

Service Manual

“Ice Rink” Ice Cream Freezer

Models: ICE-60 and ICE-74
ICF-51 and ICF-65

For Service Information, Call 800-544-3057

Please provide the following information:

- Model number
- Serial number
- Date of purchase
- Part description and number as shown in parts list

**Piper Products, Inc.
300 South 84th Avenue
Wausau, WI 54401
Phone: 715-842-2724 / Fax: 715-842-3125**

INTRODUCTION

Congratulations: You have just purchased one of the finest pieces of equipment on the market today. Before installing or operating your new Piper Products, Inc. equipment, you should read through this manual. This manual should be retained for further reference as it contains installation and operating instructions, service tips, part lists and warranty information.

For your safety, read and follow all cautions and warnings.

Freight Damage Claims:

Your Piper Products equipment was carefully inspected and packed before leaving our factory. The transportation company assumes full responsibility for safe delivery of this equipment. Piper Products cannot assume responsibilities for damage or loss incurred in transit. Visible damage or loss should be noted on the freight bill and signed by the person making the delivery.

A freight claim should be filed immediately with the transportation company. If damage is unnoticed or concealed until equipment is unpacked, notify the transportation company immediately and tell them you want to file a concealed damage claim. This must be done within ten (10) days after delivery was made. Be sure to retain all packing material and cartons.

WARNING

Installation of this equipment should be done only by persons qualified or licensed to install electrical equipment.

Adjustments and service work should be performed only by a qualified service technician. Service is available through Authorized Piper Products Parts and Service Distributors throughout the United States. For a complete listing of these call or write Piper Products, Inc. for the name of the nearest distributor.

This equipment is intended for commercial use only. Not for household use.

Use of other than genuine Piper Products replacement parts or service work performed by other than an authorized Piper Products service agent will void the warranty.

Do not use any corrosive cleaners. Use only cleaners approved for stainless steel.

Ice Rink Ice Cream Freezer - ICE-60, ICE-74, ICF-51 and ICF-65

1. Electrical and Refrigeration Specifications

Electrical - 1/2 H.P. 120VAC, 60 Hz, 10.5 AMPS equipped with 15 AMP 120 VAC plug (NEMA 5-15P)

Refrigerant - 18 ounces of Type R-507

2. Start-up and Operation

When installing unit, make sure there is a minimum 2" of air space to allow free airflow into the louver panel located on the end of the unit. Also allow 12" of free air space for the louvered panels located on the front and in the rear of the cooler.

Plug freezer into proper electrical power source. Turn freezer on by turning master switch "ON" and allow unit to pre-cool for 45 minutes with lids on.

NOTE: When the unit is "ON" a red pilot light will glow.

IMPORTANT: When loading freezer, DO NOT load above product load line for proper operation and product temperature. Also note that this equipment is intended for use with pre-packaged foods only.

Product should be in a frozen state when placed in the freezer. However, if it is soft, place lids on unit to aid in product temperature pull-down.

The freezer thermostat is factory set to hold product a approximately -10 degrees Fahrenheit with lids on. Adjust the temperature of the cooler by removing front louver panel. The panel is held in place with magnetic catches. Next, turn the thermostat knob clockwise for cooler and counterclockwise for warmer (see figure 1). Make only a small amount of adjustment at a time and allow about one hour for cabinet to stabilize before checking temperatures. Once proper setting is acquired, install louver panel.

Operate freezer by turning it "ON" or "OFF" with the master switch. Do not turn the thermostat knob.

IMPORTANT: Once the serving period is completed, place lids back onto the freezer. Leave lids on until the next serving period. Do NOT leave the Ice Rink lids off longer than three (3) hours at one time.

3. General Cleaning

Use only cleaning agents approved for aluminum and stainless steel.

Never use chlorinated cleaners or cleaners/sanitation agents containing quaternary salts on the interior or exterior of the cooler. These cleaners can attack the stainless steel and cause rusting or pitting. Never use abrasive scouring pads.

To drain water from inside the freezer, remove drain cap located under the unit, below the control panel. To avoid this daily task, a drain line can be extended down and into a floor drain and the drain valve left in the open position. This modification is the customer's responsibility.

4. Condenser Cleaning

It is very important for proper performance and condenser longevity to keep the condenser clean.

Every two to three months:

1. Unload product from freezer and store properly.
2. **DANGER:** Disconnect electrical power to the freezer by turning master switch to the "OFF" position and unplugging cooler from electrical receptacle.
3. Remove louver access panel located on side opposite controls (customer side) of unit. See Figure 2.
4. Next, remove condenser inlet baffle by removing two screws. See Figure 2.
5. Clean condenser by using a brush and vacuum cleaner to remove all dust and dirt. Thoroughly clean condenser.
6. Re-install the condenser inlet baffle and louver access panel.

5. Auto Defrost

Defrost cycles automatically occur every two hours and are initiated by a timer and terminated by evaporator coil temperature. Defrost settings are made at the factory and should not require adjustment. Consult the factory if any defrosting problems are suspected.

IMPORTANT: At the beginning of the defrost cycle, it is normal to hear cracking sounds as the ice cracks and begins to melt from the evaporator coil and drain pan.

6. Service

For service, contact your Authorized Piper Products Inc. Parts and Service Dealer. For a complete listing of these call or write Piper Products, Inc. for the name of the nearest dealer.

ICE and ICF - Electronic Control

Control Functions:

- Displays temperature equal to average product temperature
- Controls condensing unit to achieve desired temperature
- Cycles evaporator fans on at all times except during defrost cycle
- Controls the start and finish of defrost and energizes defrost solenoid
- Indicates on display whether compressor defrost solenoid or fans are energized

Adjusting temperature in pre-set range:

- Pressing the "SET" button twice will display the current set point
- Use the UP or DOWN arrow to adjust to desired temperature
- Press the "SET" button again to accept new set temperature

Changing factory set control parameters:

To access the following list of settings you just depress the "DOWN" arrow and the "F" at the same time at which time "DIF" will be displayed. The "F" button is pressed repeatedly to scroll through the settings listed below, each of the values can be changed by pressing the "DOWN" and "UP" arrow keys. For any changes which were made to be accepted by the control you must scroll through the entire list until a blank screen is shown for a few seconds and then the current temperature is again displayed.

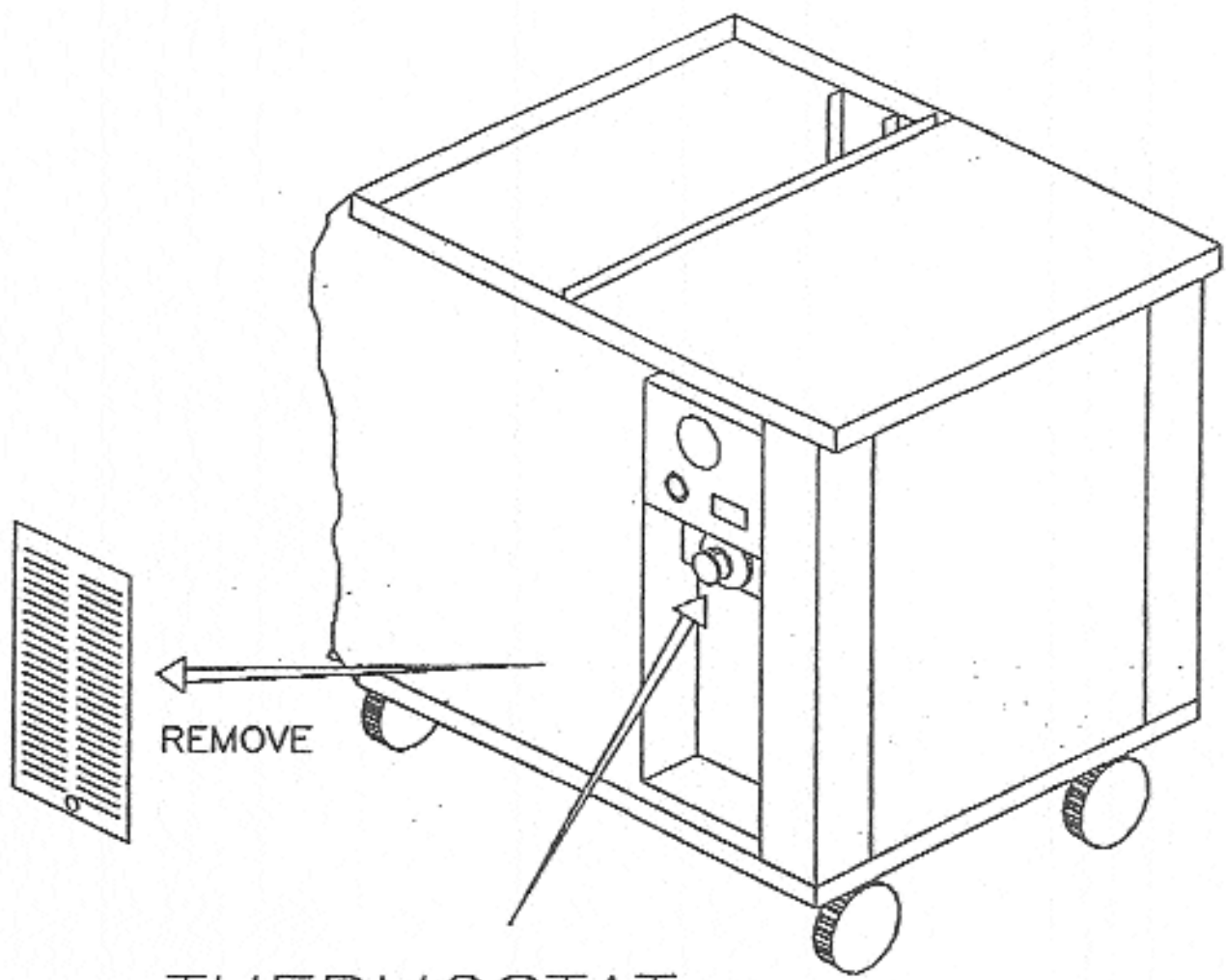
Settings for Production Units:

DIF	-02	differential or amount temperature can fluctuate
HI	2° F	high point of temperature adjustment range
LO	-20° F	low point of temperature adjustment range
CAL	-04° F	amount displayed temperature offset from actual sensor
DEF.INIT.	02 hrs.	time between initiation of defrost cycles
DEF.DUR.	06 min.	maximum duration of defrost cycle
DEF>HI	70° F	temperature at which coil sensor will terminate defrost
SHO CYC	02 min.	the minimum number of minutes compressor is off
FAN HI	10° F	coil temperature above which evaporation fans will not run
COIL SEN		displays evaporator coil outlet tubing temperature

Operation Notes:

On power-up there will be a click of control energizing relays, then a two-minute delay for the start of the compressor.

To initiate a defrost after unit has cooled down, unplug momentarily and defrost will start when power is restored to unit, compressor may however still have a two-minute delay due to short cycle control.



REMOVE

THERMOSTAT

Figure 1

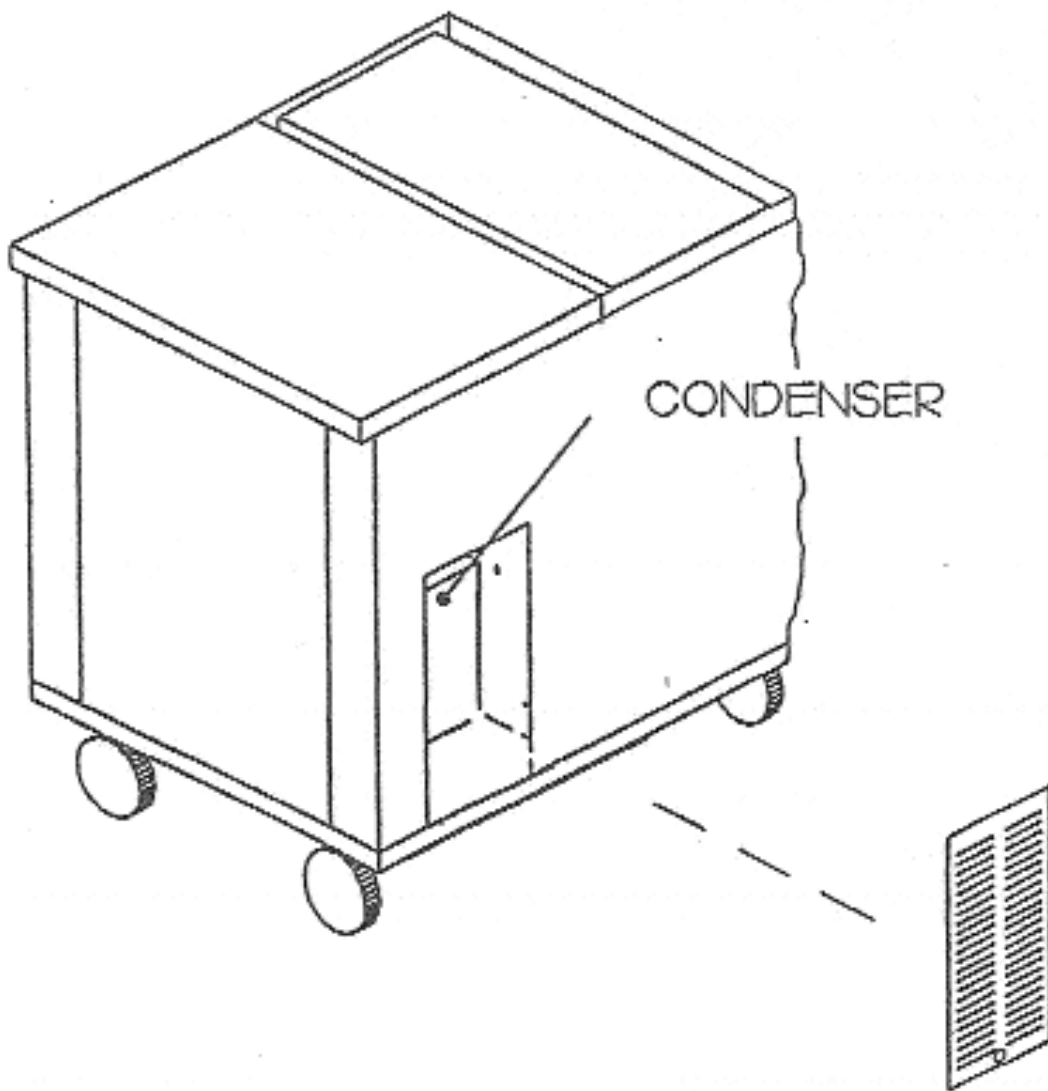


Figure 2

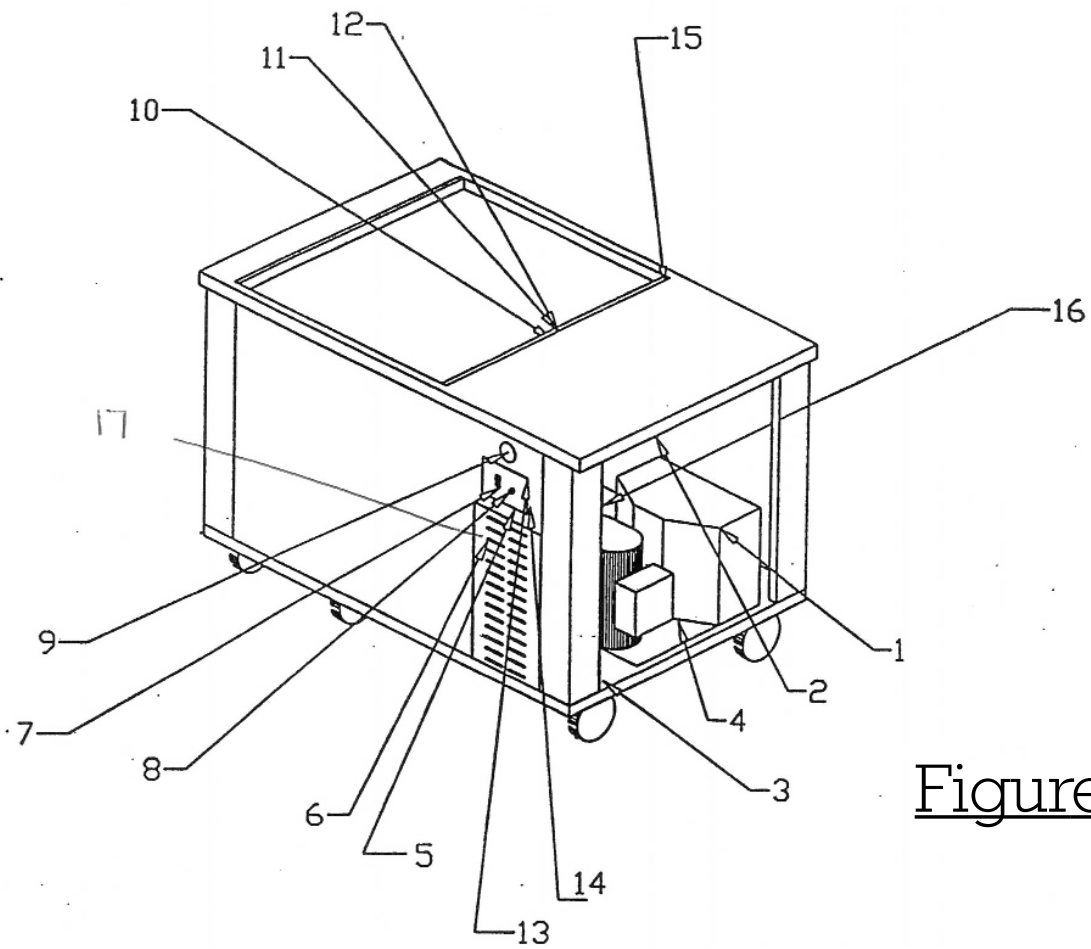
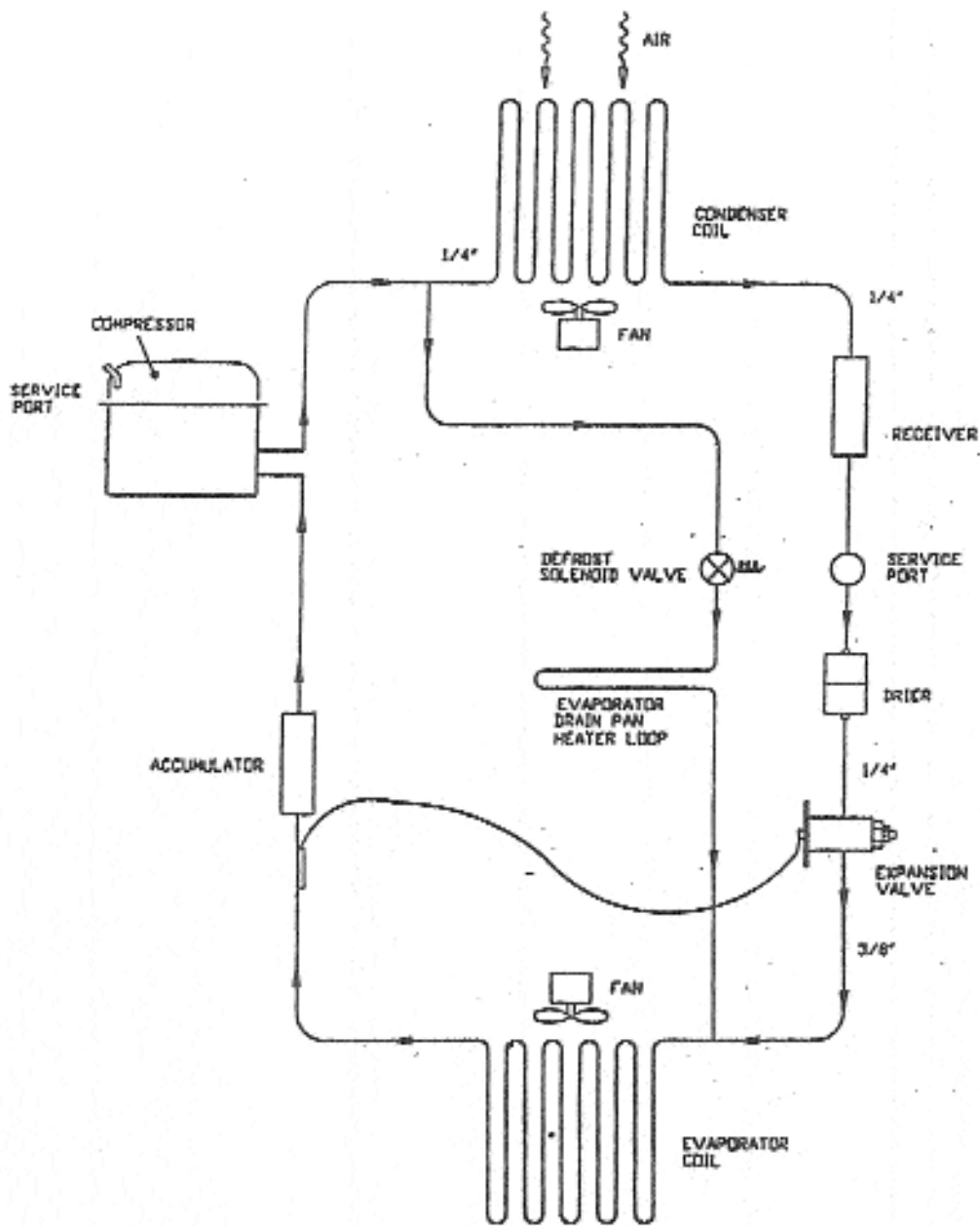
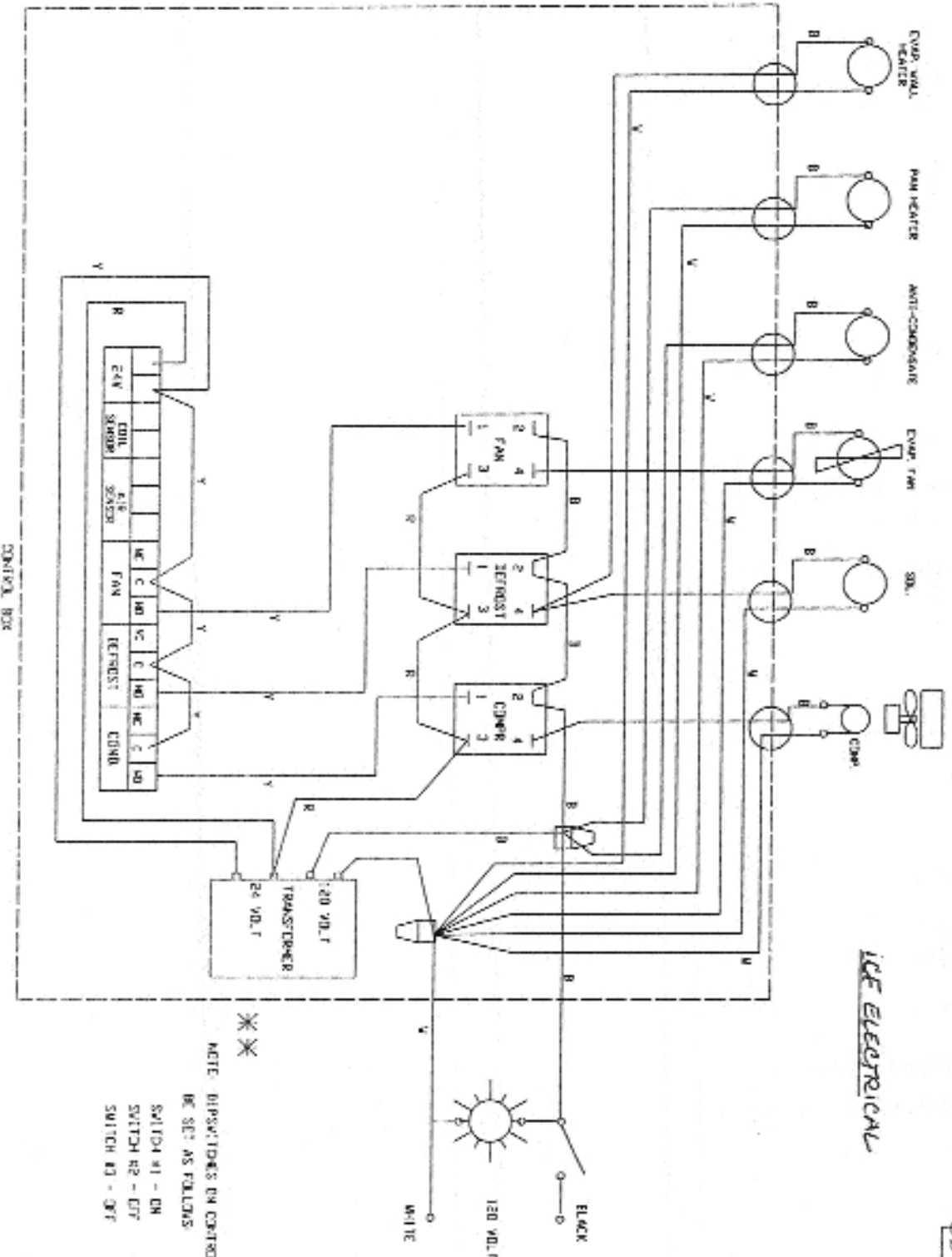


Figure 3

FIGURE #3 ICE CREAM FREEZER PARTS LIST		
KEY#	PART DESCRIPTION	PART NUMBER
1	Condensing Unit	0114515
2	Expansion Valve	0114532
3	Condensate Evaporator	0111492
4	Drier	0112764
5	Transformer 120/240V	0115046
6	Temperature Controller	0115048
7	Switch	0331350
8	Indicator Light	0189400
9	Thermometer	0112236
10	Evaporator Coil	0111492
11	Blower Wheel	0114523
12	Blower Motor	0112234
13	Relay 24 volt, three phase	0115045
14	Panel, LVR - Back and Front s/s	0675630
15	Frame Heater ICF-65	0114595
15	Frame Heater ICF-51	0114603
16	Defrost Solenoid Valve	0114525
17	Panel, Louver (back & front S/S)	0675630



Refrigeration Diagram



ICE ELECTRICAL

NOTE: DIRECTIONS ON CONTROL IC BE SET AS FOLLOWS:
 SWITCH #1 - ON
 SWITCH #2 - OFF
 SWITCH #3 - OFF

DATE	REV.	BY	CHKD.	DATE	REV.	BY	CHKD.
DATE	REV.	BY	CHKD.	DATE	REV.	BY	CHKD.
07/24/79	1	JAC	JAC				

TITLE: ICE WIRING
 DRAWING NO.:
 PROJECT: ICE
 SHEET: 1 OF 1
 DESIGNED BY: JAC
 CHECKED BY: JAC
 DATE: 07/24/79
 DRAWING NO.:
 PROJECT: ICE
 SHEET: 1 OF 1

PIPER PRODUCTS, INC LIMITED WARRANTY

All Piper products are warranted to be free of defects in material and workmanship for a period of 12 months from date of purchase on all parts and labor.

Piper Products, Inc. warrants to the original purchaser that its equipment will be free from defects in the materials and/or parts for a period of 12 months from date of shipment and reported to the factory.

The purchaser is responsible for having equipment properly installed, operated under normal conditions with proper supervision and to perform periodic preventative maintenance. Equipment failure caused by inadequate water quality, improper cleaning, harsh chemicals, or acids are not covered under warranty.

The manufacturer's obligation under this warranty shall be the replacement or repair of defective parts within the warranty period. Excessive labor (more than 1/2 hour) required to access Piper equipment built into cabinets, tables or structures by others, is NOT covered under labor warranty. Example: Piper multiple- or single-well food wells. All labor shall be performed during regular working hours. Overtime premium will be charged to buyer. After thorough examination, the decision of the Piper Products Service Department shall be final.

Any defective parts to be repaired or replaced must be returned to Piper Products, Inc., 300 South 84th Avenue, Wausau, WI 54401, transportation charges prepaid, and they must be properly packed and tagged. The serial and model number of the equipment and date of original installation of such equipment must be given. However, after one year we will not assume any responsibility for any expenses (including labor) incurred in the field incidental to the repair or replacement of equipment covered by this warranty. Our obligation hereunder to repair or replace a defective part is the exclusive remedy for breach of this warranty; and we will not be liable for any other damages or claims, including consequential damages.

If, upon inspection by Piper Products, Inc. or its Authorized Service Agency, it is determined that this equipment has not been properly installed or has not been used in an appropriate manner, has been modified, has not been properly maintained, the warranty will be void. Also, if the nameplate or other identifying marks have been removed, defaced or changed or the unit has been repaired or altered by persons other than expressly approved by Piper Products, Inc., the warranty will be void. If the equipment has been subjected to misuse or misapplication, neglect, abuse, accident, damage during transit or delivery, fire, flood, riot or acts of God, then this warranty shall also be void. When any situation occurs which voids the warranty the manufacturer shall not be liable for any damage to any person or any property which may result from the use of the equipment thereafter.

Warranty is limited to Piper manufactured products only and does not apply to other equipment which may be connected to or installed within.

No representative, dealer, distributor or any other person is authorized or permitted to make any other warranty or obligate Piper Products, Inc. to any liability not strictly in accordance with this policy.

This warranty is in lieu of all other warranties expressed or implied, including any warranty of merchantability, and fitness for a particular purpose. Piper Products does hereby exclude and shall not be liable to purchaser for any consequential or incidental damages including but not limited to damages to property, damages for loss of use, loss of time, loss of profits or income, resulting from any breach of warranty.