



The Signature of Quality®

INSTALLATION & OPERATIONS INSTRUCTIONS

HDP HOT DISPLAY PACKAGE



KEEP THIS MANUAL FOR FUTURE REFERENCE

Engineering and technical data are subject to change without notice.

FEDERAL INDUSTRIES
Toll Free 1(800) 356-4206

215 Federal Avenue
WI Phone (608) 424-3331

Belleville, WI 53508
Fax: (608) 424-3234

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INTRODUCTION

Thank you for purchasing a Federal Industries display case. This manual contains important instructions for installing and servicing the Curved Glass and Hi-Volume Hot Display Package Units. A repair parts list and wiring diagram are also included in the manual. Read all of these documents carefully before installing or servicing your case.



NOTICE

Read this manual before installing your case. Keep this manual and refer to it before doing any service on the equipment. Failure to do so could result in personal injury or damage to the case.



NOTICE

Installation and service of the electrical components in the case must be performed by a licensed electrician.

The portions of this manual covering components contain technical instructions intended only for persons qualified to perform electrical work.



DANGER

Improper or faulty hookup of electrical components in the case can result in severe injury or death.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national standards.

SERIAL NUMBER

Record the model and serial numbers of the case for easy reference. Always refer to both model and serial numbers in your correspondence regarding the case.

Case Model _____ Serial Number _____

This manual cannot cover every installation, use, or service situation. If you need additional information, call or write us:

**CUSTOMER SERVICE DEPARTMENT
Federal Industries
215 Federal Avenue
Belleville, WI 53508
Toll Free (800) 356-4206 / WI Phone (608) 424-3331**

WARNING LABELS & SAFETY INSTRUCTIONS



This is the safety-alert symbol. When you see this symbol on your case or in the manual, be alert to the potential for personal injury or damage to your equipment.

Be sure you understand all safety messages and always follow recommended precautions and safe operating procedures.



NOTICE TO EMPLOYERS

You must make sure that everyone who installs, uses, or services your case is thoroughly familiar with all safety information and procedures.

Important safety information is presented in this section and throughout the manual. The following signal words are used in the warning and safety messages:

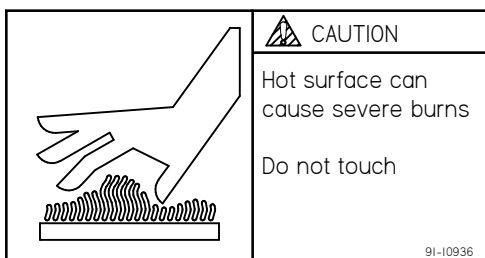
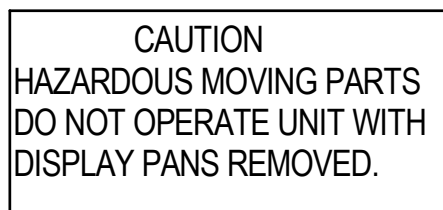
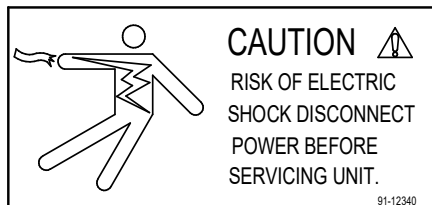
DANGER: Severe injury or death will occur if you ignore the message.

WARNING: Severe injury or death can occur if you ignore the message.

CAUTION: Minor injury or damage to your case can occur if you ignore the message.

NOTICE: This is important installation, operation, or service information. If you ignore the message, you may damage your case.

The warning and safety labels shown throughout this manual are placed on your Federal Industries case at the factory. Follow all warning label instructions. If any warning or safety labels become lost or damaged, call our customer service department at 1(800) 356-4206 for replacements.



PRE-INSTALLATION PROCEDURES

Inspection for Shipping Damage

You are responsible for filing all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage is noted to shipping crates, cartons, or if a shortage is found, note this on the bill of lading (all copies) prior to signing.

If damage is discovered when the case is uncrated, immediately call the delivering truck line and follow up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damage item. Crating material must be retained to show the inspector from the truck line.

INSTALLATION INSTRUCTIONS

Locating the Display Case

The case should be located where it is not subjected to the direct rays of the sun, heating ducts, grills, radiator, or ceiling fans, nor should it be located near open doors or main door entrances. Also, avoid locations where there are excessive air movement or air disturbances.

Countertop and floor mounted units must be sealed to the floor or counter using a NSF listed sealant. This is to prevent liquid spillage on the adjacent surfaces of the floor or counter top from passing under inaccessible portions of the equipment and allow for proper sanitary operation. The sealed surfaces should be cleaned of any dirt, debris or oil and allowed to dry before sealant application.

Removing Case From Shipping Skid



CAUTION: Do not push against the top glass, front glass, end glass, doors or door frames when removing the case from the skid or moving the case. Case damage or glass breakage could result.

1. Remove crate top and sides and note missing or damaged items as explained in the pre-installation procedures outlined above.
2. Move the case as near as possible to the final location and before removing it from the shipping skid.
3. If your case is supplied with plastic end panels, remove them by lifting them in an upward direction. Set these end panels aside to be reinstalled after case is placed in proper position.
4. Remove the (4) brackets that secure the case to the shipping skid.

5. Use the lifting handles located in each end of the case and lift case off of skid and into required position.
6. Level and square the case as needed by placing shims under each corner of base.
7. The leveled case must be sealed to the floor using a NSF Listed Sealant.
8. If plastic end panels are required, reinstall them on to case. Hook the key slot located on the inside of the end panel down over screws located on each end of case.

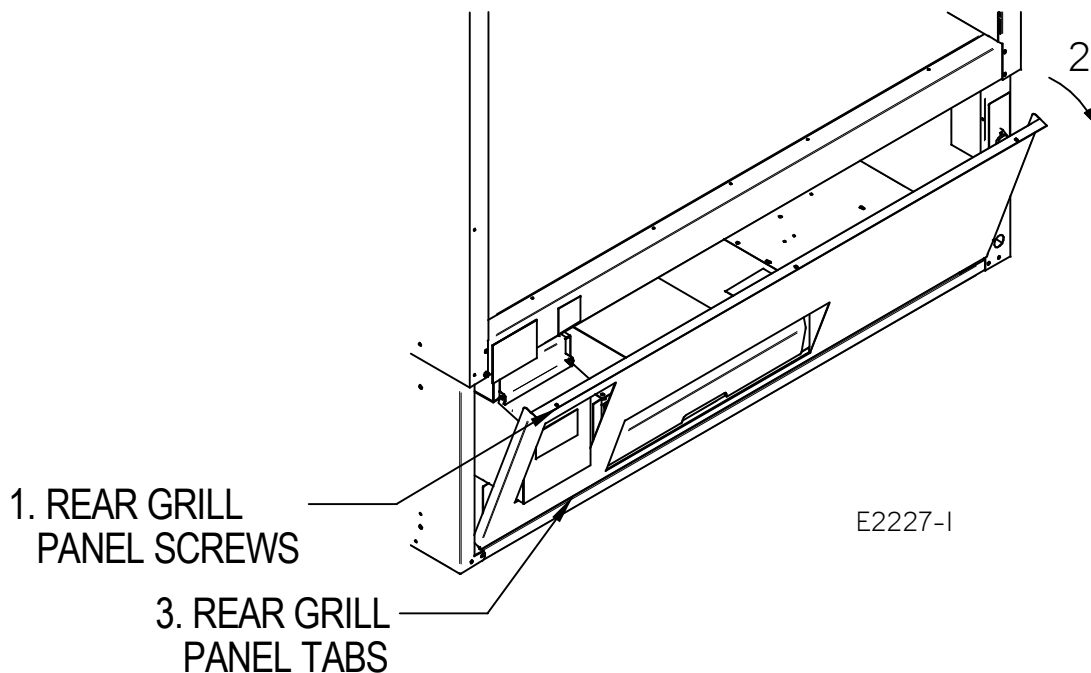
Grill Removal



DANGER: Electric shock hazard. Do not operate unit with panels removed.

There is a removable panel at the rear of the case. The panel allows access to the control panel enclosure, water pan, and the field wiring connection box. Remove this panel to make field wiring connections. See electrical information and grounding section of this manual before wiring case.

1. Remove the rear grill panel thumb screws from top of rear grill.
2. Tilt the top of rear grill panel outward as shown in illustration on the right.
3. Pull rear grill panel tabs up and out of slots in base of case.



Cleaning

For initial setup, clean the case as outlined in the weekly cleaning section of this manual.

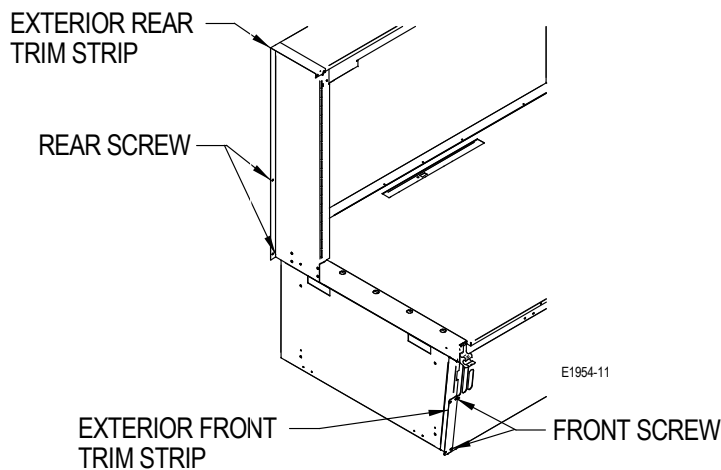
Trim Kits Installation

Follow the “Case Installation” procedures in this manual for each display case that is going to be adjoined in a lined up. Additional cases must be place directly next to the adjoining end of the first case. Push cases together as close as possible keeping the front of the cases in alignment. Once adjoining case is in proper position complete all of the procedures outlined in the “Case Installation” section in this manual before installing the trim kit as outlined below.

Note: The Laminated plastic end panels and end panel screws are not used on the adjoining ends of the cases that are to be butted together.

Exterior Trim

1. Remove the (3) 8-32 screws located on rear corner of each case and set aside (If preinstalled). These screws will be used to attach rear exterior trim strip to case. Note: For units with rear packing shelf , These screws hold the package shelf standard to the case. The packing shelf and packing shelf standard must be temporarily removed for installation of rear exterior trim.



2. Remove the adhesive liner from the inside of the rear exterior trim strip and firmly place it over the top and down the back of case. Be sure to center rear exterior trim strip over seem between cases and to align slots with holes in case rear (If holes are provided).
3. Fasten rear exterior trim strip to each case with the (3) 8-32 screws previously removed. If no holes are provided to fasten trim strip, use the (3) #8 self-drilling screws provided.
Note: For units with rear packing shelf, Reattach rear packing shelf standard over the top of rear exterior trim strip using the existing holes in case. Place packing shelf back on to case in desired standard slot.
4. Use a NSF approved silicone to seal rear exterior trim strip along the top surface of case.
5. Remove the (2) screw located on the front corner of each case and set aside. These screws will be used to attach front exterior trim strip to case. Note: For units with front package shelf, these screws

hold the package shelf to the case. The package shelf must be temporarily removed for installation of front exterior trim.

6. Fasten front exterior trim strip to each case with the (2) 8-32 screws previously removed.

Note: For units with front package shelf, Reattach front package shelf over the top of front exterior trim strip case with the (2) 8-32 screws previously removed.

Interior Trim

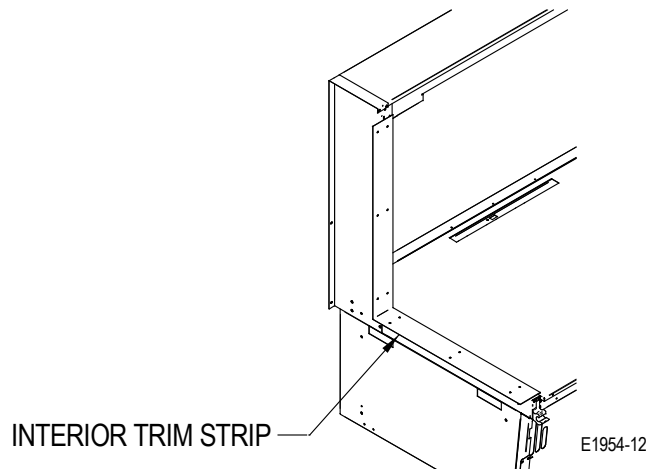
The interior trim kit is used when adjoining cases have one glass panel or no glass panel between them.

1. On units with sliding rear doors, remove both rear doors from track by lifting doors upward until the bottom edge of door clears the lower track. Swing the bottom of door outward and down out of top track.

On units with rear swing doors completely open doors to allow access to interior of case.

2. **Cases with no glass panels:** Remove the adhesive liner from the inside of the interior trim strip and firmly place it over the center gap between the case interiors.

Cases with one glass panel: The interior glass trim is placed in the adjoining case that does not have an end glass panel. Remove the adhesive liner from the inside of the interior trim strip and firmly place it against the glass trim of adjoining case with the end glass panel.



3. Fasten interior glass trim with the stainless steel self drilling screws supplied with interior trim kit

ELECTRICAL INFORMATION & GROUNDING

This Case Must Be Grounded



DANGER: Improper or faulty hookup of electrical components in the display case can result in severe injury or death.

Only a licensed electrician must perform all case electrical connections.

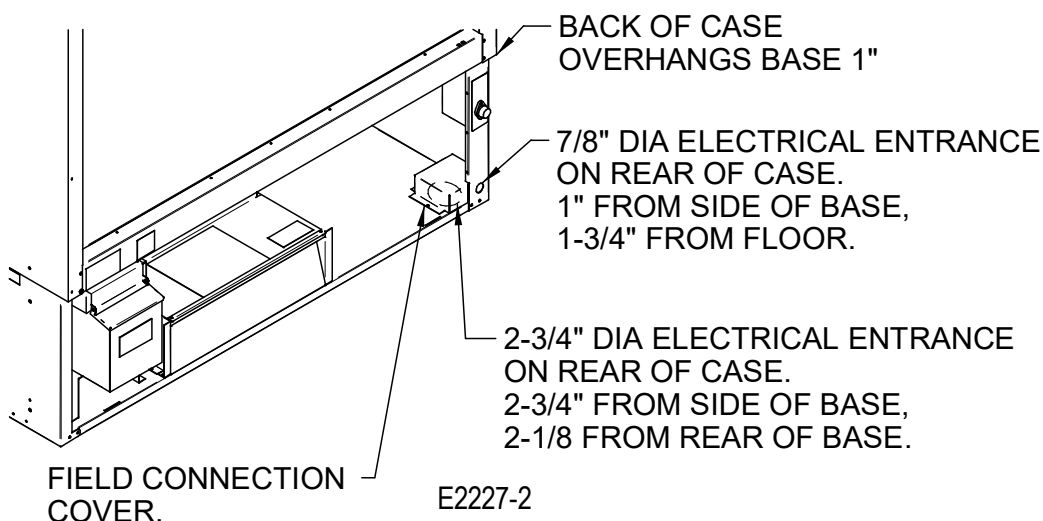
All electrical wiring hookups must be done in accordance with all applicable local, regional, or national electrical standards.

A separate circuit for each display case is recommended to prevent other appliances on the same circuit from overloading the circuit and causing malfunction.

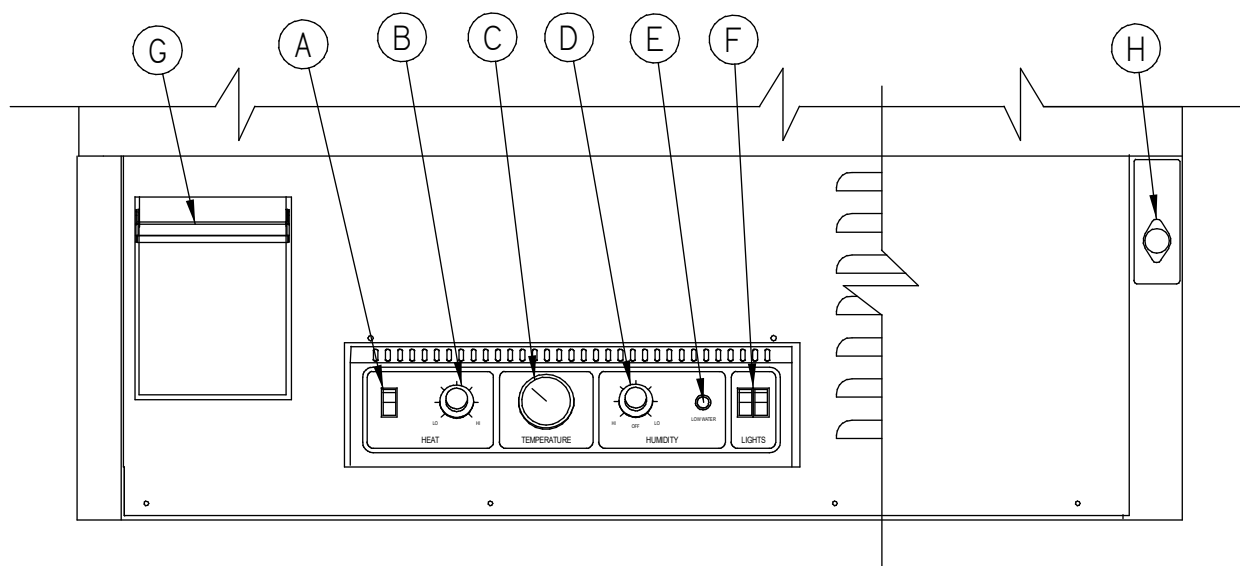
The electrical service must be grounded upon installation.

This unit is designed for permanent connection to a power source. See the electrical data plate located at the rear of the case for proper circuit size and wire ampacity.

The electrical connection box is accessible from the rear of the case. Remove rear grill from back of case (See “Grill Removal” in the installation section of this manual). See diagram below for location of the field wiring connection box.



OPERATING INSTRUCTIONS



- A. Heat Switch On/Off
This switch controls all heating and humidity functions of unit. This switch is on when the red portion of switch is exposed.
- B. Heat Temperature Control
This control regulates the air temperature of the case. Turn counter-clockwise to operate case at lowest temperature setting of approximately 100°F, turn clockwise to operate case at highest temperature setting of approximately 180°F. When proper temperature is reached, air heaters shut off, but the blower and humidity will remain running. When temperature drops below specified setting, the air heater turns back on.
- C. Temperature Indicator
The temperature indicator measures air temperature of air returning to heating duct. It does not actually measure case interior or food temperature.
- D. Humidity Control
This control regulates humidity level in the case. Turn counter-clockwise to operate water heater at highest temperature to provide the highest humidity level. Turn clockwise to operate water heater at lowest temperature to provide minimal or no humidity level.

- E. Low Water Light
This light turns on when humidity water level is low. When this light is lit, the humidity system shuts off until additional water is added to water pan. Air heat function remains active during low water situations.
- F. Light Switches
These switches control lights on the interior of the case. The switches are on when the red side of switch is exposed. The lights operate independently from the air heat control. The lights provide additional interior heat, and should be used whenever the heater system is being used.
- G. Water Pan
The water pan holds water to be used for humidifying case air.
- H. Fuse
The fuse is in line with all electrical components except the air heater. The fuse must always be replaced with the same type of fuse supplied from factory (SC-15 Amp Time Delay).

Initial Start-Up

After unit has been located, sealed to floor, and properly wired, you are now ready to begin using your heated display case to serve your customers.

1. Clean case thoroughly before proceeding. (See: Weekly Cleaning Instruction Section for proper procedure.)
2. Fill water pan with fresh, clean water. Using deionized water will minimize scale build-up on water heater components. The low water light will shut off. (See: General Maintenance Section-Water Pan Filling for proper filling process.)
3. Turn on heat switch.
4. Turn heat temperature control clockwise to fifth mark.
5. Turn humidity control counter-clockwise to fifth mark.
6. Turn on light switches to illuminate interior of case.
7. Allow two (2) hours for case to reach proper temperature and stabilize.
8. Adjust heat temperature control until temperature indicator reaches desired temperature.



CAUTION: Temperatures of many types of food must not drop below set levels. Check local codes to determine minimum food temperature requirements in your area.

9. Adjust humidity control to reach desired humidity level.

Placing Product into Case

1. Once temperature and humidity levels have stabilized to desired conditions, place preheated, packaged product into case. Allow enough spacing around product to allow proper circulation of heated air throughout the case.



WARNING: Interior surfaces are hot. DO NOT TOUCH.



NOTICE: Packaged product containers must be able to withstand temperatures up to 200°F.



NOTICE: This case is designed to display preheated, precooked packaged food products and is not intended to be used to bring refrigerated or frozen food to serving temperature. Food products being placed in case must be preheated to safe serving temperature. Check local code requirements in your area.

2. Adjust temperature during peak serving periods to maintain proper product temperature.
3. Refill water pan with fresh clean water daily or whenever the low water light turns on.
Note: Using deionized water will minimize scale build-up on water heater components.

Unit Shutdown

1. Remove all product from the case.



WARNING: Interior surfaces of case are hot. DO NOT TOUCH.

2. Turn interior lights off by placing both light switches to the off position.
3. Turn heat control to low position. Allow blower to run for 5 minutes to allow heater to cool down. (Mark dial location so temperature can be reset upon start-up.)
4. Turn heat switch off by placing heat switch to off position.

Shelves

Each display is furnished with shelves that are adjustable up and down and can be tilted in three angular positions. See “Shelving Installation & Removal” section of this manual for proper installation, adjustment and removal of shelving.

Rear Package Shelf (optional)

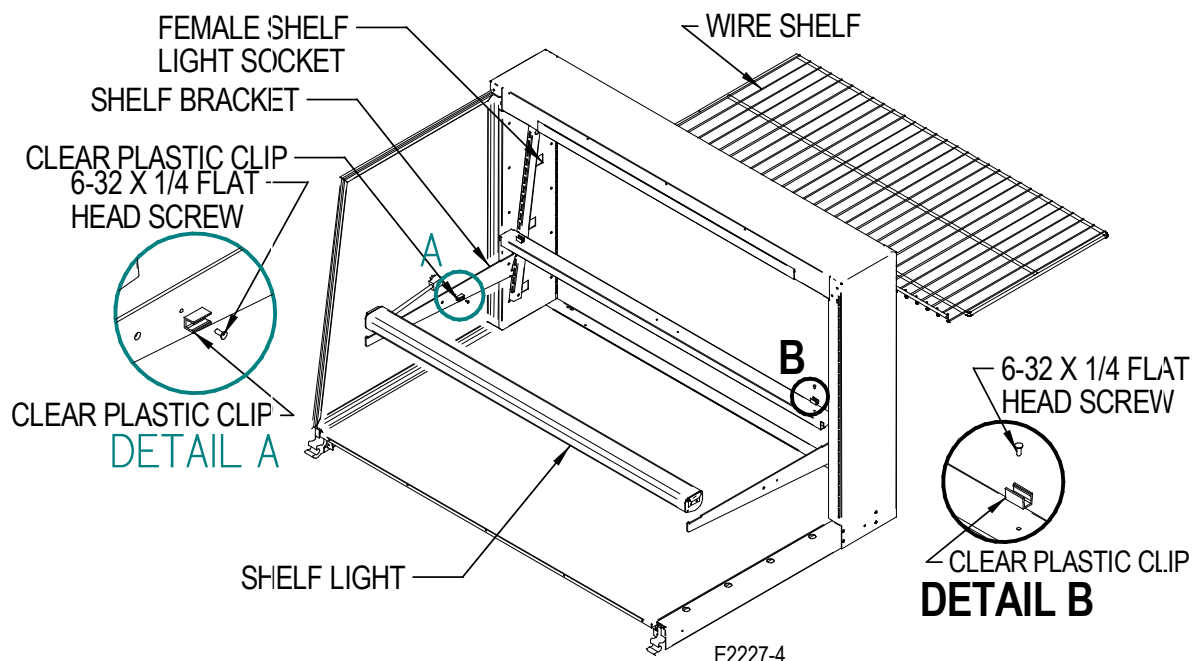
The rear package shelf is removable and adjustable up and down. It can be removed or adjusted by lifting rear package shelf up and out until the bracket is disengaged from shelf standard. It can then be moved to desired height location and reattached.

Sliding Rear Doors

The doors can be easily removed by lifting doors upward until the bottom edge of door clears the lower track. Swing the bottom of door outward and down out of top track.

Clean the door track frequently for easy door operation. A Very light film of lubricant, such as PAM, will help the doors slide easily.

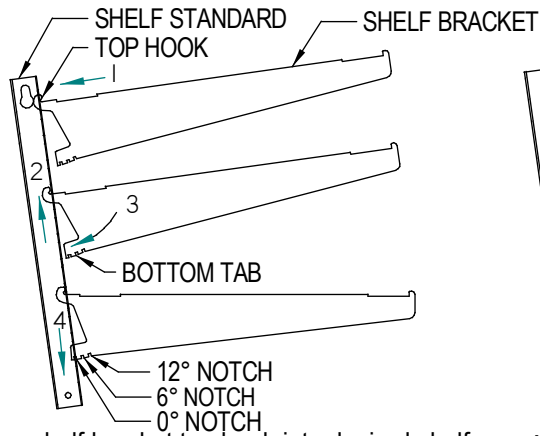
SHELVING INSTALLATION & REMOVAL



Shelving

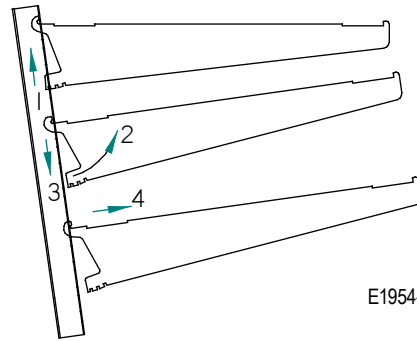
1. Turn the light switches to the off position.
2. On units with sliding rear doors, remove both rear doors from track by lifting doors upward until the bottom edge of door clears the lower track. Swing the bottom of door outward and down out of top track. On units with rear swing doors, completely open doors to allow access to interior of case.
3. Insert a shelf bracket in the desired shelf standard slot on one side of case. Follow the instruction in the illustration below. Place an additional shelf bracket in the same shelf standard slot on the opposite end of case. Repeat for additional shelf tiers. For first time installation it may be necessary to attach the clear plastic clips to only the shelf brackets located on the side of the shelf light cord. Use the 6-32 x 1/4 flat head screws supplied with unit to attach clear plastic clips to the 1/8 hole on the inside of the shelf brackets. This step may have already been performed at the factory for you.
NOTE: Do not allow shelf bracket to hit side glass

INSTALLATION



- A.. Place shelf bracket top hook into desired shelf standard slot.
- B. Lift shelf bracket top hook to allow shelf bracket bottom tab to clear shelf standard slot.
- C. Swing shelf bracket bottom tab into shelf standard slot.
- D. Place the desired shelf bracket notch of 0, 6, or 12 degrees onto bottom of shelf standard slot.

REMOVAL



E1954-3

- A. Lift shelf bracket up to allow shelf bracket notch to clear the bottom of shelf standard slot.
- B. Swing shelf bracket bottom tab out of shelf standard slot.
- C. Drop shelf bracket down to allow shelf bracket top hook to clear top of shelf standard slot.
- D. remove shelf bracket top from shelf standard slot.

4. Hang one end of shelf light housing on the front notch of a shelf bracket and then the other end of shelf light housing on the notch of the shelf bracket on the opposite end. Repeat for each additional shelf tiers. NOTE: On models without shelf lights, use a shelf support instead of a shelf light housing.
5. Push shelf light cords into clear plastic clip located on inside of shelf brackets.
6. Remove the cap from the appropriate female light sockets. If socket is not being used for a shelf light, the cap must be plugged into socket for entire light system to operate. NOTE: Grip each side of cap firmly. Wiggle and pull cap straight out of socket. Do not roll cap during removal.
7. Plug in each shelf light by aligning the male pins on the appropriate shelf light cord plugs with the female light sockets and push together. NOTE: Do not roll plug during insertion.
8. Hang one end of the shelf support on to the rear notch of one shelf bracket and then on the rear notch of the shelf bracket on the opposite side. Repeat for additional shelf tiers.
9. Place supplied shelving onto shelf supports as outlined in the appropriate "Shelf Installation" section of this manual.
10. On units with sliding rear doors, re-install both rear doors by lifting top of door into top track and swinging bottom of door onto bottom track. Install door labeled "inner door" first on inner track and door labeled "outer door" second on outer track.
11. Place supplied shelving onto shelf supports as outlined in the appropriate "shelf Installation" section of this manual.
12. On units with sliding rear doors, re-install both rear doors by lifting top of door into top track and swinging bottom of door onto bottom track. Install door labeled "inner door" first on inner track and door labeled "outer door" second on outer track.

Wire Shelves

1. For first time installation, it may be necessary to attach the clear plastic clips to each end of the rear shelf supports. Use the 6-32 x 1/4 flat head screws supplied with unit to attach clear plastic clips to the 1/8 hole on each side of shelf support. This step may have already been performed at the factory for you. Repeat for each rear shelf support tier. (See illustration E1594-2 Detail C) NOTE: On 73" long shelf supports, attach (2) additional clear plastic clips into 1/8 hold near the center of rear shelf supports.
2. With rear sliding doors removed or rear swing door open, place front of wire shelf onto front shelf light. (On front shelf support for models without shelf lights)
3. Snap the rear of shelf into the clear plastic clips on rear shelf support.
4. Repeat 2 & 3 for each tier.

NOTE: Units with 73" rear shelf supports uses (2) wire shelves per tier. All other units use (1) wire shelf per tier.

MAINTENANCE



CAUTION: Before any service work is performed on the case, make sure all power is disconnected to the case.



NOTICE: Installation and service of the electrical components in the case must be performed by a licensed electrician.

Service problems or request for repair parts from authorized service agencies, trained service personnel, or owners should be referred to:

CUSTOMER SERVICE DEPARTMENT
Federal Industries
215 Federal Avenue
Belleville, WI 53508
Toll Free: (800) 356-4206 / WI Phone (608) 424-3331
Fax: (608) 424-3234

WATER PAN FILLING

Depending on the amount of usage your heated display case receives and the amount of humidity you require will determine the frequency the water pan will need refilling.

The water pan requires refilling when the low water light located on the control panel illuminates. Water can be added at any time that is convenient for the operator. Refilling at regular intervals and not allowing the low water light to turn on will provide the most consistent humidity level in the case.

Note: When the low water light illuminates, the water heater shuts off and humidity will no longer be generated in the case.



CAUTION: Water in water pan is extremely hot. Do not touch surface of pan face and use caution when lifting water pan lid to avoid being burned from escaping hot steam.

1. Find a clean container, preferably with a handle and a pouring spout. Note: An empty water pan will hold approximately 3 ½ to 4 gallons of water.
2. Fill a container with clean fresh water. Note: Using deionized water will minimize scale build-up on water heater components. If unit is running it is best to use warm or hot water to prevent cooling of case temperature and allowing less time for water to reach proper temperature.

3. Lift lid of water pan and slowly pour water into pan. Fill pan to top but do not allow water to overflow.



CAUTION: If any water is spilled during filling procedure wipe it up immediately to prevent a slippery floor condition.

4. Close water pan lid and empty remaining water (if any) into sink or floor drain.



NOTICE: Water pan must be cleaned regularly to maintain proper performance and prevent mechanical failures. (SEE CLEANING HEAT DUCT & WATER PAN)

LIGHT BULB REPLACEMENT

Light bulbs are removed by unscrewing counter clockwise. Install bulbs by screwing in clockwise. Do not over tighten.

When replacing lights, use direct equivalent to the original bulbs. Bulbs must have protective coating to prevent shattering if broken.



NOTICE: Lights in this case are an additional source of heat and allow unit to heat to its maximum capacity. Replace burned out bulbs as soon as possible. Bulbs must have protective coating to prevent shattering if broken.

CLEANING INSTRUCTIONS

Daily Cleaning

The case should be cleaned thoroughly, as described in the weekly cleaning section, before it is used for the first time.

**NOTICE:**

Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.

**NOTICE:**

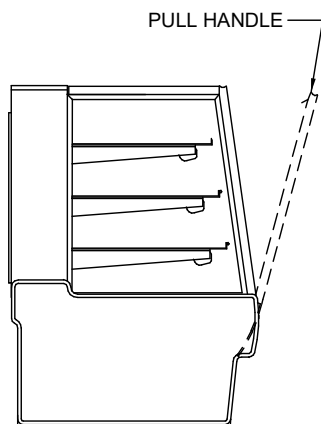
Shut off lights and power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

**NOTICE:**

Remove all product from case before proceeding with cleaning procedure.

Note: For major spills or foreign material buildup use complete weekly cleaning instructions.

1. Clean all foreign materials from the door opening.
2. Wipe complete interior of case using a damp cloth.
3. Tilt the front glass forward as described in the illustrations below. This will allow easier access to clean interior front and side glass. The glass can then be cleaned with common window cleaners.

**OPEN FRONT GLASS:**

1. Stand in front of unit and grab the pull handle with finger tips. It may be necessary to push on front glass from inside of case.
2. Pull front glass outward until the glass rests on front glass stops.

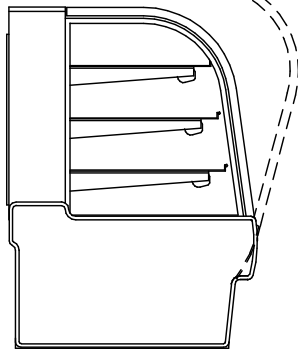
CLOSE FRONT GLASS:

1. Stand in front of unit and push on front of front glass with both hands.
2. Firmly push front glass towards rear of unit until front glass handle is against top glass front.

STRAIGHT GLASS

E1954-10

PULL HANDLE



OPEN FRONT GLASS:

1. Stand in front of unit and grab the pull handle with both hands.
2. Pull front glass outward until the glass rests on front glass stops.

CLOSE FRONT GLASS:

1. Stand in front of unit and push on front of pull handle with both hands.
2. Firmly push glass towards rear of unit until front glass rests in closed position

CURVED GLASS

4. The remaining exterior surface should be wiped down using any ammoniated cleaners or soapy warm water.

Note: Detergents are **not** recommended and do not use abrasive cleaners or pads to prevent scratching of surfaces.

Weekly Cleaning

This procedure is recommended on a weekly basis. It may need to be performed more often if necessary to maintain a clean, sanitary case. The case should be cleaned to this procedure before using the first time.



NOTICE: Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.



NOTICE: Shut off light and power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

Interior Cleaning

1. Remove all interior shelving as described in the shelving installation and removal section of this manual.
2. Remove both shelf standards from interior of case. First remove thumbscrew at bottom of shelf standard and then slide shelf standard up to allow top key slot to clear.
3. Clean the entire interior of the case using warm soapy water. Wipe off all soapy water with a damp cloth and allow to dry.

NOTE: Depending on the amount of usage and spillage of foreign material, some fasteners may have to be removed and parts disassembled to allow proper cleaning of the unit.

4. Clean all shelves, shelf support bars, shelf light housings, shelf light housings, shelf brackets, and display pans using warm soapy water and a brush. Rinse thoroughly and allow to dry.
5. Clean all foreign material from inner and outer rear door tracks using warm soapy water and a brush. Apply a light film of lubricant such as PAM to make the doors operate smoother.
6. Clean both sides of the doors and interior of the front glass using any common window cleaner.

NOTE: Front glass can be tilted forward to simplify front glass cleaning. See “Daily Cleaning” section for glass tilting operation.

7. Reassemble the case in reverse order starting with Step 6.

Exterior Cleaning

1. Clean the front glass using any common window cleaner.
2. The exterior surfaces should be wiped down using any ammoniated cleansers or warm soapy water.

NOTE: For major spills or foreign material build-up use complete weekly cleaning instruction.

CLEANING HEAT DUCT & WATER PAN



WARNING: Be sure water and heater temperatures have cooled sufficiently before proceeding.



IMPORTANT: Water pan must be cleaned regularly to maintain proper performance and prevent mechanical failures.

NOTE: Using deionized water will minimize scale build-up on water pan components.

1. Remove rear grill from rear of unit as described in the Rear Grill Removal section of this manual.
2. Remove duct covers from duct by removing thumb screws located on bottom sides of each cover and sliding each cover down.
3. Wipe complete inside of duct and inside of covers using damp cloth and allow to dry.
4. Reinstall covers.
5. Remove water pan assembly by unplugging electric cord from side of control box and sliding water pan out. Empty any remaining water from pan.

6. Remove (4) screws located on under side of water pan electrical box and lift entire electrical box, heater, level control and lid up and out of pan.
7. Wash entire inside of pan, water heater, and lid using soapy warm water. A mild cleanser and plastic-scouring pad may be required to clean water scale build-up. Rinse pan thoroughly after washing.
8. Clean float switch located at the end of the brass nipple protruding from the underside of water pan electrical box. Remove small retaining clip, which holds float on to stem, and slide float off. Wash both the float and the stem with warm soapy water. Reassemble and check that the float moves freely up and down on shaft.
9. Reassemble water pan assembly in reverse order as described in Steps 5 & 6.
10. Wash rear grill panel with soapy warm water and reinstall it on unit as described in Step 1.

SERVICE INFORMATION

CAUTION
RISK OF ELECTRIC SHOCK

DISCONNECT POWER
BEFORE SERVICING UNIT

Before any service work is performed on the case, make sure all power is disconnected to the case.

Service problems or request for repair parts from authorized service agencies, trained service personnel, or owners should be referred to:

CUSTOMER SERVICE DEPARTMENT
Federal Industries
215 Federal Avenue
Belleville, WI 53508
Toll Free: (800) 356-4206 / WI Phone (608) 424-3331
-Fax: (608) 424-3234

Pre-Service Checklist

You may avoid the cost and inconvenience of an unnecessary service call by first reviewing this checklist of frequently encountered situations that can cause unsatisfactory case performance.



CAUTION: Before servicing case turn off power at the main breaker of fuse box.



CAUTION: Installation and service of the electrical components in the case must be performed by a licensed electrician.

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
Lights Heating System Humidity System Not Operating	A. Blown Fuse B. Circuit Breaker "off" C. Heat Switch & Light Switch in "off" position D. Case Fuse Blown	A. Investigate cause, replace Fuse B. Investigate cause, replace Breaker C. Place Heat Switch and/or Light Switch to "on" position D. Investigate cause, and replace Fuse
Lights Inoperative- Heating & Humidity Systems Operative	A. Light Switch in "off" position B. Faulty or disconnected Light Switch C. Burnt Out Bulb(s)	A. Place Light Switch in "on" position B. Check & if necessary, replace Heat Switch C. Replace Bulb(s)
Lights Operative Heating & Humidity Systems Inoperative	A. Heat Switch in "off" position B. Faulty or disconnected Heat Switch	A. Place Heat Switch in "on" position B. Check & if necessary, replace Heat Switch
Heating System Inoperative Blower Motor Not Operating Lights & Humidity System Operative	A. Faulty, disconnected, or jammed Blower Motor	A. Check & if necessary, replace Blower Motor
Insufficient or No Heat Blower Motor Operative Lights & Humidity Operative	A. Temperature Control set too low B. Doors open C. Faulty or disconnected Temperature Control D. Faulty or Disconnected Heater E. Dirty or dislocated Temperature Control Probe in Heat Duct	A. Adjust Heat Control clockwise B. Allow doors to remain closed until temperature reaches proper level C. Check & replace, if necessary D. Check operation of each Heater & replace if necessary E. Clean & check location of Temperature Control Probe
Humidity System Inoperative or Inadequate Lights Operative Heating System Operative	A. Humidity Switch set too low B. Doors open C. Water Pan empty D. Disconnected Water Pan Power Cord E. Faulty or disconnected Water Heater Relay F. Faulty or disconnected Water Heater Element G. Faulty or dirty Water Level Float Switch	A. Adjust Humidity Control counter clock- wise to higher position B. Allow doors to remain closed until humidity reaches proper level C. Refill Water Pan D. Connect Water Pan Plug to plug receptacle inside of Control Box E. Check & replace, if necessary F. Check & replace, if necessary G. Check and clean Water Level Float Switch
Low Water Light "ON"	A. Water Pan empty B. Water Level Float Switch Installed upside down	A. Refill Water Pan B. Remove Float from stem by removing clip, rotate ends on Float Switch, reinstall clip
Temperature Indicator	A. Dirty or dislocated temperature probe	A. Clean & check location of probe in ductwork

Special Service Situations

If moisture or liquid is observed around or under a Federal Industries case, an immediate investigation should be made by qualified personnel to determine the source of the moisture or liquid. The investigation made should determine if the case is malfunctioning or if there is a simple housekeeping problem.

Moisture or liquid around or under a case is a potential slip/fall hazard for persons walking by or working in the general area of the case. Any case malfunction or housekeeping problem that creates a slip/fall hazard around or under a case should be corrected immediately.

SALE & DISPOSAL

Owner Responsibility

If you sell or give away your Federal Industries case you must make sure that all safety labels and the Installation-Service Manual are included with it. If you need replacement labels or manuals, Federal Industries will provide them free of charge. Contact the customer service department at Federal Industries at (800) 356-4206.

The customer service department at Federal Industries should be contacted at the time of sale or disposal of your case so records may be kept of its new location.

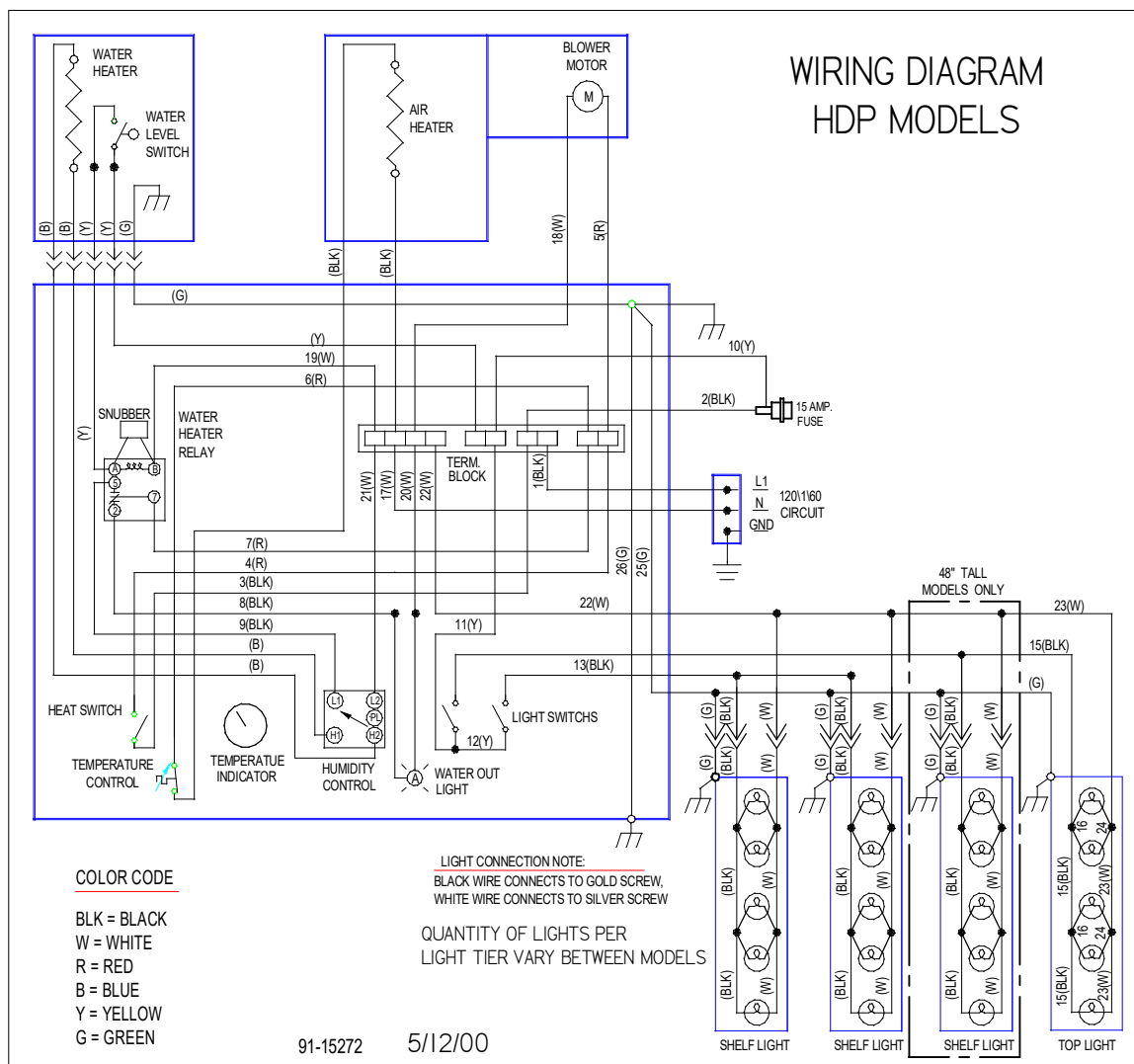
ELECTRICAL DATA

All models require 120 Volt, 1 Phase, 60 Hertz electrical circuit.

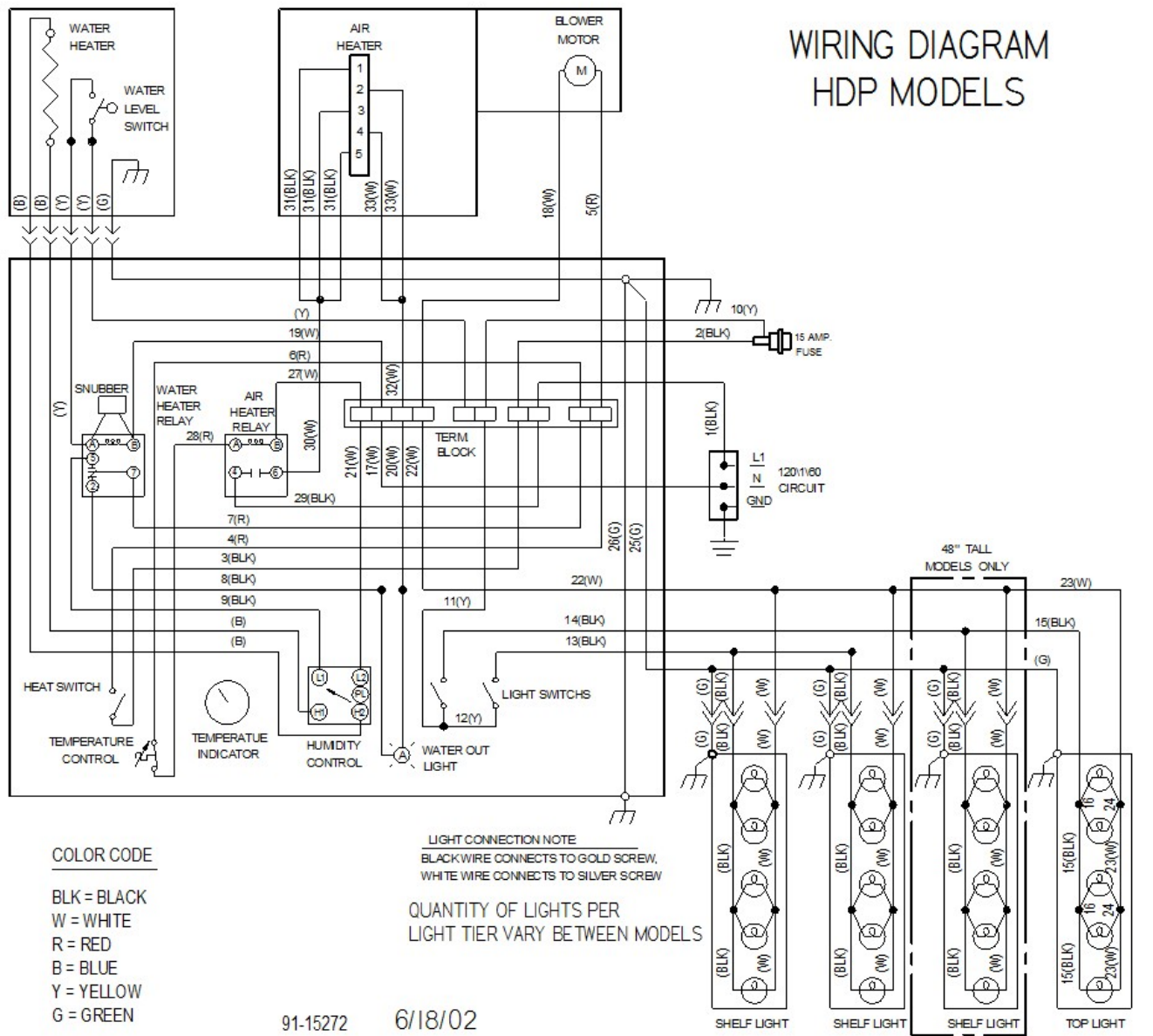
ELECTRICAL DATA-AMPS		LIGHTS	FAN MOTOR	AIR HEATER	WATER HEATER	TOTAL AMPS
CG3642HDP	SG3642HDP	3.0	1.5	9.8	6.2	20.5
CG3648HDP	SG3648HDP	4.0	1.5	9.8	6.2	21.4
CG5042HDP	SG5042HDP	4.5	1.5	9.8	6.2	22.0
CG5048HDP	SG5048HDP	6.0	1.5	9.8	6.2	23.5
CG5942HDP	SG5942HDP	4.5	1.5	9.8	6.2	22.0
CG5948HDP	SG5948HDP	6.0	1.5	9.8	6.2	23.5
CG7742HDP	SG7742HDP	7.5	1.5	9.8	6.2	25.0
CG7748HDP	SG7748HDP	10.0	1.5	9.8	6.2	27.5

Refer to the data plate attached to rear of the case for electrical requirements.

MAIN WIRING DIAGRAMS



WIRING DIAGRAM HDP MODELS



REPLACEMENT PARTS

ELECTRICAL COMPONENTS (ALL HDP MODELS)

LIGHT & HEAT SWITCH	41-11066
TEMPERATURE CONTROL THERMOSTAT	41-12410
TEMPERATURE INDICATOR	32-12452
HUMIDITY CONTROL	41-10925
AMBER PILOT LIGHT	42-11327
FUSE (SC-15 TIME DELAY)	41-12326
FUSE HOLDER	41-30513
BLOWER MOTOR	41-11325
AIR HEATER	40-15256
WATER HEATER	40-12323
LIQUID LEVEL FLOAT SWITCH	41-11331
RELAY SPDT 13 AMP WATER	41-11357
RELAY SPST 15 AMP AIR	41-11324
LIGHT BULB	42-11248
WIRING DIAGAM	91-15272

DOOR & SHELF COMPONENTS

MODELS		DOOR LEFT CLEAR	DOOR RIGHT CLEAR	DOOR LEFT REFLECTIVE	DOOR RIGHT REFLECTIVE
CGR3642	SGR3642	53-13666	53-13667	53-13682	53-13683
CGR3648	SGR3648	53-13674	53-13675	53-13690	53-13691
CGR5042	SGR5042	53-13668	53-13669	53-13684	53-13685
CGR5048	SGR5048	53-13676	53-13677	53-13692	53-13693
CGR5942	SGR5942	53-13676	53-13677	53-13692	53-13693
CGR5948	SGR5948	53-13676	53-13677	53-13692	53-13693
CGR7742	SGR7742	53-13672	53-13673	53-13688	53-13689
CGR7748	SGR7748	53-13680	53-13681	53-13696	53-13697

GLASS COMPONENTS CURVED

MODELS	CURVED FRONT GLASS	END GLASS CLEAR	END GLASS REFLECTIVE L.H.	END GLASS REFLECTIVE R.H.
CG3642HDP	50-13382	51-13470	51-14401-L	51-14401-R
CG3648HDP	50-13387	51-13471	51-14402-L	51-14402-R
CG5042HDP	50-13383	51-13470	51-14401-L	51-14401-R
CG5048HDP	50-13388	51-13471	51-14402-L	51-14402-R
CG5942HDP	50-13384	51-13470	51-14401-L	51-14401-R
CG5948HDP	50-13389	51-13471	51-14402-L	51-14402-R
CG7742HDP	50-13385	51-13470	51-14401-L	51-14401-R
CG7748HDP	50-13390	51-13471	51-14402-L	51-14402-R

GLASS COMPONENTS STRAIGHT

MODELS	FRONT GLASS	TOP GLASS	END GLASS CLEAR	END GLASS REFLECTIVE L.H.	END GLASS REFLECTIVE R.H.
SG3642HDP	51-13403	51-13404	51-13421	51-13401-L	51-13401-R
SG3648HDP	51-13407	51-13408	51-13422	51-13402-L	51-13402-R
SG5042HDP	51-13409	51-13410	51-13421	51-13401-L	51-13401-R
SG5048HDP	51-13411	51-13412	51-13422	51-13402-L	51-13402-R
SG5942HDP	51-13413	51-13414	51-13421	51-13401-L	51-13401-R
SG5948HDP	51-13415	51-13416	51-13422	51-13402-L	51-13402-R
SG7742HDP	51-13417	51-13418	51-13421	51-13401-L	51-13401-R
SG7748HDP	51-13419	51-13420	51-13422	51-13402-L	51-13402-R

California Residents Only.



WARNING

This product can expose you to chemicals including chromium which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to

www.P65Warnings.ca.gov