HUSSMANN®

FREEDOM RFL & RFM / RFLN & RFMN

Standard & Narrow Reach-in Merchandisers

QUICK INSTALLATION GUIDE

ABOUT THESE CASES

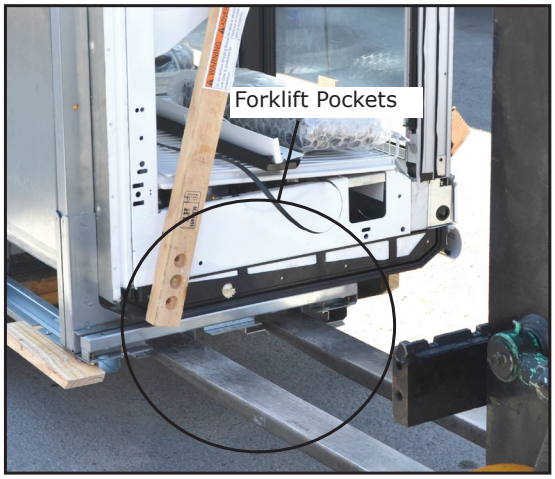
These cases are designed to be ready for remote installation of a top-mounted, air-cooled condensing unit. The unit controller is programmed for low or medium temperature use and setting can be adjusted using the controller keypad.

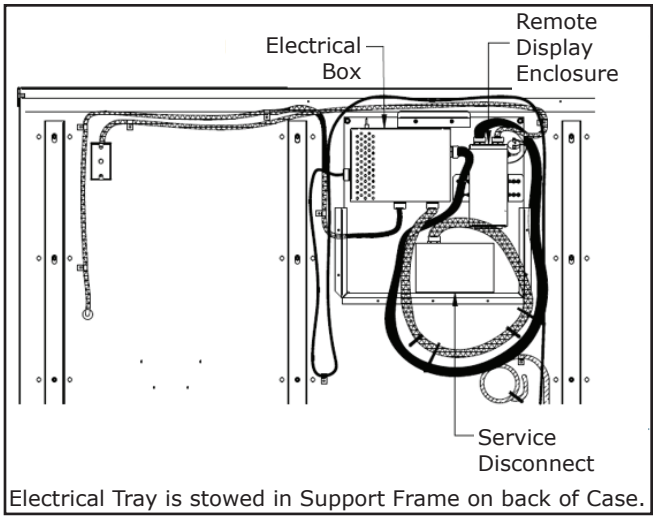
HOW TO MOVE CASES INTO STORE

All components must be removed from top of case for store door clearance. Forklift pockets at end of case(s) are for safely moving case(s) with a forklift. Insert forks into pockets (if provided). Electrical tray is suspended in support frame on rear of case(s).

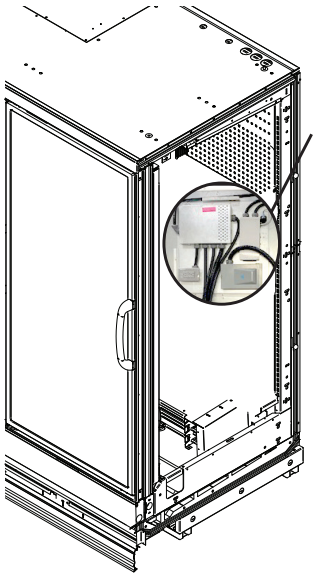
Remove Components from top of Case.

Top of Case with Splashguard Panels and Facade removed





Electrical Tray is stowed in Support Frame on back of Case.



Refrigeration components can be shifted to the side of case and held by an installer to pass through narrow doors.

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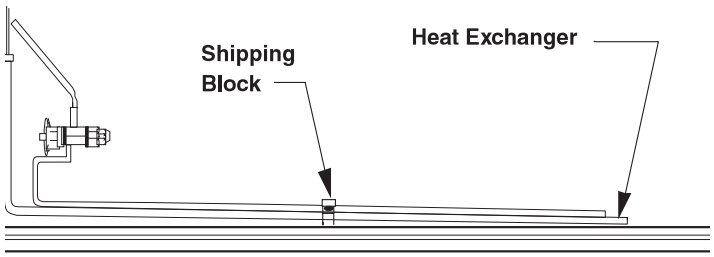
August 2021

REMOVE SHIPPING BLOCK(s) / SHIPPING BRACES

Once case is in its final location, remove shipping braces and shipping block(s) located near the heat exchanger. **All shipping blocks(s) must be removed!** Make sure refrigeration tubing is attached, sealed and insulated.

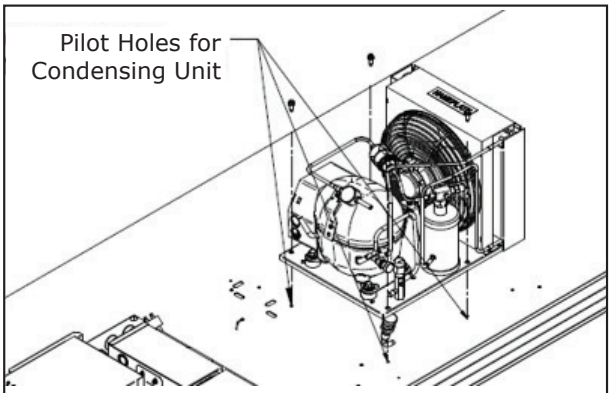


Interior View of Case Bottom
(some cases have more than one shipping block)

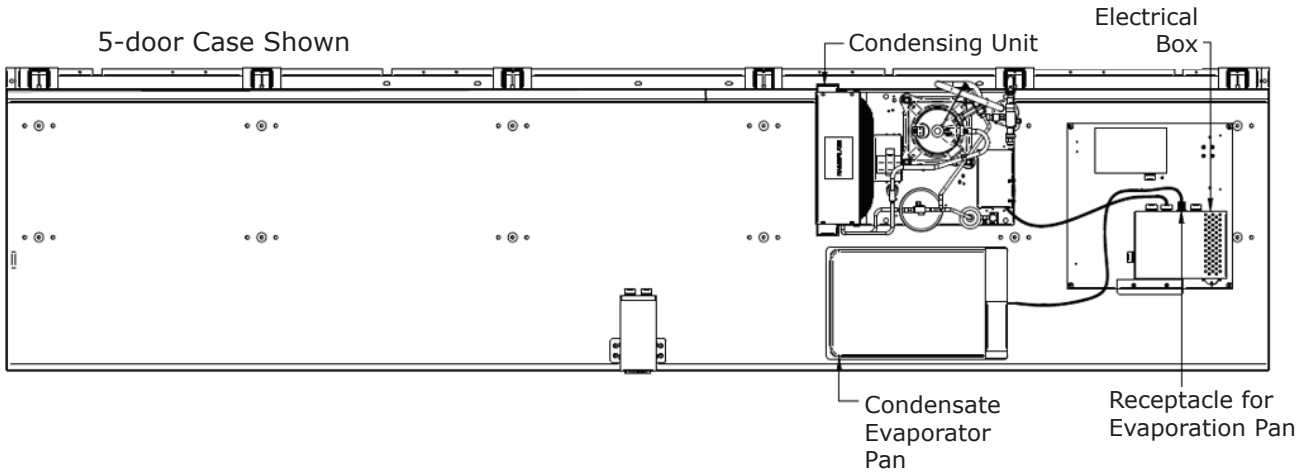
Remove Shipping Brace.

INSTALLING REFRIGERATION COMPONENTS ON TOP OF CASE

Install condensing unit to top liner (pilot holes located near second door, facing case from right) on top of each case using supplied screws. Route unit´s electrical wiring. Attach electrical tray. Make sure evaporation pan is level, and plug cord into NEMA-15 receptacle on electrical box.



Fasten Condensing Unit to Mounting Plate.

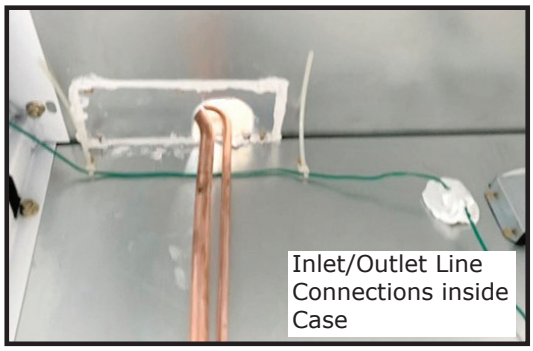


CONDENSING UNIT & TOP PIPING LINE CONNECTIONS

Locate the packout bag from inside of the case.

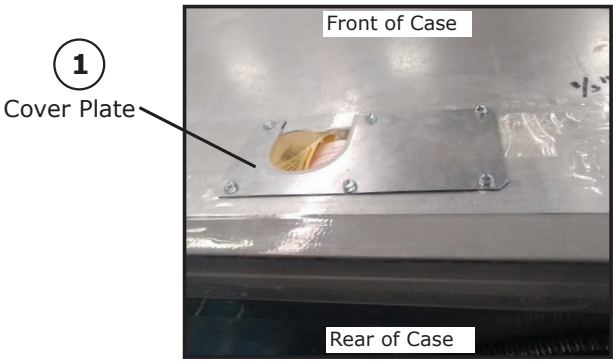
The packout kit contains:

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

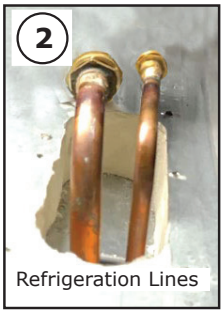


Steps for top-piping line connections:

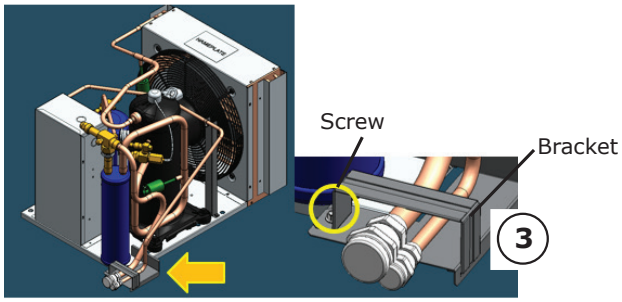
1. Remove the cover plate from the top-piping slot (6 screws), located on top of case.



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

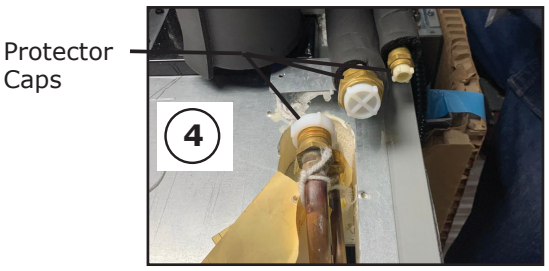


3. Remove condensing unit bracket as shown below.



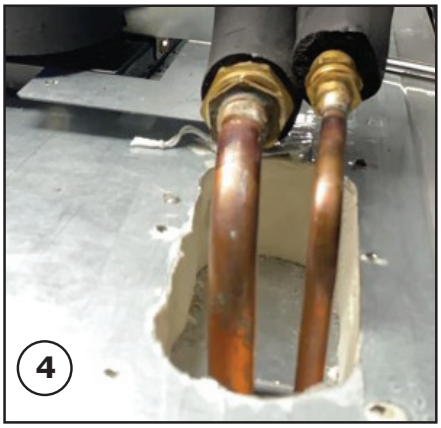
4. Connect inlet/outlet lines to condensing unit.

A. Remove protector caps and plugs from the line couplings, and 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.



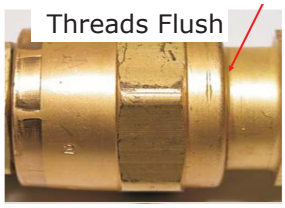
Apply supplied Oil to Threads, O-rings, and Diaphragm.

B. Connect the couplings by hand, then use hex wrench to tighten until fitting bottoms out and apply quarter turn after the resistance. 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.

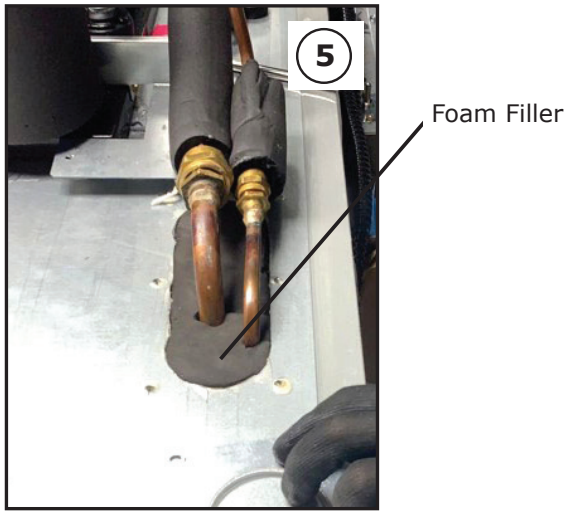


IMPORTANT!

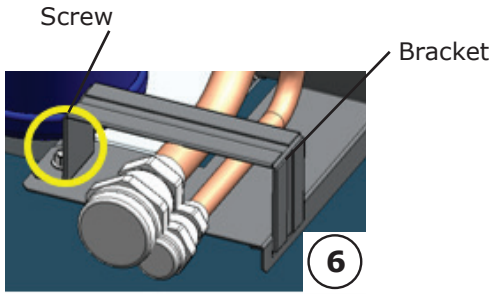
Tighten swivel fitting until the fitting has significant resistance (fittings bottoming out). Apply ¼ turn past the resistance. Ensure no threads are visible.



5. Insert foam filler into slot. Ensure there are no gaps around foam filler.



6. Replace bracket. Ensure insulation is on the refrigeration lines before installing bracket. Bracket is used to help keep the tubing aligned.



7. Place silicone sealant around the tubing.

8. Place the butyl tape over the slot.

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

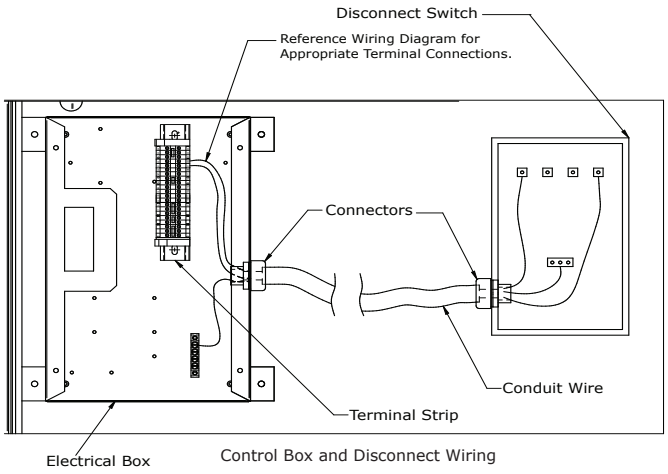
10. Use the insulated pre-slit on the 5/8” tubing, and on the 3/8” tubing. Use the insulation already installed on the condensing unit.

INSTALLING SERVICE DISCONNECT

Attach service disconnect to desired location for easy service access.

IMPORTANT:
Refer to specific wiring diagrams or condensing unit data sheets. Field wiring lands on the line side of the service disconnect.

Service Disconnect to be installed on Case or Store Wall.



Control Box and Disconnect Wiring

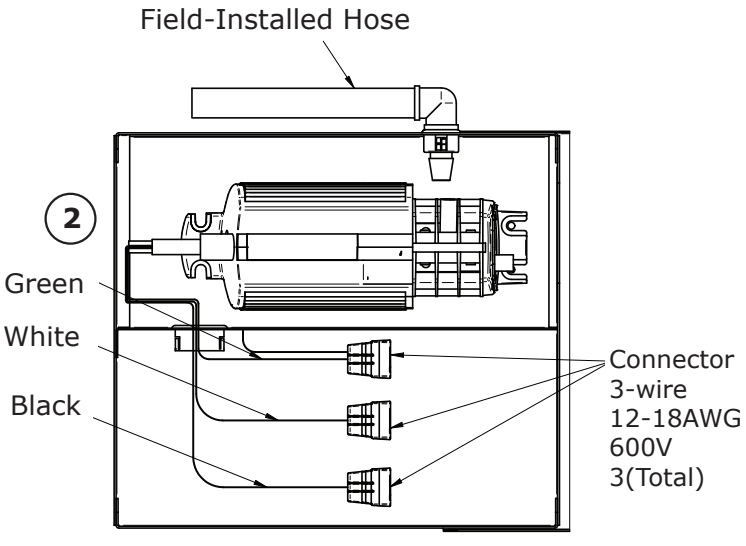
INSTALLING PUMP KIT

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 water to heated condensate pan on top of case. This pan must be installed level and plugged into electrical receptacle. Tubing should be inspected through its entire length to ensure that it has not been cut, kinked, obstructed, or damaged during shipping and installation.

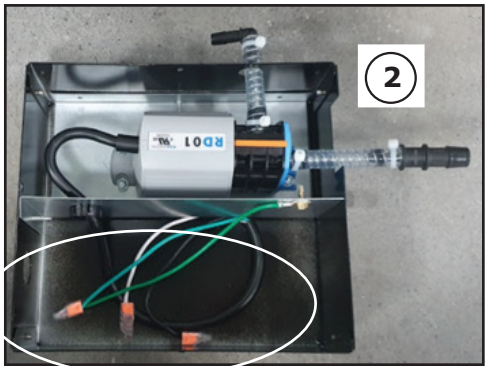
Steps:

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

Pump Kit
(sits underneath case)



Wiring for Pump

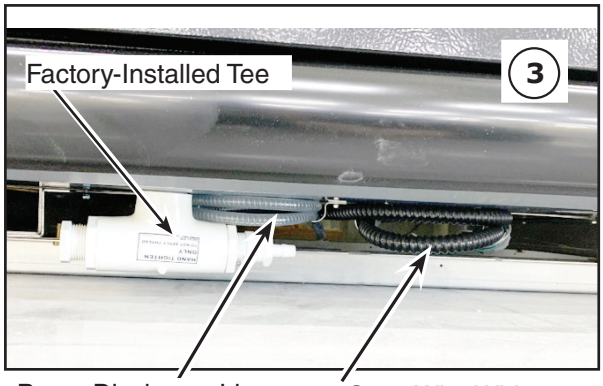


Connect Pump Electrical to Case Wire Whip

INSTALLING PUMP KIT

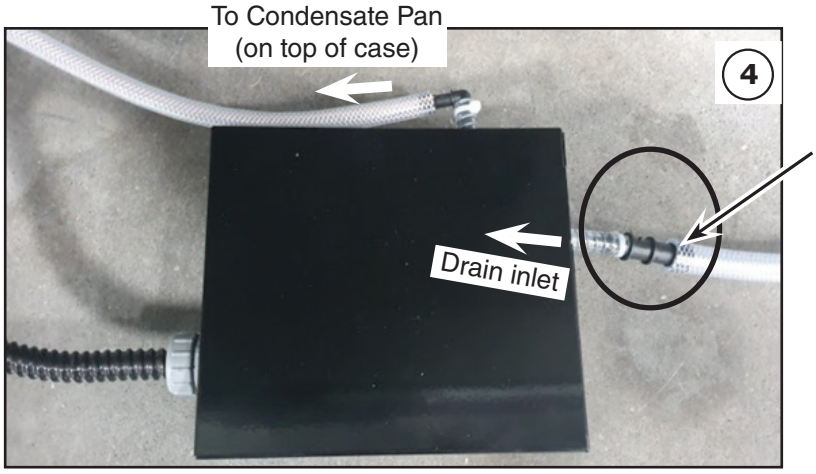
(Continued)

3. Replace pump cover plate. Identify Pump discharge line and factory-installed tee (underneath case).



(photo for reference)

4. Attach discharge line tubing to coupling.



Make sure to insert the drain tubing onto the coupling fully and correctly.

5. Connect opposite end of drain hose to factory-installed tee. See examples on the next page.

IMPORTANT!

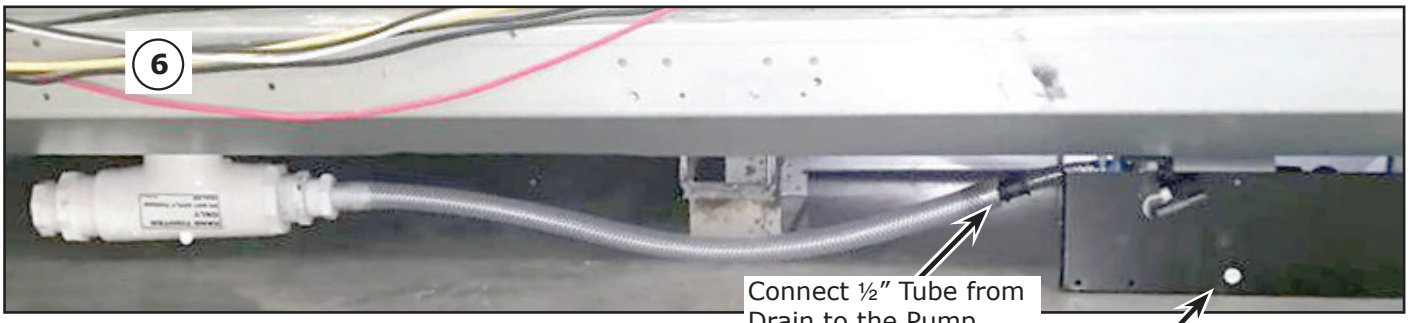
Liquid soap or Windex can be used to help fit the tube fully onto both fittings.

Correct

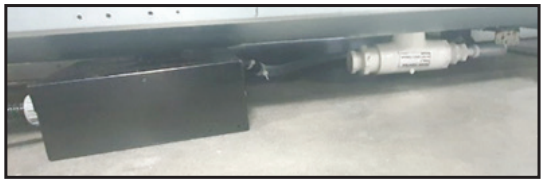
(Drain hose not fully inserted)

Incorrect

6. Place pump under case.



Pump Assembly Installed
3-door case layout shown (RFLN3)



Pump Assembly
2 and 4-door layout shown

NOTE:
Pump is to be located to the left on 2 and 4-door cases. ½" hose loops around the back of the drain and connects into the pump fitting as shown in the photo at left.

For 3 and 5-door cases, the pump is located on the right side of the drain tee as shown in the photo above.

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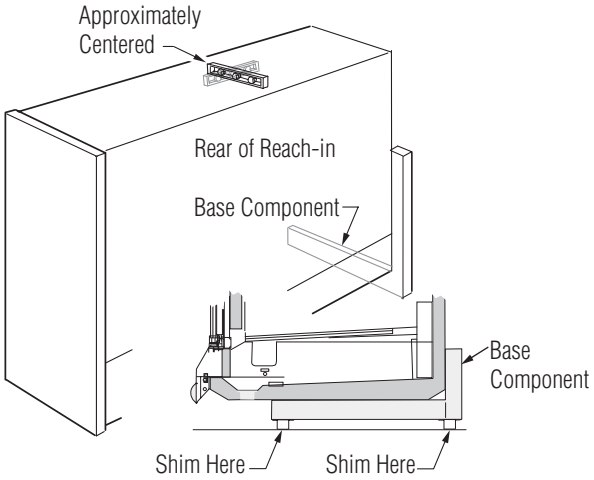
7. Connect tubing to condensate pan as shown below.

Condensate Pan
(Installed on top of case)

JOINING CASES -LEVEL CASE LINEUP

Merchandisers must be installed level to ensure proper operation of the refrigeration system and proper drainage of defrost water. When leveling merchandisers, use a carpenter's level. Metal leveling shims or wedges are provided in packout. Place shims under the rail and make sure that they are positioned at a base component (crossbar).



JOINING CASES WITH SOLID PARTITIONS

Partitions are installed between individual cases to prevent frost buildup and other issues that might result from different defrost schedules and operating temperatures. ALL JOINTS MUST BE AIR-TIGHT TO PREVENT FORMATION OF ICE OR CONDENSATION. If a partition is not needed for the case lineup, use joining kit and instructions packed with the case(s).

Remove the following from cases:

(A) Bumpers, rails, packing materials, splashguards from both cases.

(B) Shelves (if installed)

(C) Display racks and pans from ends to be joined.

(D) Rear shelf supports.

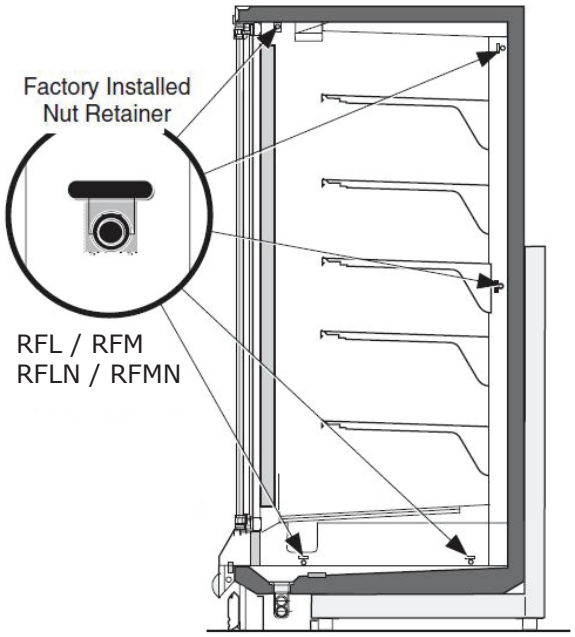
(E) Back panels from both cases by lifting up and our near the bottom. No tools are necessary.

(F) Remove "J" molding from door frames next to partition.

PARTS LIST SOLID PARTITION

RFL / RFM
RFLN / RFMN

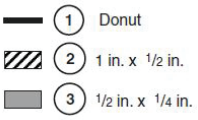
Item #	Quantity	Description
1.	2	Donut Gasket (Ships with Case)
2.	1	Gasket 1 x ½ x 180"
3.	1	Gasket ½ x ¼ x 180"
4.	1	Partition Assembly
5.	7	Flat Washer 5/16 inches
6.	6	Cap Screw 5/16 -18 x 2½"
7.	1	Hex Head Lock Nut 5/16 -18
8.	2	End 'J' Molding
9.	10	Shoulder Screw



Verify Nut Retainers are installed.

INSTALLING SOLID PARTITIONS

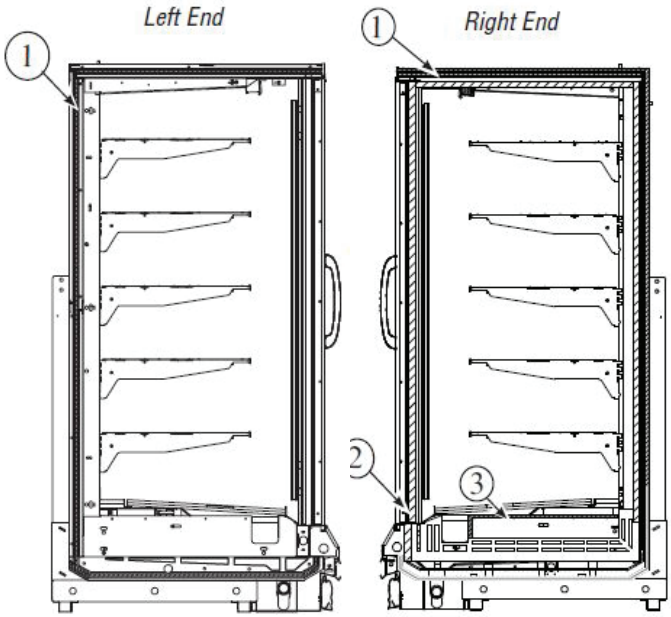
Apply Donut Gasket — (1)
in end frame recessed locations of both cases as shown in the illustration.



Apply the wider
Donut Gasket — (2)

- Lap gaskets at lower corners.
- Check that there are no gaps between gasket and case.
- Do not stretch gasket, especially around corners.
- Do not butt gaskets; always overlap joints.
- Remove paper backing after gasket is applied to keep gasket free of debris.

Apply the narrower
Foam Tape Gasket — (3) around the outside of the donut gasket on both cases.



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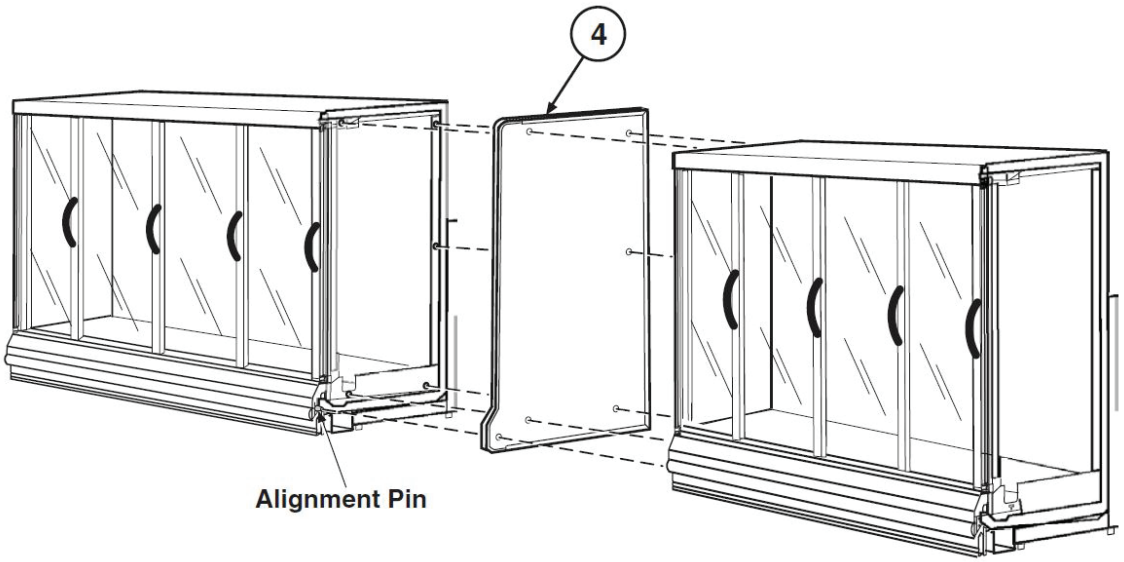
1. With the left-hand case leveled in its permanent position, move the joining case into alignment approximately 4 in. (102 mm) from left-hand case.

2. Slide the Partition Assembly — (4) between the two cases and raise it to align its joining holes with those in the cases.

3. Insert long narrow rods (or screwdrivers) through three or more joining holes of the cases and the partition to maintain alignment, then bring the cases firmly together to compress the gaskets against the partition.



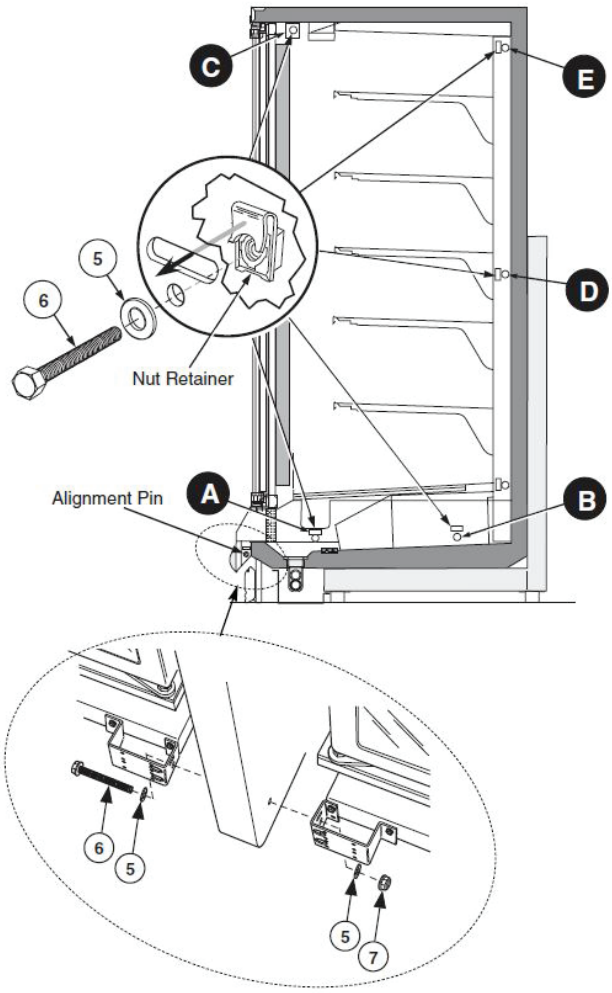
INSTALLING SOLID PARTITIONS

Fasten the cases together through the end frames with Washers — (5) under the head of Cap Screws — (6). Thread screws into nut retainers at the locations (A), (B), (C), (D), (E).

Once all the cap screws and washers are in place, tighten in the order shown in the illustration.

Do not attempt to draw the cases together with the cap screws. Push the second case against the partition and first case, compressing all gaskets. Overtightening can distort the end frame and cause an incomplete seal, which will result in poor case performance, including leakage.

At lower front location, use Hex Head Lock Nut — (7) and Cap Screw — (6) with Washer — (5) under the head as shown to fasten the partition between the cases.

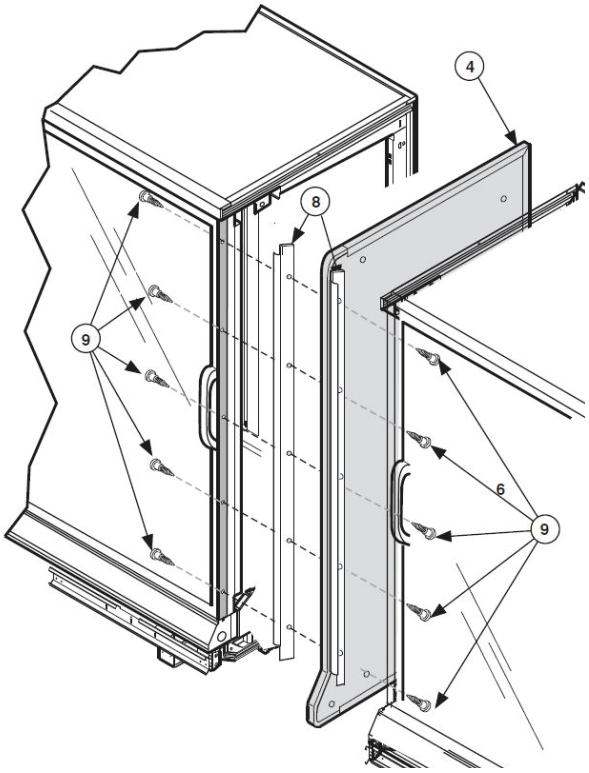


Fasten one 'J' Molding — (8) between the partition and the door frame on each side as shown in the illustration using Shoulder Screws — (9).

Note that when fastening through the hinge side of the door frame, it may be necessary to release the door retainer so the door opens more than 90°. Refer to manual that shipped with the door.

Replace rear shelf support, back panels, display racks and pans, and shelves removed in Step 1.

Once line-up is complete, install bumpers and rails. Be sure to install the splashguard brackets before wiring or piping cases.



INSTALLING ACRYLIC PARTITIONS

Acrylic partitions are most often used in a line-up to separate cases with different refrigeration defrost cycles, and are installed as cases are joined. Joining instructions are provided separately. Be sure merchandisers have been leveled according to the installation instructions. Carefully unpack and inspect the acrylic partition and components to ensure there is no breakage or damage.

Remove the following from cases:

(A) Bumpers, rails, packing materials, splashguards from both cases.

(B) Shelves (if installed)

(C) Display racks and pans from ends to be joined.

(D) Remove back panels by lifting up and out near the bottom. No tools are necessary.

Position the Top Left Retainer — 1 against the edge of the interior top panel of left case as shown. Fasten with Screws — 2.

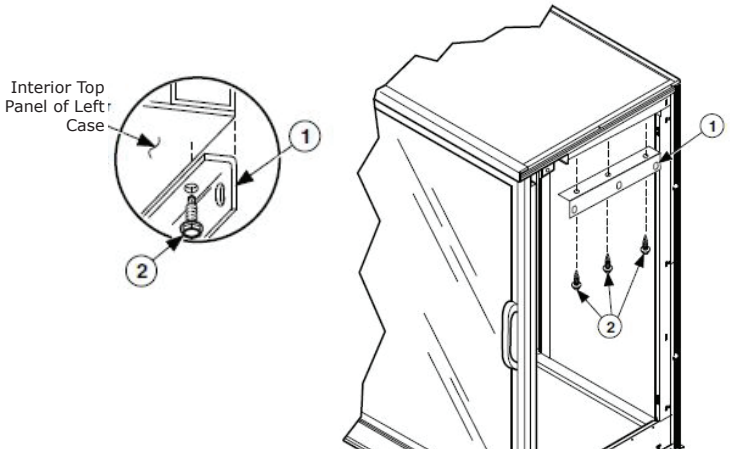
A factory-installed acrylic partition may have a retainer attached to the back end frame and partition. It is not used in field installations.

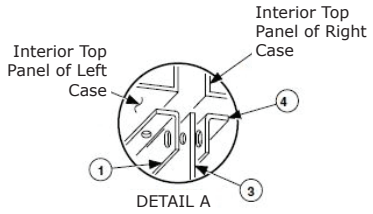
Loosely fasten the Acrylic Partition — 3 and Top Right Retainer — 4 to the Left Top Retainer using Screws — 5, Washers — 6, and Locking Nut — 7 as shown in Figure 3, Detail A.

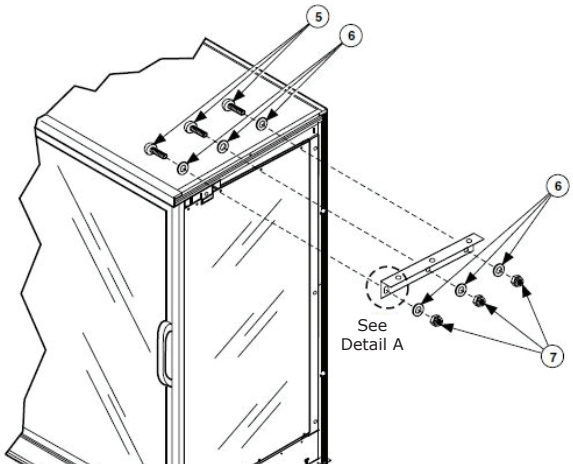
Fasten the Top Right Retainer — 4 to the interior top panel of right case using Screws — 2.

PARTS LIST ACRYLIC PARTITION RFL / RFM RFLN / RFMN

Item #	Quantity	Description
1.	1	Retainer, Top Left
2.	6	Screw, #8 x ½"
3.	1	Acrylic Partition
4.	1	Retainer, Top Right
5.	10	Machine Screw, ¼-20 x ½" Flat
6.	20	Washer ¼"
7.	10	Hex Nut, Locking ¼"-20
8.	1	Retainer, Bottom Left
9.	1	Retainer, Bottom Right
10.	1	Retainer, Top Front Left
11.	1	Retainer, Top Front Right
12.	1	Retainer, Closeoff







INSTALLING ACRYLIC PARTITIONS

Loosely fasten the Acrylic Partition — 3 and Top Right Retainer — 4 to the Left Top Retainer using Screws — 5, Washers — 6, and Locking Nut — 7 as shown in Figure 3, Detail A.

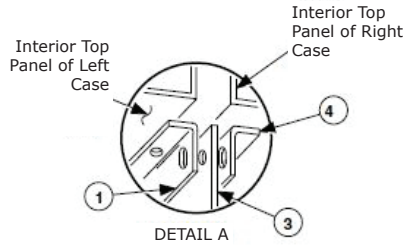
Fasten the Top Right Retainer — 4 to the interior top panel of right case using Screws — 2.

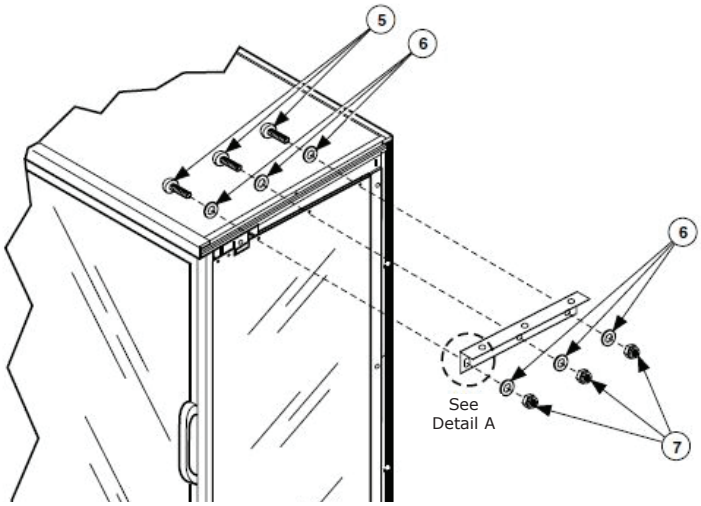
Position the Bottom Left Retainer — 8 and Bottom Right Retainer — 9 at the bottom of the partition and around both end frames as shown in Figure 5.

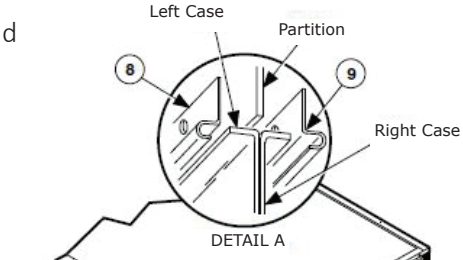
Fasten with Screws — 5, Washers — 6, and Locking Nut — 7 as shown in Figure 5.

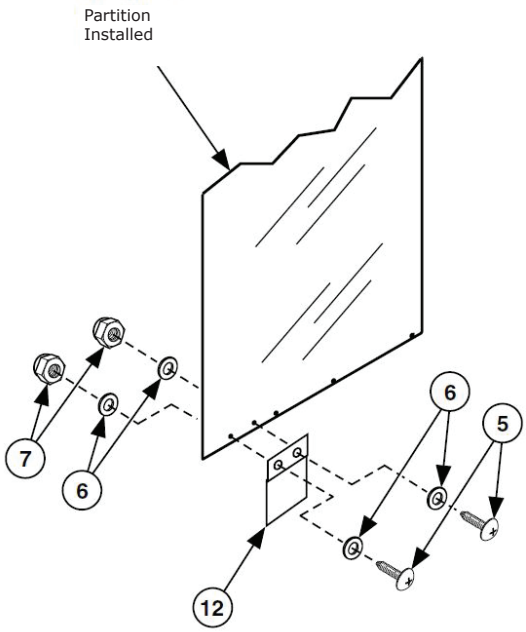
Position the Closeoff Retainer — 12 at the bottom of the partition as shown. Fasten with Screws — 5, Washers — 6, and Locking Nut — 7.

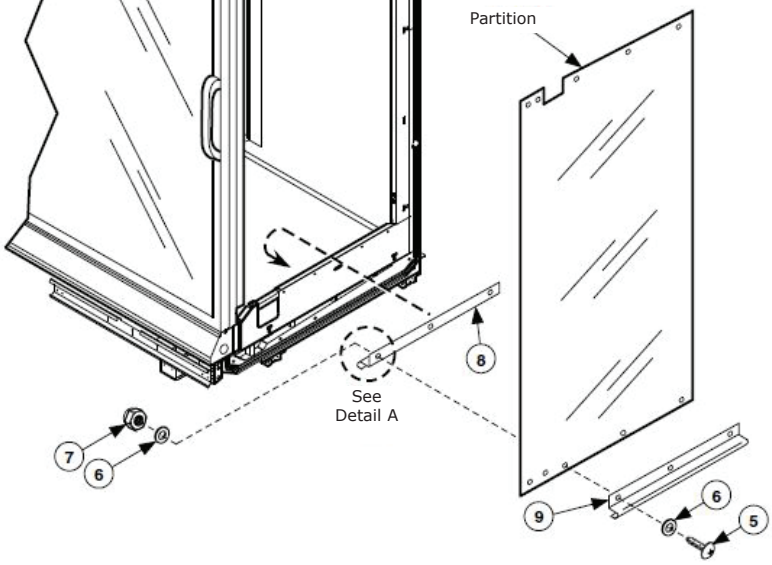
Return to the joining instruction for fastener tightening sequence, joint molding installation and other steps necessary to complete lineup.





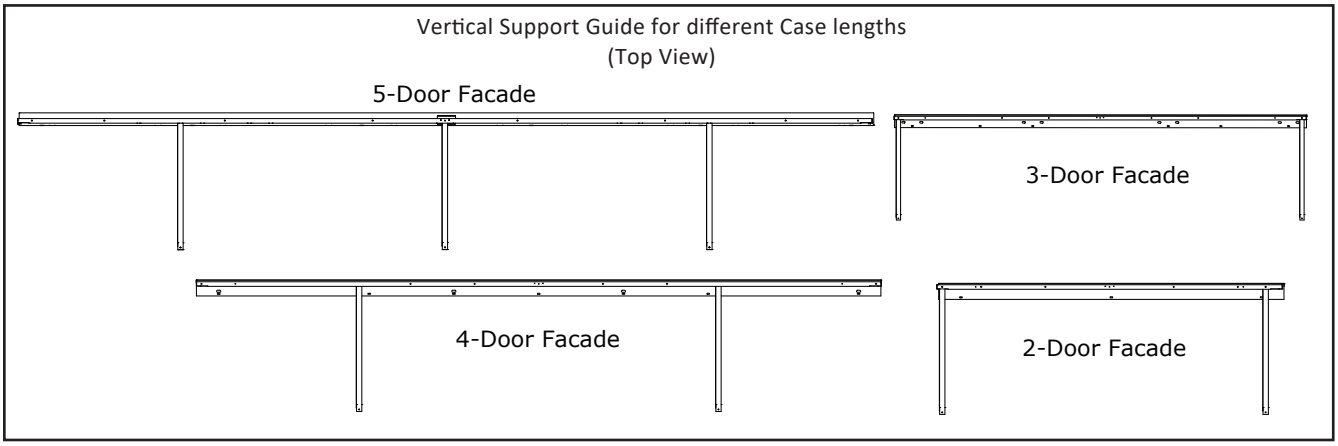


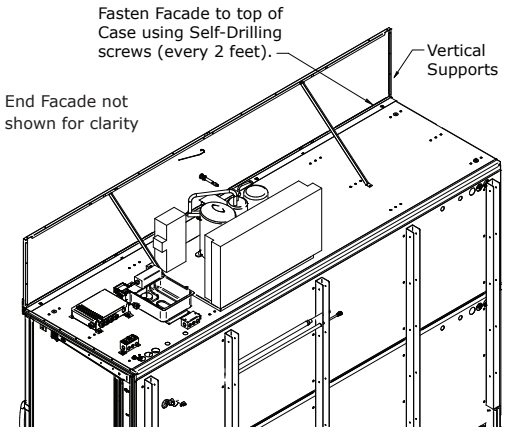


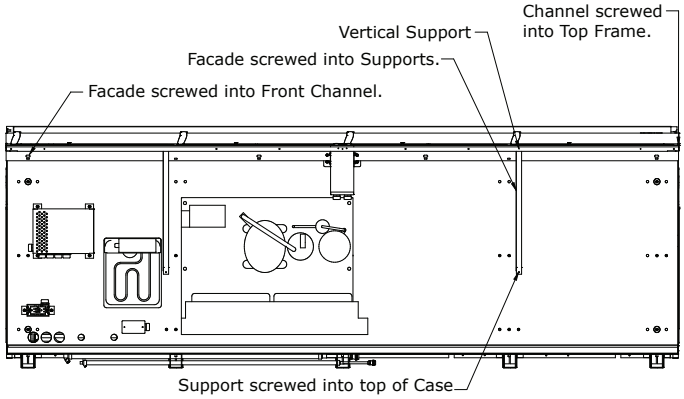


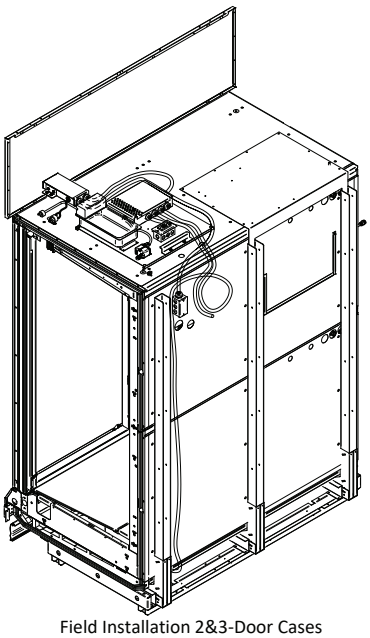
INSTALLING FACADES

Install facades on case lineup using supplied hardware. Note location(s) of controller box in facade cutout for the various case lengths. Attach with brackets and screws.

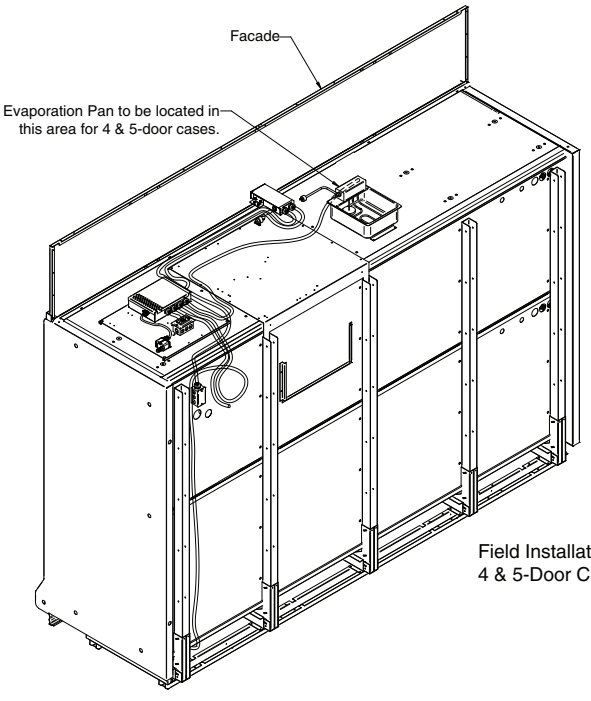








Field Installation 2&3-Door Cases

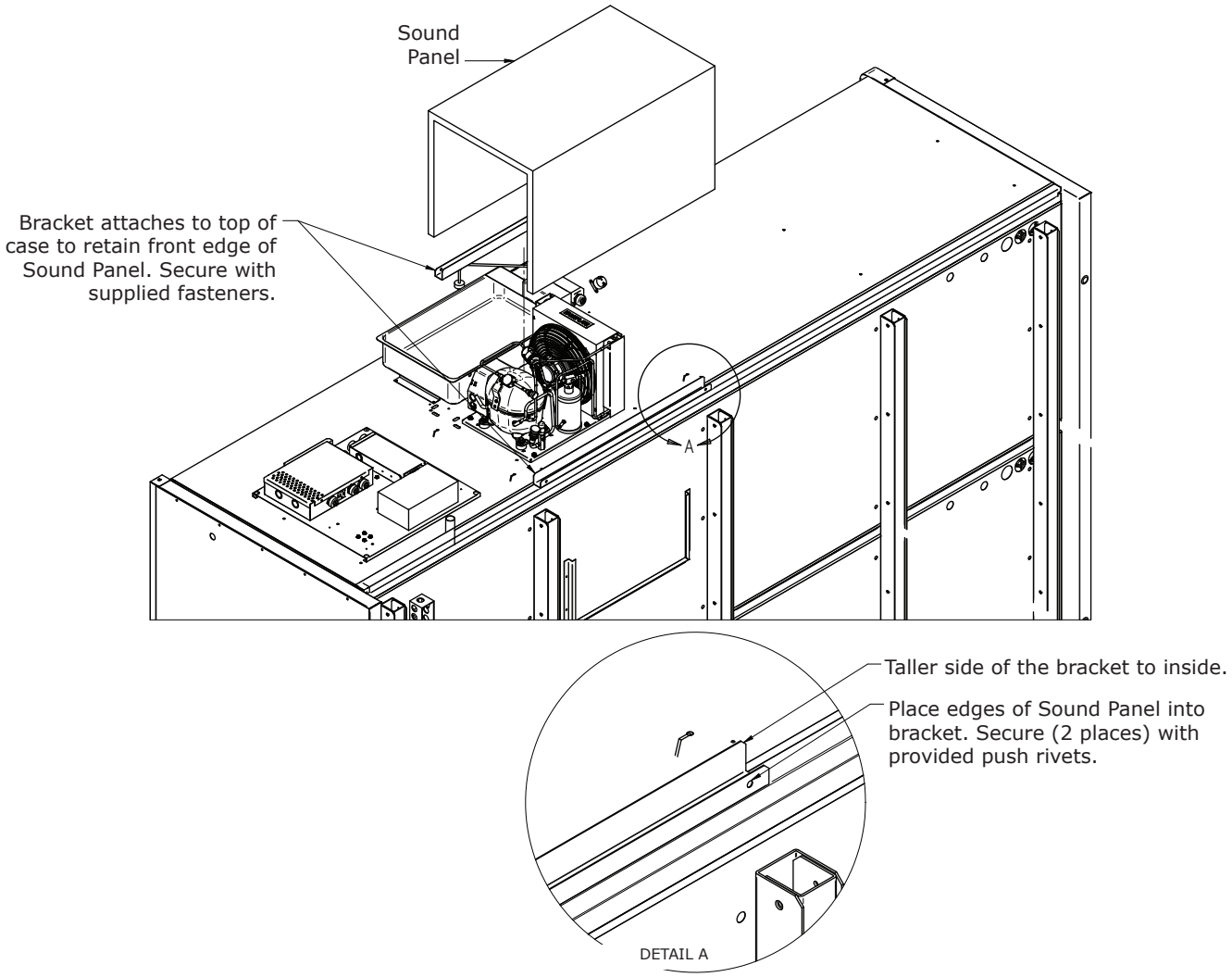


NOTE:
Service Disconnect can be mounted on wall or top of case for easy service access.

Field Installation
4 & 5-Door Cases

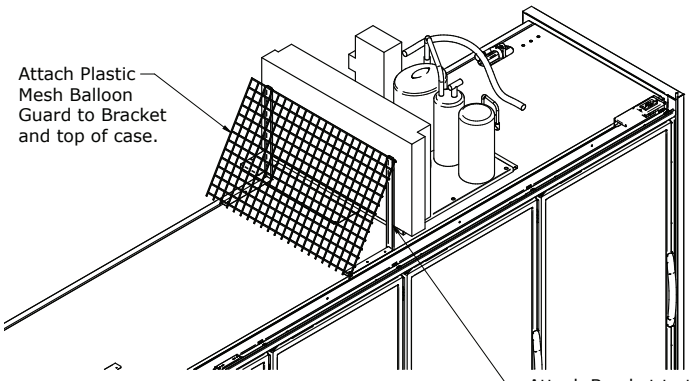
INSTALLING CONDENSING UNIT SOUND BARRIER

The condensing unit sound barrier is installed to reduce noise generated by the refrigeration system. Bracket supports are attached to the top of the case(s). The Sound panel fits over the condensing unit and is attached to the brackets with screws.



Installing Balloon Guard

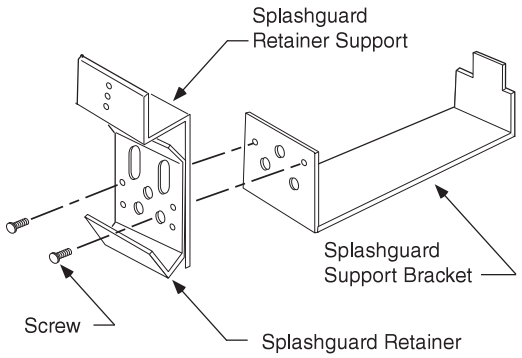
The balloon guard is to prevent inflated balloons from coming into contact with the coils. Attach brackets and balloon guard near inlet coil as shown.

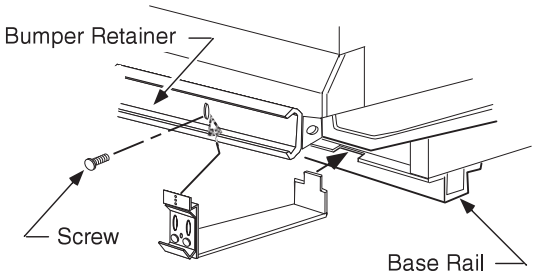


Install Balloon Guard

INSTALLING SPLASHGUARD BRACKETS

Attach splashguard retainer and splashguard retainer support to splashguard support bracket using two screws per bracket. DO NOT PLACE SHIMS UNDER SPLASHGUARD BRACKETS.

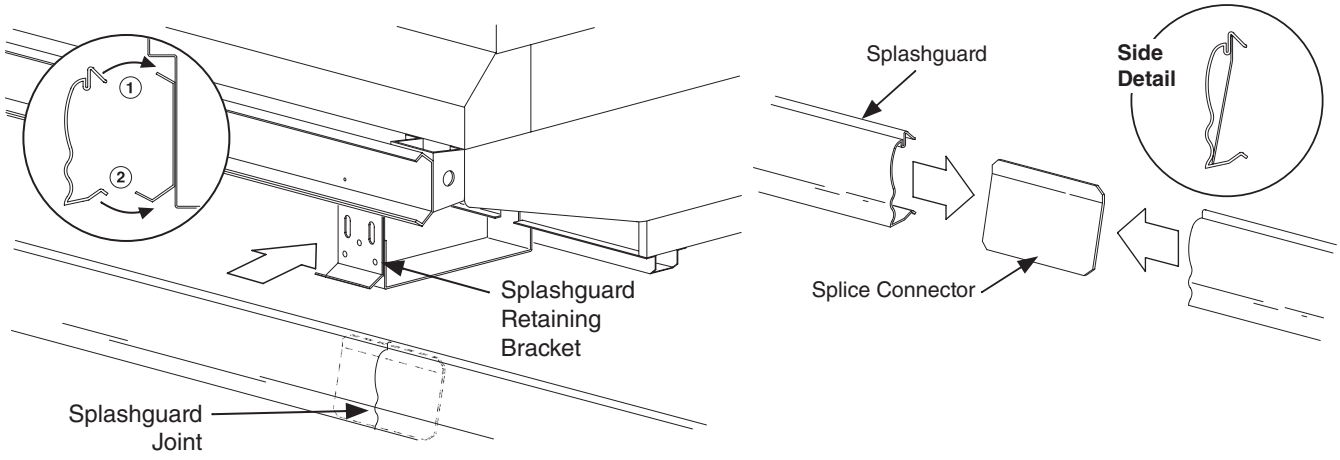




INSTALLING SPLASHGUARDS

The splashguard is shipped inside each merchandiser. AFTER merchandisers have been leveled and joined, and all drip piping, electrical and refrigeration work has been completed, re-install the front color panel, then install the splashguards.

First, position top of splashguard over the top edge of the bracket; second, push the lower edge of the splashguard toward the bottom of the bracket until it snaps into place. Splashguards are joined with a galvanized metal splice connector that comes with the joint kit. Join the splashguards before installing on case.



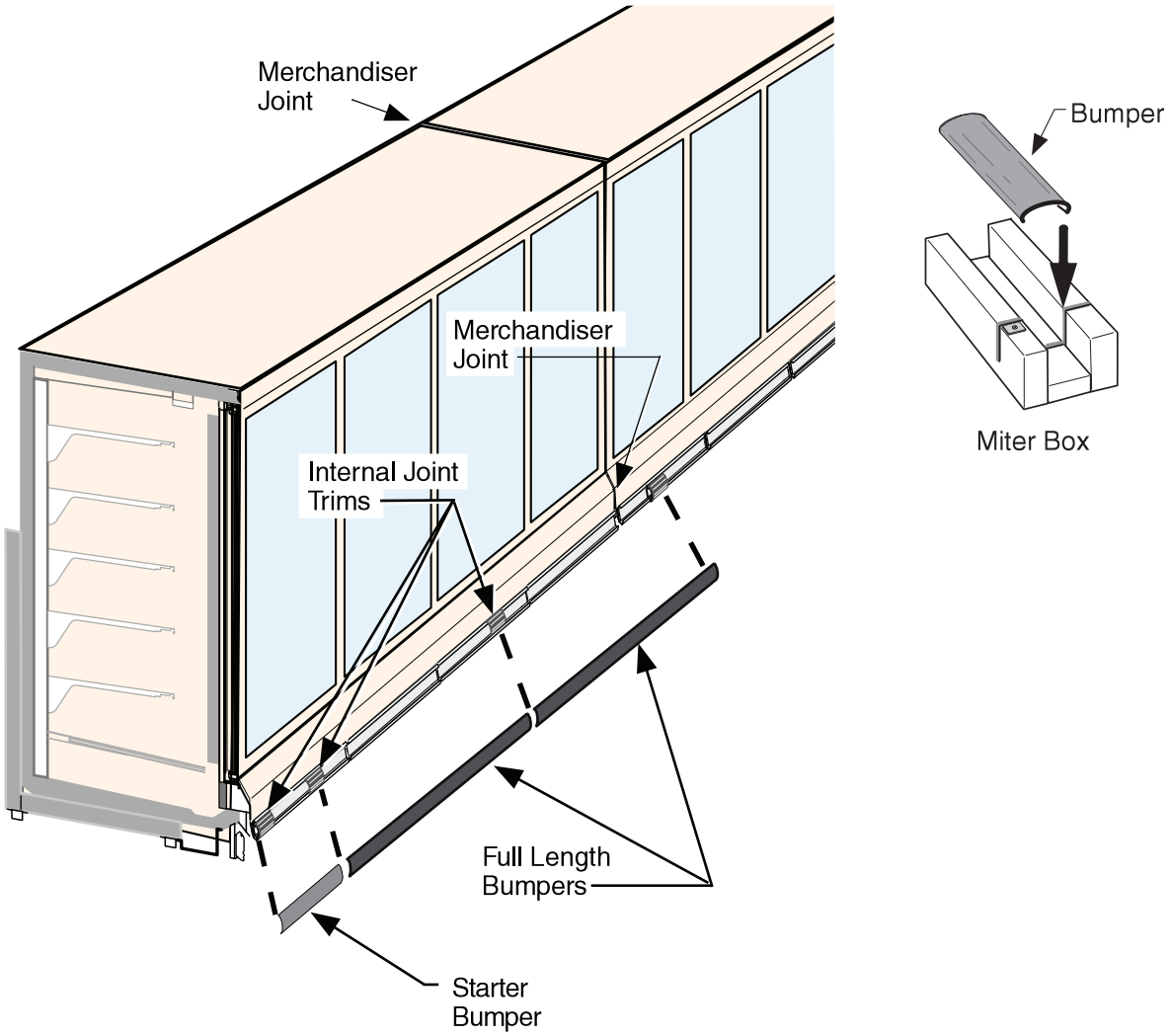
INSTALLING BUMPERS

Offsetting the bumpers and top rails helps to disguise the joint locations, giving the lineup a smoother look. Begin at the left end of the line-up. A starter bumper is factory-installed with end kits. Insert the internal joint trim, then add the full-length bumper.

Align each bumper section with its retainer and push into place, working from the end of the lineup. Install full length bumpers and internal joint trims offset across joints. Make sure that no gaps exist between sections. Continue installing bumpers the length of the line up.

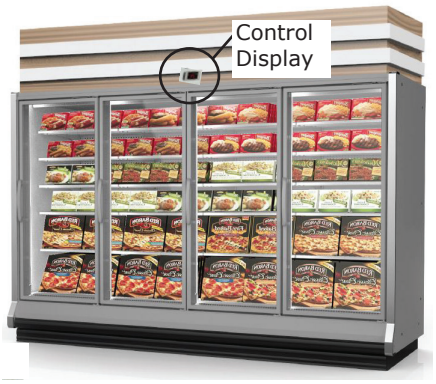
Do NOT install the last bumper sections at this time. These sections will be installed in the last step. Once all except the last section of bumper have been installed, refrigerate the case line-up for at least six (6) hours. The last sections of bumper should be kept inside a refrigerated case or cooler during this time to allow the bumpers to contract.

Before installing the last full-length section, measure the remaining space. Use a miter box and fine-tooth saw to cut last bumper to length. Install the last section. Remove protective film from bumpers once installation is complete. Optional end bumpers are factory-installed.



ADJUSTING CASE CONTROL TEMPERATURE

Always refer to case model data sheets for recommended settings.



TXVs are pre-set from the factory but can be adjusted if necessary.

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 or arrows within 10 seconds.

4. To memorize the new setpoint value, push the SET key again or wait 10 seconds.

- Medium Temp cases should be changed to the setpoint required by the application 32°F to 34°F.
- Ice cream cases should be changed from -5°F to -10°F.
- Frozen food cases will stay at the factory setpoint of -5 degrees.

ADJUSTING SUCTION CUT OUT PRESSURES

low temperature condensing units (if needed)

These are pre-programmed settings from the factory but can be adjusted if necessary.

1. Hold set + keys for 3 seconds, or until the “PSI” LED starts blinking, to enter Programming Menu.

2. Press or button to select the required parameter. Press SET button to display parameter value. (CoU) currently set at 15 to 20 psi.

3. Press or button to change parameter value. (Change to 5 psi.) The suction pressure cutout of 5 psi is required for ice cream operation.

4.Press SET button to store the new parameter value.

TEST AND ADJUST DOORS FOR PROPER OPENING AND CLOSING SPEED

After leveling and joining the merchandisers, adjust and level doors according to manufacturer’s instructions shipped with each product. Factory settings may be lost due to vibration during shipment.