HUSSMANN®

eGrocery Program

Freedom, Medium Temperature

Installation & Operation Manual

HUSSMANN® eGrocery

EGPF MERCHANDISERS

August 2023
P/N 3179592_B
Spanish P/N 3179593_B
MANUAL - IO EGPF-FR

BEFORE YOU BEGIN
READ THESE INSTRUCTIONS COMPLETELY AND CAREFULLY.

This manual was written in accordance with originally prescribed equipment that is subject to change. Hussmann reserves the right to change or revise specifications and product design in connection with any feature of our products.

SAFETY INSTRUCTIONS

Personal Protection Equipment (PPE) is required. Wear safety glasses, gloves, protective boots or shoes, long pants, and a long-sleeve shirt when working with this equipment and while handling glass.

SAFETY INSTRUCTIONS

The safety of our customers and employees is paramount. The precautions and procedures described in this manual are intended as general methods for safe use of this equipment. Please be sure to comply with the precautions described in this manual to protect you and others from possible harm.

Only qualified personnel should install and service this equipment. Observe all precautions on tags, stickers, labels and literature attached to this equipment.

Service is only to be performed by factory-authorized service personnel, so as to minimize the risk of possible ignition due to incorrect parts or improper service. Component parts shall be replaced with like components. Contact your Hussmann representative to arrange servicing.

The definitions below are used to clarify the magnitude and urgency of harm and damage, considering problems arising from misuse. Relative to their potential danger, the definitions are divided into five parts according to ANSI Z535 Series.

ANSI Z535.5 DEFINITIONS

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE is used to address practices not related to personal injury.

SAFETY INSTRUCTIONS (or equivalent) signs indicate specific safety-related instructions or procedures.

TABLE OF CONTENTS

INSTALLATION TOOL LIST

Unloading refrigerated merchandiser from trailer:

- **Lever Bar (also known as a Mule,**
- **Johnson Bar (J-bar) /**
- **Moving Dolly(s) / Pallet Jack**

Setting Case Line-Up:

- **Level, 4 ft suggested**
- **Ratchet**
- **¼ in. Socket**
- **5 / 16 in. Socket**
- **½ in. Socket**
- **Battery Drill / Screw Gun**
- **Caulking Gun**
- **10 in. Adjustable Crescent Wrench**

⚠WARNING

» Excessive ambient conditions may cause condensation and therefore sweating of doors. Facility operators should monitor doors and floor conditions to ensure safety of persons.

» Case ventilation openings must be clear of any obstructions. Do not damage the refrigerant circuit.

» Always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as fans, heaters, thermostats and lights.

» Do not use mechanical devices or other means to accelerate the defrosting process.

» Do not use electrical appliances inside the food storage compartments of the case(s).

» Do not store items or flammable materials atop the unit. Do not walk on case.

INSTALLATION

MODEL DESCRIPTION

These cases are designed to be ready for remote installation of a top-mounted, air-cooled condensing unit. See Section 2 of this manual for installation of field-installed condensing unit. The case is programmed for medium temperature use, and settings can be adjusted using the controller keypad. Lighting is not standard but offered as a option.

UL LISTING

These merchandisers are manufactured to meet ANSI/ UL 471 standard requirements for safety. Proper installation is required to maintain the listing.

FEDERAL / STATE REGULATION

These merchandisers at the time they are manufactured, meet all federal and state/ provincial regulations. Proper installation is required to ensure these standards are maintained. Near the serial plate, each case carries a label identifying the environment for which the case was designed for use.

For example:

ANSI / NSF-7 Type I
Display Refrigerator / Freezer intended for 75° F (24° C) / 55% RH Ambient Application

ANSI / NSF-7 Type II
Display Refrigerator / Freezer Intended for 80° F / 55% RH Ambient Application

ANSI / NSF-7
Display Refrigerator Intended for Bulk Produce

DOCUMENT REVISION HISTORY

REVISION B - Revised cover and images

REVISION A - ORIGINAL ISSUE

This warning does not mean that Hussmann products will cause cancer or reproductive harm, or is in violation of any product-safety standards or requirements. As clarified by the California State government, Proposition 65 can be considered more of a 'right to know' law than a pure product safety law. When used as designed, Hussmann believes that our products are not harmful. We provide the Proposition 65 warning to stay in compliance with California State law. It is your responsibility to provide accurate Proposition 65 warning labels to your customers when necessary. For more information on Proposition 65, please visit the California State government website.

LOCATION

These merchandisers are designed for displaying products in air conditioned stores where temperature is maintained at or below the ANSI/NSF-7 specified level and relative humidity is maintained at or below 55%.

Placing refrigerated merchandisers in direct sunlight, near hot tables or near other heat sources could impair their efficiency.

Like other display cases, these are sensitive to air disturbances. Air currents passing around cases will seriously impair their operation. Do not allow air conditioning, electric fans, open doors or windows, etc. to create air currents around the cases.

Excessive ambient conditions may cause condensation and therefore sweating of doors. Facility operators should monitor doors and floor conditions to ensure safety of persons.

To prevent sweating on the exterior surfaces of merchandisers, there must be a minimum clearance of 4 inches (102 mm) between the merchandisers and other fixtures or walls. Product should always be maintained at proper temperature. This means that from the time the product is received, through storage, preparation and display, the temperature of the product must be controlled to maximize the life of the product.

SHIPPING DAMAGE

All equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports and/or claim forms.

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 forms.

Concealed Loss or Damage

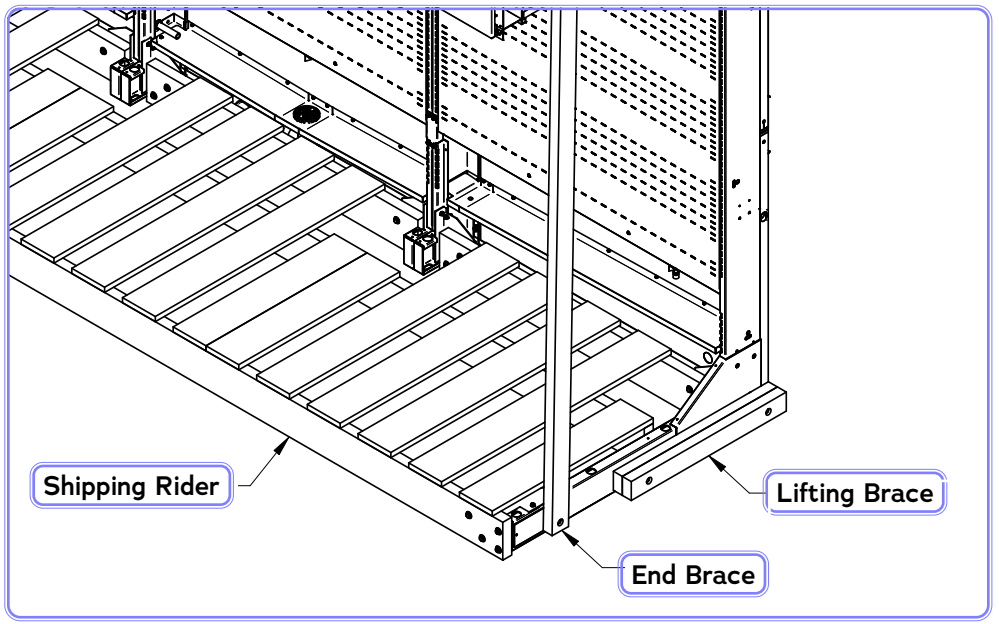
When loss or damage is not apparent until after equipment is uncrated, a claim for concealed damage is made. Upon discovering damage, make request in writing to carrier for inspection within 15 days and retain all packing. The carrier will supply inspection report and required claim forms.

EXTERIOR LOADING

Do not walk on top of case(s) or damage to the case(s) and serious personal injury could occur. They are not structurally designed to support excessive external loading such as the weight of a person.

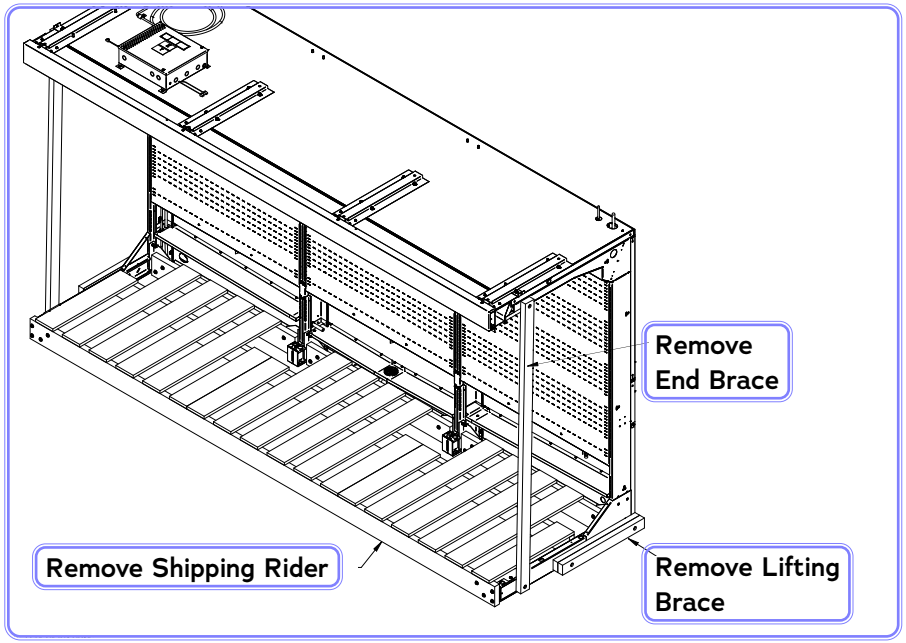
LIFTING AND MOVING THE CASE

The case can be moved with pallet jacks and/or j-bars. Lifting braces are at each end of the case. Position the jacks or j-bars underneath lifting braces during transit. Be careful not to damage the ends of the case when positioning and moving. The lifting braces should not be removed until after the case is positioned in its final location.

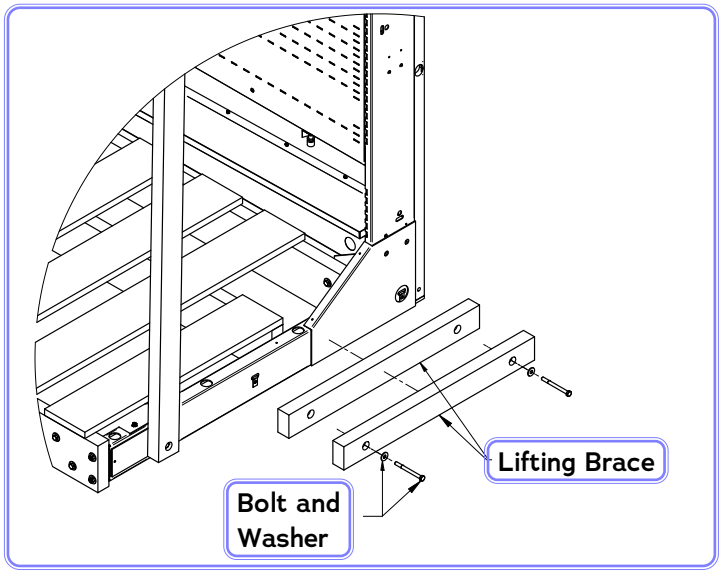


REMOVE SHIPPING RIDERS AND LIFTING BRACES

Remove bolts from the shipping riders at front and rear locations. The riders are bolted to the case. Remove the riders and end braces.

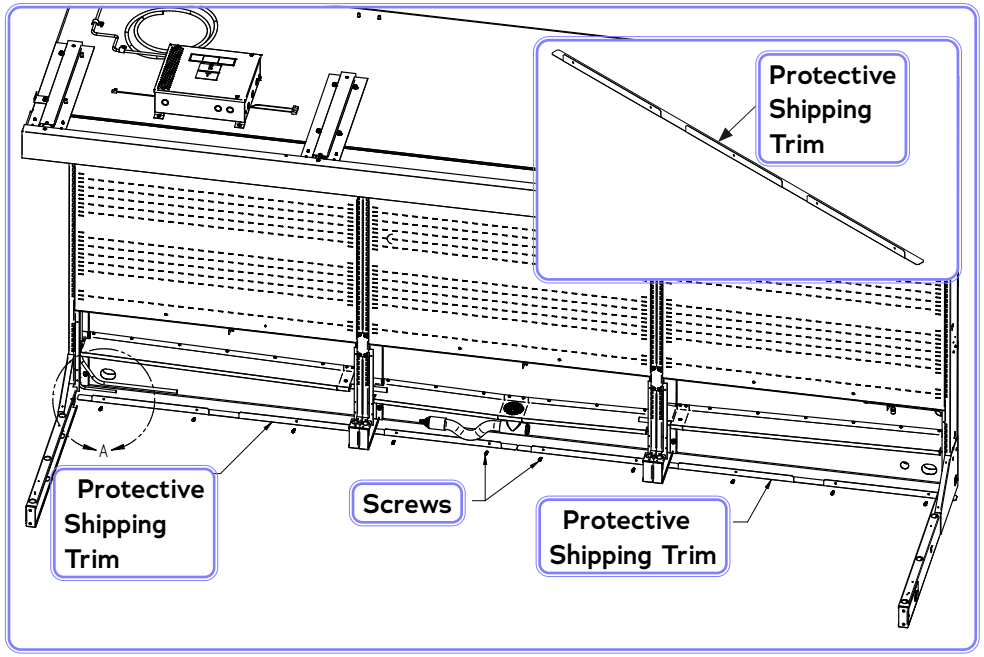


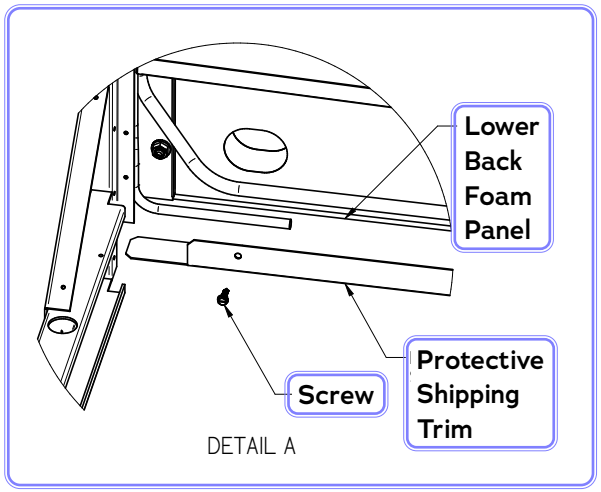
Remove lifting braces.



REMOVE PROTECTIVE SHIPPING TRIM

The protective shipping trim needs to be removed before the case is installed. Remove the screws (10) and trim as shown below.





LEVELING

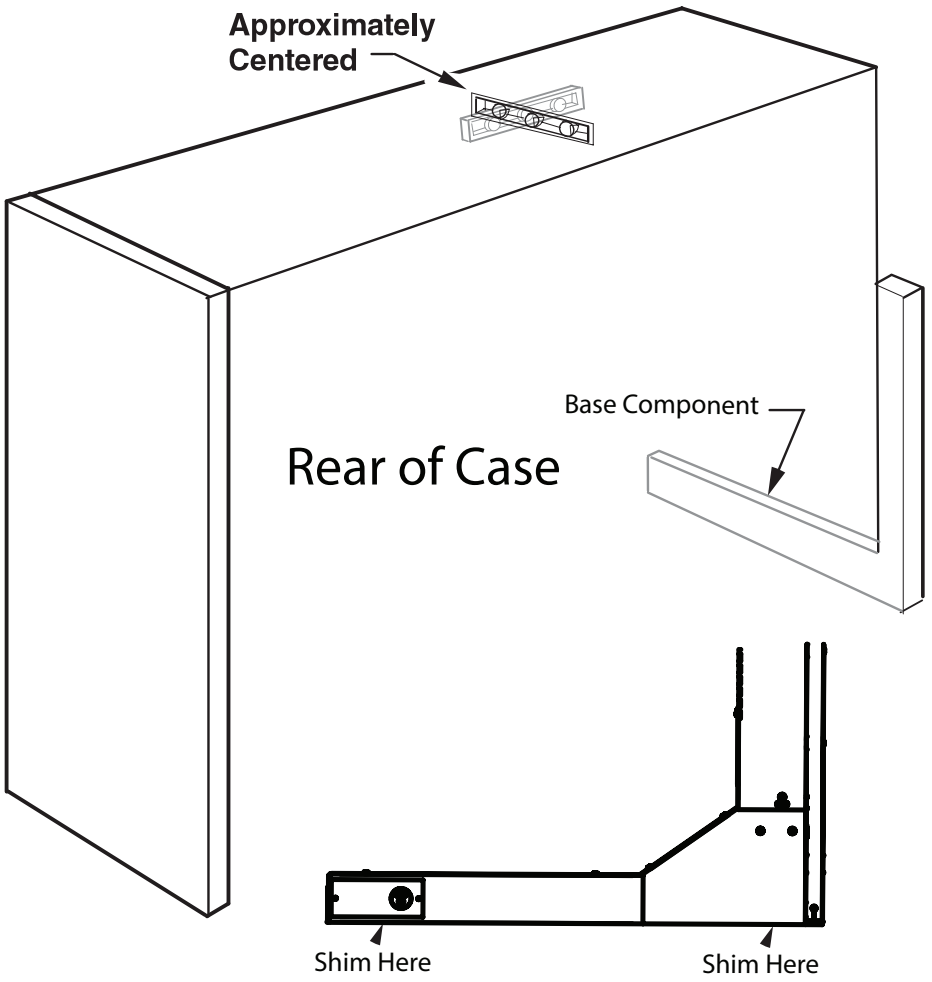
Merchandisers must be installed level to ensure proper operation of the refrigeration system and to ensure proper drainage of defrost water. When leveling merchandisers, use a carpenter's level. Leveling shims or wedges are provided with each merchandiser for use if needed.

NOTE:
Begin lineup leveling from the highest point of the store floor.

The front shipping rider can be positioned at the front of the two end base uprights in order to help square and align the base for drilling to floor.

Place shims under the end bases if the floor is not level. Use a 4 ft level to make sure the case is level. Placing shims at other locations will cause uneven distribution of weight leading to piping leaks, as well as sagging or wracked doors.

Supports must be shimmed if not in full contact with the floor.



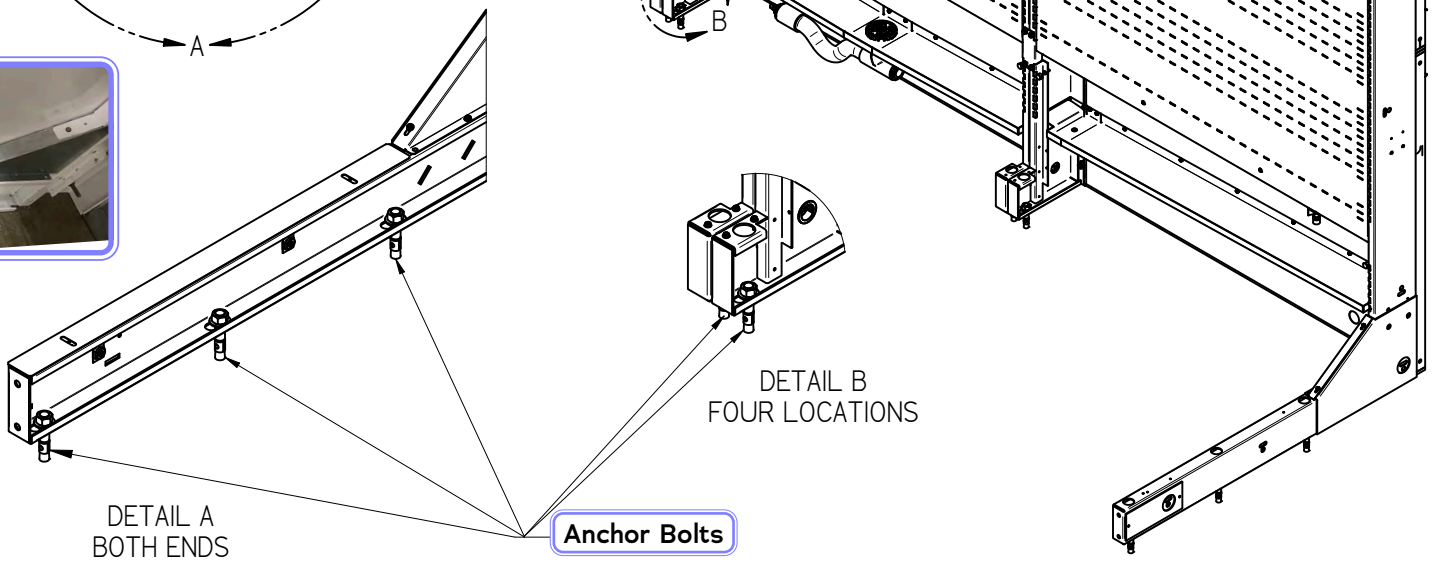
SECURING CASE TO FLOOR

The case must be secured to the floor using anchors that are fastened to the floor.

1. Use a square. It is important to make sure the end base uprights are 90° from the back-foam assemblies before installing the 6 anchor bolts in the concrete.
2. Use a hammer drill to drill ½" diameter holes 2¾" inches deep in the concrete. (3 on each end of the case, and 2 at each center location.) Clean out concrete dust from holes.
3. Install the ½" diameter anchor bolts. 3 bolts are installed on each end, 2 bolts are installed on each center frame. Tighten nuts to secure case to the floor.

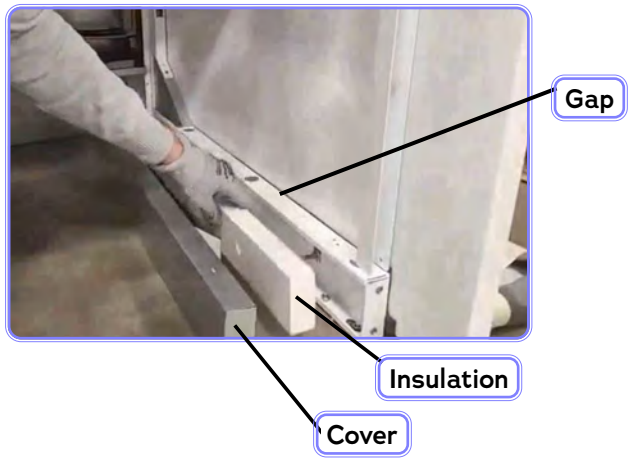
DETAIL A
BOTH ENDS

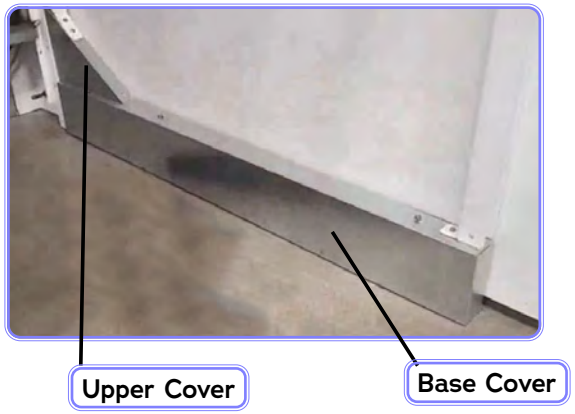
Photo of Anchor Locations



BASE UPRIGHT INSULATION & COVER INSTALLATION

1. Install the lefthand insulation.
2. Install the lefthand lower cover using supplied painted screws.
3. Install the lefthand upper cover. Repeat for righthand side of case base upright.
4. Apply silicone sealant to gap.





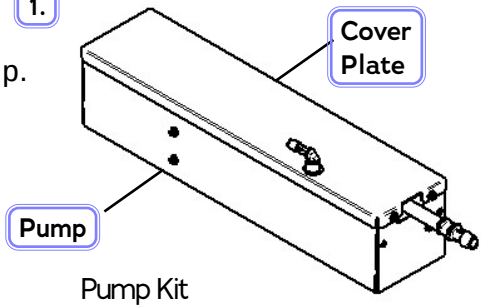
INSTALLING PUMP & COLLECTION PAN KIT

The bottom drain for defrost water from the evaporator coil of the case is connected to an evacuation pump, which uses plastic drain tubing to pump the water to the condensate pan on top of the case. See next page for part list assembly.

Evaporation pan must be installed level and plugged into electrical receptacle. The tubing should be inspected through its entire length to ensure that it has not been cut, kinked, obstructed, or damaged during shipping and installation.

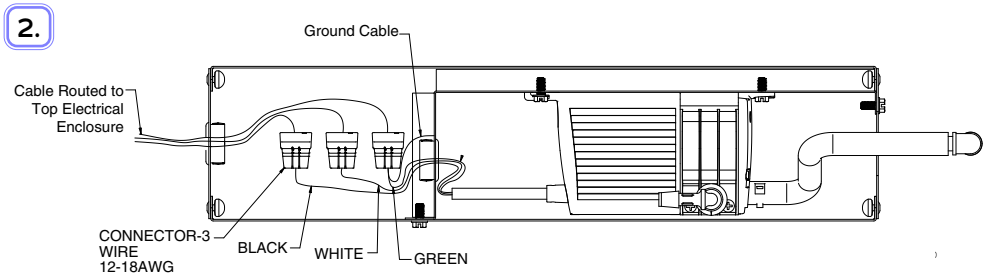
1. Remove cover plates.
2. Connect case wire whip to pump.

1.



Pump Kit
(sits underneath case)

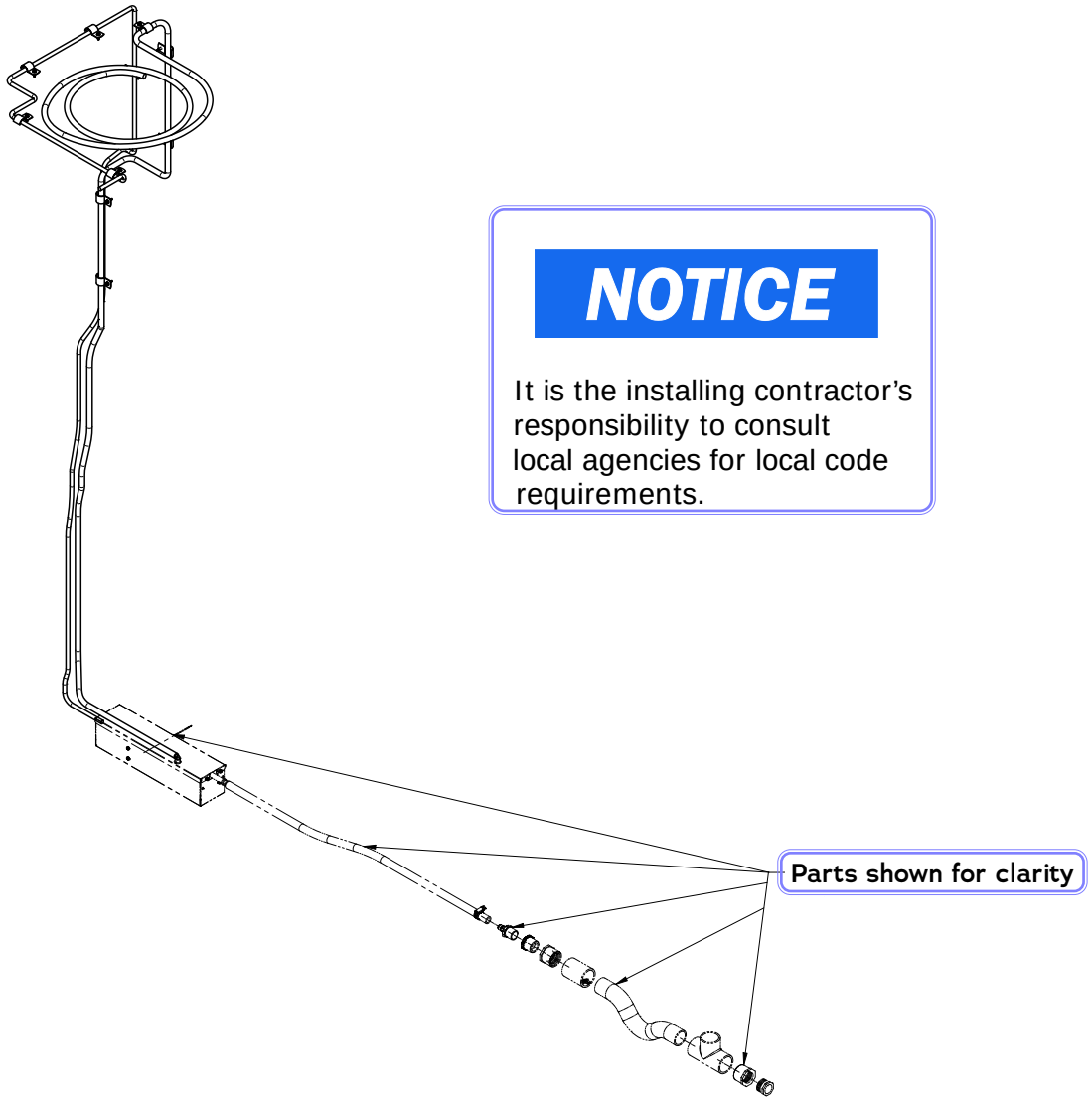
2.



INSTALLING PUMP & COLLECTION PAN KIT (CONTINUED)

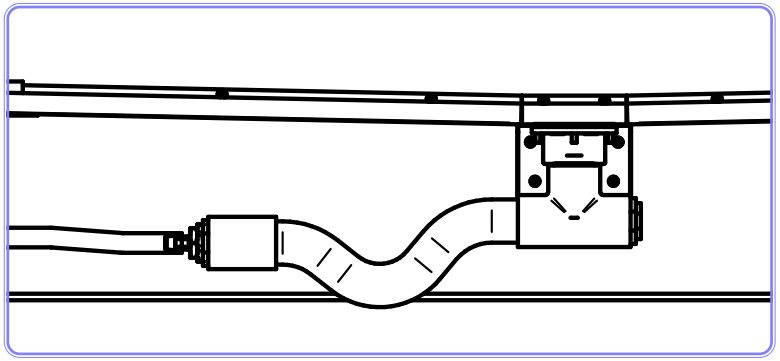
Pump Assembly Exploded View (shown below for reference)

The pump assembly is field installed. The pump wiring harness & water tube are factory installed.

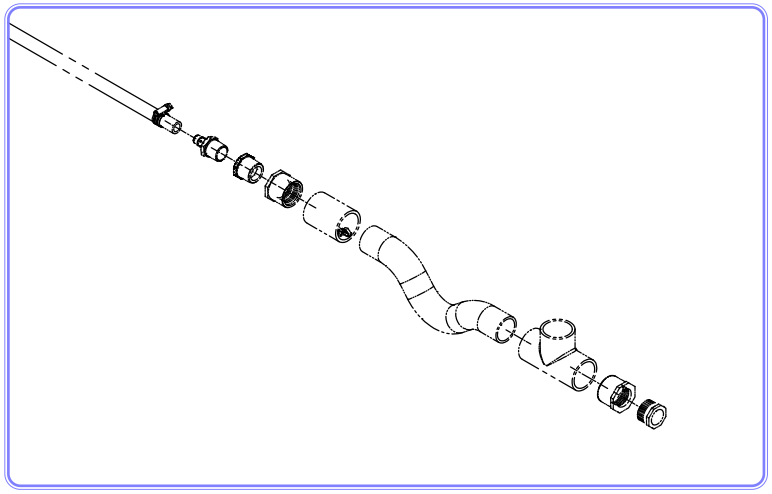


NOTICE

It is the installing contractor's responsibility to consult local agencies for local code requirements.



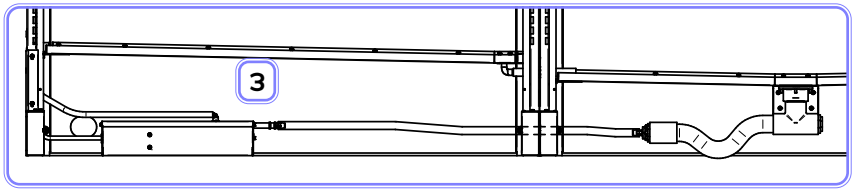
P-trap and Drain Tee



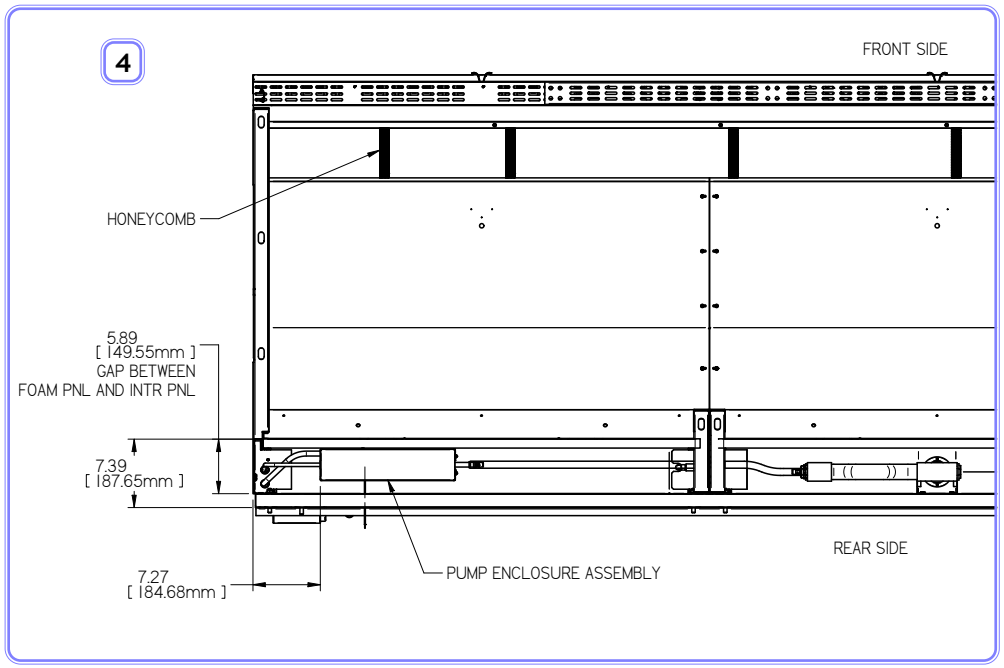
Exploded view of Parts

INSTALLING PUMP & COLLECTION PAN KIT (CONTINUED)

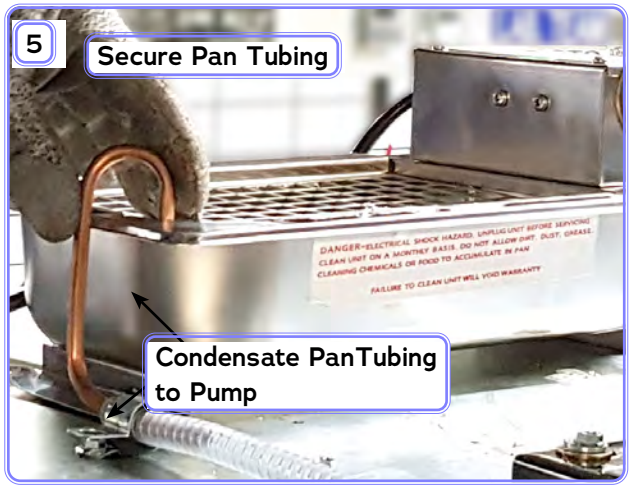
3. Attach hose to tee. Insert opposite end of drain hose to barb of pump assembly



4. Place pan underneath interior back panel as shown below.



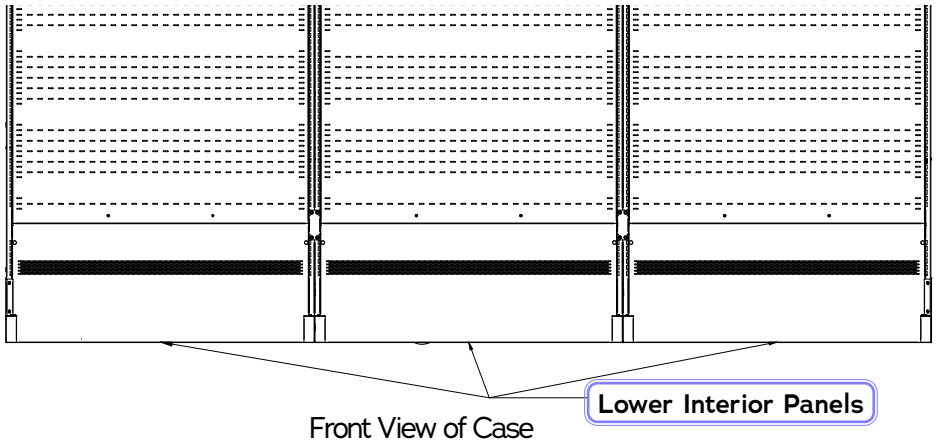
5. Connect tubing to condensate pan, which is to be located on top of the case. See Page 2-2 of this manual for location of top-mounted condensate pan.



Condensate Pan (Installed on Top of Case)

INSTALLING LOWER INTERIOR PANELS

The interior back panels are packed separately with the case. The cutouts in the panel provide access to the valves, the pump and reservoir.

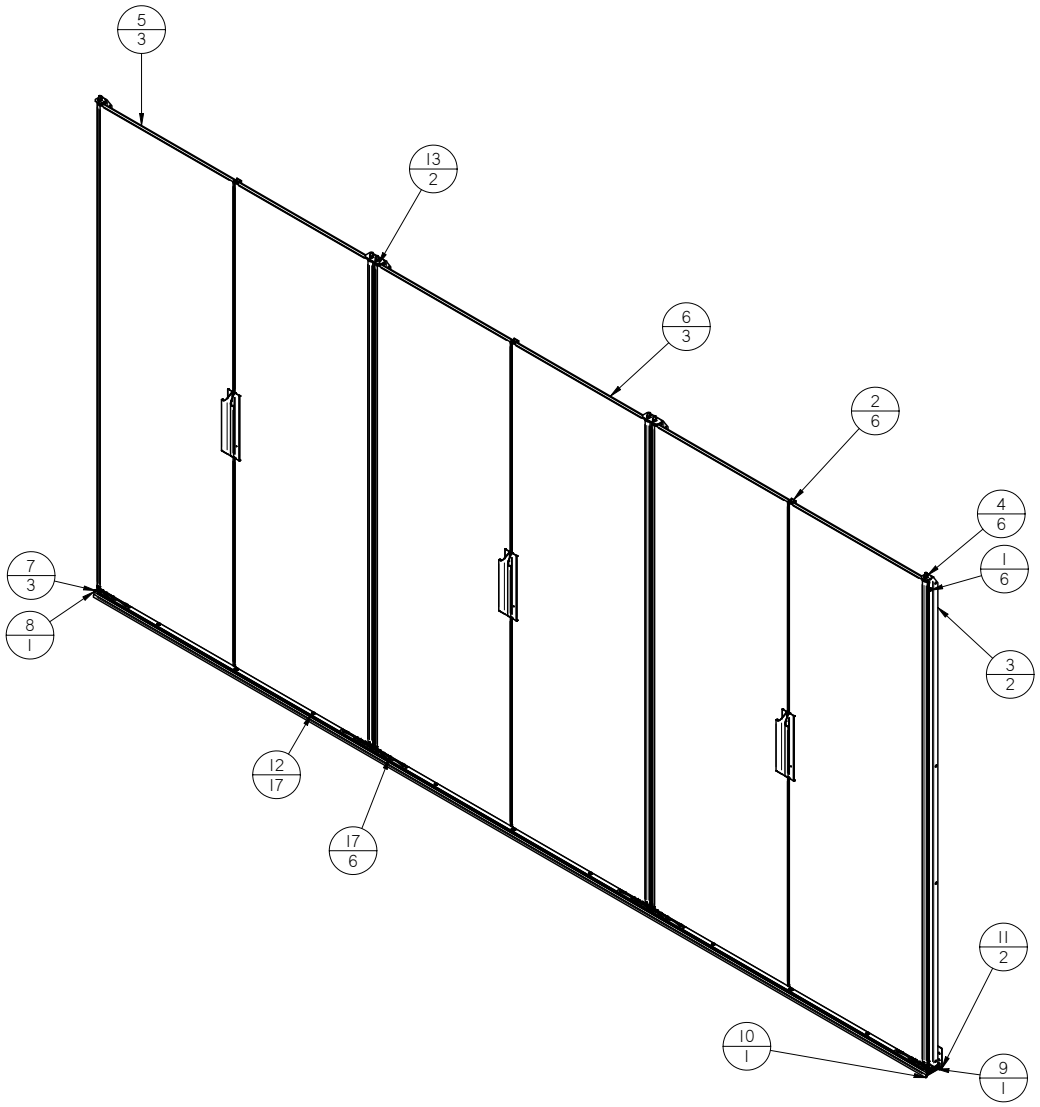


Front View of Case

6-DOOR INSTALLATION

6-DOOR PARTS LIST

Door Assembly Reference Parts for cases with 6-doors.



NOTICE

6-door cases use 24" wide doors. 5-door cases have different door installation instructions. See page 1-15 for 5-door case installation.

PART LIST - ASSEMBLY

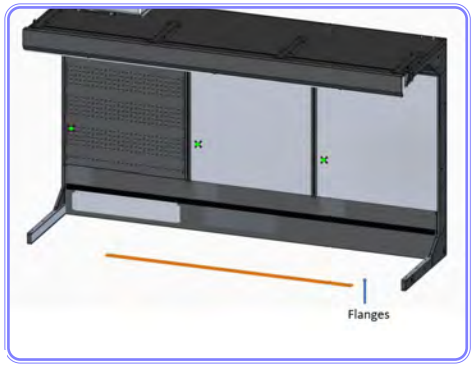
ITEM	TITLE	QTY
1	SCREW-HEX WASHER HEAD 10X24X1/2 THREAD CUTTING	6
2	BUMPER-SQUARE	6
3	MULLION	2
4	BUSHING-GRAVITY TOP PIN	6
5	DOOR ASSY-LH GLASS 24X74 WITH SOLID PIN BLACK	3
6	DOOR ASSY-RH GLASS 24X74 WITH SOLID PIN BLACK	3
7	PLATE ASSY-BOTTOM HINGE MODULAR	3
8	RAIL-BOTTOM	1
9	SUPPORT-EXT RAIL	1
10	SUPPORT-BOTTOM RAIL	1
11	BRACKET-BOTTOM SET	2
12	SCREW 8-18 X 1 HEX WASHER HEAD STAINLESS STEEL BLACK #2	17
13	MULLION-CTR BLACK	2
14*	SUPPORT-RAIL	1
15*	WIPER-DOOR FRAME 73.5 BLACK	6
16*	WIPER-DOOR FRAME 46.3 BLACK	1
17	SCREW-.187 SHOULDER 8-32 LOW PROFILE TORX NYLON LOCK PILOT	6
18*	RETAINER-DOOR & WIPER 46.591 BLACK	2
19*	RETAINER-DOOR & WIPER 46.300 BLACK	1
20*	WIPER-DOOR FRAME 46.591 BLACK	2
21*	BUMPER-SQUARE ADHESIVE BACKED BLACK	6

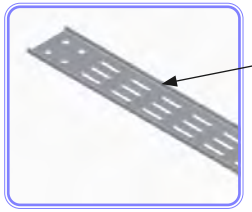
DOOR INSTALLATION STEPS

Unpack door parts kit, and remove top of crate to access doors.

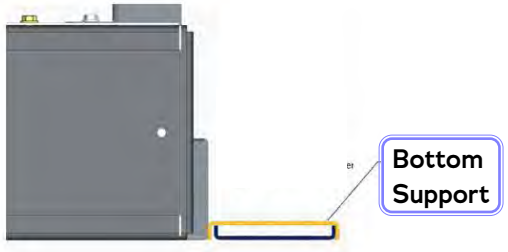
NOTE:
Some parts shown may not be included on the case(s) to be installed. The illustrations are only for door installation purposes. Five door cases have separate instructions beginning on page, 1-17.

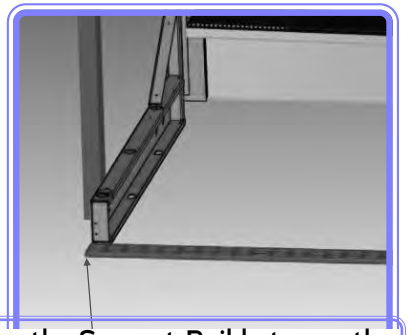
1. Locate Support Rail, and place it between the uprights of the case with flanges facing up.



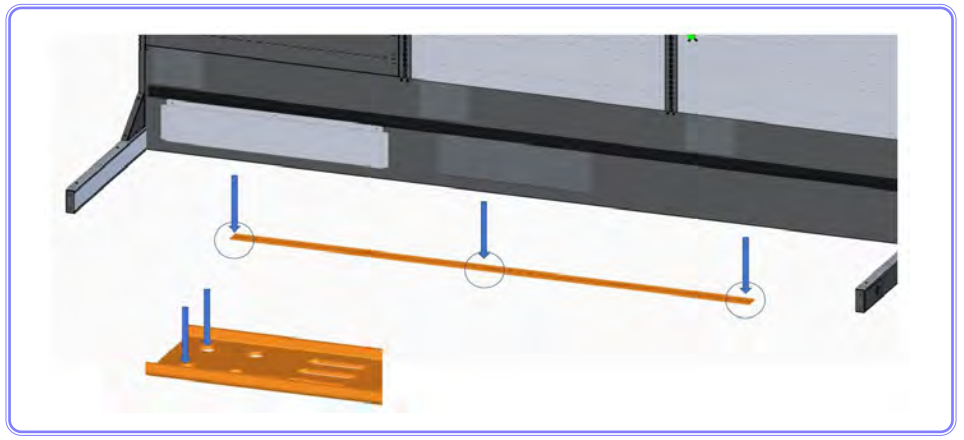


2. Place Bottom Support over Support Rail and center with the bottom uprights on case.

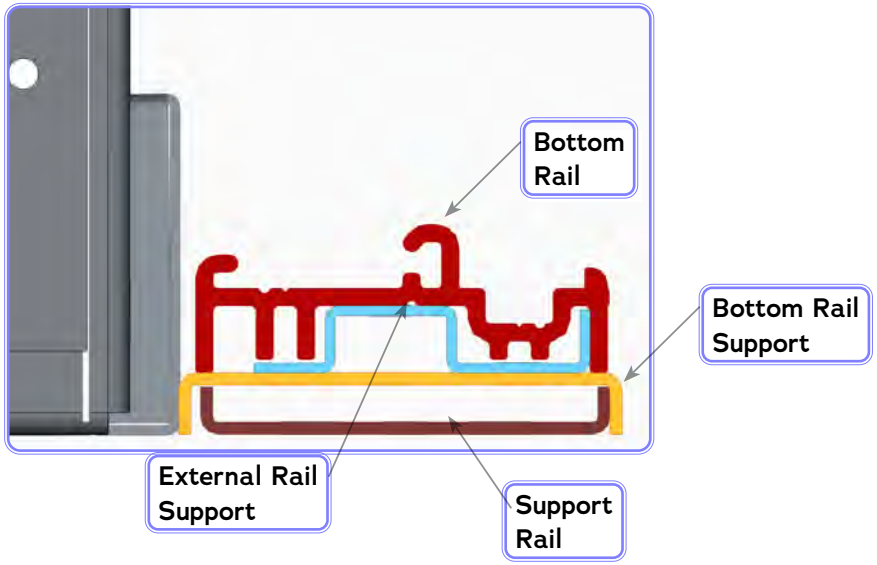




3. Remove the Bottom Support Rail. The support rail is now in the correct location and can be mounted to the floor in 3 locations with masonry screws in the locations shown by the arrows.



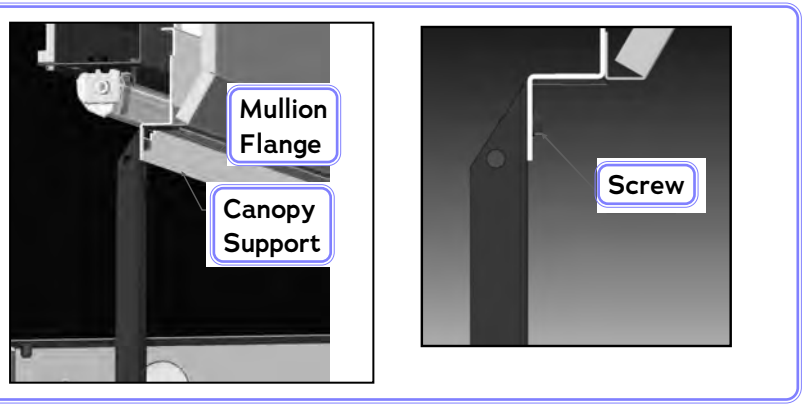
4. Reinstall Bottom Support over Support Rail. Place Exterior Rail Support on top of Bottom Rail Support. Place Bottom Rail over Exterior Rail Support.



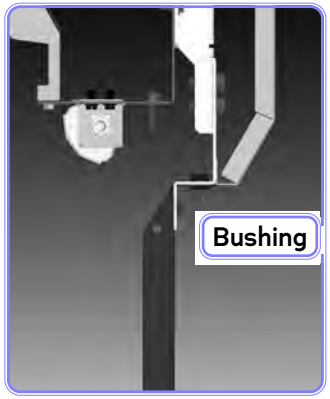
5. Install mullions onto Support Rail. Angle the mullion toward inside of the case and engage the flange in the extrusion (Step 1). Straighten mullion (Step 2).

NOTE:
End mullions are thinner than center mullions.

6. Slide top flange on mullion through slot in canopy support. Attach with screw. Repeat for all center and end mullions.

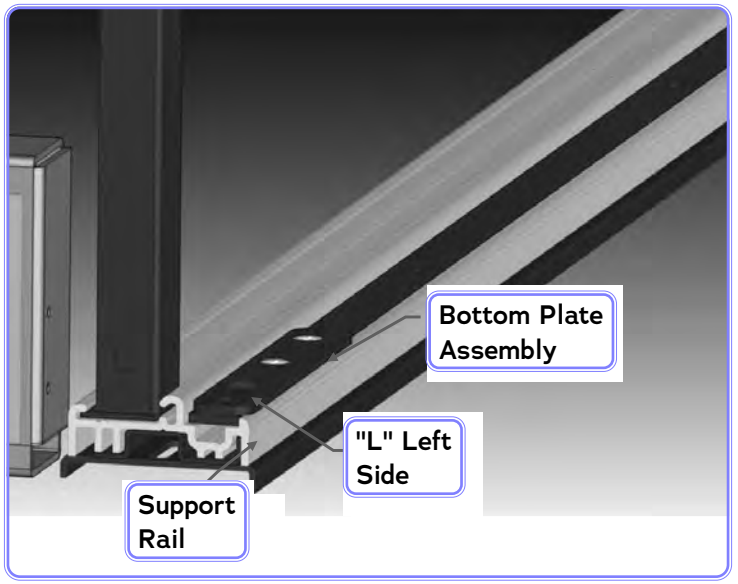


7. Install one bushing into each mullion.

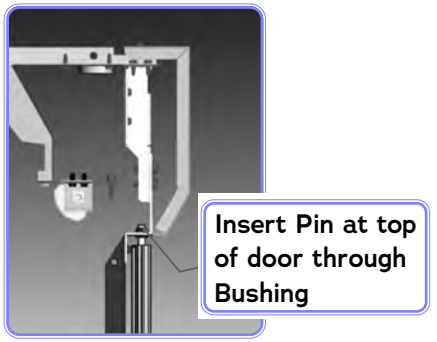


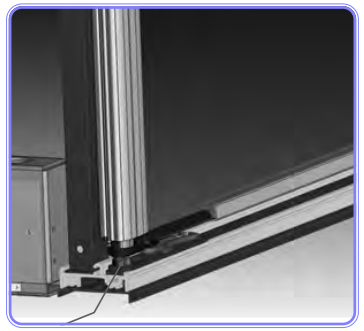
8. Install the bottom plate assembly in the Support Rail. The bottom plate assembly is marked "L" and "R". Frame of reference is standing in front of the case. Repeat for other openings.

   Install one screw #8-18 x 1 (black) into center slot of each bottom plate assembly to secure.



9. Repeat the steps in the illustrations below for all doors.





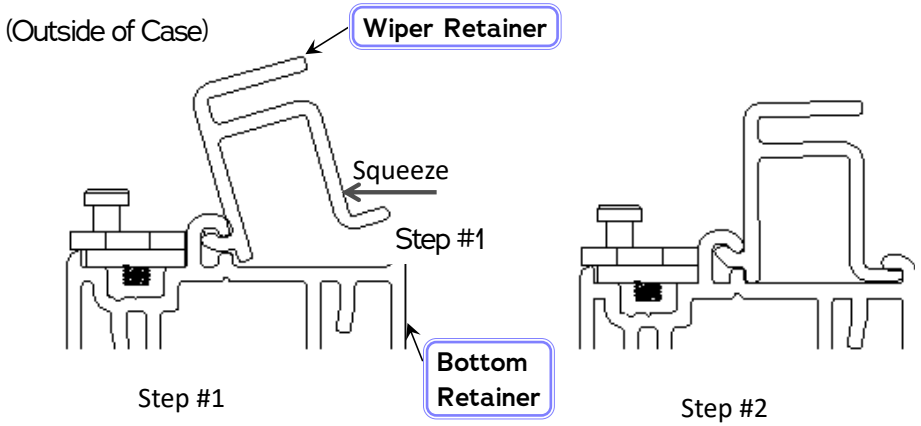
Seat Torsion Rod into plate assembly. Rotate door slightly to verify torsion rod is seated properly.

10. Use ½"open end wrench to add closing tension to the door. Typically 4 to 6 clicks is recommended. Do not exceed 6 clicks. Turn wrench toward the door handle to increase door tension.

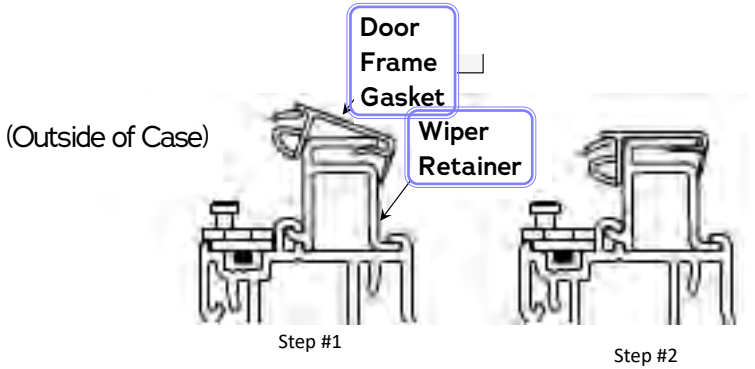
    To remove tension from door, lift the door assembly out of the plate assembly. Do not attempt to turn rod away from the door handle.

11. Insert wiper retainer at an angle into bottom extrusion as shown in Step #1

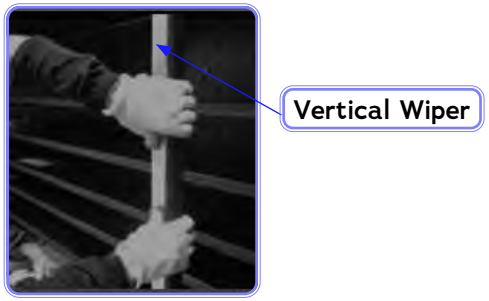
    Squeeze the wiper retainer, and insert into bottom extrusion as shown in Step #2.



12. Install door frame gaskets to wiper retainer. Start the wiper by angling the part as shown.

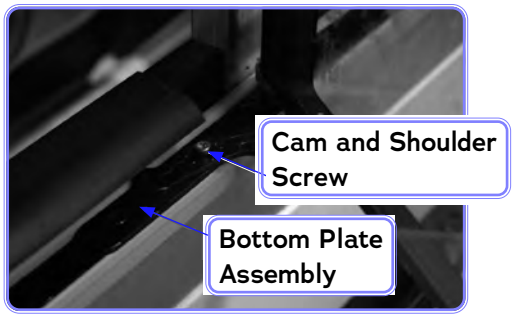


13. Attach vertical wipers to mullions. Start at the bottom, approximately ½" from bottom.



14. Attach cam and shoulder screw.

    Insert the shoulder screw through the slot in the cam, and attach the screw to the bottom plate assembly. Use impact driver to seat screw. The torques should be approximately 19"/lbs. Never pry the cam open when installing. Prying the cam will permanently damage the cam.

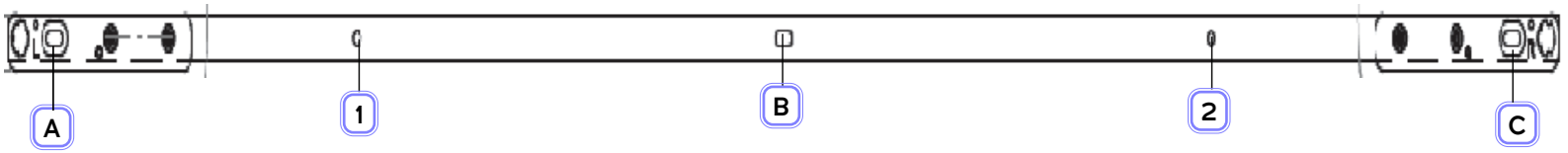


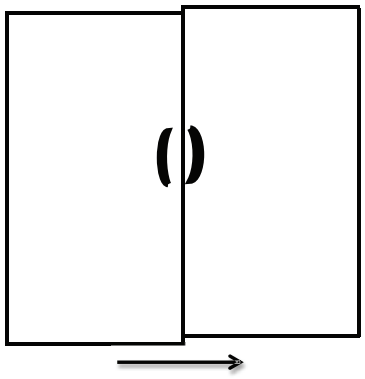
ADJUSTING DOORS (6-DOOR CASES)

Leveling — Merchandisers must be installed level to ensure proper operation of the refrigeration system, and to ensure proper drainage of defrost water. Glass alignment is also affected with improper leveling of the merchandisers. All steps of setting, joining and case leveling is critical.

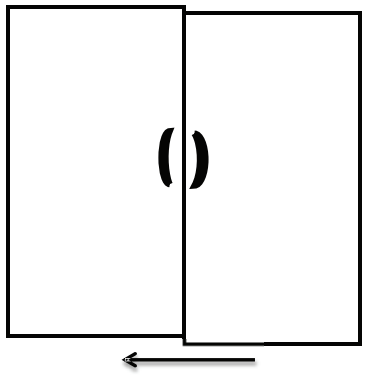
Attention to the glass position is also critical. Do not attempt to make glass adjustments prior to case leveling.
Door Adjustment — Loosen the screws A, B and C as shown below (Do not remove the screws completely). Slide the bottom plate left and right until proper alignment is achieved. Retighten the screws A, B and C. Install fasteners in locations 1 and 2 as shown below.

ECOVISION DOOR ALIGNMENT - MODULAR BOTTOM HINGE PLATE

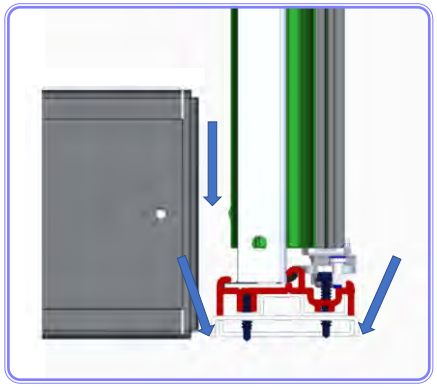




To Correct Shift the Bottom Plate to the Right



To Correct Shift the Bottom Plate to the Left



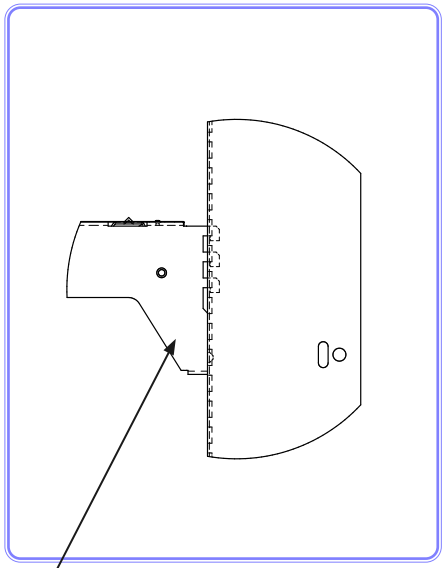
Sealing the Door Frame

Seal the inside and outside of Support where it meets the floor.

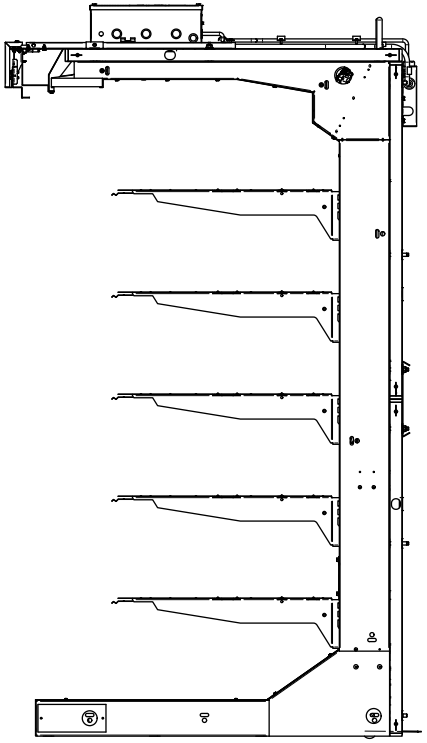
Seal any gaps between the end uprights.

SHELF AND BASE PAN INSTALLATION

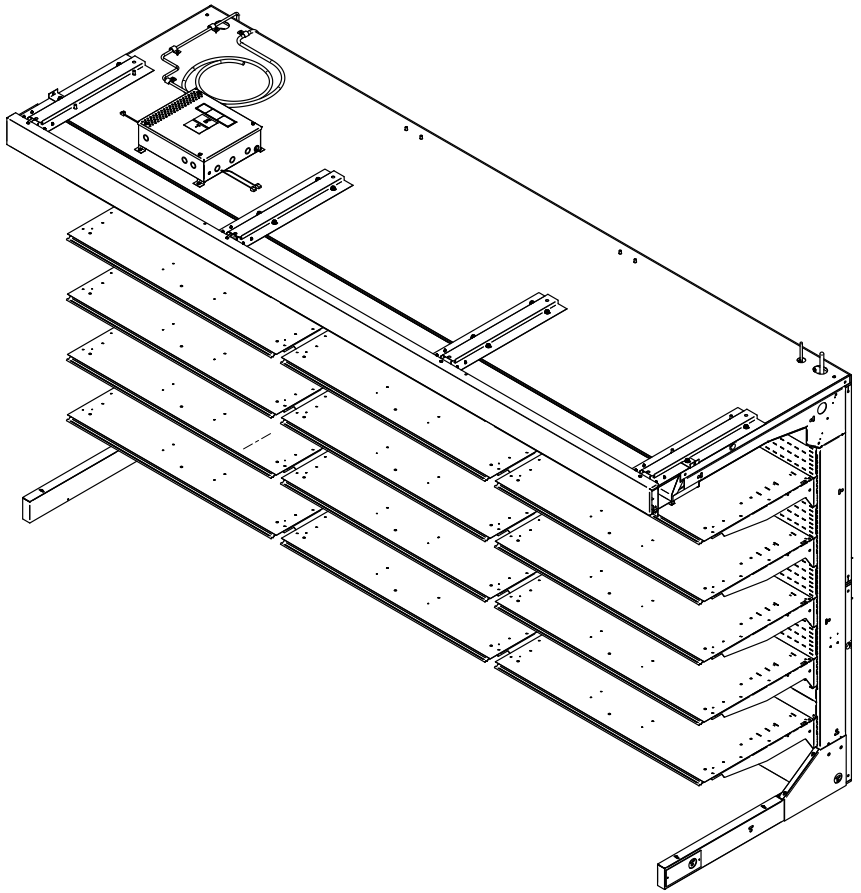
The standard shelf configuration is shown below.



Install Shelves into Back Standards. Then, lift up and slide into Front Upright



STANDARD SHELVES
(DOORS NOT SHOWN)
END VIEW



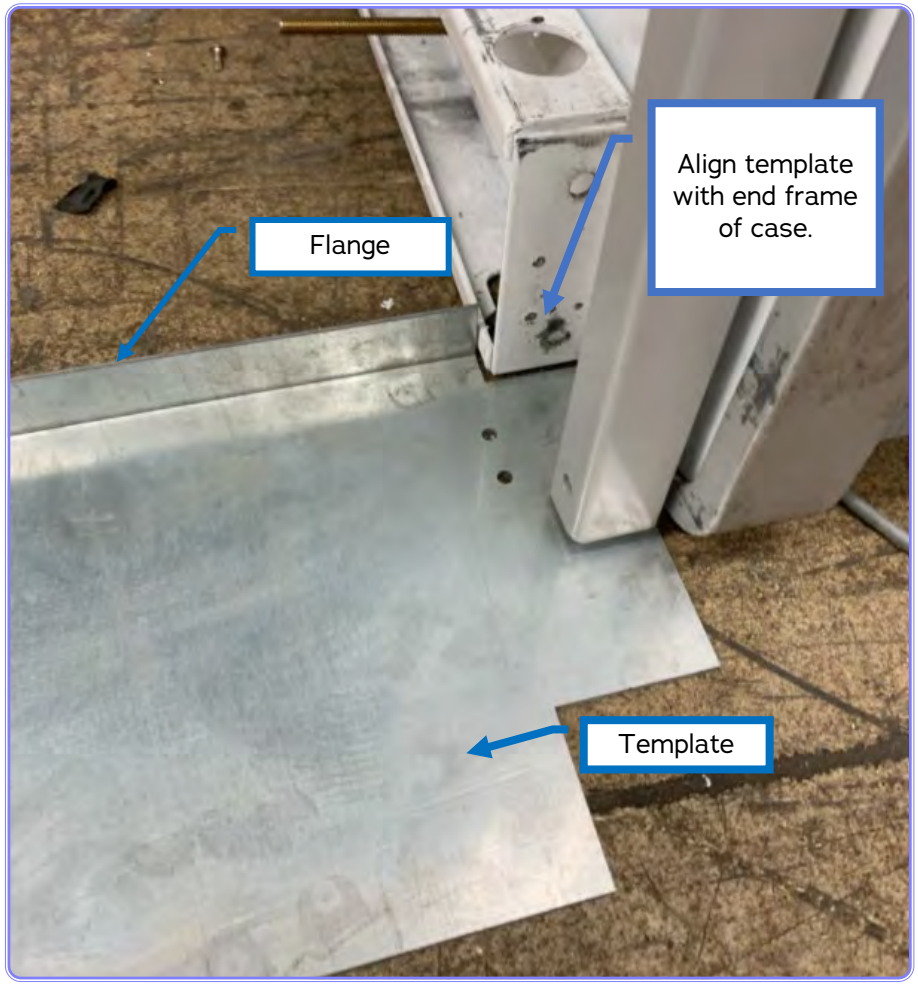
5-DOOR INSTALLATION

DOOR INSTALLATION STEPS

Follow this procedure to install doors on a 5-door case:

1. Use template provided to drill holes for door mounting plates.
2. Place template on the floor with the flange toward the inside of the case.
3. Align the corner of the template with the end frames.

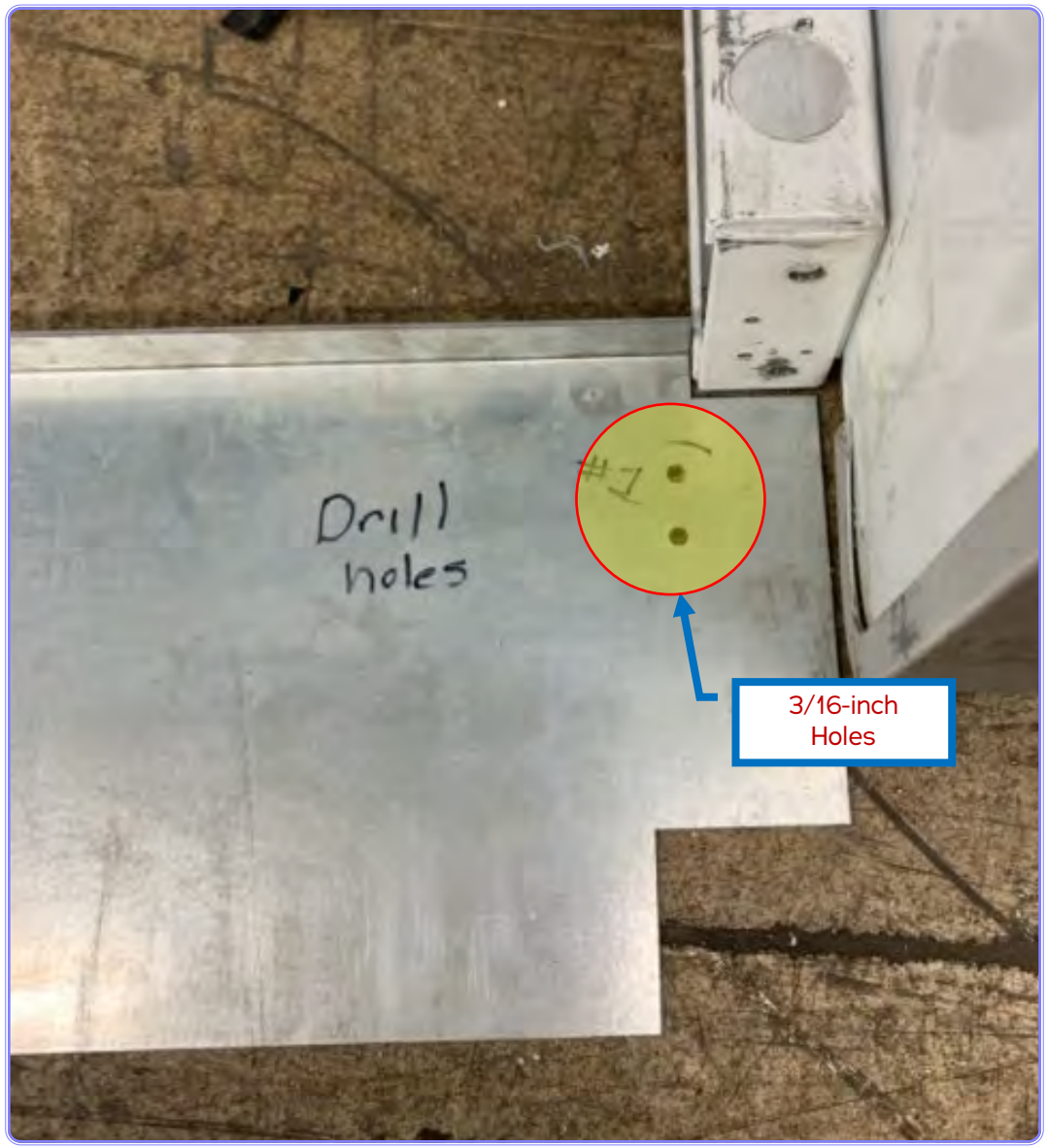
5-door case configuration



NOTICE

5-door cases use 30" wide doors. 6-door cases have different door installation instructions. See page 1-9 for 6-door case installation.

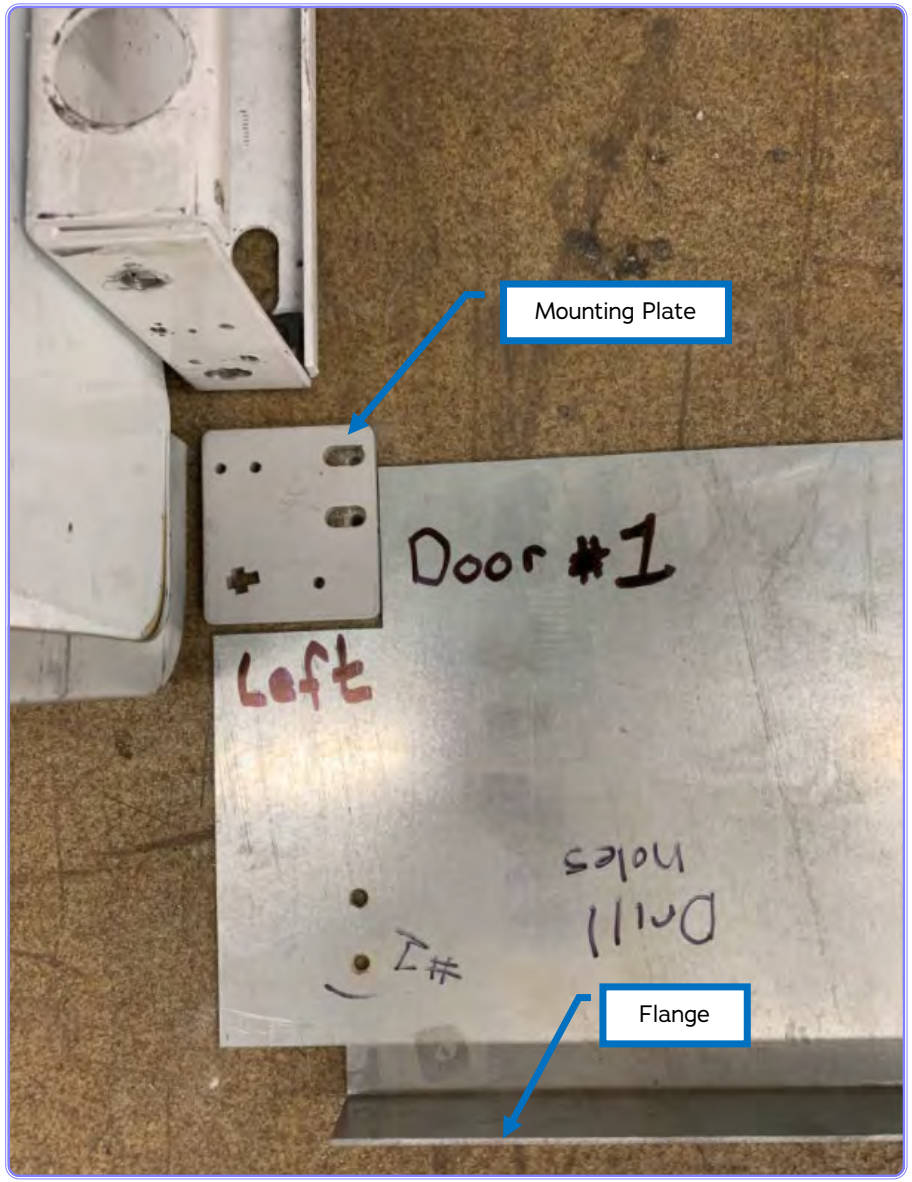
4. Drill 3/16 inch holes into floor identified on the template (10 holes total).

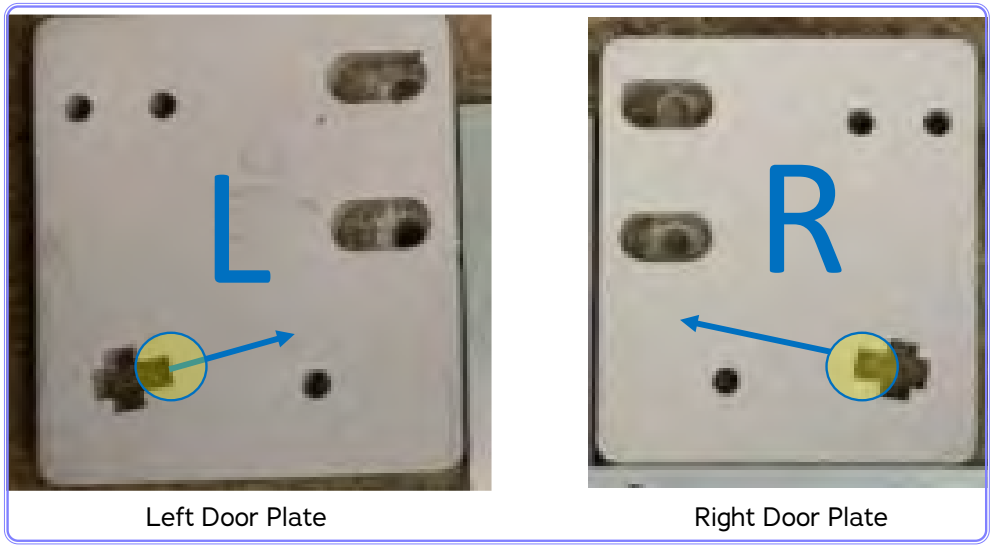


5. Flip the template over so the flange is to the outside of the case and pointing up.

6. Position the mounting plate over the holes, and align the plate with the template, starting at the left side of the case.

7. The templates are for both left and right parts but must be flipped over to accomplish this.

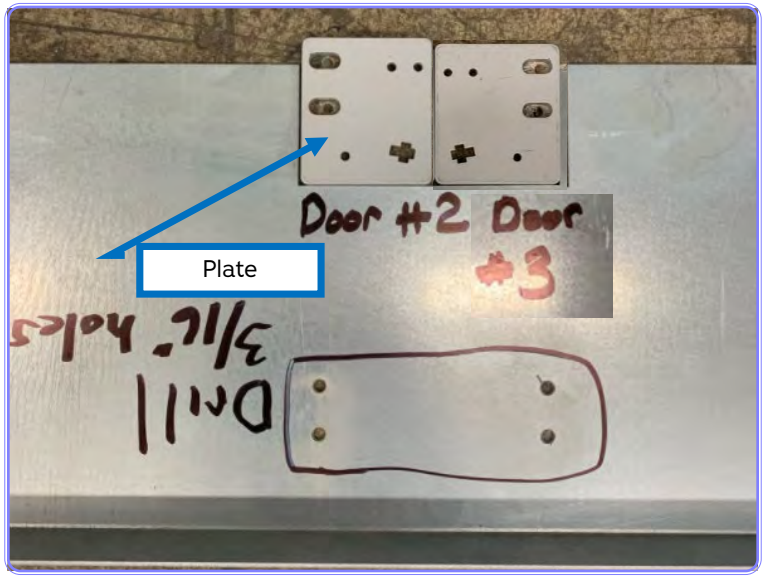




Left Door Plate

Right Door Plate

The longer leg of the cross feature (red arrow) always points toward the inside of the case.



Repeat for the 2nd & 3rd door (from the left). Only one plate is required in this position.

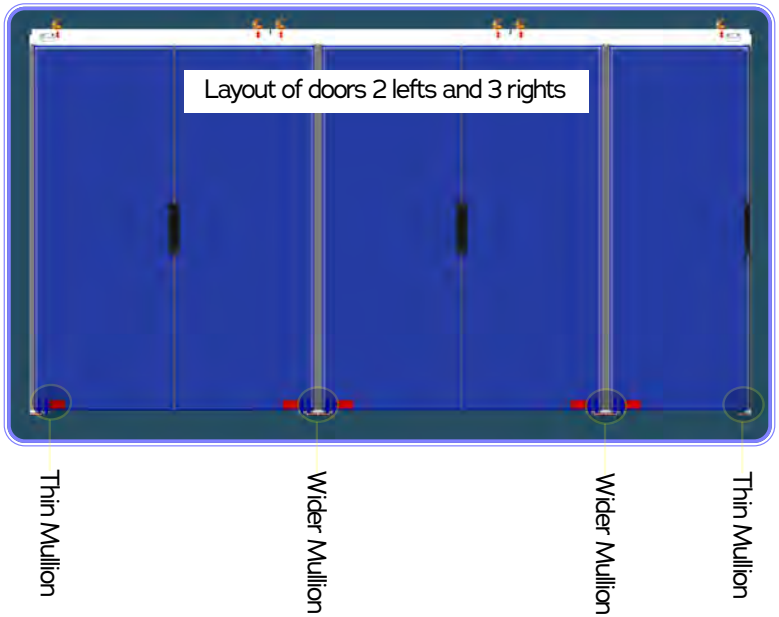
Repeat for doors 4 & 5.

No door goes here (end mullion will be installed on top of hinge plate).

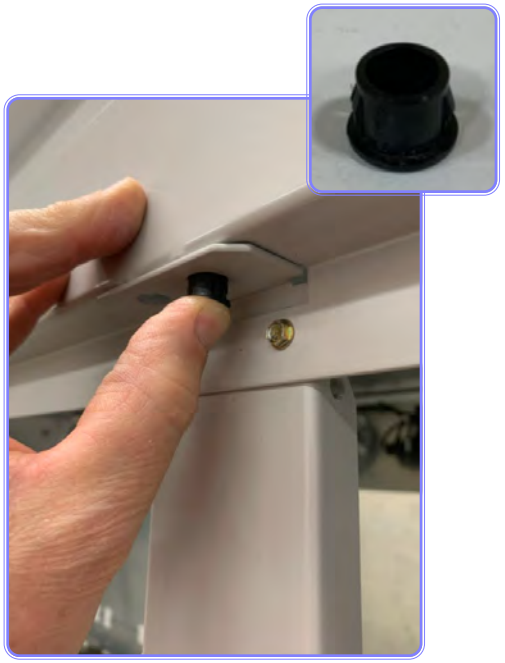
¼ x 1 ¼ inch screws

Install ¼ inch Tapcon screws (two screws per plate). Do not tighten until doors are installed and adjusted.

8. Install Mullions: There are four mullions. Three end mullions (1.1 inch wide), and one center mullion (2.7 inches wide). Insert center mullion flange through canopy support.



9. Install 3 remaining mullions using #8-18 x ½-inch sheet metal screws.
10. Apply ½ inch gasket to the two mullions that are against the end panels.
11. Insert bushing into hole in each mullion.



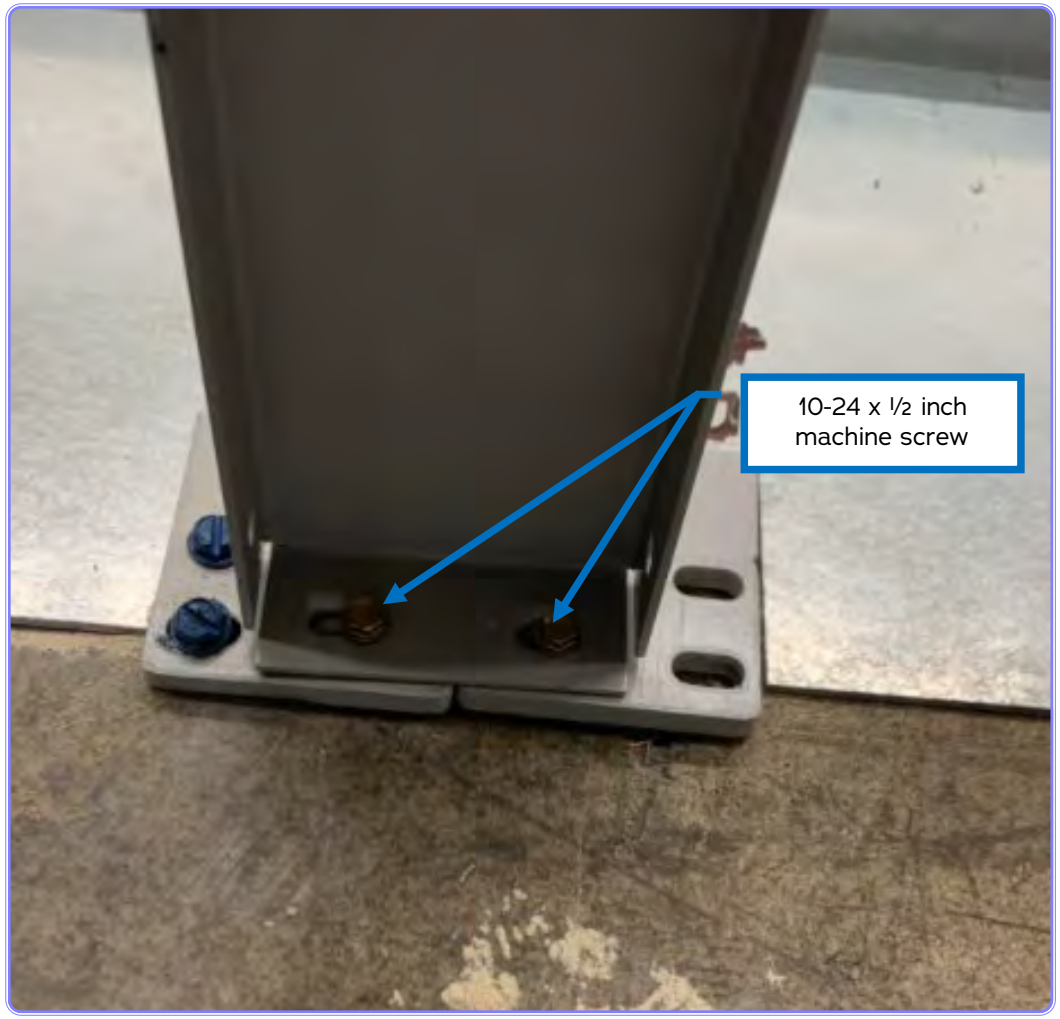
Bushing

Installed Bushing

12. Attach Bottom of each mullion using 10-24 x ½ Machine screw. Do not secure until doors are installed and leveled.

13. Install gasket on each mullion. Start at bottom of the mullion. Place curved section onto bend of the mullion.

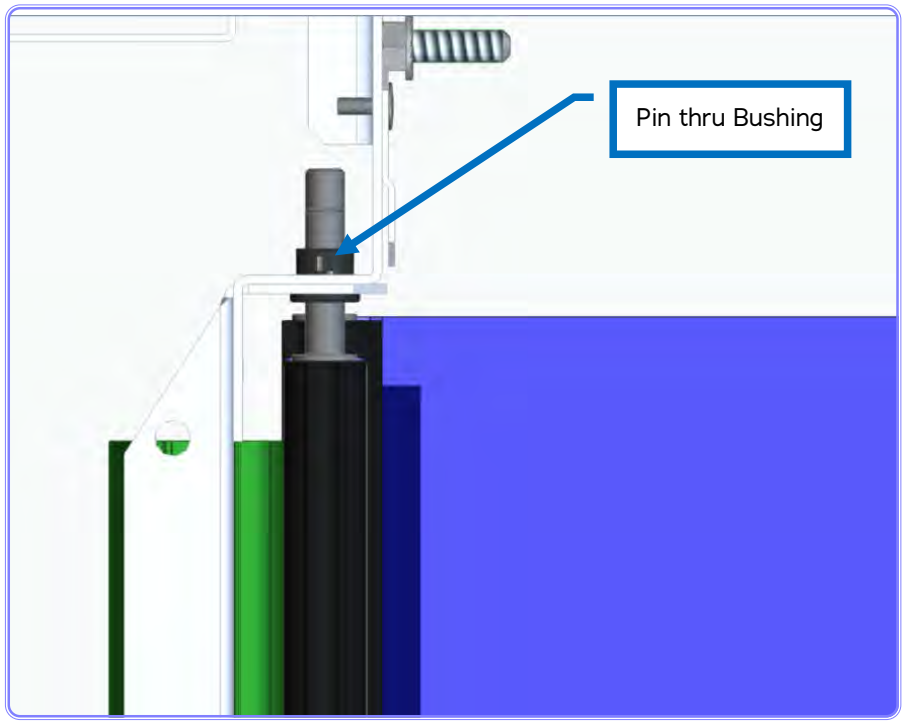
14. Push gasket until it wraps around mullion.



Installed Gasket

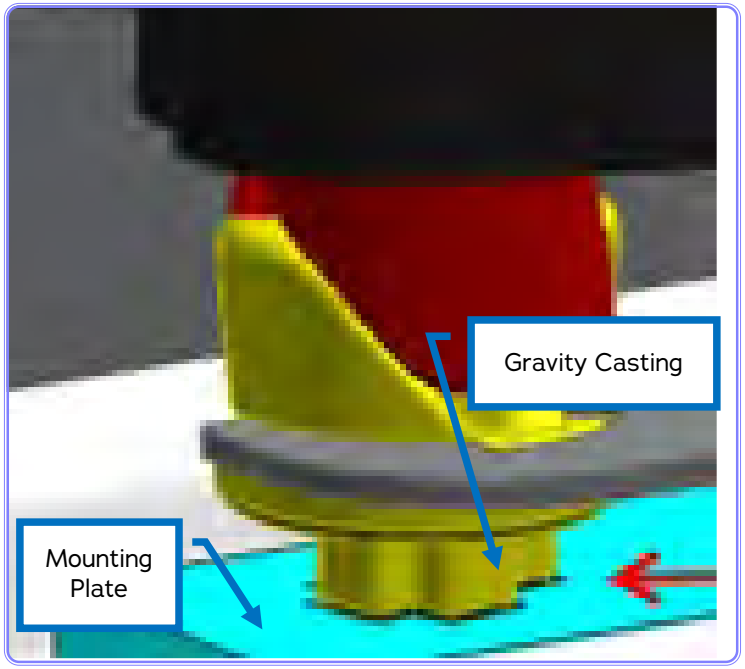
15. Remove doors from Box – Do not use the handle to lift the doors. Do not set the doors directly on floor or they may shatter.

16. Insert pin at top of door through bushing in mullion.

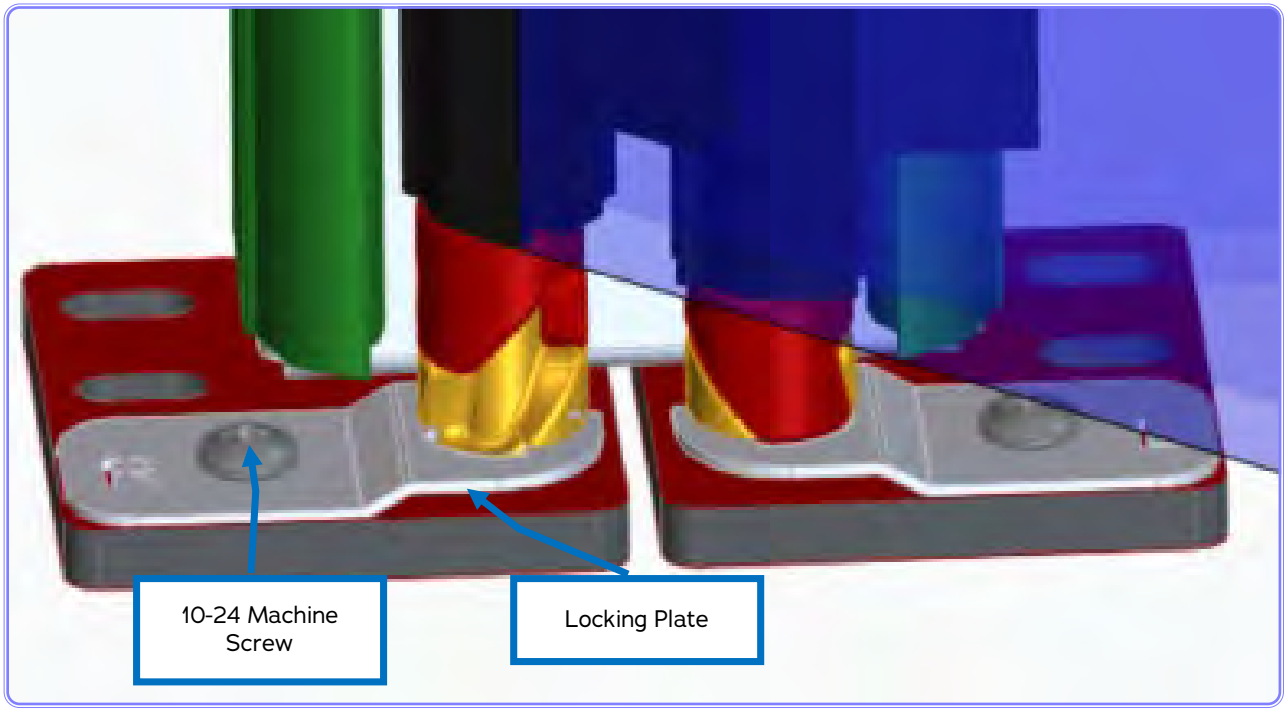


17. Align the gravity hinge (cross feature) with the cross feature in the mounting plate. To get the gravity hinge to seat properly in the mounting plate it may require manual manipulation.

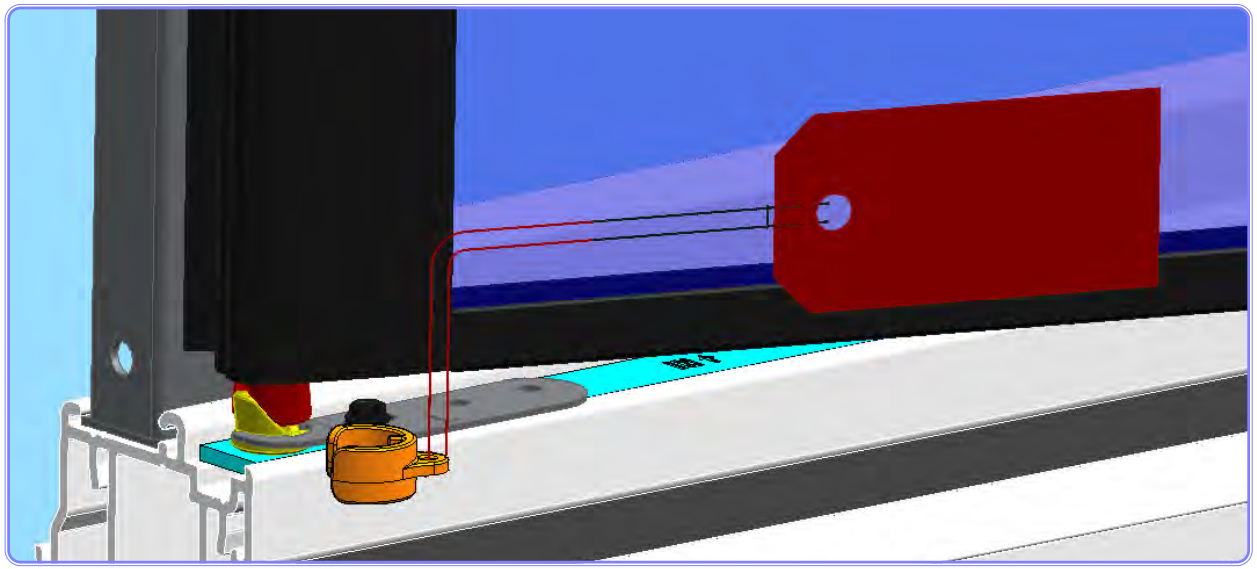
NOTE:
If the casting is not properly seated the door may fall out.



18. Once the door is seated properly, use #10-24 machine screws to fasten the locking plate down. This plate secures the door.

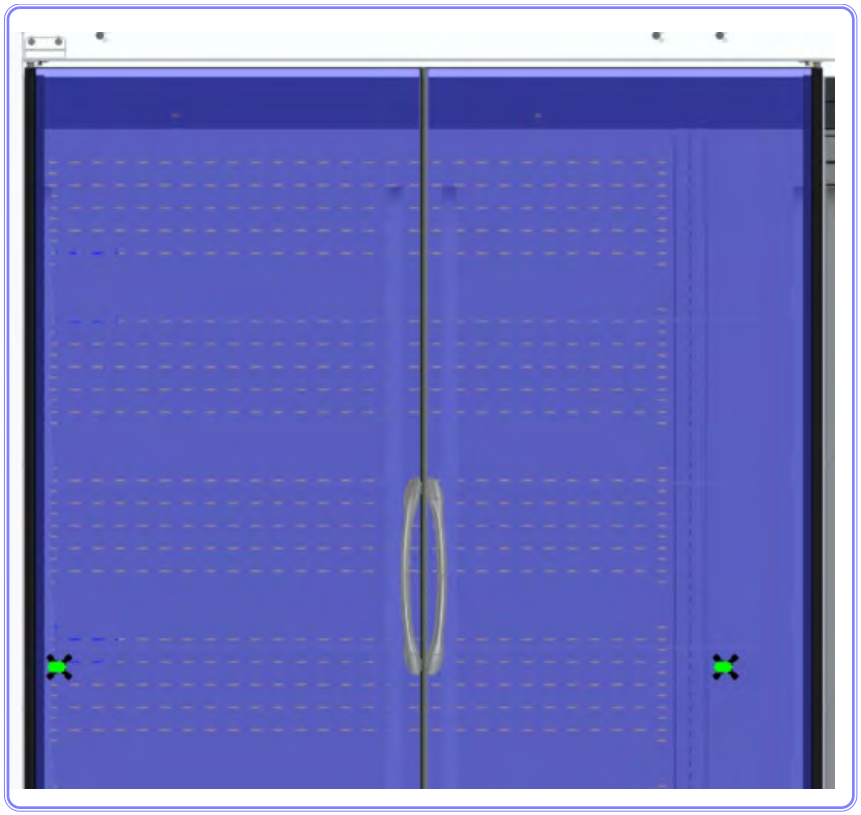


19. Remove the clip by pulling the tag. The door will close.



ADJUSTING DOORS (5-DOOR CASES)

Tops of doors should be even with each other. Adjust as necessary. Secure the Tapcon mounting screws. Perfectly even doors may not be possible, depending on the levelness of the floor.

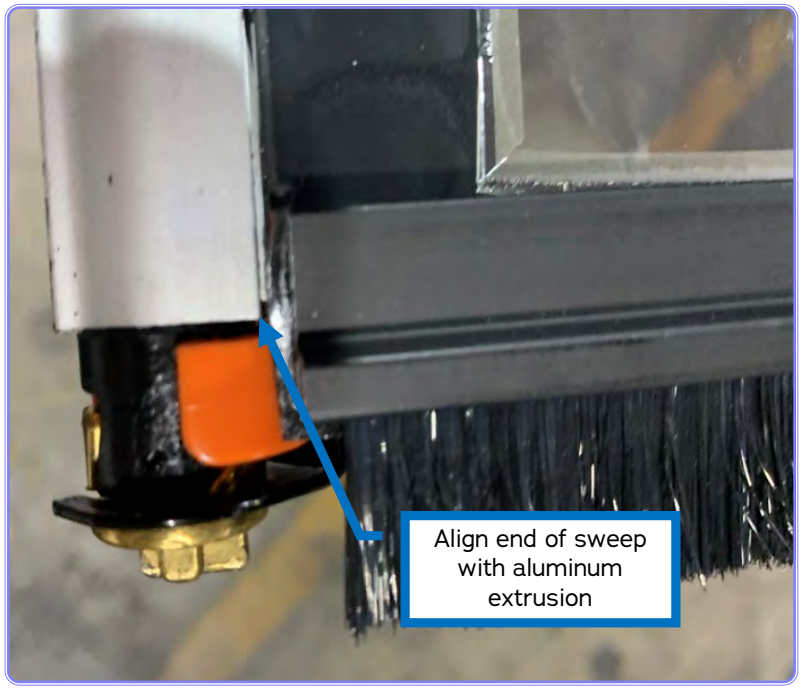


INSTALLING DOOR SWEEPS

Get door sweeps and remove backing tape. The sweeps are mounted to the inside of the door.

From the inside of the case with the door closed, apply the sweeps to the bottom of the door. The goal is to barely touch the floor. Too much of a gap between the floor and sweep will allow air infiltration into the case and too much contact with the floor will prevent the door from closing.

Cycle the door to make sure it opens and closes properly. Uneven floors may cause the door to hang up. If doors hang up, mark the location on the wiper and trim as little as possible from the bristles to allow the door to function correctly.



INSTALLING DOOR BUMPER

Place clear bumper on each end panel towards the top of the door.
This protects the door from contacting the end panel.

REFRIGERATION / ELECTRICAL / CONTROLLER

REFRIGERANT

EGPF case(s) and Freedom condensing unit(s) are shipped separately with the correct charge amount to equal the total charge needed for proper operation. Labels are placed on top of the case near the condensing unit connections that show the correct refrigerant type and total charge quantity.

When evacuating and re-charging, charge with the total quantity shown on this label. With the correct refrigerant charge, some vapor may be present in the sightglass. Charging to a “clear” sightglass may result in compressor failures due to excessive refrigerant.

⚠WARNING

— LOCK OUT / TAG OUT —

» To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

⚠WARNING

» Refrigeration lines are under pressure and should be depressurized before attempting to make any connections.

» Refrigerant vapor is hazardous to your health and can cause death.

» Avoid breathing refrigerant and lubrication vapor or mist. Exposure may irritate eyes, nose and throat. If accidental system discharge occurs, ventilate work area before resuming service.

» Always wear safety goggles and protective gloves when working with refrigerants. Contact with refrigerant may cause injury. Disconnect hoses with extreme caution! All hoses may contain liquid refrigerant under pressure.

» Be sure that any room where you are working is thoroughly ventilated, especially if a leak is suspected.

» Read all safety information regarding the safe handling of refrigerant and refrigerant oil, including the Material Safety Data Sheet. MSDS sheets can be obtained from your refrigerant supplier.

FIELD INSTALLATION OF CONDENSING UNIT

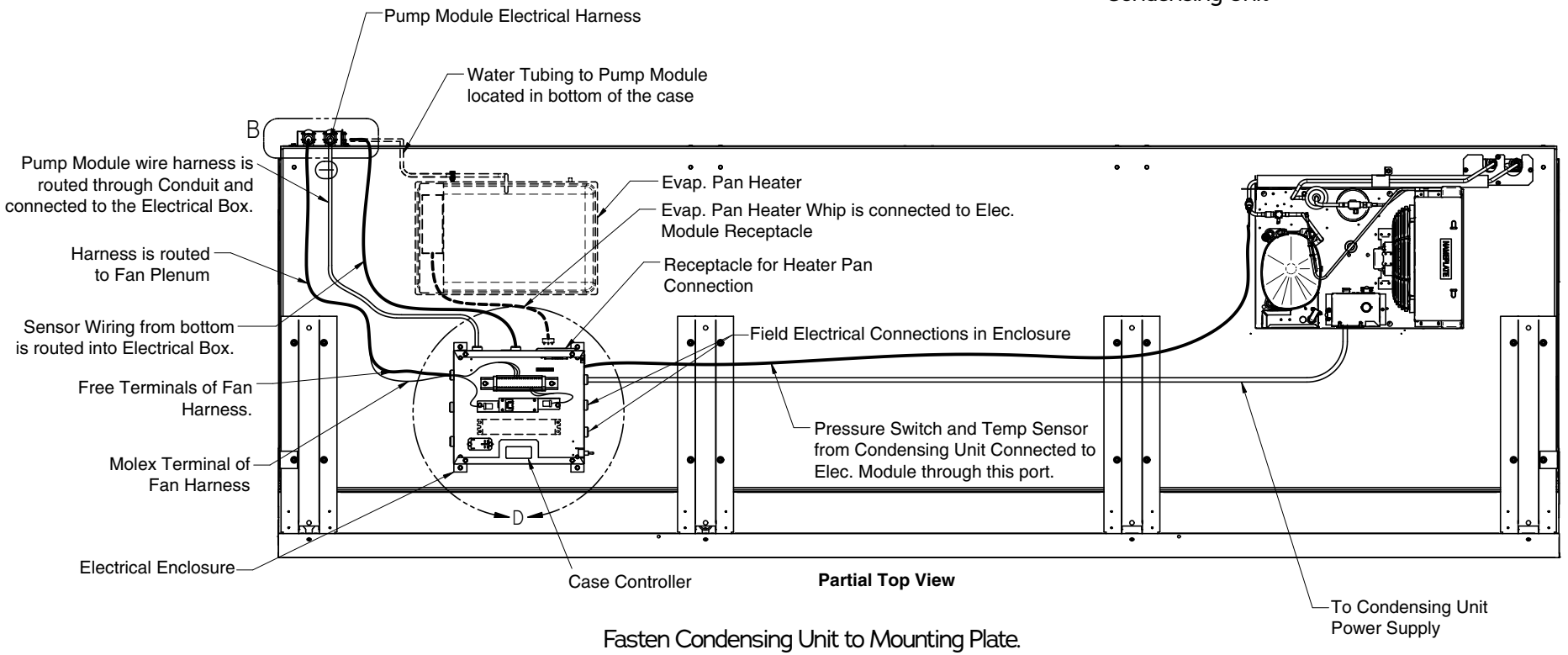
A mounting plate is provided on top of the case with pilot holes that provide specific attachment points for the condensing unit base. The mounting plate is located above the next to last door on the right, facing the case.

The condensate pan (if provided) is packed inside the case and must also be installed and leveled on top of the case, then hard-wired at the electrical box.

Exact component location is not critical; however, the components should be mounted in the general locations shown to ensure that electrical connections reach, and the condensate pan has adequate air flow from the condenser. See location example below.

NOTE:
Install Doors before installing Condensing Unit

Condensing Unit



Fasten Condensing Unit to Mounting Plate.

CONDENSING UNIT & TOP PIPING LINE CONNECTIONS

Locate the pack-out bag from inside of the case.

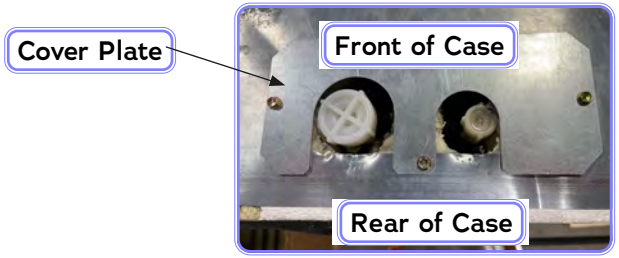
The pack-out kit contains:

- **Filler Foam**
- **Silicone**
- **Butyl Tape**
- **Insulation pre-slit 7/8"**

Packout Kit

Top-piping line connections preparation:

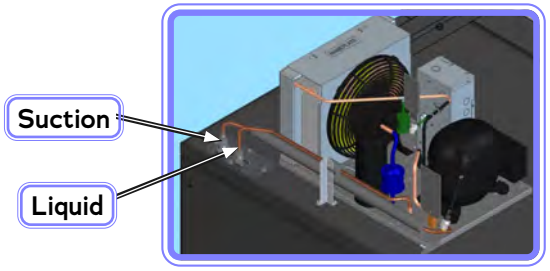
1. Remove the cover plate from the top-piping slot (4 screws), located on top of case.



2. Pull up the inlet/outlet lines to same height as the condensing unit refrigeration lines. Ensure refrigeration lines are centered in the cutout.

ABOUT QUICK CONNECT COUPLINGS

Quick Connect fittings are provided on both the case inlet and outlet lines, and on condensing units. The case and condensing unit are pre-charged with the correct amount of refrigerant, and the lines are sealed. Connecting the Quick Connects together breaks the seals to connect the refrigeration lines of the unit to the case. The Quick Connects must be properly torqued to avoid refrigerant leaks.



CONNECT LINES

Mount the suction line and liquid line to the condensing unit. When ready to connect, remove protector caps and plugs from the Quick Connect couplings. If necessary, carefully wipe coupling seats and threaded surfaces with a clean cloth to prevent the inclusion of dirt or any foreign material in the system.

Lubricate male half diaphragm and synthetic rubber seal with refrigerant oil. Thread the coupling halves together by hand to ensure proper mating of threads. Use proper size wrenches (on coupling body hex and on union nut) and tighten until coupling bodies “bottom” or a definite resistance is felt.

STEP 1:

Remove protector caps and plugs from the line couplings, Apply refrigerant oil to the entire surface of diaphragm, o-ring and threaded area of male coupling assembly.

The amount of lubricant used must cover all designated surfaces sufficiently. Ideal application is a small applicator brush saturated with lubricant and applied, liberally.

Apply supplied Oil to Threads, O-rings, and Diaphragm.

STEP 2:

Ensure that the coupling halves are held in proper alignment with each other prior to starting the threads of the female coupling nut onto the male half. The coupling end faces should be parallel with each other and visually in line with each other, this allows the female coupling nut to easily be threaded on by hand for the initial 2-3 rotations of the union nut.

These initial rotations will bring the diaphragm in contact and a sharp increase in torque will be felt when they come into contact and start to pierce the diaphragms on each coupling half. If the nut will not start by hand, adjust the position of the line set to ensure proper coupling alignment and eliminate/minimize all side load force on the coupling during assembly.

Step 3:

Using appropriate size wrenches, reference table for the female coupling body and female union nut, tighten the female union nut, according to the torque specs below, while preventing rotation of the female body with respect to the male half. The nut should be tightened until a definite increase in resistance, metal to metal contact occurs, is felt (at this point, the nut will have covered most of the threads on the male body). It is important to ensure the male and female coupling bodies.

Coupling Size	Hex Wrench Size
3/8" Male	3/4"
3/8" Female	13/16"
5/8" Male	1 1/16"
5/8" Female	1 5/16"

Coupling Size	Hex Wrench Size
3/8" Male	10-12
5/8" Female	35-45

DO NOT ROTATE during any portion of the wrench installation.

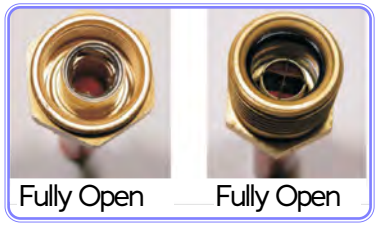
IMPORTANT!
Tighten swivel fitting until the fitting has significant resistance (fittings bottoming out). Apply ¼ turn past the resistance. Ensure no threads are visible.

Step 4:

Using a permanent marker or scribe, mark a line lengthwise from the female coupling union nut to either the bulkhead or female coupling body. Then tighten an additional one (1) wrench flat (60°); refer to the marking on the union nut to confirm the rotation has occurred. The final rotation is necessary to ensure the formation of the leak-proof seal, between the male and female couplings.

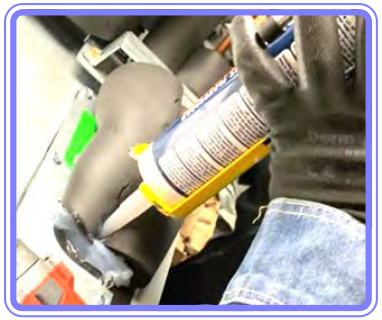
Correctly Tightened Coupling

The swivel nut end contains one diaphragm in the center post. The male fitting contains the knife blades and its own diaphragm.



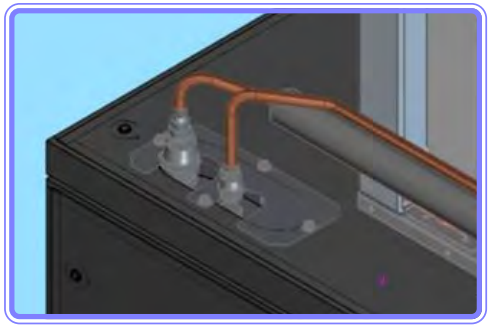
COVER AND SEAL PENETRATION

1. Insert foam filler into slot. Ensure there are no gaps around foam filler. Place silicone around the tubing.



2. Place the butyl tape over the slot.

3. Replace the cover plate. Take care to ensure that cover plate is not in contact with tubing.



INSULATE REFRIGERANT LINES

Check that all suction lines are adequately covered with insulation from case penetration to compressor, including suction service valves, and accumulator on low temp units, as some insulation may have been dislodged during shipping and installation.

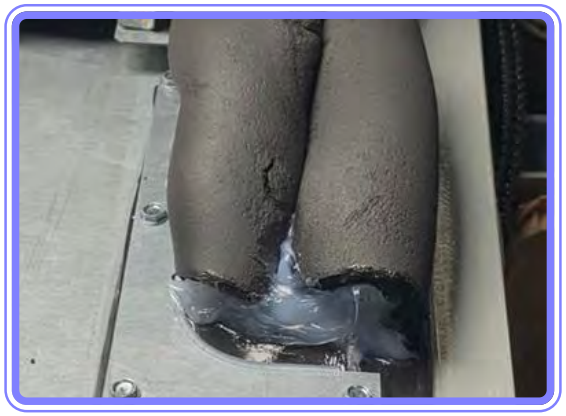
Suction lines are insulated to prevent condensation; extra insulation is provided to cover the field connected tubing sections. These exposed sections must be covered with insulation.

Check that all suction lines are adequately covered with insulation from case penetration to compressor; including suction service valves as some insulation may have been dislodged during shipping and installation.

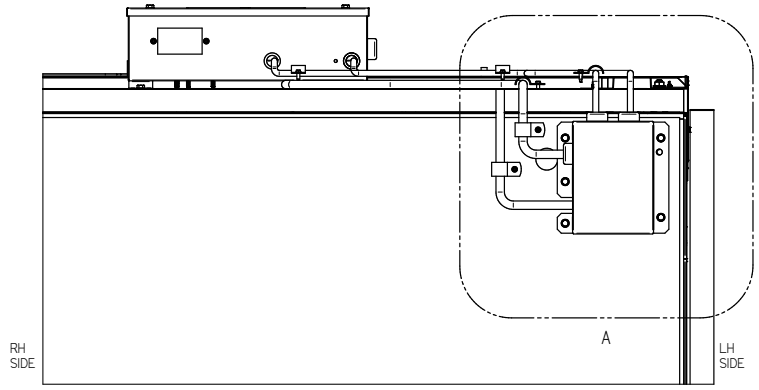
Do not locate the tubing above the electrical box in order to prevent condensation from dripping onto electrical components.

4. Use the insulated pre-slit on the 5/8” tubing, and on the 3/8" tubing, use the insulation already installed on the condensing unit.

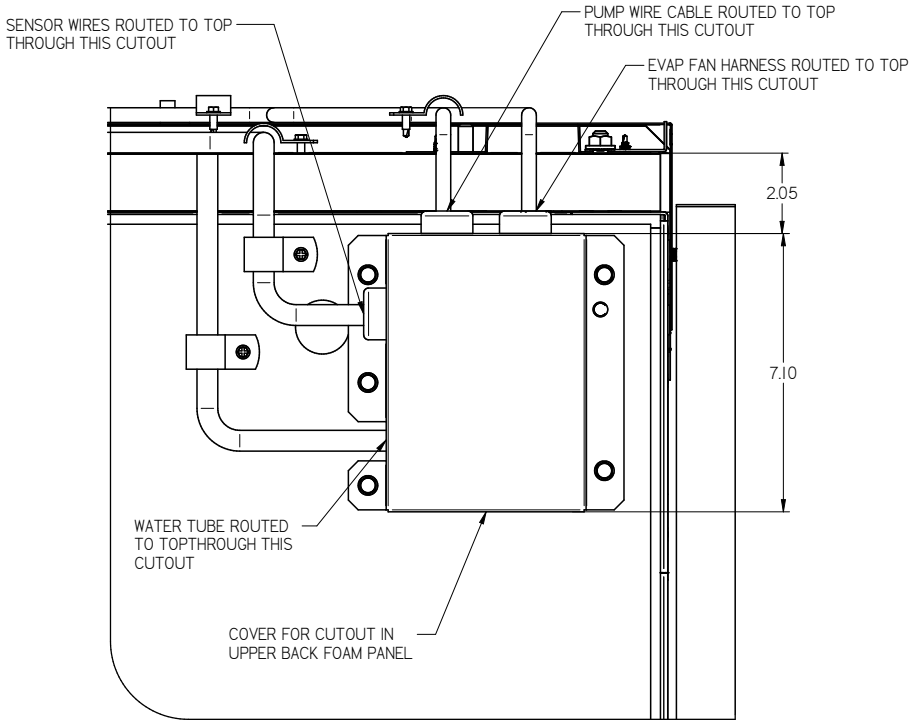
5. Place silicone sealant around the tubing.



REAR JUNCTION BOX WIRING ROUTE

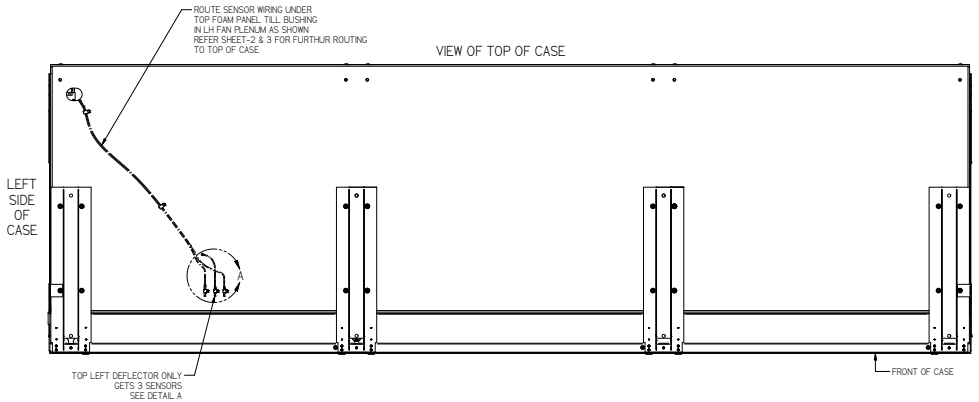


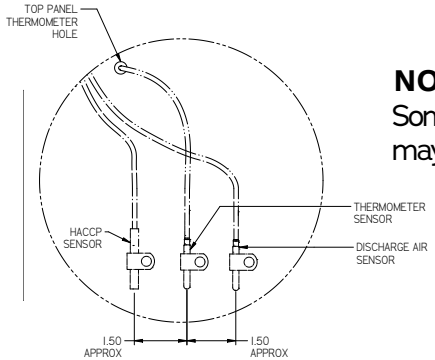
PARTIAL REAR VIEW



DETAIL A

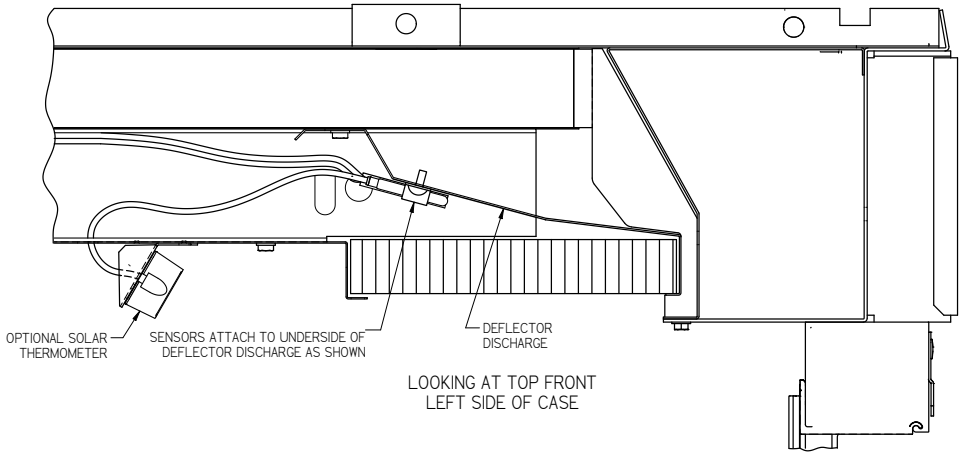
SENSOR WIRING ROUTE



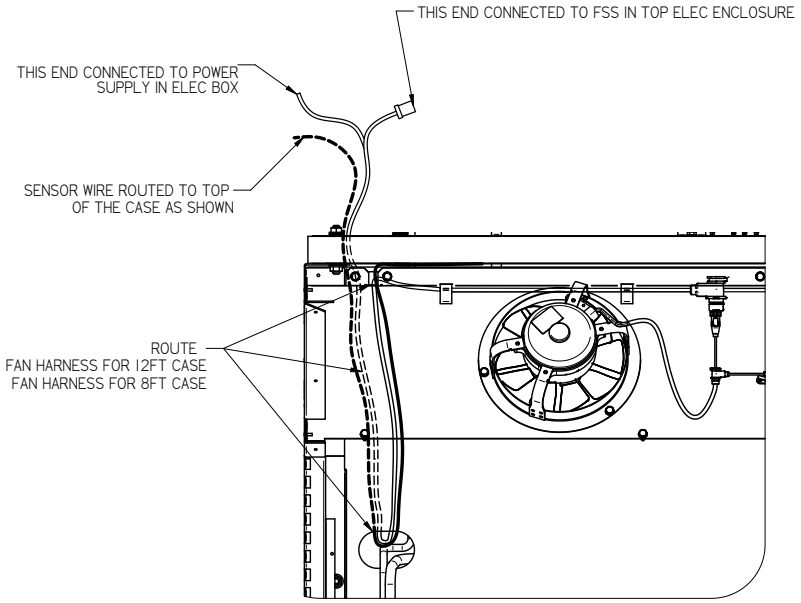


NOTE:
Some applications for this case may only have 1 sensor.

SENSOR CANOPY LOCATION



FAN WIRING ROUTE



ELECTRONIC CONTROLLER

Safety controls are installed on condensing units to protect the compressor from various errors or adverse conditions:

- **High pressure safety control**
- **Low pressure safety control**
- **Compressor discharge temperature sensor**

Air cooled condensing units with Electronic Unit Controller:

On condensing units that are equipped with the Emerson Electronic Unit Controller, the pressure controls and discharge line alarm are incorporated into the controller on the condensing unit.

The high pressure cut-out is a non-adjustable pressure switch with a cut-out of 440 psig. The low pressure control and compressor discharge temperature setpoint are programmed into the electronic unit controller on the condensing unit. The compressor discharge temperature is set to cut out at 225°F.

Air cooled condensing units without Electronic Unit Controller:

For cases that have condensing units that are not equipped with the Emerson Electronic Unit Controller, including water-cooled units, the high and low pressure safety controls are connected to terminals 18 and 19 of the XR75 case controller. Air cooled units have a discharge line sensor, which is connected to terminals 21 and 23. The case controller parameters are set at the factory to incorporate the controls. The pressure controls are not adjustable. The discharge safety is set in the case controller to cut out at 230°F.

These controls must be connected after installation of the condensing unit. Harnesses are provided and marked to show the connections (see wiring diagram on next page).

The parameters in the Dixell XR75 are set up in the factory to enable the pressure control functionality.

The high pressure switch will shut off the compressor if the high side pressure exceeds 440 psig. The control settings allow the compressor to re-start automatically up to two times, but if the high pressure switch trips 3 times within a 30-minute period the Dixell controller must be manually re-set by turning off the control circuit and then back on again. This is an indication that field support is required to diagnose the problem causing the high pressure condition. The alarm may be silenced by pressing any of the buttons on the front of the controller display.

Possible causes of high / low pressure alarm:

- **Excessive refrigerant**
- **Lack of refrigerant**
- **Lack of air flow into the condenser**
- **Superheat too high**
- **High temperatures at startup**
- **Service valves closed**

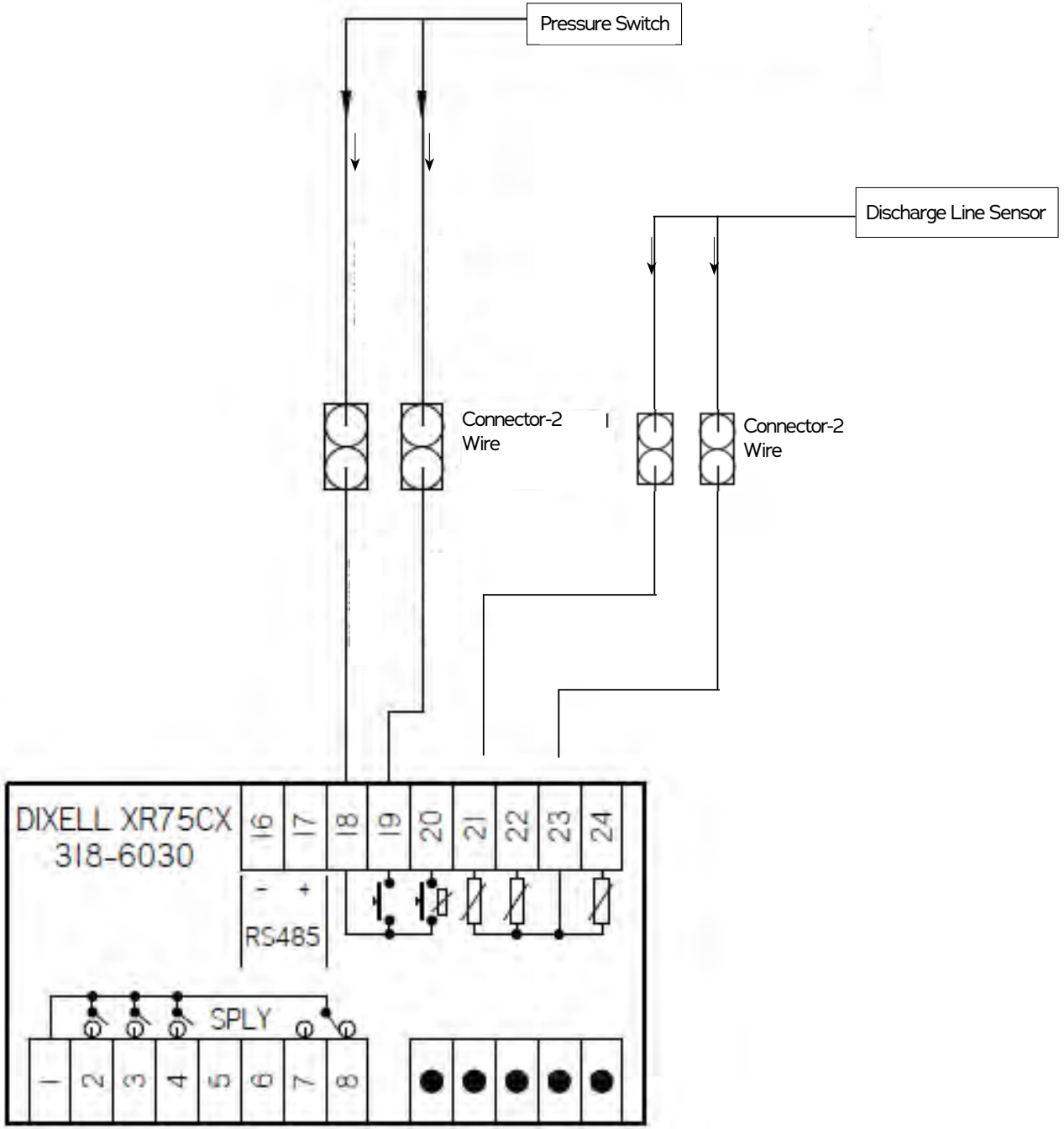
High and low pressure alarm will show up as the same alarm signal on the controller display. If this alarm condition exists, the unit must be serviced by a qualified technician.

Discharge temperature alarm is an indication that the condenser is blocked and needs to be cleaned, or remove blockage (such as balloons, paper, etc).

See controller wiring diagram on the next page.

Refer to supplemental manuals and wiring diagrams for special options and other controllers.

ELECTRONIC CONTROLLER WIRING DIAGRAM



Electronic Controller Wiring Diagram

ELECTRONIC CONTROLLER OPERATION

Follow the tables to use the commands. The keypad display is located on the front of the merchandiser.

Key	Function
SET	Press to display target setpoint, to select a parameter in programming mode, or to confirm an operation
❄	Starts a manual defrost
▲	Press the UP arrow to see the MAX temperature, to browse the parameter codes in programming mode, or to increase the currently displayed temperature value.
▼	Press the DOWN arrow to see the MIN temperature, to browse the parameter codes in programming mode, or to decrease the currently displayed temperature value.

⏻	Switches the device ON and OFF, if **onF** = **oFF**
☼	Switches the light ON and OFF, if **oA1** = **Lig**
▲ + ▼	Locks/Unlocks the keyboard
SET + ▼	To enter programming mode
SET + ▲	Returns to room temperature display

Follow the LED commands to operate and control the case's lighting.

LED	Mode	Function
❄	ON	Compressor enabled
❄	Flashing	Anti-short cycle delay enabled
❄	ON	Defrost enabled
❄	Flashing	Drip time in progress
✣	ON	Fans enabled
✣	Flashing	Fans delay after defrost in progress.
🔔	ON	An alarm is occurring

How to see the setpoint:

1. Push and immediately release the SET key. The display will show the setpoint value.
2. Push and immediately release the SET key or wait for 5 seconds to display the present value again.

How to change the setpoint:

The controller is shipped from the factory with Type 1 settings. To modify the temperature for Type 2 application, follow these instructions:

1. Push and hold the SET key for more than 2 seconds to change the setpoint value.
2. The value of the setpoint will be displayed and the °C or °F LED starts blinking.
3. To change the setpoint value push the UP or DOWN arrows within 10 seconds.
4. To memorize the new setpoint value, push the SET key again or wait 10 seconds.

How to start a manual defrost:

Push and hold the DEF key for more than 2 seconds and a manual defrost will start.

How to lock the keyboard:

1. Keep the UP + DOWN arrow keys pressed for more than 3 seconds.
2. The PoF message will be displayed and the keyboard will be locked. At this point it will be possible to see the setpoint of the MAX or Min temperature stored only.

3 If a key is pressed for more than 3 seconds the PoF message will be displayed.

How to unlock the keyboard:

Press the UP and DOWN arrow keys together for more than 3 seconds until the Pon message displays.

Alarms:

P1 Discharge temperature probe failure
P2 Defrost termination probe failure
HA Max temperature alarm
LA Min temperature alarm

How to set defrost start time

The defrost will occur 24 hours after the controller is first powered up, then every 24 hours after that.

Group	Parameter	Description	Set Point	Vis. Level	Minimum	Maximum	Unit
Regulation	Hy	Differential	4	Pr1	1	45	°F
Regulation	LS	Minimum set point	22	Pr2	-58	30	°F
Regulation	US	Maximum set point	36	Pr2	30	230	°F
Probes	ot	Thermostat probe calibration	0	Pr1	-21	21	°F
Probes	P2P	Evaporator probe presence	no	Pr1			
Probes	oE	Evaporator probe calibration	0	Pr2	-21	21	°F
Probes	P3P	Third probe presence	no	Pr2			
Probes	o3	Third probe calibration	0	Pr2	-21	21	°F
Probes	P4P	Fourth probe presence	yes	Pr2			
Probes	o4	Fourth probe calibration	0	Pr2	-21	21	°F
Regulation	odS	Outputs delay at start up	0	Pr2	0	255	min
Regulation	AC	Anti-short cycle delay	5	Pr1	0	50	min
Regulation	rtr	P1-P2 percentage for regulation	100	Pr2	0	100	
Regulation	CCt	Continuous cycle duration	0.00	Pr2			hour
Regulation	CCS	Set point for continuous cycle	32	Pr2	-58	230	°F
Regulation	Con	Compressor ON time with faulty probe	5	Pr2	0	255	min
Regulation	CoF	Compressor OFF time with faulty probe	5	Pr2	0	255	min
Regulation	CF	Temperature measurement unit	°F	Pr2			
Regulation	rES	Resolution	dE	Pr1			
Regulation	Lod	Probe displayed	P1	Pr2			
Regulation	rEd	X-REP display	P1	Pr2			
Regulation	dLy	Display temperature delay	0.00	Pr2			min
Regulation	dtr	P1-P2 percentage for display	99	Pr2	1	99	
Defrost	tdF	Defrost type	EL	Pr2			
Defrost	dFP	Probe selection for first defrost	nP	Pr2			
Defrost	dtE	Defrost termination temperature first defrost	48	Pr1	-58	122	°F
Defrost	idF	Interval between defrost cycles	12	Pr1	0	120	hour
Defrost	MdF	(Maximum) length for first defrost	60	Pr1	0	255	min
Defrost	dSd	Start defrost delay	0	Pr2	0	255	min
Defrost	dFd	Displaying during defrost	dEF	Pr2			
Defrost	dAd	Max display delay after defrost	30	Pr2	0	255	min
Defrost	Fdt	Draining time	0	Pr2	0	255	min
Defrost	dPo	First defrost after start-up	no	Pr2			
Defrost	dAF	Defrost delay after fast freezing	0.00	Pr2			hour

Group	Parameter	Description	Set Point	Vis. Level	Minimum	Maximum	Unit
Fan	FnC	Fan operating mode	O_Y	Pr1			
Fan	Fnd	Fan delay after defrost	0	Pr1	0	255	min
Fan	FCt	Differential of temperature for forced activation of fans	0	Pr2	0	90	°F
Fan	FSt	Fan stop temperature	2	Pr1	-58	122	°F
Fan	Fon	Fan on time with compressor off	0	Pr2	0	15	min
Fan	FoF	Fan off time with compressor off	0	Pr2	0	15	min
Fan	FAP	Probe selection for fan	nP	Pr2			
Auxiliary	ACH	Kind of action for auxiliary relay	CL	Pr2			
Auxiliary	SAA	Set point for auxiliary relay	0	Pr2	-58	230	°F
Auxiliary	SHy	Differential for auxiliary relay	2	Pr2	1	45	°F
Auxiliary	ArP	Probe selection for auxiliary relay	nP	Pr2			
Auxiliary	Sdd	Auxiliary relay switched off during defrost	no	Pr2			
Alarm	ALP	Probe selection for temperature alarms	P1	Pr2			
Alarm	ALC	Temperature alarms configuration	rE	Pr2			
Alarm	ALU	Maximum temperature alarm	16	Pr1	0	90	°F
Alarm	ALL	Minimum temperature alarm	10	Pr1	0	90	°F
Alarm	AFH	Differential for temperature alarm recovery	4	Pr2	1	45	°F
Alarm	ALd	Temperature alarm delay	30	Pr2	0	255	min
Alarm	dAo	Delay of temperature alarm at start up	2.00	Pr2			hour
Alarm	AP2	Probe selection for condenser temperature alarms	P4	Pr2			
Alarm	AL2	Condenser low temperature alarm	25	Pr2	-58	230	°F
Alarm	AU2	Condenser high temperature alarm	230	Pr2	-58	230	°F
Alarm	AH2	Differ. for condenser temp. alarm recovery	15	Pr2	1	45	°F
Alarm	Ad2	Condenser temperature alarm delay	0	Pr2	0	255	min
Alarm	dA2	Delay of condenser temper. alarm at start up	0.00	Pr2			hour
Alarm	bLL	Compressor off for condenser low temperature alarm	yes	Pr2			
Alarm	AC2	Compressor off for condenser high temperature alarm	yes	Pr2			
Alarm	tbA	Alarm relay switched off by pushing a key	yes	Pr2			
Configuration	oA2	Second relay configuration	Alr	Pr2			
Alarm	AOP	Alarm relay polarity	CL	Pr2			
Digital inputs	i1P	Digital input 1 polarity	CL	Pr1			
Digital inputs	i1F	Digital input 1 configuration	dor	Pr1			
Digital inputs	i2P	Digital input 2 polarity	OP	Pr1			
Digital inputs	i2F	Digital input 2 configuration	BAL	Pr2			
Digital inputs	did	Digital input 2 alarm delay	0	Pr2	0	255	min
Digital inputs	doA	Door alarm delay	15	Pr1	0	255	min
Digital inputs	nPS	Number of activation of pressure switch	1	Pr2	0	15	
Digital inputs	OdC	Compress and fan status when open door	F-C	Pr2			

Group	Parameter	Description	Set Point	Vis. Level	Minimum	Maximum	Unit
Alarm	rrd	Regulation restart with door open alarm	yes	Pr2			
Energy Saving	HES	Differential for Energy Saving	0	Pr2	-54	54	°F
Other	Adr	Serial address	1	Pr2	1	247	
Probes	PbC	Kind of probe	CtC	Pr2			
Configuration	OnF	On/off key configuration	nu	Pr2			
Other	dP1	Probe 1 value		Pr1			°F
Other	dP2	Probe 2 value		Pr1			°F
Other	dP3	Probe 3 value		Pr1			°F
Other	dP4	Probe 4 value		Pr1			°F
Other	rSE	Real Set point (SET + ES + SETd)		Pr2			°F
Other	rEL	Firmware Release		Pr2			
Other	Ptb	Map code	3	Pr2	0	65535	
Regulation	SEt	Set point	30		22	36	°F

START UP / OPERATION

PRIOR TO START-UP CHECK LIST

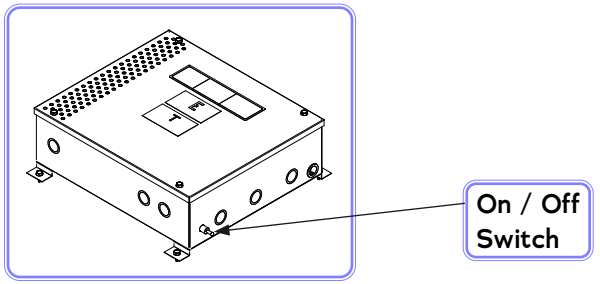
1. Is the case connected to its proper nameplate power supply?
2. Is there power on at the breaker panel and the control box?
3. Are there any leaks condensate water leaks?
4. Are the doors properly leveled and self closing? Check each door at the fully open position and at 1-inch open position.
5. Do evaporator fans rotate freely? Are they plugged in? (Fans are behind interior back panel; manually rotate each fan to confirm free rotation and visually inspect that the electrical connections are secure.

STARTUP AND OPERATION

See the merchandiser's Technical Data Sheet for refrigerant settings and defrost requirements. Bring merchandisers down to the operating temperatures listed on the data sheet. Once the cases are running, listen for any unusual sounds or events. Examples include: evaporator fan blade interference. The discharge air output at the top inside front of the case (honeycomb area) should be relatively even across the length of the case. VERIFY there are no leaks at connections for the waste condensate water.

12 hours after startup checklist

1. Check case temperature.
2. Check if there is any controller alarms.
3. Check water connections around the pump and pan for leaks or accumulation of water.
4. Inspect for any water accumulation due to incorrect or unsealed penetrations where electrical or other lines pass through insulated walls of the case.
5. Check the door operation again to ensure doors open and close properly once the case is down to operating temperature.
6. Check that all inspection plates and covers have been properly replaced.

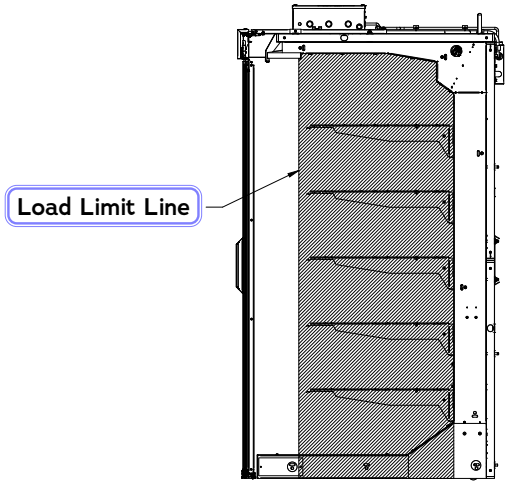


STOCKING

Products should not be placed in cases until all refrigeration controls have been adjusted and merchandisers are at proper operating temperature. Proper rotation of product during stocking is necessary to prevent product loss. Always bring the oldest product to the front and set the newest to the back.

Air discharge and return flues must remain open and free of obstruction at all times to provide proper refrigeration and air curtain performance. Do not allow product, packages, signs, etc. to block these grilles.

Do not prop doors open while stocking. Keep the doors closed as much as possible to prevent coil frosting and high merchandiser temperatures.



SAFETY INSTRUCTIONS

» Merchandiser must operate for 24 hours before loading product!

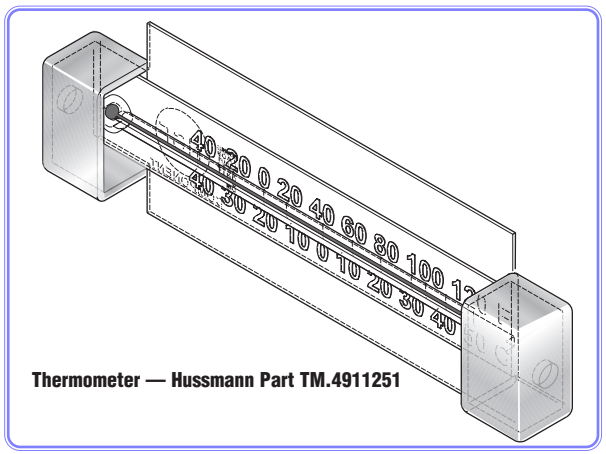
» Regularly check merchandiser temperatures. Do not break the cold chain. Keep products in freezer before loading into merchandiser.

» Medium temperature merchandisers are designed for loading ONLY pre-chilled products. Low temperature merchandisers are designed for loading ONLY frozen products.

INSTALLING FDA/NSF REQUIRED THERMOMETER

The following pages provide the same information that ships with the thermometer. This requirement does not apply to display refrigerators intended for bulk produce (refer to Page 1-1 for definitions. Please note that the tape cannot be exposed after installation. A digital thermometer may be ordered as an optional kit. Suggested mounting locations for EGP cases is on the interior end panel in a location where the temperature can easily be seen.

This is an NSF-7 & US FDA Food Code Required Thermometer



Thermometer — Hussmann Part TM.4911251

Important – Please read!

This thermometer is provided in response to United States Food and Drug Administration (US FDA) Food Code [http://www.fda.gov/] and National Sanitation Foundation (NSF / ANSI) Standard 7 [http://www.nsf.org/]

Each installation will be different depending on how the unit is stocked, shopping patterns in the department and ambient conditions of the store. The suggested locations provided herein are possible locations. It is the responsibility of the purchaser / user to determine the location within the food storage area of the unit that best meets the code requirements above.

The thermometer may need to be moved several times to find the warmest location. Mounting options include flexible plastic for price tag molding application, magnet applied to back of flexible plastic for steel end wall, and double stick tape. Tape must not be exposed after installation.

Questions about either code should be addressed to local agencies or other appropriate officials.

Keep with merchandiser

or give to store manager.

DO NOT DESTROY.

MAINTENANCE

CARE AND CLEANING

Long life and satisfactory performance of any equipment is dependent upon the care it receives. To ensure long life, proper sanitation and minimum maintenance costs, these merchandisers should be thoroughly cleaned, all debris removed and the interiors washed down, weekly.

Fan Plenum

The fan plenum is located behind the interior back panels. Remove the back panels to get access to the fans.

⚠CAUTION

» Shut fans OFF during cleaning process.

Glass Doors

Wipe inside of glass with isopropyl alcohol and a soft cloth. Allow surface to dry before closing door. Use of other cleaners or abrasives may damage the surface, and/or void the warranty. Refer to manual that ships with doors.

Interior Surfaces

The interior surfaces may be cleaned with most domestic detergents, ammonia based cleaners and sanitizing solutions with no harm to the surface.

Exterior Surfaces

The exterior surfaces should be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. Never use abrasive cleansers or scouring pads.

⚠CAUTION

» Do not use HOT water on COLD glass surfaces. This can cause the glass to shatter and could result in personal injury. Allow glass fronts, ends and service doors to warm before applying hot water.

Do Not Use:

- **Abrasive cleansers and scouring pads, as these will mar the finish.**
- **Coarse paper towels on coated glass.**
- **Ammonia-based cleaners on acrylic parts.**
- **Solvent, oil or acidic based cleaners on any interior surfaces.**

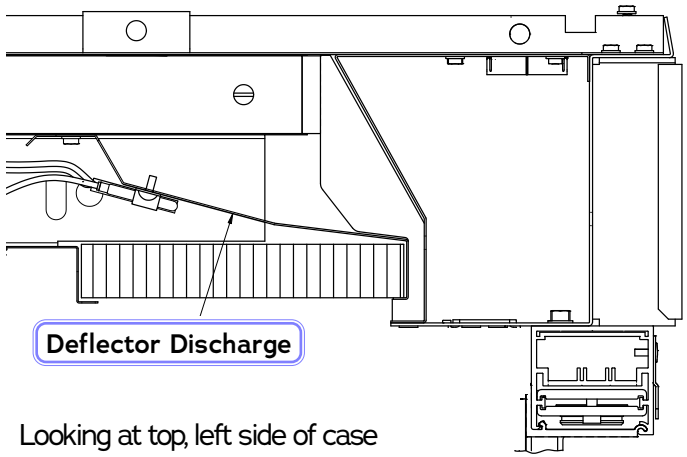
Do:

1. Remove the product and all loose debris to avoid clogging the waste outlet.
2. Store product in a refrigerated area such as a freezer. Remove only as much product as can be taken to the freezer in a timely manner.
3. First turn off refrigeration, then disconnect electrical power.
4. Thoroughly clean all surfaces with soap and hot water. Do not use steam or high water pressure hoses to wash the interior. These will destroy the merchandisers' sealing causing leaks and poor performance.
5. The fan plenum is located behind the interior back panels. The plenum should be cleaned regularly according to store environment conditions.
6. Take care to minimize direct contact between fan motors and cleaning or rinse water.
7. Rinse with hot water, but do not flood. Never introduce water faster than the waste outlet can remove it.
8. Allow merchandisers to dry before resuming operation.
9. After cleaning is completed, turn on power and refrigerant to the merchandiser.
10. Verify that merchandiser is working properly.

CLEANING HONEYCOMB ASSEMBLIES

Honeycombs should be cleaned every six months. Dirty honeycombs will cause merchandisers to perform poorly. The honeycombs may be cleaned with a vacuum cleaner. Soap and water may be used if all water is removed from the honeycomb cells before reassembling. Be careful not to damage the honeycombs.

1. Pull the honeycomb assembly out of the interior top panel to remove it.
2. Clean and dry the honeycomb.
3. After cleaning, reassemble in reverse order of removal.



Looking at top, left side of case

CLEANING STAINLESS STEEL SURFACES

Use non-abrasive cleaning materials, and always polish with grain of the steel. Use warm water or add a mild detergent to the water and apply with a cloth. Always wipe rails dry after wetting.

Use alkaline chlorinated or non-chlorine containing cleaners such as window cleaners and mild detergents. Do not use cleaners containing salts as this may cause pitting and rusting of the stainless steel finish. Do not use bleach.

Clean frequently to avoid build-up of hard, stubborn stains. A stainless steel cleaning solution may be used periodically to minimize scratching and remove stains. Rinse and wipe dry immediately after cleaning. Never use hydrochloric acid (muriatic acid) on stainless steel.

CLEANING COILS

Never use sharp objects around coils. Use a soft brush or vacuum brush to clean debris from coils.

- **Do not puncture coils!**
- **Do not bend fins. Contact an authorized service technician if a coil is punctured, cracked, or otherwise damaged.**
- **Do NOT use chlorine or ammonia-based cleaners to clean aluminum coils.**

ICE in or on the coil indicates the refrigeration and defrost cycle is not operating properly. Contact an authorized service technician to determine the cause of icing, and to make adjustments as necessary. To maintain product integrity, move all product to a cooler until the unit has returned to normal operating temperatures.

⚠WARNING

Product will be degraded and may spoil if allowed to sit in a non-refrigerated area. Do NOT allow cleaning agent or cloth to contact food product.

MINIMUM SUGGESTED CLEANING AND MAINTENANCE FREQUENCY
WITH SEPARATE TOP-MOUNTED CONDENSING UNIT*

Case Component	Type of Scheduled Maintenance	Maintenance Frequency (Times / Year)*	Average Maintenance Duration (hours)	Total Estimated Maintenance Time / Year (hours)
Evaporator Coil / Case Interior	Cleaning	1	2	2
Honeycomb	Cleaning	1	0.05	0.05
Return Air Grille	Cleaning	12	0.1	1.2
Drip Piping	Cleaning	6	0.1	0.6
Condenser Coil	Cleaning	4	0.1	0.4
Condensate Evaporation Pan	None	4	0.2	0.8
Condensate Evaporation Pan Heater	Cleaning	N/A	N/A	N/A
Condensate Pump	Cleaning	6	0.05	0.03
Compressor	Cleaning	N/A	N/A	N/A
Eletromechanical Thermostats	Replacement	0.2	1	0.2
Compressor Power Relays	Replacement	0.2	1	0.2

*This table is provided for reference only. The suggested maintenance frequency is the minimum required to reduce unexpected equipment failure. Performance and efficiency may be enhanced with more frequent cleaning. Individual cleaning schedules must take into account local environment and usage, as well as all applicable health codes.

TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
Case temperature is too warm.	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.
	Discharge air temp is out of spec.	Check evaporator fan operation. Check electrical connections and input voltage.
		Fans are installed backwards. Check airflow direction.
		Make sure fan blades have correct pitch and are per specification.
		Check to see that fan plenum is installed correctly. It should not have any gaps.
	Case is in defrost.	Check suction pressure and ensure that it meets factory specifications.
		Check defrost settings. See Technical Specifications section.
	Product is outside of the load limit area, blocking airflow.	Redistribute product so it does not exceed load limit. There is a sticker on the inside of the case indicating the maximum load limit.
	Coil is freezing over.	Return air is blocked, make sure debris is not blocking the intake section.
		Coil close-offs are not installed. Inspect coil to make sure these parts are on the case.
	Condensing coil or evaporator coil is clogged or dirty.	Clean coil.
Case temperature is too cold.	The t-stat temp is set too low.	Check settings. See Technical Specifications on the data sheet.
	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.
Condensation on glass.	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.
	Inadequate air circulation.	Check if air sweep fans are functioning, check electrical connections.
	Doors are not completely shut.	Close doors correctly.

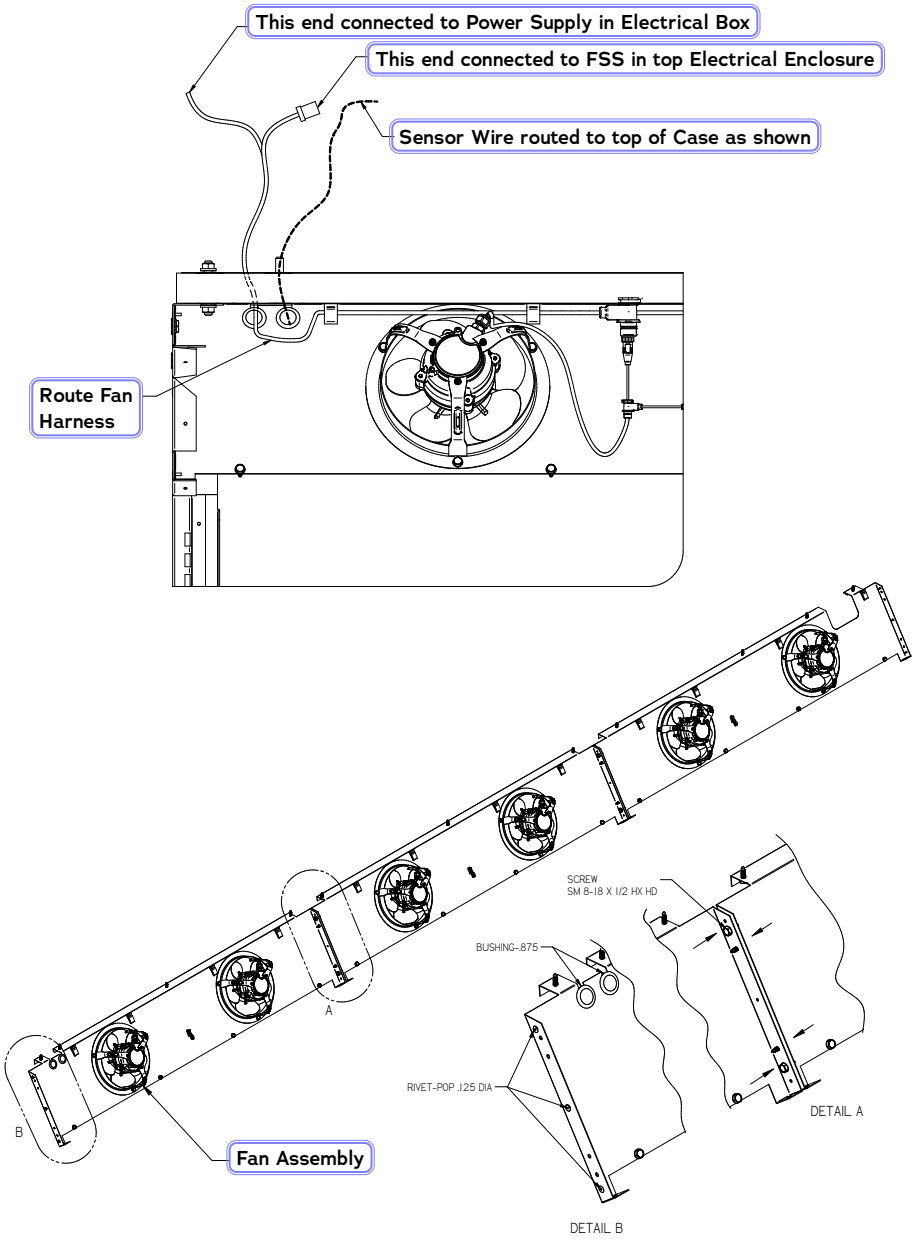
Problem	Possible Cause	Possible Solution
Water has pooled under case.	Case drain is clogged.	Clear drain.
	PVC drains under case may have a leak.	Repair as needed.
	Case tub has unsealed opening.	Seal as needed.
	If the case is in a line-up, case to case joint is missing or unsealed.	Install case to case joint and seal as needed.
	Evaporator pan is overflowing (if applicable).	Check electrical connection to evaporator pan. Check float assembly, it should move freely up and down the support stem. Clear any debris.
	Case is not level.	Level the case.
	Drain screen is plugged.	Clean drain screen and remove any debris.
Case is not draining properly.	Drain or P-trap is clogged.	Clear any debris.
Frost or ice on evaporator coil.	Evaporator fans are not functioning.	Check electrical connections.
	Defrost clock is not functioning.	Case should be serviced by a qualified service technician.
	Coil is freezing over.	Return air is blocked, make sure debris is not blocking the intake section.
		Coil close-offs are not installed. Inspect coil to make sure these parts are on the case.
Lights do not come on.	LED Driver / light socket wiring.	Check electrical connections. See Electrical Section and check wiring diagram.
	LED Driver needs to be replaced.	Case should be serviced by a qualified service technician. See Electrical Section.
	LED fixture socket / connection needs to be replaced.	Case should be serviced by a qualified service technician.
	LED fixture needs to be replaced.	See Maintenance Section.
	Light Switch needs to replaced.	Case should be serviced by a qualified service technician.

REPLACING FAN MOTOR ASSEMBLIES

Should it ever be necessary to service or replace the fan motor assembly, be certain that the fan blades are reinstalled correctly.

For access to these fans:

1. Turn OFF power
2. Remove interior top and back panels.
3. Disconnect fan from wiring harness.
4. Remove screws holding fan motor/bracket assembly to plenum and remove assembly.
5. Replace fan motor / bracket assembly and reinstall screws.
6. Reconnect fan to wiring harness.
7. Turn ON power.
8. Verify that motor is working and blade is turning in the correct direction.
9. Replace interior top and back panels. Bring merchandiser to operating temperature before restocking.



REPLACING ALUMINUM COIL

The aluminum coils used in Hussmann merchandisers may be easily repaired in the field. Materials are available from local refrigeration wholesalers.

Hussmann recommends the following technique:

1. Locate Leak.
2. Remove all pressure.
3. Brush area under heat.
4. Only use a Prestolite torch with number 6 tip.
5. Maintain separate set of stainless steel brushes, and use only on aluminum.
6. Tin surface around area.
7. Brush tinned surface UNDER HEAT, throughly filling the open pores around leak.
8. Repair leak. Let aluminum melt solder, NOT the torch.
9. Don't repair for looks. Go for the thickness.
10. Perform a leak check.
11. Wash with water.
12. Cover with a good flexible sealant.

⚠CAUTION

» When brazing pipes be sure to use an insulation blanket to prevent damage to the plastic case bottom.

WARRANTY INFORMATION

HUSSMANN®

To obtain warranty information or other support, contact your Hussmann representative or visit: https://www.hussmann.com/services/warranty.
Please include the model and serial number of the product.

For questions about your equipment please contact our Technical Support Team 866-785-8499
For General Support or Service Calls contact our Customer Support Call Center 800-922-1919
For ordering Aftermarket Warranty Parts 1-855-Huss-Prt (1-855-487-7778) Hussmann_part_warranty@hussmann.com