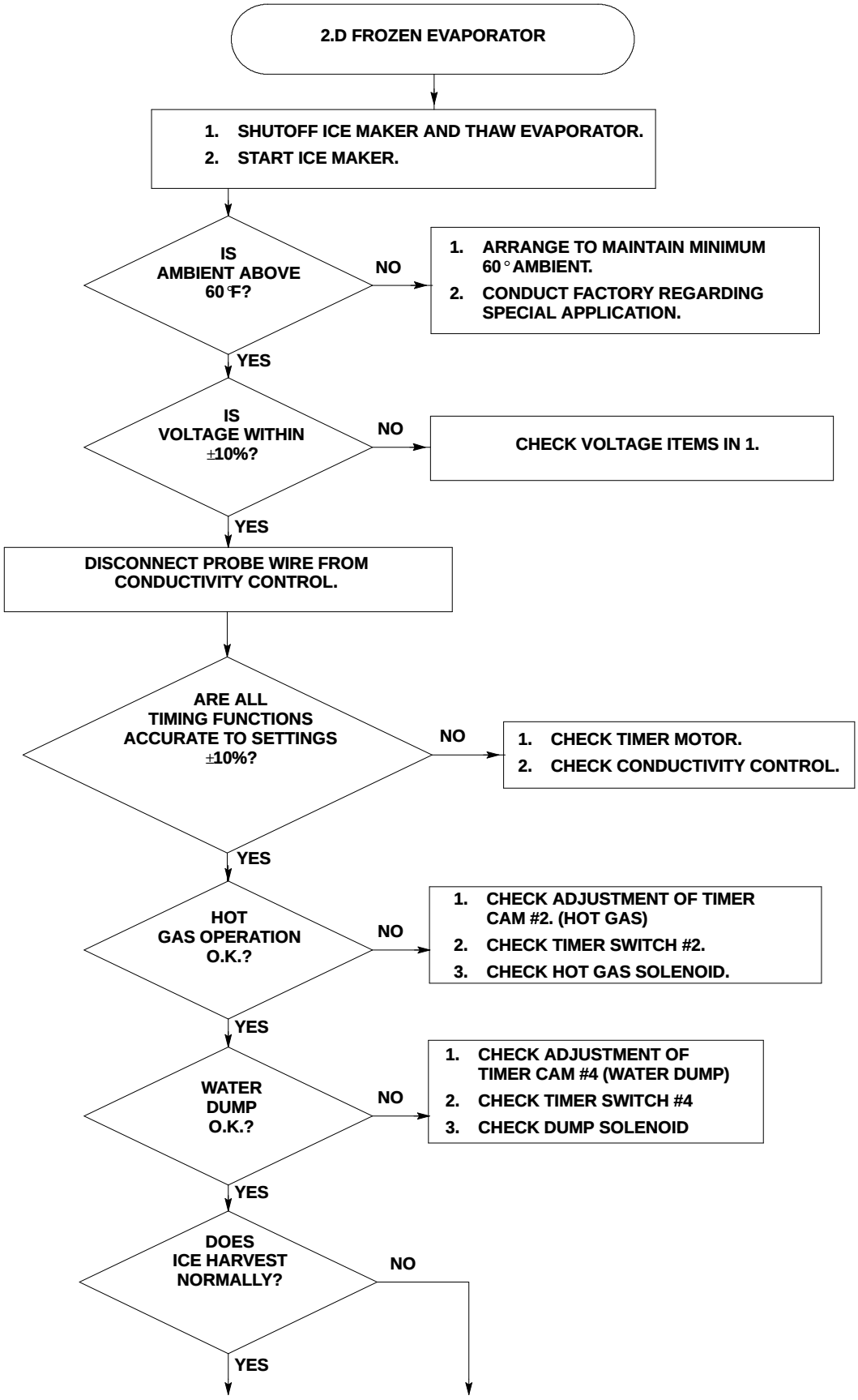

1. TOTALLY INOPERATIVE
POWER PRESENT AT RECEPTACLE
YES
NO
CHECK OR LOOSE CONNECTION OR BROKEN WIRE INSIDE UNIT
IS SUPPLY FUSE BLOWN (OR C/B TRIPPED)?
YES
NO
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE IN SUPPLY WIRING TO UNIT.
IS LINE VOLTAGE WITHIN ± 10% OF NAMEPLATE VOLTAGE?
NO
YES
1. CHECK FOR SHORT 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 ICEMAKER CIRCUIT
2. INSTALL NEW DEDICATED CIRCUIT FOR ICEMAKER.
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.

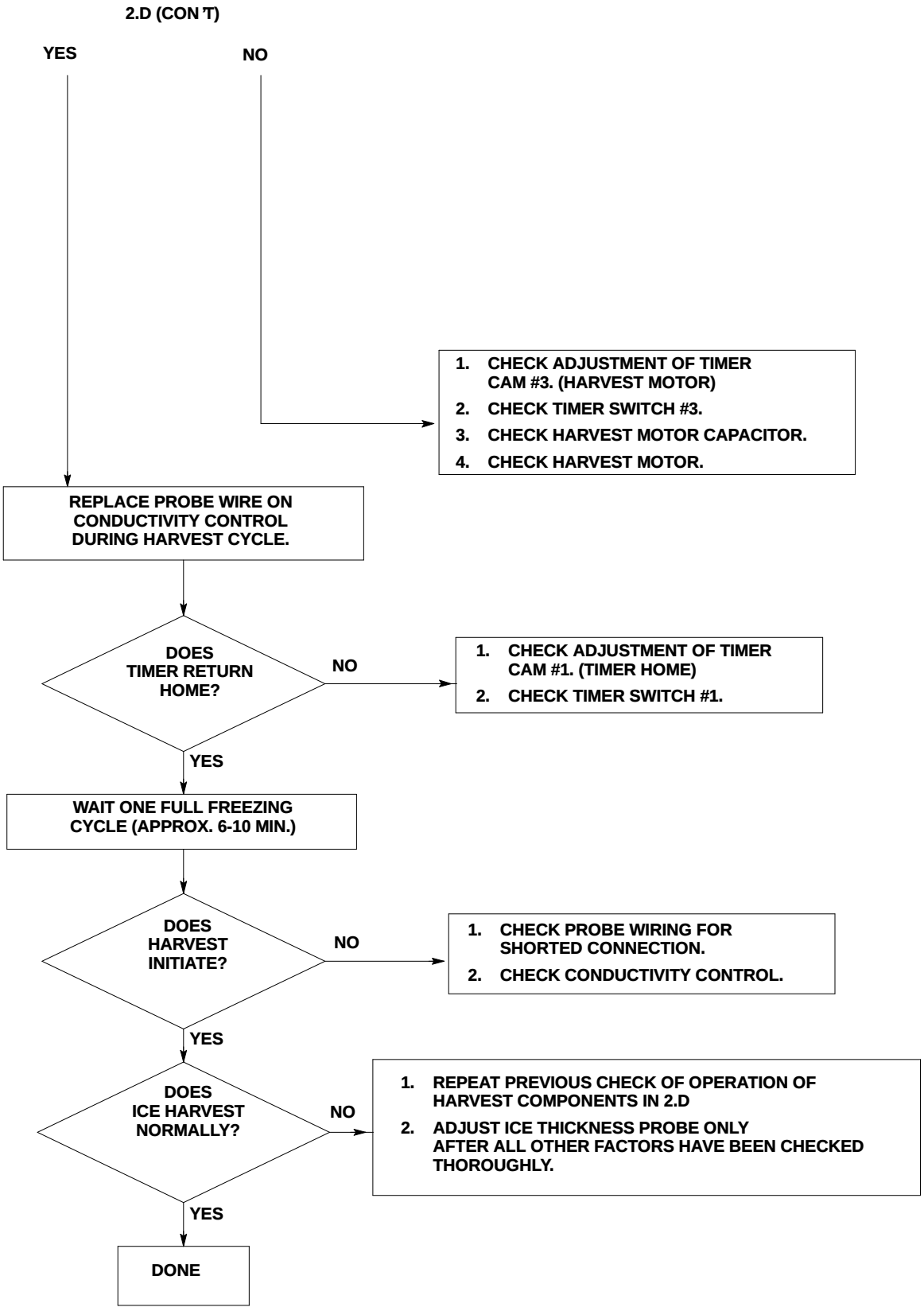

2. ICEMAKER PROBLEM
DOES ICEMAKER OPERATE
NO
GO TO 2.A
YES
IS ICE PRODUCED
YES
NO
DOES COMPRESSOR RUN?
YES
IS ICE ON EVAPORATOR
YES
GO TO 2.D
NO
NO
GO TO 2.B
GO TO 2.C
IS ICE PRODUCTION NORMAL?
NO
GO TO 2.E
YES
IS ICE QUALITY NORMAL?
YES
DONE
NO
GO TO 2.F

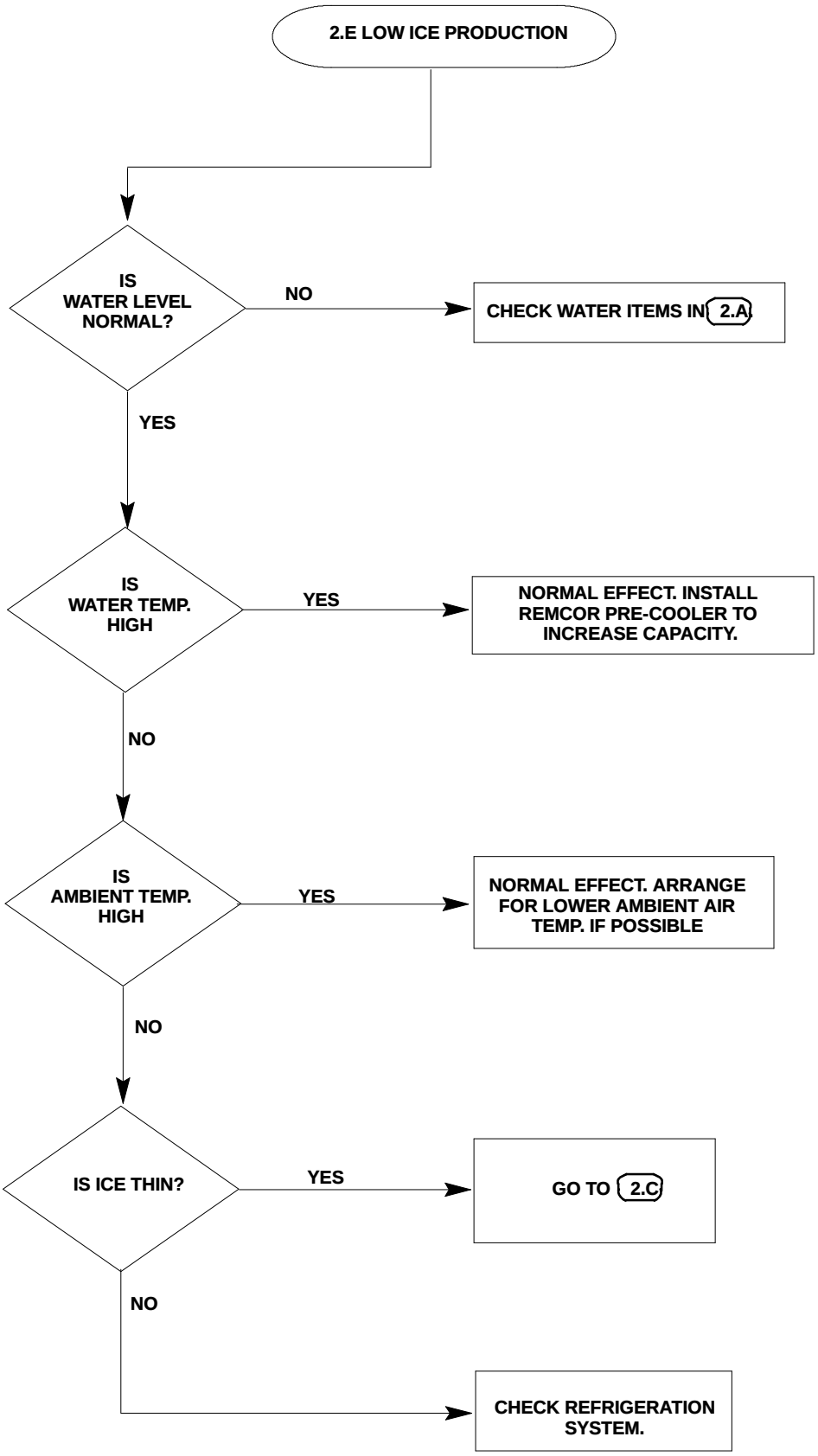

2.A ICEMAKER INOPERATIVE
"RUN/STOP" SWITCH ?
"RUN"
"STOP"
PUT SWITCH IN "RUN" POSITION.
IS HOPPER FULL?
YES
NO
NORMAL SHUTOFF ON BIN THERMOSTAT.
IS BIN THERMOSTAT OPEN
YES
NO
1. CHECK THERMOSTAT ADJUSTMENT.
2. REPLACE BIN THERMOSTAT.
IS HIGH PRESSURE SWITCH OPEN? 448 PSI
NO
YES
IS LOW PRESSURE SWITCH OPEN? 20/80 PSI
YES
NO
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE.
IS WATER LEVEL NORMAL IN EVAP.?
YES
NO
1. CHECK THAT WATER SUPPLY IS OPEN.
2. CHECK WATER SUPPLY FILTER.
3. CHECK FOR PLUGGED WATER INLET VALVE.
4. CHECK FOR PROPER TIMING ON TIMERS, INCREASE IF LOW WATER LEVEL OBSERVED.
5. CHECK IF DRAINS ARE PLUGGED, KINKED, OR ARE NOT PROPERLY PITCHED TO AN OPEN TRAP.
1. CHECK FOR REFRIGERANT UNDER-CHARGE.
2. CHECK TXV VALVE.
AIR COOLED UNITS
1. CHECK FOR RESTRICTED AIR FLOW TO AIR CONDENSER.
2. CHECK FOR HOT AIR RECIRCULATING TO AIR CONDENSER. ELIMINATE BY BAFFLING.
3. CHECK FOR DIRTY AIR COOLED CONDENSER.
4. CHECK CONDENSER FAN MOTOR.
5. CHECK FOR REFRIGERANT OVER-CHARGE.
WATER COOLED UNITS
1. CHECK EATER SUPPLY TO CONDENSER.
2. CHECK FOR FAULTY WATER REGULATOR VALVE.
3. CHECK FOR REFRIGERANT OVER-CHARGE.
4. CHECK FOR FOULED CONDENSER.

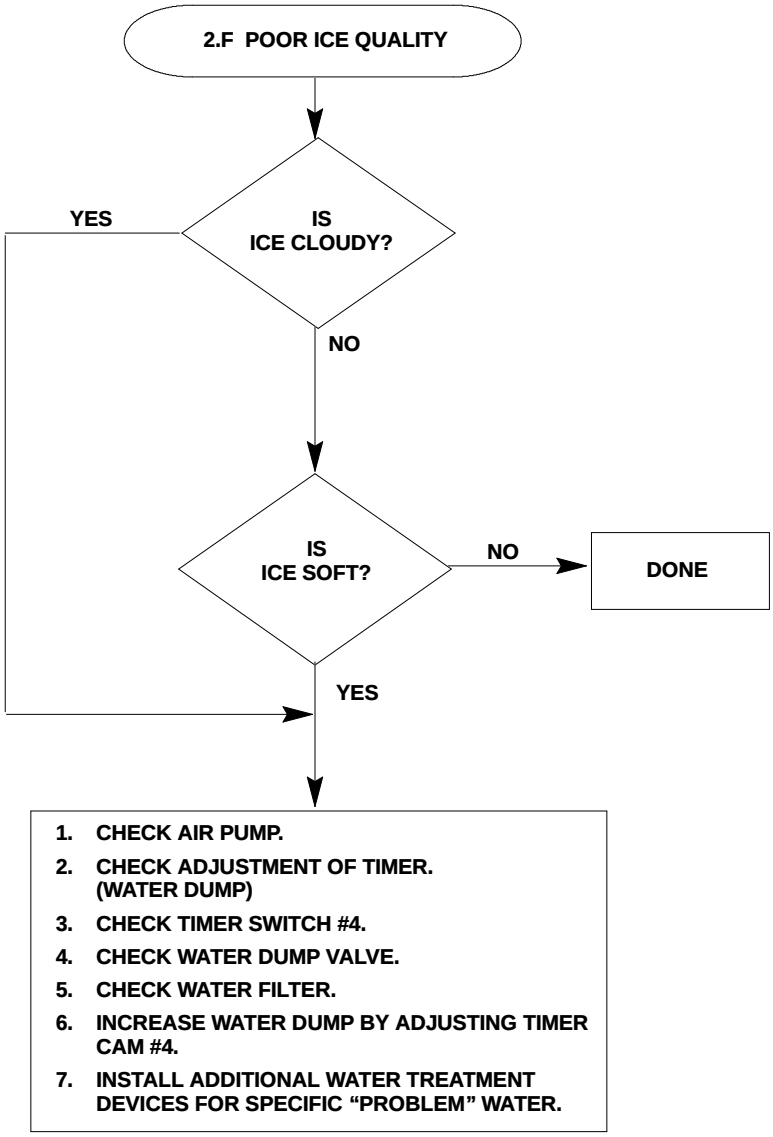

2.B COMPRESSOR INOPERATIVE
IS LINE VOLTAGE WITHIN ± 10% OF NAMEPLATE VOLTAGE
YES
NO
CHECK VOLTAGE PROBLEMS IN 1.
IS THERMAL PROTECTOR OPEN?
NO
YES
IS CONTACTOR PULLED IN
YES
NO
1. CHECK FOR LOOSE OR BROKEN WIRING CONNECTION IN COMPRESSOR POWER CIRCUIT.
2. CHECK CONTACTOR.
3. CHECK STARTING RELAY.
4.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

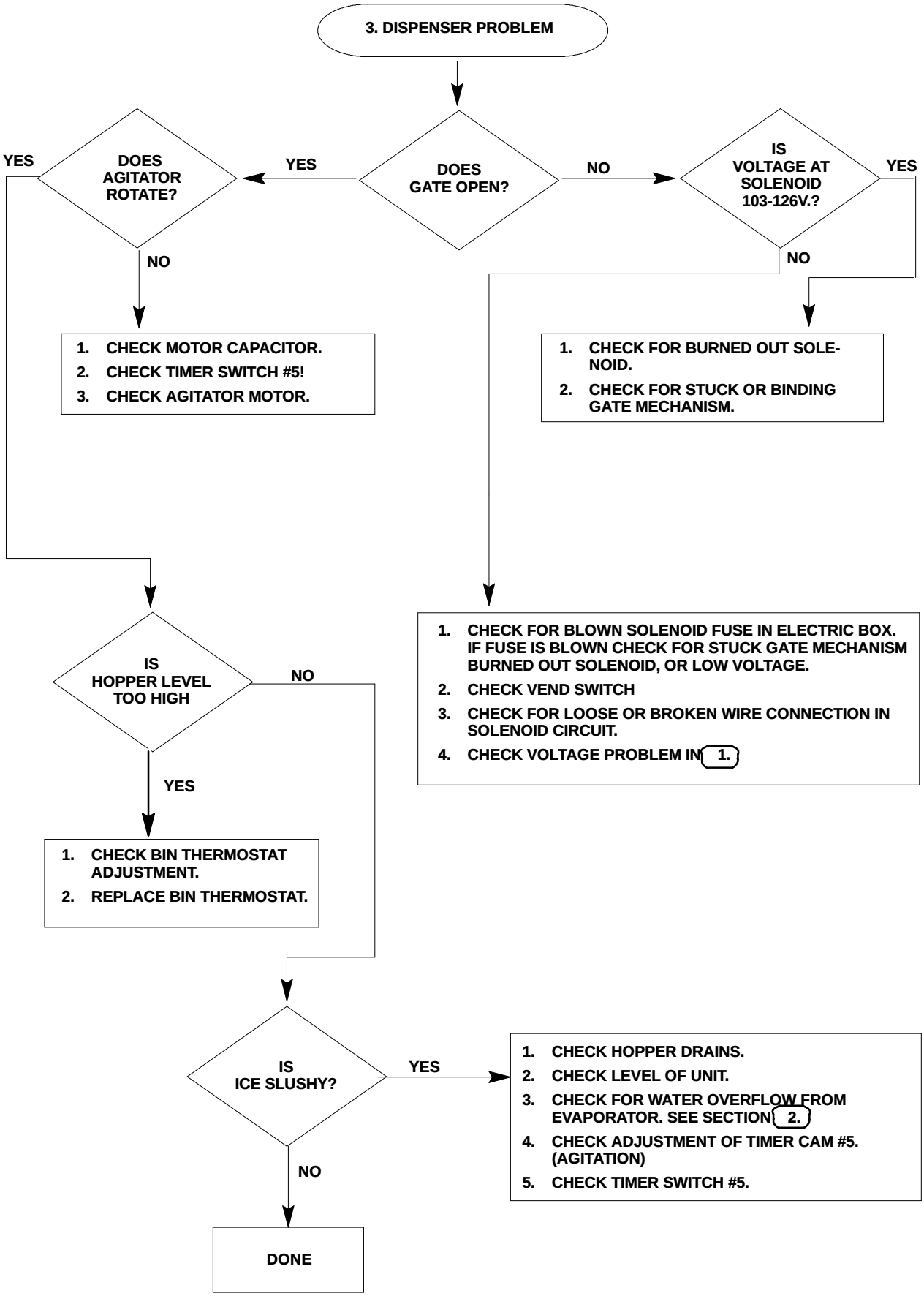

2.C NO ICE ON EVAPORATOR
IS EVAPORATOR COLD
YES
NO
IS HARVEST TIMER RUNNING
NO
YES
IS WATER LEVEL NORMAL?
NO
YES
CHECK REFRIGERATION SYSTEM
CHECK WATER PROBLEM IN 2.A
IS HOT GAS SOLENOID ENERGIZED?
YES
NO
1. CHECK FOR REFRIGERANT UNDER-CHARGE.
2. CHECK HOT GAS SOLENOID FOR LEAKING SEAT.
3. GO TO 2.A
IS CONDO. CON-TROL 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.

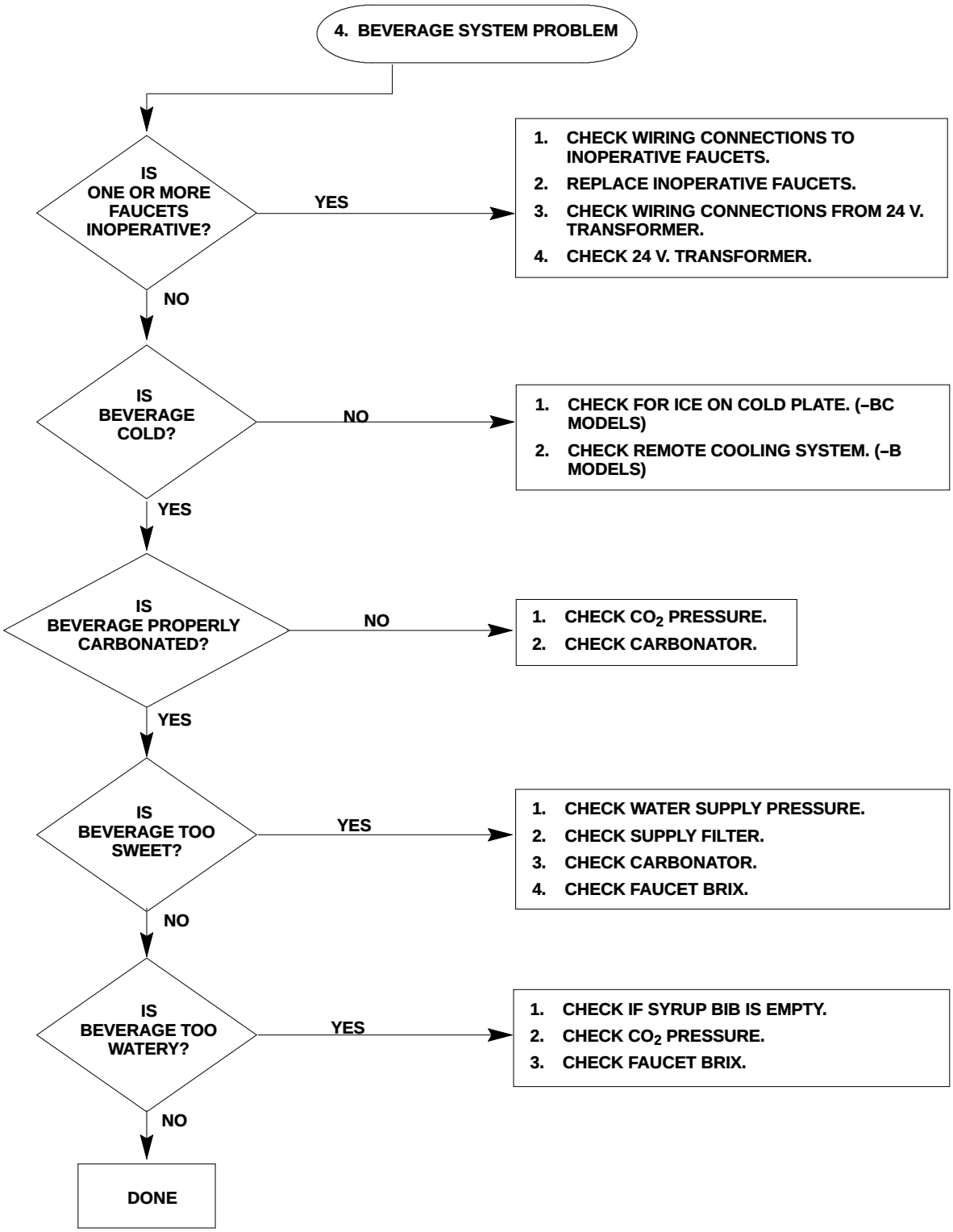

2.D FROZEN EVAPORATOR
1. SHUTOFF ICE MAKER AND THAW EVAPORATOR.
2. START ICE MAKER.
IS AMBIENT ABOVE 60°F?
NO
1. ARRANGE TO MAINTAIN MINIMUM 60° AMBIENT.
2. CONDUCT FACTORY REGARDING SPECIAL APPLICATION.
YES
IS VOLTAGE WITHIN ±10%?
NO
CHECK VOLTAGE ITEMS IN 1.
YES
DISCONNECT PROBE WIRE FROM CONDUCTIVITY 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 (APPROX. 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. (WATER DUMP)
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 ELECTRIC 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 PROBLEM 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 24 V. TRANSFORMER.
4. CHECK 24 V. TRANSFORMER.
NO
IS BEVERAGE COLD?
NO
1. CHECK FOR ICE ON COLD PLATE. (–BC MODELS)
2. CHECK REMOTE COOLING SYSTEM. (–B MODELS)
YES
IS BEVERAGE PROPERLY CARBONATED?
NO
1. CHECK CO_2 PRESSURE.
2. 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 BIB IS EMPTY.
2. CHECK CO_2 PRESSURE.
3. CHECK FAUCET BRIX.
NO
DONE

PARTS LIST

Item No.	Description	PART NO.			
		Air Cooled		Water Cooled	
Dispenser Components		**80**	**80 "BC"**	**80**	**80 "BC"**
1	Gate Slide	21491	21491	21491	21491
2	Depressor Retainer	22644	22644	22644	22644
3	Agitator	22855	21854	22855	21854
4	Vend Switch	30895	30895	30895	30895
5	Switch Boot	31007	31007	31007	31007
6	Switch Insert	31163	31163	31163	31163
7	Agitator Motor with Gaskets	31112-1	31112-1	31112-1	31112-1
8	Agitator Motor Shaft Seal	50454	50454	50454	50454
9	Agitator Motor Plate Insulation	50842	50842	50842	50842
10	Sink	51180	51181	51180	51181
11	Sink Grill	70530	70530	70530	70530
12	Ice Chute Back Section	53015	53015	53015	53015
13	Ice Chute Cover	53016	53016	53016	53016
14	Gate Gasket	50770	50770	50770	50770
15	Gate Solenoid Assembly	31093	31093	31093	31093
16	Gate Rebuilding Kit	70438	70438	70438	70438
17	Agitator Motor Heater	–––––	30794	–––––	30794
18	Agitator Motor Gasket	50806	50806	50806	50806
Electrical Controls					
19	Contactor	30379	30379	30379	30379
20	Toggle Switch	30385	30385	30385	30385
21	Capacitor, Agitator Motor	30774	30774	30774	30774
22	Flush Switch	30895	30895	30895	30895
23	Bin Thermostat	31001	31001	31001	31001
24	Bin Thermostat	31001	31001	31001	31001
25	Fuse, 1-1/4 Amps (Gate Solenoid)	31406	31406	31406	31406
26	Harvest Timer	31838	31838	31838	31838
27	Conductivity Control	31579	31579	31579	31579
28	Capacitor, Harvest Motor	31600	31600	31600	31600
29	Compressor Start Relay	161998009	161998009	161998009	161998009
30	Capacitor, Compressor Start	161165008	161165008	161165008	161165008
31	Capacitor, Compressor Run	161192004	161192004	161192004	161192004
32	High Pressure Control	60501	60501	60501	60501
33	Low Pressure Control	60369	60369	60369	60369
34	Transformer, Beverage	31091	31091	31091	31091
Refrigeration Components					
35	Compressor	162964013	162964013	162964013	162964013
36	Air Pump	31568	31568	31568	31568
37	Hose Adapter 3/8NPT-3/8 Barb	51189	51189	51189	51189
38	90° Hose Adapter 3/8NPT-3/8 Barb	51190	51190	51190	51190
39	Condenser Fan Motor	31738	31738	–––––	–––––
40	Condenser Fan Blade	31844	31844	–––––	–––––
41	Float and Tank Assembly with Hoses	51183	51183	51183	51183
42	Condenser, Air-Cooled	60619	60619	–––––	–––––
43	Condenser Shroud	51434	51434	–––––	–––––
44	Tinnerman Clip for Shroud	70404	70404	–––––	–––––

PARTS LIST

Item No.	Description	PART NO.			
Refrigeration Components (cont'd)					
45	Filter (Drier)	620600101	620600101	620600101	620600101
46	Hot Gas Solenoid with Coil	60620	60620	60620	60620
47	Hot Gas Solenoid Coil (115 Volts)	31717	31717	31717	31717
48	TXV R−502	620600201	620600201	620600201	620600201
49	Condenser Water−Cooled	N/A	N/A	60309	60309
50	Water Regulating Valve	−−−−−	−−−−−	40122	40122
51	Compressor Fan	−−−−−	−−−−−	30763	30763
52	Compressors Fan Cord	−−−−−	−−−−−	30764	30764
53	Water Drain Valve	40652	40652	40652	40652
54	Tubing, Water Drain 1/2" I.D.	50351	50351	50351	50351
55	Tubing, Air Pump 3/8" I.D.	50096	50096	50096	50096
Evaporator Components					
56	Evaporator Assembly with Motor	60665* 60671#	60665* 60671#	60665* 60671#	60665* 60671#
57	Evaporator Housing, Foamed with Gaskets	60666* 60672#	60666* 60672#	60666* 60672#	60666* 60672#
58	Evaporator Coil Assembly with Gaskets	60664* 60673#	60664* 60673#	60664* 60673#	60664* 60673#
59	Harvest Bar Assembly with Gaskets	51182−1* 51360#	51182−1* 51360#	51182−1* 51360#	51182−1* 51360#
60	Gasket Kit	51356* 51361#	51356* 51361#	51356* 51361#	51356* 51361#
61	Ice Thickness Probe	51179	51179	51179	51179
62	Harvest Motor with Gaskets	31560-1	31560-1	31560-1	31560-1
63	Hose Adapter 1/4NPT−3/8BARB	51191	51191	51191	51191
64	Hose Adapter 1/4NPT−1/2BARB	51192	51192	51192	51192
65	10−32 x 1/4 Flat Head Screw	70536*	70536*	70536*	70536*
66	1/4−20 x 1−1/4 Flat Head Screw	70118#	70118#	70118#	70118#
67	Evaporator Cleaning Plug	51300* 51194#	51300* 51194#	51300* 51194#	51300* 51194#
Miscellaneous Components					
68	Filter After Serial #1026	70542	70542	70542	70542
69	Filter Coating 16 Ounces	51355	51355	51355	51355
70	Label "Press for Ice"	90848	90848	90848	90848
71	Wiring Diagram	90847**	90847**	90847**	90847**
72	Manual	90846**	90846**	90846**	90846**
73	Cleaning Label	90900	90900	90900	90900

NOTE: * Parts required after serial #1303, # Parts required for serial #1026–1300, ** For units after serial #1051

IMI CORNELIUS INC.
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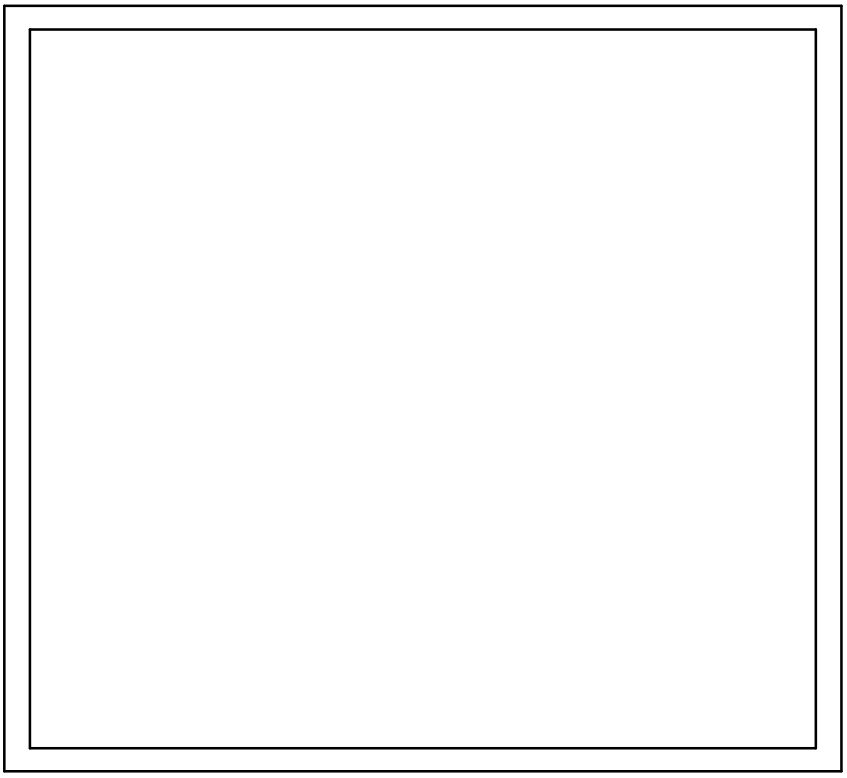
TECH SVC 1-800-535-4240

WARRANTY

IMI Cornelius Inc. and Remcor Products Company 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 Cornelius and or Remcor product, in your country, please write, fax or telephone the IMI Cornelius office nearest you. Please provide the equipment model number, serial number and the date of purchase.

IMI Cornelius Offices

AUSTRALIA ● P.O. 210, ● RIVERWOOD, ● NSW 2210, AUSTRALIA ● (61) 2 533 3122 ● FAX (61) 2 534 2166
AUSTRIA ● AM LANGEN FELDE 32 ● A-1222 ● VIENNA, AUSTRIA ● (43) 1 233 520 ● FAX (43) 1-2335-2930
BELGIUM ● BOSKAPELLEI 122 ● B-2930 BRAASCHAAT, BELGIUM ● (32) 3 664 0552 ● FAX (32) 3 665 2307
BRAZIL ● RUA ITAOCARA 97 ● TOMAS COELHO ● RIO DE JANEIRO, BRAZIL ● (55) 21 591 7150 ● FAX (55) 21 593 1829
ENGLAND ● TYTHING ROAD ALCESTER ● WARWICKSHIRE, B49 6 EU, ENGLAND ● (44) 789 763 101 ● FAX (44) 789 763 644
FRANCE ● 71 ROUTE DE ST. DENIS ● F-95170 DEUIL LA BARRE ● PARIS, FRANCE ● (33) 1 34 28 6200 ● FAX (33) 1 34 28 6201
GERMANY ● CARL LEVERKUS STRASSE 15 ● D-4018 LANGENFELD, GERMANY ● (49) 2173 7930 ● FAX (49) 2173 77 438
GREECE ● 488 MESSOGION AVENUE ● AGIA PARASKEVI ● 153 42 ● ATHENS, GREECE ● (30) 1 600 1073 ● FAX (30) 1 601 2491
HONG KONG ● 1104 TAIKOTSUI CENTRE ● 11-15 KOK CHEUNG ST ● TAIKOKTSUE, HONG KONG ● (852) 789 9882 ● FAX (852) 391 6222
ITALY ● VIA PELLIZZARI 11 ● 1-20059 ● VIMARCATE, ITALY ● (39) 39 608 0817 ● FAX (39) 39 608 0814
NEW ZEALAND ● 20 LANSFORD CRES. ● P.O. BOX 19-044 AVONDALE ● AUCKLAND 7, NEW ZEALAND ● (64) 9 8200 357 ● FAX (64) 9 8200 361
SINGAPORE ● 16 TUAS STREET ● SINGAPORE 2263 ● (65) 862 5542 ● FAX (65) 862 5604
SPAIN ● POLIGONO INDUSTRAIL ● RIERA DEL FONOLLAR ● E-08830 SANT BOI DE LLOBREGAT ● BARCELONA, SPAIN ● (34) 3 640 2839 ● FAX (34) 3 654 3379
USA ● ONE CORNELIUS PLACE ● ANOKA, MINNESOTA ● (612) 421-6120 ● FAX (612) 422-3255



IMI CORNELIUS INC.

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