HUSSMANN[®]

Wedge Case

Medium Temperature

Insight





90° Outside Wedge Lineup

BEFORE YOU BEGIN READ THESE INSTRUCTIONS COMPLETELY AND CAREFULLY.

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

SAFETY INSTRUCTIONS









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

SAFETY INSTRUCTIONS

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

Only qualified personnel should install and service this equipment. Observe all precautions on tags, stickers, labels and literature attached to this equipment. Service is only to be performed by factory-authorized service personnel, so as to minimize the risk of possible ignition due to incorrect parts or improper service. Component parts shall be replaced with like components. Contact your Hussmann representative to arrange servicing.

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

ANSI Z535.5 DEFINITIONS



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



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



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



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



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

TABLE OF CONTENTS

BEFORE YOU BEGIN II	
Read these instructions completely and carefullyii Safety Instructionsii ANSI Z535.5 Definitionsii Table of Contentsiii	
Installation Tool Listiv	
INSTALLATION 1-1	1
UL Listing. 1-1 Federal / State Regulation 1-1 Document Revision History 1-1 Location. 1-2 Shipping Damage 1-2 Exterior Loading 1-2 Shipping Pallet 1-3 Serial Plate Location 1-3 QR Code 1-4 Merchandisers Shipped with End Installed 1-4 End Shipping Braces 1-4 Case Leveling 1-5 Case Lineup Leveling 1-5 Lineup Joining and Sealing Hardware 1-6 Field Gasket Application & Bolt Alignment Locations 1-7 Case Joining Continued 1-8 Installing Joint Trim 1-9 Sealing Lineup Joints 1-9 Installing End Assemblies 1-1 Installing Solid Case End Panel(S) 1-1 Installing Bumper(s) 1-1 Wedge Shelves Installation 1-1	
REFRIGERATION / ELECTRICAL 2-1	1
Refrigerant	L 2 3 3

Electrical Connections	2-3 2-4 2-4
DRIP PIPING / FIT & FINISH / SPLASHGUARDS	3-1
Waste Outlet and Water Seal Installing Drip Piping Fascia Top Cap Alignment Wedge Case Fascia Front Panel Alignment Side Splashguard Installation Installing End Splashguards Installing Splashguard Retainer Brackets Splashguard Alignment to eliminate gaps in cases Line-Up	3-1 3-2 3-3 3-4 3-5 3-6 3-7
STARTUP / OPERATION	4 1
Startup / Operation	4-1 4-1 4-1 4-2 4-2
MAINTENANCE5	5-1
Care and Cleaning	5-1 5-2 5-2 5-2 5-3
SERVICE	5-1
Troubleshooting Continued 6 Replacing Fan Motors 6 Air Curtain Support Fan Replacement 6 Replacing Aluminum Coil 6 Warranty Information 6	6-1 6-2 6-3 6-5 6-6

INSTALLATION TOOL LIST

Unloading refrigerated merchandiser from trailer:

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

Setting Case Line-Up:

- Level, 4 ft (suggested)
- Ratchet
- 1/4" Socket Drill Bit
- 5/16" Socket Drill Bit
- 1/2" Socket Deep Drill Bit
- 1/2" Open End Wrench
- Cordless Impact Drill
- Caulking Gun
- 10" Adjustable Crescent Wrench

AWARNING

- » 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.
- » Do not use the handle to lift the doors, do not lean doors against case or set doors directly on the floor. Doing this may cause the doors to shatter and personally injury may occur.

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 case carries a label identifying the environment for which the case was designed for use.

For example:

ANSI/NSF-7 Type I

Display Refrigerator / Freezer intended for 75° F (24° C) / 55% RH Ambient Application

ANSI/NSF-7 Type II

Display Refrigerator / Freezer Intended for 80° F / 55% RH Ambient Application

ANSI/NSF-7

Display Refrigerator Intended for Bulk Produce

DOCUMENT REVISION HISTORY

Revision A - Original issue



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

LOCATION

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

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

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

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

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

SHIPPING DAMAGE

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

Apparent Loss or Damage

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

Concealed Loss or Damage

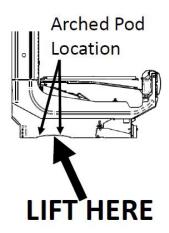
When loss or damage is not apparent until after equipment is uncrated, a claim for concealed damage is made. Upon discovering damage, make request in writing to carrier for inspection within 15 days and retain all packing. The carrier will supply inspection report and required claim forms.

AWARNING

» If the case is to be moved using a fork lift, position the forks of the lift directly under the arched pods or shipping rails. Use extreme caution when transporting cases. Personal injury or death could result if a case falls on personnel.

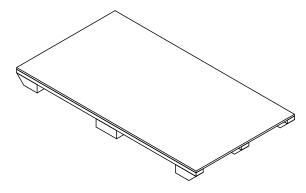
EXTERIOR LOADING

Do not walk on top of case(s) or damage to the case(s) and serious personal injury could occur. They are not structurally designed to support excessive external loading such as the weight of a person. Use caution when working around refrigeration lines or water lines, damage to equipment and personal injury could occur.



SHIPPING PALLET

Wedges should be moved as close as possible to their final position before removing them from factory installed shipping pallet. After removing the shipping pallet great care should be taken when moving the wedge as they are prone to tipping over due to their shape and weight distribution. Always use caution when transporting cases from the truck to the store location. A forklift is recommended for moving cases. Do not use a pallet jack.



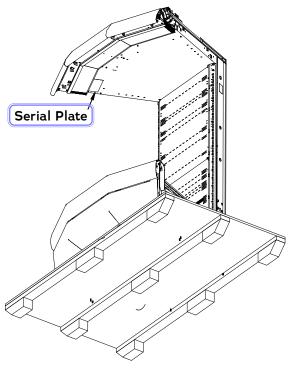
Wedge Case Shipping Pallet

AWARNING

» Tipping hazard: Personal injury, or death could occur from improper handling. Use caution when preparing to move cases and when moving cases. Outside wedge cases are front heavy and inside wedge cases are top heavy. Damage to equipment, including, but not limited to, the protruding drain fittings at the bottom of cases.

SERIAL PLATE LOCATION

Serial plates are located on the left side, facing the case. The serial plate contains information about the specific model and its operating parameters.



Serial plate located inside wedge case's canopy.

QR CODE

Insight cases have a QR code located on the serial plate. Once you scan the QR code with a smart phone, all of the information about that case will be at your fingertips. Links to installation videos, data sheets with case specifications, the installation and operation manual, as well as a link to replacement parts from Hussmann's Performance Parts Website.



MERCHANDISERS SHIPPED WITH END INSTALLED

If the merchandiser 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. Therefore, be sure to replace these bolts with the shorter bolts provided. NSF requires any bolt or screw in the product area be capped or cut off if it has more than three exposed threads.

Be careful not to damage the factory installed end while moving the merchandiser.

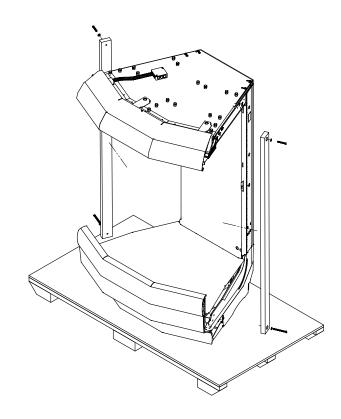
END SHIPPING BRACES

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

Do not remove end braces until joining begins. Recycle wooden braces and hardware.

ACAUTION

» Do not remove shipping braces until the merchandisers are positioned for installation.



CASE LEVELING

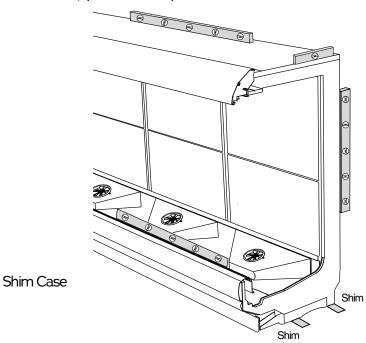
Merchandisers must be installed level to ensure proper operation of the refrigeration system and to ensure proper drainage of defrost water. Pay close attention to case position during all steps of setting, joining and leveling.

NOTE:

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

Preparation:

- 1. Using store blueprints, measure off and mark on floor the exact dimensions/locations of the merchandiser footprint. A 1 $\frac{1}{2}$ inch space is required behind each merchandiser to prevent condensation.
- 2. Snap a chalk line for the front and rear positions of the base pods.
- 3. Mark the location of each joint from front to back lines.
- 4. Use supplied shims to level case. Shims are to be inserted under the black, plastic base pods.





Shim Case

ACAUTION

» Tipping Hazard! Case tipping may occur if cases are not properly leveled and secured, or if cases are not properly loaded.

CASE LINEUP LEVELING

1. FLOORS ARE NOT LEVEL! The whole lineup must be leveled on the same plane, left to right and front to back. This means that the entire lineup must be brought up to the level of the highest case in the lineup.

Along the lines previously marked, find the highest point of the floor by:

- Walking the floor and noticing any dips or mounds;
- Using a string level; and
- Using a transit.
- 2. Position the first merchandiser at the highest point on the floor. Work outward from that point to create the merchandiser lineup.
- 3. Use a 48 inch (1220 mm) or longer level for end-to-end leveling. The rear edge of the top foam panel of the merchandiser is a good location for the level at the rear of the case.
- 4. For leveling the merchandiser front-to-rear, a 24 inch (610 mm) level should be placed on the lower flange of the merchandiser end frame. If the merchandiser has a factory installed end, the level should be placed on the canopy support brackets on top of the merchandiser. Suggested level locations are shown in the illustration.

LINEUP JOINING AND SEALING HARDWARE

Description	Multi Deck Qty/Each
SEALER SILICONE ADHESIVE	1
GASKET 1/2 X 1/2 X 180	2
GASKET-CASE END FILLER LH	1
GASKET-CASE END FILLER LH	1
SCREW-SHEET METAL #8 X 5/8 PHIL HX HD	N/A
SCREW-SHEET METAL #10 X 3/4	2
BOLT HEX CAP 5/16 x 3/4	1
BOLT 5/16 x 2 3/4 GRADE 5 ZINC PLATED TAP	2
BOLT- TAP, 5/16 x 4 1/2, STEEL, ZINC FINISH, GR5 (Qty Varies)	5
BOLT- TAP, 5/16 x 7, STEEL, ZINC FINISH, GR5	1
WASHER-FLAT 5/16" ZINC (Qty Varies)	13
LOCKWSHR 5/16 SPLT STL	1
NUT-HEX 5/16 STEEL ZINC FINISH GRADE 8 (Qty Varies)	9
NUT-HEX 3/8-24 SERRATED FLANGE	4
9" LEVELING SHIMS	4
TAPE-BUTYL 1/16 x 2" X 49"	1

IMPORTANT:

Do not pull cases together with bolts. Cases must be moved together as close as possible. Follow sequence balloons to tighten bolts.

- · Apply gasket to only one side of case joint.
- Remove end shipping braces as described on Page 1-4.
- Cases must be leveled as described on Page 1-5.
- Removed any casters if installed.
- Install case lineup from left to right.
- Remove shelves, display racks, pans & interior back panels at the joining area.
- Insert gasket into case channels the entire length with no gaps.
- Do not stretch gasket, especially around corners.
- Do not butt gaskets, always overlap them.
- Remove paper backing after gasket has been applied.
- Perimeter gasket is required by NSF.
- Apply a continuous bead of neutral curing silicone sealant.
- Joints must be air tight to prevent formation of ice of condensation.





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

FIELD GASKET APPLICATION & **BOLT ALIGNMENT LOCATIONS**

Additional case bolting details are shown on the next page.

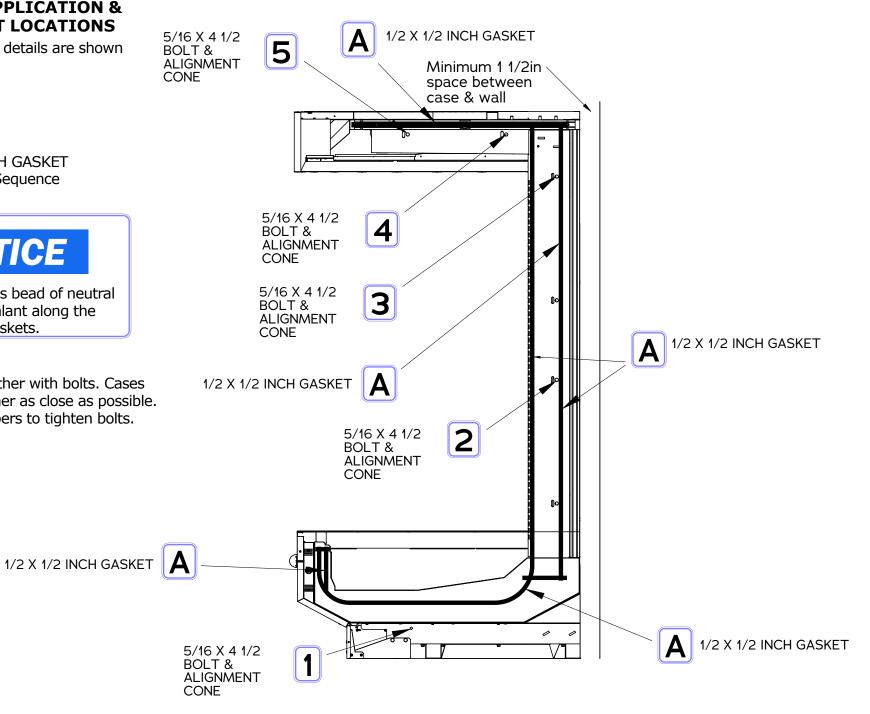
LEGEND:

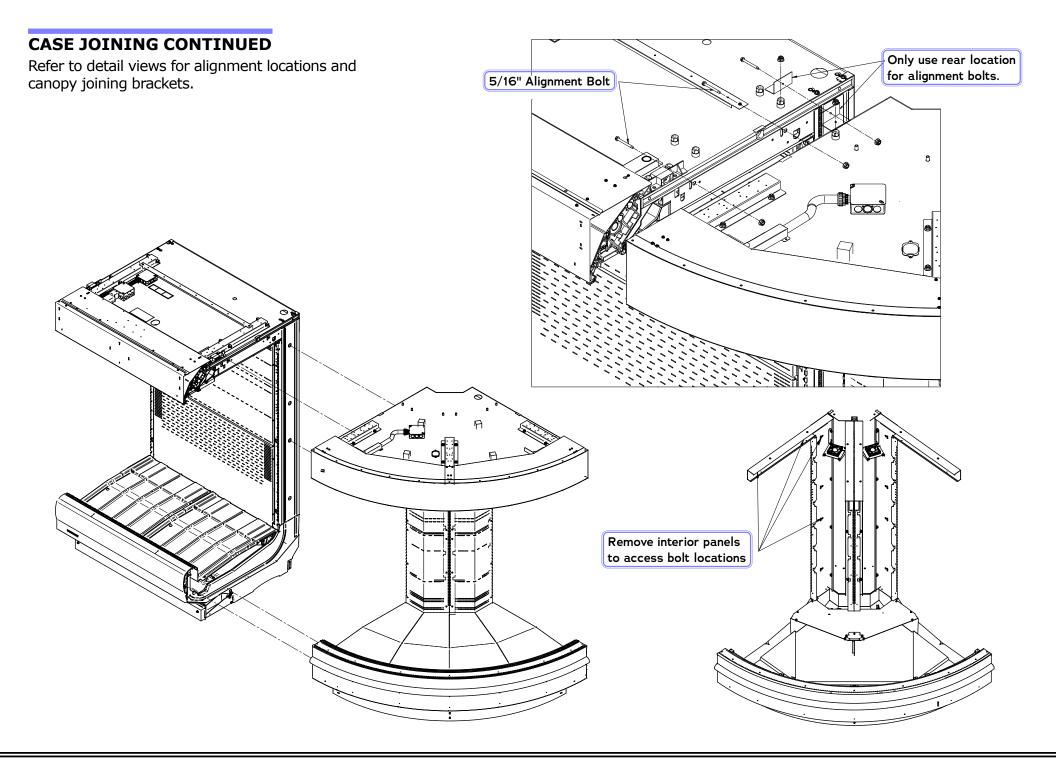
 $A = 1/2 \times 1/2$ INCH GASKET 1-5 = Tightening Sequence

NOTICE

Apply a continuous bead of neutral curing silicone sealant along the interior of case gaskets.

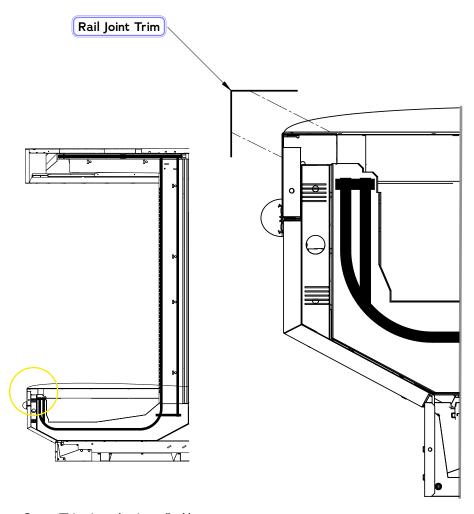
Do not pull cases together with bolts. Cases must be moved together as close as possible. Follow sequence numbers to tighten bolts.





INSTALLING JOINT TRIM

Rail joint trim is connected at case joints using VHB tape. Apply tape to both surfaces.



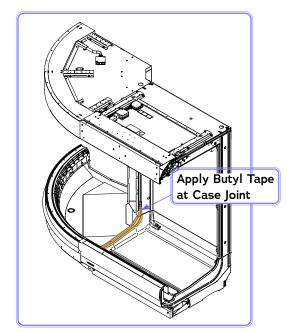
SEALING LINEUP JOINTS

The joint between the two joined case must be sealed for sanitation. Apply Butyl tape across the case joint. Apply a long, continuous bead of silicone to fill any gaps between the cases.

Be sure to start from the back and go all the way to the air return as shown in the illustration below.



Apply a bead of Neutral Curing Silicone Sealant and fill in any gaps between the Case Joints.



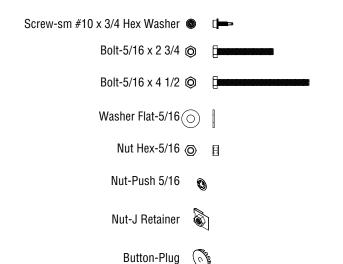


Apply Butyl Tape and Neutral Curing Silicone Sealant

INSTALLING END ASSEMBLIES

Remove shipping brace(s). Brace screws will be replaced with shorter screws found in pack-out kit. Ensure nut retainers are in place. Apply gaskets and silicone sealant to end frame.

Apply $\frac{1}{2}$ x $\frac{1}{2}$ in. (12.7 mm) x (12.7 mm) gaskets into the case channels. Check that the gasket is properly inserted into the entire length of the channels with no gaps. Apply silicone between case end cap and end.



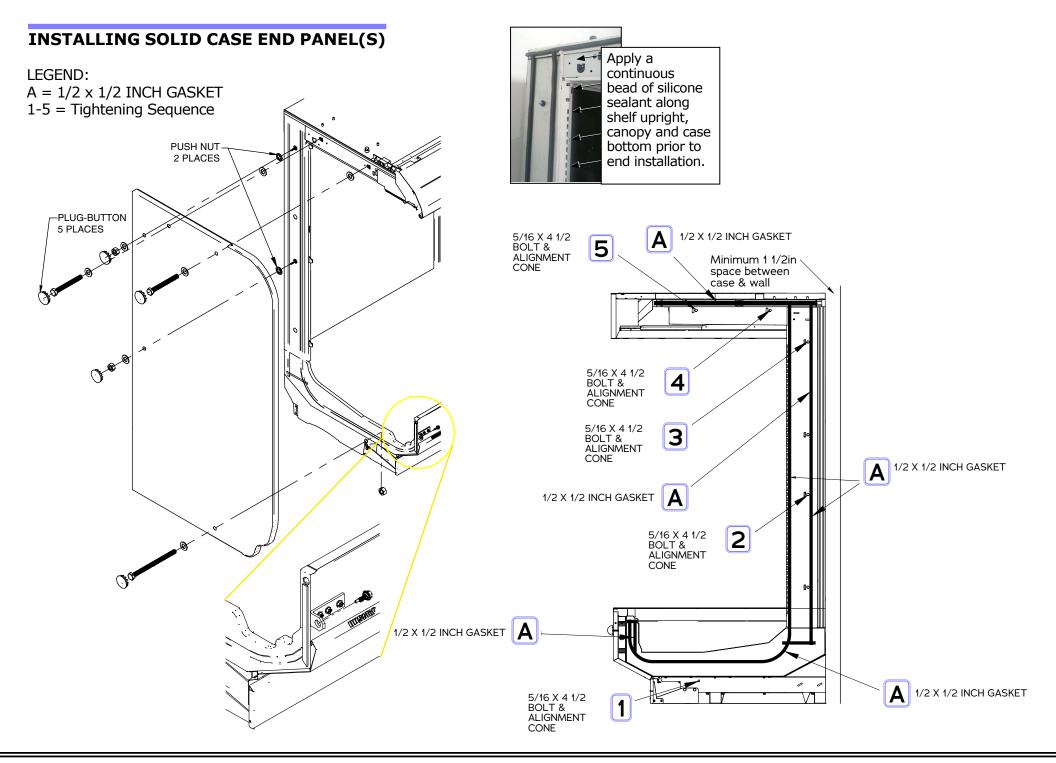
IMPORTANT:

Do not pull cases together with bolts. Cases must be moved together as close as possible. Follow sequence balloons to tighten bolts.

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- Cases must be leveled as described on Page 1-5.
- Removed any casters if installed.
- Install case lineup from left to right.
- Remove shelves, display racks, pans & interior back panels at the joining area.
- Insert gasket into case channels the entire length with no gaps.
- Do not stretch gasket, especially around corners.
- Do not butt gaskets, always overlap them.
- Remove paper backing after gasket has been applied.
- Perimeter gasket is required by NSF.
- Apply a continuous bead of neutral curing silicone sealant.
- Joints must be air tight to prevent formation of ice of condensation.

FIELD INSTALLED HARDWARE	Multi Deck Qty/Each	Convertible Qty/Each	Single Deck Qty/Each	View End Multi Deck Qty/Each
Description				
SEALER SILICONE ADHESIVE	1	1	1	1
GASKET 1/2 X 1/2 X 180	2	1	1	2
SCREW SM 10-16X3/4 HX WASHER	1	1	1	N/A
BOLT 5/16 x 2 3/4 GRADE 5 ZINC PLATED TAP*	4	2	1	5
BOLT- TAP, 5/16 x 4 1/2, STEEL, ZINC FINISH, GR5	1	1	1	1
WASHER-FLAT 5/16" ZINC*	7	4	2	8
NUT-HEX 5/16 STEEL ZINC FINISH GRADE 8*	3	2	2	4
NUT-PUSH 5/16" RETAINER STEEL ZINC*	2	1	1	2
NUT-J RETAINER 5/16*	2	1	N/A	2
BUTTON-PLUG 7/8 DIA*	5	3	2	6

^{*}Quantities may vary depending on which type of end is to be placed on case.

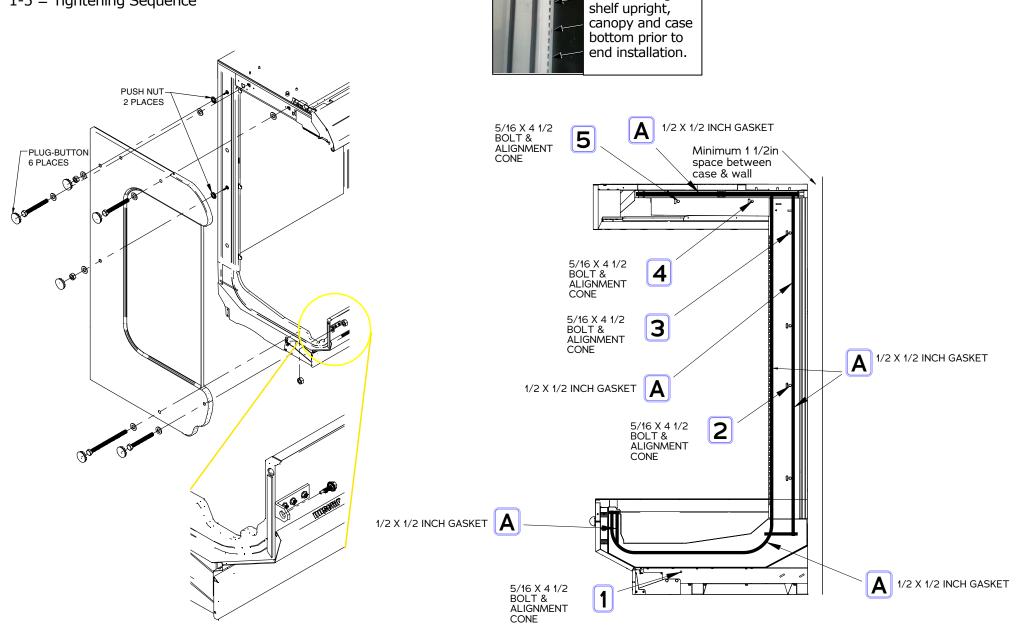


INSTALLING VIEW CASE END PANEL(S)

LEGEND:

 $A = 1/2 \times 1/2$ INCH GASKET

1-5 = Tightening Sequence



Apply a

continuous bead of silicone

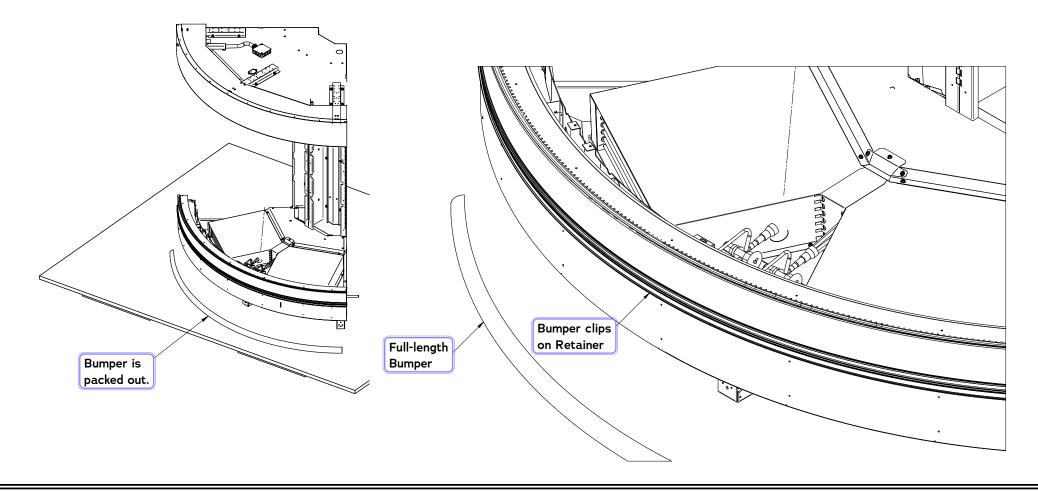
sealant along

INSTALLING BUMPER(S)

Bumper is packed out with the case and snaps onto the bumper retainer. Gaskets are factory installed in the bumper retainers to provide support for the bumpers. Do not remove gaskets.

Bumper joint inserts are provided with the case to disguise joints for a lineup of cases.

- 1. Start at the left end of the lineup. The outside wedge case bumpers include a 1-ft starter section. Starter bumper is included in LH and RH piece.
- 2. Place top of bumper over bumper retainer, then snap bottom of bumper into place at bottom of retainer. Position internal joint trim between the starter bumper and full-length bumper.
- 3. Continue installing bumper(s) until the lineup is complete. The last piece of bumper will need to be cut so that it is flush with the right end cap. Use a fine tooth saw to cut the bumper vertically at a 90° angle.
- 4. Ensure joint trim is positioned behind bumper at all joints to close any gaps in the lineup. Remove protective film from bumper once installation is complete.



SHELF MAXIMUM WEIGHT LIMITS

Hussmann wedge case shelves are designed to support the maximum weight load limits as indicated in this table.

Exceeding these maximum weight load limits may cause damage to the shelf or shelves, damage to the wedge case, damage to store products, and potentially create a hazardous condition for customers and staff. Exceeding the indicated maximum weight load limits constitutes misuse as described in the Hussmann Limited Warranty.

Weight Limits for Wedge Case Shelving

Nominal Shelf Depth	Maximum Load Limit		
	Outside Wedge Case	Inside Wedge Case	
12 in. (305 mm)	125 lb. (56.7 kg)	100 lb. (45.4 kg)	
14 in. (357 mm)	150 lb. (68.0 kg)	125 lb. (56.7 kg)	
16 in. (406 mm)	175 lb. (79.4 kg)	125 lb. (56.7 kg)	
18 in. (457 mm)	200 lb. (90.7 kg)	125 lb. (56.7 kg)	
20 in. (508 mm)	225 lb. (102.1 kg)	125 lb. (56.7 kg)	
22 in. (559 mm)	250 lb. (113.4 kg)	150 lb. (68.0 kg)	

^{*}Shelf load limits at 0° tilt

Wedge Case Shelf Depths

	Recommended	Maximum
Standard (42 in. Wedge Case Depths)	22 in. (559 mm)	22 in. (559 mm)

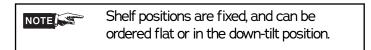
AWARNING

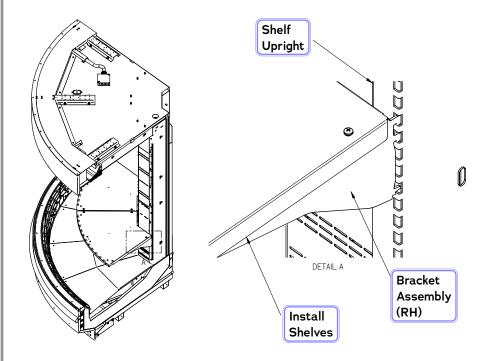
- » Hussmann does not recommend using spray hoses or misting systems due to risk of serious injury or death from electrical shock.
- » Do not use spray hoses or misting systems on cases with shelf or rail lighting.

WEDGE SHELVES INSTALLATION

Shelves are individually mounted in 1-inch (25mm) increments and have a fixed position. Shelves are placed in a flat or down-tilt position based on the design that was ordered. Install shelf bracket into the upright. Ensure bracket is fully engaged in the upright.

Case performance will be degraded if peg shelves are used without baffles. Unauthorized specialty shelving may cause poor merchandiser performance. Contact your Hussmann representative to ensure optimum performance of Hussmann equipment.





REFRIGERATION / ELECTRICAL

REFRIGERANT

The correct type of refrigerant will be stamped on each merchandiser's serial plate. The merchandiser refrigeration piping is leak tested, factory sealed and pressurized. Before making refrigeration hookups, depress the universal line valve to ensure that coils have maintained pressure during shipment. When using high glide refrigerants (e.g., R-407A, R-448A), if superheat needs to be adjusted, use the evaporator pressure and subtract the dew point from the coil outlet refrigerant temperature to measure the superheat level.

AWARNING

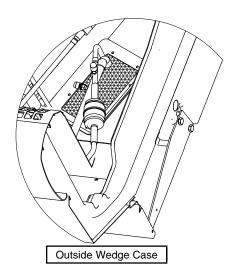
- » Refrigeration lines are under pressure and should be de-pressurized before attempting to make any connections.
- » Refrigerant vapor is hazardous to your health and can cause death.
- » Avoid breathing refrigerant and lubrication vapor or mist. Exposure may irritate eyes, nose and throat. If accidental system discharge occurs, ventilate work area before resuming service.
- » Always wear safety goggles and protective gloves when working with refrigerants. Contact with refrigerant may cause injury. Disconnect hoses with extreme caution! All hoses may contain liquid refrigerant under pressure.
- » Be sure that any room where you are working is thoroughly ventilated, especially if a leak is suspected.
- » Read all safety information regarding the safe handling of refrigerant and refrigerant oil, including the Material Safety Data Sheet. MSDS sheets can be obtained from your refrigerant supplier.

REFRIGERANT PIPING

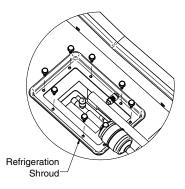
Wedge Case Connection using Shroud

The refrigerant line connections are at the right side of the wedge case (as viewed from the front) beneath the display pans. The installer must saw a hole to exit the case. Install refrigeration piping shroud before connecting refrigerant lines.

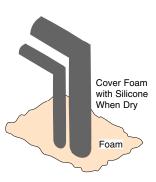
A shroud should be used to seal pipe penetrations in the bottom of Insight wedge cases. Saw a hole through the bottom that is large enough to fit the refrigerant piping. Place the refrigeration shroud over refrigeration piping so that when the shroud is rotated into place, it will be in the upright position. Use the supplied refrigeration brazing blanket to avoid burning the bottom. Be careful not to burn, scorch or over-heat the shroud when making connections.



Refrigerant lines must not interfere with the drain covers. Drain covers must be removed to provide access for cleaning. Attach the shroud to the bottom using 8 supplied screws. Apply a continuous bead of silicone sealant around the bottom of the shroud after all connections are made and insulation has been applied to the piping. Seal the outlet thoroughly. Seal both the inside and outside.



It is recommended to use an expanding polyurethane foam insulation. Cover foam with silicone to prevent water from entering foam. Seal both the inside and outside.



Line Sizing

Refrigerant lines should be sized as shown on the refrigeration legend that is furnished for the store or according to ASHRAE guidelines. Refer to the information on the next page for branch line piping of Hussmann Equipment.

Oil Traps

P-traps (oil traps) must be installed 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

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

SUCTION LINE

- Pitch in direction of flow.
- May be reduced by one size at one third of merchandiser run load and again after the second third. Do not reduce below the merchandiser suction line size.
- Merchandiser suction lines should enter at the top of the branch line.

Suction Line Return

LIQUID LINE

May be reduced by one size after one half the merchandiser run load. Do not reduce below the merchandiser liquid line connection size.

Take-offs to merchandiser liquid lines should exit the bottom of the branch liquid line. Provide an expansion loop for each evaporator take-off (minimum 3 inches [76 mm] loop).



Liquid Line Take Off

REFRIGERATION THERMOSTAT

Insight models do not use a defrost termination thermostat and are time terminated only.

DEFROST SEQUENCES

Insight merchandisers require defrost cycles for proper operation. Refer to the data sheets for application data. The Time Clock initiates defrost. The evaporator fans continue to circulate air across the evaporator coil, melting any frost build-up. If temperature termination is required, an applicable defrost sensor must be installed on the case.

MERCHANDISER ELECTRICAL DATA

Technical data sheets are also shipped with the case. The data sheets provide merchandiser electrical data, electrical schematics, parts lists and performance data. Refer to the technical data sheets and merchandiser serial plate for electrical information.

ELECTRICAL CONNECTIONS

All wiring must be in compliance with NEC and local codes. All electrical connections are to be made in the electrical raceway or Handy Box.

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.



Merchandiser must operate for 24 hours before loading product!

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

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

Low temperature merchandisers are designed for loading ONLY frozen products.



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's wireway cover.

ALWAYS CHECK THE SERIAL PLATE FOR COMPONENT AMPERES.

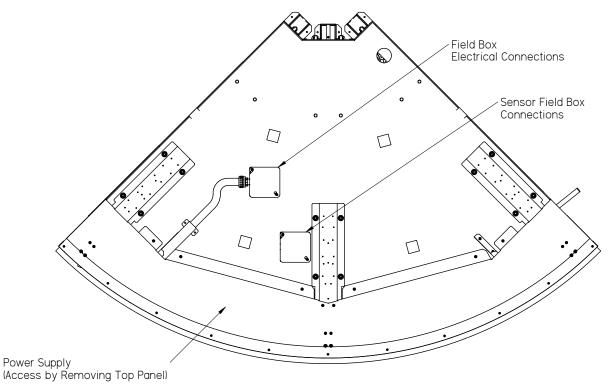
SENSOR & POWER SUPPLY LOCATION

Discharge air sensor is located in the case canopy by the honeycomb. An electrical box is shown below for field installation of the sensor. (Field box may not be present if a sensor was not originally factory installed.) Discharge sensor is located in the discharge honeycomb. See Page 3-3 for detail.

AWARNING

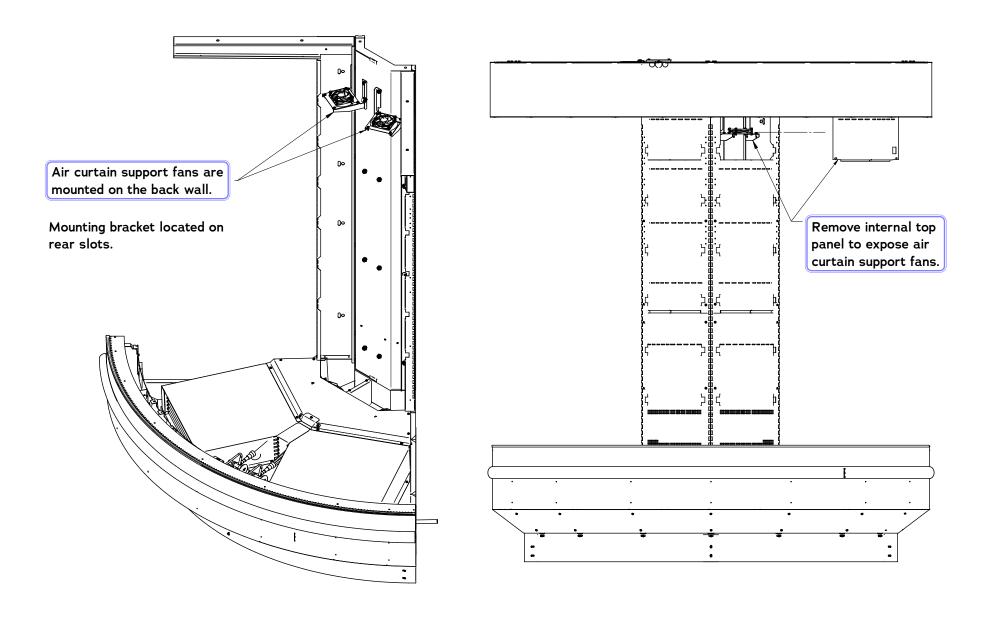
- LOCK OUT / TAG OUT -

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



90 Degree Outside Wedge Case

AIR CURTAIN SUPPORT FAN ACCESS

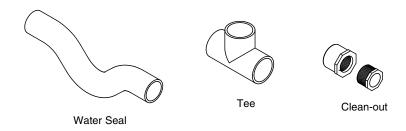


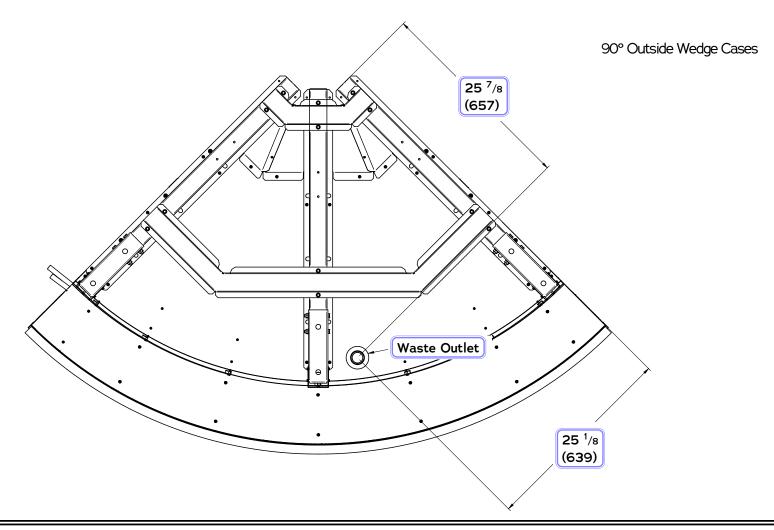
DRIP PIPING / FIT & FINISH / SPLASHGUARDS

WASTE OUTLET AND WATER SEAL

ID5SLO90Z merchandisers a waste outlet located in the front - close to the center of the bottom of the case.

Water seals are field-installed with waste outlet to prevent air leakage and insect entrance into the case. Tees and clean-outs are supplied for each case.





INSTALLING DRIP PIPING

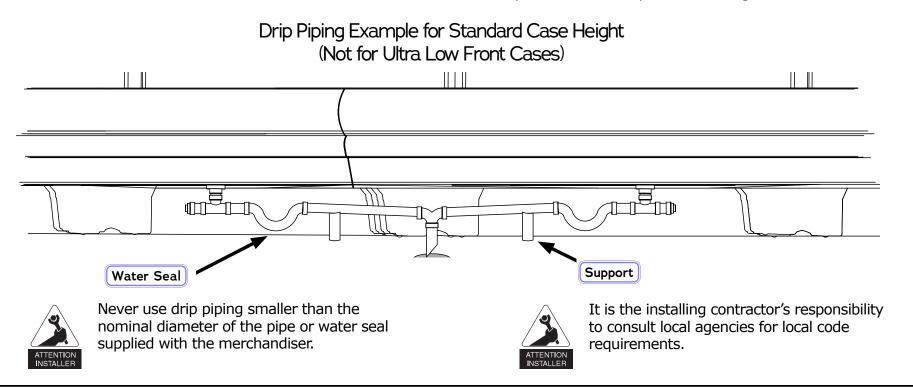
Poorly or improperly installed drip pipes can seriously interfere with the merchandiser's operation and result in costly maintenance and product losses.

Optional drip pipe arrangements are shown on the next page. It is the installing contractor's responsibility to consult local agencies for local code requirements. Assemble the components using field-supplied PVC primer and glue according to the manufacturers direction.

Please follow the recommendations listed below when installing drip pipes to ensure proper installation.

- 1. 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.
- 2. Pitch the drip piping in the direction of flow. There should be a minimum pitch of ¼" per ft (20 mm per 1 m).

- 3. Avoid long runs of drip piping. Long runs make it impossible to provide the pitch necessary for good drainage.
- 4. All connections must be watertight and sealed with the appropriate PVC or ABS cement.
- 5. Ensure that drip piping is supported to relieve any stress on drip pipe connectors and drain hub. Drip piping MUST be supported no more than 24 in. from drain hub tee.
- 6. 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.
- 7. Prevent drip pipes from freezing: Do not install drip pipes in contact with uninsulated suction lines. Suction lines should be insulated with a nonabsorbent insulation material. 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 freezing.

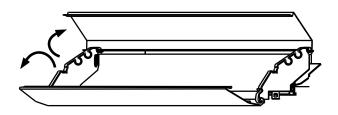


FASCIA TOP CAP ALIGNMENT

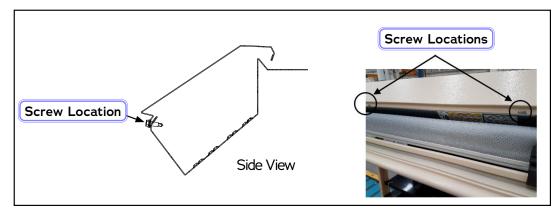
Applies to Parent Cases

Fascia Top Cap of parent cases can slide toward the center of (multideck) case lineups to eliminate gaps. Wedge case fascia top caps do not adjust.

1. Pull parent case fascia top cap to uncover fixing screws.



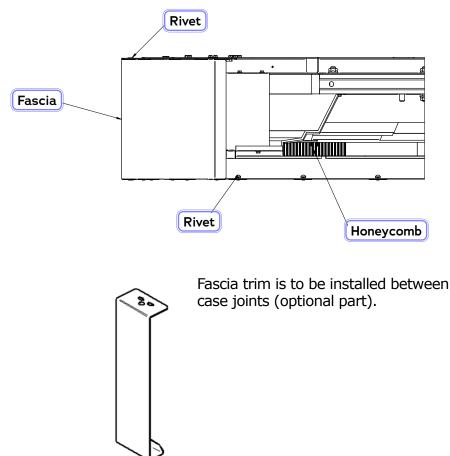
2. Loosen the screws of parent case fascia top cap.



- 3. Move parent case fascia towards the lineup center. Tighten the screws after finishing the alignment.
- 4. Snap parent case fascia top cap to closed position.
- 5. Install fascia trim between joints and at ends. Hook at bottom first, then snap top into place.

WEDGE CASE FASCIA

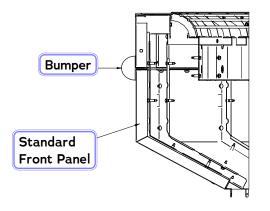
The wedge case fascia side profile is shown below.

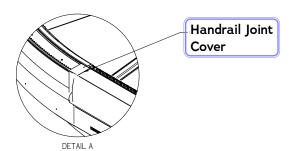


FRONT PANEL ALIGNMENT

Front panels of parent cases can slide toward the center of (multideck) case lineups to eliminate gaps.

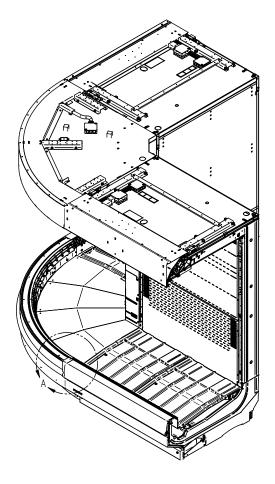
- 1. Loosen the front panel screws located at the bottom of Front Panel.
- 2. Slide front panel towards the lineup center to eliminate gaps between front panels. Tighten the screws after finishing the alignment.
- 3. Ensure handrail joint is installed using VHB tape.
- 4. Place optional front panel trim at case lineup joint. Install tape to joint first, then attach front panel trim.







Remove Front Skid Brace before aligning Front Panels. Align Panels before installing the Splashguard Front and Bumpers.

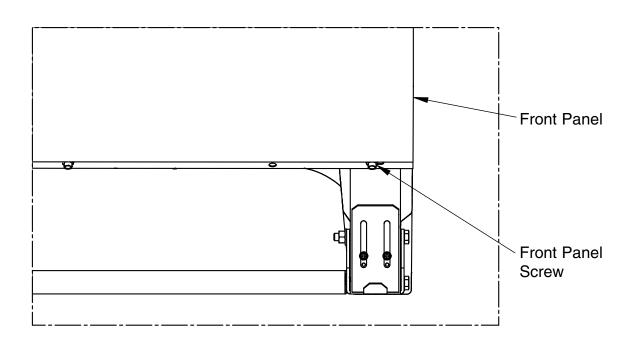


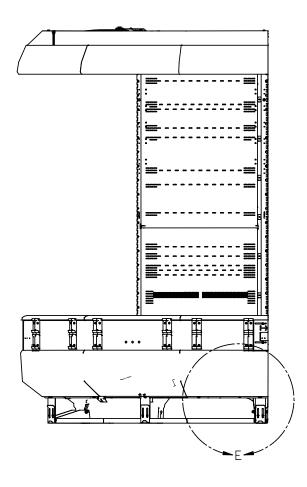
SIDE SPLASHGUARD INSTALLATION

Side splashguard panels are attached to the end of lineups at the bottom of the end panels.

To install OPTIONAL cove trim to the splashguard:

- 1. Remove all dirt, wax and grease from the area of the splashguard where adhesion will be necessary to ensure a secure installation.
- 2. Apply a good contact cement to the cove trim and allow proper drying time according to the directions supplied with the cement.
- 3. Install the trim to the splashguard so that it is lying flush with the floor. Do not seal the trim to the floor.
- 4. If required by local health codes the Cove Trim may be sealed to the floor, using a silicone type sealer. Sealant must be removed and replaced when servicing.

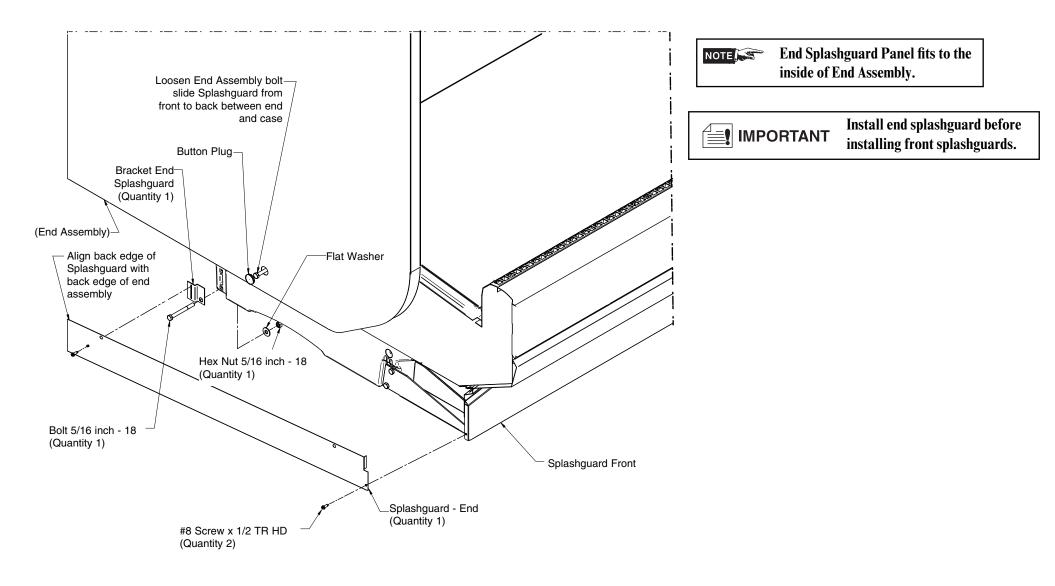




INSTALLING END SPLASHGUARDS

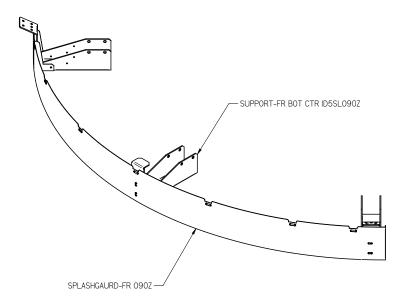
(Standard Case)

- 1. End splashguard must be slid in from the front, so that it fits behind the end panel. Attach end splashguard brackets to base at locations shown in the illustrations below.
- 2. Align forward edge of splashguard end panel to the inside of front splashguard. Fasten end splashguard to bracket with screws.
- 3. If end assembly bolt is loosened & seal broken when installing end splashguard, apply caulk to seal end assembly to inside of case.



INSTALLING SPLASHGUARD RETAINER BRACKETS

Position splashguard brackets at the front base (legs) of the wedge case near the floor. Loosely assemble splashguard bracket using $\#8 \times 5/8$ inch SM screws. More detail of splashguard installation shown on next page.

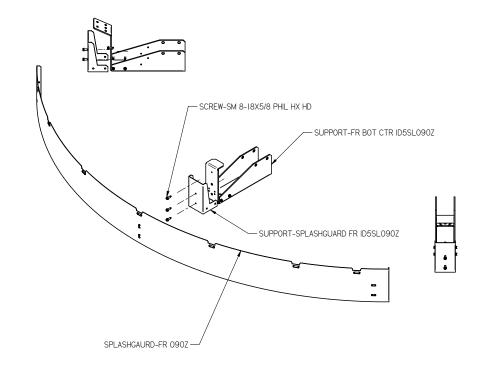


AWARNING

» Use caution when working around refrigeration lines or water lines. Damage to equipment and/ or personal injury could occur.

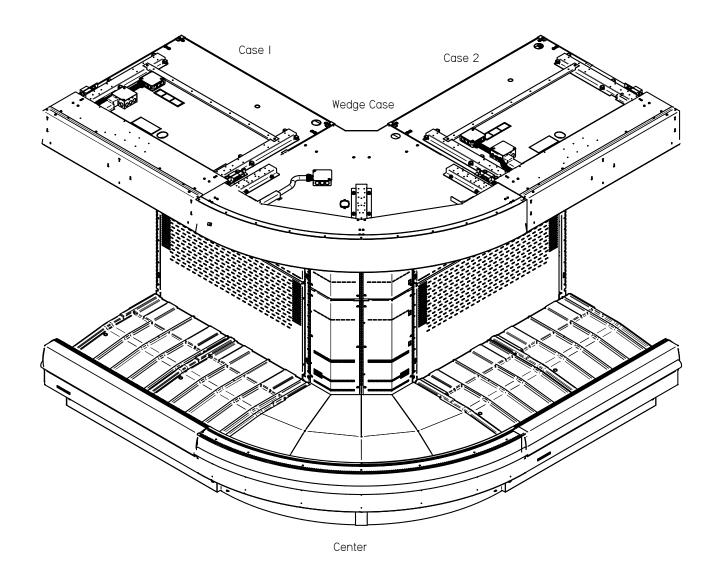


Install Drip Piping Before Installing Splashguards



SPLASHGUARD ALIGNMENT TO ELIMINATE GAPS IN CASES LINE-UP

1. Slide splashguard towards line-up center to eliminate splashguards gaps.



STARTUP / OPERATION

STARTUP / OPERATION

See the merchandiser's Technical Data Sheet (TDS) for refrigerant settings and defrost requirements. Bring merchandisers down to the operating temperatures listed on the data sheet.

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

Each four-foot section has its own evaporator coil and pre-set adjustable thermostatic expansion valve (TEV). Evaporator super heat must be checked on all cases during startup. The TEV has been factory set to provide the recommended performance settings as specified on merchandiser data sheets. Only a certified technician should adjust these valves.

ACAUTION

» Always be sure to replace TEV Cap, missing TEV Cap could result in refrigerant loss.

AWARNING

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

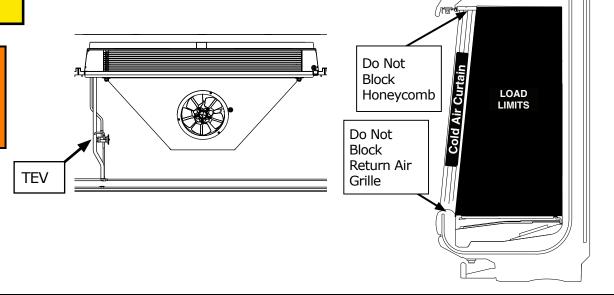
LOAD LIMITS

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

STOCKING

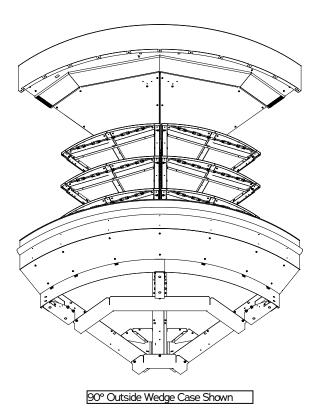
Do not block honeycomb or return air grille. Product should not be placed inside of merchandisers until merchandiser is at proper operating temperature. Proper rotation of product during stocking is necessary to prevent product loss. Always bring the oldest product to the front and set the newest to the back.

Air discharge and return flues must remain open and free of obstruction at all times to provide proper refrigeration and air curtain performance. Do not allow product, packages, signs, etc. to block these grilles. Do not use non-approved shelving, baskets, display racks, or any accessory that could hamper air curtain performance.



LED FIXTURES

These merchandisers are equipped with 24 volt DC power supplies that power the LEDs. The power supplies are located in the canopy raceway. Power supplies are located in the field connection box for wedges. LEDs work well for dimming or on/off operation using an occupancy sensor (optional kits). Replace lights with like fixtures. Contact your Hussmann representative for more information.



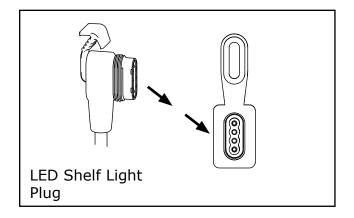
AWARNING

- LOCK OUT / TAG OUT -

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

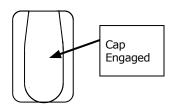
PROCEDURE FOR INSTALLING LIGHTED SHELVES

Follow these instructions to ensure good contact between male and female connectors.



- 1. Remove any products from the case and place in cooler. Shut off power to the merchandiser.
- 2. Turn off Canopy Light Switch. Remove all packed shelves.

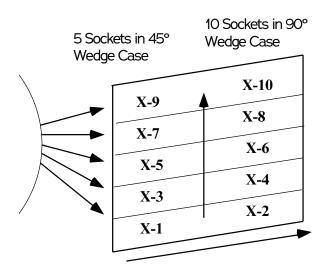
3. Engage each power socket cap, and ensure that each cap is fully seated before cleaning. Ensure the proper seating of the cap at all times when the plug is not engaged.



- 4. Clean the merchandiser as described in the Care and Cleaning paragraphs of Section 5 Maintenance. Keep liquid out of sockets. (Allow merchandiser shelves to dry before turning on shelf power.)
- 5. Verify power to the merchandiser is turned ON. Verify that the merchandiser light switch is turned OFF. The switch is located in the canopy, on the left side.
- 6. Refer to the illustration at the top of the next page. Note that other models will have fewer rows of shelves. Starting from the left-hand (where applicable) bottom section, choose the location for the first shelf, X-1.
- 7. Secure the shelf in the slotted upright. Make certain that the shelf is level and that ends are in the same slot on the left and right upright. Markings on the shelf uprights indicate the proper shelf notch for each shelf location. It is important that shelf brackets be properly seated in the slotted upright.
- 8. Working from left to right (where applicable), install the next shelf, X-2, to the right of the first shelf you installed. Always work from left to right and from the bottom up in each 90° wedge case.
- 9. After each shelf on the bottom row is in position, be sure to remove the cap and insert the shelf connector. Push firmly.
- 10. Turn ON the wedge case light switch after the entire bottom row has been installed. The shelf lights should light.

If an LED shelf light does not operate:

- Turn off light switch.
- Remove and firmly re-insert each shelf plug.
- Turn on light switch.

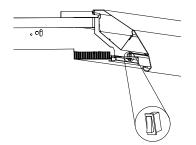


Always work Left to Right, and Bottom to Top

If lights do not operate after checking the items listed above, contact the installation contractor.

11. Using the row of shelves just installed as support, set the next shelf, X-3, in the desired location. Remove the cap and insert the shelf plug. Continue working left to right installing shelf X-4.

Note: Since the location for the remaining shelves, X-4 to X-10, may be directly over the rear wall receptacle, the shelf should be plugged in before engaging brackets in the uprights. The lower shelf will support the weight of the next shelf until it is plugged in. After installing each shelf, verify that its plug is properly connected to its rear wall receptacle. Continue working row by row, bottom up, left to right.

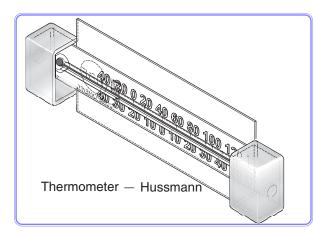


If a shelf is plugged in and the lamp does not work, verify the case light switch is ON.

INSTALLING FDA/NSF REQUIRED THERMOMETER

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

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



SAFETY INSTRUCTIONS

- » Merchandiser must operate for 24 hours before loading product!
- Regularly check merchandiser temperatures. Do not break the cold chain. Keep products in freezer before loading into merchandiser.
- » Medium temperature merchandisers are designed for loading ONLY pre-chilled products. Low temperature merchandisers are designed for loading ONLY frozen products.

Important – Please read!

This thermometer is provided in response to United States
Food and Drug Administration (US FDA) Food Code [http://www.fda.gov/]
and

National Sanitation Foundation (NSF / ANSI) Standard 7 [http://www.nsf.org/]

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

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

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

Keep with merchandiser

or give to store manager.

DO NOT DESTROY.

MAINTENANCE

CARE AND CLEANING

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

Fan Plenum

The fan plenum is located behind the interior back panels. Remove the back panels to get access to the fans. Fan motor harness plug must be securely connected. Do not disconnect fan motor harness plug for cleaning or maintenance procedures.

Glass Doors

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

Interior Surfaces

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

Rotate the type of detergent and sanitizer used. For example, rotate the use of an ammonia based, a chlorine based and/or a peroxide based detergent and sanitizer to ensure micro-organisms do not become resistant to a single detergent or sanitizer.

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.

Do Not Use:

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

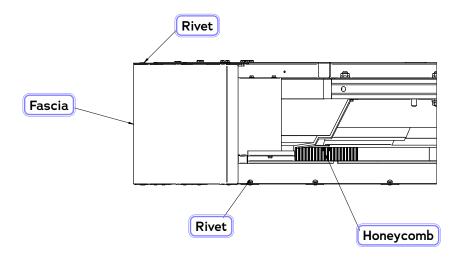
Do:

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

CLEANING HONEYCOMB ASSEMBLIES

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

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



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 bend fins. Contact an authorized service technician if a coil is punctured, cracked or otherwise damaged.

- 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.

AWARNING

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

ACAUTION

» 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.

MINIMUM SUGGESTED CLEANING AND MAINTENANCE FREQUENCY

Case Component	Type of Scheduled Maintenance	Maintenance Frequency (Times / Year)*	Average Maintenance Duration (hours)	Total Estimated Maintenance Time / Year (hours)
Evaporator Coil / Case Interior	Cleaning	1	2	2
Honeycomb	Cleaning	1	0.05	0.05
Return Air Grille	Cleaning	12	0.1	1.2
Drip Piping	Cleaning	6	0.1	0.6
Condenser Coil	Cleaning	4	0.1	0.4

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

SERVICE

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	Check evaporator fan operation. Check electrical connections and input voltage.
	spec.	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.
		Check suction pressure and ensure that it meets factory specifications.
	Case is in defrost.	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.

TROUBLESHOOTING CONTINUED

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

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

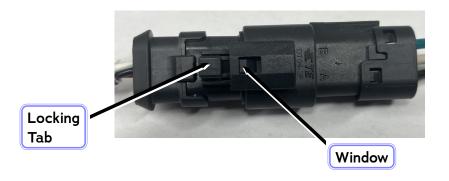
To access and replace fan motor:

- 1. Turn off case power at breaker.
- 2. Remove bottom display pans.
- 3. Unpack new motor/harness assembly and set aside outside of case.
- 4. Remove screws holding existing fan motor bracket assembly to plenum, and remove assembly from plenum.
- 5. Disengage and unplug existing motor harness connector; remove existing motor.
 - A. Grasp the plug and receptacle, and apply slight pressure to pull apart. The connector should not separate without depressing the locking tab.
 - Locking Tab

- 6. Taking care to avoid any existing moisture in the case, IMMEDIATELY connect and lock new motor harness as follows:
 - A. Align the plug and receptacle, and push together until the locking tab engages. (Locking tab must engage in the window of receptacle and not separate.)







AWARNING

- LOCK OUT / TAG OUT -

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

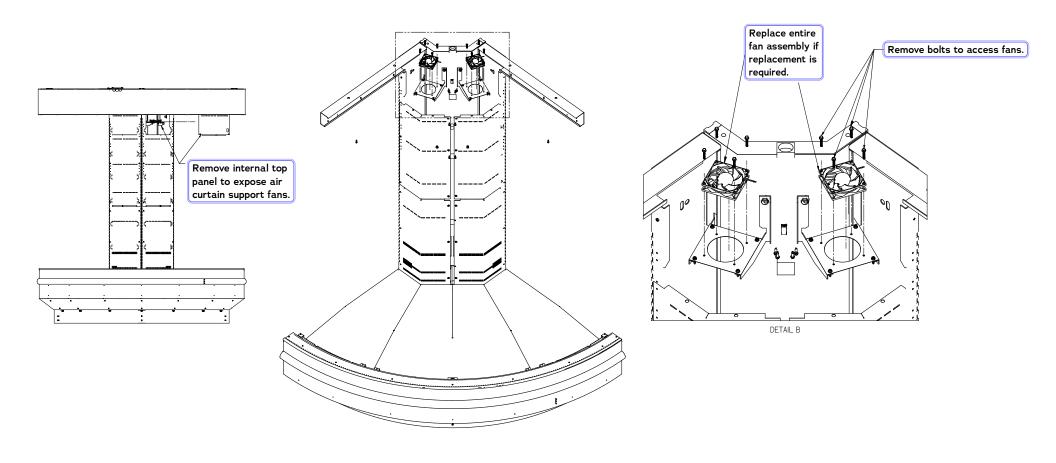
- 7. Place new fan motor assembly back into plenum, and reinstall screws to secure.
- 8. Turn on power.
- 9. Verify that motor is working and blade is turning in the correct direction.
- 10. Close air gaps under fan plenum. Warmer air moving into refrigerated air reduces effective cooling. If the plenum 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.



AWARNINGSTOP - DO NOT UNPLUG

The fan motor harness plug MUST be properly secured in order to perform at its IP68 rating. This connection should ONLY be disconnected / connected by a qualified contractor and ONLY in the event of a fan motor replacement. The fan motor harness plug should not be disconnected/connected in performing any other cleaning, service or repair. Refer to the installation, operation and services manual for sequence of repair. All case cleaning & maintenance procedures should be performed with the power disconnected at the breaker. Failure to adhere to these instructions can lead to damage to the unit and creates a risk of flammability.

AIR CURTAIN SUPPORT FAN REPLACEMENT



AWARNING

- LOCK OUT / TAG OUT -

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

REPLACING ALUMINUM COIL

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

Hussmann recommends the following technique:

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

ACAUTION

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

WARRANTY INFORMATION

HUSSMANN

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

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