

HUSSMANN® HUSSMANN® HUSSMANN® HUSSMANN® HUSSMANN® HUSSMANN® HUSSMANN®

HUSSMANN® HUSSMANN® HUSSMANN®



HUSSMANN® HUSSMANN® HUSSMANN®

HUSSMANN® HUSSMANN® HUSSMANN® HUSSMANN®

# HUSSMANN®

## CORPORATION

### VHF-VHFS

HOT FOOD MERCHANDISERS

## INSTALLATION / SERVICE INSTRUCTIONS

**ENG. NO. 341673**

December, 1988  
Supersedes #319738E  
Dated May, 1988  
Section 2

## TABLE OF CONTENTS

Page

1.	GENERAL INFORMATION-----	2
	Model Description	
	Application	
	Cross-Sections and Plan Views	
2.	INSTALLATION-----	5
	Shipping Damage	
	Shipping Braces	
	Exterior Loading	
	Leveling	
	Anchoring	
	Drain Connection	
	Water Supply Connection	
	Splashguard Installation	
	Sealing Case to Floor	
	Drain Pan and Lower Shelf (VHF)	
3.	ELECTRICAL-----	9
	Connections	
	Serial Plate Amperages	
	Wiring Diagrams	
	Replacement Parts List	
4.	USER INFORMATION-----	19
	Food Handling and Hot Food Equipment	
	Using the VHF Hot Table	
	Heating System	
	Controls	
	Heat Wells	
	Using the VHFS Hot Table	
	Heating System	
	Care and Cleaning	
5.	SERVICE TIPS-----	27
	Control Replacement	
	Well Heater Replacement	
	Plate Heater Replacement	
	Lampholder Replacement	
	Autofill System	

WARRANTY



**SECTION 1****GENERAL INFORMATION****MODEL DESCRIPTION**

The VHF and VHFS are hot food merchandisers that are designed for the display and serving of pre-cooked hot food.

The VHF is a service model in which food is placed into display pans located over heated wells. These wells may contain heated water or they may be used dry, depending on the food type.

The VHFS is a self-service model. It has a heated stainless steel plate on which packaged food is placed. The shoppers serve themselves through the open front.

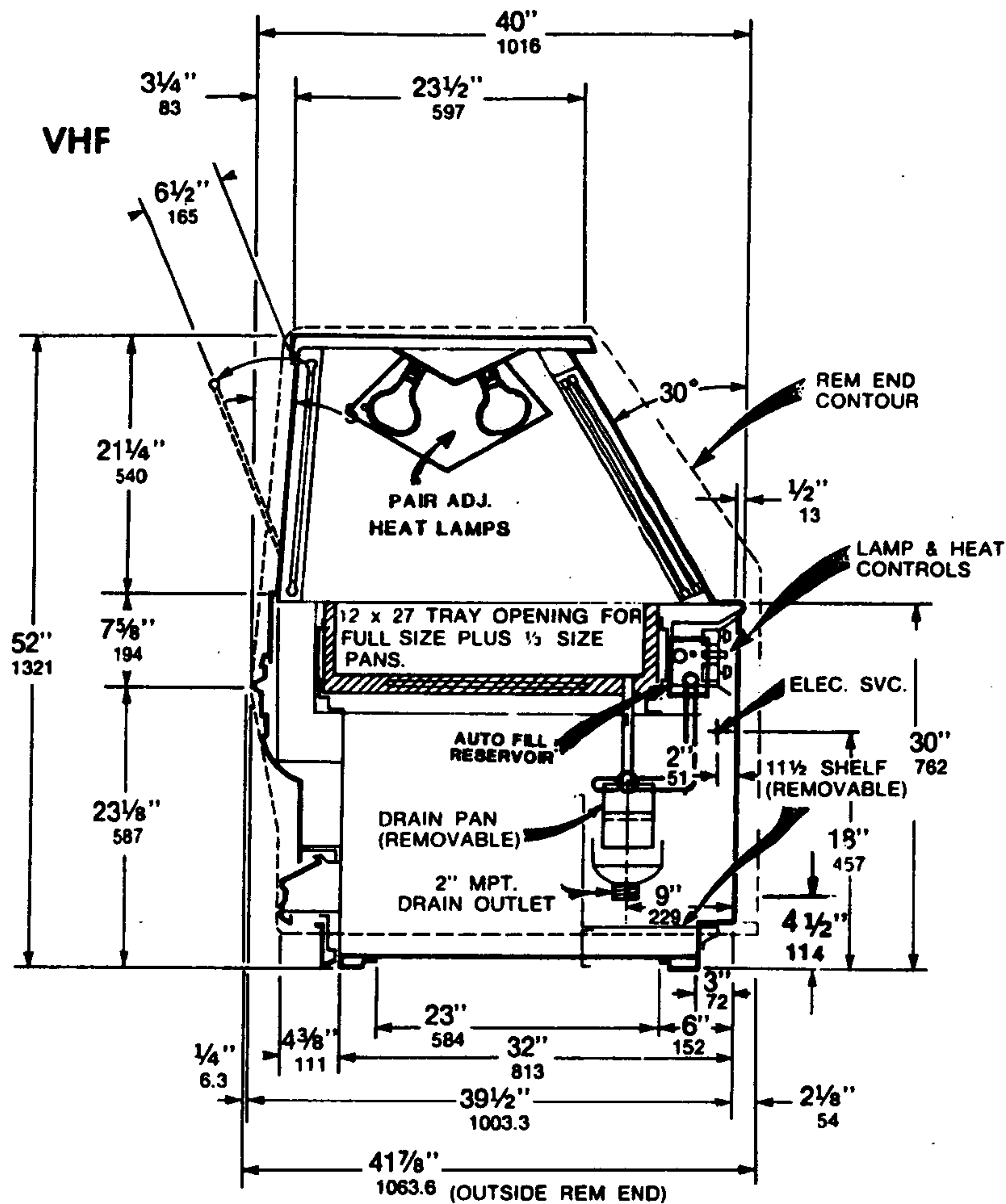
Both models will also have clear, infrared lamps for both heat and illumination.

MODEL	DESCRIPTION
VHF-4	
VHF-5	
VHF-6	Service Type
VHF-8	
VHF-10	Hot Tables
VHF-12	
VHFS-4	
	Self-Service Type
VHFS-5	
	Hot Table
VHFS-6	

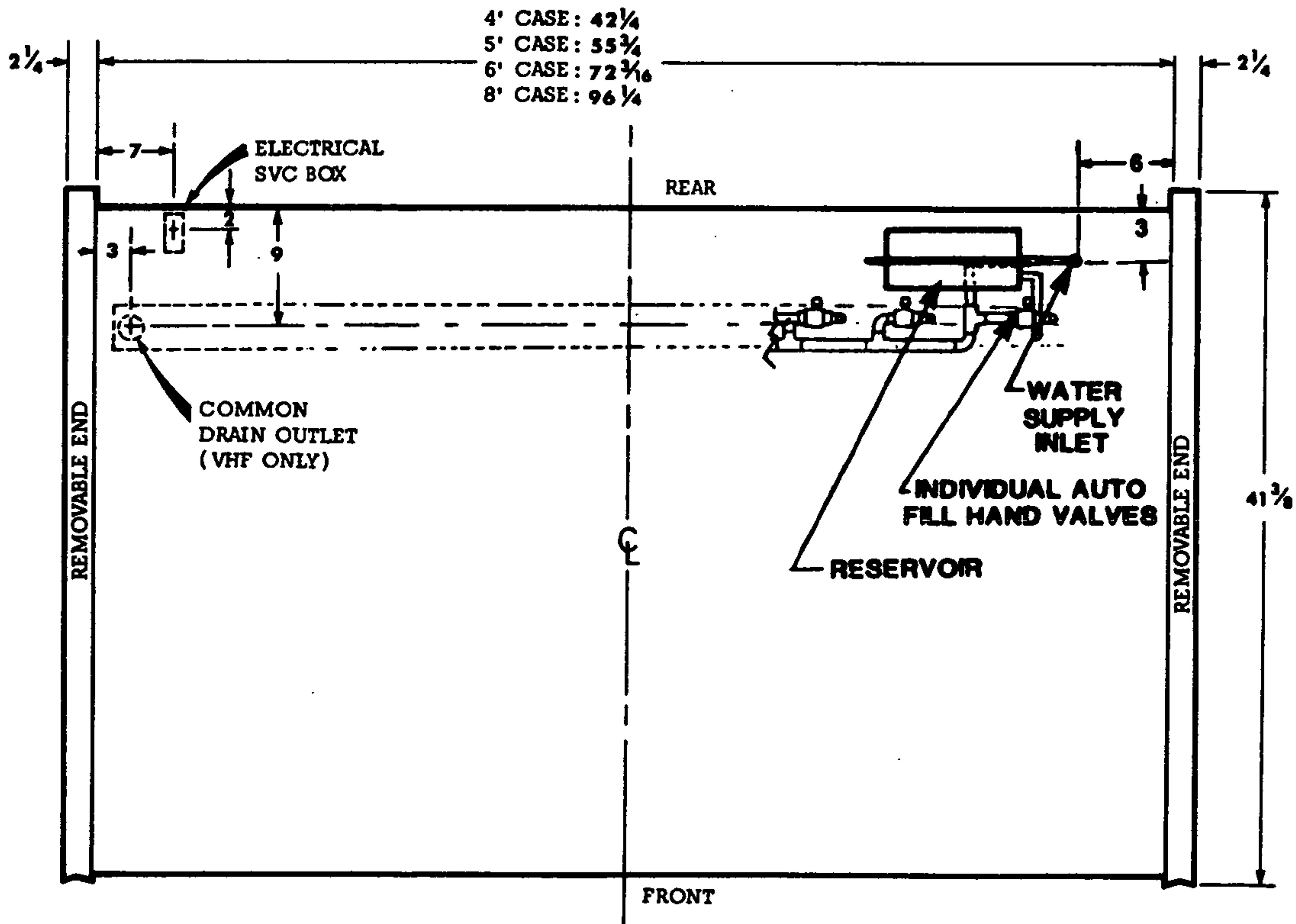
**APPLICATION**

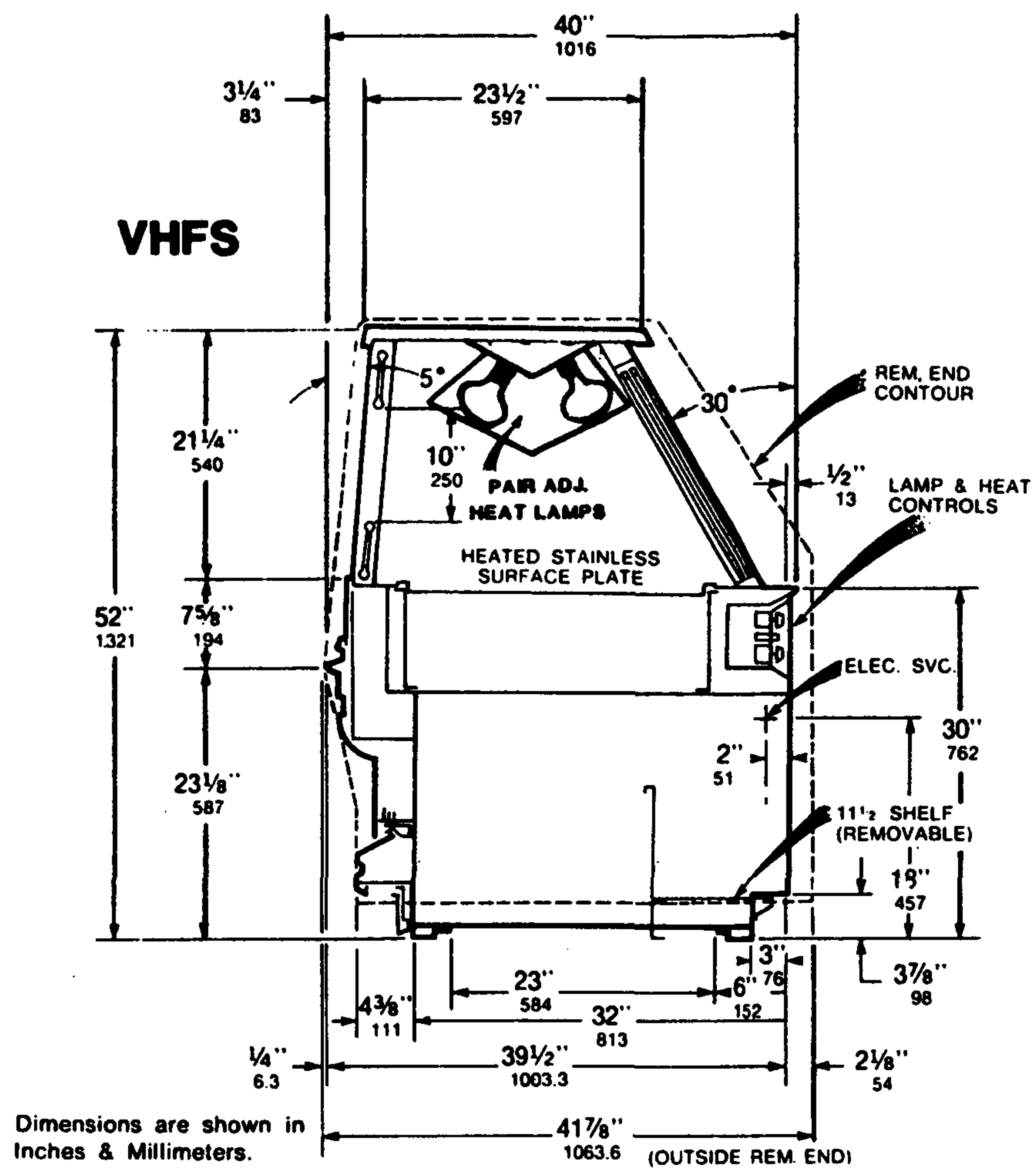
These hot food merchandisers are designed for the display of hot, pre-cooked food. This equipment complies with the standards established by the National Sanitation Foundation and should be used in accordance with all local codes and regulations concerning the preparation, display and serving of hot food.

VUMOR HOT TABLE



VHF PLAN VIEW





**SECTION 2****INSTALLATION****SHIPPING DAMAGE**

All equipment should be thoroughly examined for shipping damage before and when unloading.

This equipment has been carefully inspected at our factory and the carrier has assumed responsibility for safe arrival. If damaged, either apparent or concealed, claim must be made to the carrier.

**APPARENT LOSS OR DAMAGE**

If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent, otherwise, carrier may refuse claim. The carrier will supply necessary claim forms.

**CONCEALED LOSS OR DAMAGE**

When loss or damage is not apparent until after equipment is uncrated, a claim for concealed damage is made. Upon discovering damage, make request in writing to carrier for inspection within 15 days and retain all packing. The carrier will supply inspection report and required claim forms.

**SHIPPING BRACES**

Move the equipment as close as possible to its permanent location, then remove all crating and separately packed accessories.

**EXTERIOR LOADING**

This equipment is not designed to support external loading such as the weight of a person. To avoid damage and personal injury, do not stand on these hot tables.

**LEVELING**

To level this equipment, place a spirit level, at least 24" long, on the back as shown in the following illustration.

**ANCHORING**

These hot tables have been designed with a low center of gravity so that anchoring is not necessary. If anchoring is desired, holes may be drilled in the rear base rail and then lagged to the floor.



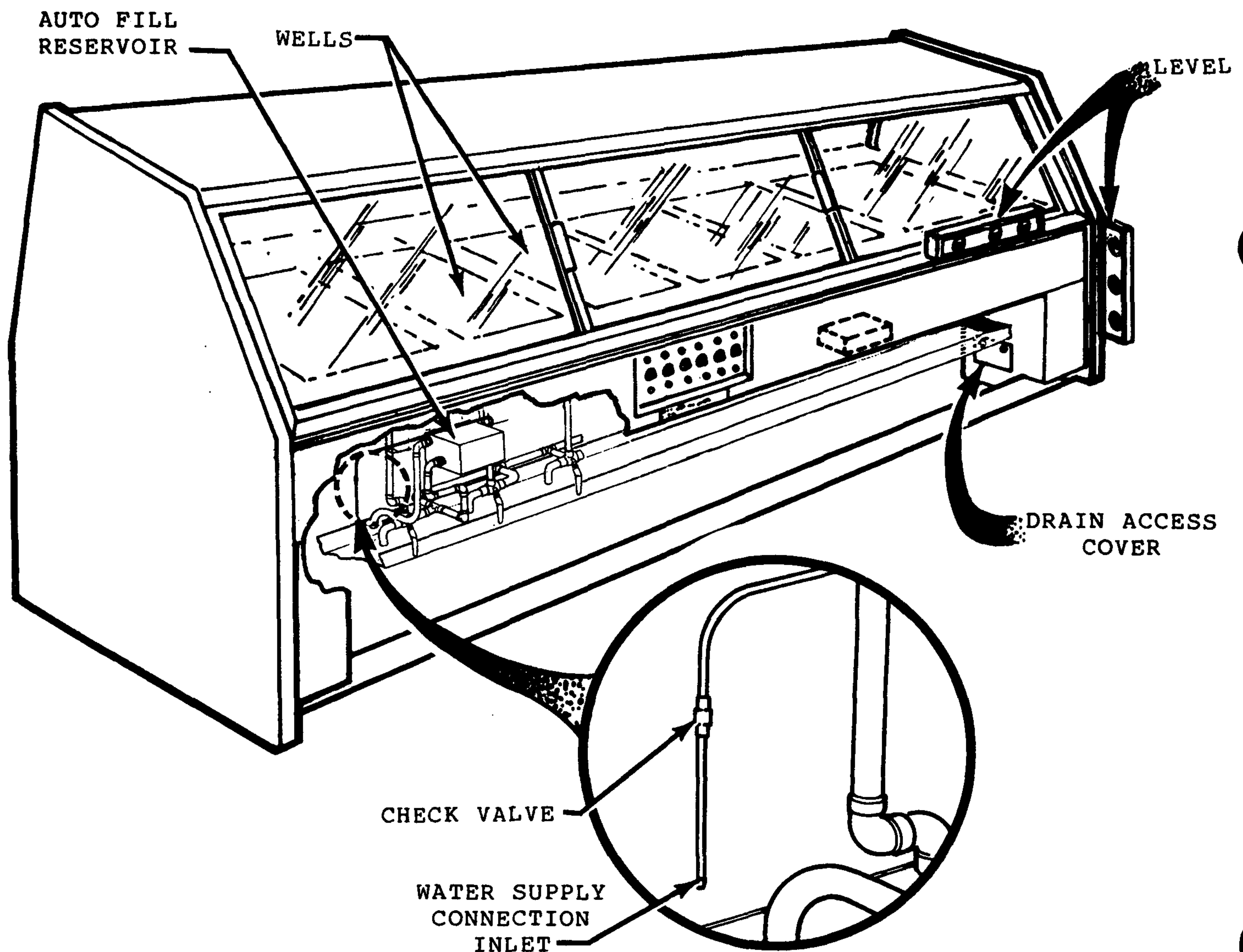
**DRAIN CONNECTION (VHF MODELS)**

These hot table models will need to be connected to a floor drain. Their waste outlet has a plastic, 2" male drain fitting located behind the access plate as shown in the following illustration. No drain traps are supplied.

**WATER SUPPLY**

Each hot table equipped with food wells must be connected to a water supply. These hot tables are equipped with an automatic water fill system which, when connected, will automatically maintain the proper level of water in each well when in operation.

The water supply connection is located beneath the rear, left hand end as shown in the following illustration. We suggest that a hand shut-off valve be installed when making water connection.



**SPLASHGUARD INSTALLATION**

A splashguard has been shipped with each hot table. This splashguard is to be installed to the lower front after the hot table has been set in its permanent location. To install the splashguard, place it as shown below, then fasten along the top with #8 x 1/2 sheet metal screws.

**SEALING CASE TO THE FLOOR**

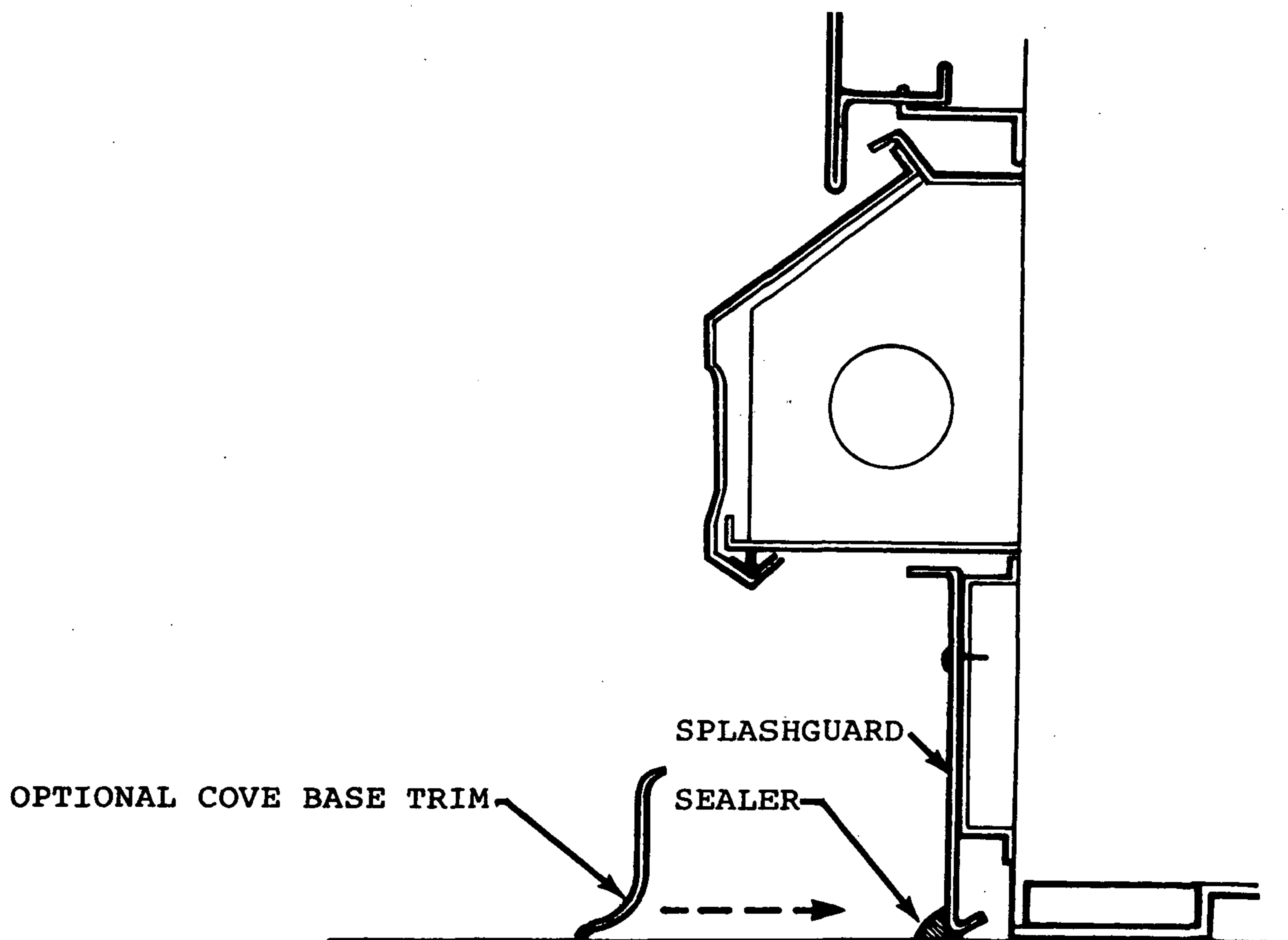
If required by sanitation codes to seal the case to the floor, apply a large enough bead of sealer around the splashguard AND the entire perimeter of the case. This effectively seals the case along all edges, complying with the respective code. See the sketch provided below.

**APPLICATION OF (Optional) VINYL COVE BASE TRIM**

If the customer desires, an optional vinyl cove base trim may be applied to the splashguard.

To install the trim to the splashguard:

- A. Remove all dirt, wax and grease from the area of the splashguard where adhesion will be necessary. This is to insure a good and secure installation.
- B. Apply a good cove base adhesive to the trim.
- C. Install the trim to the splashguard so that it is lying flush with the floor.



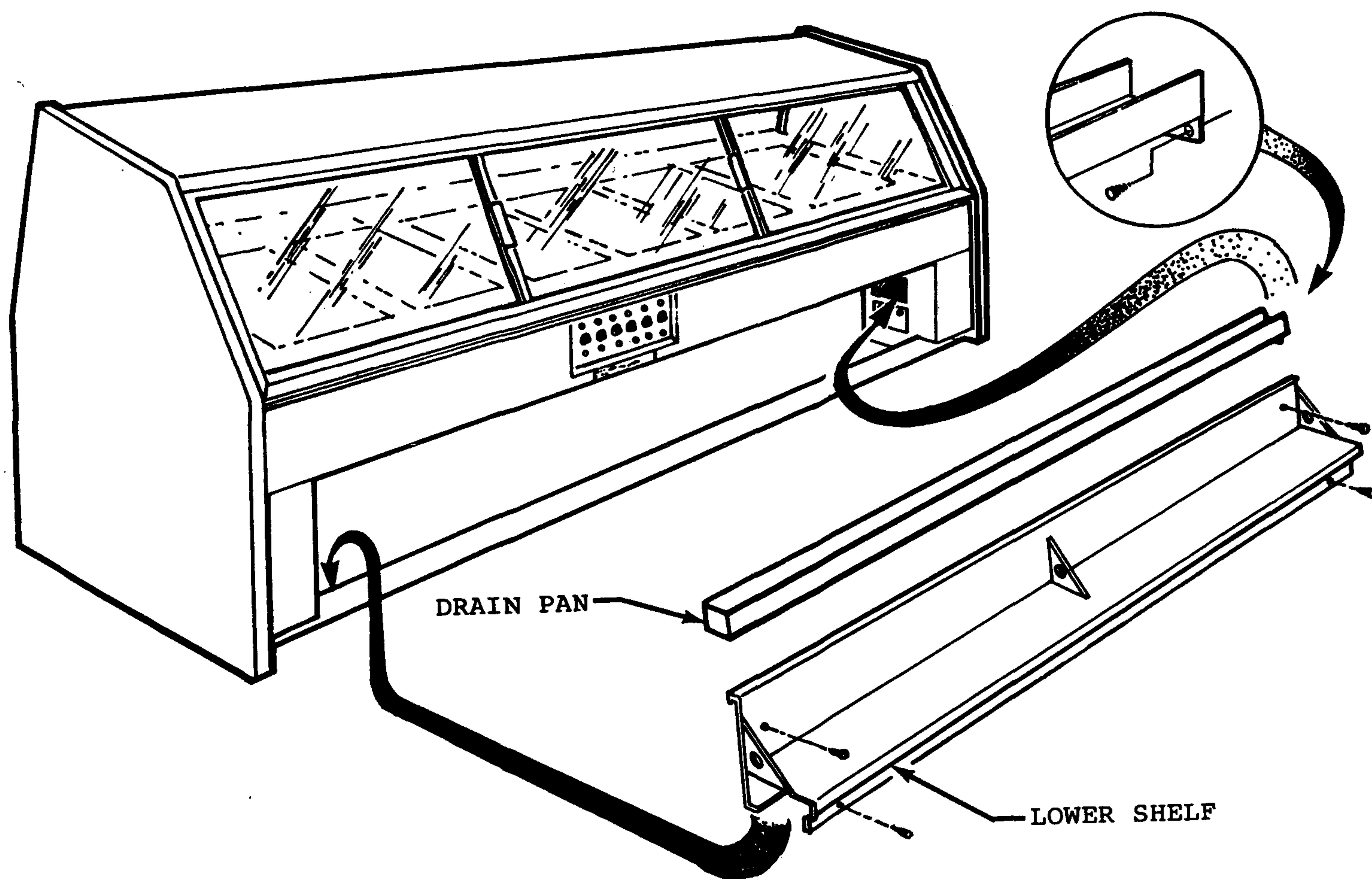


**DRAIN PAN AND LOWER SHELF (VHF MODELS)**

These two items are fastened in place before shipping. The screws which hold them should be removed so that they may be easily removed for cleaning or servicing, without tools.

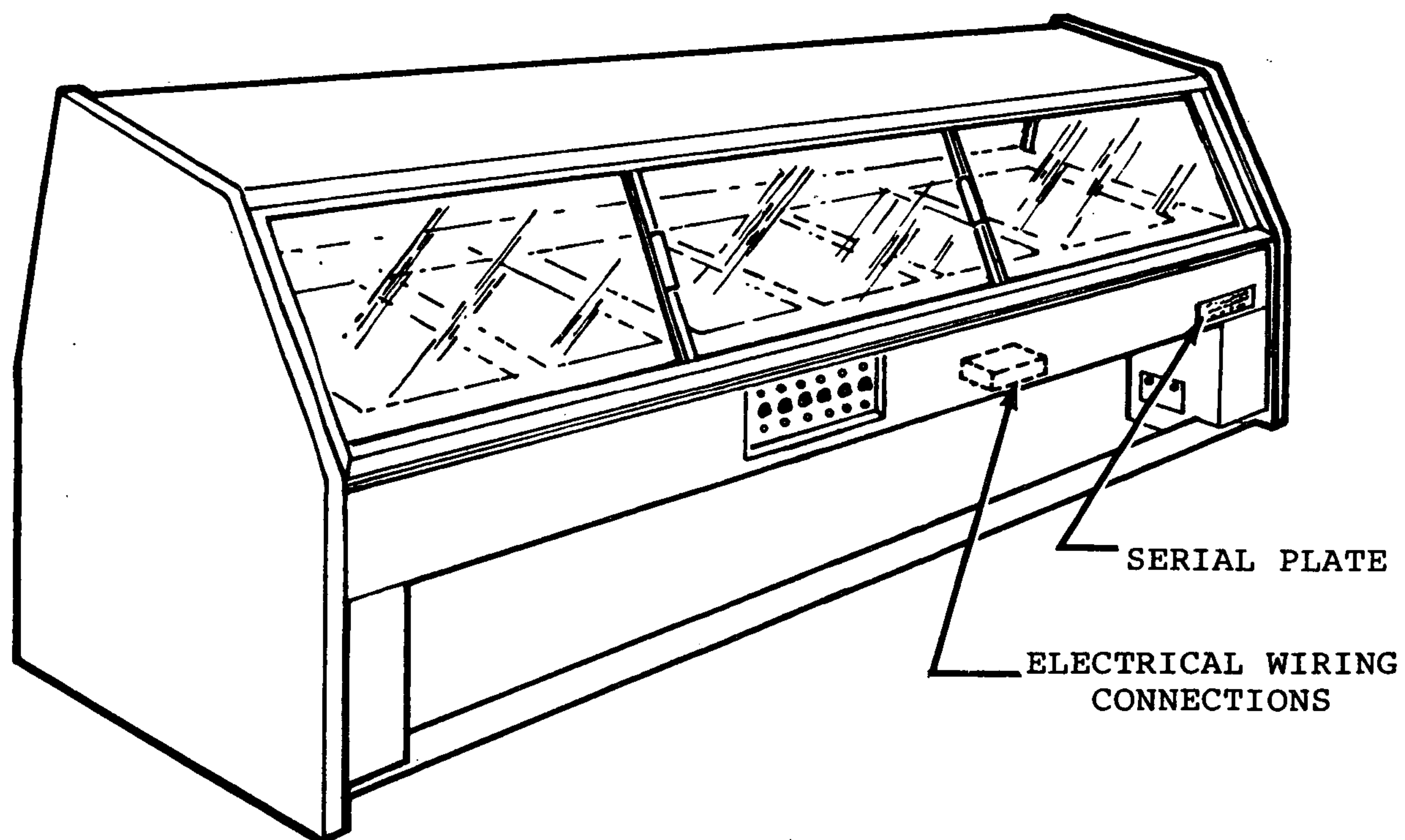
To remove the drain pan, lift and push the pan into the drain collector opening until the opposite end clears the supports. Then pull drain pan away from hot table.

To remove the lower shelf, simply lift and pull the shelf away from the hot table.



SECTION 3ELECTRICALCONNECTIONS

All electrical connections for these hot tables will be made in the handy box located at the rear of the hot table as shown below. The Serial Plate will be stamped with the electrical requirements.



HOT TABLE MUST BE GROUNDED

**SERIAL PLATE AMPERAGES**

Serial Plate Amperages are the amperage figures that are stamped on the fixture's Serial Plate. Although all field installed wiring must be sized to the serial plate amperages, the actual current or amps may be less than that specified.

**CIRCUIT REQUIREMENTS**

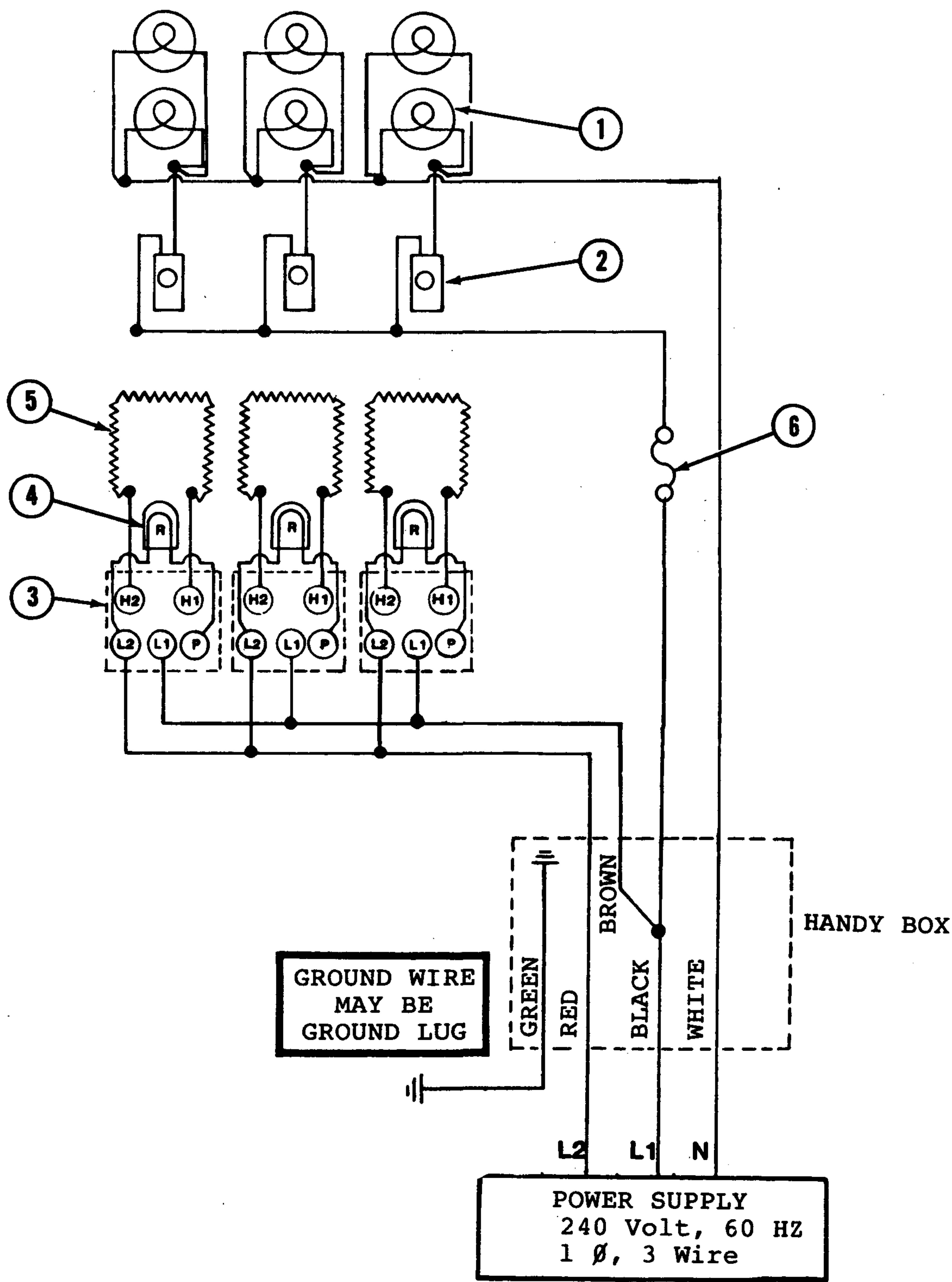
MODEL	240 VOLT, 60HZ Single Phase, 3 Wire	208 VOLT, 60HZ Three Phase, 4 Wire
VHF-4	27.5 amps	-----
VHF-5	28.4 amps	-----
VHF-6	-----	25.5 amps
VHF-8	-----	33.9 amps
VHFS-4	21.0 amps	-----
VHFS-5	16.8 amps	-----
VHFS-6	21.0 amps	-----

**NOTES:**

1. The amperage figures shown in this table are for the line with the highest amperage.
2. The VHF-10 hot table is two VHF-5 hot tables.  
For two circuits, use values for VHF-5.  
For one circuit, double values listed for VHF-5.
3. The VHF-12 hot table is two VHF-6 hot tables.  
For two circuits, use values for VHF-6.  
For one circuit, use values listed for VHF-6.
4. FIELD WIRING: USE CONDUCTORS RATED MINIMUM 75 C.
5. The 240 volt and 208 volt power is used on the heater circuit. 120 volt power (one power leg and the neutral) is used for the lights.

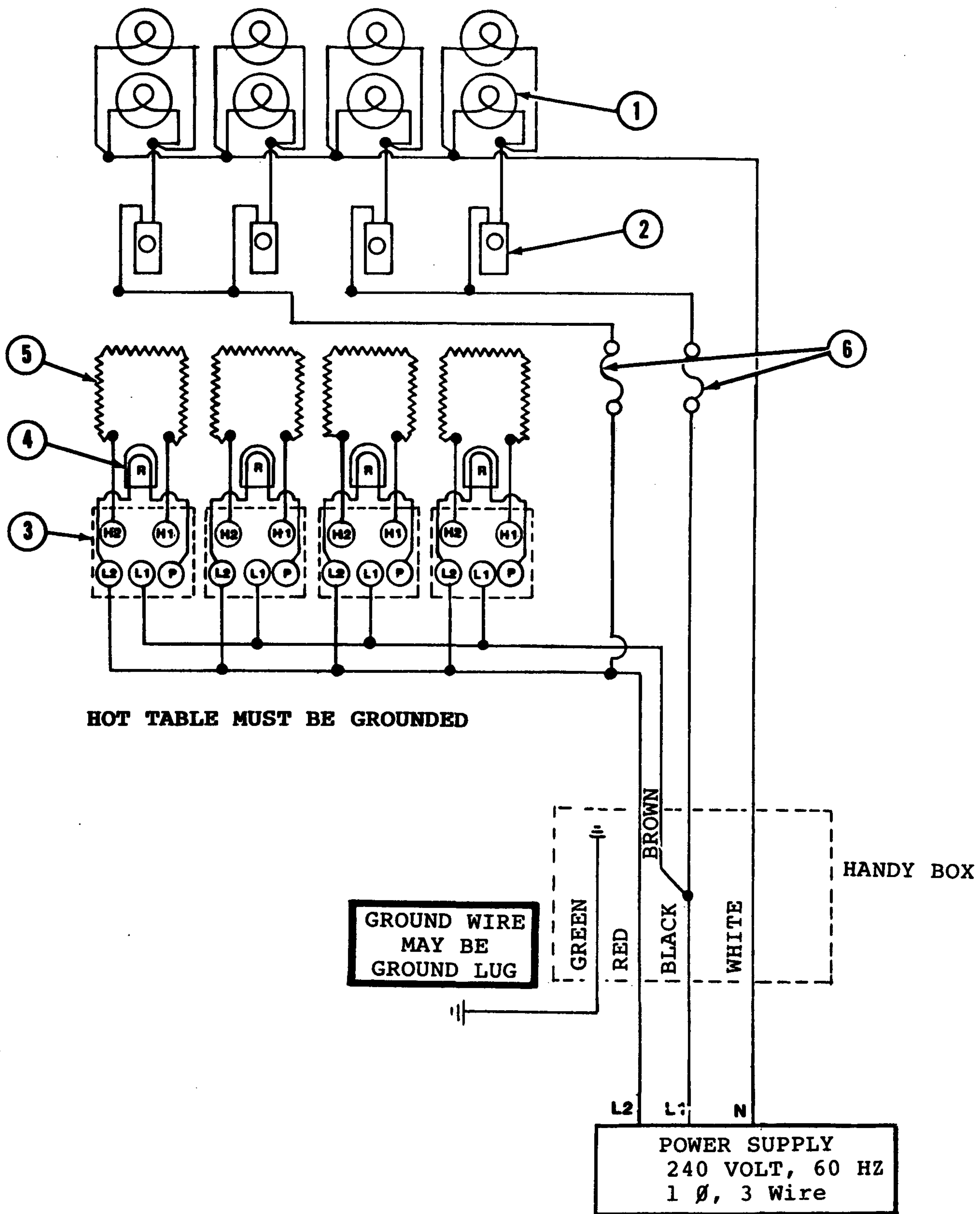


WIRING DIAGRAM  
VHF-4



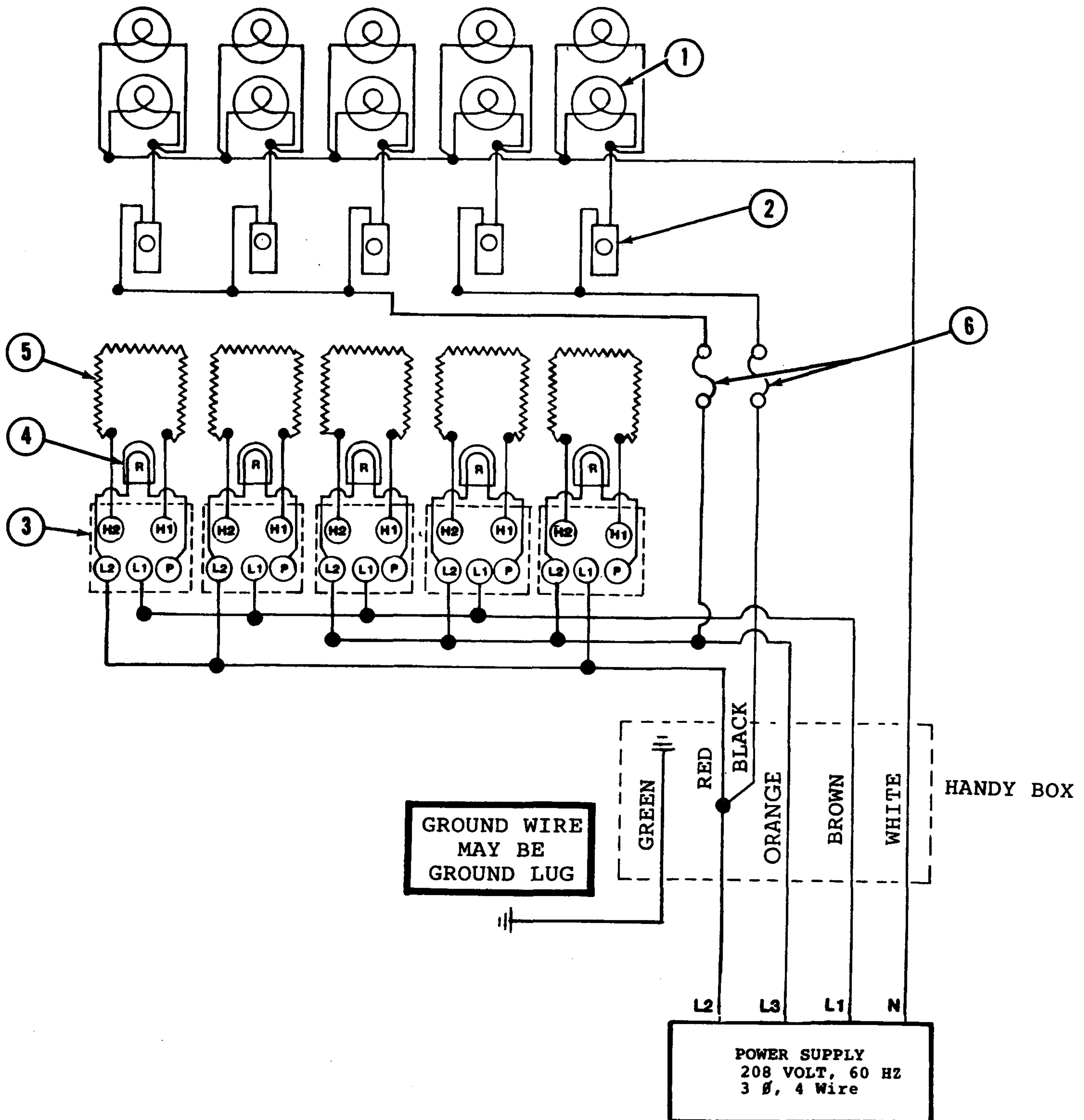
HOT TABLE MUST BE GROUNDED

**WIRING DIAGRAM  
VHF-5**



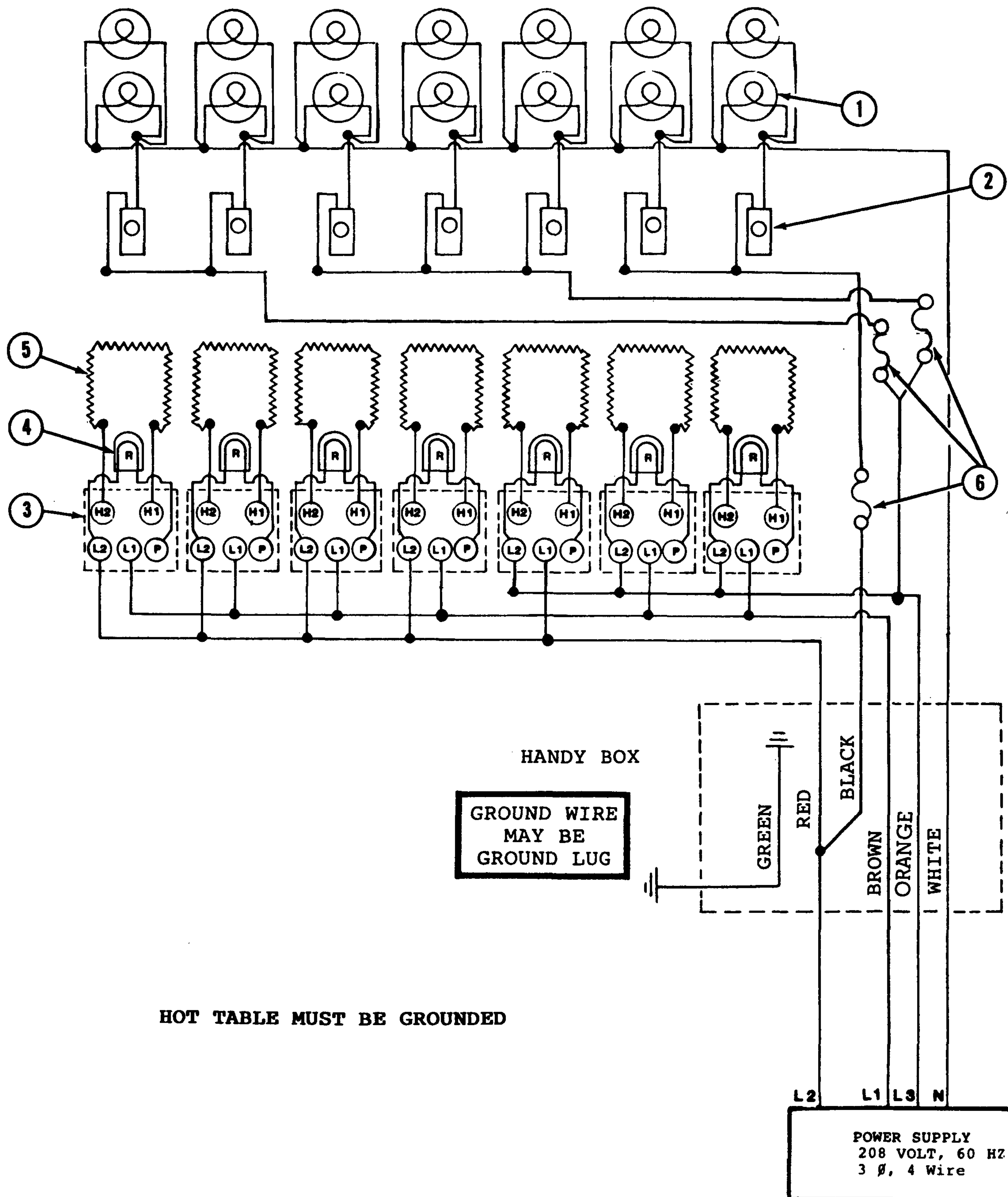
**HOT TABLE MUST BE GROUNDED**

WIRING DIAGRAM  
VHF-6



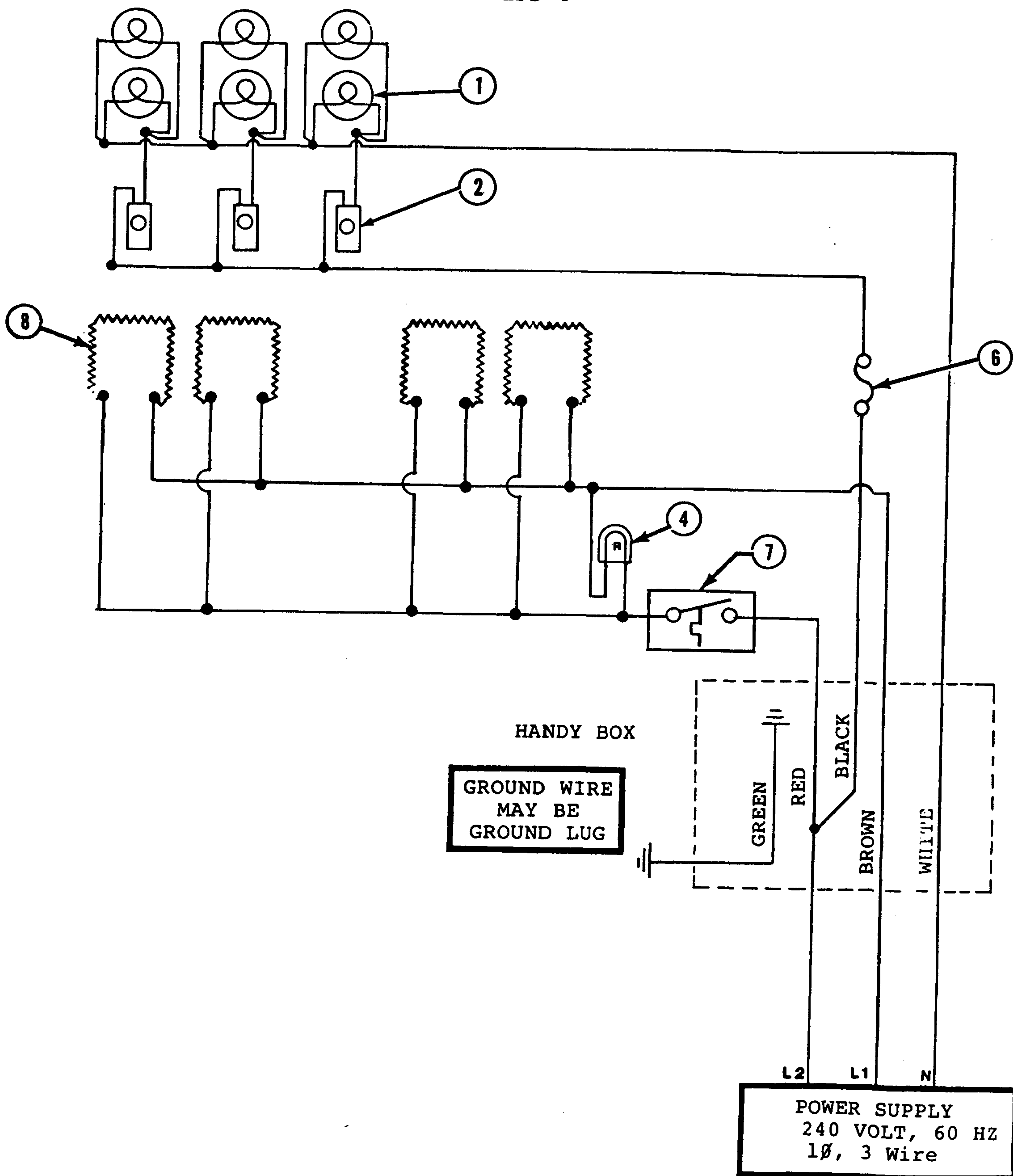
HOT TABLE MUST BE GROUNDED



**WIRING DIAGRAM  
VHF-8**

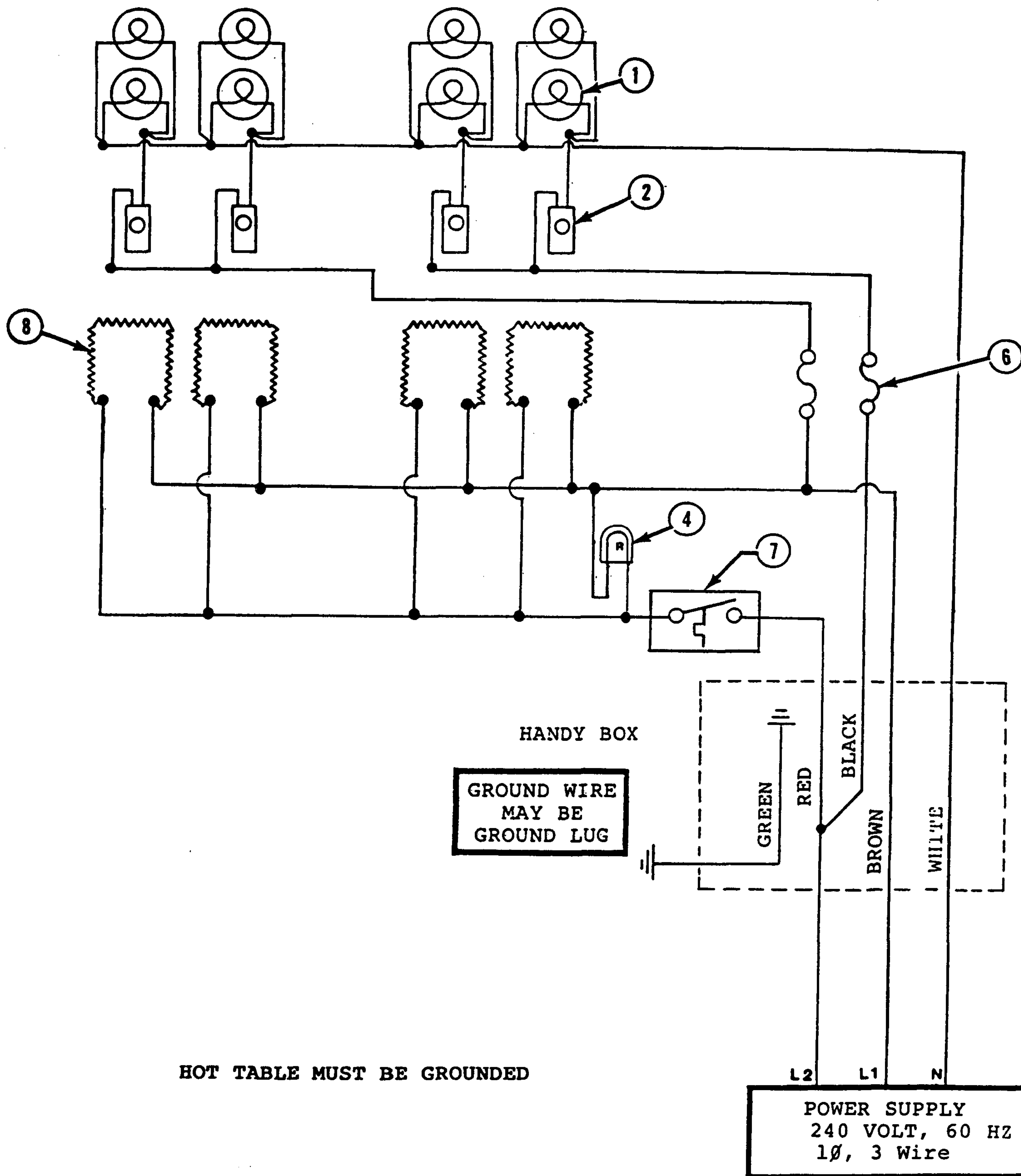
# WIRING DIAGRAM

## VHFS-4



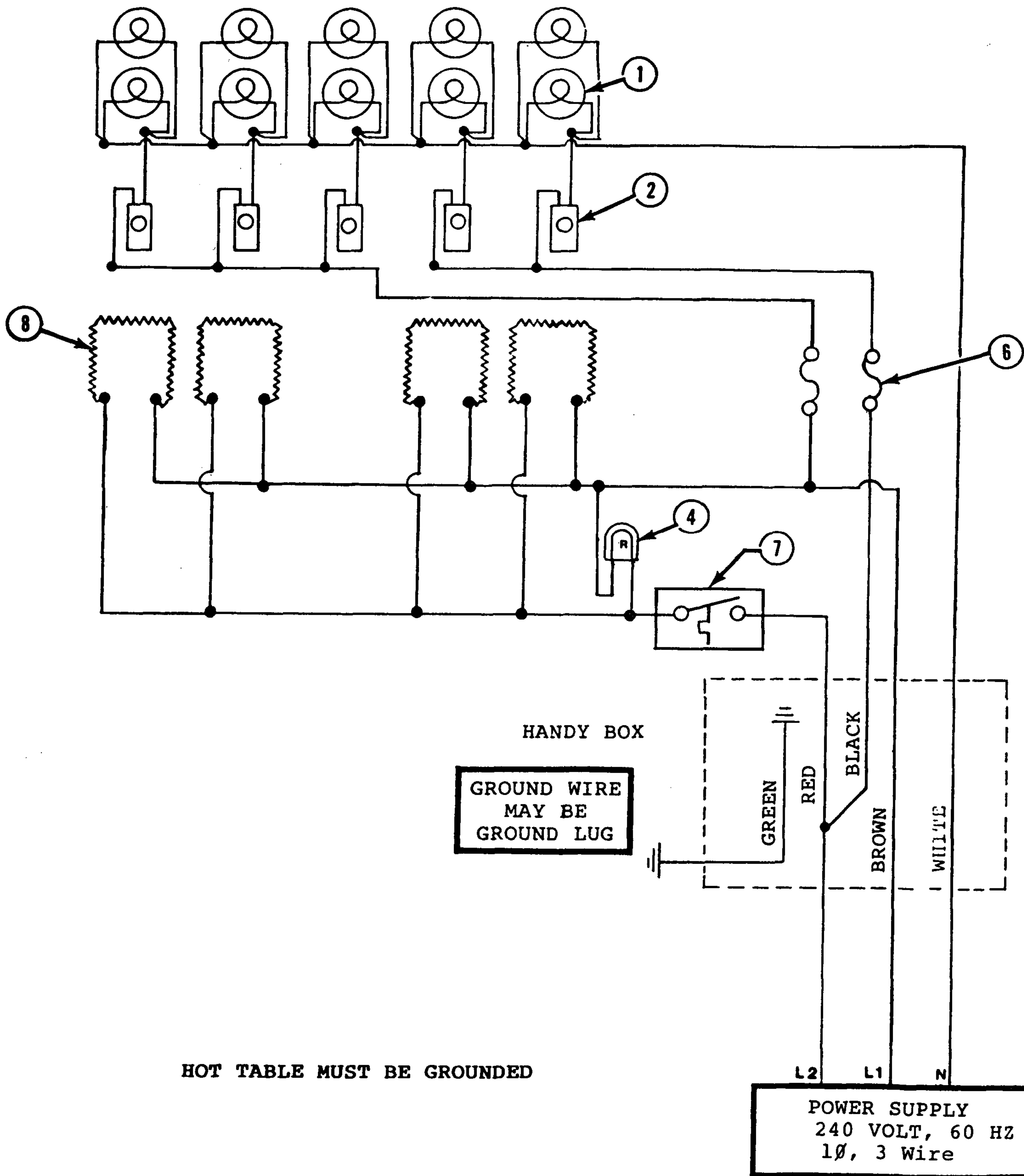
## HOT TABLE MUST BE GROUNDED

# WIRING DIAGRAM VHPS-5





WIRING DIAGRAM  
VHFS-6



REPLACEMENT PARTS LIST

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1.	0323517	Top Lamp, 250 watt, 120 volt Quartz Par 38 Flood Lamp
2.	0336634	Dimmer Switch, Leviton #6604-2
3.	0319715	Heater Control, Robertshaw #INF-240-31B
4.	0252675	Pilot Lamp, Red, Jemco #2225-5L4
5.	0813465*	Well Heater Assembly, 1200 watt, 240 volt
6.	0317832	Fuse - 20 amp, Bussmann #SC-20
7.	0322264	Heater Control, Robertshaw #SK6249-36
8.	0321199	Plate Heater 500 watt, 240 volt
9.	3091648*	Drop-in Water Pan Replacement (with caulking and installation instructions)

\* Hussmann service part number shown

## SECTION 4

### USER INFORMATION

#### FOOD HANDLING AND HOT FOOD EQUIPMENT

The following guidelines are provided only as a general guide for the use of this equipment. The local health agency for your area can provide specific temperature requirements.

Critical attention must be given to the heat controls for these hot tables. Both the upper and the lower heat controls must be adjusted to achieve proper food temperatures. Hot foods should be held at a constant temperature of at least 140 F (60 C) to prevent spoiling. However, increasing the temperature above 140 F will also cause the food to overcook, dry out, lose its flavor, texture and color. Food held for prolonged periods at high temperatures will also lose some of its nutritional value.

Different foods will require different control settings. The type, amount and length of time that they are to remain in the hot table all must be considered when establishing control settings. Therefore, it must be the user's responsibility to establish the correct control settings to maintain the food at the safest, tastiest and most saleable condition.

#### USING THE VHF HOT TABLE

These hot tables are for SHORT-TERM holding and display of pre-cooked hot foods. They are NOT INTENDED TO COOK OR RE-HEAT FOOD. The temperature of the food should be approximately 160 F when first put into the hot table.

These hot tables are best suited when used in a cafeteria type application where the food is held and served rapidly, within a few hours. Any attempt to use the hot table to display large amounts of food for long periods of time will result in dehydrated, over-cooked and unsafe food. The quality of the food will progressively worsen as the length of time increases.

The deterioration of product quality is a function of time and temperature. All products are affected even though this may not seem apparent. For example, foods that are in a gravy or other liquid may appear to withstand the temperature better than "dry" foods such as fried chicken but this is not necessarily true. ALL foods will continue to be affected by prolonged exposure to elevated temperatures.



**VHF MODELS****HEATING SYSTEM**

Each well has a heater incorporated into the bottom of the well.

Clear, infrared lamps are located above each well to provide both top heat and illumination.

**CONTROLS**

The Control Panel, located at the rear of the hot table contains all the controls to regulate the temperature of both the well heaters and the infrared lamps.

**Well Heat Control**

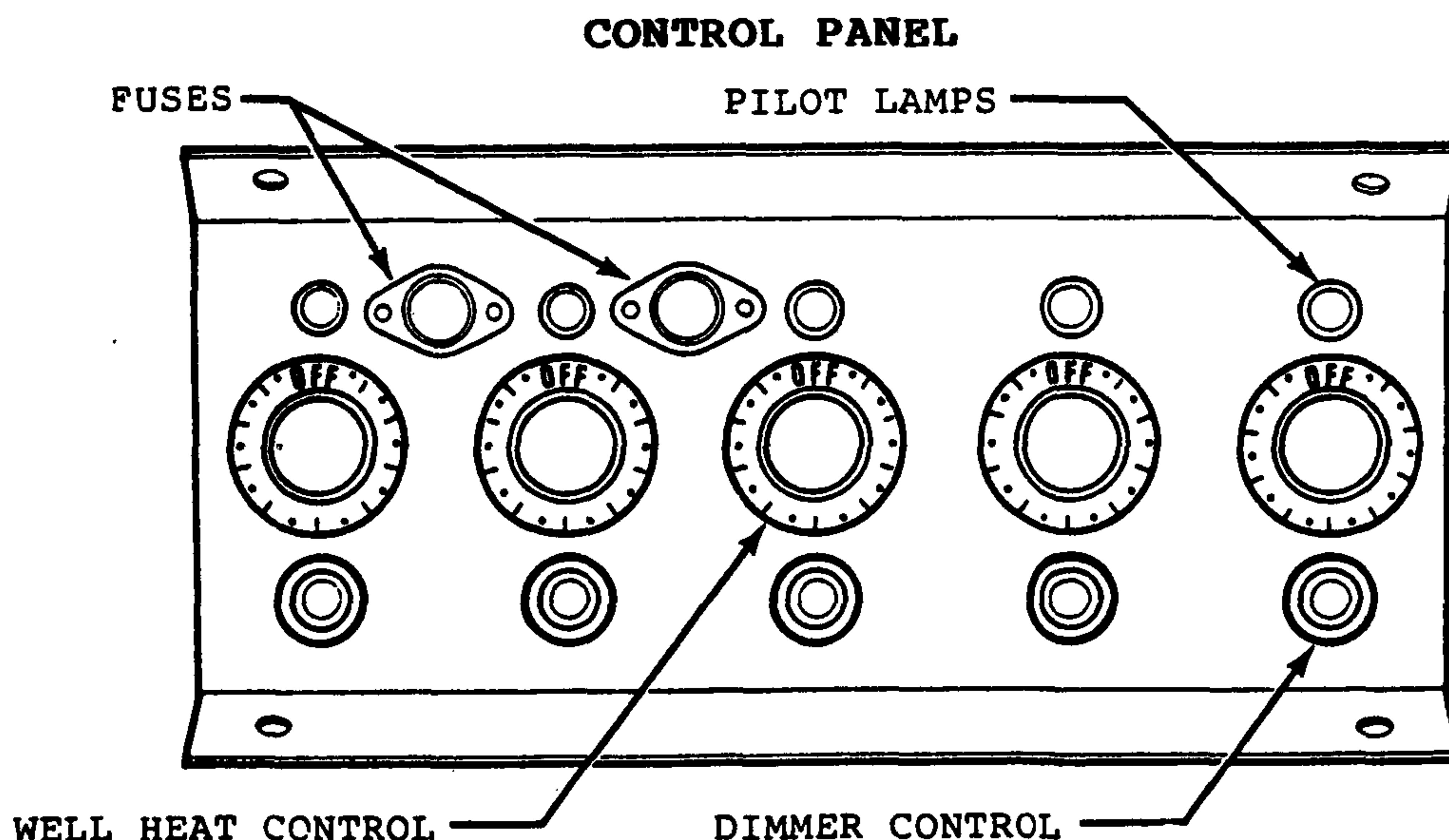
Each well has an individual control with which to regulate temperature.

The pilot lamp above each control knob indicates when the well heater is on. The pilot lamp will not go off until the control is turned off.

**Dimmer Control**

Each pair of infrared lamps has a dimmer control. This control not only reduces the amount of heat but also the amount of illumination, however, the lamp wattage is sufficient that good illumination should never be a problem.

**TO OBTAIN THE PROPER FOOD TEMPERATURES, THE WELL HEATERS AND THE LAMP HEAT MUST BOTH BE ADJUSTED. MAXIMUM LIMITS SHOULD BE AVOIDED TO PREVENT OVERCOOKING OR DRYING OUT FOOD.**



ALL CONTROLS HAVE A POSITIVE "OFF" POSITION

**HEAT WELLS**

The wells of the hot tables may be used with water in them "wet" or they may be used without water "dry".

**WET WELLS**

Wet wells should be used only when the food pans above them contain food that is not in a liquid, juice or gravy. The water, as it is heated, evaporates and some of this moisture will be absorbed into the food, helping to retard dried out food.

WHEN WATER IS USED, THE WELL SHOULD BE FILLED NO DEEPER THAN 1". NEVER INTRODUCE FILL WATER INTO HOT, DRY WELL. WELL MUST BE COOLED PRIOR TO ADDING WATER, THEN REHEAT TO DESIRED TEMPERATURE. TOO MUCH WATER OR TOO MUCH HEAT WILL CAUSE EXCESSIVE CONDENSATION ON THE FRONT GLASS DECREASING VISIBILITY.

**DRY WELLS**

Dry wells should be used when the food pans above them contain food which is in a liquid, juice or gravy.

WHEN THE WELL IS USED DRY, THE BOTTOM HEAT SHOULD BE ADJUSTED AT A LOWER SETTING THAN WHEN USED WET. LESS HEAT IS NECESSARY TO MAINTAIN FOOD TEMPERATURE OF ITEMS THAT ARE IN LIQUIDS.

**WARM UP**

Open the rear doors and cover any wet wells to prevent condensation on the front glass.

Set bottom heat control on "High" and the top heat control midway.

After approximately one hour, place the food items into display pans over the wells, close the rear doors and adjust the bottom heat control down.

Adjust the top and bottom heat controls to obtain the correct food temperatures, EXPERIENCE ALONE WILL DETERMINE THESE SETTINGS.

Food must always be placed into a display pan over the well, never directly into the well.

Food should not be stacked above the top of the pan. Food above the top of the pan will dry out rapidly.

Food juice or gravy should be stirred frequently and any meats should be basted with the gravy.

Stacked food should be rotated periodically from bottom to top.

If practical, the food should be covered during slack sale periods to reduce dehydration.

**AUTOMATIC WATER FILL**

The automatic water fill system installed in these hot tables is designed to continually maintain the correct level of water in each well.

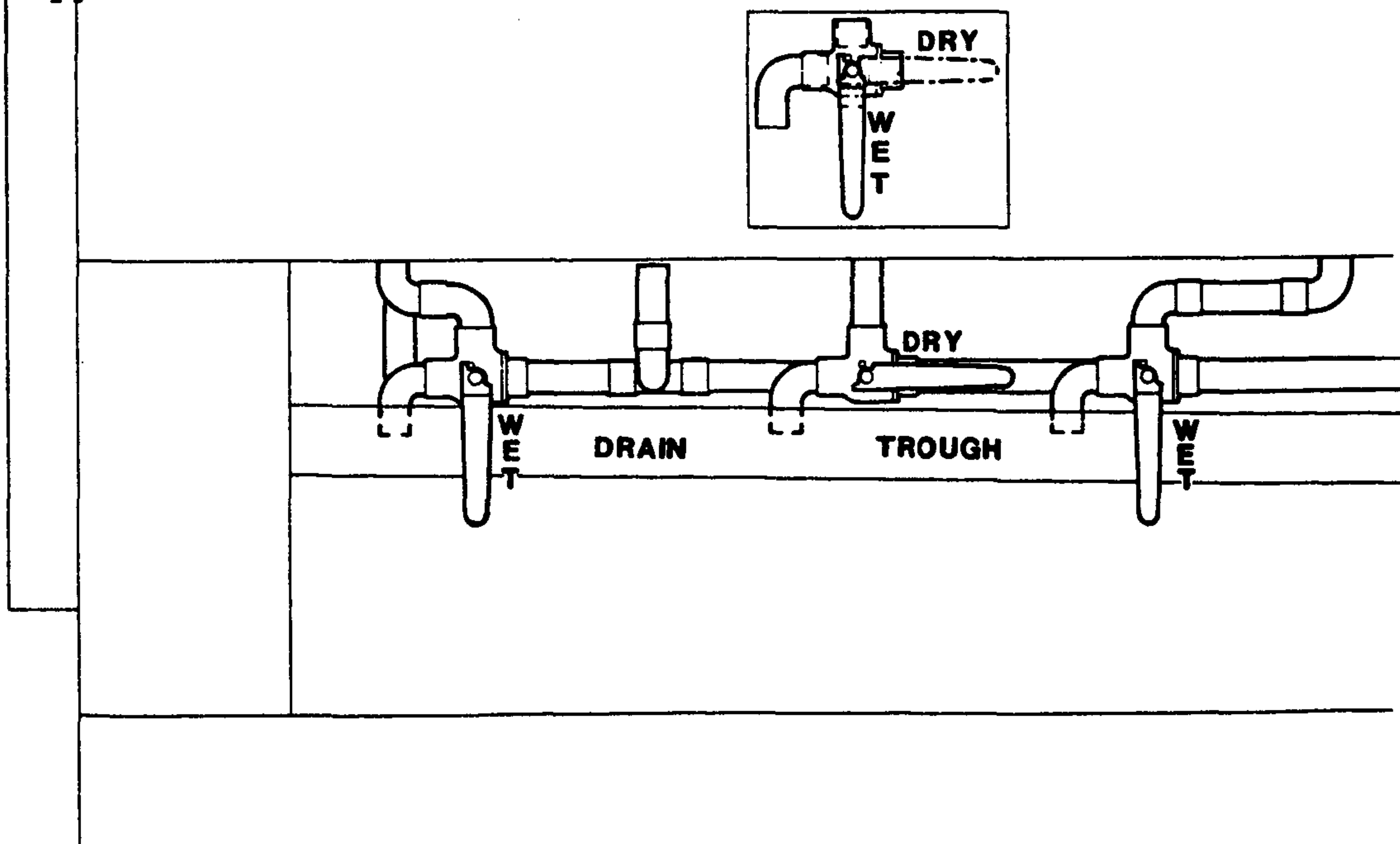
Water is stored in a reservoir which has a float shut-off to prevent overflow. The reservoir is located slightly above the bottom of the well and as water level in well drops due to evaporation, additional water slowly flows from the reservoir and into the wells by gravity. This system will eliminate manual refilling of wells and provide a more constant food temperature.

To initially fill the wells, turn the valve handle down to the position shown, each well has its own valve. If well is to be used dry, turn handle up to the dry position, this position also drains well. Wells may be used either wet or dry. In a given hot table, the individual wells may be used as desired, for example, the first well wet, the next two dry, the next wet, etc..

To empty wells for cleaning turn all well valves to the dry position.

Note: If water used to fill hot table has a high mineral content, hot table may develop lime deposits. Use a de-liming agent to remove lime deposits. It is important to use a de-liming agent often so deposits do not build up.

Recommendation: If water has a high mineral content, a cartridge type filtration device can be used to minimize lime build-up.





**USING THE VHFS HOT TABLE**

These are self-service hot tables for short term heated display of packaged hot food designed to improve customer service during peak demand times. With these hot tables, individual servings can be prepared in advance and be ready for the customers and reduce the demand on the deli-operator. The hot table will maintain the temperature of the food until the customers select and remove their choices through the large open front.

Obviously, food containers that will burn, melt or deteriorate from heat are not to be used in these hot tables. Also, metallic containers retain heat and may become too hot for handling. Various types of oven-proof paperboard trays and clear polyester films and lids are available that are specifically manufactured for hot table application.

As previously stated, these hot tables are for short term display of cooked and packaged hot food. They should not be used to cook, re-heat or maintain food for extended periods. Any food that is not sold during these peak times should be removed to avoid dehydration and deterioration.

These hot tables should be energized approximately one-half hour before they are to be needed. The exact control settings are dependent upon environmental conditions, types of food, packaging material and the local requirements. Experience will determine the correct settings for your needs.

**VHFS MODELS****HEATING SYSTEM**

The stainless steel serving plate has heaters fastened to its underside.

Clear, infrared lamps are located above the plate to provide both top heat and illumination.

**CONTROLS**

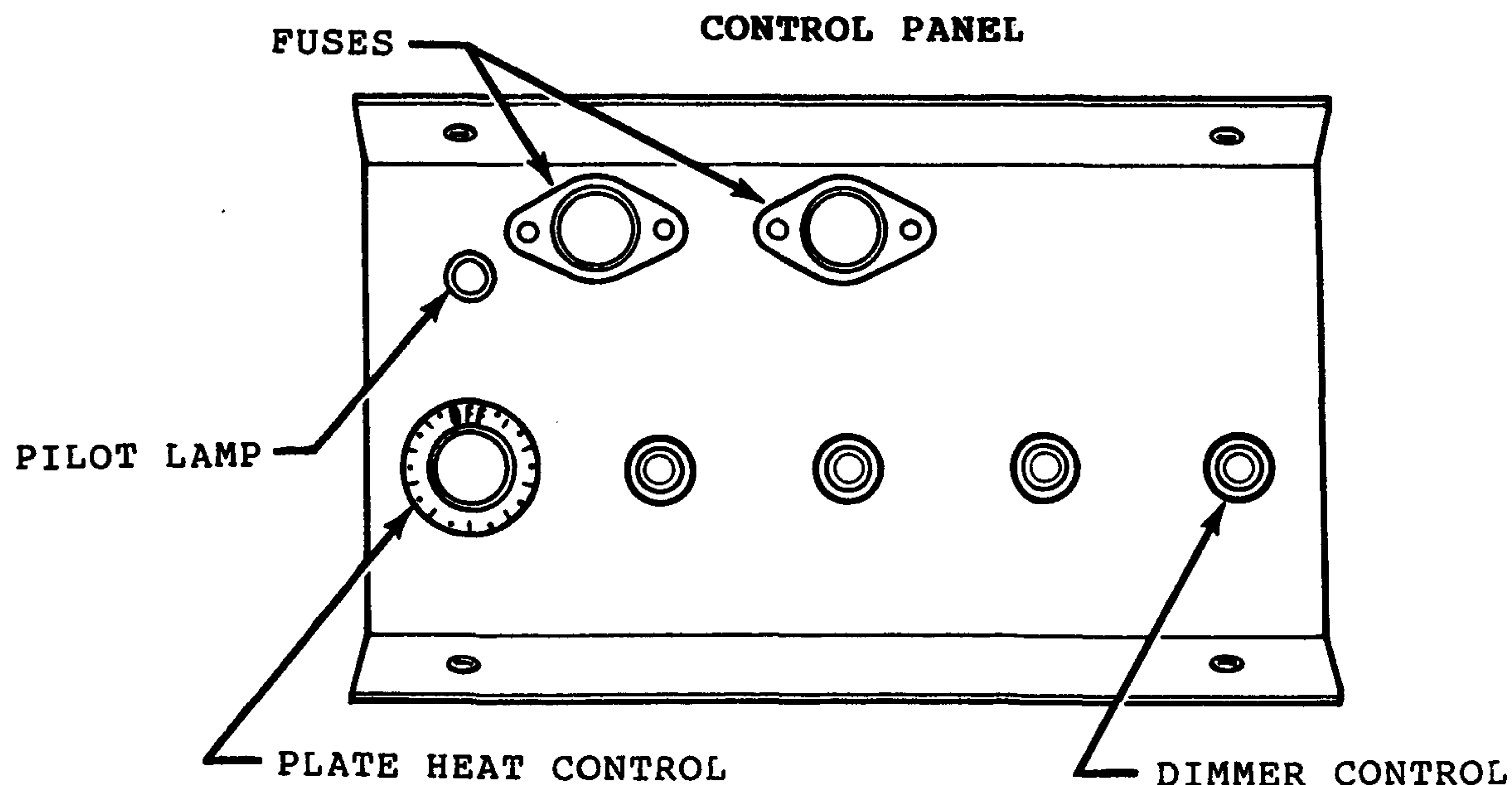
The Control Panel, located at the rear of the hot table, contains all the controls to regulate the temperature of both the plate heaters and the infrared lamps.

**Plate Heat Control** All the plate heaters are controlled with one heat control.

The pilot lamp above the control knob shows that the heaters are on. It will not go off until the control is turned off.

**Dimmer Control** Each pair infrared lamps has a dimmer control. This control not only reduces the amount of heat but also the amount of illumination, however, the lamp wattage is sufficient that good illumination should never be a problem.

TO OBTAIN THE PROPER FOOD TEMPERATURE, THE PLATE HEATERS AND THE LAMP HEAT MUST BOTH BE ADJUSTED. MAXIMUM LIMITS SHOULD BE AVOIDED TO PREVENT OVERCOOKING OR DRYING OUT FOOD.



ALL CONTROLS HAVE A POSITIVE "OFF" POSITION

**CARE AND CLEANING**

Long life and satisfactory performance of any equipment is dependent upon the care it receives. With this in mind, all of the exposed work surfaces of these hot tables have been made entirely of easy to clean stainless steel.

Stainless steel is one of the easiest materials to clean and keep clean. Normally it's just a matter of wiping spills off the surface when they happen, followed by a thorough cleaning with soap and water at the end of the day. Frequent and regular cleanings will prevent the build-up of baked on, difficult to remove spills. Many types of cleansers are available and safe to use on stainless steel. However, ordinary steel wool and steel brushes should not be used on stainless steel. Small particles of the steel may become imbedded in the stainless steel surfaces that will eventually rust and stain.

**HOW TO CLEAN STAINLESS STEEL**

Generally soap and hot water will be sufficient for most cleanings when done often and regularly. When necessary, there are several cleansing agents that can be used. The following table lists many types of cleansers that can be used for more difficult cleaning problems. After each cleaning, all surfaces must be thoroughly rinsed to remove all traces of the cleansing agent.

<u>TO REMOVE "BAKED-ON" SPLATTER, GREASE OR LIGHT DISCOLORATION</u>	
CLEANSING AGENT	METHOD OF APPLICATION
Grade FFF Italian Pumice	Scour or rub with damp cloth
Liquid NuSteel	Scour with small amount on dry cloth
Paste NuSteel	
Household Cleansers	Rub with damp cloth
Grade F Italian Pumice	Rub with damp cloth
Coopers Stainless Steel Cleaner	
Allen Stainless Steel Polish	

<u>TO REMOVE HEAT TINT OR HEAVY DISCOLORATION</u>	
CLEANSING AGENT	METHOD OF APPLICATION
Allen Stainless Steel Polish	Small amount on damp cloth
Birdsall "Staybright"	Rub with damp cloth
Wyandotte	
Bab-O	
NuSteel	Rub with stainless steel wool

**GENERAL CLEANING RULES**

DISCONNECT ELECTRIC POWER TO THE HOT TABLE

ALLOW SURFACES TO COOL BEFORE HANDLING

Clean frequently and regularly

Rinse thoroughly after cleaning

Remove surface spills immediately with a damp cloth

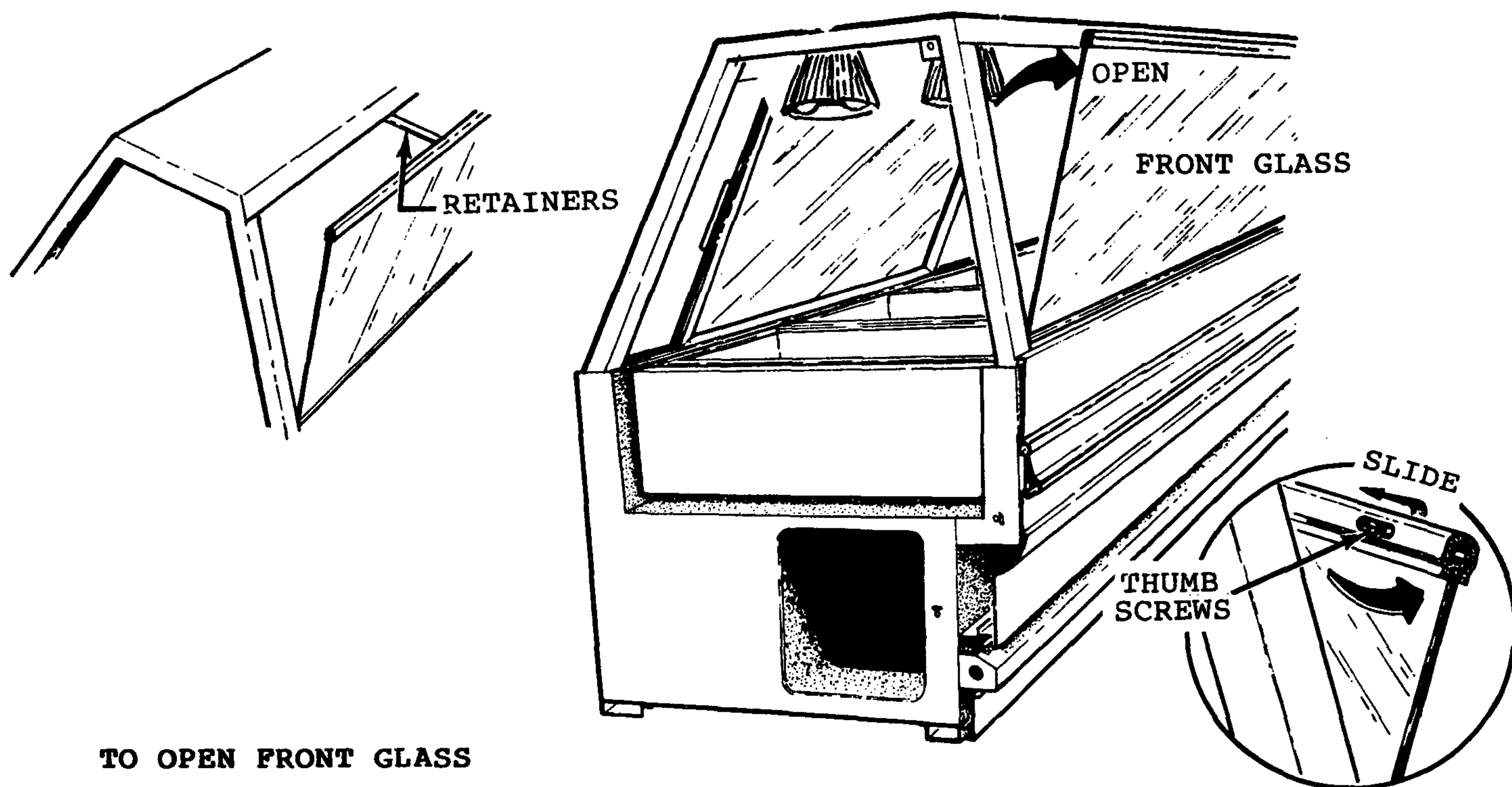


The EXTERIOR surfaces of these hot tables must be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. Never use abrasive cleaners or scouring pads.

### FRONT GLASS

The front glass should be cleaned frequently. If cleaning is not thorough, moisture condensation on the glass will increase resulting in poor visibility.

The VHF hot table has a front display glass that tilts out for easier cleaning. THIS GLASS IS HEAVY. OPEN AND CLOSE IT CAREFULLY.



#### TO OPEN FRONT GLASS

Loosen the thumb screws near the top of the glass at both ends.

Slide thumb screws away from the end posts.

Move to the front of the hot table and pull top of glass away from the hot table. DO NOT PUSH GLASS OPEN.

DO NOT RELEASE THE GLASS UNTIL ITS RETAINERS STOP ITS MOVEMENT.

#### TO CLOSE FRONT GLASS

Carefully pivot the glass against the hot table.

Slide thumb screws into end posts and tighten.

MAKE CERTAIN THAT THUMB SCREWS ARE FULLY INSERTED INTO END POSTS AND SECURELY TIGHTENED TO PREVENT ACCIDENTAL OPENING OF GLASS.

## SECTION 5 SERVICE TIPS

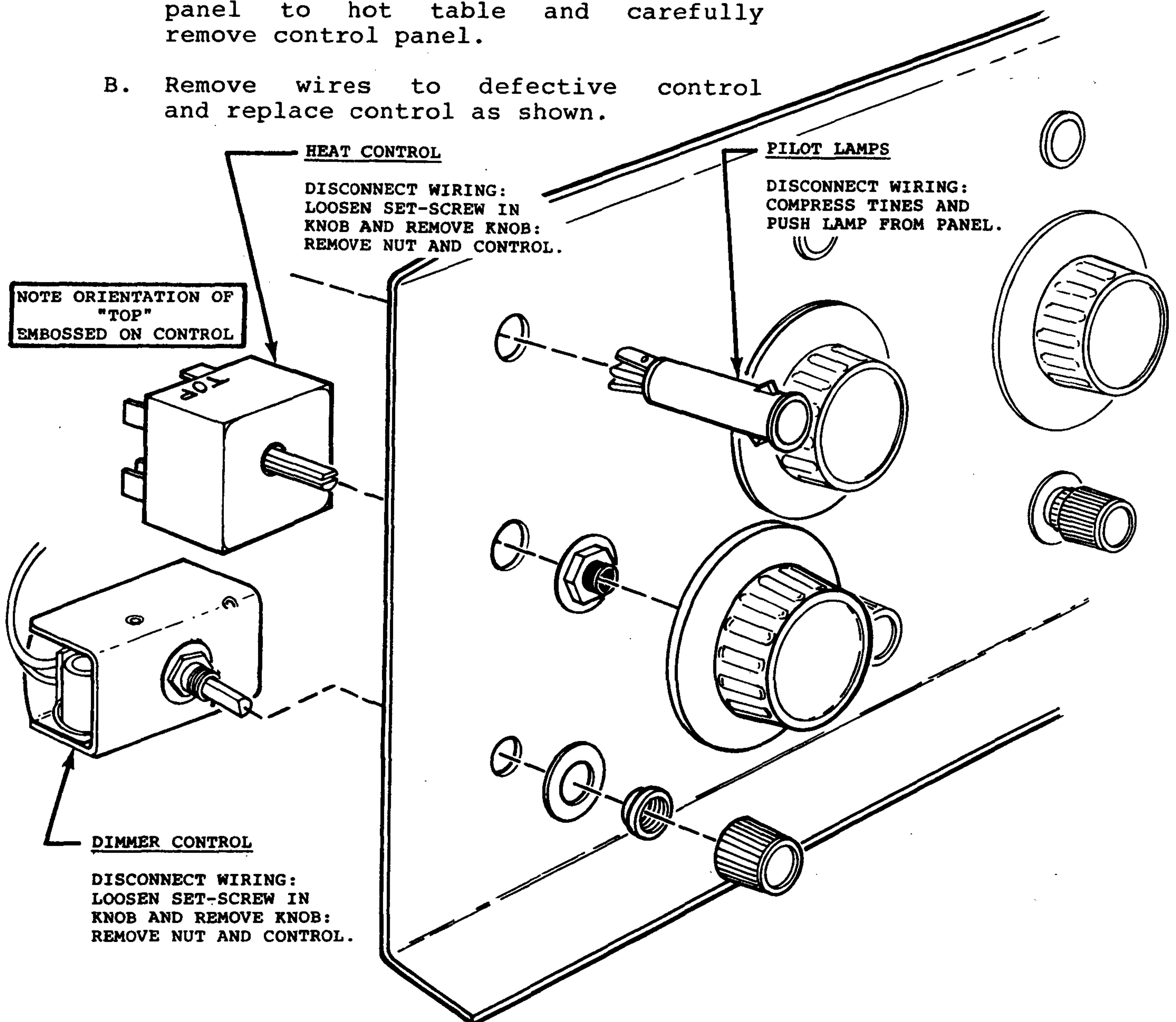
### -WARNING-

ALWAYS DISCONNECT THE ELECTRICAL POWER AT THE MAIN DISCONNECT WHEN SERVICING OR REPLACING ANY ELECTRICAL COMPONENT IN THIS HOT TABLE. THIS INCLUDES, BUT IS NOT LIMITED TO SUCH ITEMS AS HEATERS, THERMOSTATS AND LAMPS.

### CONTROL REPLACEMENT

#### DISCONNECT ELECTRICAL POWER TO HOT TABLE

- A. Remove the screws that fasten control panel to hot table and carefully remove control panel.
- B. Remove wires to defective control and replace control as shown.



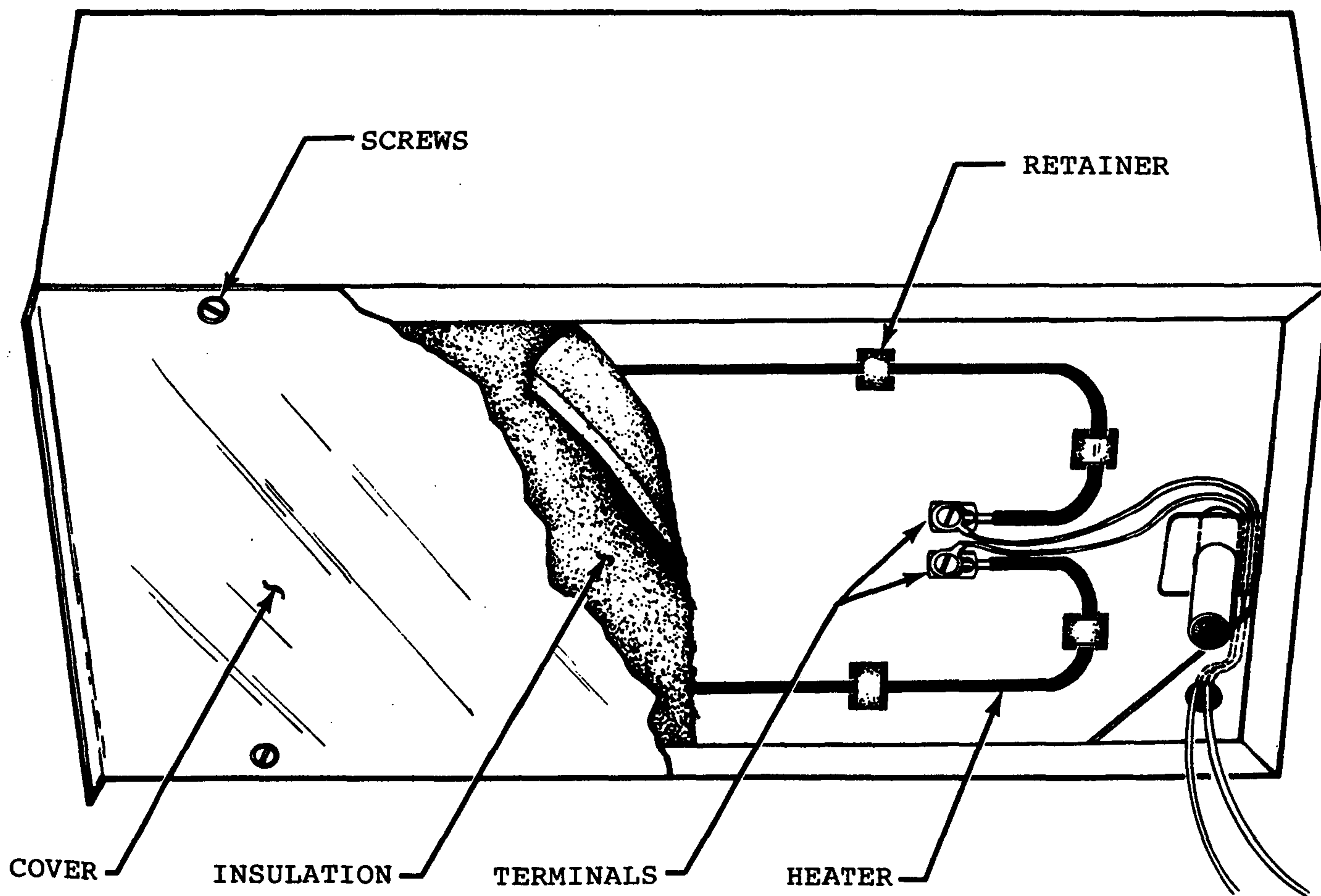


**WELL HEATER REPLACEMENT (VHF MODELS)**

DISCONNECT ELECTRICAL POWER TO HOT TABLE AND ALLOW ALL SURFACES TO COOL.

- A. Lift and remove the drain trough and lower shelf from the hot table.
- B. Remove cover by backing out the six (6) screws and pulling cover tabs free from slots.
- C. Carefully remove the insulation blanket.
- D. Disconnect the heater and bend retainer tabs from heater. Remove the heater.

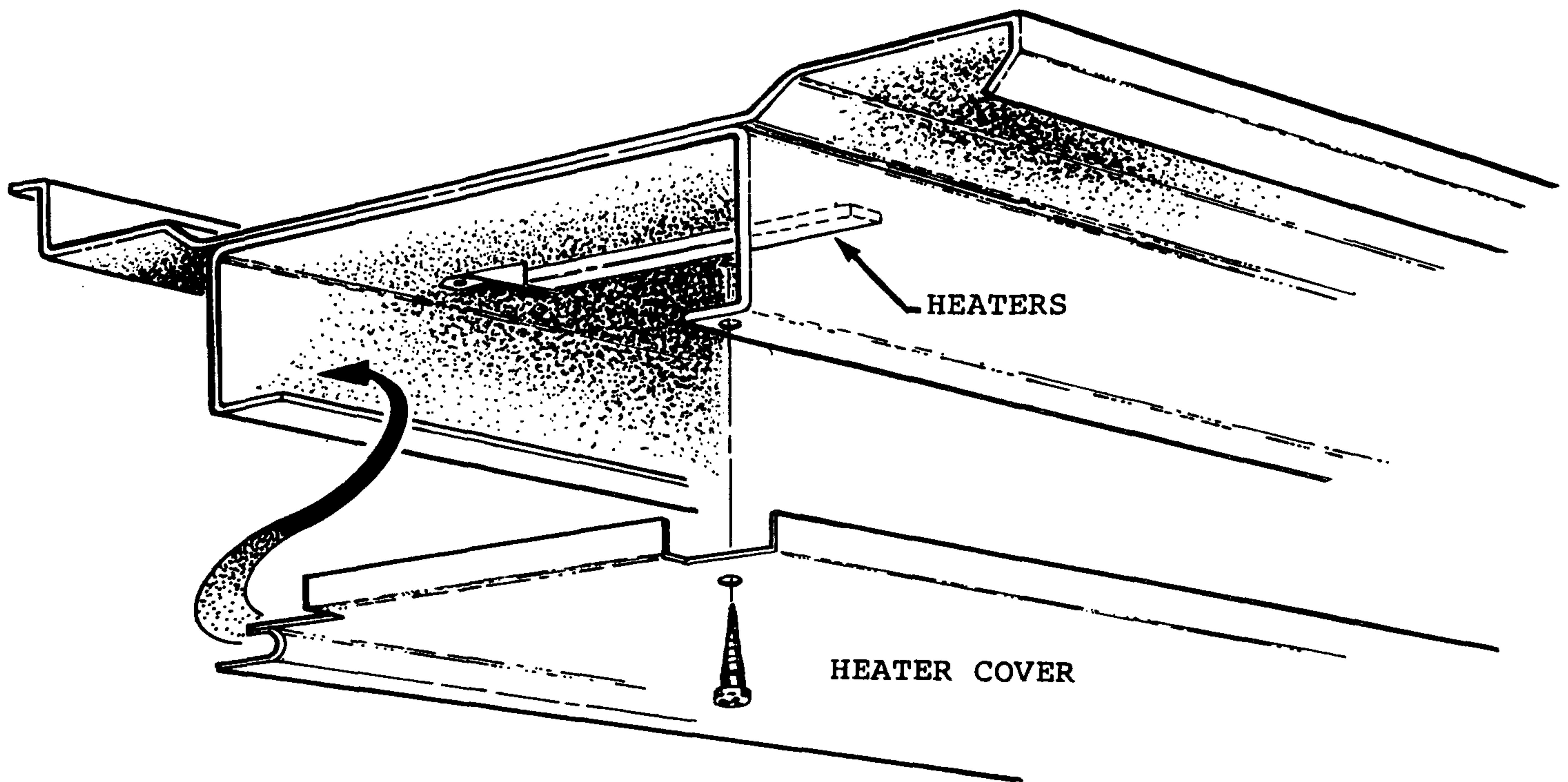
When installing new heater, be certain that the retainer tabs hold the heater securely to the well plate and that the insulation blanket covers high temperature completely. Be sure to use the COMPLETE heater and high temperature wire assembly as shipped from the Bridgeton Service Department. New high temperature screws and nuts will also be provided. Please use them.



**PLATE HEATER REPLACEMENT** (VHFS Models)

DISCONNECT ELECTRICAL POWER TO HOT TABLE AND ALLOW ALL SURFACES TO COOL.

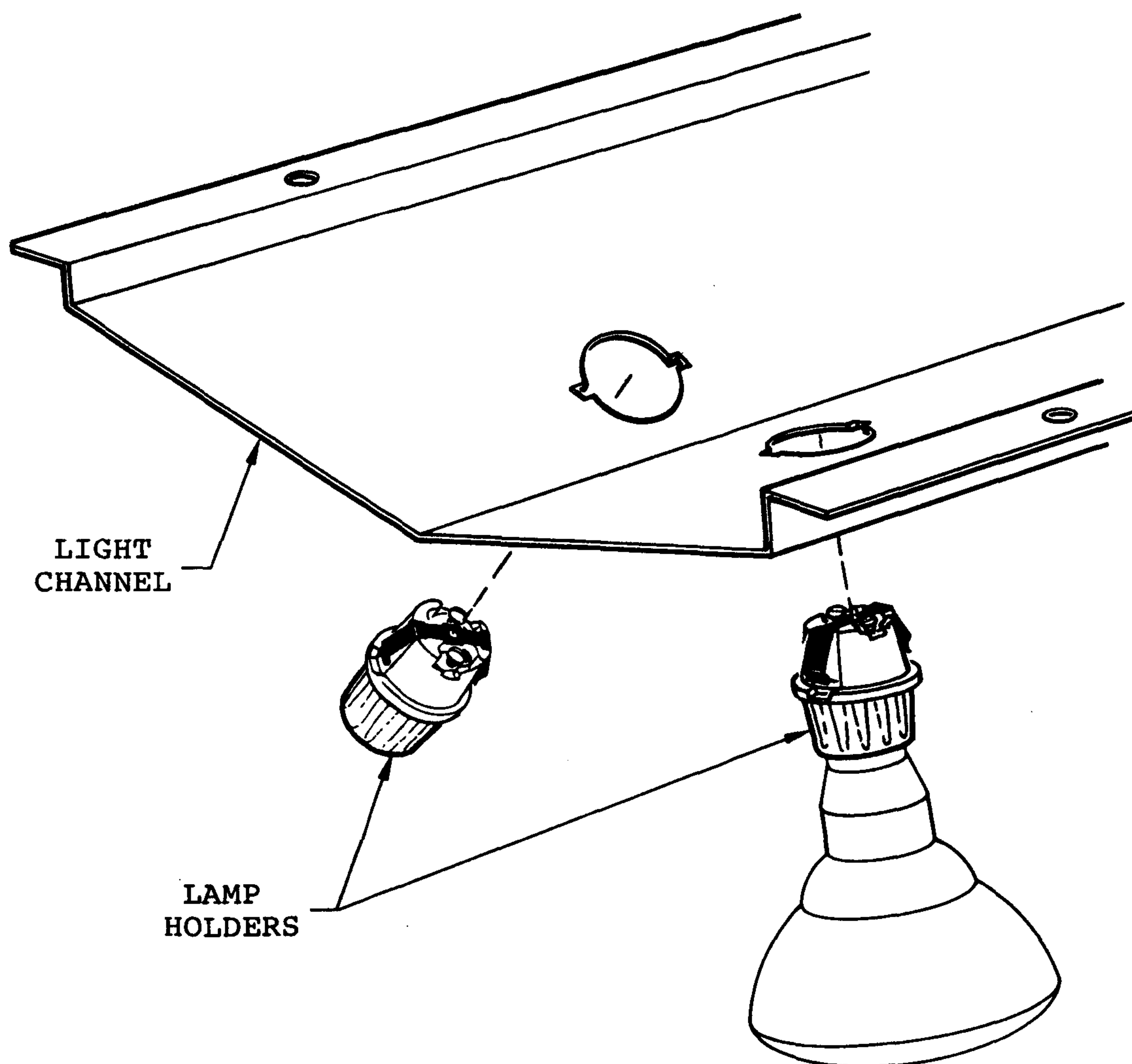
- A. Remove heater cover from beneath hot table.
- B. Disconnect and remove heater.





**LAMPHOLDER REPLACEMENT****DISCONNECT ELECTRICAL POWER TO HOT TABLE**

- A. Remove the rear doors and all lamps.
- B. Remove lamp cover.
- C. Remove screws holding light channel to top of fixture. When all screws are removed, the light channel will be supported by the electrical wiring at the left end.
- D. Remove defective lamp holder.
- E. Replace lampholder and all items as they were removed.



**AUTOFILL SYSTEM**

The basic component parts of the water autofill system are located as shown below.

