HUSSMANN®

Reach-In Merchandisers

Medium & Low Temperature



Installation & Operation Manual

Use this manual along with Insight Door Manual
P/N 3182257

INSIGHT® REACH-IN

This manual applies to case models: **IRL ◇ IRLN ◇ IRM ◇ IRMN**

Illustrations use model IRL unless otherwise stated.

April 2023
P/N 3181178_A
Spanish P/N 3181179_A
MANUAL - IO Insight Reach-In

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.

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.

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 general methods for safely using this equipment. Please comply with the safeguards described in this manual to protect yourself 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 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 service.

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.



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.

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CASE CLEARANCE

A 4-inch (102 mm) space between the rear of the merchandiser and wall must be maintained for air circulation. However, in high ambient conditions, sweating may still occur. If this happens, install a method of forced ventilation such as a fan ventilation kit.

ATTENTION

- Merchandiser must operate for 24 hours before loading product!
- Regularly check merchandiser temperatures.
- Do not break the cold chain. Keep products in freezer or cooler 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.

INSTALLATION TOOL LIST

Unloading From Trailer:

Lever Bar (also known as a Mule, Johnson Bar, J-bar, Lever Dolly, and pry lever)
Moving Dolly

Setting Case Line-Up:

Level, 4 ft suggested
Ratchet
¼-inch Socket
$^{5}/_{16}$-inch Socket
½-inch Socket
Battery Drill / Screw Gun
Caulking Gun
10-inch Adjustable Crescent Wrench

REVISION HISTORY

REVISION A — April 2023 - Original Issue

⚠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

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 merchandiser carries a label identifying the environment for which the merchandiser was designed for use. In compliance with DOE 2017, standard low temp reach-in cases with doors have an anti-sweat controller that maintains the door heat at a level that meets DOE energy limits. Any factory or field-installed anti-sweat controller applied to a low temp reach-in case with doors must be programmed to cycle the heaters at no more than 50% run time at design conditions of 75°, 55% Relative Humidity for frozen food operating conditions.

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

LOCATION

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

Placing refrigerated merchandisers in direct sunlight, near hot tables, or other heat sources could impair efficiency. Like other merchandisers, these are sensitive to air disturbances. Air currents passing around merchandisers will seriously impair their operation. Do not allow air conditioning, electric fans, open doors or windows, etc., to create air currents around the merchandisers.

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. Products should always be maintained at the 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 product life.

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

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

Concealed Loss or Damage

A claim for concealed damage is made when loss or damage is not apparent until after the equipment is removed from its shipping crate. Upon discovering the damage, make a request in writing to the carrier for inspection within 15 days and retain all packing. The carrier will supply the inspection report and required claim forms.

EXTERIOR LOADING

Do not walk on top of merchandisers or damage to the merchandisers and serious personal injury could occur. They are not structurally designed to support excessive external loading such as the weight of a person. Do not store items or flammable materials atop the unit.

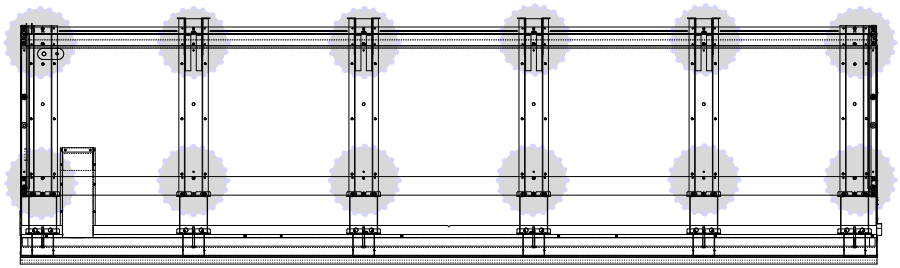
MERCHANDISERS SHIPPED WITH END INSTALLED

If the case was shipped with the end installed, two long bolts were used to hold the shipping brace to the end. If the shipping bolts are reinserted after removing the brace, they will extend into the product area and may damage the coil. Therefore, be sure to replace these bolts with the shorter bolts provided.

Be careful not to damage the factory-installed end while moving the merchandiser. Make sure that tools are positioned past the end and beneath the merchandiser's support bar.

SHIPPING BRACES

Move the merchandiser as close as possible to its permanent location and then remove all packaging. Check for damage before discarding packaging. Remove all separately packed accessories such as kits and shelves.



View from underneath 5-door case

Shim Location

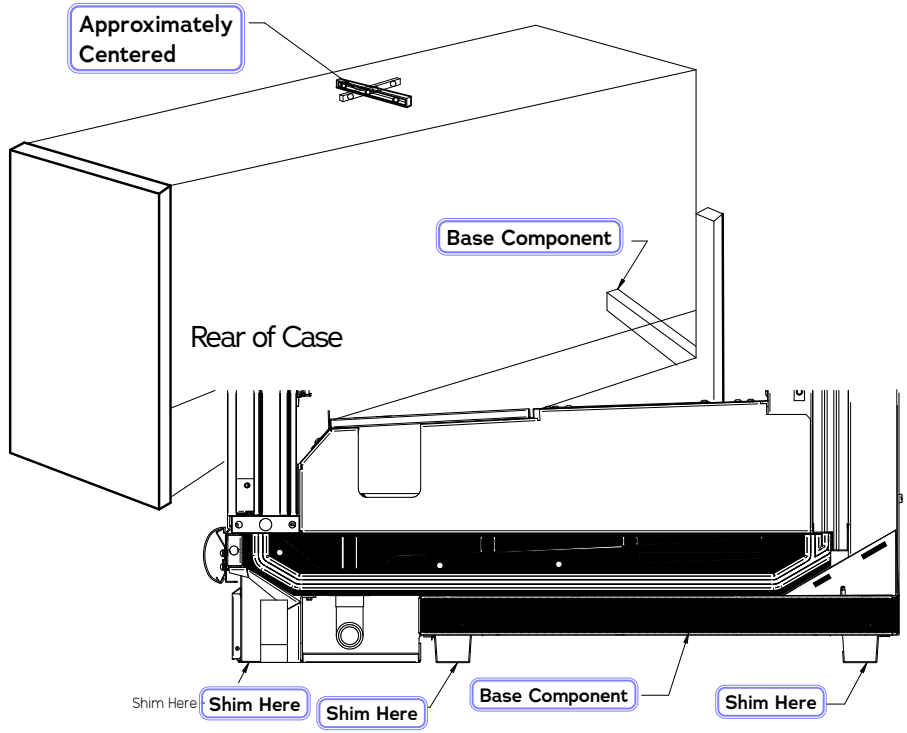
LEVEL CASE AND PLACE SHIMS

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

Place shims under the rail and make sure that they are positioned at a base component (crossbar). This transfers the weight directly from the loaded case through to the floor. Placing shims at other locations will cause uneven distribution of weight leading to piping leaks, as well as sagging or wracked doors. Bottom front supports must be shimmed if not in full contact with the floor.

NOTICE

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



DOOR ADJUSTMENT

After leveling and joining the merchandisers, adjust and level doors according to the accompanying door manual for this case. Factory settings may be lost due to vibration during shipment.

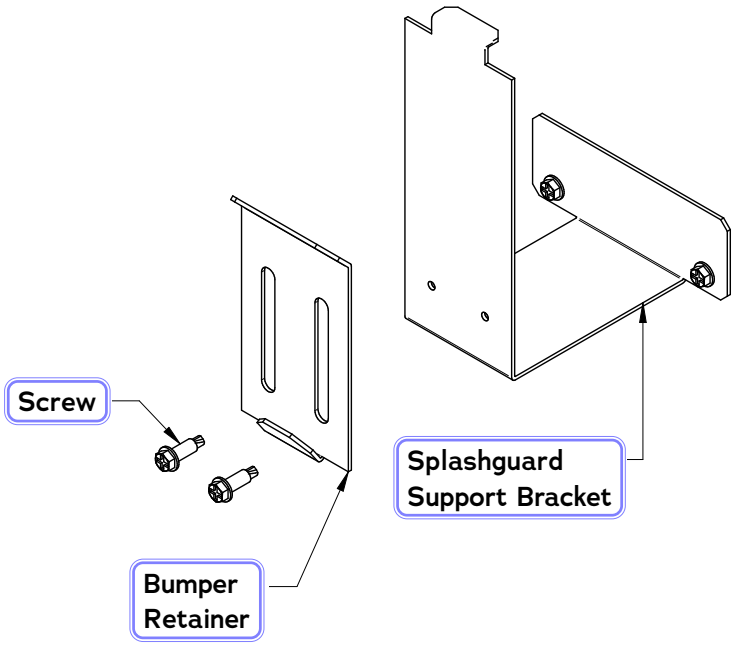
INSTALLING SPLASHGUARD BRACKETS

1. Attach bumper retainer and splashguard support bracket using two screws per bracket.

2. Install splashguard support brackets underneath case. The leveling brackets have a maximum extension of one (1) inch (25 mm) for uneven floors.

Do not place shims under splashguard brackets.

NOTE
Install splashguard support brackets before piping case.



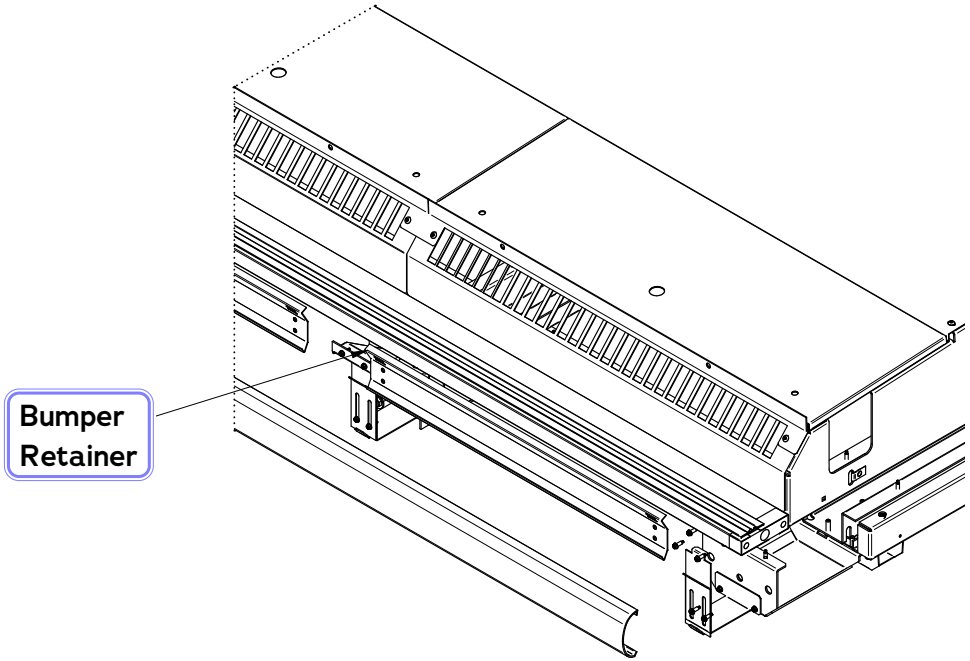
CASE JOINING

Sectional construction means that two or more merchandisers may be joined in line, yielding one long continuous display requiring only one pair of ends. Cases are joined from left to right. Start joining the right end to the left end of each merchandiser in the lineup.

To join like fixtures, a joining kit is required. To join merchandisers operating at different temperatures, a partition kit is needed. A partition kit is required to join the same temperature merchandisers that are on different defrost cycles.

All joints must be air-tight to prevent the formation of ice or condensation.

Refer to the joining instructions on the next page.



JOINING INSTRUCTIONS

IRL 5-door case shown

Parts List

Item	Quantity (IRL / IRLN)	Description
1.	2	Donut Gasket (1250 ft)
2.	1	Gasket, .906 x 1/2 x 200 in.
3.	1	Gasket, 1/2 x 1/4 x 600 in.
4.	1	Shoe Gasket
5.	6	Cap Screw 5/16 -18 x 1 1/4
6.	6	Flat Washers 5/16
7.	1	Joint Trim
8.	1	Self-Drilling Screw 8-18 X 1/2 HX HD
9.	1	Optional Joint Trim

NOTE

Be sure first merchandiser has been leveled according to the main installation instruction. Carefully unpack and inspect the joining parts listed above to verify completeness and that there is no damage.

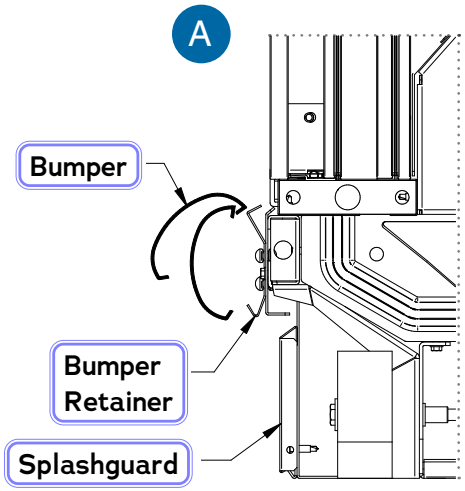
1 Prepare cases for joining as shown in Figure 1.

A. Packing materials, bumpers and splashguards should be removed.

B. Remove shelves (if installed).

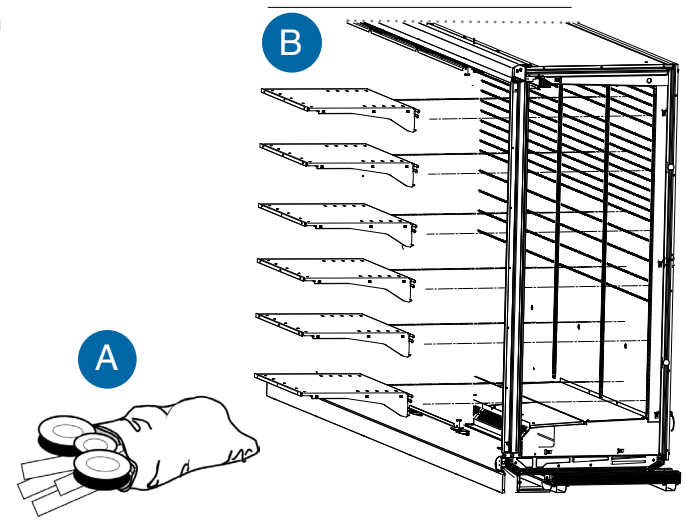
C. Remove display racks and pans from ends to be joined. Remove fan plenum covers if necessary.

Splashguard brackets must be installed before piping or wiring case.



SIDE VIEW

Remove bumpers; splashguards should not be installed.



Remove joining kit and packing materials; remove shelves.

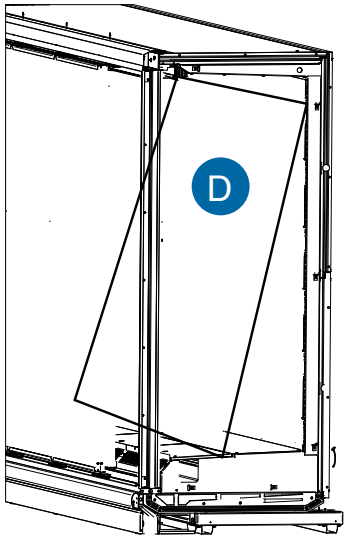


Remove display racks and bottom pans.

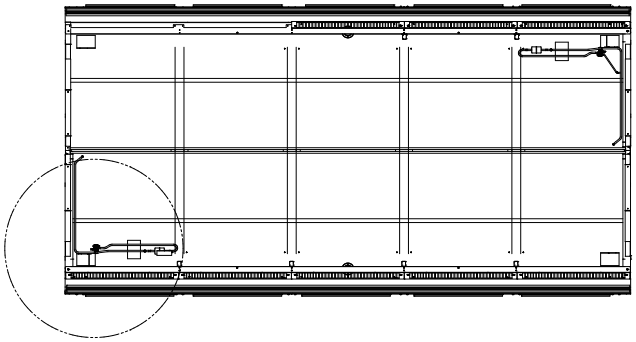
IRL 5-door case shown

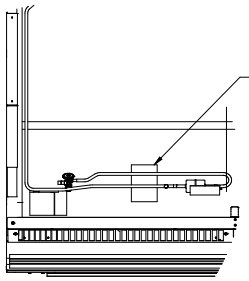
D. Remove back panels from ends to be joined by lifting up and out near the bottom. No tools are necessary.

E. Remove joint molding from any door frames that will be joined to another case.



2 Locate and remove the shipping block(s) in the center of the heat exchanger in the interior bottom of each case as shown in the image below.

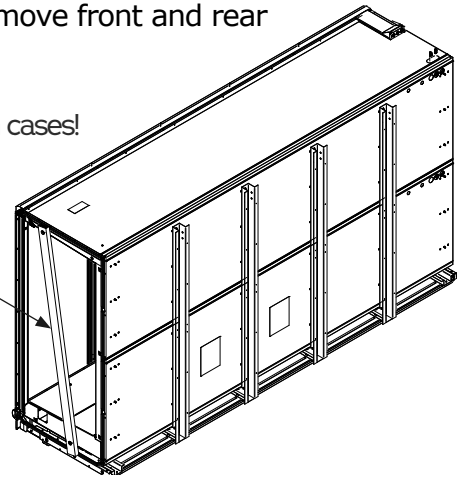


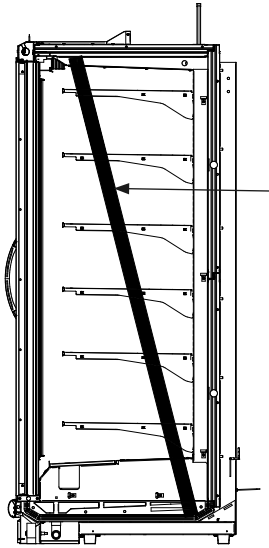


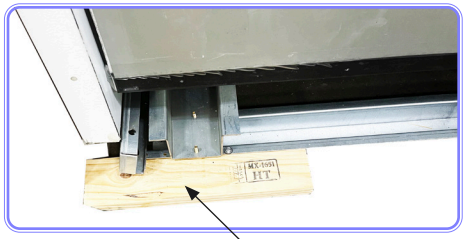
3 Snap a chalk line on the floor to use as a guide for positioning the front of the cases in the line-up. The front base frame should be on the chalk line.

4 Once cases are close to final placement, remove the shipping braces from the ends to be joined, as shown in the images below. Discard bolts and flat washers used to hold shipping braces. Bolts are too long to be used for joining. Remove front and rear shipping skids.

Do not use shipping bolts to join cases!



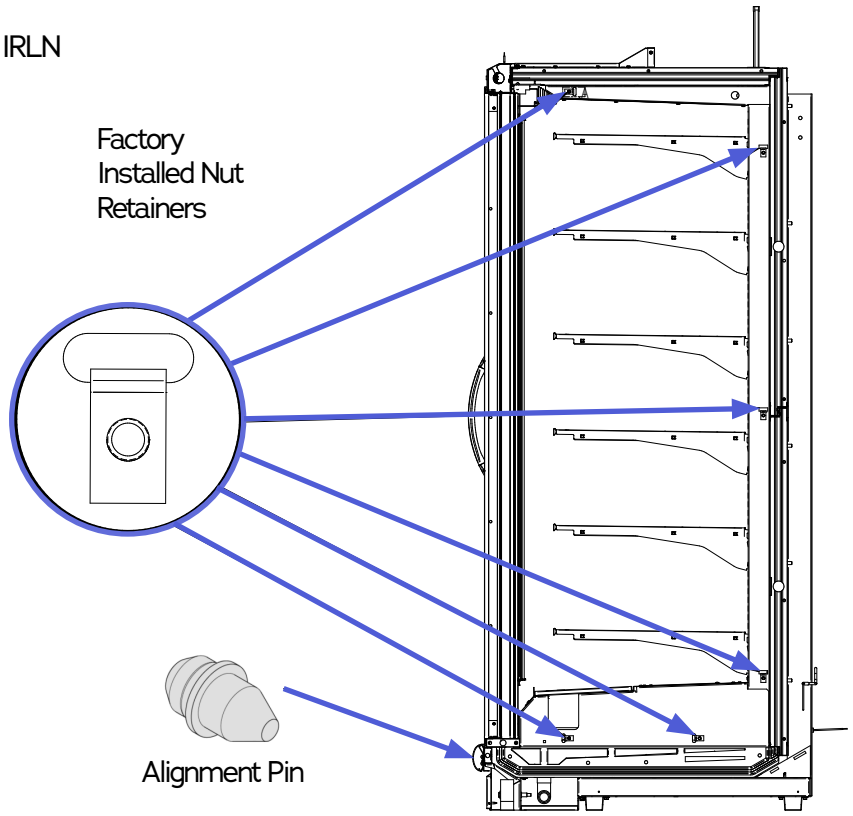






5 If not already installed, make sure nut retainers and alignment pins are in place in the right end frame as shown in the image below. These are the cap screw locations for joining the cases together.

IRL / IRLN



Verify Nut Retainer Installation

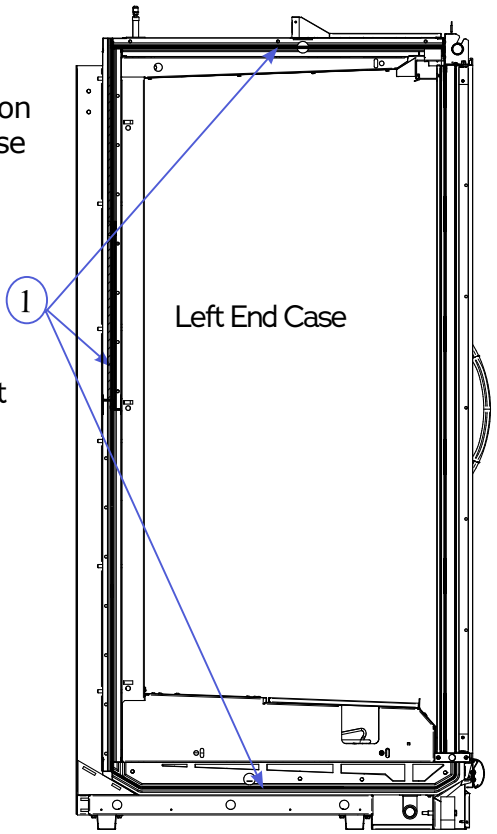
6 Apply Donut Gasket and Silicone Sealant – Apply donut gasket (1-inch) in recess around left end case as shown below. Seat Donut Gasket into groove. Apply silicone sealant to joining surfaces and around outer donut gasket perimeter.

Left End Case

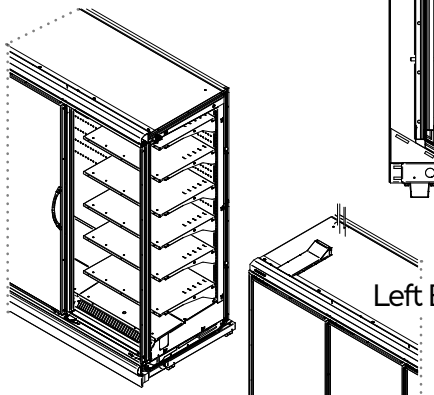
Only Use Donut Gasket on left end of a Case-to-Case Joint

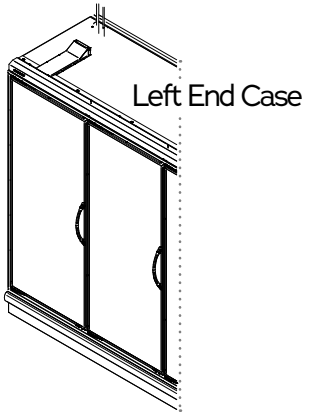
If attaching an End Panel, all 4 Gaskets must be applied.

▬ 1 - Donut Gasket



Right End Case





7

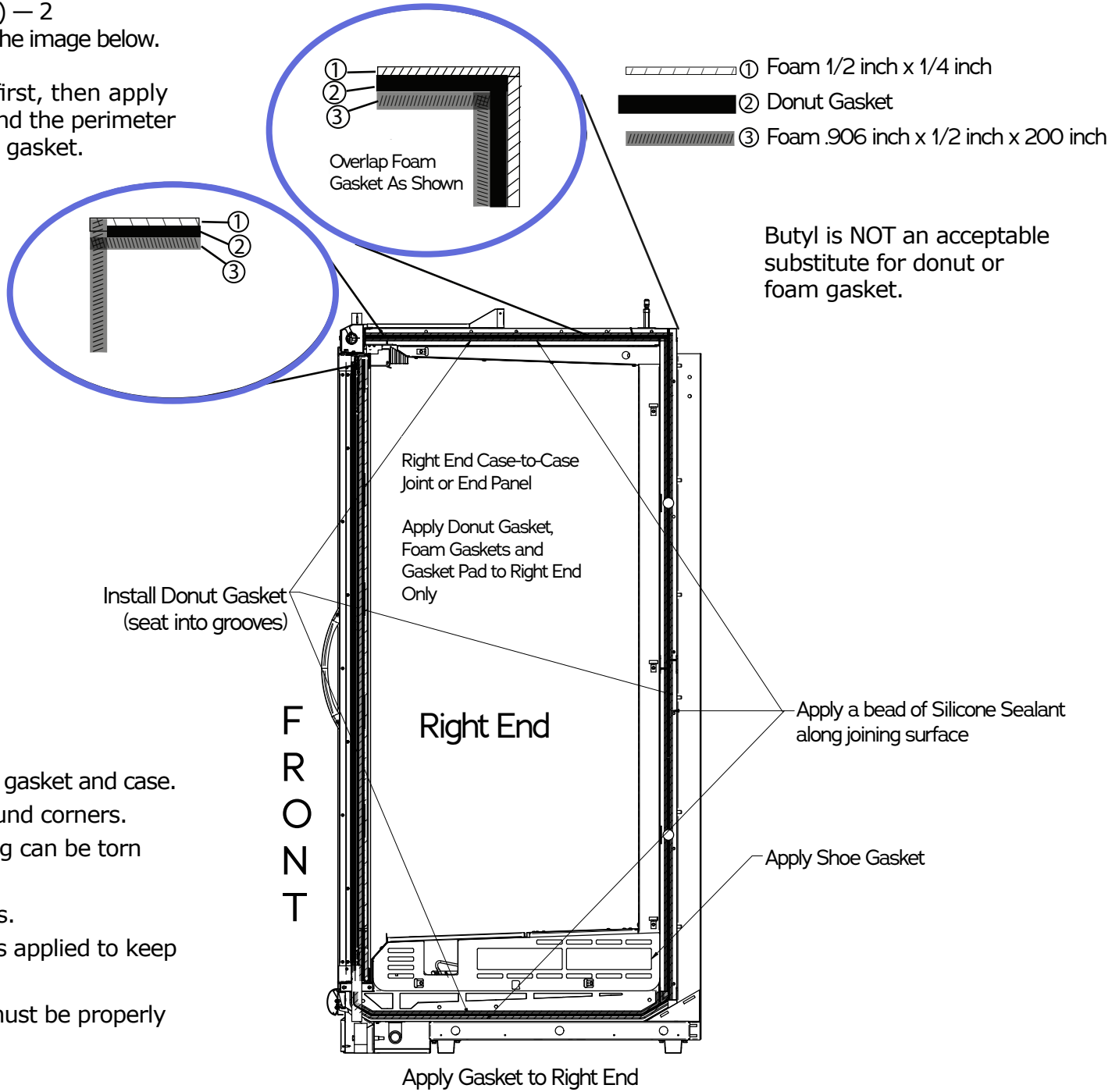
Apply the wider Foam Tape Gasket (.906) — 2 around the right end frame as shown in the image below.

Next, apply Shoe Gasket — 4 to right end first, then apply the narrower Foam Tape Gasket — 3 around the perimeter of the right end frame outside of the donut gasket.



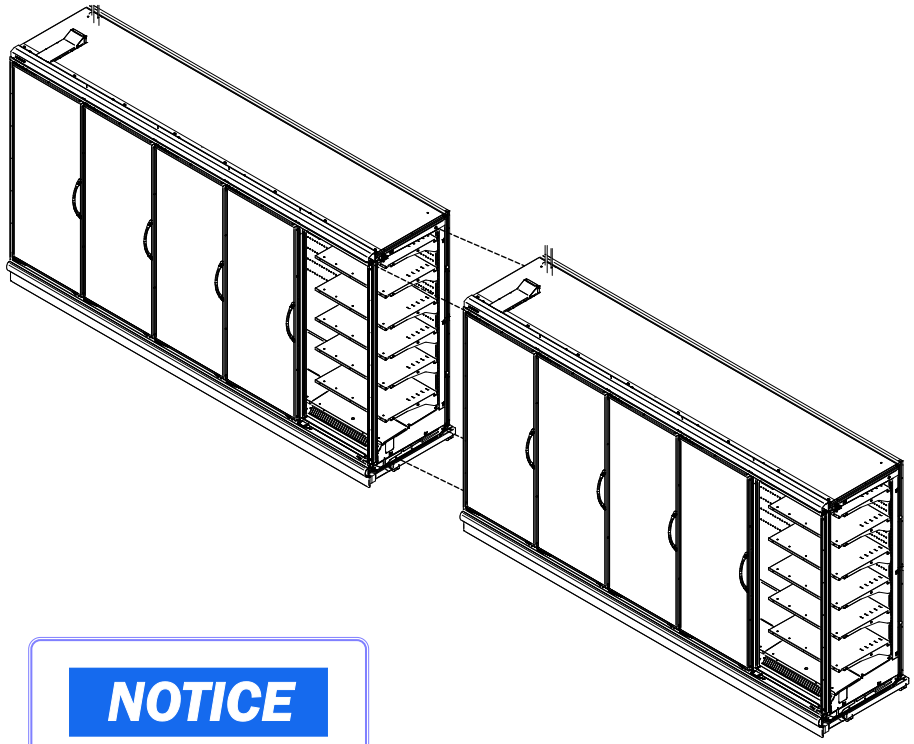
IRL / IRLN

Shoe Gasket



- Lap gaskets at lower corners.
- Check that there are no gaps between gasket and case.
- Do not stretch gasket, especially around corners. To make sharp corners, paper backing can be torn without removing from gasket.
- Do not butt gaskets; always lap joints.
- Remove paper backing after gasket is applied to keep gasket free of debris.
- Gasket has high tack adhesive and must be properly placed the first time.

8 Move the second merchandiser against first, mating alignment pins with corresponding holes. Use care when pushing the cases together. Cases must be level to ensure a proper installation. Check for level, and insert shims. Refer to Page, 1-2 for shim placement instructions. Fastening and tightening order shown on the next page.

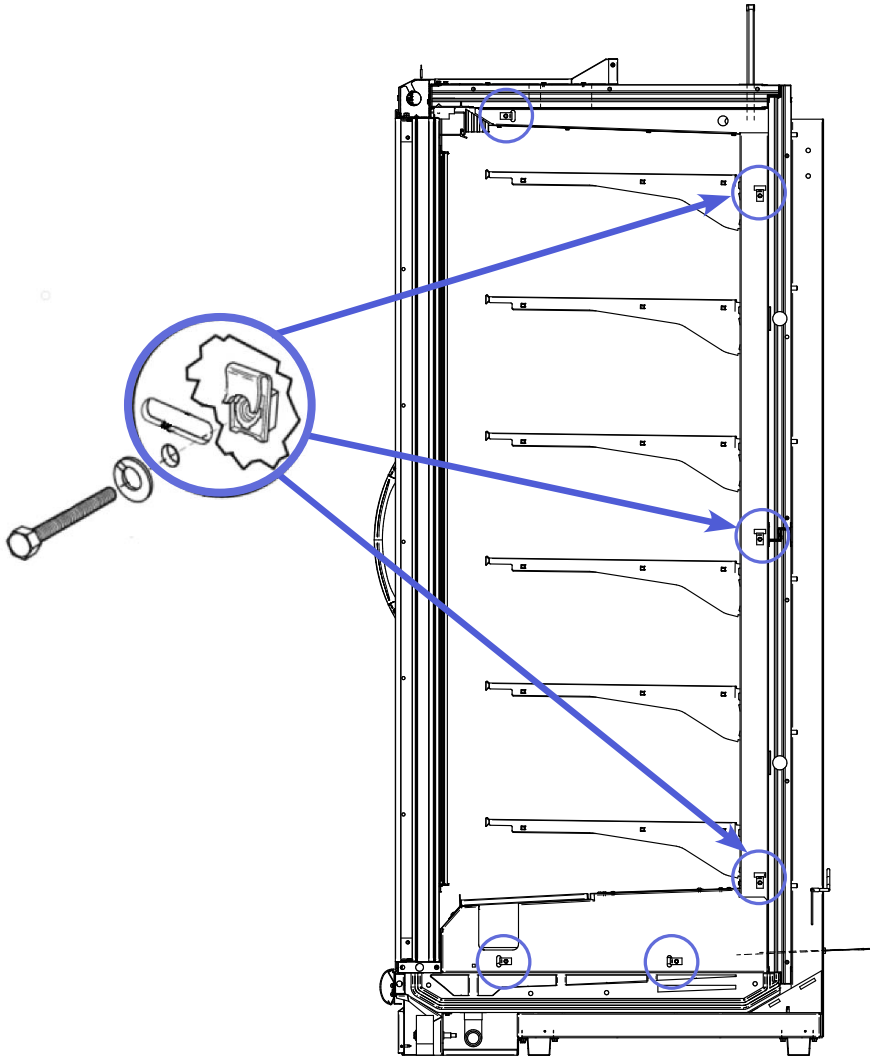


NOTICE

Install Splashguards after drip piping is installed. Refer to Section 3 for Splashguard Installation Instructions.

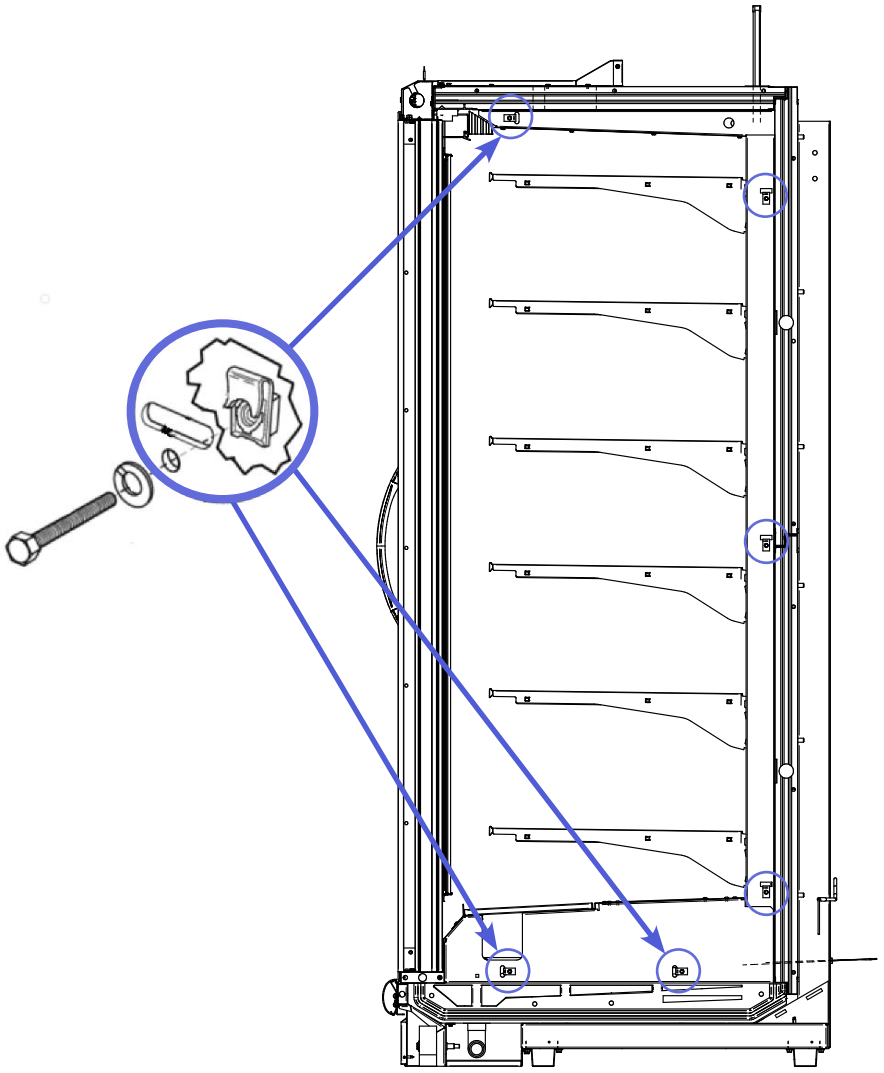
9 Loosely insert Cap Screw – 5 with Flat Washer – 8 into each nut retainer following the sequence shown below. Do not tighten fully.

To ensure proper alignment, utilize holes in the case end frame for drift pins. Starting with the joining locations on the rear of the cases, use the appropriate bolt and washer to begin tightening the case joint. Do not tighten completely.

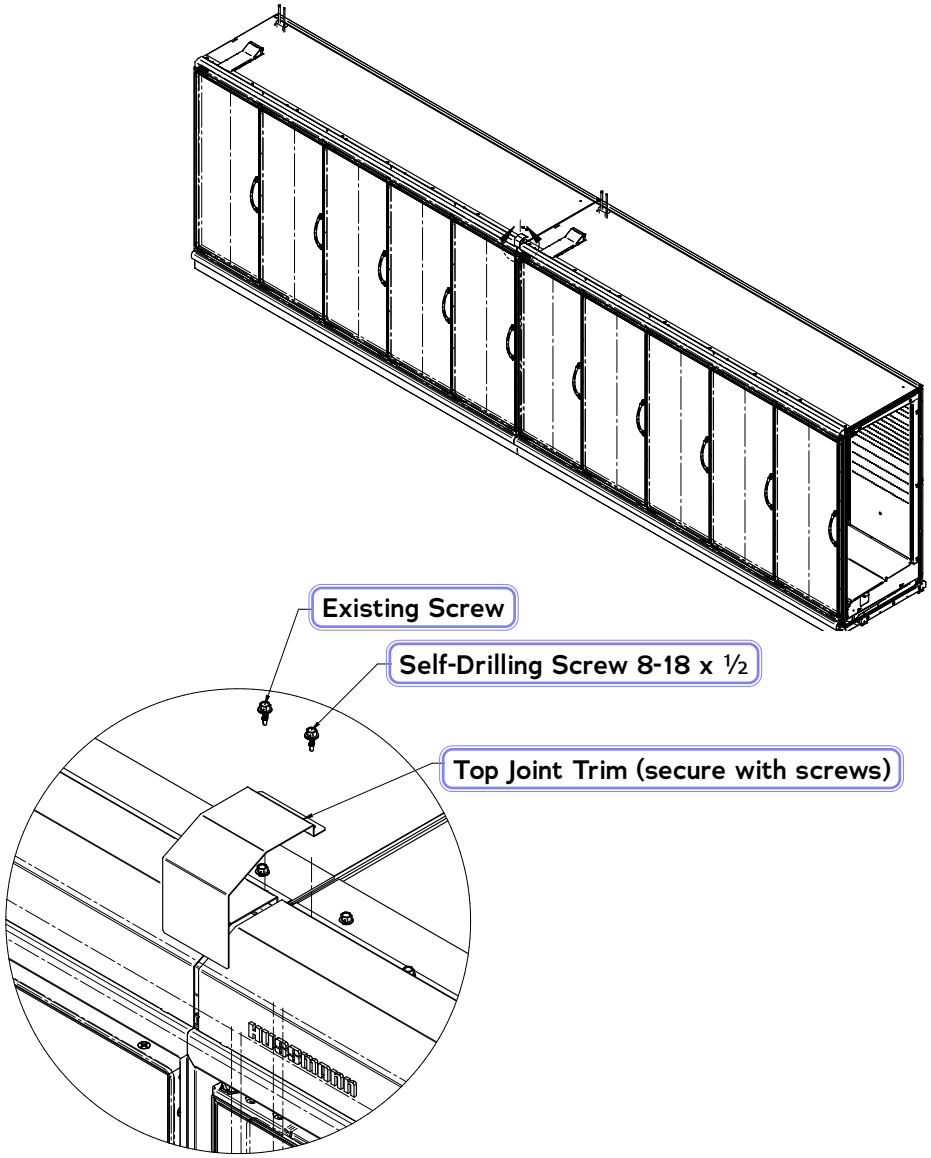


10 Once the 3 joints in the rear are started (but not tight), use the appropriate bolt and washer to start the remaining joining locations.

With all joining locations started, begin fully tightening the rear locations first. Then, fully tighten all remaining locations. Check overall alignment, and reinstall shelving, back panels, and deck pans. Following the same sequence, tighten each cap screw fully until the merchandisers are joined with a snug fit and the gaskets are compressed.



11 Install Top Joint Trim. Secure trim between joints in case canopy using Self-Drilling Screw – 9.



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.

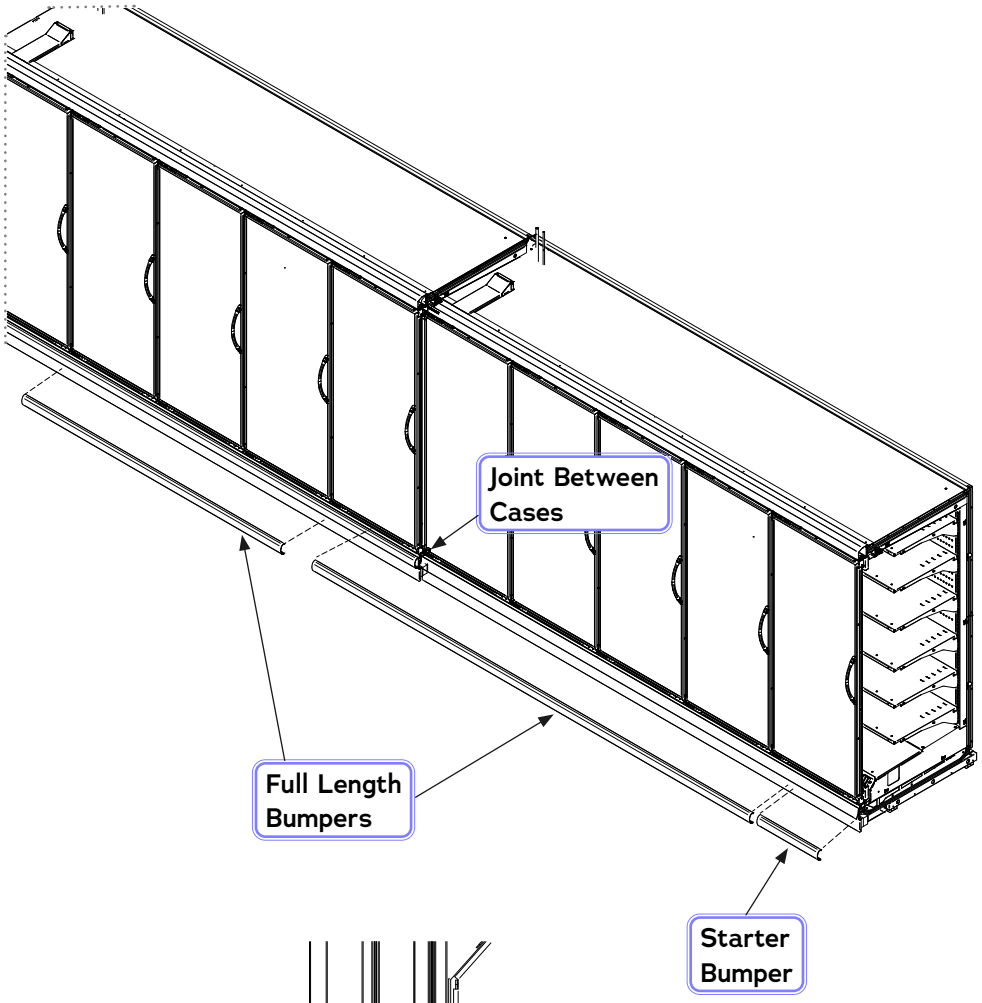
Align each bumper section with its retainer and push into place, working from the end of the lineup. Install full length bumpers and internal joint trims offset across joints. Make sure that no gaps exist between sections. Continue installing bumpers the length of the line up.

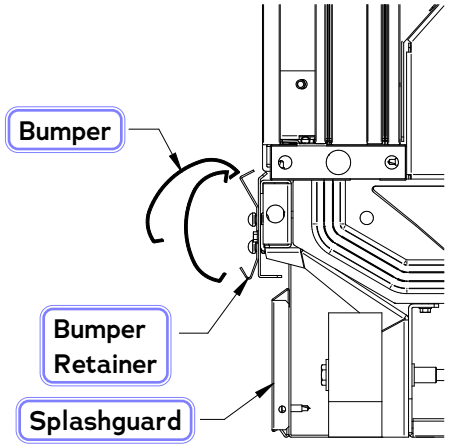
Do NOT install the last bumper sections at this time. These sections will be installed in the last step.

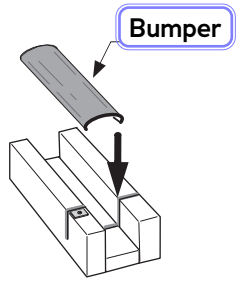
Once all except the last section of bumper have been installed, refrigerate the case line-up for at least six (6) hours. The last sections of bumper should be kept inside a refrigerated case or cooler during this time to allow the bumpers to contract.

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

Bumper End Caps can be adjusted horizontally to eliminate gaps.







Miter Box

INSTALLING END ASSEMBLIES

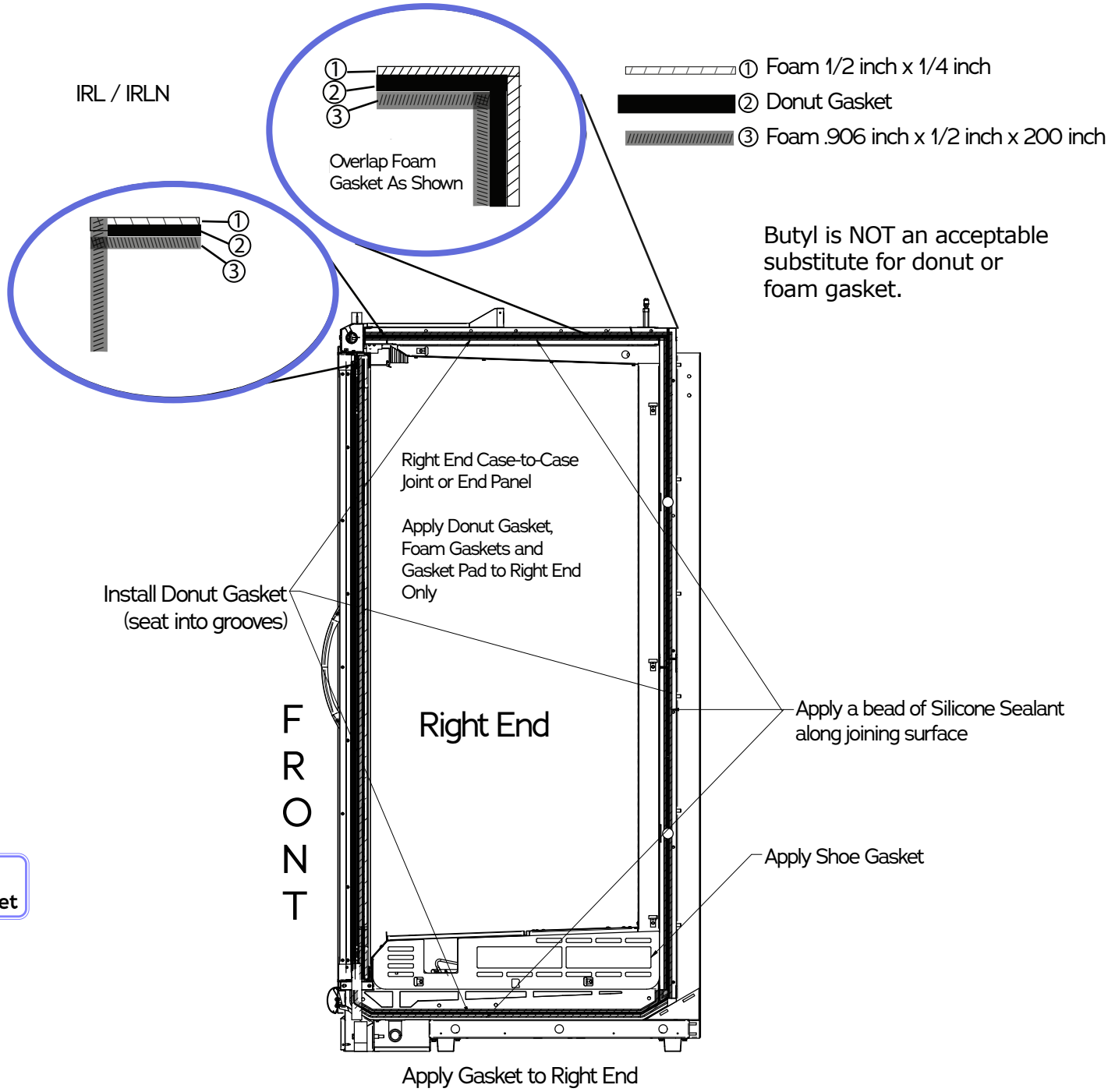
The procedure for installing an end assembly is similar to joining cases together.

1. Remove the top and rear interior panels from the left side of the case.
2. Apply gaskets as shown below.

   Apply the wider Foam Tape Gasket (.906) — 2 around the right end frame as shown in the image below.

   Next, apply Shoe Gasket — 4 to right end first, then apply the narrower Foam Tape Gasket — 3 around the perimeter of the right end frame outside of the donut gasket.



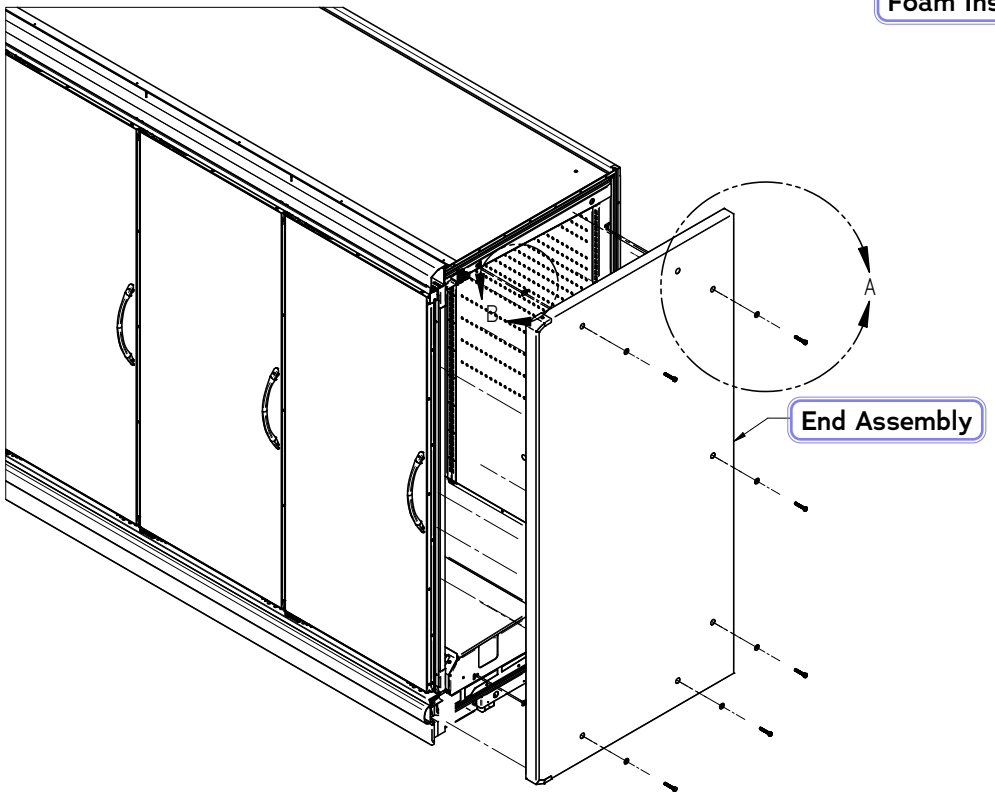


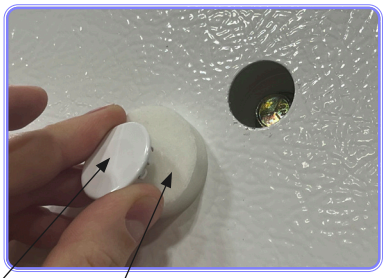
3. Insert the bolts to the end assembly as shown.
4. Fasten end assembly to case by using provided washers and screws.

NOTE

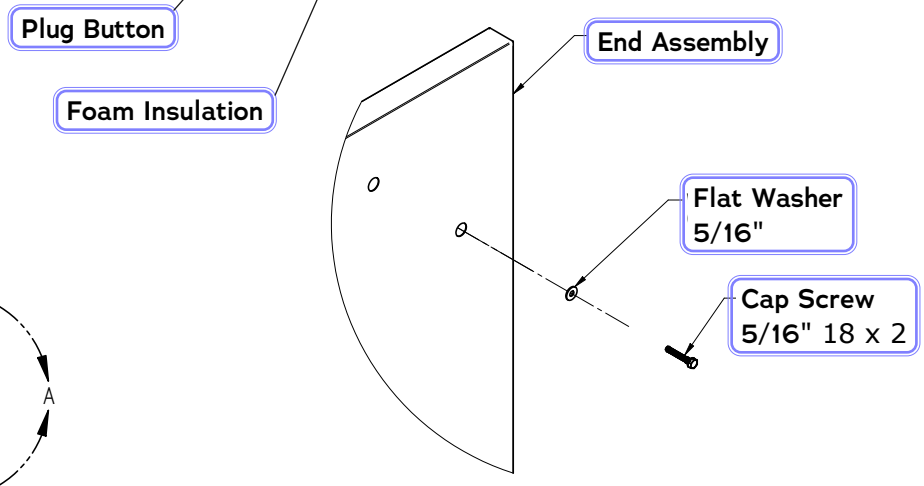
Installation is similar for end assemblies installed on either the left side or right side of case.

5. Reinstall the top and rear vertical panels.

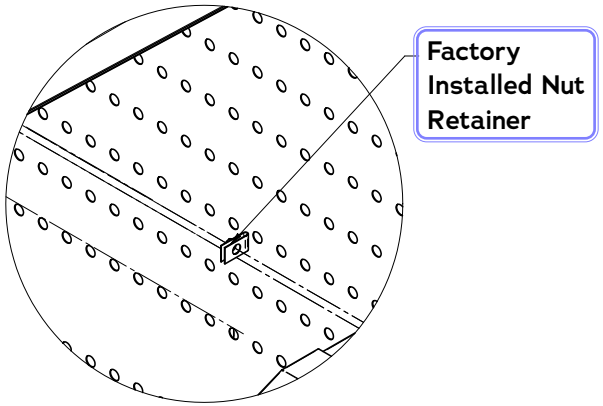




Ensure any exposed locations on the end panel are covered using foam insulation and a plug button.



Detail A



Detail B

REFRIGERATION / ELECTRICAL

REFRIGERANT

The correct type of refrigerant will be stamped on each merchandiser's serial plate which is located on the left-hand end of the interior top liner.

⚠CAUTION

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

⚠WARNING

» Refrigeration lines are under pressure. Depressurize and recover refrigerant before attempting any connection or repair. 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.

STANDARD REFRIGERANT PIPING

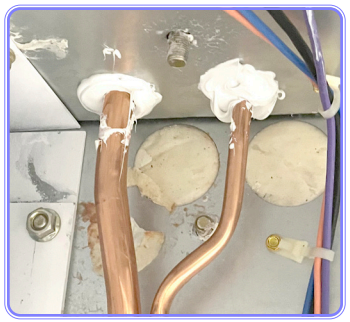
Standard piping is on top of the case on the left rear side. Pipe penetrations must be sealed.

Ensure piping penetrations are sealed after refrigeration lines are brazed.

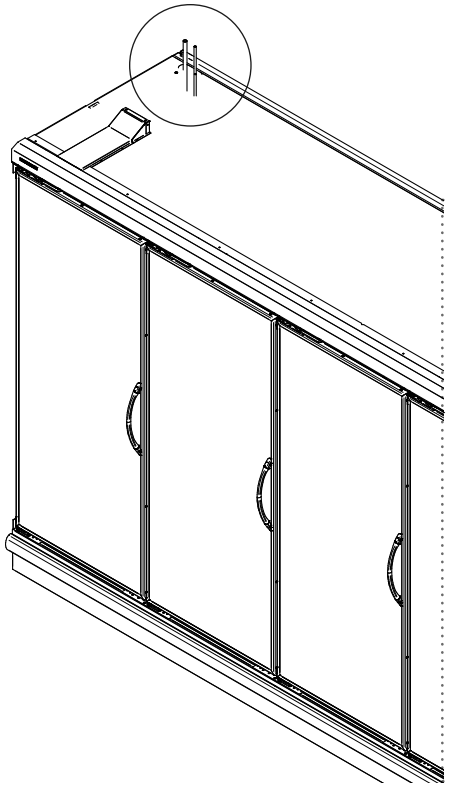
It is recommended to use an expanding polyurethane foam insulation. Piping outlet should be sealed on both the inside and outside of the case using silicone sealant. Cover foam with silicone to ensure a good seal around insulation and to prevent deterioration of foam.



Seal piping penetration on top of case.



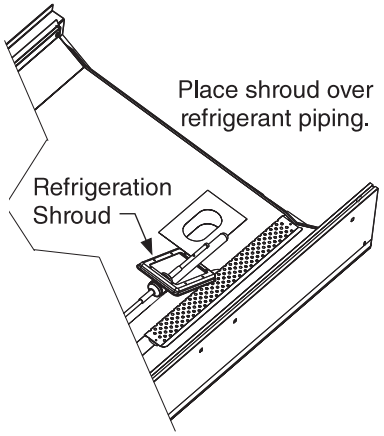
Remove top panel and seal piping penetration.



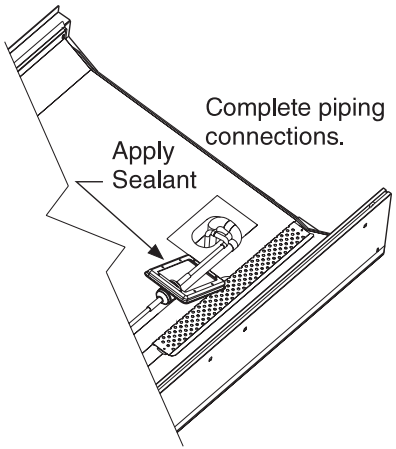
OPTIONAL REFRIGERANT PIPING

Optional Connection Location:
The refrigerant line connections are at the right-hand end of merchandiser (end opposite the main serial plate) beneath the display pans. A sticker marks the location of the connection. The installer must saw a hole to exit the cases.

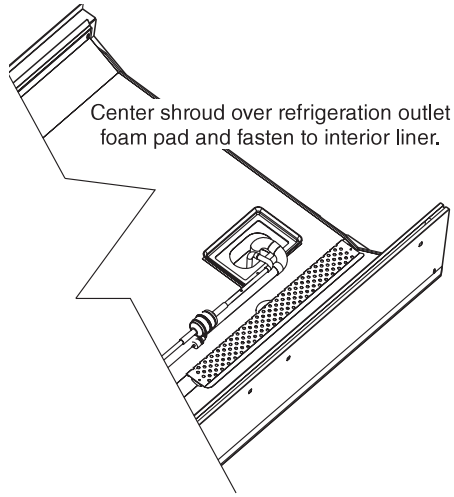
A refrigeration shroud ships with each case. Before making connections, place the refrigeration shroud over refrigeration piping so that when the shroud is rotated, it will be upright. The image at right shows the correct orientation.



When making connections, be careful not to burn, scorch, or overheat the shroud. Once connections have been made, apply silicone sealant to the bottom of the shroud, as shown in the image at right.



As shown in the image at right, rotate and center the shroud over the refrigeration outlet foam pad.



Seal this outlet thoroughly. Seal both the inside and the outside. We recommend using an expanding polyurethane foam insulation. Cover the foam with silicone to prevent water from entering the foam.

Multiplexing
Piping of merchandisers operating on the same refrigeration system may be run from merchandiser to merchandiser through the end frame saddles provided for this purpose. Do NOT run refrigerant lines through merchandisers that are NOT on the same refrigeration system, as this may result in poor refrigeration control and compressor failure.

NOTE
If Gas defrost is used, the liquid line must be increased two sizes larger inside the merchandiser area. The increase in size is necessary to ensure even liquid drainage from all evaporators during defrost.

Line Sizing
Refrigerant lines should be sized as shown on the refrigeration legend furnished for the store or according to ASHRAE guidelines.

Oil Traps
Install P-traps (oil traps) at the base of all suction line vertical risers.

Pressure Drop
Pressure drop can rob the system of capacity. To keep the pressure drop to a minimum, keep the refrigerant line run as short as possible using a minimum number of elbows. Where elbows are required, use long-radius elbows only.

INSULATION

With GAS Defrost
The suction and liquid lines should not contact each other and should be insulated separately for a minimum of 30 ft (9144 mm) from the merchandiser.

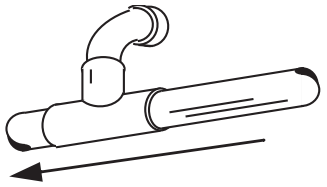
With Other Than Gas Defrost
The suction and liquid lines should be clamped or taped together and insulated for a minimum of 30 ft (9144 mm) from the merchandiser.

With All Defrost
Additional insulation for the balance of the liquid and suction lines is recommended wherever condensation drippage is objectionable or the lines are exposed to ambient conditions.

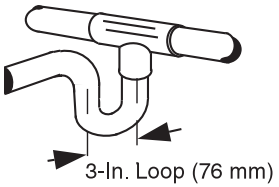
BRANCH LINE PIPING

Suction Line – All Defrosts

- Pitch in direction of flow.
- May be reduced by one size at one third of case run load and again after the second third. Do NOT reduce below evaporator connection size.
- Suction returns from evaporators enter at the top of the branch line. Liquid Line – Off-time and Electric Defrost
- May be reduced by one size after one half the case load run. Do not reduce below evaporator connection size.
- Take-offs to evaporators exit the bottom of the liquid line. Provide an expansion loop for each evaporator take-off (minimum 3 in. (76 mm) diameter).



Suction Line Return



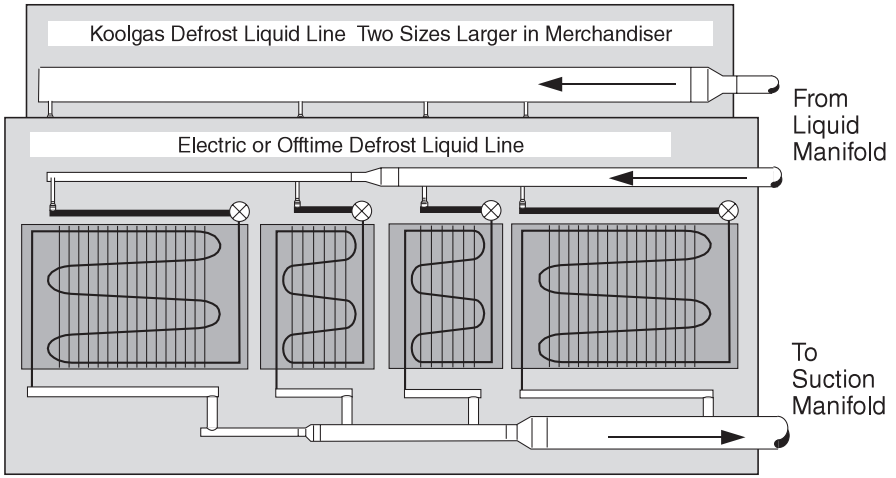
Liquid Line Take Off

Liquid Line – Koolgas Defrost

- Maximum of 6 evaporators per Branch System.
- Increase the liquid line size inside the case by two sizes over the branch size.

Branch Size	In Case Size
½	⅞
⅝	1 ⅛
⅞	1 ⅜
1 ⅛	1 ⅝
1 ⅜	2 ⅛

- Take-offs to evaporators exit the bottom of the liquid line. Provide an expansion loop for each evaporator take-off (minimum 3 in. (76 mm) diameter).



⚠CAUTION

» This information is applicable only for piping Hussmann merchandisers to Hussmann refrigeration equipment.

EXPANSION VALVE ADJUSTMENT

Expansion valves must be adjusted to fully feed the evaporator. Before attempting to adjust valves, make sure the evaporator is either clear or only lightly covered with frost, and that the merchandiser is within 10 deg F (6.5 deg C) of its expected operating temperature. Adjust valves as follows:

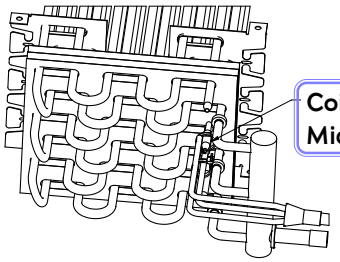
NOTE
When using high glide refrigerants (e.g., R-407A, R-448A), use the evaporator pressure and subtract the dew point from the coil outlet refrigerant temperature to measure the superheat level.

Method 1 (recommended):
Attach a sensing probe (either thermocouple of thermistor) to the evaporator outlet, under the clamp holding the expansion valve bulb. Attach a pressure probe to the access valve on the suction line. Measure superheat by subtracting the saturation temperature at the measured pressure from the measured outlet temperature.

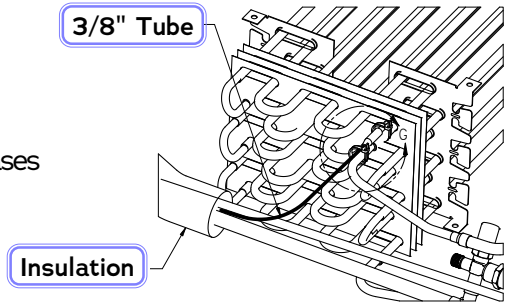
Method 2:
Attach two sensing probes. Attach two sensing probes (either thermocouple or thermistor) to the evaporator. Position one under the clamp holding the expansion valve bulb; securely tape the other to the coil inlet line.

Some "hunting" of the expansion valve is normal. The valve should be adjusted so that during the hunting the greatest difference between the two probes is 3–5 deg F (1.7–2.8 deg C). With this adjustment, during a portion of the hunting the temperature difference between the probes will be less than 3 deg F (1.7 deg C) and at times 0.

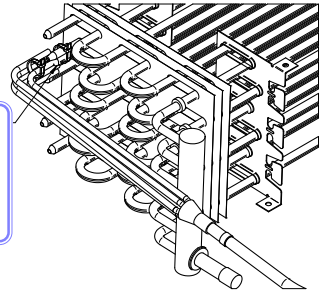
Make adjustments of no more than ¼ turn for Balanced Port TEV and ½ turn at a time for other valve models. Wait at least 15 minutes before rechecking the probe temperature or making further adjustments.



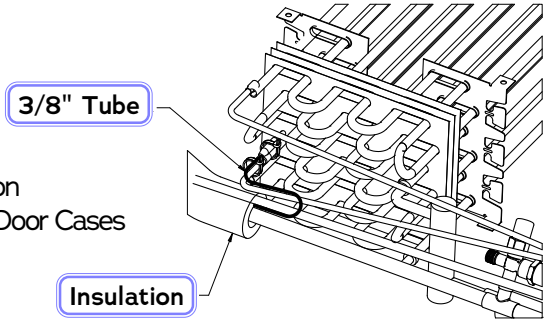
Coil Inlet Sensor Location
Standard Coil & Distributor 2 & 3-Door Cases



Coil Inlet Sensor Location
CO_2 Coil & Tube 2 & 3 Door Cases



Coil Inlet Sensor Location
Standard Coil & Distributor 4 & 5-Door Cases

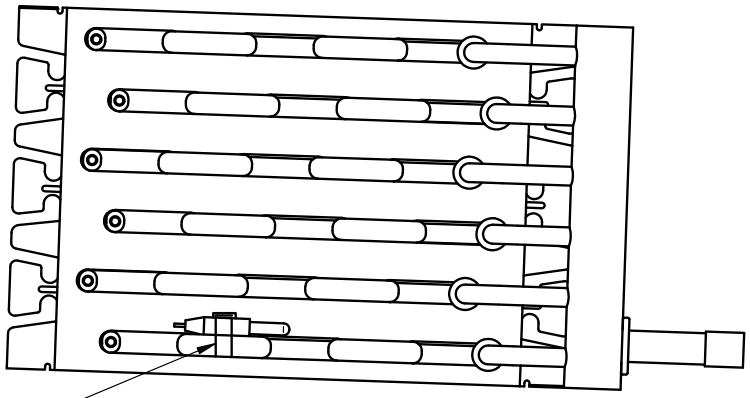


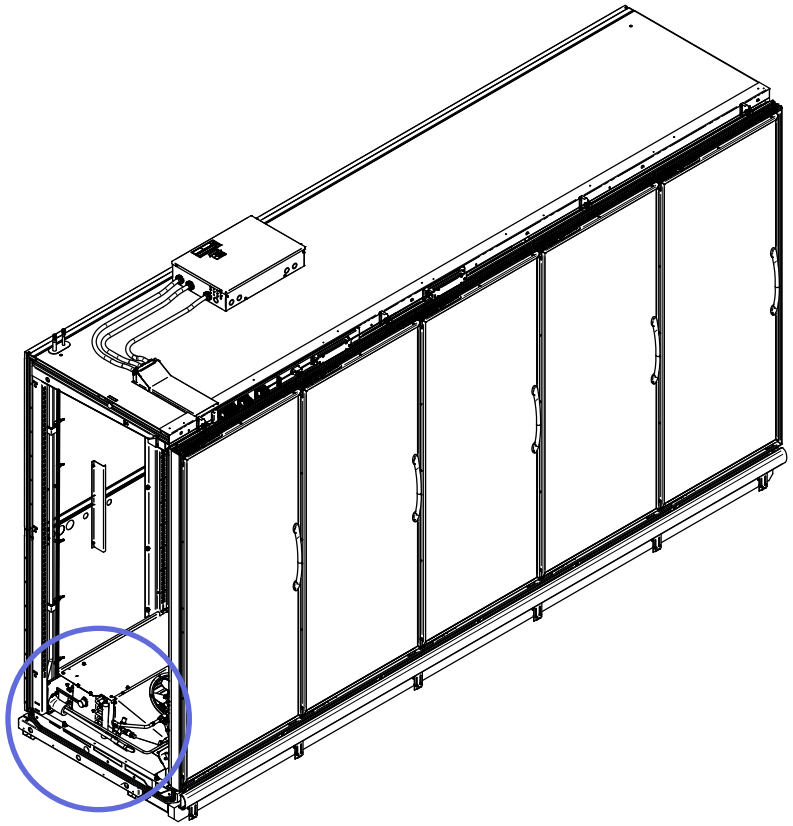
Coil Inlet Sensor Location
CO_2 Coil & Tube 4 & 5 Door Cases

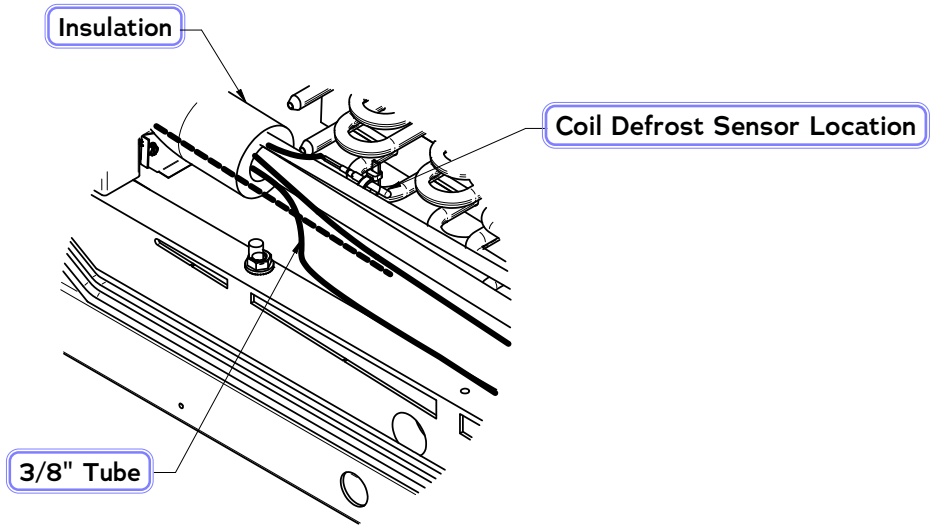
DEFROST TERMINATION THERMOSTAT

The standard disc type defrost termination thermostat is not adjustable.

On low-temperature merchandisers, the defrost termination thermostat or optional termination sensor is located on the right end of the coil at the bottom center return bend. If an optional adjustable thermostat is used, the bulb will be clamped to the suction line on the left end of the merchandiser.







CONTROL SETTINGS MEDIUM TEMPERATURE

Conventional Single Compressor:
Measure Discharge Air Temperature at the center of the case at the discharge honeycomb.

A thermostat or other device with a 3–6 deg F (1.7–3.3 deg C) differential must control the merchandiser temperature. It will be wired to control the compressor motor contactor.

Standard Off Time defrost is time terminated. On outdoor units, the defrost timer will control a liquid line solenoid beginning a defrost pump-down 4 minutes before defrost.

The defrost frequency and lengths listed may require adjustment for specific store conditions. Factors include:

- **Store temperature and humidity**
- **Low head pressure**
- **Long refrigerant line runs**
- **Seasonal changes**
- **Merchandiser temperature lower than recommended**

When practical, defrost when store is closed.

Low pressure control settings apply to outdoor condensing units where ambient temperature does not fall below 0 deg F.

CONTROL SETTINGS LOW TEMPERATURE

Conventional Single Compressor:
Measure Discharge Air Temperature at the center of the case at the discharge honeycomb.

A thermostat or other device with a 3–6 deg F (1.7–3.3 deg C) differential must control the merchandiser temperature. It will be wired to control the compressor motor contactor.

Standard Electric defrost is temperature terminated. The defrost termination thermostats for all the merchandisers on one compressor are wired in series. Failsafe must not control defrost cycle length, especially when less than 208V power supply is used for defrost heaters or if frost build-up is heavy from shopping demands.

On outdoor units, the defrost timer will control a liquid line solenoid beginning a defrost pump-down 4 minutes before defrost.

Optional Gas defrost is time terminated and has fan cycling thermostat. The defrost frequency and lengths listed may require adjustment for specific store conditions. Factors include:

- **Store temperature and humidity**
- **Low head pressure**
- **Long refrigerant line runs**
- **Seasonal changes**
- **Merchandiser temperature lower than recommended**

Defrost after store closes when practical. Low pressure control settings are applicable to outdoor condensing units where ambient does not fall below 0 deg F.

CONTROL SETTINGS MEDIUM TEMPERATURE

Parallel Compressor Rack:
Measure Discharge Air Temperature at the center of the case at the discharge honeycomb.

Merchandiser temperature must be controlled by a mechanical or electronic pressure regulator or thermostat that will be mounted on the rack.

Standard Off Time defrost is time terminated. The defrost frequency and lengths listed may require adjustment for specific store conditions. Factors include:

- **Store temperature and humidity**
- **Low head pressure**
- **Long refrigerant line runs**
- **Seasonal changes**
- **Merchandiser temperature lower than recommended**

Stagger defrosts to maintain stable compressor loading and sufficient defrost gas. When practical, defrost when store is closed.

CONTROL SETTINGS LOW TEMPERATURE

Parallel Compressor Rack:
Measure Discharge Air Temperature at the center of the case at the discharge honeycomb. Merchandiser temperature must be controlled by a mechanical or electronic pressure regulator or thermostat that will be mounted on the rack.

Standard Electric defrost is temperature terminated. Failsafe must not control defrost cycle length, especially when less than 208V power supply is used for defrost heaters, or if frost build up is heavy from shopping demands.

Optional Gas defrost is time terminated and has fan cycling thermostat. The defrost frequency and lengths listed may require adjustment for specific store conditions. Factors include:

- **Store temperature and humidity**
- **Low head pressure**
- **Long refrigerant line runs**
- **Seasonal changes**
- **Merchandiser temperature lower than recommended**

Stagger defrosts to maintain stable compressor loading and sufficient defrost gas. When practical, defrost when store is closed.

MERCHANDISER ELECTRICAL DATA

Merchandiser data sheets for specific models are shipped with this manual. The data sheets provide merchandiser electrical data, standard electrical schematics, parts lists and performance data. Refer to the merchandiser data sheets and merchandiser serial plate for electrical information. Refer to the separate wiring diagrams shipped with the case for specific information about the merchandiser and any optional wiring kits that may have been applied.

FIELD WIRING

Field wiring must be sized for component amperes stamped on the serial plate. Actual ampere draw may be less than specified. Field wiring from the refrigeration control panel to the merchandisers is required for defrost termination thermostats and for optional refrigeration thermostats. When multiple merchandisers are on the same defrost circuit, the defrost termination thermostats are wired in series.

Always check the serial plate for component amperes.

Electric Defrost is standard for low temperature merchandisers and requires temperature termination. Gas defrost is optional. Off Time Defrost is standard for medium temperature merchandisers and is time terminated.

When two or more merchandisers with full length wireways are installed in line, remove the splashguards, end caps and wireway covers, and install the nipple and nuts (supplied) providing electrical passage from one merchandiser to the next. Following NEC and local codes is the responsibility of the electrical contractor.

ELECTRICAL CONNECTIONS

All wiring must be in compliance with NEC and local codes. All electrical connections are to be made to the terminal blocks in the electrical wireway behind the lower front panel at the right-hand end of the merchandiser (facing front).

⚠WARNING

» Terminal block NOT for case-to-case wire connection.

IDENTIFICATION OF WIRING

Leads for all electrical circuits are identified by colored plastic bands. These bands correspond to the color code sticker (shown below) located inside the merchandiser wireway.

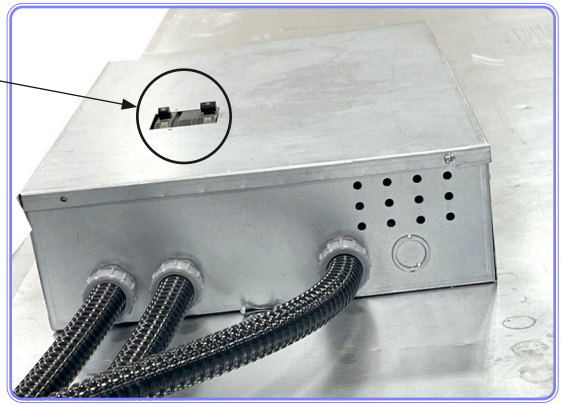
⚠WARNING

— LOCK OUT / TAG OUT —

» Merchandiser must be grounded. All wiring must be in compliance with NEC and local codes.

» 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.

The Disconnect Switch is located in the electrical panel on top of the case.



WIRING COLOR CODE

Leads for all electrical circuits are identified by a colored plastic band: neutral wire for each circuit has either White insulation or a White plastic sleeve in addition to the color band.

PINK..... REFRIG. THERMOSTAT LOW TEMP.	ORANGE OR
LIGHT BLUE.. REFRIG. THERMOSTAT NORM TEMP.	TAN.....LIGHTS
DARK BLUE.. DEFROST TERM. THERMOSTAT	MAROON .....RECEPTACLES
PURPLE..... ANTI-SWEAT HEATERS	YELLOW*.....DEFROST HEATERS, 120V
BROWN..... FAN MOTORS	RED* .....DEFROST HEATERS, 208V
GREEN* ..... GROUND	

*EITHER COLORED SLEEVE OR COLORED INSULATION

ELECTRICIAN NOTE: Use copper conductor wire only.
CASE MUST BE GROUNDED

THESE ARE MARKER COLORS WIRES MAY VARY.

DRIP PIPING & SPLASHGUARDS

WASTE OUTLET & WATER SEAL

The waste outlet location varies for each for different case lengths. Drip piping is located between the front merchandiser base and the splashguard fixture and runs parallel to the merchandiser (see Data Sheet for exact locations).

INSTALLING DRIP PIPING

Poorly or improperly installed drip pipes can seriously interfere with the merchandiser's operation and result in costly maintenance and product losses. Please follow the recommendations listed below when installing drip pipes to ensure proper installation.

Never use drip piping smaller than the nominal diameter of the pipe or water seal supplied with the merchandiser.

When connecting drip piping, the water seal must be used as part of the drip piping to prevent air leakage or insect entrance. Never use two water seals in series in any one drip pipe. Double water seals in series will cause an air lock and prevent draining.

Pitch the drip piping in the direction of flow. There should be a minimum pitch of 1/4 in. per ft (20 mm per 1 m).

Avoid long runs of drip piping. Long runs make it impossible to provide the pitch necessary for good drainage.

NOTICE

Splashguard brackets MUST be installed before piping merchandiser.
(See Page 1-3)



Provide a suitable air break between flood rim of the floor drain and outlet of drip pipe. To meet code on low base merchandisers, it may be necessary to install a field-supplied drip pipe reducer. An alternative is to cut the last section of drip pipe at an angle.

Prevent drip pipes from freezing sweating or freezing:

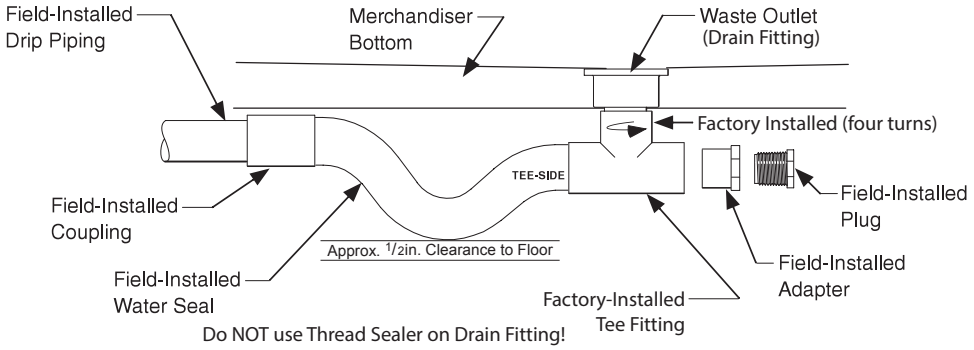
A. Do not install drip pipes in contact with uninsulated suction lines. Suction lines should be insulated with a non-absorbent insulation material.

B. Where drip pipes are located in dead air spaces, such as between merchandisers or between a merchandiser and a store wall, provide means to prevent drip pipe from sweating. External ventilation fans may be required to prevent sweating.

1. Tee is factory-installed. Do not over-tighten threads, or the drain fitting or tee may become damaged.
2. Do NOT use thread sealer on ABS drain fitting. If sealer is used the ABS drain fitting may crack or leak! (If a tee needs to be installed it should be tightened no more than 4 turns.) Do not over-tighten threads.
3. Dry fit the supplied water seal / trap to ensure approximately ½ inch of clearance from the bottom of the trap to the floor as shown.

NOTE:
It may be necessary to rotate water seal (trap) inside the tee a few degrees to ensure clearance at two locations. There must be clearance between the bottom of the water seal and the floor, and between the top of the water seal outlet and the bottom of the merchandiser.

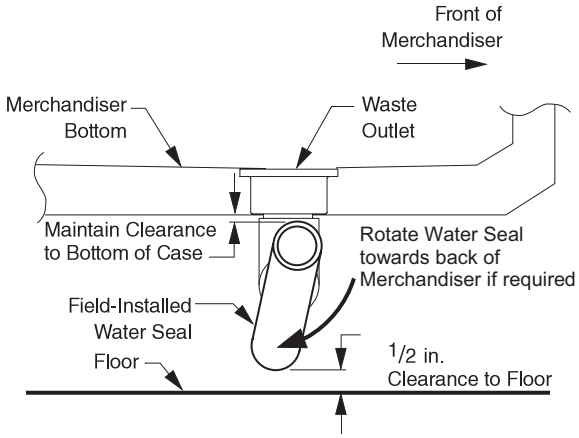
Do not over-rotate or gravity seal may be compromised. Always rotate trap bottom toward merchandiser support rail.

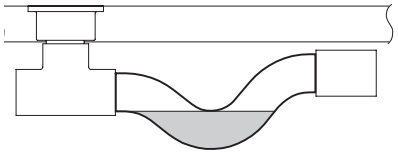


NOTICE

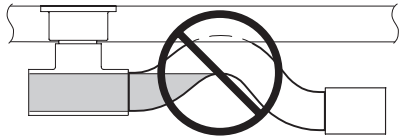
It is the installing contractor's responsibility to consult local agencies for local code requirements.

4. Install remaining PVC drain parts using recommended PVC cleaner, primer and cement per manufacturer's recommendations.
5. Thread plug into the adapter until snug but not to exceed four full rotations.
6. Installed drip piping may require additional support depending on the number and location of the hub floor drains. The installer should always provide adequate support to all drip piping arrangements to prevent excess stress on all drip piping components. The installer must provide additional support when "evac" type waste water systems are applied to drip piping lineup arrangements.





Water Seal
Correct

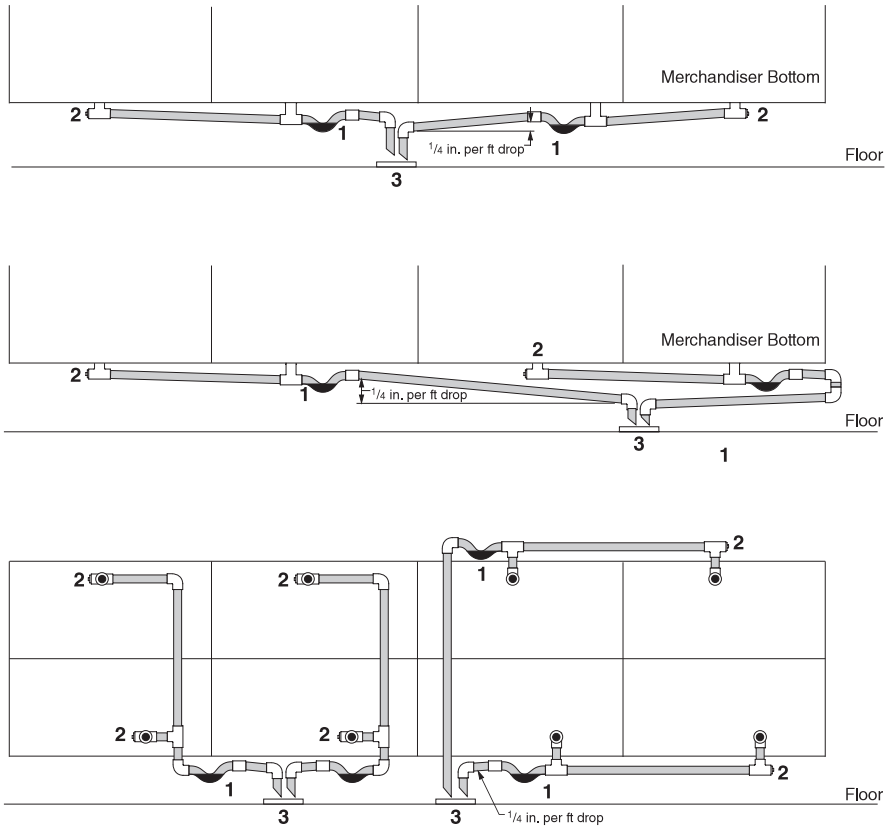


Water Seal
NOT Correct

DRIP PIPING LINEUP ARRANGEMENTS

The following illustrations below show typical arrangements for installing drip pipes for a lineup of merchandisers. Illustrations are for reference only. Piping may vary with location and access to hub drain(s). Each merchandiser waste outlet must be individually piped to a hub drain if 1/4 in. drip piping pitch cannot be maintained.

NOTE:
No more than two merchandiser are to be piped per water seal. Do not install water seal between two merchandiser waste outlets that are piped together. (Double water seals in series will cause an air lock and prevent drainage.)

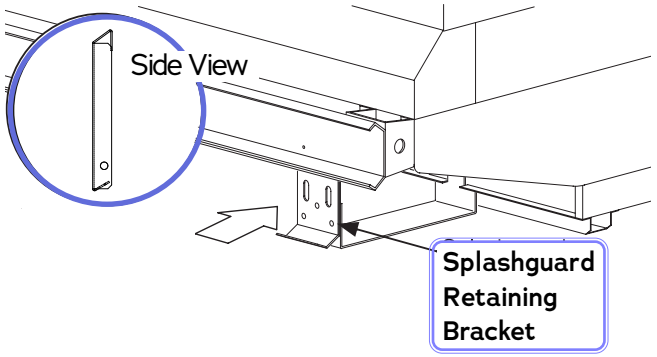


1 = Water Seal **2** = Clean Out Plug **3** = Hub Drain

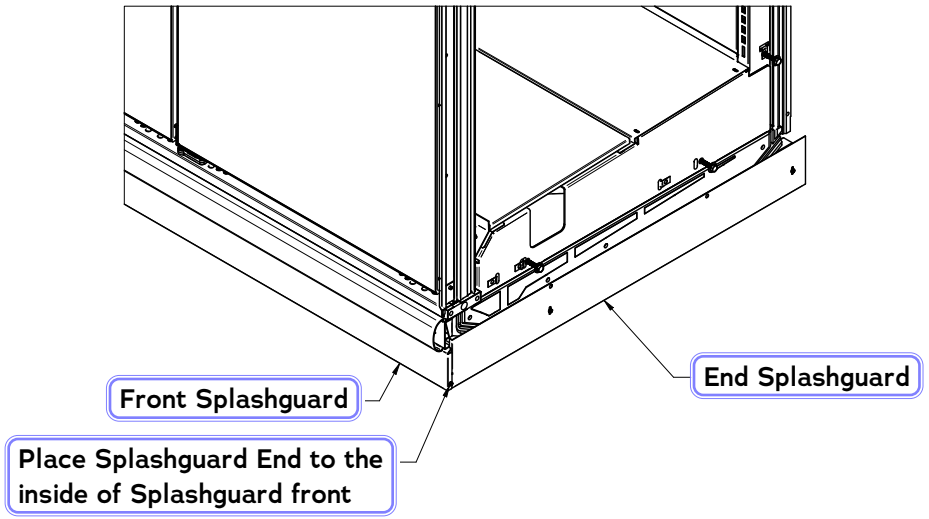
INSTALLING SPLASHGUARDS

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.



Installing End Splashguard:



START UP / OPERATION

START UP 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. Merchandiser(s) must operate for 24 hours before loading products.

Monitor case temperature regularly to ensure it is at the proper level. Monitor the unit for any unusual noises or vibrations and address them promptly to prevent further problems. Check the electrical connections and wiring for any issues.

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

12 HOURS AFTER START UP CHECKLIST

- Check case temperature.
- Check water connections for leaks or accumulation of water.
- Verify the fans are running.
- Check compressor's amperage, and validate with the information on serial plate.
- Check the door operation again to ensure doors open and close properly once the case is down to operating temperature.
- Check that all inspection plates and covers have been properly replaced.
- Inspect for any water accumulation due to incorrect or unsealed penetrations where electrical or other lines pass through insulated walls of the case.
- Verify that the lights are "ON". (lights are switched remotely.) If lights are "OFF", check the illumination schedule and circuit breaker for the lights.
- Check the water outlet temperature from each condensing unit. Water outlet temperature should be less than 10° above water inlet temperature.

STOCKING

Product should not be placed in merchandisers until all refrigeration controls have been adjusted and merchandisers are at proper operating temperature.

Hussmann recommends solid shelves for ice cream.

All shelves and the lower deck are intended to display product. Shelf height is adjustable in one inch increments. Spacing of 12 inches is recommended for most applications. Maximum load per shelf is 170 pounds. Merchandisers may be ordered with optional "L" shaped wire shelves.

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 use non-approved shelving, baskets, display racks, or any accessory that could hamper air curtain performance.

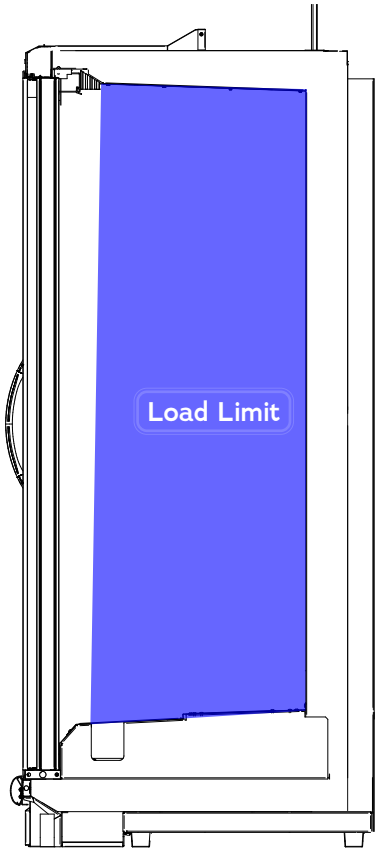
Do not prop doors open while stocking. And keep the doors closed as much as possible to prevent coil frosting and high merchandiser temperature.

LOAD LIMITS

Shelf life of perishables will be short if load limit is violated. At no time should merchandisers be stocked beyond the load limits indicated.

The standard depth for standard and narrow cases are 24" and 22" respectively.

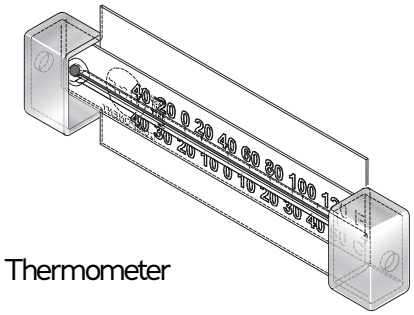
Do not block honeycomb.



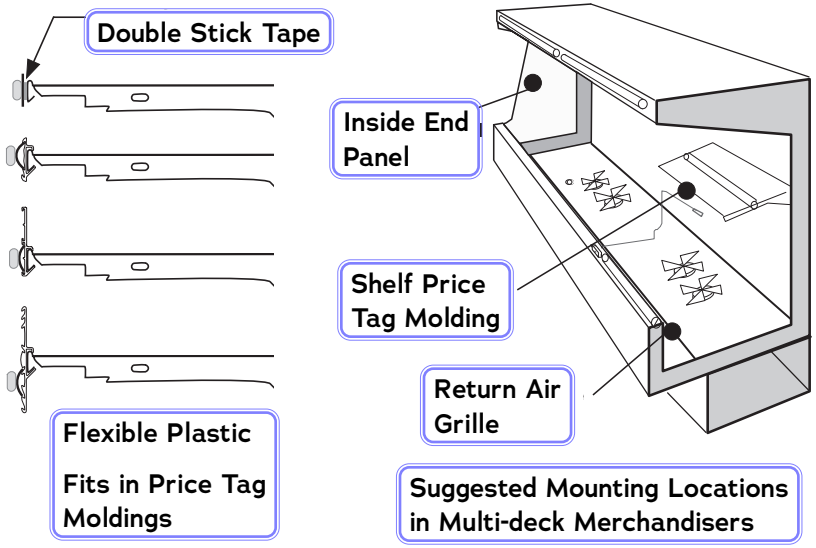
INSTALLING FDA/NSF REQUIRED THERMOMETER

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). Please note that the tape cannot be exposed after installation.

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



Thermometer



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. The cases may need additional cleaning, especially in high traffic areas, dusty areas and during unusually extended periods of use of the equipment.

The directions below are recommended cleaning instructions for reach-in cases and should not be used as a substitute for the store's regular maintenance schedule. Follow all local and national health codes. This guide lists some of the key areas of the cases that require cleaning to help maintain the overall appearance and performance of the equipment and keep it free of debris.

Interior Surfaces

The interior surfaces may be cleaned with most domestic detergents and sanitizing solutions with no harm to the surface. Avoid saturating the case interior to the point where cleaning agents are running or dripping into the bottom compartment. The presence of bleach and ammonia will damage the case's aluminum coils.

Clean and disinfect the inside of the case frequently. To disinfect, use EPA List N disinfectants, diluted household bleach solutions prepared according to the manufacturer's label for disinfection, or alcohol solutions with at least 70% alcohol, and are appropriate for the surface. Allow the compartments to dry before resuming operation.

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.

Fan Plenum

To facilitate cleaning, the fan plenum is hinged and also fastened with screws at each end. After cleaning be sure the plenum is properly lowered into position and that screws are reinstalled or product loss will result due to improper refrigeration.

⚠WARNING

- Shut Fans Off During the Cleaning Process
- 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.

Anti-Fog Glass Doors

Wipe inside of anti-fog glass doors with isopropyl alcohol and a micro-fiber cloth. Only use a terry weave micro-fiber cloth. Allow surface to dry before closing door. Use of other cleaners or abrasives may damage the surface, and/or void the warranty. Ensure protective shipping film is removed from the doors. Make sure to remove protective film from the doors. The film was applied for only for use in shipping.

⚠WARNING

- 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:

- Remove the product and all loose debris to avoid clogging the waste outlet.
- 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.
- First turn off refrigeration, then disconnect electrical power.
- 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.
- Remove screws and lift hinged fan plenum for cleaning. Be sure to reposition the fan plenum after cleaning merchandiser.
- Take care to minimize direct contact between fan motors and cleaning or rinse water.
- Rinse with hot water, but do not flood. Never introduce water faster than the waste outlet can remove it.
- Allow merchandisers to dry before resuming operation.
- After cleaning is completed, turn on power and refrigerant to the merchandiser.
- Verify that merchandiser is working properly.

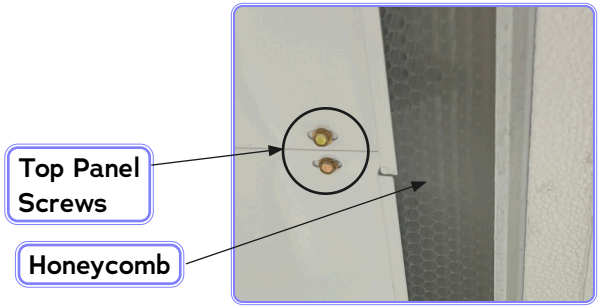
⚠WARNING

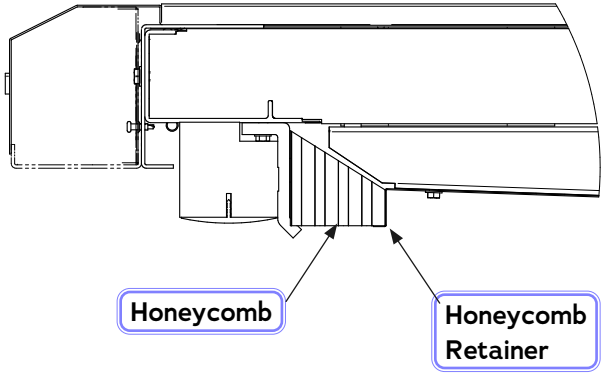
» Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.

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. Remove the sheet metal screws located in the top panels and remove the top panels.
2. Lift the honeycomb assembly out.
3. Clean and dry the honeycomb.
4. After cleaning, reassemble in reverse order of removal.





Side View of Case Canopy

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.

CLEANING UNDER MERCHANDISERS

Remove splashguards not sealed to floor. Use a vacuum with a long wand attachment to remove accumulated dust and debris from under the merchandiser.

REMOVING SCRATCHES FROM BUMPER

Most scratches and dings can be removed using the following procedure.

1. Use steel wool to smooth out the surface area of the bumper or top rail.
2. Clean area.
3. Apply vinyl or car wax and polish surface for a smooth glossy finish.

⚠WARNING

» Do NOT allow cleaning agent or cloth to contact food product.

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.

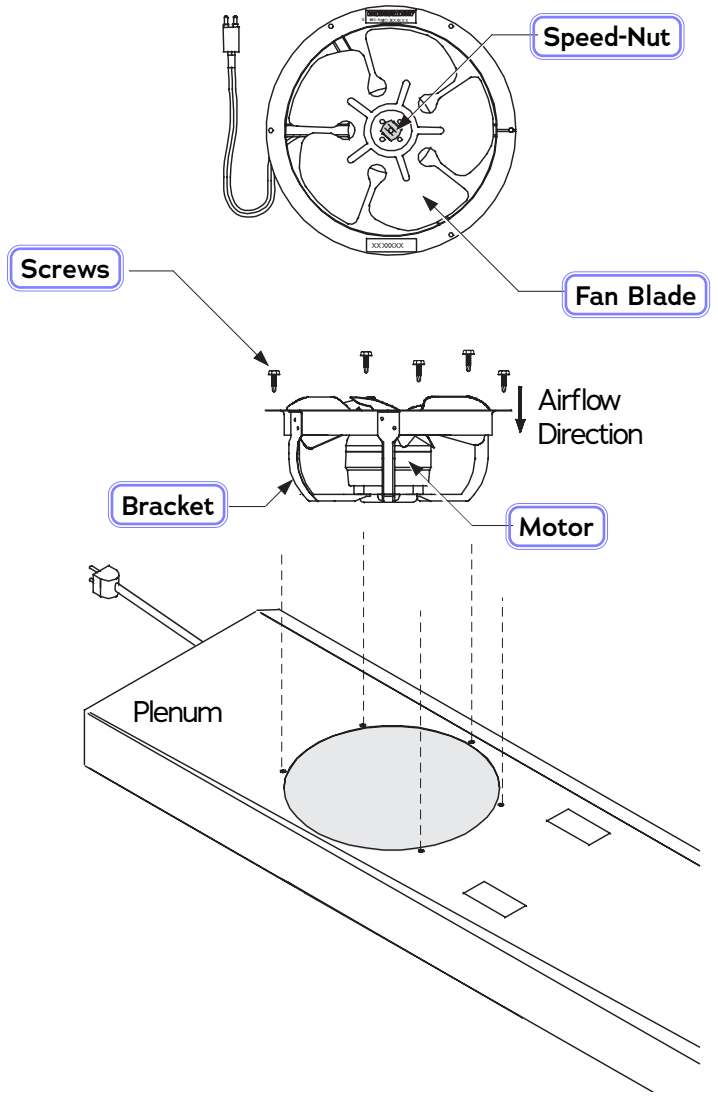
REPLACING FAN MOTORS AND BLADES

See cross section for location of evaporator fans. Should it ever be necessary to service or replace the fan motors or blades be certain that the fan blades are re-installed correctly. Fan assemblies may vary, but replacement procedures are similar.

Fan Access:

1. Disconnect power to the case.
2. Remove bottom display pans.
3. Remove plug clip and disconnect fan from wiring harness.
4. Remove fan blade.
5. Remove screws holding fan motor/bracket assembly to plenum and remove assembly.
6. Replace fan motor/bracket assembly and reinstall screws.
7. Reinstall fan blade.
8. Reconnect fan to wiring harness, and replace plug clip.
9. Turn on power.
10. Verify that motor is working and blade is turning in the correct direction.
11. Close large air gaps under fan plenum. Warmer air moving into refrigerated air reduces effective cooling. If the plenum does not rest against the case bottom without gaps, apply foam tape to the bottom of the fan plenum to reduce improper air movement, however defrost water should not be blocked by fan plenum. Do NOT seal fan plenum so that water can not drain.
12. Replace display pans. Bring merchandiser to operating temperature before restocking.

Fan Assembly



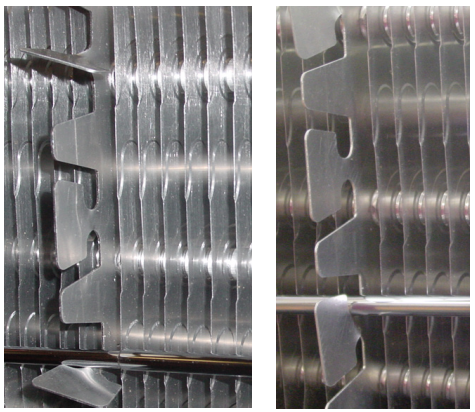
Hussmann recommends against frame heater cycling with doors to prevent door seals from freezing to the frames and tearing.

REPLACING ELECTRIC DEFROST HEATERS

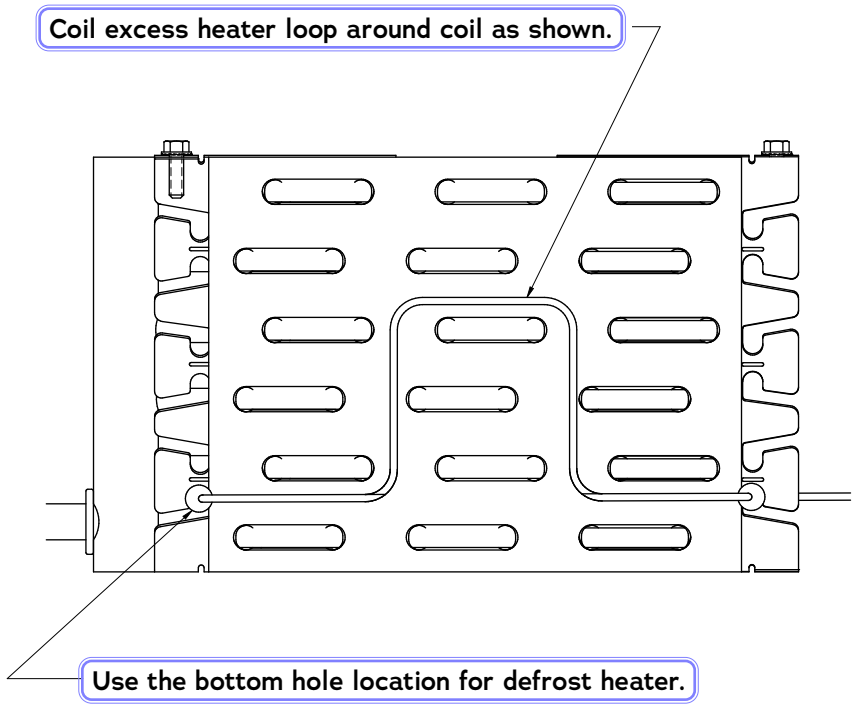
(Low Temperature Cases)
Electric defrost requires a heater on the front and rear of the coil as shown. The heaters are held in place by tabs in the coil brackets.

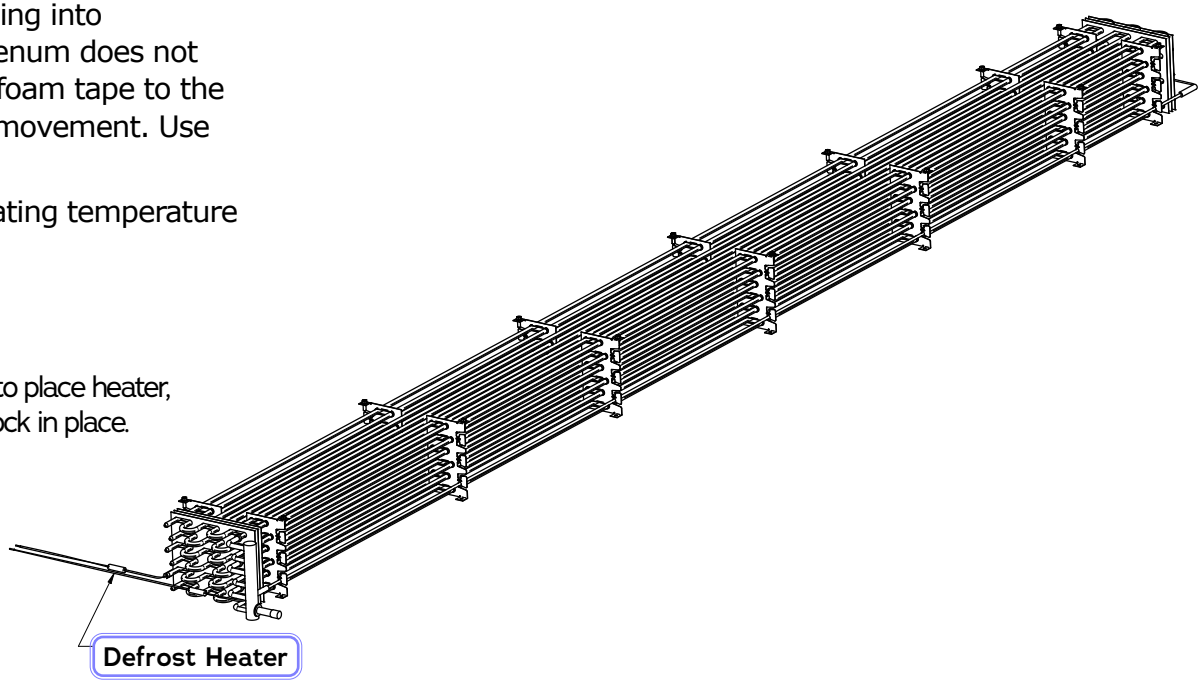
Front Defrost Heater

1. Disconnect power to the case.
2. Lift fan plenum up and back to access the heater.
3. Bend tabs holding heater to horizontal.
4. Remove heater from coil bracket.
5. Position new heater in bracket.
6. Bend tabs back to vertical to hold heater in bracket.
7. Replace the coil cover and lower fan plenum.
8. Turn on power.
9. Verify that heater is working correctly.
10. Close air gaps under fan plenum. Warmer air moving into refrigerated air reduces effective cooling. If the plenum does not rest against the case bottom without gaps, apply foam tape to the bottom of the fan plenum to reduce improper air movement. Use silicone sealant to close other gaps.
11. Replace display pans. Bring merchandiser to operating temperature before restocking.



Bend tabs back to place heater, and re-bend to lock in place.





REPLACING DRAIN PAN HEATER

Electric and Gas Defrost
(Low Temperature Only)

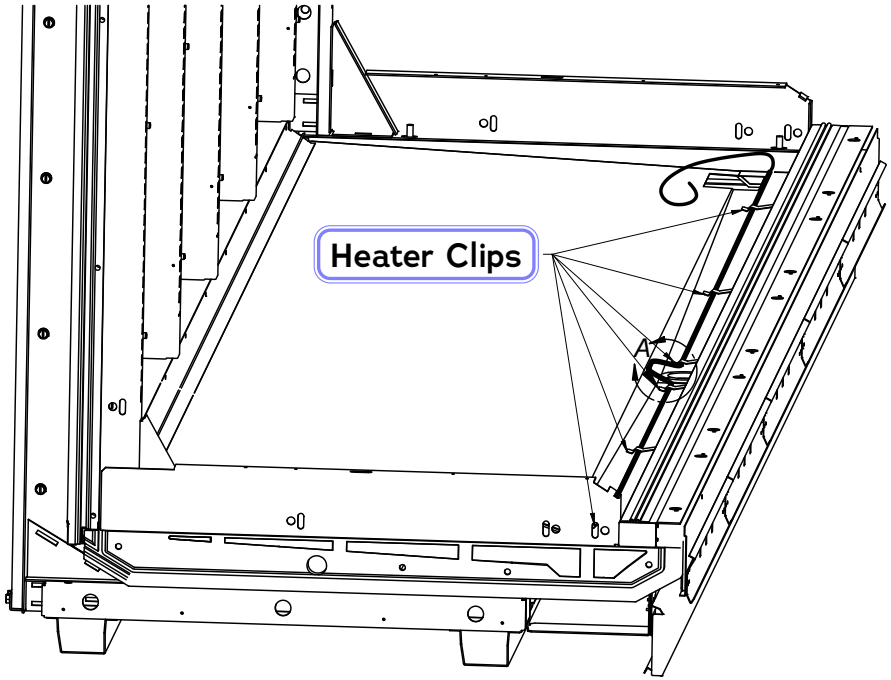
The drain pan heater is located as shown below.

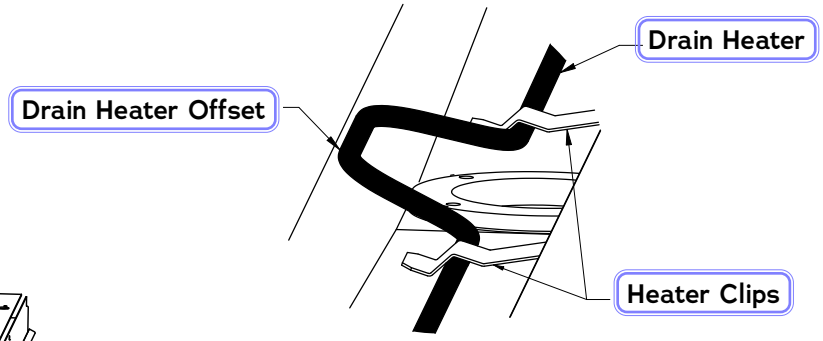
Remove Drain Pan Heater

1. Disconnect power.
2. Pull heater out from under heater clips.
3. Position new heater under heater clips. Be sure offset is properly positioned around the drain.
4. Reconnect power.
5. Verify that heater is working correctly.

⚠WARNING

» 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.





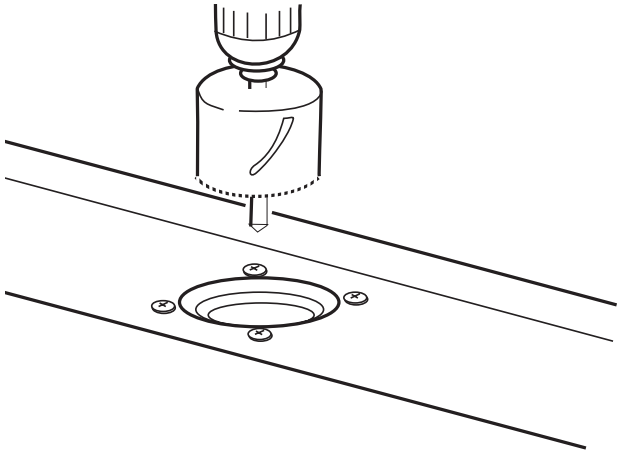
DETAIL A

REPLACING DAMAGED DRAIN FITTING

The following procedure is for the field repair of a broken drain fitting.

1. Use a drill with a 1 7/8-inch (48 mm) hole saw to drill out the bottom of the drain fitting.

   Be sure to drill completely through fitting and bottom liner.



Drain Fitting Viewed from Inside Case

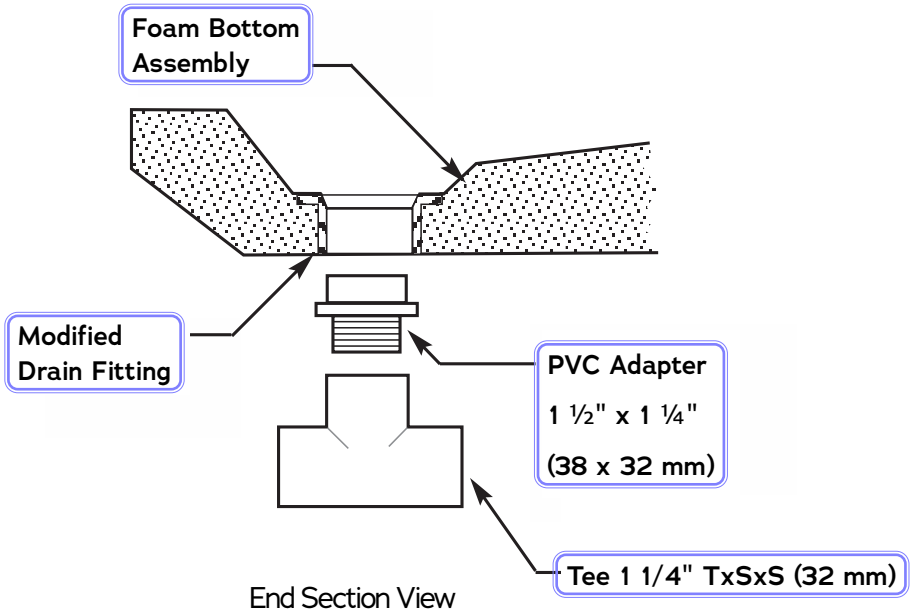
Do not use thread sealer on drain fitting.

2. Insert adapter into drain fitting. Do NOT use thread sealer on ABS drain fitting.

   If sealer is used the ABS drain fitting may crack or leak!

   (Tee should be tightened no more than 4 turns.)

   Do not over-tighten threads.



End Section View

REPAIRING 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 solders and technique:

Solders

Aladdin Welding Products Inc.
P.O. Box 7188
1300 Burton St.
Grand Rapids, MI 49507
Phone: 1-800-645-3413
Fax: 1-800-645-3414

X-Ergon
1570 E. Northgate
P.O. Box 2102
Irving, TX 75062
Phone: 1-800-527-9916

NOTE:
Hussmann Aluminum melts at: 1125°F (607°C)

Aladdin 3-in-1 rod at 732°F (389°C)

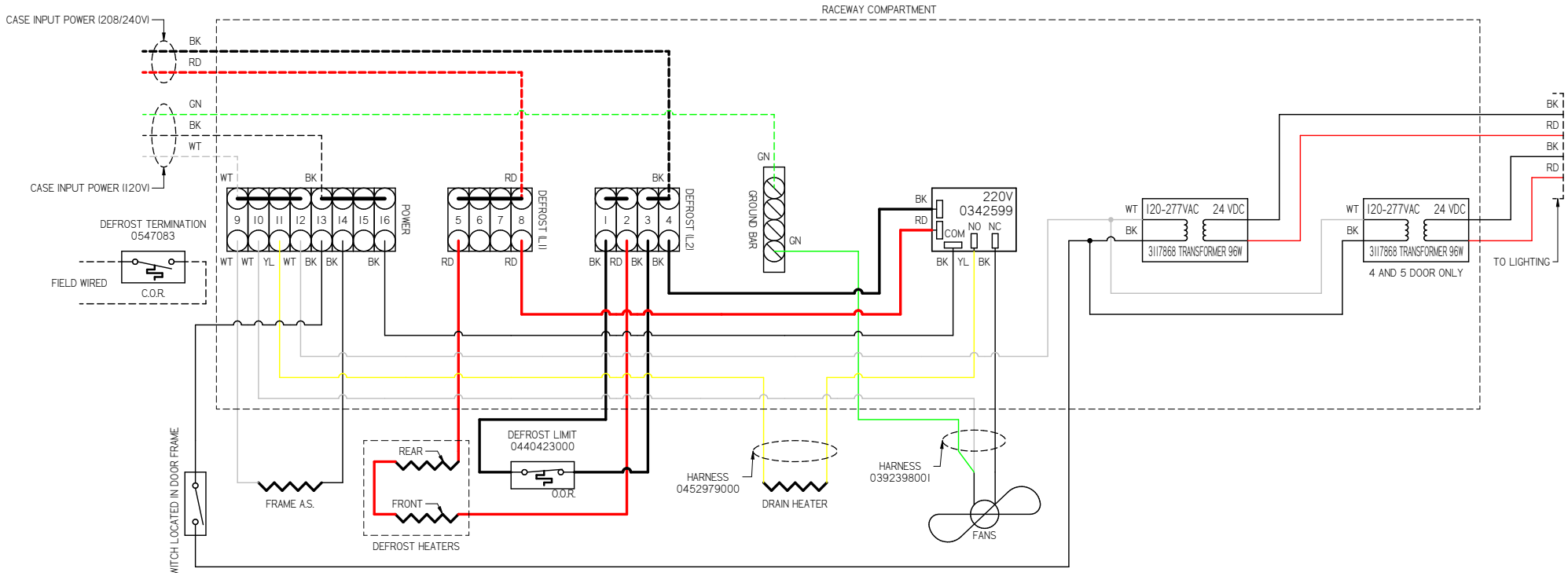
X-Ergon Acid core at 455°F (235°C)

Technique:

1. Locate Leak.
2. REMOVE ALL PRESSURE.
3. Brush area UNDER HEAT.
4. Only Use a PRESTOLITE TORCH. 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, thoroughly filling the open pores around leak.
8. Repair leak. Let aluminum melt solder, NOT the torch.
9. Don’t repair for looks. Go for thickness.
10. Perform a leak check.
11. Wash with water.
12. Cover with a good flexible sealant.

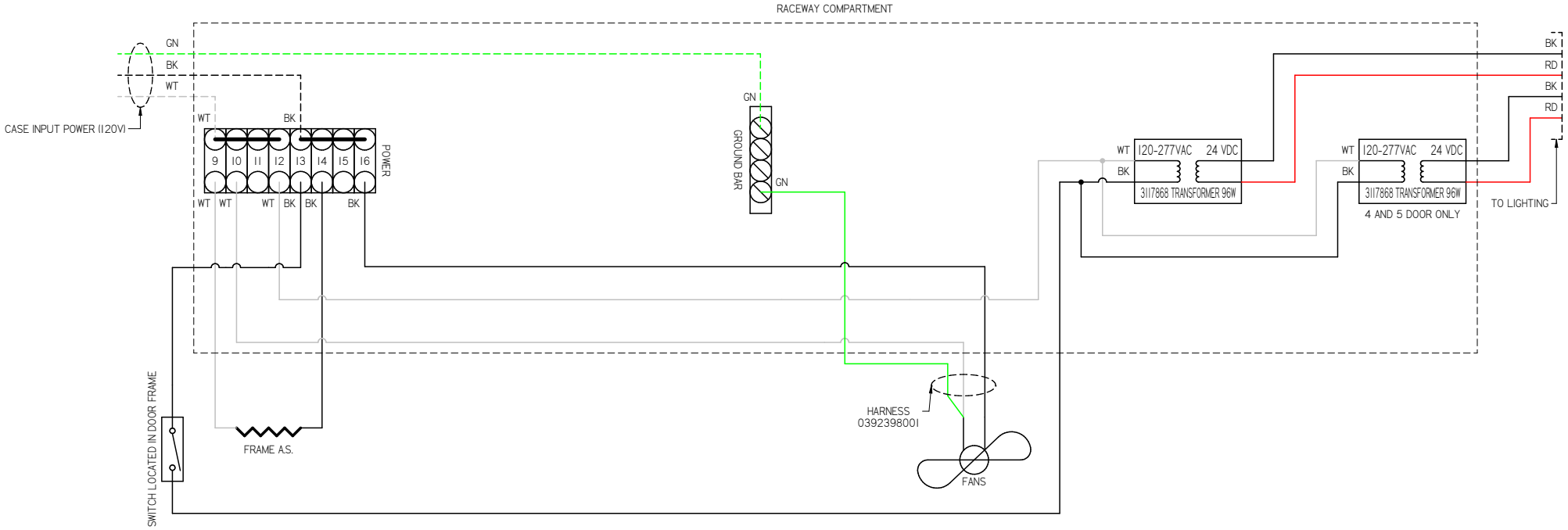
LOW TEMPERATURE CASE WIRING DIAGRAM

This is the standard wiring diagram. See case serial plate and QR code (located on the serial plate) for case-specific wiring options.

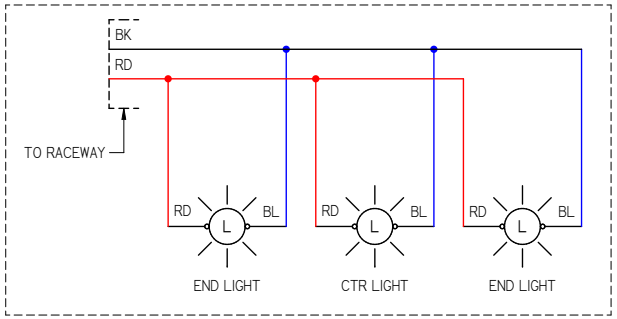


MEDIUM TEMPERATURE CASE WIRING DIAGRAM

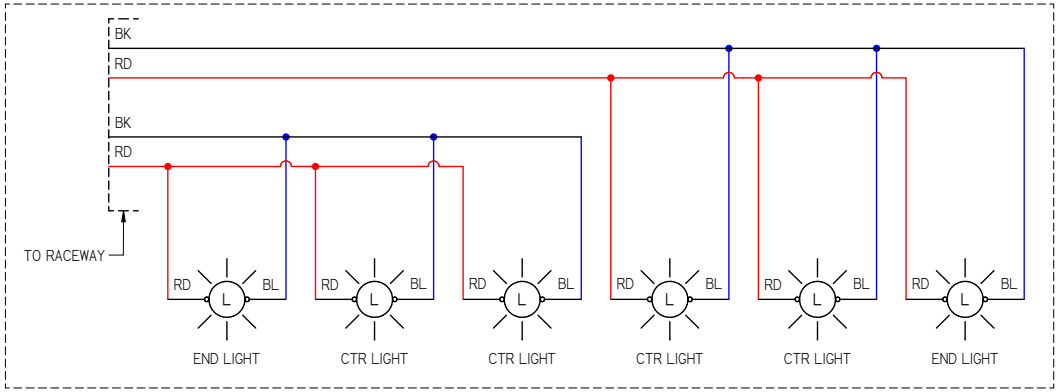
This is the standard wiring diagram. See case serial plate and QR code (located on the serial plate) for case-specific wiring options.



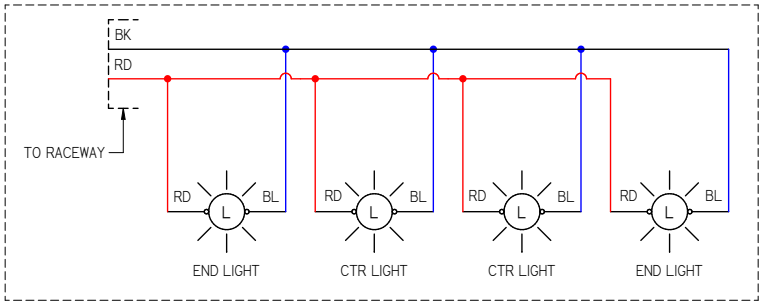
MULLION LED LIGHTING WIRING DIAGRAM



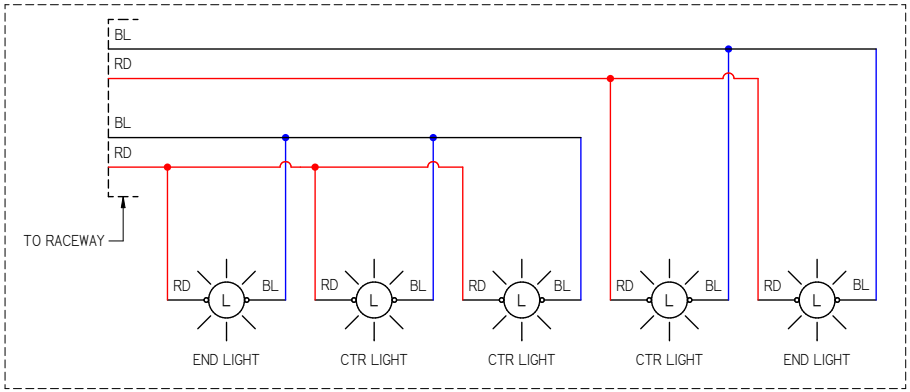
2 DOOR



5 DOOR
TWO POWER SUPPLIES



3 DOOR



4 DOOR
TWO POWER SUPPLIES

CONTACT INFO

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