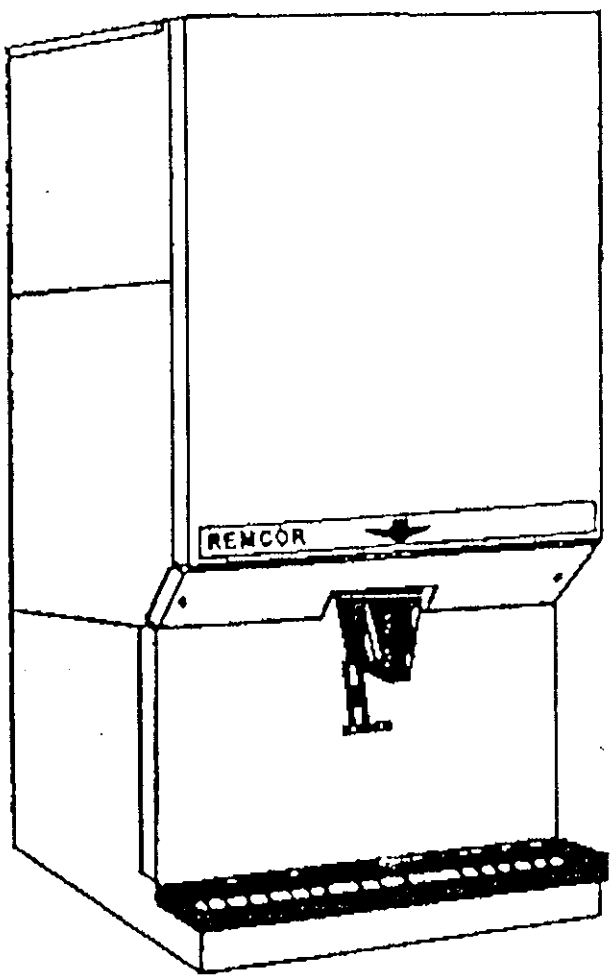
REMCOR

SPIRAL ICEMAKER/DISPENSER
S.I.D.

OWNER'S MANUAL



MODELS:

SID652R/80
SID652R/80-B
SID652R/80-BC

REMCOR PRODUCTS COMPANY
500 REGENCY DRIVE
GLENDALE HEIGHTS, IL 60139-2268
(708) 980-6900

P/N 91628 REV A

CONTENTS

DESCRIPTION

The Remcor S.I.D. (Spiral Icemaker-Dispenser) is a unique, self-contained, countertop 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 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

COMPRESSOR: HP: 3/4

REFRIGERANT: R-502/8 lbs.

VOLTAGE: 220/1/50

AMPS: 7

CIRCUIT AMPACITY: 10

FUSE SIZE: 15A Time-Delay

ICE STORAGE CAPACITY: 80 lbs.

ICE MAKING CAPACITY: up to 600 lbs/24 hrs.

Air Temp	Water Temp					
	40°	50°	60°	70°	80°	90°
60°	600	563	530	502	475	451
70°	546	520	486	464	440	416
80°	500	469	442	417	396	376
90°	452	424	359	378	358	340

SHIPPING WEIGHT: 350 lbs.

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 hinged service door on upper left side panel.

3. Remove shipping tape from ice drop cover, storage hopper cover, water float valve and agitator in storage hopper.

INSTALLATION INSTRUCTIONS

N O T I C E

An Everpure Model 9320-42, Systems IV, Model B1000 (or equal) ice maker quality water treatment unit 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, 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. But, some of the chemicals in treated and untreated water, specifically chlorine and sulphur (sulphide), 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° to 90°F. Do not install unit in an enclosed area where heat build up could be a problem.

Consult Figure 1 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 National Sanitation Foundation (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.

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 and strainer be used on the incoming supply line. A 1/4" outside diameter compression tube fitting is provided at the back of the unit for the water supply hook up (See Figure 1). For proper operation, the incoming water supply pressure must be in the range of 30-90 PSIG. Install a pressure regulating valve if above this range!

I M P O R T A N T

To insure 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 one of the following basic systems:

1. Everpure, Inc.
660 North Blackhawk Drive
Westmont, IL 60559
(708) 654-4000
InsurIce Twin System #9320-42

2. Systems IV
16632 Burke Lane
Huntington Beach, CA 92647
(714) 842-4221
Basic Water System #B1000

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 an open drain and must contain no trips or improper drainage will result.

N O T E

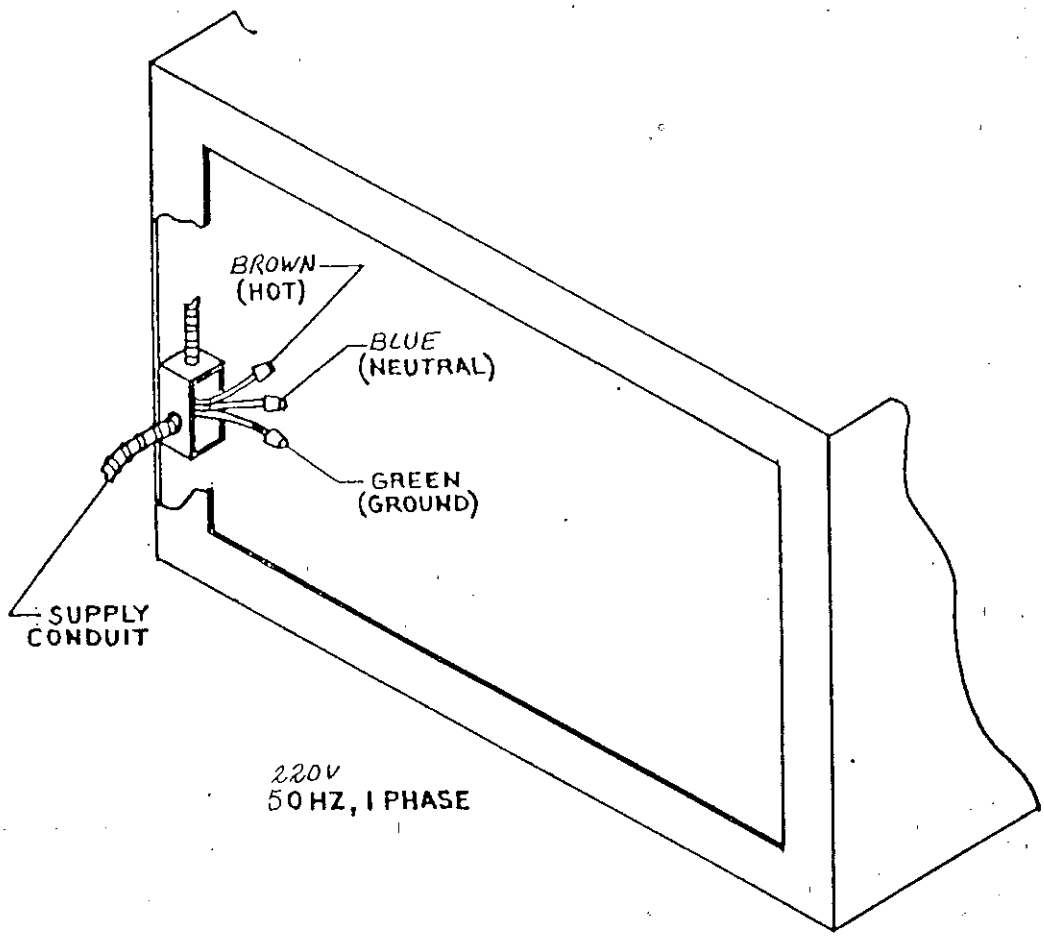
In areas where consistently warm water temperatures are encountered, the use of a REMCOR® pre-cooler in the water line is recommended to maximize the ice production of this unit. Contact REMCOR® for more information on this product.

3. ELECTRICAL

A 4 X 2 junction box is 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 specification section 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 unit requires a 2-wire system plus earth ground for proper operation.



REAR VIEW - BOTTOM SECTION
SERVICE PANEL REMOVED

REMOTE CONDENSER

The remote condenser is an air cooled fin-pack that can be mounted in the horizontal or vertical position. Care should be taken in the installation site to reduce prevailing wind restraints and to keep the air entrance away from other systems air discharge. This will keep the remote system operating at its designed efficiencies.

This remote condenser system is designed to operate in temperatures of -20°F thru 120°F. These limits should be considered when installing equipment.

The remote condenser is supplied with a low ambient mixing valve that assures that the reciever will under all temperatures have a liquid pressure of 225#PSIG. This is required for proper TXV operation and to assure sufficient pressures when hot gas by pass is required. This valve eliminates the requirement of any fan cycling controls.

As the remote condenser is not required to cycle with the hot gas portion of the ice making cycle. The wiring of the condenser can either be wired to a seperate power source or to allow the condenser to shut down with the icemaker it may be wired per the electrical diagram enclosed.

NOTE!! When servicing remote condenser make sure power is disconnected.

Electrical voltage requirements are rated on the condenser for seperate power sourcing.

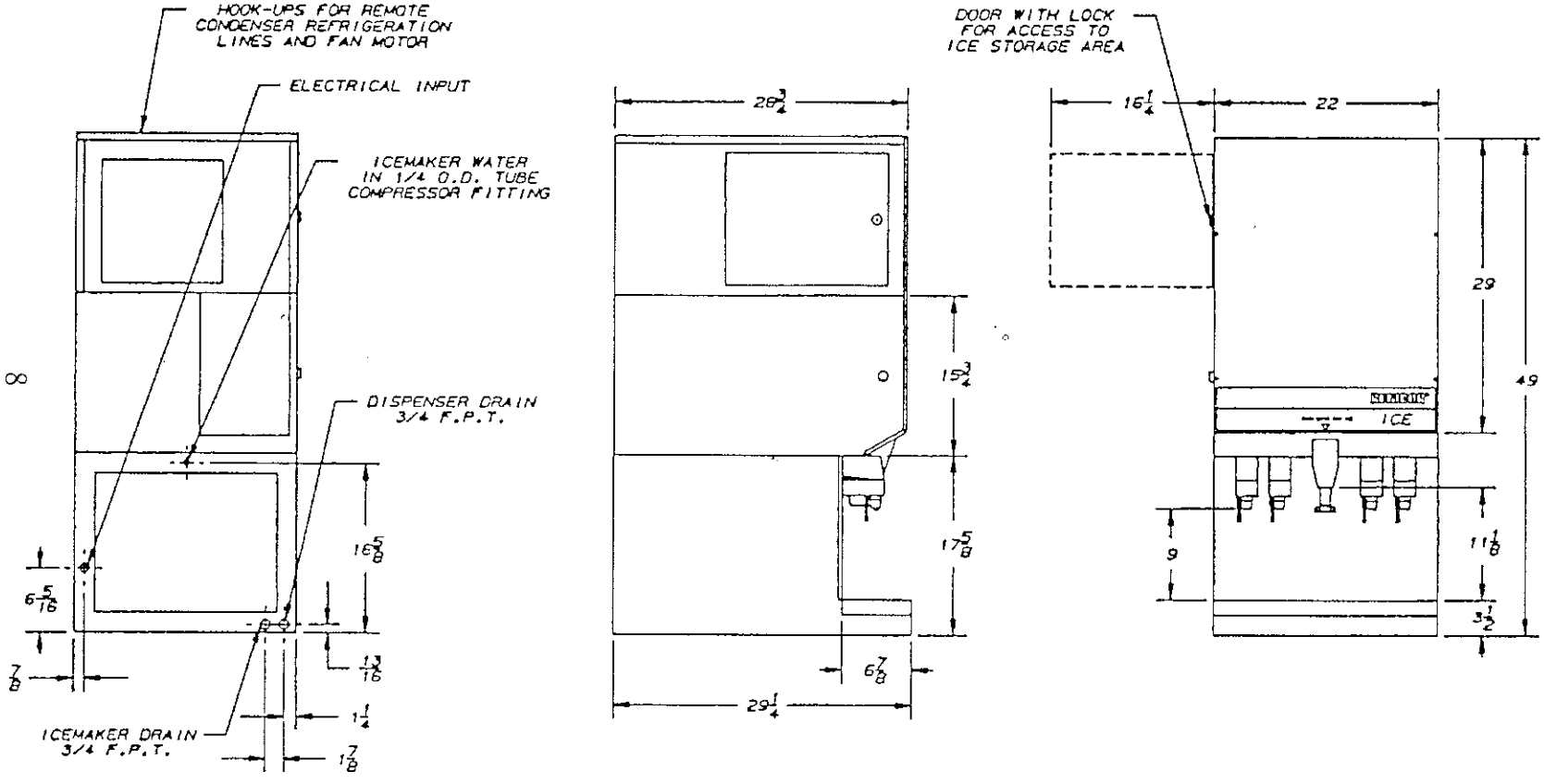
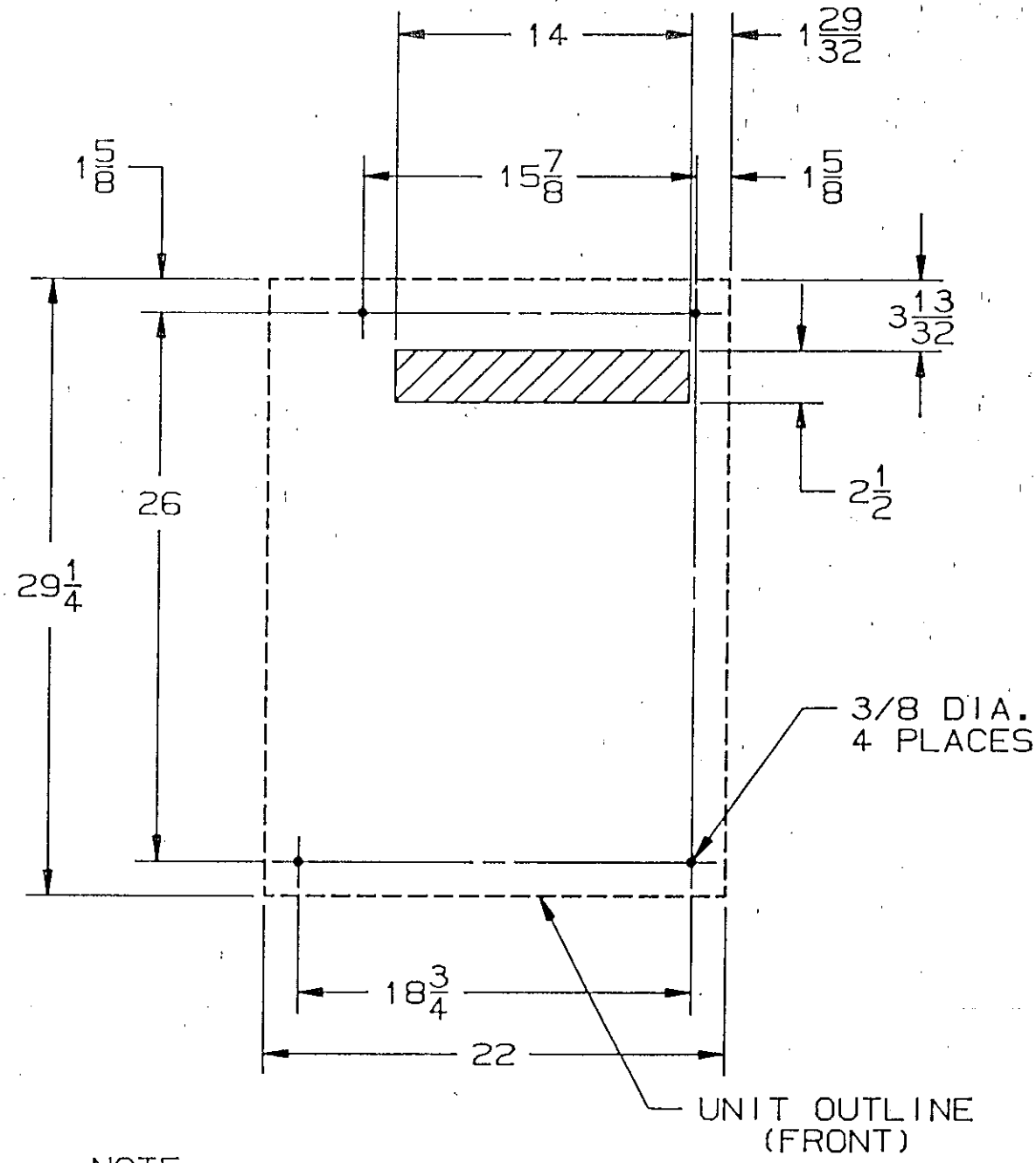

HOOK-UPS FOR REMOTE CONDENSER REFRIGERATION LINES AND FAN MOTOR
ELECTRICAL INPUT
ICEMAKER WATER IN 1/4 O.D. TUBE COMPRESSOR FITTING
DISPENSER DRAIN 3/4 F.P.T.
ICEMAKER DRAIN 3/4 F.P.T.
6 5/16
16 5/8
7/8
13/16
1 1/4
1 7/8
28 3/4
15 3/4
17 5/8
6 7/8
29 1/4
DOOR WITH LOCK FOR ACCESS TO ICE STORAGE AREA
16 1/4
22
29
49
ICE
9
11 1/8
3 1/2

FIG. 2

MOUNTING TEMPLATE
MODEL SID652-80



NOTE

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

BEVERAGE SYSTEM

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

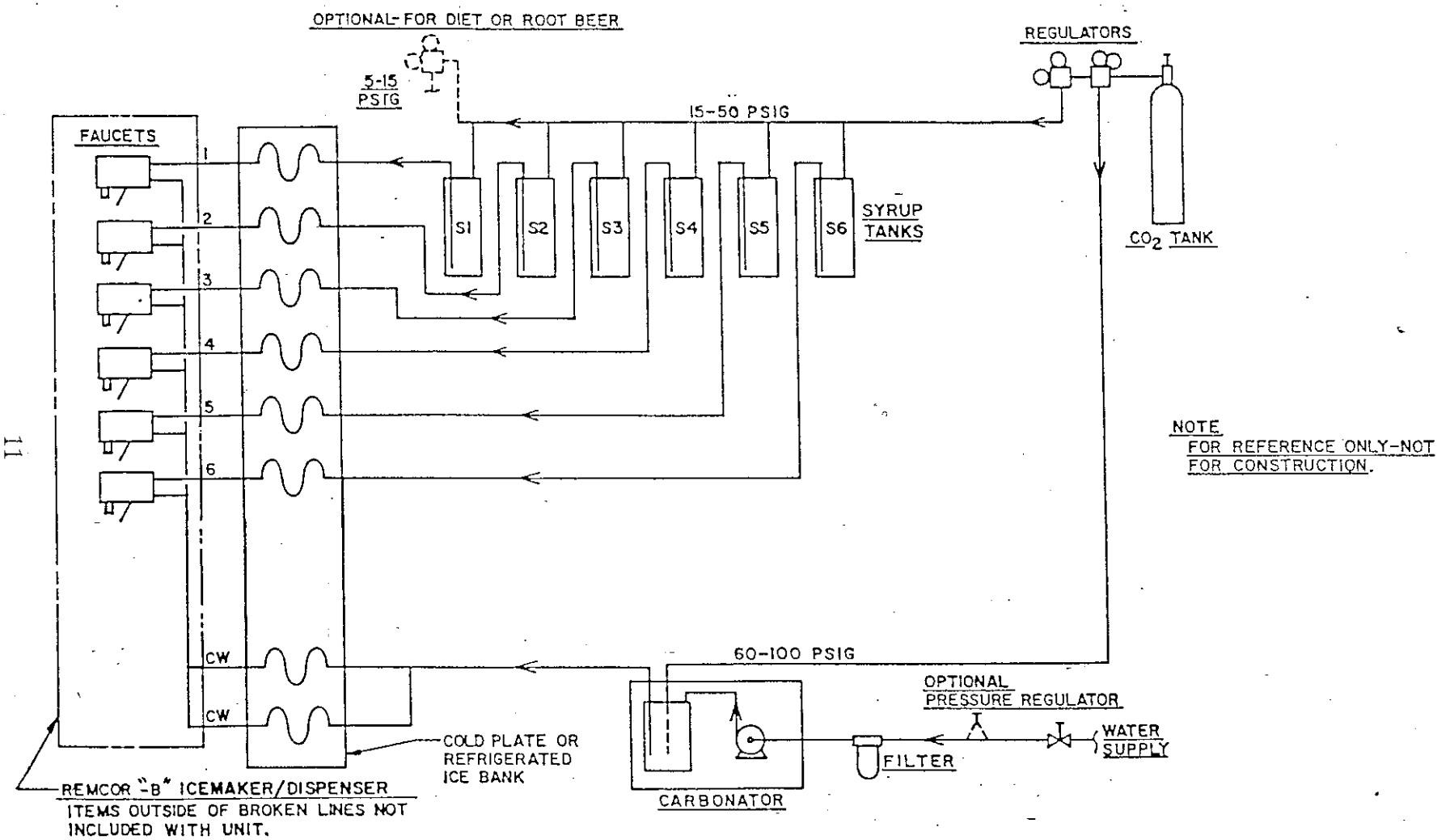
INSTALLATION

1. Locate the required openings in the counter top for the beverage lines as shown in Fig 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 coldplate for syrup and water line hook-up.

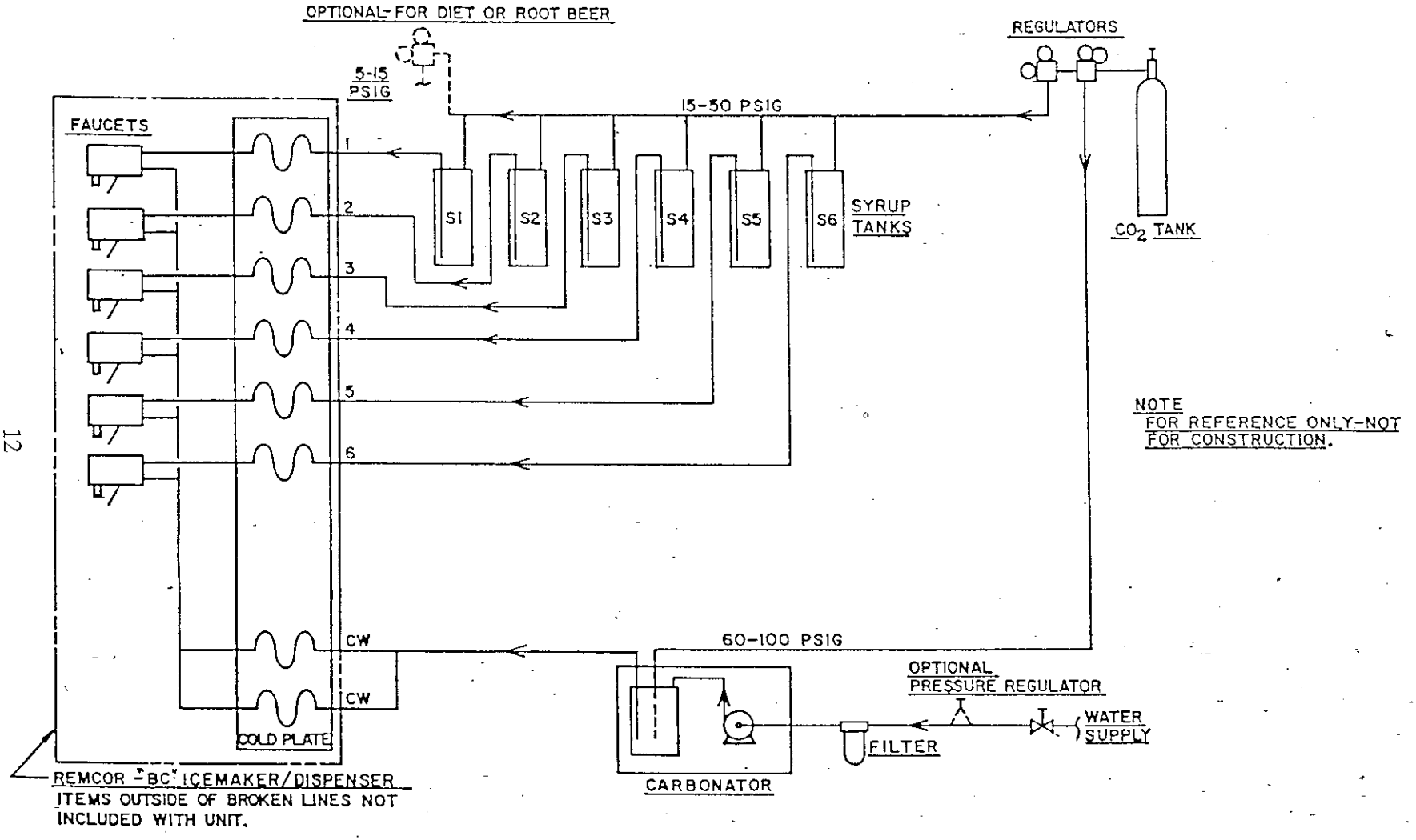
4. Connect the beverage system product lines as indicated in Figures 3 (-B units) and 4 (-BC units). This work should be done by a qualified serviceman. Note that the hoses are marked with nos. (1-6) for syrup connections and "CW" for carbonated water conneciton.



"B"-MODELS

TYPICAL POST MIX BEVERAGE SYSTEM SCHEMATIC

FIG.3



"BC"-MODELS

TYPICAL POST MIX BEVERAGE SYSTEM SCHEMATIC

FIG.4

START-UP

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 ice maker. 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 water drain lines are open and not plugged.

4. Put 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 TROUBLESHOOTING GUIDE.

N O T E

Due to meltage 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. Replace the ice drop and hopper covers.

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.

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 section.

OPERATION

A temperature-sensing control bulb located in the storage hopper starts and stops the icemaking 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 section of the icemaker. Ice continues to "grow" on 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 cam operated switches which function as detailed in the following table:

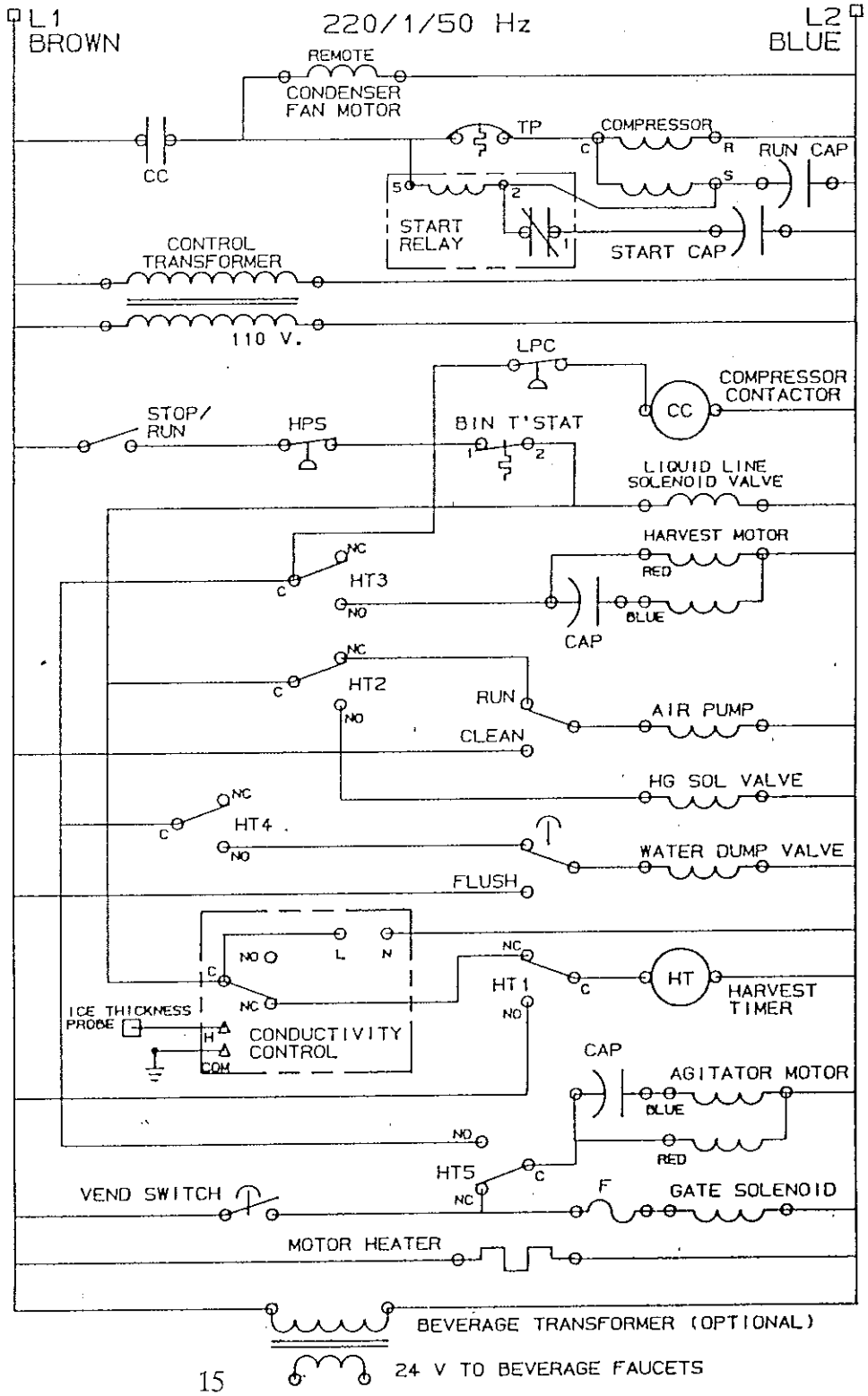
HARVEST CYCLE

Time	Cam Switch	Action
0-104 sec.	#1	Timer motor energized
1-23 sec	#4	Water dump valve open
1-36 sec	#2	Hot gas solenoid valve open Air pump off Condenser fan motor off
36-104 sec	#2	Air pump on Condenser fan motor on Hot gas solenoid valve closed
36-66 sec	#3	Harvest motor on
44-48 sec	#5	Hopper agitator motor operates

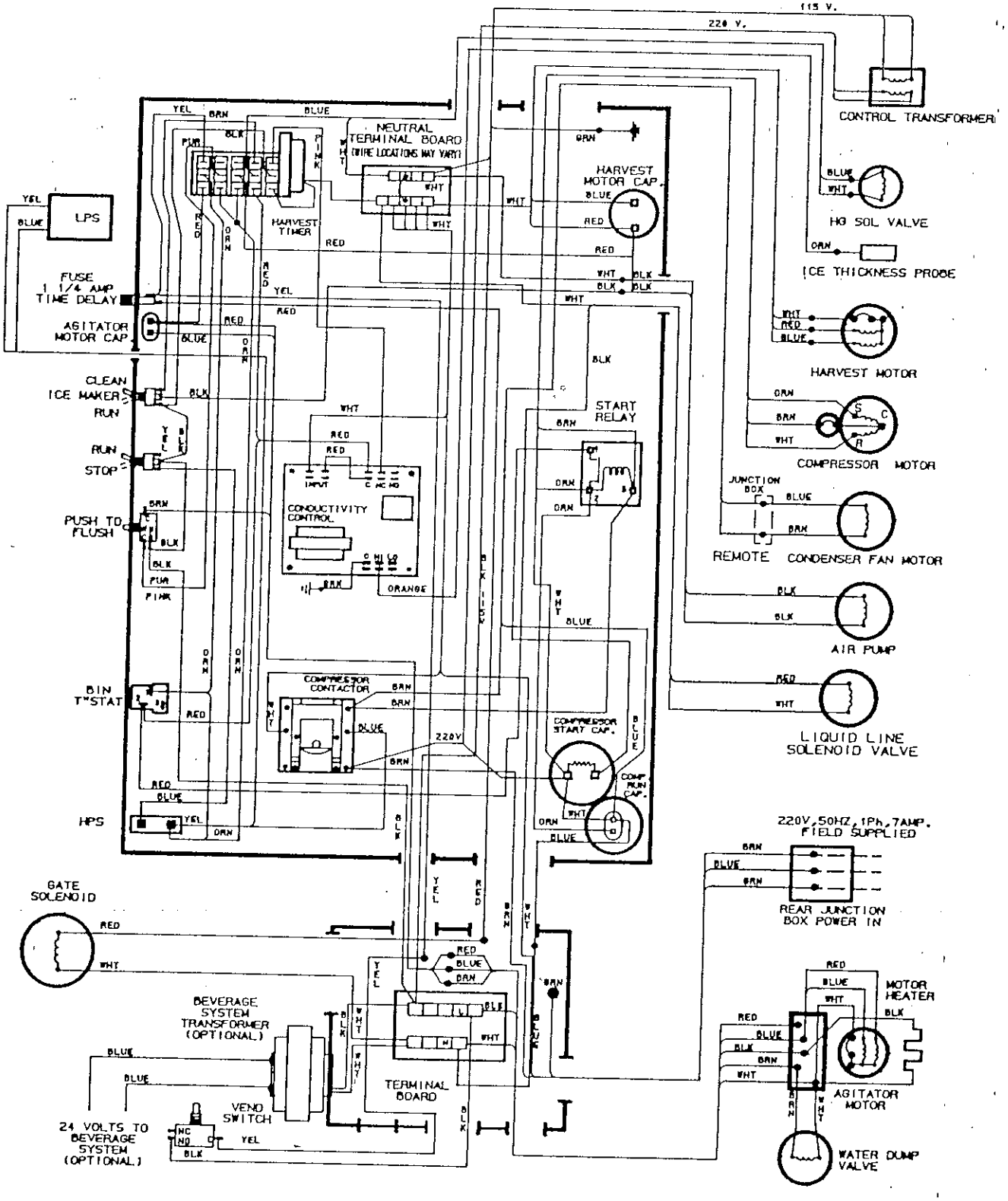
When ice contacts the ice-level control bulb in the storage hopper, the control will shut down the refrigeration system. If this signal occurs during the harvest cycle, the harvest cycle will be completed before shut-down occurs.

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

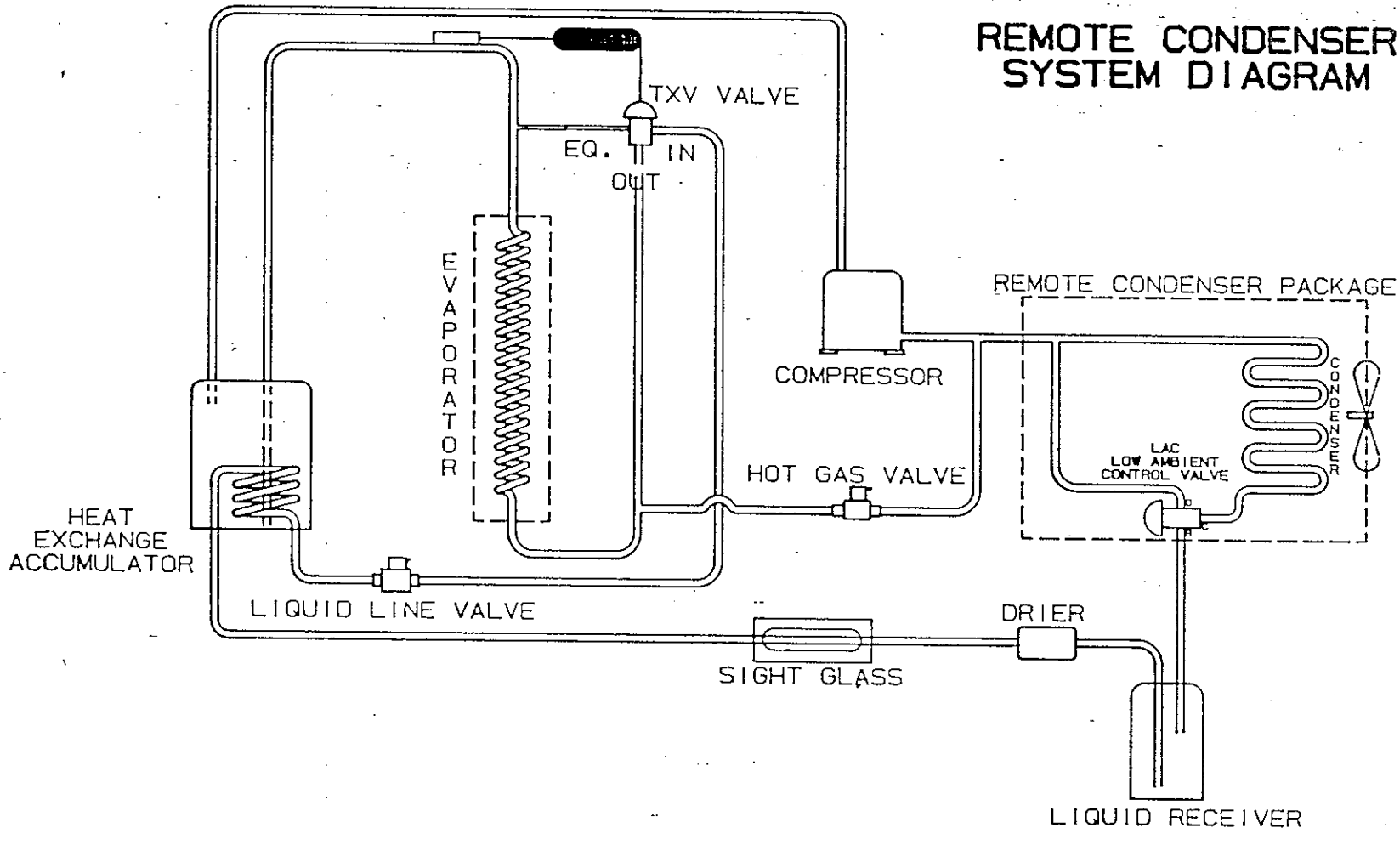
SID 652R/80


L1
BROWN
220/1/50 Hz
L2
BLUE
REMOTE
CONDENSER
FAN MOTOR
CC
TP
COMPRESSOR
C
R
S
RUN CAP
5
2
START
RELAY
1
START CAP
CONTROL
TRANSFORMER
110 V.
LPC
COMPRESSOR
CONTACTOR
CC
STOP/
RUN
HPS
BIN T'STAT
1
2
LIQUID LINE
SOLENOID VALVE
HARVEST MOTOR
RED
NC
C
HT3
NO
BLUE
CAP
NC
C
HT2
NO
RUN
AIR PUMP
CLEAN
HG SOL VALVE
NC
C
HT4
NO
WATER DUMP VALVE
FLUSH
NO
L
N
C
NC
HT1
NC
C
HT
HARVEST
TIMER
NO
ICE THICKNESS
PROBE
H
CONDUCTIVITY
CONTROL
COM
CAP
AGITATOR MOTOR
BLUE
NO
RED
HT5
C
NC
F
VEND SWITCH
GATE SOLENOID
MOTOR HEATER
BEVERAGE TRANSFORMER (OPTIONAL)
24 V TO BEVERAGE FAUCETS

220/1/50Hz WIRING



REMOTE CONDENSER SYSTEM DIAGRAM



MAINTENANCE

Cleaning of the icemaker is recommended on a regular basis not only for sanitary reasons but also to maintain the performance of the unit. Buildup 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 the recommended chemicals and solutions for both the icemaker and hopper.

ICEMAKER SECTION

1. Remove upper front and upper left side cabinet panels.

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 to help the melting process.

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

3. Close the water supply valve to the icemaker.

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 oz. 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 pushbutton and drain evaporator for about 1½ minutes. Release pushbutton. Open the water supply valve. Allow evaporator to refill with water. Repeat steps 11 and 12 three times to thoroughly remove cleaning solution from evaporator.

13. Close water supply valve. Depress the flush switch pushbutton for about 1½ 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 icemaking and harvest cycles, and until ice is free of "sweet" taste.

WARNING:	If unit fails to harvest ice, put the (stop/run) switch in the "stop" position. Close the water supply valve. Depress the flush switch pushbutton for 1½ minutes to drain the evaporator. Flush the evaporator with hot water to thoroughly melt all the ice in the evaporator. 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

18. Turn off main electrical power supply to machine.

19. Remove agitator assembly from storage hopper and wash and rinse it thoroughly.

20. 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.

21. Replace agitator.

22. With brush provided, clean the inside of the ice chute with a mild detergent solution and rinse thoroughly to remove all traces of detergent.

23. Sanitize the inside of the hopper, agitator, the ice chute, and the hopper and ice drop covers with a soluiton of 1 oz. of household bleach in 2 gallonsof water. (200 PPM)

24. Replace the hopper cover and ice drop cover. Replace cabinet panels and 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 coldplate 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 coldplate, 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:

    1. Cleaning Tank - Fill with hot (120-140°F) potable water.

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

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 2 cups of liquid to insure 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 1 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 serviceman in diagnosing any operating problems which may be experienced. It is assumed that normal service techniques and skills are familiar to the person doing the troubleshooting. In order to gain maximum benefit from these charts, please note:

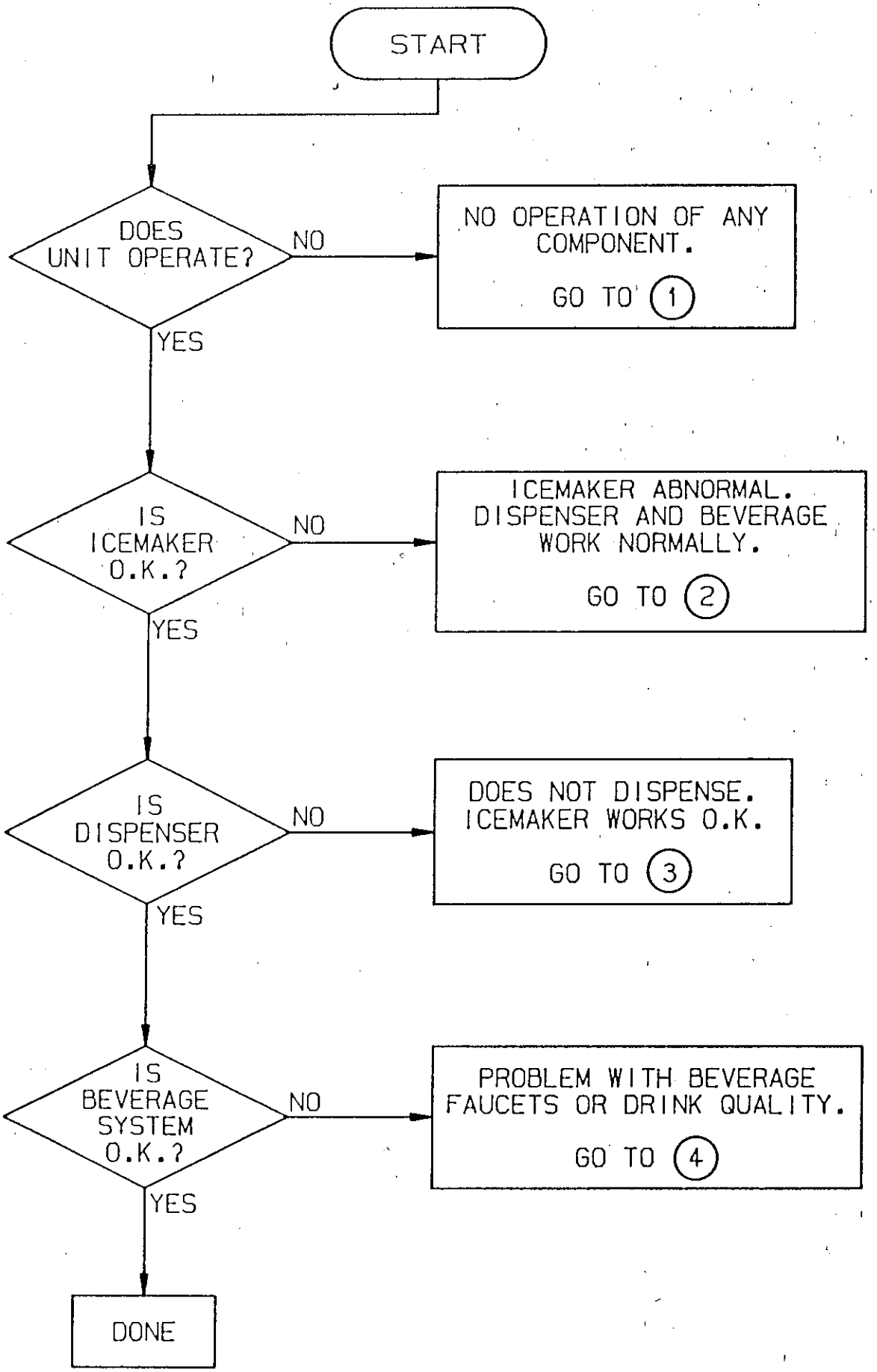
1. Start at the beginning of the chart and supply the appropriate answer to each question.

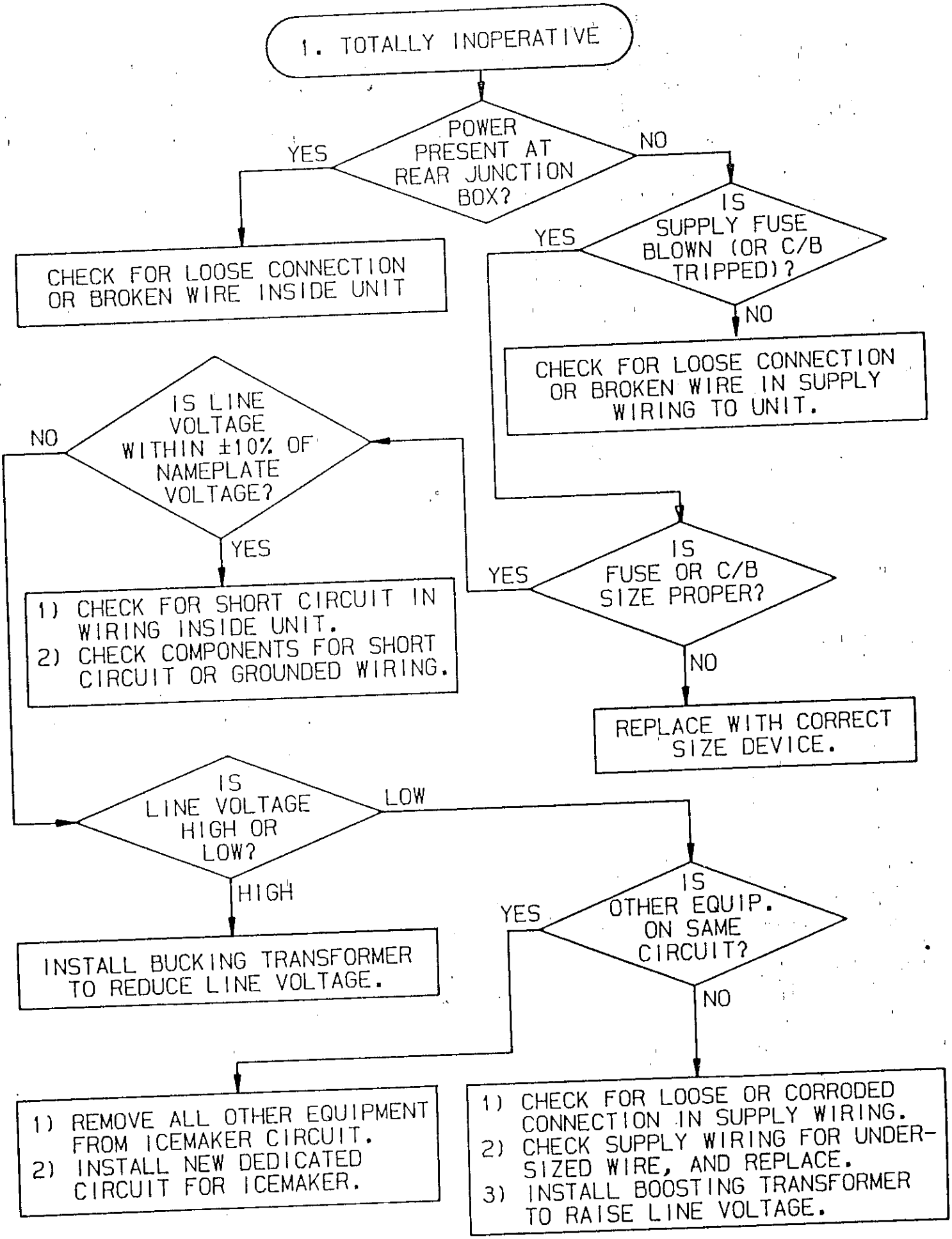
2. Do not skip any section, unless instructed to do so. You might miss the solution to your problem.

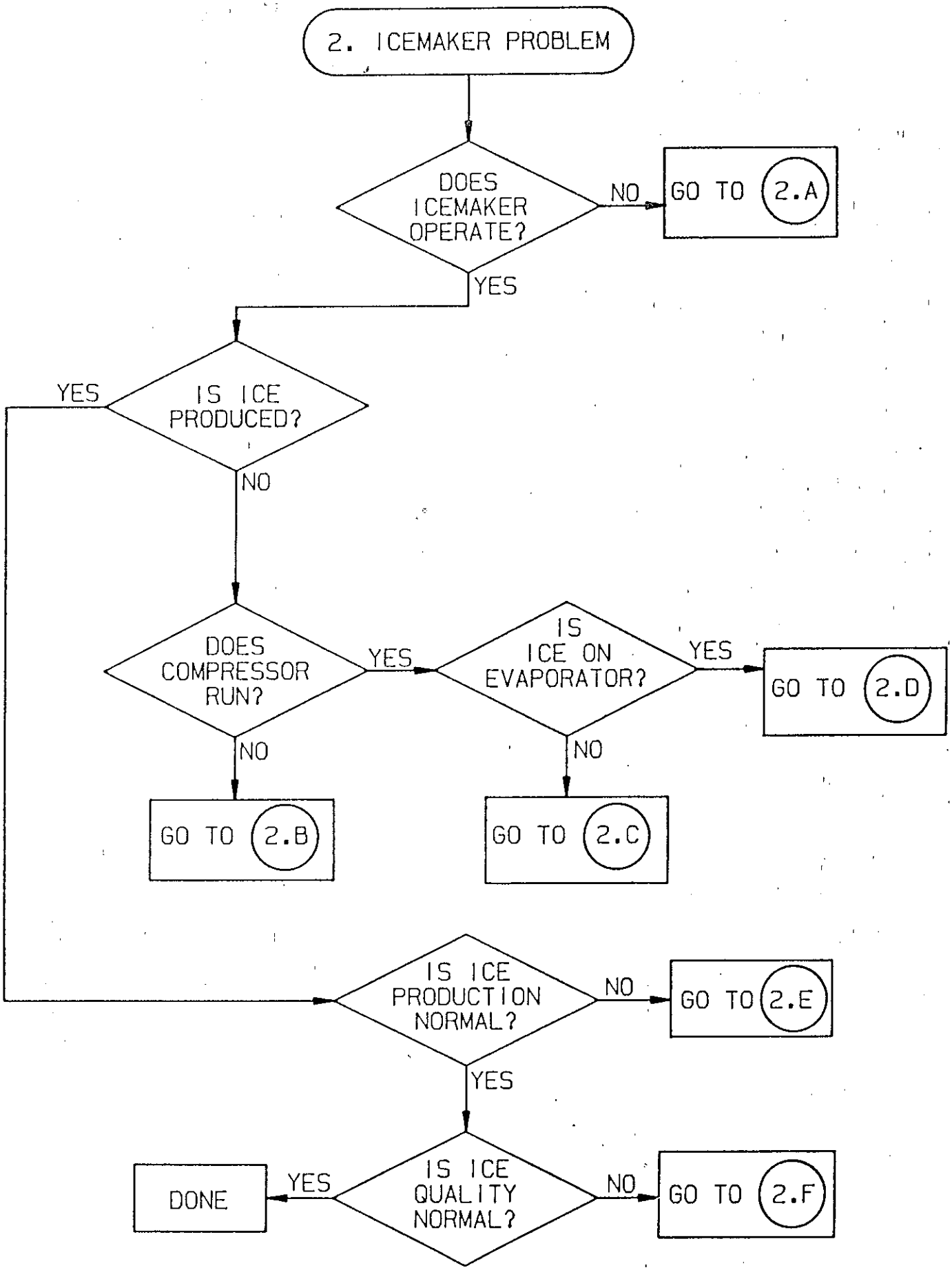
3. Evaluate the possible problem causes in the sequence in which they are presented. In general, they begin with the most likely or easiest to check, and proceed to the less likely or more complicated.

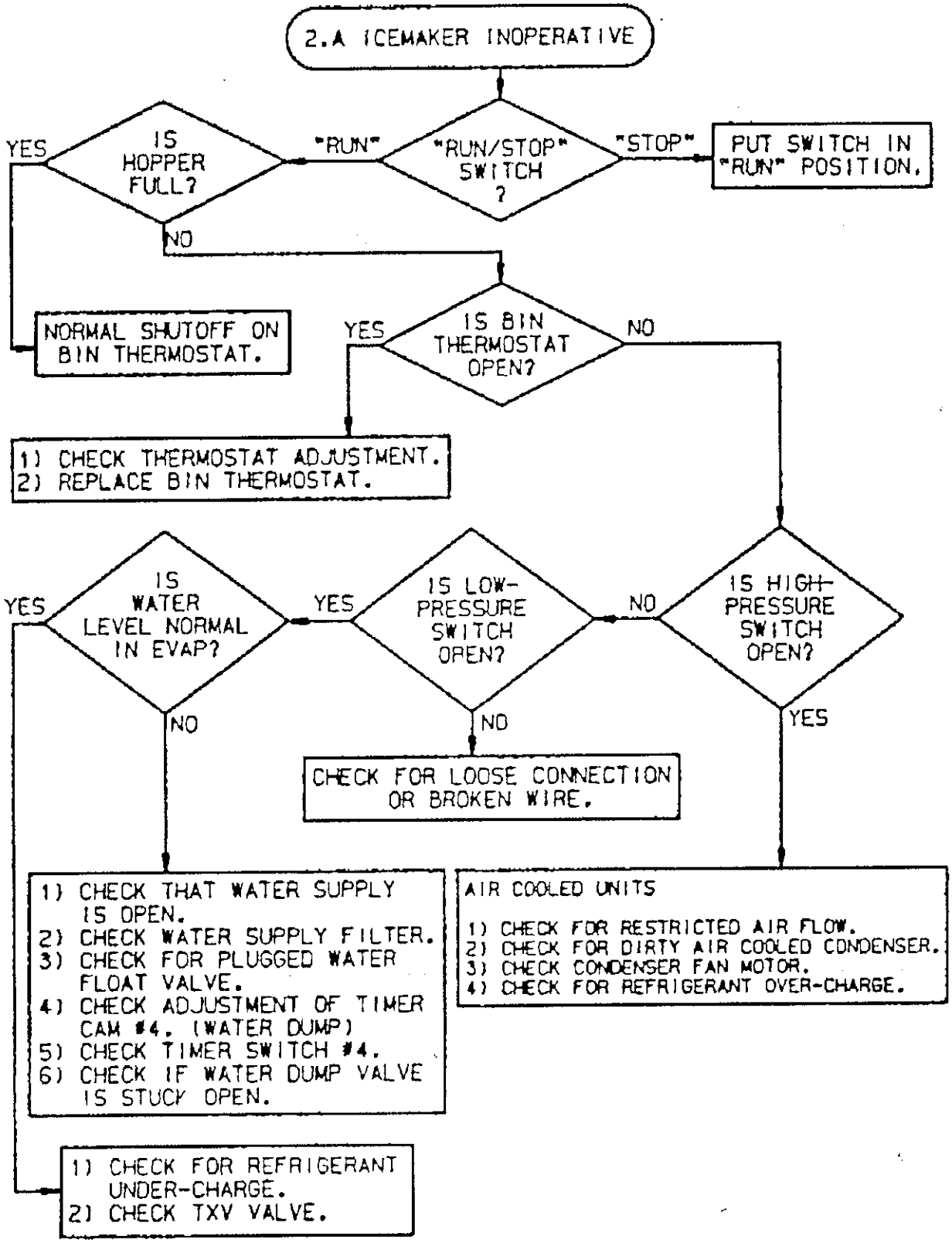
4. If, after checking all indicated causes, the problem is not resolved, it is recommended that you retry a second time, carefully evaluting the symptoms and modifying your answers as necessary.

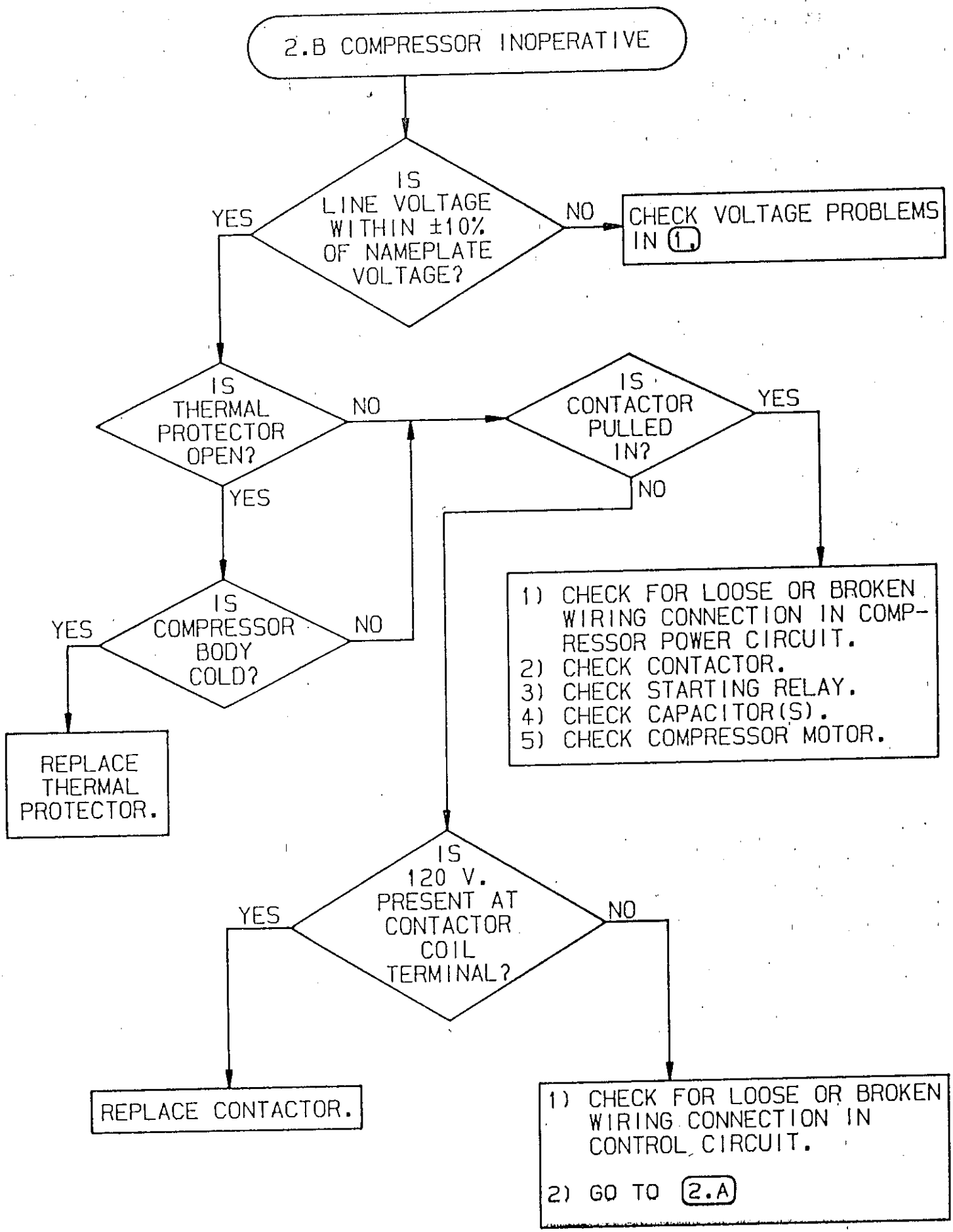
5. If you are unable to resolve a problem after several attempts, contact Remcor customer service for assistance.

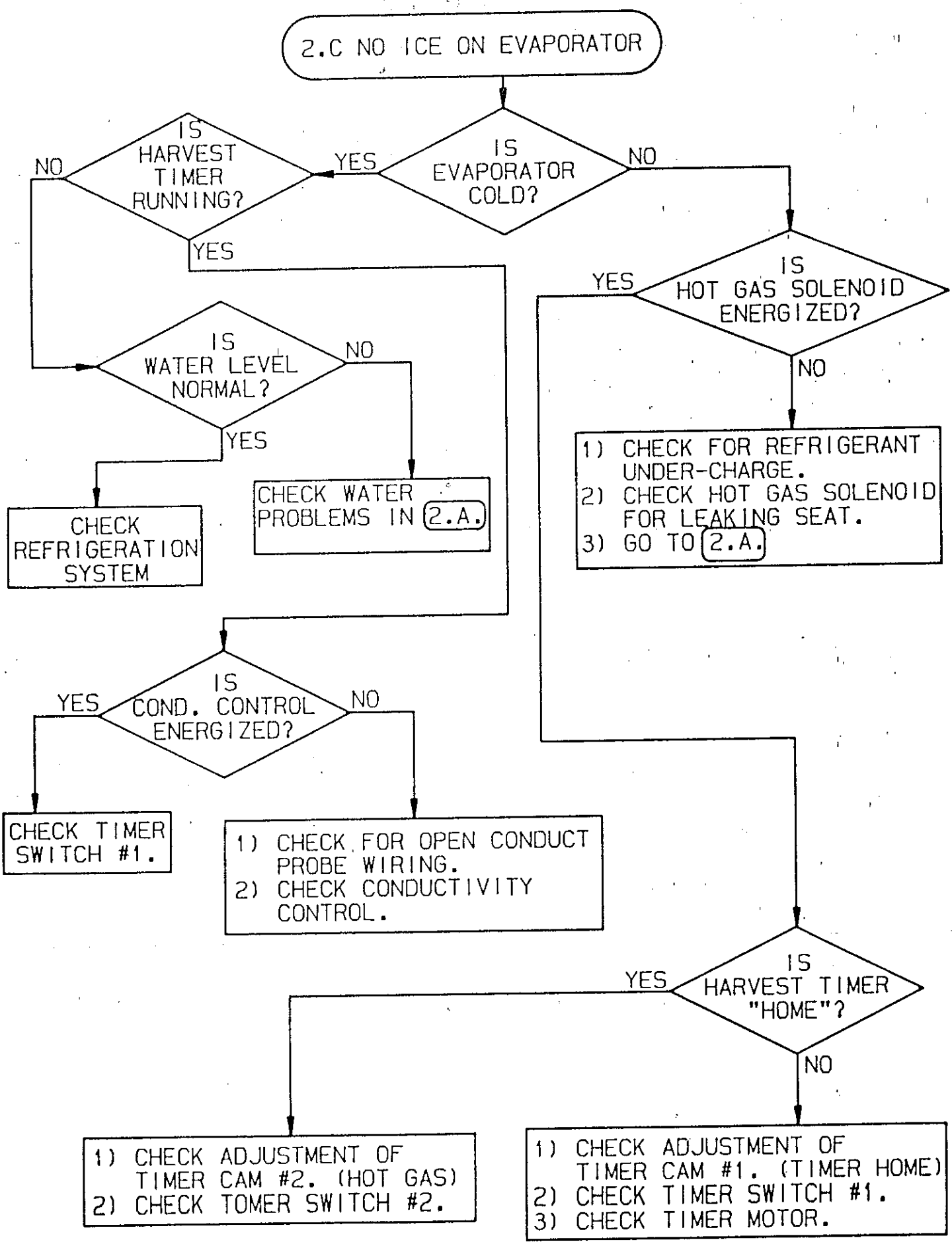

START
DOES UNIT OPERATE?
NO
NO OPERATION OF ANY COMPONENT.
GO TO (1)
YES
IS ICEMAKER O.K.?
NO
ICEMAKER ABNORMAL. DISPENSER AND BEVERAGE WORK NORMALLY.
GO TO (2)
YES
IS DISPENSER O.K.?
NO
DOES NOT DISPENSE. ICEMAKER WORKS O.K.
GO TO (3)
YES
IS BEVERAGE SYSTEM O.K.?
NO
PROBLEM WITH BEVERAGE FAUCETS OR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

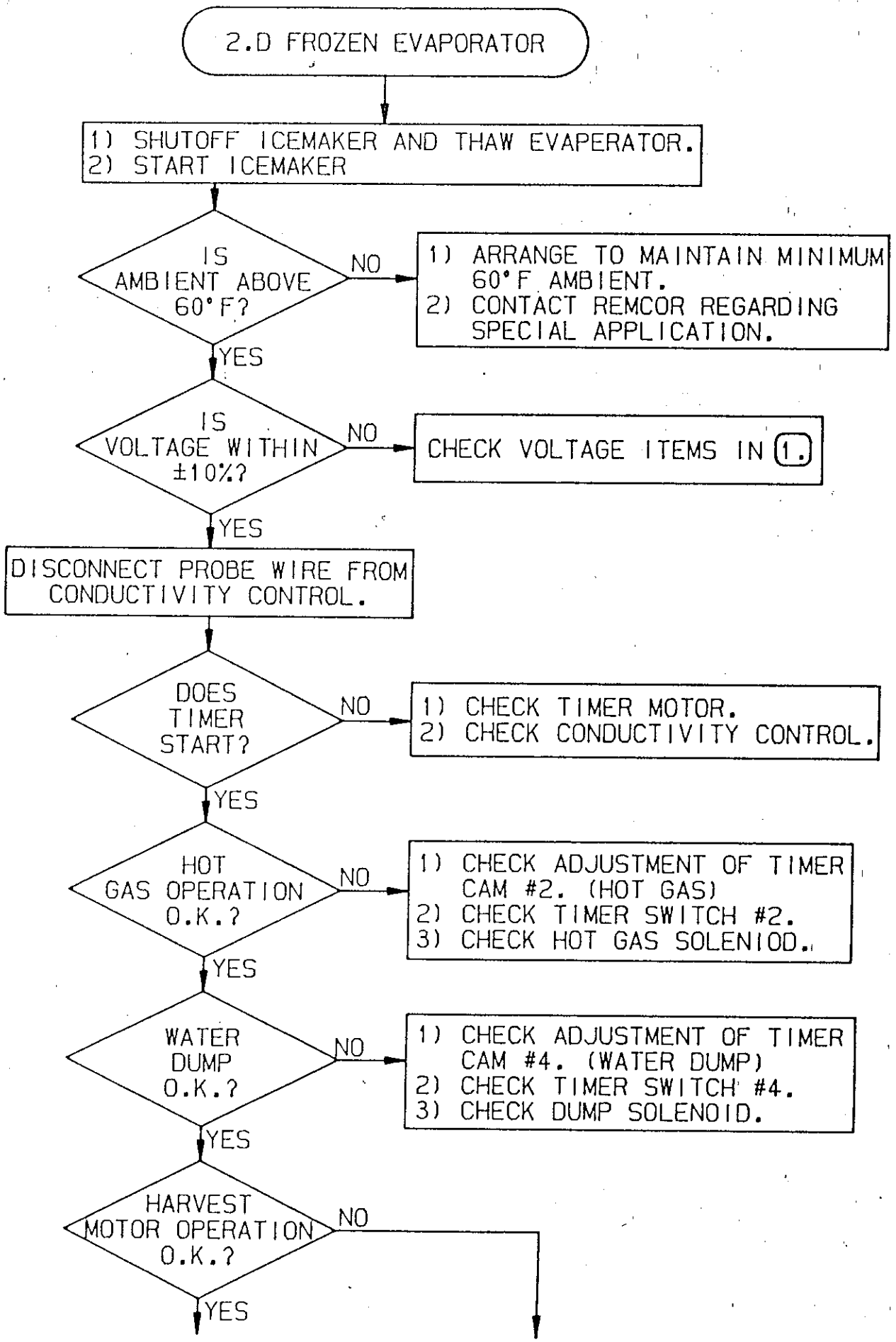

1. TOTALLY INOPERATIVE
POWER PRESENT AT REAR JUNCTION BOX?
YES
NO
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE INSIDE UNIT
IS SUPPLY FUSE BLOWN (OR C/B TRIPPED)?
YES
NO
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE IN SUPPLY WIRING TO UNIT.
IS LINE VOLTAGE WITHIN ±10% OF NAMEPLATE VOLTAGE?
NO
YES
1) CHECK FOR 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.

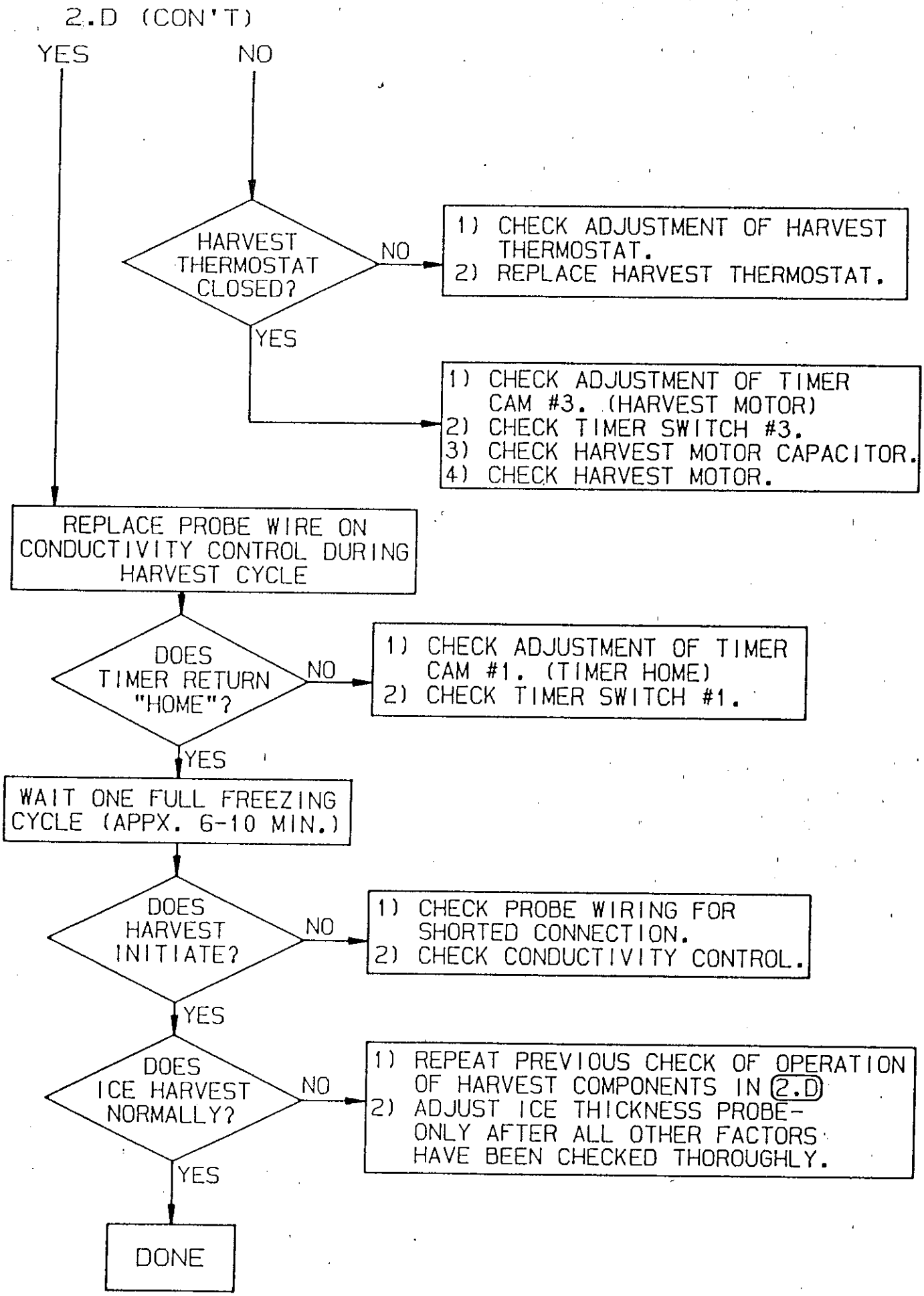

2. ICEMAKER PROBLEM
DOES ICEMAKER OPERATE?
NO
GO TO 2.A
YES
IS ICE PRODUCED?
YES
NO
DOES COMPRESSOR RUN?
YES
IS ICE ON EVAPORATOR?
YES
GO TO 2.D
NO
NO
GO TO 2.B
GO TO 2.C
IS ICE PRODUCTION NORMAL?
NO
GO TO 2.E
YES
IS ICE QUALITY NORMAL?
YES
DONE
NO
GO TO 2.F

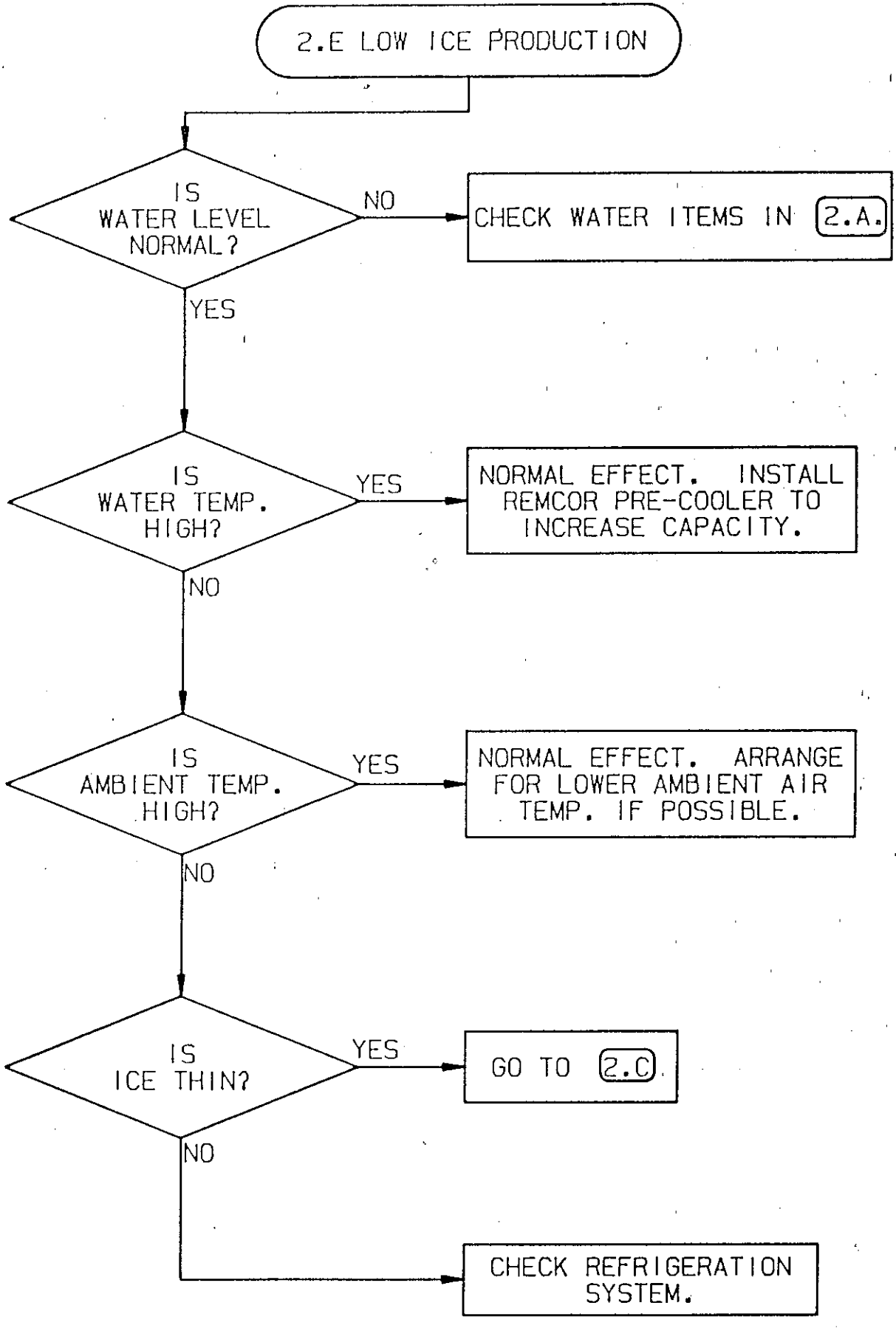

2.A ICEMAKER INOPERATIVE
"RUN/STOP" SWITCH ?
"RUN"
"STOP"
PUT SWITCH IN "RUN" POSITION.
IS HOPPER FULL?
YES
NO
NORMAL SHUTOFF ON BIN THERMOSTAT.
IS BIN THERMOSTAT OPEN?
YES
NO
1) CHECK THERMOSTAT ADJUSTMENT.
2) REPLACE BIN THERMOSTAT.
IS WATER LEVEL NORMAL IN EVAP?
YES
NO
IS LOW-PRESSURE SWITCH OPEN?
YES
NO
IS HIGH-PRESSURE SWITCH OPEN?
NO
YES
CHECK FOR LOOSE CONNECTION OR BROKEN WIRE.
1) CHECK THAT WATER SUPPLY IS OPEN.
2) CHECK WATER SUPPLY FILTER.
3) CHECK FOR PLUGGED WATER FLOAT VALVE.
4) CHECK ADJUSTMENT OF TIMER CAM #4. (WATER DUMP)
5) CHECK TIMER SWITCH #4.
6) CHECK IF WATER DUMP VALVE IS STUCK OPEN.
AIR COOLED UNITS
1) CHECK FOR RESTRICTED AIR FLOW.
2) CHECK FOR DIRTY AIR COOLED CONDENSER.
3) CHECK CONDENSER FAN MOTOR.
4) CHECK FOR REFRIGERANT OVER-CHARGE.
1) CHECK FOR REFRIGERANT UNDER-CHARGE.
2) CHECK TXV VALVE.

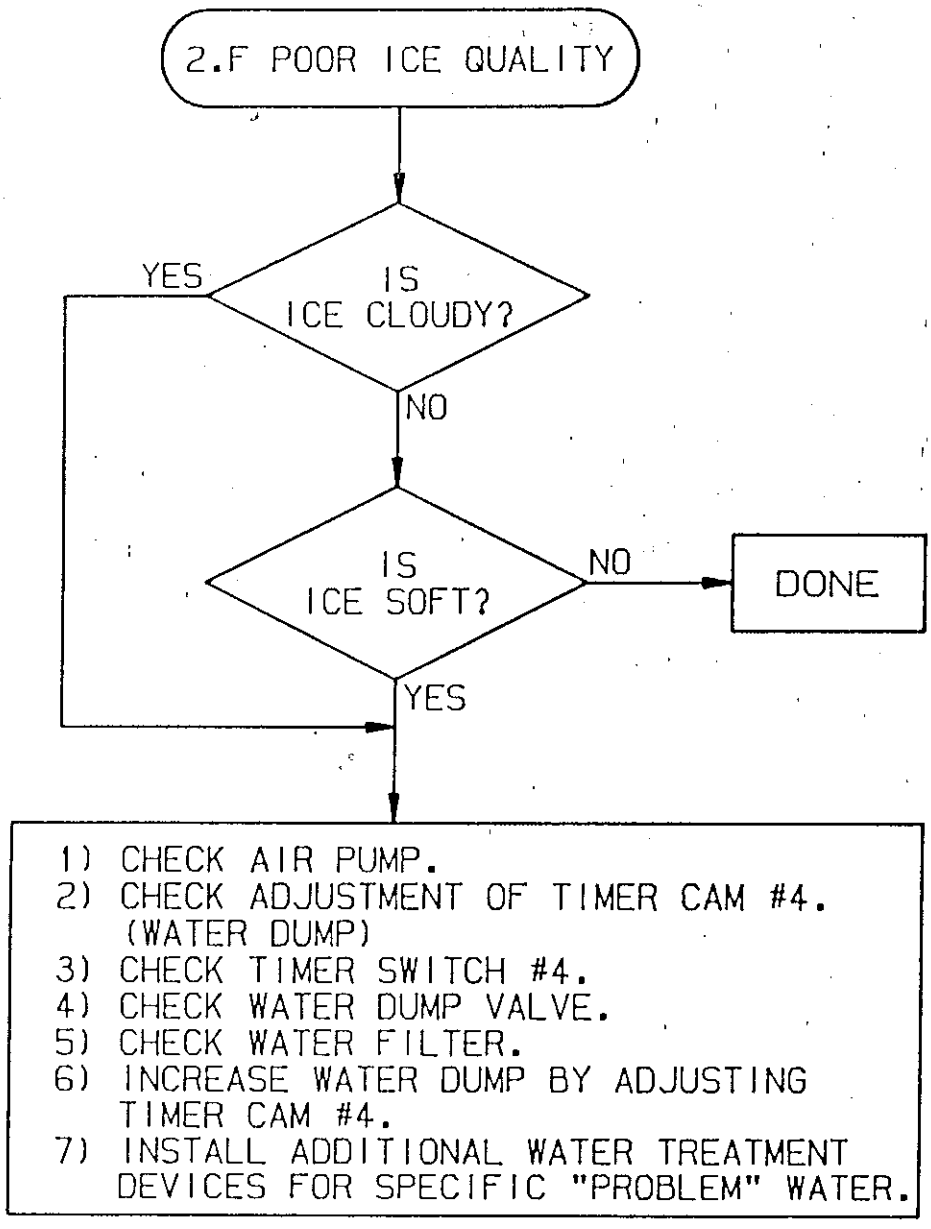

2.B COMPRESSOR INOPERATIVE
IS LINE VOLTAGE WITHIN ±10% OF NAMEPLATE VOLTAGE?
YES
NO
CHECK VOLTAGE PROBLEMS IN (1.)
IS THERMAL PROTECTOR OPEN?
NO
YES
IS CONTACTOR PULLED IN?
YES
NO
IS COMPRESSOR BODY COLD?
YES
NO
REPLACE THERMAL PROTECTOR.
1) CHECK FOR LOOSE OR BROKEN WIRING CONNECTION IN COMPRESSOR POWER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

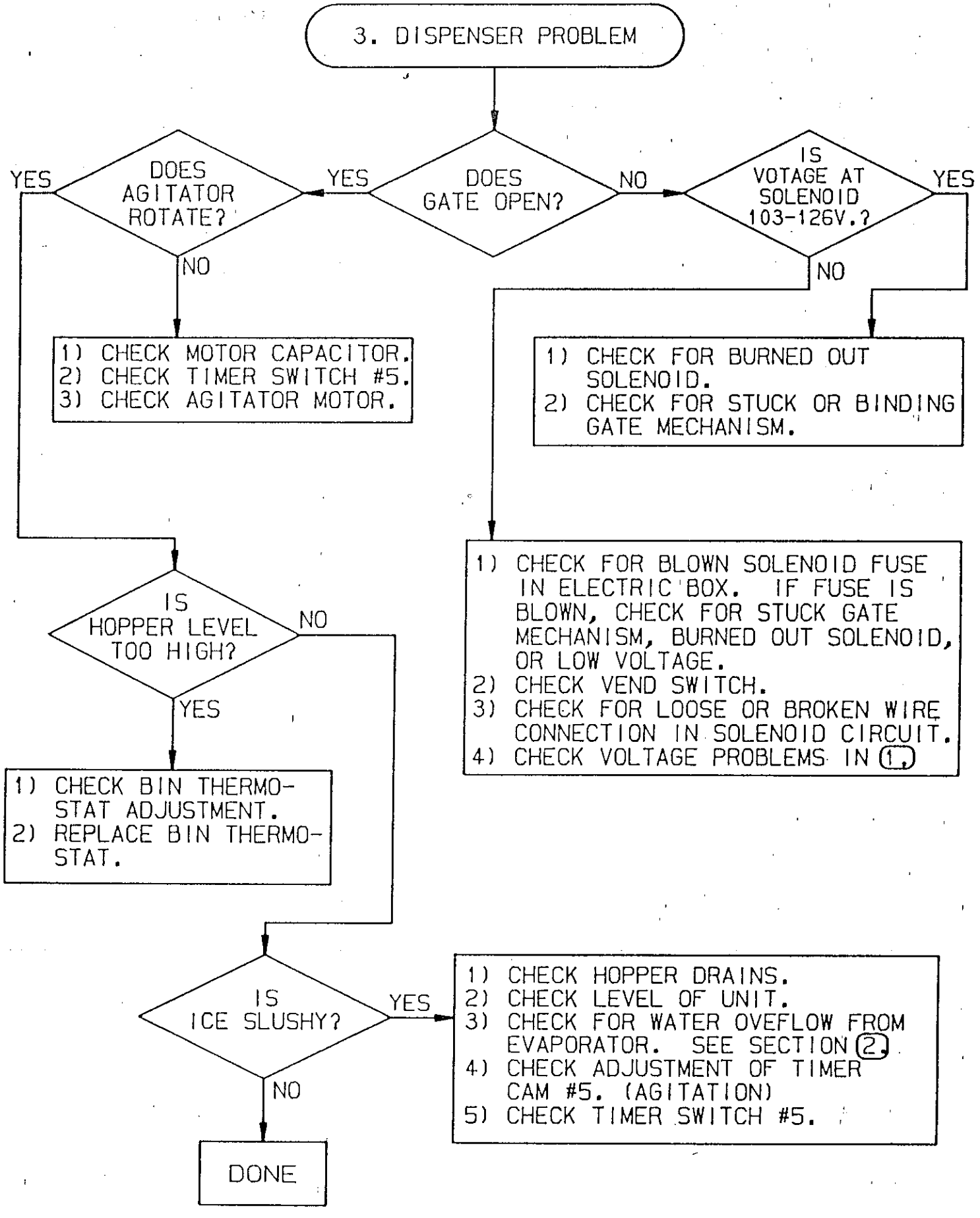

2.C NO ICE ON EVAPORATOR
IS EVAPORATOR COLD?
YES
NO
IS HARVEST TIMER RUNNING?
NO
YES
IS WATER LEVEL NORMAL?
NO
YES
CHECK REFRIGERATION SYSTEM
CHECK WATER PROBLEMS IN 2.A.
IS HOT GAS SOLENOID ENERGIZED?
YES
NO
1) CHECK FOR REFRIGERANT UNDER-CHARGE.
2) CHECK HOT GAS SOLENOID FOR LEAKING SEAT.
3) GO TO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

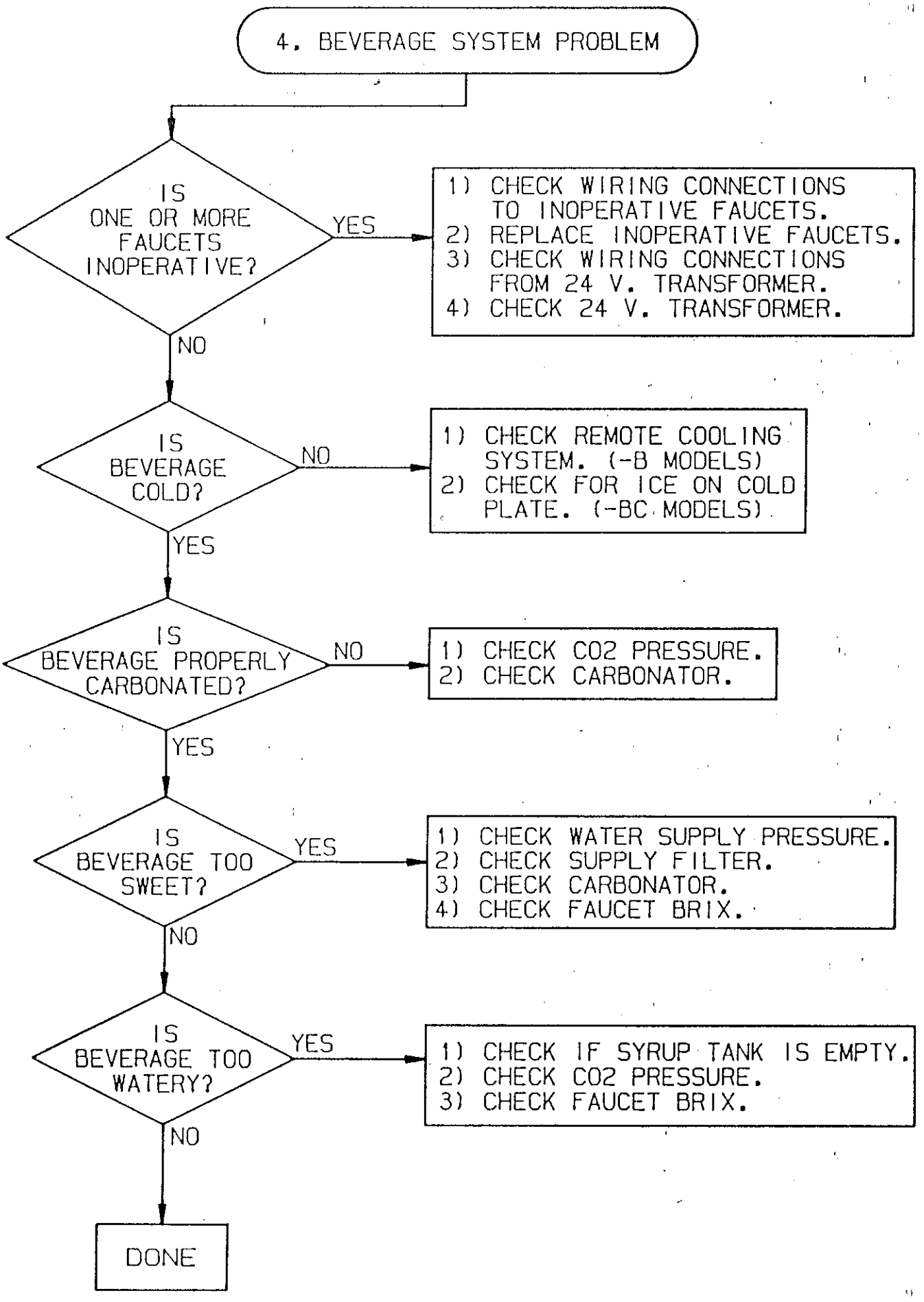

2.D FROZEN EVAPORATOR
1) SHUTOFF ICEMAKER AND THAW EVAPERATOR.
2) START ICEMAKER
IS AMBIENT ABOVE 60°F?
NO
1) ARRANGE TO MAINTAIN MINIMUM 60°F AMBIENT.
2) CONTACT REMCOR REGARDING SPECIAL APPLICATION.
YES
IS VOLTAGE WITHIN ±10%?
NO
CHECK VOLTAGE ITEMS IN 1.
YES
DISCONNECT PROBE WIRE FROM CONDUCTIVITY CONTROL.
DOES TIMER START?
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 SOLENIOD.
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
HARVEST MOTOR OPERATION O.K.?
NO
YES


2.D (CON'T)
YES
NO
HARVEST THERMOSTAT CLOSED?
NO
1) CHECK ADJUSTMENT OF HARVEST THERMOSTAT.
2) REPLACE HARVEST THERMOSTAT.
YES
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 (APPX. 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 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 VOTAGE 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 PROBLEMS IN (1.)
IS HOPPER LEVEL TOO HIGH?
NO
YES
1) CHECK BIN THERMO-STAT ADJUSTMENT.
2) REPLACE BIN THERMO-STAT.
IS ICE SLUSHY?
YES
NO
1) CHECK HOPPER DRAINS.
2) CHECK LEVEL OF UNIT.
3) CHECK FOR WATER OVEFLOW 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 REMOTE COOLING SYSTEM. (-B MODELS)
2) CHECK FOR ICE ON COLD PLATE. (-BC MODELS)
YES
IS BEVERAGE PROPERLY CARBONATED?
NO
1) CHECK CO2 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 TANK IS EMPTY.
2) CHECK CO2 PRESSURE.
3) CHECK FAUCET BRIX.
NO
DONE

MAINTENANCE/ADJUSTMENT PROCEDURES

THERMOSTAT ALTITUDE ADJUSTMENTS

I M P O R T A N T

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, consult the factory.

MAINTENANCE/ADJUSTMENT PROCEDURES

CLEARING EVAPORATOR FREEZE-UP

W A R N I N G

To prevent possible injury, do not stick fingers or hand into ice maker 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 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 insure 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.

MAINTENANCE/ADJUSTMENT PROCEDURES

ICE THICKNESS ADJUSTMENT

W A R N I N G

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

1. Open the hinged service door on the upper left side 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 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 counter clockwise turns will increase the amount.)

C A U T I O N

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 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. 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 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 counter clockwise 2-1/2 turns. Follow procedure in Step 2 to obtain the required ice harvest weight.

MAINTENANCE/ADJUSTMENT PROCEDURES

HARVEST TIMER ADJUSTMENT

W A R N I N G

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 7 as a guide, set the timer cam tabs as follows, starting with cam wheel #1 (all cam tab positions are in relation to #1 left cam tab):

N O T E

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-back as shown in Figure 7A.

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.

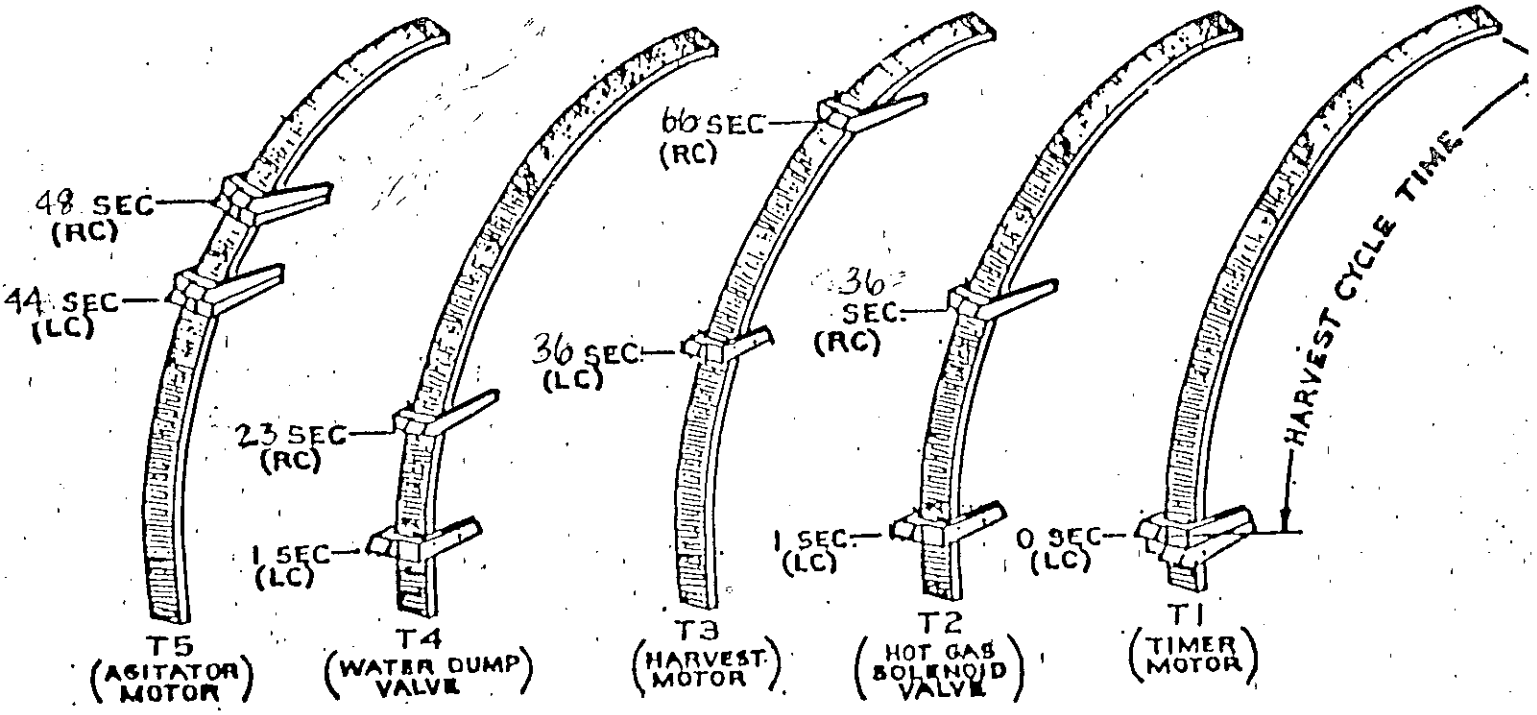
D. After the cam tabs are manually set, reconnect power to the ice maker.

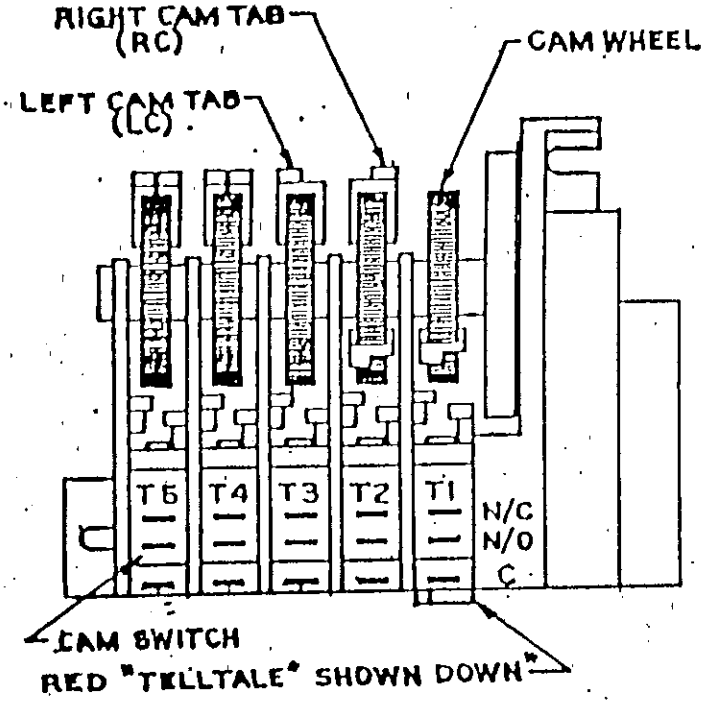
E. Rotate the cam wheels slightly to activate the timer motor (#1 tell-tale down).

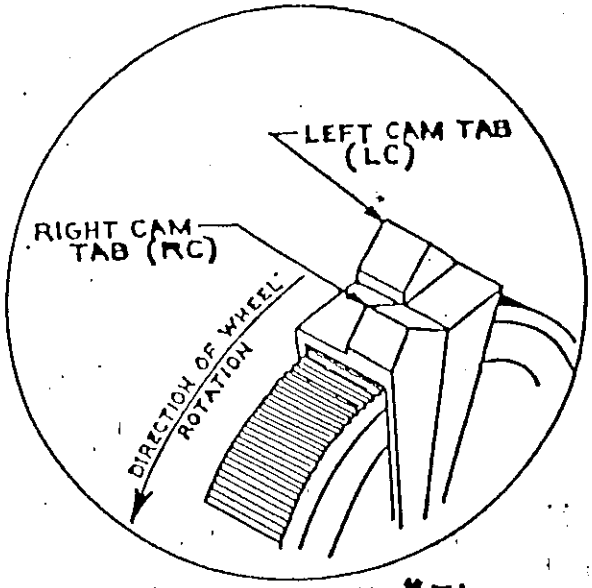
F. Using stopwatch, time the cam switch tell-tales. Adjust the cam tabs as necessary for required cycle times.

FIG. 7

HARVEST TIMER







DETAIL OF CAM WHEEL "T1

FIG. 7A

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 on the upper left side panel.
2. Put the "Stop/Run" switch in the "stop" position.

W A R N I N G

Electrical power is on to the agitator motor and 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.

C A U T I O N

1. Do not use crushed or flaked ice.
2. Use of bagged ice, which has frozen into large chunks can void warranty. 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 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. Do not allow foreign material to enter the ice storage hopper.

PARTS LIST

Description	Part No.
DISPENSER COMPONENTS	
Gate Slide	21491
Agitator	24069
Dispense Switch Kit	02070
Agitator Motor w/Gaskets	31889
Agitator Motor Shaft Seal	50454
Agitator Motor Plate Insulation	50842
Sink	27898
Sink Grill	70530
Ice Chute	50751
Gate Gasket	51891
Gate Solenoid Assy	31093
Gate Rebuilding Kit	70438
Agitator Motor Heater	30794
Agitator Motor Gasket	50806
ELECTRICAL CONTROLS	
Contactor	30379
Toggle Switch	30385
Capacitor, Agitator Motor	30774
Flush Switch	02070
Bin Thermostat	31001
Fuse, 1-1/4 Amp	31406
Timer, Harvest	31839
Conductivity Control	31579
Capacitor, Harvest Motor	31673
Harvest Motor Thermostat	31714
Compressor Start Relay	31727
Capacitor, Comp. Start	31728
Capacitor, Comp. Run	31729
Compressor Overload	31726
Hi Pressure Control	60501
Lo Pressure Control	60369
Transformer, Beverage	31091
Transformer, Power	31138

PARTS LIST

Description	Part No.
REFRIGERATION COMPONENTS	
Compressor	60675
Compressor Mtg. Kit	31607
Air Pump	31568
Hose Adapter, 3/8 NPT-3/8 Barb	51189
90 Deg. Hose Adapter 3/8 NPT - 3/8 Barb	51190
Float & Tank Assembly	40527
Filter (Drier)	60623
Liquid Line Solenoid Valve	60734
Hot Gas Solenoid Valve	60620
Hot Gas Solenoid Coil 115V	32576
TXV, R-502	60635
Water Drain Valve	40652
Tubing, Water Drain, 1/2 ID	50351
Tubing, Air Pump, 3/8 ID	50096
EVAPORATOR COMPONENTS	
Evaporator Housing (Jacket)	51888
Evaporator Assy Comp. w/ Motor	60865
Evaporator Coil Assy w/ Gaskets	60698
Harvest Bar Assy w/Gaskets	51423
Gasket Kit	51356
Ice Thickness Probe	51179
Harvest Motor w/Gaskets	31560-1
Hose Adapter 1/4 NPT - 3/8 Barb	51191
Hose Adapter 1/4 NPT - 1/2 Barb	51192
10-31 X 1/4 Flat Hd. Screw	70536
1/4 - 20 X 1-1/4 Flat Hd. Screw	70118
Evaporator Cleaning Plug	51300

WARRANTY POLICY

SPIRAL ICE MAKER DISPENSER

REMCOR PRODUCTS COMPANY warrants to the original purchaser of each new REMCOR® SPIRAL ICE MAKER DISPENSER, for a period of 21 months from date of installation or 24 months from date of shipment, whichever occurs first, that all parts shall be free from defects in material and workmanship under normal use and service. The S.S. ice maker evaporator is specifically warranted for a period of two (2) years; the compressor for a period of five (5) years; and, labor cost to repair factory defective parts or workmanship is covered for a period of thirty (30) days from date of installation. Labor warranty does not cover normal installation or start-up.

Under this warranty, a defective part (or parts) is to be returned to **REMCOR PRODUCTS COMPANY**, 500 Regency Drive, Glendale Heights, Illinois 60139 (Phone 708-980-6900) and shall be limited exclusively to repairing or replacing F.O.B. Factory, such part or parts which it concludes upon examination to be defective under the terms of this warranty. Return of any part disassembled will void warranty on any part. The decision of our Service Department regarding the warranty of parts will be final.

The warranties defined herein shall not apply to any damage or defects created or arising from accident, mis-application, abuse, misuse, neglect, alteration, acts of vandalism, flood, fire, acts of God or any other occurrences beyond the control of REMCOR®. Warranty validity also requires that all instructions have been followed and adhered to as provided in the Owners Manual included with each unit.

REMCOR®'s warranty responsibility ceases if shipment is not received by you in good order and in accordance with quantity shown on Invoice or Packing Sheet; if you accept shipment from the Transportation Company in damaged condition without having a proper notation made by the Station Agent you do so at your own risk. If cartons are in apparent good order, but upon opening, contents are found to be damaged, call agent or adjuster to view same and have him mark the freight bill relative to such concealed damage. The procedure must be executed within fifteen (15) days after delivery.

Prior to returning any material (part or unit), a Return of Material Authorization (RMA) must be obtained. To obtain this authorization provide the reason for return, model number, serial number and part number. Either call or write REMCOR®'s Parts Service Department and an authorization number and tag will then be issued - this tag must accompany the material returned. No representative, dealer, distributer or any person is authorized to make any other decisions regarding the warranty or liability in accordance with REMCOR®'s Warranty. Any material that does not have a pre-issued Return Material Authorization number when received will be refused by REMCOR® and returned to the sender (freight collect).

REMCOR PRODUCTS COMPANY will not honor or assume any responsibility for any expenses (including labor) incurred in the field for the repair of equipment covered in our Warranty unless authorization has been granted from REMCOR®'s Service Department prior to work being performed. The request for repair warranty work will only apply to units shipped from REMCOR® within a thirty (30) day time period of request. It will further be at the discretion of REMCOR® to decide if said labor will be reimbursed in full or partial payment. REMCOR PRODUCTS COMPANY will also control the right to decline payment - all decisions will be based on circumstances prevailing. Charges for a repeat service call on the same unit to rectify the same problem previously correct shall not be honored. REMCOR PRODUCTS COMPANY shall retain the right to select or recommend another company to complete the necessary repair work.

C A U T I O N

The inherent nature of ice may cause spillage on to counter or floor areas. The owner or operator is cautioned to maintain these areas in a clean, ice-free condition.