# HUSSMANN<sup>®</sup>/SPECIALTY 102018



Q3 - Q3-HV-6-H - Q3-HV-8-H

# **1. General Instructions**

A publication of HUSSMANN® Chino 13770 Ramona Avenue • Chino, California 91710 (909) 628-8942 FAX (909) 590-4910 (800) 395-9229 www.hussmann.com

# This Booklet Contains Information on:

Q3 HOT SERVICE CASES

Service Hot cases designed to fit within a line-up of service cases or standalone.

# Shipping Damage

All equipment should be thoroughly examined for shipping damage before and during 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. Make request in writing to carrier for inspection within 15 days, and retain all packaging. The carrier will supply inspection report and required claim forms.

### Shortages

Check your shipment for any possible shortages of material. If a shortage should exist and is found to be the responsibility of Hussmann Chino, *notify Hussmann Chino*. If such a shortage involves the carrier, *notify the carrier immediately*, and request an inspection. Hussmann Chino will acknowledge shortages within ten days from receipt of equipment.

### **Hussmann Chino Product Control**

The serial number and shipping date of all equipment has been recorded in Hussmann's files for warranty and replacement part purposes. All correspondence pertaining to warranty or parts ordering must include the serial number of each piece of equipment involved, in order to provide the customer with the correct parts.

### Keep this booklet with the case at all times for future reference.

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# 3. Cut and Plan Views

Q3-HV

Vertical Glass Hot Case



# 4. Installation

# Levelling/Joining Instructions

1. Check floor where cases are to be set to see if it's level then determine where the highest part of the floor is. Cases will be shimmed off this point. Using case blueprints, measure off and mark on floor the exact dimensions of the case footprint. Snap chalk line for front and back position of base rail. Mark location of each joint front and back. Use a transit to find the highest point along both lines.

IMPORTANT: It is imperative that cases be leveled front to back and side to side prior to joining. A level case is necessary to ensure proper operation, water drainage, glass alignment, and operation of the hinges supporting the glass. Leveling the case correctly will solve most hinge operation problems.



AVOID REMOVING CONCRETE BEGIN LINEUP AT HIGHEST POINT of Store Floor. All cases were leveled and joined prior to shipment to ensure closest possible fit when cases are joined in the field.

- 2. Position first case in lineup, remove shipping supports and level. To level the case, using metal shims, insert shims to appropriate depth to level merchandiser. Case must be raised using shipping supports, to prevent damage to case. With the aid of the shipping supports, the case may be lifted with the forklift or pushed into proper position for setting. If a wedge is used in the middle of a line up, the wedge must be set off the highest point on the floor FIRST, with the rest of the line-up being levelled from it.
- Set second case within one (1) foot of the first case. Remove the shipping brace facing the first case only, and level case by inserting shims as in the first case. Remove front and rear panels closest to the case joints.
- 4. Apply liberal bead of case joint sealant (butyl) between cases along bulkhead (See diagram).

#### DO NOT USE PERMAGUM!

Permagum does not allow cases to draw up tight, and therefore leaves gaps at the joint.

- 5. Bolt cases together and remove the remaining shipping supports.
- 6. Place stainless strap over joint seam (if applicable), attach via butyl or rivets.
- 7. Recheck all bolts.

Should glass need readjustment after levelling, see "Maintenance Section" of this guidebook.



# Common End Between Unlike Cases and Hot Cases

Bolt end onto case using bolts provided in pre-drilled holes behind front panel through bracket provided, and in the rear behind the rear access panel on the bottom. Hot case are only bolted in two places.

# **Finishing Touches**

(Perform after plumbing and electrical)

### Access Panels

All electrical and drain access panels are clearly labelled on the deck of the stand.

# Installing Splash-guard

After merchandisers have been levelled and joined and all electrical and plumbing work has been completed, install the splash-guards. After adjusting brackets flush with the floor, position splash-guard up behind the front panel firstthen position the lower portion over the previously adjusted brackets. Splash-guards may be sealed to the floor using a vinyl cove base trim. The size of trim needed will depend on how much the floor is out of level.

- NOTE: The splash-guard must be removable to access components behind it.
- 1. Remove all dirt, wax etc from the area of the splash-guard to ensure a secure adhesion.
- 2. Apply a good contact cement to the trim, allowing for proper dry-time.
- 3. Install trim to the splash-guard so that it is flush with floor.

# Do not seal trim to floor!

# Sealant and Bolt Location



# Installation (Cont'd)

### **Q3-HV Glass Adjustment**

Follow these steps accordingly to properly and safely adjust the position of the front glass.

#### **BEFORE ADJUSTING GLASS**

- SET, LEVEL, AND BOLT TOGETHER ALL CASES.
- DOUBLE CHECK LEVELING FOR ALL CASES.
- DO NOT MOVE LINEUP DURING ADJUSTMENT.

Glass must be parallel to ledge when viewed from front. Glass height should be centered on "V" glass seal as demonstrated below.



# Installation (Cont'd)

### **Bumper Installation Instructions**



Step 1: Make sure the aluminium channel and end caps are installed.



Step 2: Use silicone lubricant to help the bumper slide into the channel.



Step 3: Starting on one end: while inserting the bumper, push it up against the end cap to prevent the bumper from shrinking after installation (when it gets cold).



Step 4: As you insert the bumper into the channel with one hand, pull the bumper toward you with the other to open the inside lips. Slowly apply pressure by rolling the bumper into the track.

# 5. Electrical

# Wiring Color Code

	DESCRIPCION	DESCRIPTION
GROUND	TIERRA MASA	MASSE
ANTI-SWEAT	ANTICONDENSACION	ANTI-SUINTEMENT
LIGHTS	LUCES	ECLAIRAGE
RECEPTACLES	ENCHUFES	PRISE DE COURANT
T-STAT/SOLENOID 230VAC	TERMOSTATO/SOLENOIDE (230VAC)	SOUPAPE A SOLENOID (230 VAC)
T-STAT/SOLENOID 115VAC	TERMOSTATO/SOLENOIDE (115VAC)	SOUPAPE A SOLENOID (115 VAC)
T-STAT/SOLENOID 24VAC	TERMOSTATO/SOLENOIDE (24VAC)	SOUPAPE A SOLENOID (24 VAC)
FAN MOTORS	VENTILADORES	VENTILATEUR
BLUE CONDENSING UNIT	UNIDAD DE CONDENSACION	UNITE DE CONDENSATION

UTILISEZ LES CONDUCTEURS DE CUIVRE SEULEMENT UTILICE LOS CONDUCTORES DE COBRE SOLAMENTE 430-01-0338 R101003

# **Electrical Circuit Identification**

An electrical junction box is provided under left hand button end of case. A terminal block is also located there -  $3\emptyset$  240/ 208 volts with a neutral should be provided.

# Electrical Receptacles (When Applicable)

The receptacles located on the exterior of the merchandiser are intended for scales and lighted displays. They are not intended nor suitable for large motors or other external appliances.



# Wiring and Serial Plate Amperage

Field Wiring must be sized for component amperes stamped on the serial plate. Actual ampere draw may be less than specified. Case amperes are listed on the wiring diagram, but always check the serial plate.

# 6. Wiring Diagrams Index

Q3-HV-H	Q3-HV-6-H	6'	W6600337
	Q3-HV-8-H	8'	W6600226

# 7. Wiring Diagrams



# Wiring Diagrams (Cont'd)



# 8. Operation

# Start-up Instructions

- 1. Turn Power to ON
- 2. Preheat merchandiser for 10 minutes before loading.
- Load fully cooked / heated foods only (internal product temperatures > 160°F). Case is not designed to heat food.
- 4. Use only approved hot food containers in direct contact with shelves; Do NOT stack containers.
- 5. Check Internal Product Temperature periodically, using a pocket food thermometer.
- 6. Adjust \*SHELF-Setpoint as needed to maintain ideal Internal Product Temperatures:
  - (1) Press SET key, (2) Press UP ARROW / DOWN ARROW keys to change \*SHELF Setpoint, (3) Press SET key again.
  - When increasing \*SHELF-temperatures, heat food in a separate cooking/warming oven, then reload.

#### NOTES:

- \*Controller temperature indicates SHELF-temperature only (not Internal Product Temperature).
- Shelves are pre-set to 185°F, suitable for many foods in approved containers. Do not overheat as containers may melt.
- Refer to Instruction Manual for detailed operating instructions.
- Refer to NSF- and local- regulations for internal product temperature requirements.
- SERVICE: For heated component failures, contact HATCO Parts and Service at 800-558-0607.

### Operation

- Food must be preheated BEFORE loading; this case MUST NOT be used to cook or heat product.
- Check Internal Product Temperatures (IPTs) periodically with a portable food thermometer
- Do not stack containers.
- Be careful not to overheat as containers may melt.
- When restocking, rotate food products: oldest foods should be placed in front and served first.
- Wipe spills immediately to maintain product freshness, minimize odors, reduce end-of-day clean-up (See Maintenance Section).

### Adjustment

- Use a pocket food thermometer regularly to check internal product temperatures.
- Before adjusting shelf temperatures, ensure only preheated foods are being loaded into the case.
- Shelves are pre-set to 185°F, suitable for many food and container types.
- Adjust SHELF-Setpoint as needed to maintain ideal Internal Product Temperatures:

- (1) Press SET key,
- (2) Press UP ARROW / DOWN ARROW keys to change \*SHELF-Setpoint,
- (3) Press SET key again.
- (4) When increasing SHELF-temperatures, heat food in a separate cooking/warming oven, then reload.
- Temperature controls should be adjusted to the lowest possible setting that will maintain proper internal product temperature.
- See troubleshooting guide if, after adjustment, pre-heated product does not maintain regulatory temperature.

# Holding Temperature Guide

- Food must be preheated BEFORE loading the case; the case must not be used to heat product.
- Always consult local health and sanitation regulations for internal product temperature and holding requirements.
- Holding Temperatures listed below are internal product temperatures, and are guidelines only.

HOLDING TEMPERATURE GUIDELINES\* Internal

Product Temperatures (IPT)	
MEAT	*IPT
STEAKS - Broiled/Fried	140° - 160°F
RIBS - Beef or Pork	160°F
VEAL	160° - 175°F
НАМ	160° - 175°F
PORK	160° - 175°F
CHICKEN / POULTRY	160° - 175°F
TURKEY	160° - 175°F
FISH/SEAFOOD	
FISH - Baked/Fried	160° - 175°F
LOBSTER	160° - 175°F
SHRIMP - Fried	160° - 175°F
MISCELLANEOUS	
CASSEROLES	160° - 175°F
PASTA	160° - 180°F
PIZZA	160° - 180°F
POTATOES	180°F
PLATED MEALS	140° - 165°F
VEGETABLES	160° - 175°F

# **Operation (Cont'd)**

Use the instructions below to operate the controls for a unit with multiple heated shelves. The controls are located in a remote mounted control panel and consist of a Power ON/OFF switch and three, four, or five digital temperature controllers, depending on the number of heated shelves in the unit.

#### Operation

Use the following instructions to operate the controls on a multiheated shelf control panel.

- 1. Move the Power ON/OFF switch to the ON position.
  - The digital temperature controllers will energize and the current temperature of each shelf will appear on the corresponding display.
  - The phrase "out 1" will appear in the upper left corner of each display to show that the shelves are in heat mode.



BURN HAZARD: Some exterior surfaces on unit will get hot. Use caution when touching these areas.



Figure 1. Digital Temperature Controller

- 2. On each digital temperature controller, press and release the set key to verify the setpoint temperatures.
  - The setpoint temperature will be shown for 15 seconds. After 15 seconds, the display will revert to the current temperature of the corresponding shelf. To change a setpoint temperature, refer to the "Changing the Setpoint Temperature" procedure.
- NOTE: Once a setpoint temperature is changed, the new setpoint temperature will remain in memory until it is changed again.
- 3. Allow the heated shelves 10 minutes to reach operating temperature before loading preheated food product.

#### **Changing the Setpoint Temperature**

Use the following procedure to change the setpoint temperature on a digital temperature controller.

- 1. Press and release the set key. The current setpoint temperature will be shown on the display and "out 1" will flash in the upper left corner.
- Press the ▲ key or ▼ key within 15 seconds to change the setpoint temperature. If no key is pressed within 15 seconds, the display will revert to the current temperature of the unit.
- 3. Press the <u>set</u> key or wait 15 seconds to lock in the new setpoint temperature.

#### Locking/Unlocking a Digital Temperature Controller

The keys on a digital temperature controller can be locked to prevent unauthorized changes to the settings.

To lock the keys of a digital temperature controller:

Press and hold both the set key and key at the same time for over two seconds. The message "Loc" will appear on the display.

To unlock the keys of the digital temperature controller:

• Press and hold both the set key and ▼ key at the same time until the message "UnL" appears on the display.



# 9. User Information

# Food Handling and Hot Food Equipment

These hot tables are for short-term holding and display of precooked hot foods. They are not intended to cool or reheat 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, overcooked and unsafe food. The quality of 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 in a gravy or other liquid. They 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.

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 lower heat controls must be adjusted to achieve proper food temperatures. Hot foods should be held at a minimum temperature of at least 140°F (60°C) according to 1995 FDA Food Code. However, increasing the temperature too high 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 their nutritional value.

Different foods will require different control settings. The type of food, the quantities of food and length of time that it is to remain in the hot table 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.

#### FOOD TEMPERATURES CAN BE ACCURATELY DETERMINED ONLY THROUGH THE USE OF FOOD THERMOMETERS!

### Important Operation Tips:

- Preheat case 30 minutes before loading product using higher settings.
- Never place food directly into warmer. Always use an inset and pan.
- Never pour water into a dry preheated warmer. This may damage the unit. Always pour water into warmer BEFORE preheating. Always use water in case wells, as it provides even heat and humidity.

- Too much water or too much heat will cause excessive condensation on the front glass, decreasing visibility.
- Make sure all pans are in the well units no matter the configuration.
- Using thermometer, check product before loading in case (150°-160°F).
- Always use warmer in wet operation when warming thick food items.
- Stir thick foods such as chilli, fudge and chowders often to keep foods uniformly heated and prevent scorching.
- At start, set wells to "7", and overhead heat to "5". After loading, recheck temperature every 1/ hour to see that unit is operating properly. Adjust the thermostat (a higher number for hotter and a lower number for cooler) to maintain product temperature of 140°F+ (60°C) minimum. The setting will depend on the type of product being displayed and how much there is in the well. Be sure to test product temperature with a thermometer frequently for good product maintenance.
- Keep cover(s) on insets to maintain food quality and temperature.
- 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. Stir and rotate foods as needed. Wipe up spills immediately for eye appeal now, and easier cleaning later.
- Food should be rotated periodically from the bottom to top.
- If practical, the food should be covered during slow sale periods to reduce dehydration.
- At end of the day, remove product and let case cool. Then clean with soap and water (use oven cleaner on the difficult spots). Polish and clean glass with a good glass cleaner.

### Controls

The controls to regulate the temperature of the well heaters, griddle, and the overhead heat are located at the rear of the case.

# Note: Condensation will accumulate on the front glass if the hot well setting is greater than 7.

# **User Information (Cont'd)**

# **Overhead Heating System**

Overhead heaters and fluorescent lights are located above each well to provide both top heat and illumination.

To obtain the proper food temperatures, the well heater and overhead heater must be adjusted. Maximum limits should be avoided to prevent overcooking or drying out of food. **Note:** Soup Wells do not have overhead heaters.

# Food temperatures can be accurately determined only through the use of food thermometers!

Important Food Handling Tips:

- 1. Preheat case 30 minutes before loading product.
- 2. Never place food directly into the warmer. Always use an inset.
- 3. Food must be displayed in a single layer, in contact with the heat source at all times.
- 4. Using thermometer, check product before loading in case (150°-160°).
- 5. At start, set control to "7". After loading, recheck temperature every ½ hour to see that unit is operating properly. Adjust the temperature to maintain a product temperature of 140°F (60°C) and above. The setting will depend on the type and quantity of product being displayed. Be sure to test product temperature with a thermometer frequently for good product maintenance.
- 6. Food should be rotated periodically.
- 7. At the end of the day, remove product and let case cool. Then clean with soap and water.

# **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 is 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 cleaning 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. Small particles of the steel may become embedded into the stainless steel surfaces that will eventually rust and stain.

### **General Cleaning Rules**

- 1. Allow surfaces to cool before handling.
- 2. Clean frequently and regularly.
- 3. Rinse thoroughly after cleaning.
- 4. Remove surface spills immediately with a damp cloth.

### **Cleaning Cases**

- 1. Turn temperature control knob to OFF position.
- 2. Remove insets and adapters (if used).
- 3. Allow unit to cool completely.
- 4. Drain water from wells using large hand valve. It is not necessary to read just the water level plate.
- 5. Wipe entire unit with clean cloth and mild detergent.

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.

#### TO REMOVE "BAKED-ON" SPLATTER, GREASE OR LIGHT DISCOLORATION TO STAINLESS STEEL

STEEL-CLEANSING AGENT	METHOD OF APPLICATION
Grade F Italian Pumice	Scour or rub with damp cloth
Liquid NuSteel	Scour with small amount on dry cloth
Paste NuSteel	On Dry Cloth
Household Cleansers	Rub with damp cloth
Coopers S.S. Cleaner	
Allen S.S Polish	

#### To Remove Heat Tint Or Heavy Discoloration

# **User Information (Cont'd)**

CLEANSING AGENT	METHOD OF APPLICATION
Allen Stainless Steel	Small amount on damp cloth
Polish	
Birdsall "Staybright"	Rub with damp cloth
Wyandotte	
Bab-O	
Nusteel	Rub with stainless steel wool

# **Stainless Steel Cleaning and Care**

There are three basic things, which can break down your stainless steel's passivity layer and allow corrosion.

#### 1. Mechanical Abrasion

Mechanical Abrasion means those things that will scratch the steels surface. Steel Pads, wire Brushes, and Scrapers are prime examples.

#### 2. Water

Water comes out of our tap in varying degrees of hardness. Depending on what part of the country you live in, you may have hard or soft water. Hard water may leave spots. Also, when heated, hard water leaves deposits behind that if left to sit, will break down the passive layer and rust your stainless steel. Other deposits from food preparation and service must be properly removed.

#### 3. Chlorides

Chlorides are found nearly everywhere. They are in water, food and table salt. One of the worst perpetrators of chlorides can come from household and industrial cleaners.

Don't Despair! Here are a few steps that can help prevent stainless steel rust.

#### 1. Use the Proper Tools

When cleaning your stainless steel products, take care to use non-abrasive tools. Soft Clothes and plastic scouring pads will NOT harm the steel's passive layer. Stainless steel pads can also be used but the scrubbing motion must be in the same direction of the manufacturer's polishing marks.

#### 2. Clean With the Polish Lines

Some stainless steels come with visible polishing lines or "grain". When visible lines are present, you should ALWAYS scrub in a motion that is parallel to them. When the grain cannot be seen, play it safe and use a soft cloth or plastic scouring pad.

#### 3. Use Alkaline, Alkaline Chlorinated or Nonchloride Containing Cleaners

While many traditional cleaners are loaded with chlorides, the industry is providing an ever increasing choice of non-chloride cleaners. If you are not sure of your cleaner's chloride content contact your cleaner supplier. If they tell you that your present cleaner contains chlorides, ask for an alternative. Also, avoid cleaners containing quaternary salts as they also can attack stainless steel & cause pitting and rusting.

#### 4. Treat your Water

Though this is not always practical, softening hard water can do much to reduce deposits. There are certain filters that can be installed to remove distasteful and corrosive elements. If you are not sure of the proper water treatment, call a treatment specialist.

#### 5. Keep your Food Equipment Clean

Use alkaline or non-chlorinated cleaners at recommended strength. Clean frequently to avoid build-up of hard, stubborn stains. If you boil water in your stainless steel equipment, remember the single most likely cause of damage is chlorides in the water. Heating cleaners that contain chlorides has a similar effect.

#### 6. RINSE, RINSE, RINSE

If chlorinated cleaners are used you must rinse, rinse, rinse and wipe dry immediately. The sooner you wipe off standing water, especially when sit contains cleaning agents, the better. After wiping the equipment down, allow it to air dry for the oxygen helps maintain the stainless steel's passivity film.

- 7. Never Use Hydrochloric Acid (Muriatic Acid) on Stainless Steel
- 8. Regularly Restore/Passivate Stainless Steel

# **To Remove Lime Deposits**

Use a de-liming agent so deposits do not build up. If your area's water has a high mineral content, it may be wise to install a cartridge type filtration system to minimize build-up.

DO NOT USE ANY HIGHLY CAUSTIC CLEANERS ON WARMERS. USE OF THESE MAY CAUSE DAMAGE OR CORROSION TO THE UNIT.

Do not allow ammonia to stand in warmer. Doing so may cause damage or corrosion.

# **User Information (Cont'd)**



Close drain valve and allow water to refill. Due to the small diameter feed line, this water fills at an extremely slow rate, so it is advisable to begin refilling immediately after cleaning - a number of hours before heating and loading with product. Water will automatically fill to the same level it was when it was drained.

# **Plexiglass and Acrylic Care**

Clean with plenty of non-abrasive soap (or detergent) and lukewarm water, using the bare hand to feel and dislodge any caked-on dirt. A soft, grit-free cloth, sponge, or chamois may be used, but only as a means of carrying the water to the plastic. Dry with a clean damp chamois or clean soft cloth such as cotton flannel. Hard, rough cloths paper towels will scratch the acrylic, and should not be used.



#### Waxing

If after removing dirt and grease, the acrylic can be waxed with a good grade commercial wax. This will improve the appearance of the surface by filling in most minor scratches. Wax should be applied in a thin even coat, and brought to a high polish by rubbing lightly with a dry clean soft cloth, such as a cotton flannel. Excessive rubbing may cause scratching and/or build-up an electrostatic charge, which attracts dust and dirt to the surface. Blotting with a clean damp cloth is recommended to remove charge.

# **Antistatic Coatings**

For acrylic used indoors, antistatic coatings successfully prevent the accumulation of electrostatic charge for periods of several months, if the surface is not washed or wiped down with a wet cloth. Between applications of the antistatic coatings, the parts need only be dusted with a soft clean cloth to maintain a good appearance. In use, liquid antistatic coatings should be applied in a very thin even coat. If beads appear as it is applied, the coat is too thick and the excess should be removed with another cloth. Allow the coating to dry, then bring to a high gloss with a soft cloth.

# **Non-Glare Glass**

The high optical clarity of this glass is possible due to special coatings on the glass surface itself. To preserve this coating and the optical clarity, keep the glass clean.

Water is the only solution recommended to be used to clean the non-glare glass. The damage to the glass from improper, caustic solutions is irreparable.

In addition to cleaning the glass with the recommended product, there are precautions that should be taken when working and cleaning the inside of the case.

• When cleaning the inside of the cases, we recommend that the glass be fully opened and covered to prevent solutions from splashing onto the glass and ruining the coating on the inside.

# 10. Maintenance

# General

The Hatco Glo-Ray Heated Shelf Units are designed for maximum durability and performance with minimum maintenance.



ELECTRIC SHOCK HAZARD:

- Turn the power switch OFF, unplug the power cord, and allow the unit to cool before performing any maintenance or cleaning.
- DO NOT submerge or saturate with water. Unit is not waterproof. Do not operate if unit has been submerged or saturated with water.

# Cleaning

To preserve the finish of the Glo-Ray Heated Shelf, it is recommended that the surfaces stains may be removed with a good stainless steel cleaner or a non-abrasive cleaner. Hard to reach areas should be cleaned with a small brush and mild soap.



Use non-abrasive cleaners only. Abrasive cleaners could scratch the finish of the unit, marring its appearance and making it susceptible to soil accumulation.

# **Stainless Steel Cleaning and Care**

There are three basic things, which can break down your stainless steel's passivity layer and allow corrosion.

1. Mechanical Abrasion

Mechanical Abrasion means those things that will scratch the steels surface. Steel Pads, wire Brushes, and Scrapers are prime examples.

#### 2. Water

Water comes out of our tap in varying degrees of hardness. Depending on what part of the country you live in, you may have hard or soft water. Hard water may leave spots. Also, when heated, hard water leaves deposits behind that if left to sit, will break down the passive layer and rust your stainless steel. Other deposits from food preparation and service must be properly removed.

#### 3. Chlorides

Chlorides are found nearly everywhere. They are in water, food and table salt. One of the worst perpetrators of chlorides can come from household and industrial cleaners. Don't Despair! Here are a few steps that can help prevent stainless steel rust.

#### 1. Use the Proper Tools

When cleaning your stainless steel products, take care to use non-abrasive tools. Soft Clothes and plastic scouring pads will NOT harm the steel's passive layer. Stainless steel pads can also be used but the scrubbing motion must be in the same direction of the manufacturer's polishing marks.

#### 2. Clean With the Polish Lines

Some stainless steels come with visible polishing lines or "grain". When visible lines are present, you should ALWAYS scrub in a motion that is parallel to them. When the grain cannot be seen, play it safe and use a soft cloth or plastic scouring pad.

#### 3. Use Alkaline or

#### Non-chloride Containing Cleaners

While many traditional cleaners are loaded with chlorides, the industry is providing an ever increasing choice of non-chloride cleaners. If you are not sure of your cleaner's chloride content contact your cleaner supplier. If they tell you that your present cleaner contains chlorides, ask for an alternative. Also, avoid cleaners containing quaternary salts as they also can attack stainless steel & cause pitting and rusting.

#### 4. Treat your Water

Though this is not always practical, softening hard water can do much to reduce deposits. There are certain filters that can be installed to remove distasteful and corrosive elements. If you are not sure of the proper water treatment, call a treatment specialist.

#### 5. Keep your Food Equipment Clean

Use alkaline or non-chlorinated cleaners at recommended strength. Clean frequently to avoid build-up of hard, stubborn stains. If you boil water in your stainless steel equipment, remember the single most likely cause of damage is chlorides in the water. Heating cleaners that contain chlorides has a similar effect.

#### 6. RINSE, RINSE, RINSE

If chlorinated cleaners are used you must rinse, rinse, rinse and wipe dry immediately. The sooner you wipe off standing water, especially when sit contains cleaning agents, the better. After wiping the equipment down, allow it to air dry for the oxygen helps maintain the stainless steel's passivity film.

- 7. Never Use Hydrochloric Acid (Muriatic Acid) on Stainless Steel
- 8. Regularly Restore/Passivate Stainless Steel

# Maintenance (Cont'd)

# CAUTION

#### **CLEANING PRECAUTIONS**

- When cleaning:
- Do not use high pressure water hoses
- Do not introduce water faster then waste outlet can drain
- NEVER INTRODUCE WATER ON SELF CONTAINED UNIT WITH AN EVPORATOR FAN
- NEVER USE A CLEANING OR SANITIZING SOLUTION THAT HAS AN OIL BASE (these will dissolve the butyl sealants) or an AMMONA BASE (this will corrode the copper components of the case)
- TO PRESERVE THE ATTRACTIVE FINISH:
- DO USE WATER AND A MILD DETERGENT FOR THE EXTERIOR ONLY
- DO NOT USE A CHLORINATED CLEANER ON ANY SURFACE
- DO NOT USE ABRASIVES OR STEEL WOOL SCOURING PADS (these will mar the finish)



Fluorescent Lamps contain mercury vapor. Mercury exposure at hih levels can harm the brain, heart, kidneys, lungs and immune system of people of all ages. Do not break or puncture flourescent lamps. Dispose of, or store, all flourescent lamps in accordance with Federal (40 CFR 273), State and local hazardous waste requirements. Refer to http://www.epa.gov/mercury/about.htm

**Fluorescent Lamp Disposal:** The United States Environmental Protection Agency has information regarding environmentally-safe fluorescent lamp waste management programs.

On the Net: EPA Website:

http://www.epa.gov/osw/hazard/wastetypes/ universal/lamps/recycle.htm

### **Electrical Precautions**



# **Replacing Overhead Heat Elements**

Tubular heating units are designed to last through many hours of use. Should there be a need to replace one, unclip the rod and replace. The tubular heating unit specifications are printed on the unit itself.



### **Tips and Troubleshooting**

Before calling for service if something seems wrong, check the following:

- 1. Check electrical power supply to the equipment for connection.
- 2. Check fixture loading. Overstocking case will affect its proper operation.



# 11. Troubleshooting Guide

Problem	Possible Cause	Possible Solution
Product not holding temperature.	Ambient conditions may be affecting the case operation.	Check case position in store. Is the case located near an open door, window, electric fan or air conditioning vent that may cause air currents? Case must be located minimum 15 Ft away from doors or windows. Cases are designed to operate at 55% Relative humidity and a temperature of 75°F.
	Heat settings too low	Adjust shelf control setting.
	Product not hot when placed in case.	Place pre packaged hot food in case. Measure food temperature when placed in case. Internal product temperature must be 160°F or greater when placed in case.
	Incorrect product packaging	Some product packaging may impact the ability to hold product temperature. Use only approved containers.
	Product not placed correctly in case.	Load product in single layer, in direct contact with shelves.
	Unit not preheated.	Preheat case before loading product.
	Low voltage.	Using volt meter make sure line voltage matches serial plate voltage.
	Product held too long	Hold product for recommended time.
No shelf heat.	Faulty shelf heater.	Check and call Hatco to replace if necessary.
	Faulty control.	Check and call Hatco to replace if necessary.
	Loose wiring on heater.	Check wiring/electrical connections.
	Temperature setting "Off".	Increase shelf heat setting.
Main Power switch	Open Circuit.	Check to see that cord is plugged in if plug is provided.
on but case is		Check wiring/electrical connections for hard wired cases.
Inoperative.		Check line voltage.
		Check power switch and replace if defective.
Lights do not come on.	Ballast/light socket wiring.	Check electrical connections. See Electrical Section and check wiring diagram.
	Ballast needs to be replaced.	Case should be serviced by a qualified service technician. See Electrical Section.
	Lamp socket needs to be replaced.	Case should be serviced by a qualified service technician.
	Lamp needs to be replaced.	See Maintenance Section.
	Light Switch needs to replaced.	Case should be serviced by a qualified service technician.

# **12. Hatco Limited Warranty**

#### **1. PRODUCT WARRANTY**

Hatco warrants the products that it manufactures (the "Products") to be free from defects in materials and workmanship, under normal use and service, for a period of one (1) year from the date of purchase when installed and maintained in accordance with Hatco's written instructions or 18 months from the date of shipment from Hatco. Buyer must establish the Product's purchase date by returning Hatco's Warranty Registration Card or by other means satisfactory to Hatco in its sole discretion.

Hatco warrants the following Product components to be free from defects in materials and workmanship from the date of purchase (subject to the foregoing conditions) for the period(s) of time and on the conditions listed below:

a) One (1) Year Parts and Labor PLUS One (1) Additional Year Parts-Only Warranty:

Conveyor Toaster Elements (metal sheathed) Drawer Warmer Elements (metal sheathed) Drawer Warmer Drawer Rollers and Slides Food Warmer Elements (metal sheathed) Display Warmer Elements (metal sheathed air heating) Holding Cabinet Elements (metal sheathed air heating) Built-In Heated Well Elements — HWB and HWBI Series (metal sheathed)

- b) One (1) Year Parts and Labor PLUS Four (4) Years Parts-Only Warranty on pro-rated terms that Hatco will explain at Buyer's request: 3CS and FR Tanks
- C) One (1) Year Parts and Labor PLUS Nine (9) Years Parts-Only Warranty on: Electric Booster Heater Tanks Gas Booster Heater Tanks
- d) Ninety (90) Day Parts-Only Warranty: Replacement Parts

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT INFRINGEMENT. Without limiting the generality of the foregoing, SUCH WARRANTIES DO NOT COVER: Coated incandescent light bulbs, fluorescent lights, heat lamp bulbs, coated halogen light bulbs, fluorescent lights, heat lamp bulbs, coated halogen light bulbs, halogen heat lamp bulbs, glass components, and fuses; Product failure in booster tank, fin tube heat exchanger, or other water heating equipment caused by liming, sediment buildup, chemical attack, or freezing; or Product misuse, tampering or misapplication, improper installation, or application of improper voltage.

#### 2. LIMITATION OF REMEDIES AND DAMAGES

Hatco's liability and Buyer's exclusive remedy hereunder will be limited solely, at Hatco's option, to repair or replacement using new or refurbished parts or Product by Hatco or a Hatcoauthorized service agency (other than where Buyer is located outside of the United States, Canada, United Kingdom, or Australia, in which case Hatco's liability and Buyer's exclusive remedy hereunder will be limited solely to replacement of part under warranty) with respect to any claim made within the applicable warranty period referred to above. Hatco reserves the right to accept or reject any such claim in whole or in part. In the context of this Limited Warranty, "refurbished" means a part or Product that has been returned to its original specifications by Hatco or a Hatco-authorized service agency. Hatco will not accept the return of any Product without prior written approval from Hatco, and all such approved returns shall be made at Buyer's sole expense. HATCO WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCES, FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR COSTS OR LOST PROFITS RESULTING FROM THE USE OF OR INABILITY TO USE THE PRODUCTS OR FROM THE PRODUCTS BEING INCORPORATED IN OR BECOMING A COMPONENT OF ANY OTHER PRODUCT OR GOODS.

All Hatco products are assigned a ten digit serial number at the time of manufacture. This serial number is shown on the product specification label that is attached to the unit. When contacting Hatco for assistance, it is very important and helpful that the serial number be provided.

The last four digits of a Hatco serial number are the manufacturing date code:

Example = Serial number 9625060951 has a date code of "0951" which indicates the following:

0951	
ΤT	- Week Fifty-One
	– Year 2009

In addition to the date code, a complete serial number provides a link to other specific unit information. Please provide the unit serial number when contacting Hatco for assistance.

HATCO CORPORATION P.O. Box 340500 Milwaukee, WI 53234-0500 U.S.A. (800) 558-0607 (414) 671-6350 Parts and Service Fax (800) 690-2966 International Fax (414) 671-3976 partsandservice@hatcocorp.com www.hatcocorp.com

#### **Service Record**

Last service date:	By:

# HUSSMANN/Chino

www.hussmann.com

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provide you with the correct parts and information for your particular unit. They can be found on a small metal plate on the unit. Please note them below for future reference.

The MODEL NAME and SERIAL NUMBER is required in order to

#### MODEL:

#### SERIAL NUMBER: