

Technical Manual

Installation, Operation, and
Maintenance Instructions

Modular Hot Food Counter
HFC3T-2M-SNM-MLR

Cospolich Refrigerator Company, Inc.
Norco, LA 70079
800-423-7761



www.Cospolich.com

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CHAPTER 1

GENERAL INFORMATION

1.1 *Introduction*

This technical manual provides information on the installation, operation, maintenance, and inspection of this unit manufactured by **Cospolich Inc.**, Norco, Louisiana. A complete parts breakdown is provided.

1.2 *Scope of the Manual*

This technical manual provides sufficient information for maintenance of the equipment.

1.3 *Equipment Description*

The unit consists of the following parts:

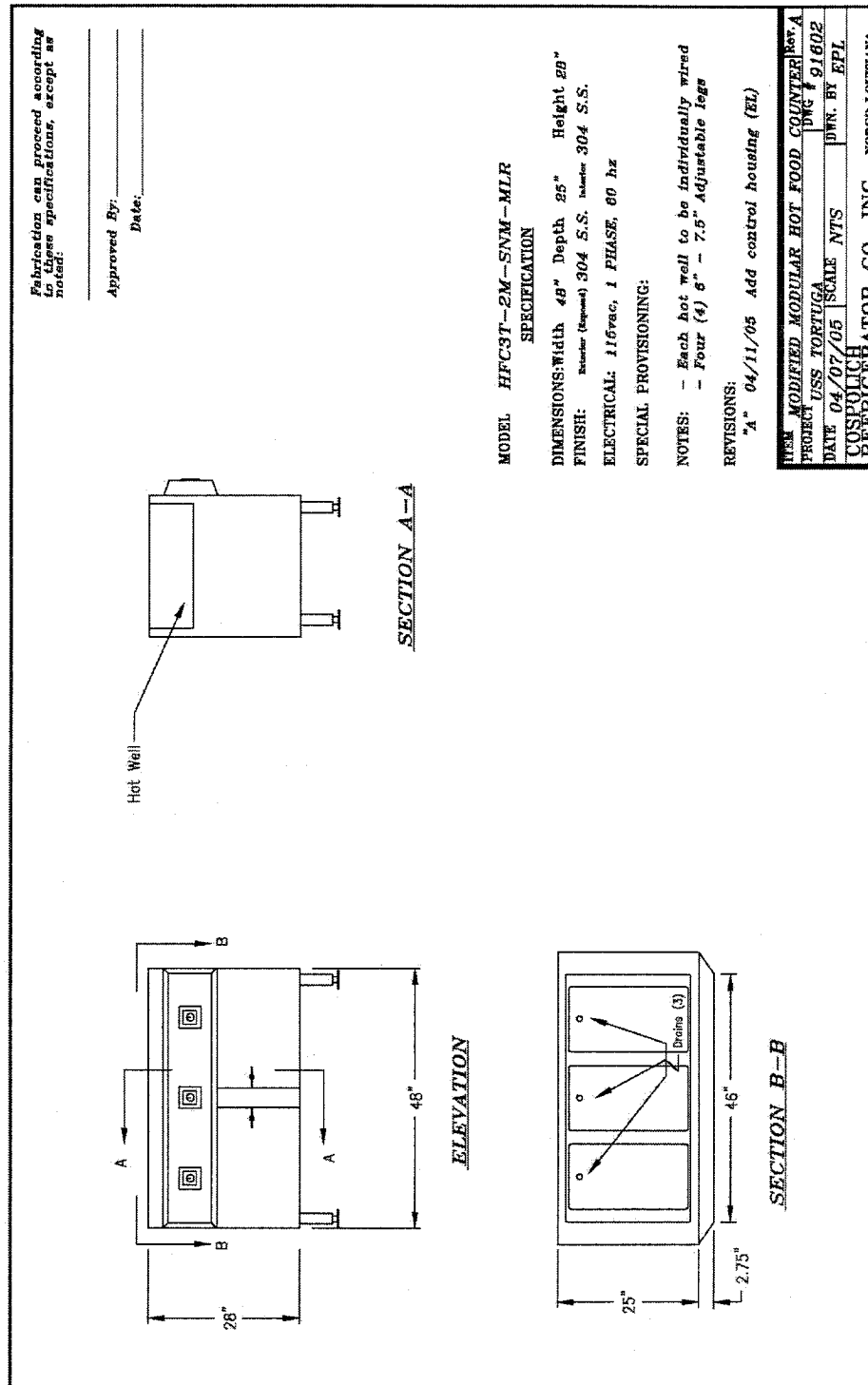
- a. *Storage Compartment* - The storage compartment is clear storage area. Included in this area are the adjustable shelves.
- b. *Doors – (optional)* Access to the storage compartment is through hinge-mounted door(s).
- c. *Hot Food Wells*- The hot food wells are located on the top of the cabinet. Each well has an individual adjustable temperature control.
- e. *Cabinet* - The cabinet is the enclosure in which all of the above items are housed.

1.4 *Equipment Supplied*

The unit is shipped from the factory fully assembled. The complete assembly is palletized and crated to minimize the possibility of damage in shipping and storage.

Table 1.1 – Leading Particulars

<i>Manufacturer:</i>	Cospolich, Inc. Norco, Louisiana 70079
<i>Type:</i>	Marine, Modular Hot Food Counter
<i>Model Number:</i>	HFC3T-2M-SNM-MLR
<i>Refrigerant:</i>	N/A
<i>Purpose:</i>	Serving of hot food items
<i>Power Supply:</i>	115 Volts AC
<i>Operating Current:</i>	3 circuits with 20 Amp capacity each
<i>Maximum Power Demand:</i>	10 Amps
<i>Drain Requirements:</i>	None
<i>Shipping Weight:</i>	454 lbs.
<i>Operating Weight:</i>	402 lbs.
<i>Volume (crated):</i>	57 cu. Ft.



CHAPTER 2

OPERATION

2.1 *Introduction*

This model is a heavy-duty piece of equipment designed for intermittent use. It incorporates automatic controls to regulate the cycling of the heated wells.

2.2 *Controls and Indicators*

TABLE 2.1 CONTROLS AND INDICATORS
--

Name	Type	Function
On/Off Adjustment	Infinite Control	Cycles heating element and Provides upper temperature limit
Pilot	Signal light	Indicates power to unit

2.3 *Start-Up Procedures*

The system is completely factory-assembled and ready for operation. To energize the system it is only necessary to locate the power supply cord and connect it to a proper electrical supply source. Once the supply cord has been connected to a power source the unit can be activated by turning the thermostatic control to the desired position.

Wet Operation:

1. Fill warmer with approximately 1-inch of hot tap water. Use hot water for a faster pre-heat.
2. Place desired pan or inset(s) with appropriate adapter top on warmer.
3. Turn temperature control knob to "Preheat" setting, the "HI" setting or the highest temperature setting.
4. Allow warmer to preheat for approximately 20 to 30 minutes. Cover unit during preheat and operation.
5. Add food product to insert(s).

Caution: Never place food directly into warmer well, always use an inset. Top of warmer will become very hot during operation.

6. Reset temperature control to desired setting for holding food product.

Dry Operation:

1. For dry operation follow steps 2 through 6 of “Wet Operation” instructions.
2. When warmer is in “dry” operation the bottom of the unit will discolor. To clean, use stainless steel cleaner or mild abrasive.

Caution: It is recommended that a six inch deep inset or pan be used in the warmer during dry operation.

Important Operation Tips:

1. Always place food products in an inset and never directly into the warmer.
2. Do not pour water into a dry pre-heated warmer as this may result in damage to the unit. It is recommended that water be placed into the unit prior to preheating.
3. For best results use warmer in a wet operation when warming dense food items.
4. Keep inset(s) covered to maintain food quality and temperature.
5. When using the wet operation it is important to check the water level of each inset periodically.
6. It is recommended that any one warmer not alternate between wet and dry operations.

TABLE 2.2 START UP PROCEDURE

Operation	Results
1. Activate system by inserting electrical service cord into electrical supply.	This brings power to the control.
2. Turn the “thermostatic Control” to the required position.	Beyond the “off” position the heating element will Energized.

2.4 *Shut Down Procedure*

- a. To shut down, turn each of the warmers to the “off” position on the control setting and disconnect the electrical supply.

TABLE 2.3 SHUT DOWN PROCEDURE

Operation	Results
1. De-energize the system by flipping the power control switch “Off” and disconnecting the electrical supply.	Once the system is de-energized the warmers will no longer operate.

WARNING:
PRIOR TO ANY CLEANING OF THE SYSTEM SHOULD BE DEACTIVATED BY DISCONNECTING THE POWER SUPPLY.

2.5 *Cleaning Instructions*

1. It is necessary that the control knob be in the “off” position.
2. Remove all insets.
3. Allow the units to cool.
4. Disconnect power to the unit.
5. Remove water from warmer well.
6. Wipe entire unit using a clean cloth or sponge with mild detergent.

Warning: Do not submerge the unit.

Do not splash or pour water onto the warmer control panel and wiring.

Caution: Possible shock hazard may result and unit may be damaged should electrical components become wet.

7. A plastic scouring pan may be used in the well to remove any hardened food particles.
8. When cleaning is finished rinse the well thoroughly with a solution of vinegar and water to neutralize all detergent/cleaner residue.

Important: It is not recommended to use any strong or caustic cleaners on the warmer. Do not allow ammonia to stand in the warmer. Make certain to rinse thoroughly to

remove all residue. Failing to do so may cause damage or corrosion to the unit.

9. If the water used to fill the warmer has a high lime content a deposit may result on the liner. Use a de-lime agent to remove lime deposits.

2.6 *Preparation For An Extended Period of Inactivity*

This unit is designed for periodic use. For extended shut down the electrical should be disconnected and the warmers cleaned.

TABLE 2.4 SHUT DOWN PROCEDURES FOR EXTENDED PERIOD

Operation	Results
1. Disconnect power supply	De-energizes system.
2. Clean warmers	Follow cleaning instructions
3. Clean and wipe dry the storage compartment.	This will reduce any odor buildup during shut down.

CHAPTER 3

FUNCTIONAL DESCRIPTION

3.1 *System Description*

This unit is a self contained, automatically controlled for periodic use. It is designed with the intent and purpose of heating food items.

The warming wells are each individually controlled and may be set at a desired temperature.

The equipment is installed in two basic compartment assemblies. They are:

- a. *Warming Wells*- These are the individual warming compartments on the top of the service counter.
- b. *Storage Compartment* – This storage area is clear storage area and may be used for dry goods or general storage.

3.2 *System Operation*

The design of the heated service counter focuses primarily on the safe storage of food while waiting to be served. In its engineering, considerable attention was placed on it's functional as well as it's serviceable capabilities.

The heating system is a pre-wired a closed loop system.

CHAPTER 4

SCHEDULED MAINTENANCE

4.1 *Introduction*

To insure the longest and most trouble free operation, a thorough periodic maintenance schedule is required. The maintenance system should be aimed at maximizing the efficient utilization of maintenance personnel, minimizing down time, and providing the orderly acquisition of spare parts support.

The **Cospolich** hot food service counter will generally be operated where scheduled maintenance is performed according to Maintenance Index Plans. This chapter of the manual is intended as an alternate to any standard maintenance program that may exist. The preventive maintenance schedule is based upon similar maintenance requirements for commercial food service equipment.

4.2 *Preventive Maintenance Action Index*

If there is not a maintenance index plan, we have formulated our schedule for periodic maintenance in Table 4.1.

4.3 *Preparation for Maintenance*

Since many areas affected in the maintenance schedule are electrically supplied, it may be necessary to de-energize the system when making these inspections.

4.4 *Maintenance*

4.4.1 *Weekly Inspection*

- a. The unit should first be de-energized by switching the main electrical breaker switch to the “Off” position.
- b. Following the cleaning instructions in Section 2.5, clean each of the warming wells.

4.4.2 *Monthly Inspection*

- a. Check the drain line at both the inlet and outlet ends to make certain that there are no obstructions. It is not recommended to use any chemicals in clearing a clogged drain. The preferred method of unstopping an obstructed drain is to use 60 lbs. of compressed air.

Note: This procedure is recommended only when the warmers are not connected to a central plumbing system.

- b. Using a mild detergent (non-abrasive) and warm water, wipe the cabinet exterior. When cleaning, always follow the grain of the stainless steel so as not to scratch or mar the finish.
- c. Check the operation of each of the warming wells to make certain that they are performing adequately.

4.4.3 Annual Maintenance

- a. Visually, inspect the outer panel and components of the cabinet. Check screws and bolts to make certain they are tight.
- b. Inspect electrical connections to make certain that there is a good contact and that wires are neither weakened or frayed.
- c. Inspect the integrity of the cabinet.
- d. Inspect the warmer flange seals on the countertop and re-seal with silicone sealant if necessary.

Note: Grease and water may leak under faulty seals onto insulation and heating elements causing a hazard.

4.4.4 Three Year Frequency

- a. Check the drain line at both the inlet and outlet ends to make certain that there are no obstructions. It is not recommended to use any chemicals in clearing a clogged drain. The preferred method of unstopping an obstructed drain is to use 60 lbs. of compressed air.

Note: This procedure is recommended only when the warmers are not connected to a central plumbing system.

- b. Using a mild detergent (non-abrasive) and warm water, wipe the cabinet exterior. When cleaning, always follow the grain of the stainless steel so as not to scratch or mar the finish.
- c. Check the operation of each of the warming wells to make certain that they are performing adequately.
- d. *(Units furnished with Doors)* Inspect the operation of the door latch assembly. Look into the latch to make certain that the moving parts do not show any signs of wear. Check to make sure that the screws are tight on the latch and strike. To check the hinges, open the door at a 90-degree angle to the cabinet. With a little pressure, lift up the outer edge of the door. If there is an upward movement of ½ inch, replace the hinges.

TABLE 4.1 PREVENTIVE MAINTENANCE ACTION INDEX

Item	Frequency	Description
1.	Weekly	a. De-energize the system and clean the warming wells.
2.	Monthly	a. Inspect and clear drain line. b. Clean the cabinet exterior. c. Check the performance of the warming wells.
3.	Annually	a. Visually inspect the outer panels and components of the cabinet. b. Inspect electrical connections to make certain that there is a good contact and that wires are neither weakened or frayed. c. Check the integrity of the cabinet. d. Inspect the warmer flange seals on the countertop and re-seal with silicone sealant if necessary.
4.	Three Year	a. Inspect and clear drain line. b. Clean the cabinet exterior c. Inspect electrical controls and wiring. d. Inspect door latch and hinges.

CHAPTER 5

TROUBLESHOOTING

This chapter will assist in a systematic check of components in determining any cause of equipment failure.

It will be necessary that the individual involved in the troubleshooting operation be familiar with the function of the equipment as described in Chapter 3.

The following table lists the most common symptoms that may be experienced and the recommended corrective action. The tables are separated into electrical maintenance, mechanical maintenance, and operators' actions.

TABLE 5.1 MECHANICAL AND ELECTRICAL TROUBLESHOOTING GUIDE
--

Symptom	Possible Failure	Remedy
Unit does not operate	1. Control failure 2. Incorrect voltage 3. Failed element 4. Doesn't warm	Adjust control or replace Correct Replace Check electrical switch
Unit runs continuously	1. Control failure	Adjust control or replace

CHAPTER 6

CORRECTIVE MAINTENANCE

6.1 *Introduction*

This chapter focuses on the instruction needed in the removal and replacement of certain components. We will also address the repair of components not listed under the schedule maintenance index covered in Chapter 4.

The components that we address are considered acceptable for repair using standard procedures that we will detail. The level of skills required to perform the service or repair will vary. Some may require specific training. It is up to the individual and/or his supervisor to determine their capability to undertake the particular task of service or repair.

It is also important to know that any procedure requiring the handling of electrical components and appliances.

The service or repair items are limited to those listed in Chapter 7.

6.2 *Repair Procedures*

*****WARNING*****

**PRIOR TO PERFORMING ANY WORK ON THE SYSTEM, IT IS REQUIRED THAT
THE UNIT BE DE-ENERGIZED.**

6.2.1 *Replacement of the Infinity Switch*

- a. Prior to beginning the change out of the infinity switch, it is first necessary to disconnect electrical power to the unit. This should be done by turning off the circuit in the main supply panel and tagging it out.
- b. To access the infinity switch, you must first remove the control knob. This is accomplished using a standard screw driver and applying pressure between the knob and the cover plate.
- c. Remove the two screws on the face of the cover plate. One is at the extreme top and the other at the extreme bottom. This will allow the cover plate along with the infinity switch to be pulled from the face of the cabinet.
- d. To remove the infinity switch remove the two screws that attach the switch to the cover plate. Next remove the electrical wires from the switch.
- e. To install the new switch reverse the process.

Cospolich Refrigerator Co., Inc. urges that all individuals responsible for training, teaching or

advising installation mechanics and service personnel emphasize proper techniques and strict adherence to recommended practices for electrical maintenance.

6.2.2 *Replacement of the Heating Element*

- a. Disconnect unit from electrical service.
- b. Locate and remove the metal panel concealing the wells. This panel(s) is located at the top of the storage compartment directly below the wells.
- c. With the panel removed locate the shield cover on the bottom of the hot well that you wish to replace the element on.
- d. Remove mounting fasteners on sides of the shield. This will expose the element.
- d. The two wire leads to the element can be disconnected.
- e. To install the replacement element, reverse the process.

6.2.3 *Replacing the Control Knob*

- a. Using a flat blade screw driver gently apply pressure to the backside of the knob. It will slowly slide off of the switch stem.
- b. To replace the knob, first line it up on the stem in the correct orientation and apply some pressure until it comes to be seated.

6.2.4 *Replacement of Door Latch*

- a. Remove the four mounting screws in latch.
- b. Remove the latch..
- c. Replace in reverse order.

6.2.5 *Replacement of Power Switch*

- a. First shut off all electrical power going to the unit and tag the switch so that it cannot be accidentally turned on.
- b. Remove the front enclosure cover..
- c. Remove the wires connected to the switch.

- e. Unscrew the lock washer and remove the switch.
- f. Reverse the processing when installing the new switch.

CHAPTER 7

PARTS LIST

7.1 Introduction

This section of the manual contains lists of replaceable parts. Each of the tables contain a list of removable parts associated with an assembly of the cabinet or refrigeration system. No parts identification has been provided for details of permanently assembled items or those items that are not suitable for field repair.

7.2 Source Codes

The sources for some items are shown in the part tabulation. Where no individual source code is listed, the part is available through **Cospolich Refrigerator Co., Inc., Kenner, LA 70062. (Fed. Mfg. Code #66682)**

TABLE 7.1 VENDOR SOURCE CODES

Code No.	Name	Address
66682	Cospolich	Norco, LA

TABLE 7.2.1 PARTS LIST -

Description	Cospolich Part Number	O.E.M. Part Number
Latch		Guden 64-21-10
Soup Well		APW 11 qt.
Soup Well		APW 7 qt.
Hot Wells	RHN-N	Cospolich
Plate Heater		Hatco
Drain Valves		Barnett 252135

Table 7.3 – Parts List

Parts List - Cabinet HFC3T-2M-SNM-MLR				
Item	Cosp #	Mfg #	Vendor	Qty
1/2" Ball Valve, sweat type	RWIV13	252135	Barnett	5

Description	Cosp #	Mfg #	Vendor	Qty
Thermostatic Control	WHET06	KA-1197-36	Invensys	1
Heater Element 115V	WHEE01	Q#100000070	Indeeco	1
Indicator Light 115V	WHE-050	2950-1-11-38610	Solico	1

CHAPTER 8

INSTALLATION

8.1 *Unpacking*

Note: Before unpacking unit, note any crating markings and check for damage to crating and notify the carrier if there should appear to be damage to the equipment.

The unit is shipped from the factory securely fastened to a single shipping pallet protected by an external wrapping

- a. Carefully remove all external wrappings and other protective coverings.
- b. Review the installation section of the manual completely prior to installation.
- c. Discard crating materials.

8.2 *Installation*

- a. Before moving the unit to the installation sight, double-check passageways to make certain that it will move through without modifications.

Note: In certain instances, it may be necessary to remove the doors and hardware to negotiate tight spaces.

b. On most shipboard applications, a permanent base is fabricated by the ship builder to accommodate the base frame of the unit. *Once the cabinet has been attached to the ship's foundation, it is necessary to apply a silicone sealant around the complete perimeter at the point that the cabinet base contacts the foundation.*

c. Position the unit to allow sufficient ventilation, usually leave a 3" clearance from adjacent bulkheads and other equipment. Try not to place the unit near heat producing items such as ovens, ranges, and furnaces.

d. Level the cabinet from front to back and from side to side. This is important so that when securing to the deck base, the cabinet will not be pulled out of square.

e. The drain lines are factory-installed, however they will need to be connected to the vessels plumbing system.

f. Before applying electrical power to the unit, you should first check the electrical characteristics of the appliance and make certain that they agree with those of the electrical supply source.

CAUTION: LOW OR EXCESSIVE VOLTAGE CAN SEVERELY DAMAGE THE ELECTRICAL SYSTEM.

CHAPTER 9

9.1 Introduction

This section of the manual contains drawings and schematics of the electrical and piping systems.

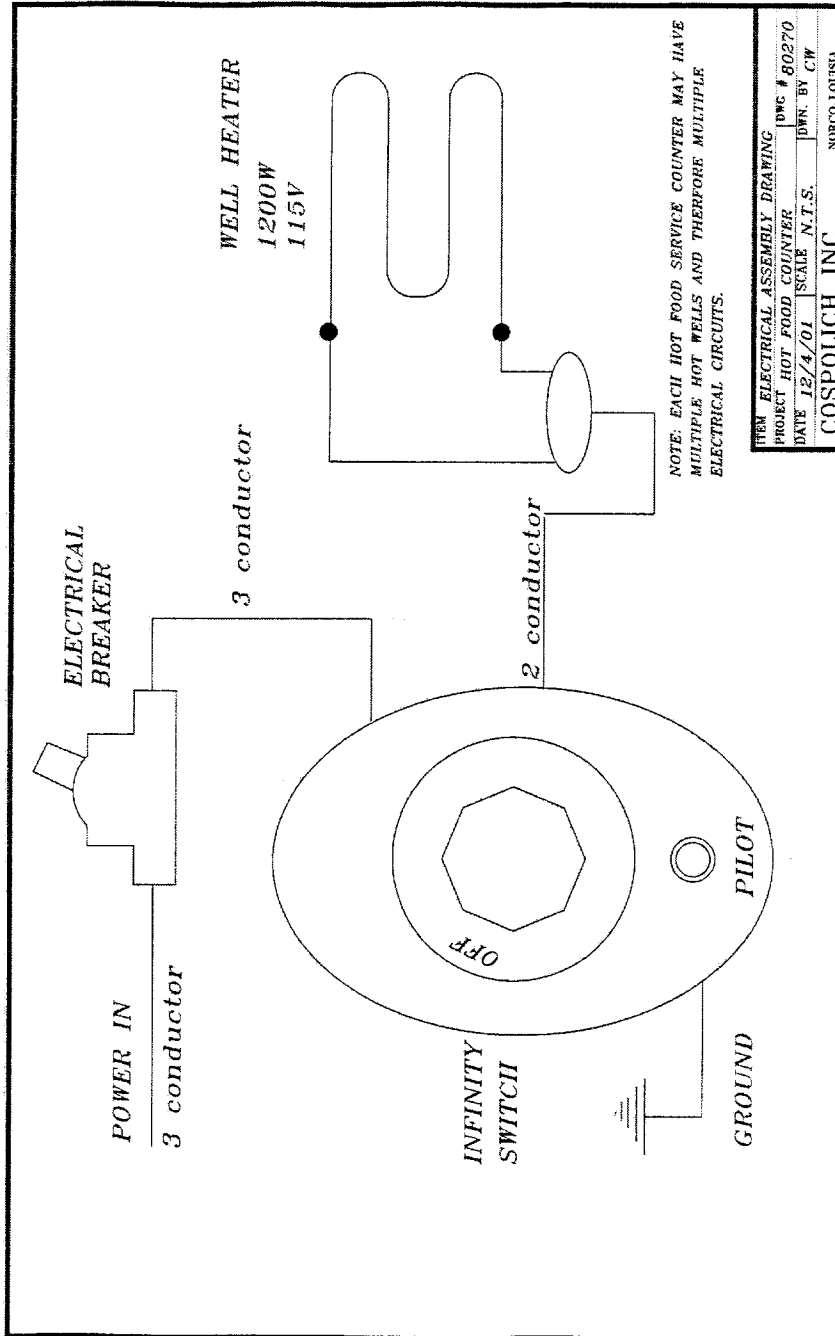


FIGURE 9.1
ELECTRICAL SCHEMATIC

CHAPTER 10

LIMITED WARRANTY

Cospolich warrants their cabinets to consumers against defects in material or workmanship under normal use and service for a period of one year from the date of the shipment. We will repair or replace at our option, any part, assembly or portion thereof which **Cospolich's** examination discloses to be defective. **Cospolich** will pay the labor costs for the repair up to twelve (12) months from date of shipment.

In instances where the purchaser is not the owner in possession and the acceptance of **Cospolich** equipment is closely tied to the completion and delivery of the project, our warranty will begin on the acceptance date and will extend for one year.

Terms

Exclusions

Cospolich's obligations under this warranty shall not extend to any malfunction or other problem caused by unreasonable use, such as but not limited to, improper setting of controls, improper installation, improper voltage supply, loose electrical connections or blown fuses, and damage not attributable to a defect in workmanship. This warranty shall not apply to any cabinet or component part that has been subject to any accident, alteration, abuse, misuse to any damage caused in fire, flood, or other acts of God and to any product that has been serviced by an unauthorized service person or company.

To Secure Warranty Service

If you claim a defect under this warranty, direct your claim to whom you purchased the product, giving model, serial and code numbers with a description of the problem. Telephone calls should be directed to the service department at (800) 423-7761 or (504) 469-6555 with fax request going to (504) 469-1819.

If the above procedure fails to satisfy your claim, you may write directly to the **Director of Customer Relations, Cospolich Refrigerator Co., Inc, P.O. Box 1206, Destrehan, La. 70047** listing the above. **Cospolich** toll free number is 800-423-7761 or (504) 725-0222 or Fax (504) 725-1564.

There is no other express warranty on the **Cospolich** units except as stated herein. Any implied warrants of fitness and merchantability are limited in duration to the duration of this warranty. The liabilities of **Cospolich** are limited solely and exclusively to replacement as stated herein and do not include any liability for any incidental, consequential, or other damages of any kind whatsoever, whether any claim is based upon theories of contract negligence or tort. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion of limitations of incidental or consequential damages. So the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.