



IMPORTANT

Keep in store for future reference!

LOW TEMPERATURE

Installation & Operation Manual

Shipped With Case Data Sheets

P/N 3032067_E

April 2023

Spanish P/N 3032068



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.

PERSONAL PROTECTION EQUIPMENT (PPE)



Only qualified personnel should install and service this equipment. Personal Protection Equipment (PPE) is required whenever servicing this equipment. Wear safety glasses, gloves, protective boots or shoes, long pants, and a long-sleeve shirt when working with this equipment and handling glass. Observe all precautions on tags, stickers, labels and literature attached to this equipment.



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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ANSI Z535.5 DEFINITIONS

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 four parts according to ANSI Z535 Series.



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.

INSIGHT INSTALLATION

TOOL LIST

(recommended)



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
1/4 in. Socket Drill Bit
5/16 in. Socket Drill Bit
1/2 in. Socket - Deep Drill Bit
1/2 in. Open End Wrench
Cordless Impact Drill
Caulking Gun
10 in. Adjustable Crescent Wrench
Pallet Jack

MANUAL REVISION HISTORY

REVISION E

1. Removed Page 5-4; Revised fan motor service instructions, Page 6-1, 6-2. Updated cleaning procedures, Page 5-1. Updated warning colors

REVISION D

1. Revised procedures for fan motor harness connector, Section 5 & 6.

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. A Type II fan speed control kit is required for each merchandiser to operate at Type II 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 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 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.

PRODUCT TEMPERATURE

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 product life.

ATTENTION

**Merchandiser must operate for 24 hours
before loading product!**

Regularly check merchandiser temperatures.
Do not break the cold chain. Keep products in
cooler or 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.



A 1.5 inch (38 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.

⚠️ WARNING

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

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.

Concealed Loss or Damage

When loss or damage is not apparent until after equipment is uncrated, retain all packing materials and submit a written request to the carrier for inspection, within 15 days.

UNLOADING

Improper handling may cause damage to the merchandiser when unloading. Use the shipping brace and arched pod locations to lift when unloading cases.

1. Do not drag the merchandiser out of the trailer. Use a Johnson bar (mule).
2. Do not lift the case by the liner. Lift with the metal case base, arched plastic pods or the shipping brace.
3. Do not lift from the bottom edge of the end cap.

EXTERIOR LOADING

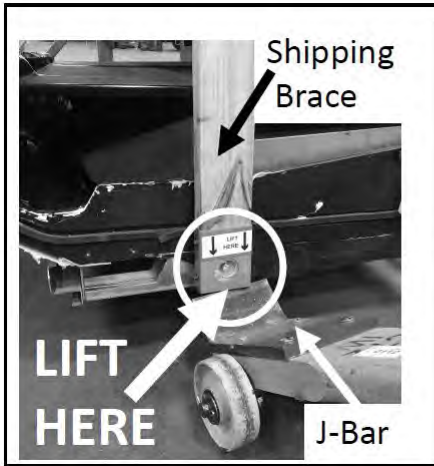
Do NOT walk on top or inside of merchandisers or damage to the merchandisers and serious personal injury could occur. **THEY ARE NOT STRUCTURALLY DESIGNED TO SUPPORT EXCESSIVE EXTERNAL LOADING** such as the weight of a person. Use caution when working around refrigeration lines or water lines, damage to equipment and personal injury could occur.

⚠ WARNING

» 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.

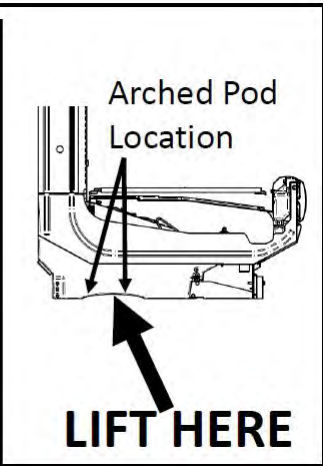
⚠ WARNING

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



LIFT POINTS
Shipping Brace & Arched Pod

Installer lift at either of **THESE POINTS** with J-bar when moving case.



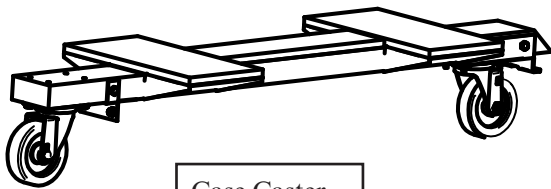
UNLOADING USING A PALLET JACK

A pallet jack is also very helpful in moving a merchandiser to its permanent location. It can also be used to remove optional casters or to shim the case.



OPTIONAL CASTERS AND DOLLIES

Cases may be equipped with factory installed casters or dollies. Instructions for removing the casters or dollies are included in a separate document, shipped with the case. Use caution when transporting cases from the truck to the store location.



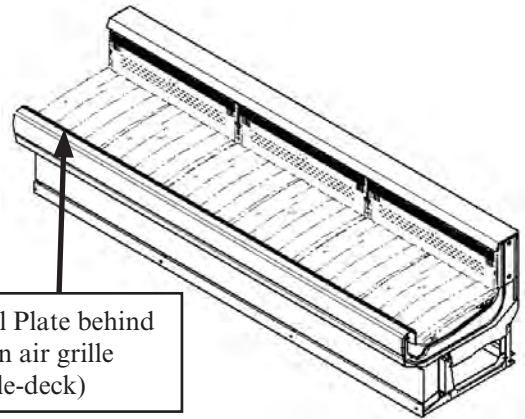
Case Caster

⚠ WARNING

» Use caution when moving cases with casters or dollies. Damage to equipment and personal injury could occur from improper handling.

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 behind return air grille (single-deck)

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.

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

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.

SHIPPING RIDER

Some merchandisers are shipped on a rider to protect the factory installed front legs, and to make positioning the merchandiser easier. To remove the rider, remove bolts attaching rider to each leg.

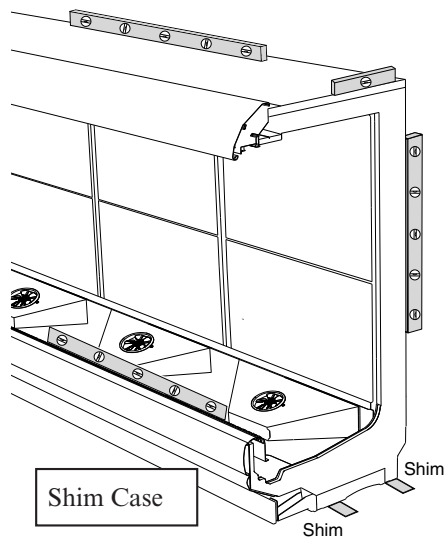
MERCHANDISER LEVELING

IMPORTANT
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 1½ 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.**



CAUTION
» 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.



JOINING CASES IN A LINEUP JOINING AND SEALING HARDWARE

- Screw-Sheet Metal #8 x 5/8 
- Screw-Cap 1/4 x 3/4 
- Bolt-5/16 x 3/4 
- Bolt-5/16 x 2 3/4 
- Bolt-5/16 x 4 1/2 
- Bolt-5/16 x 7 
- Washer Flat-5/16 
- Washer Lock-1/4 
- Washer Lock-5/16 
- Nut Hex-1/4 
- Nut Hex-5/16 
- Nut Hex-3/8 Serr Flange 
- Pin-Alignment 
- Cone-Alignment 
- Plate-Bottom Door Rail Alignment 
- Bracket-Case Joining 
- Bracket-Fascia Alignment IC2 & IC3 
- Cover-Handrail Joint 

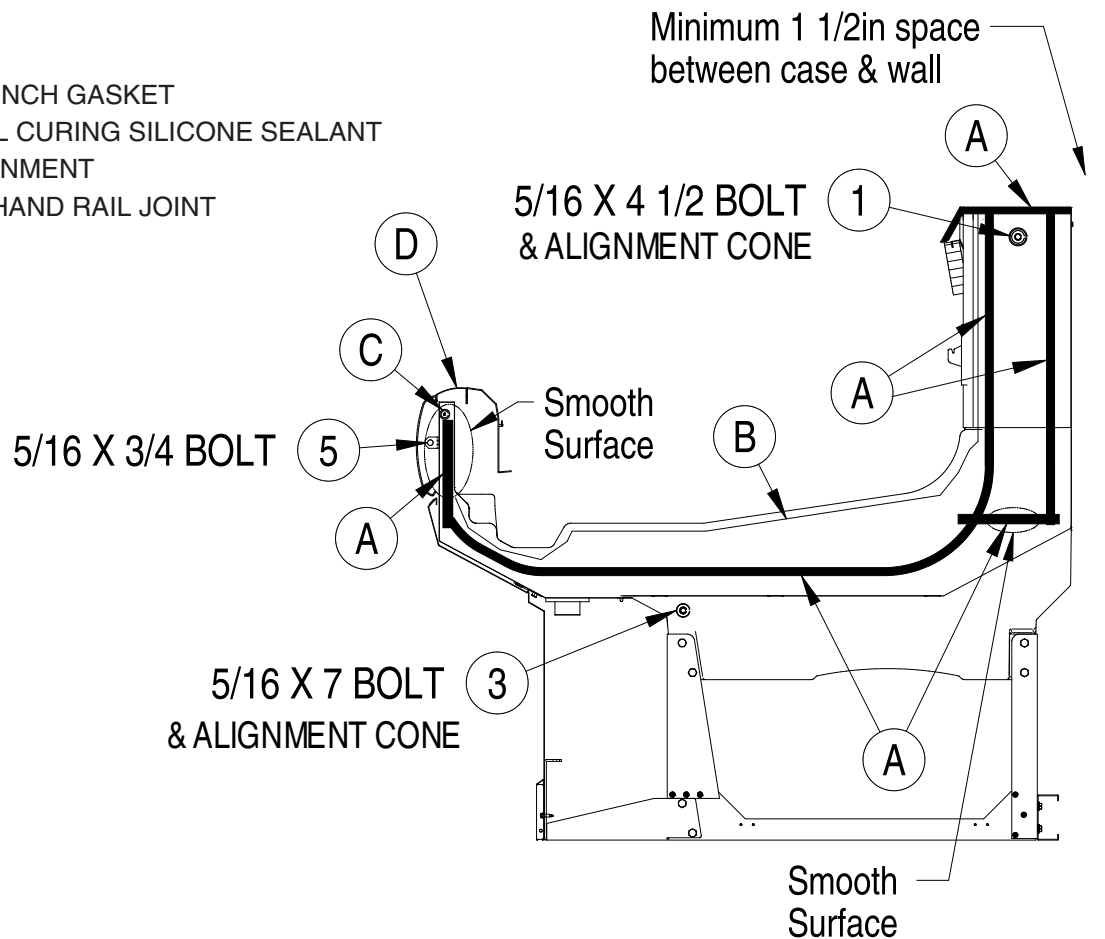
Description	Single Deck Qty/Each
SEALER SILICONE ADHESIVE	1
GASKET 1/2 X 1/2 X 180	1
SCREW-SHEET METAL #8 X 5/8 PHIL HX HD	N/A
SCREW-CAP 1/4 x 3/4 HEX	N/A
BOLT HEX CAP 5/16 x 3/4	1
BOLT 5/16 x 2 3/4 GRADE 5 ZINC PLATED TAP	N/A
BOLT- TAP, 5/16 x 4 1/2, STEEL, ZINC FINISH, GR5 (Qty Varies)	1
BOLT- TAP, 5/16 x 7, STEEL, ZINC FINISH, GR5	1
WASHER-FLAT 5/16" ZINC (Qty Varies)	3
LOCKWSHR 1/4 SPLT STL	N/A
LOCKWSHR 5/16 SPLT STL	1
NUT-HEX 1/4	N/A
NUT-HEX 5/16 STEEL ZINC FINISH GRADE 8 (Qty Varies)	3
NUT-HEX 3/8-24 SERRATED FLANGE	N/A
PIN-ALIGNMENT	1
CONE-CASE ALIGNMENT (Qty Varies)	2
PLATE-BOTT DOOR RAIL ALIGNMENT	N/A
BRACKET-CASE JOINING	N/A
BRACKET-FASCIA ALIGNMENT IC2 & IC3	N/A
COVER-HAND RAIL JOINT	1
TAPE-BUTYL 1/16 x 2" X 49"	1

**APPLY GASKETS
(SINGLE-DECK)
IM1**

Case bolting details begin on the next page.

LEGEND:

- A = 1/2 x 1/2 INCH GASKET
- B = NEUTRAL CURING SILICONE SEALANT
- C = PIN-ALIGNMENT
- D = COVER-HAND RAIL JOINT



IMPORTANT:

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

Merchandiser case joint & end gasket to be applied on only one side of joint.

Merchandiser partition gasket to be applied on both sides of 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 or condensation.

1-8

CASE JOINING (SINGLE DECK)

IM1

Refer to detail views

LEGEND:

C = PIN-ALIGNMENT

Do not pull cases together with bolts. Cases must be moved together as close as possible. Follow sequence balloons 1, 2, and 3 to tighten bolts.

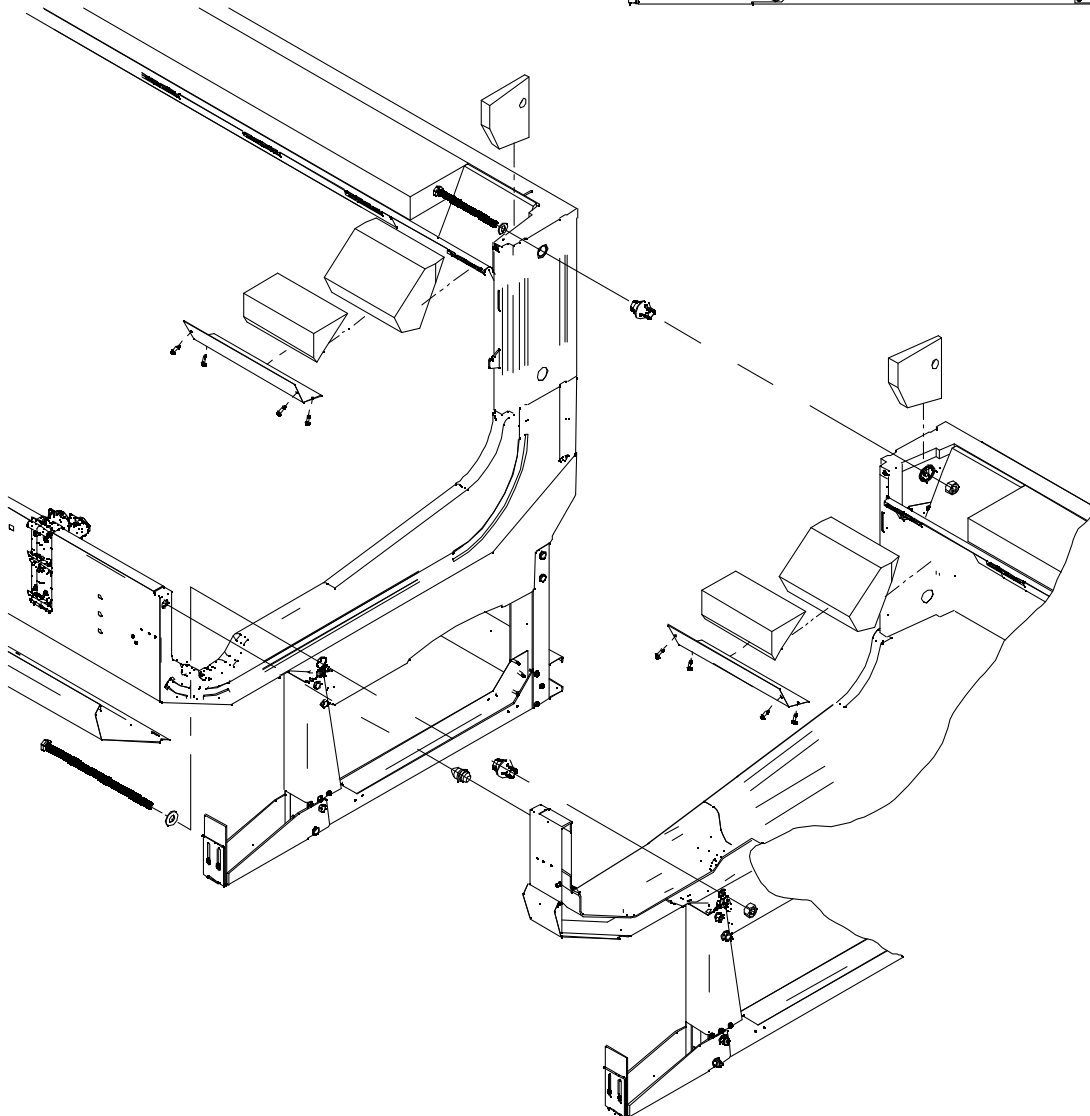
5/16 X 4 1/2 BOLT
& ALIGNMENT CONE

1

C

3

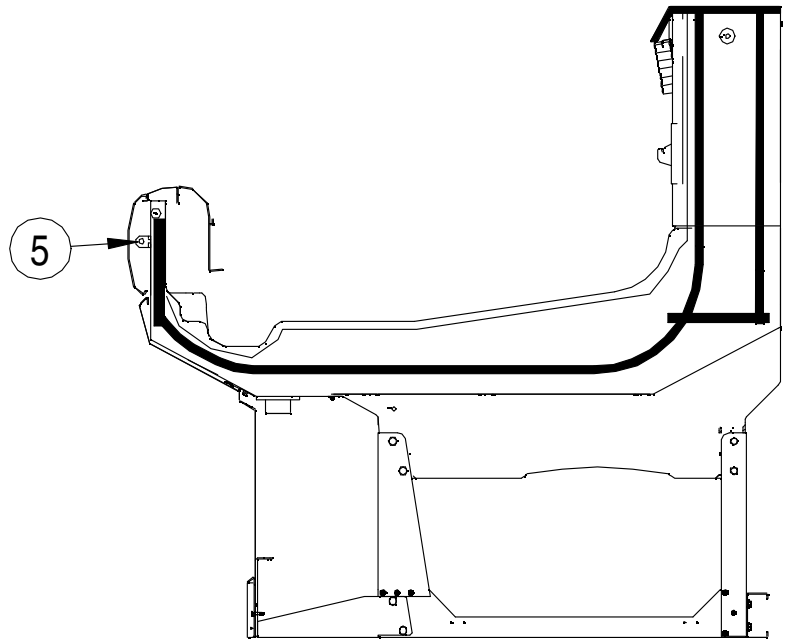
5/16 X 7 BOLT
& ALIGNMENT CONE



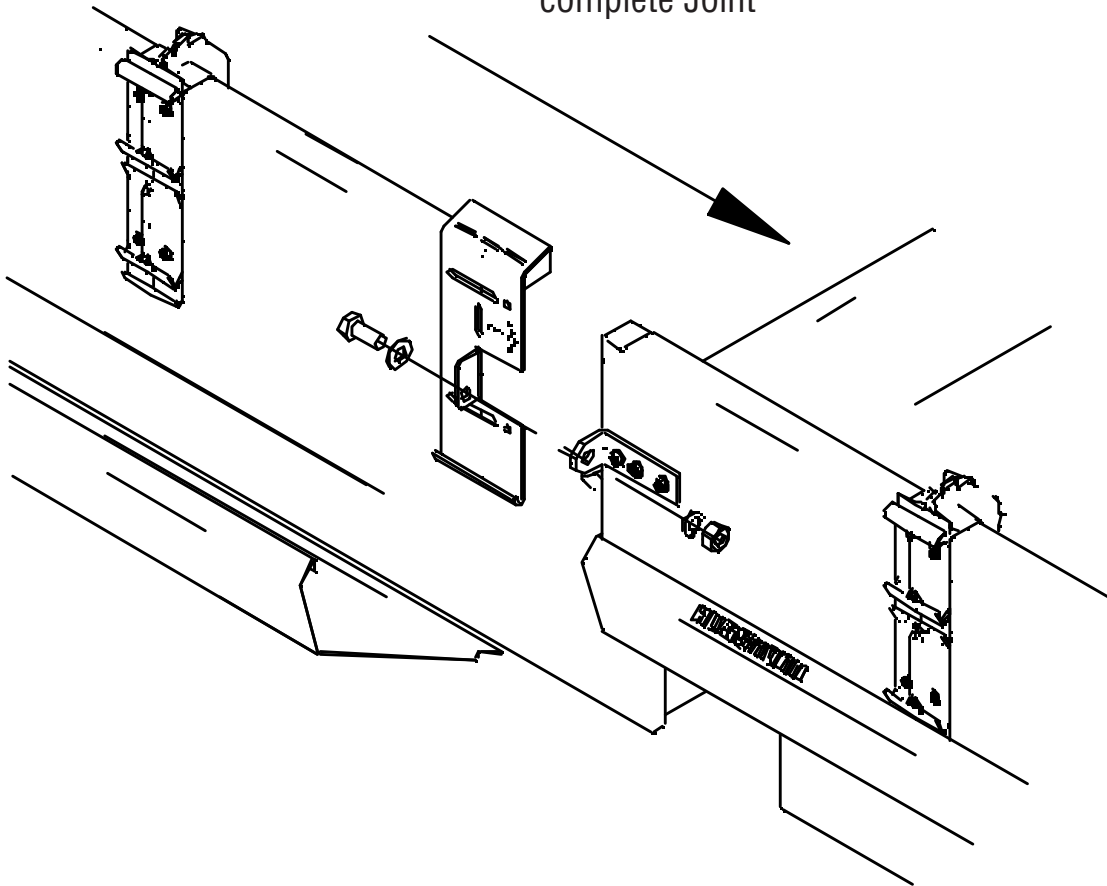
CASE JOINING (SINGLE DECK)
IM1 / IP1
Refer to detail views

5/16 X 3/4 BOLT

5



Slide Bracket to
complete Joint



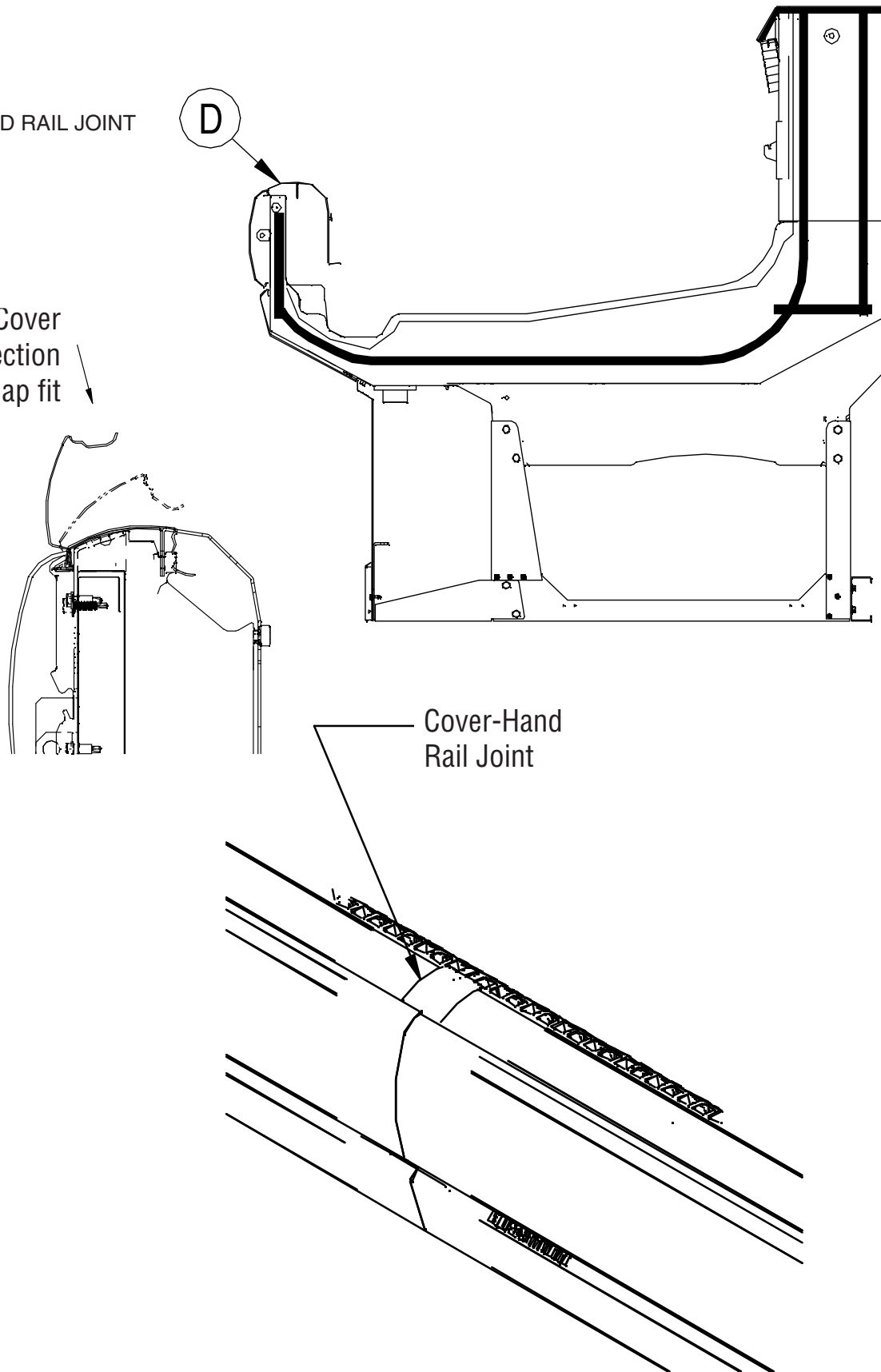
CASE JOINING (SINGLE DECK)

IM1

LEGEND:

D = COVER-HAND RAIL JOINT

Push Cover
in this direction
to snap fit



Seal Lineup Joints (all cases)

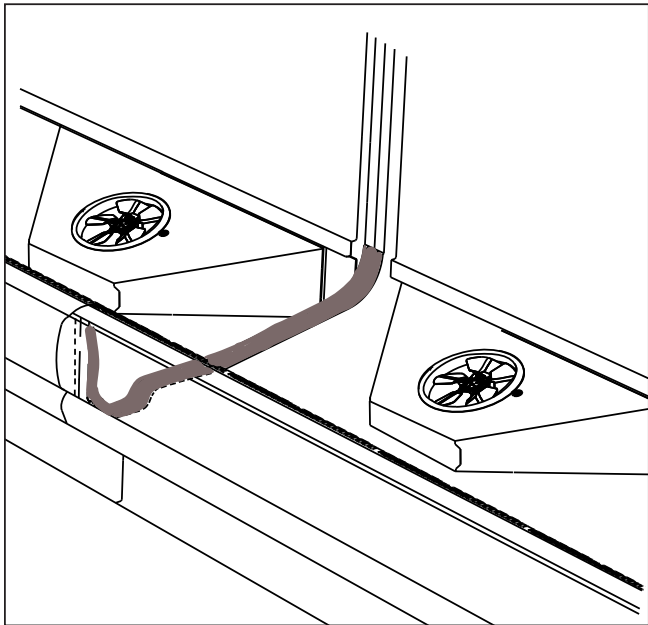
The joint between the two joined case must be sealed for sanitation. Apply Butyl tape across the case joint. Apply a long, continuous bead of silicone to fill any gaps between the cases.

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

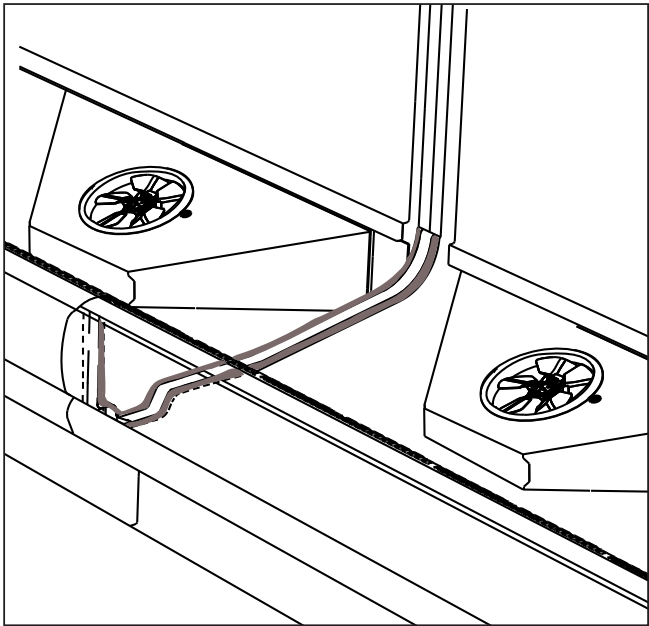
⚠ WARNING

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

 **IMPORTANT** Fill any gaps between cases with silicone.



Apply Butyl Tape



Apply Neutral Curing
Silicone Sealant

**Apply Neutral Curing Silicone Sealant
in any gaps between the Case Joints.**

INSTALLING END ASSEMBLIES

Remove shipping brace. Brace screws will be replaced with shorter screws found in packout kit. Ensure Nut Retainers are in place. Apply Gaskets and Silicone to End Frame.

Apply 1/2 x 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.



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	1	1	1	1
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.


Screw-sm #10 x 3/4 Hex Washer  

Bolt-5/16 x 2 3/4  

Bolt-5/16 x 4 1/2  

Washer Flat-5/16  

Nut Hex-5/16  

Nut-Push 5/16 

Nut-J Retainer 

Button-Plug 

IMPORTANT:

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

Apply case end 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.

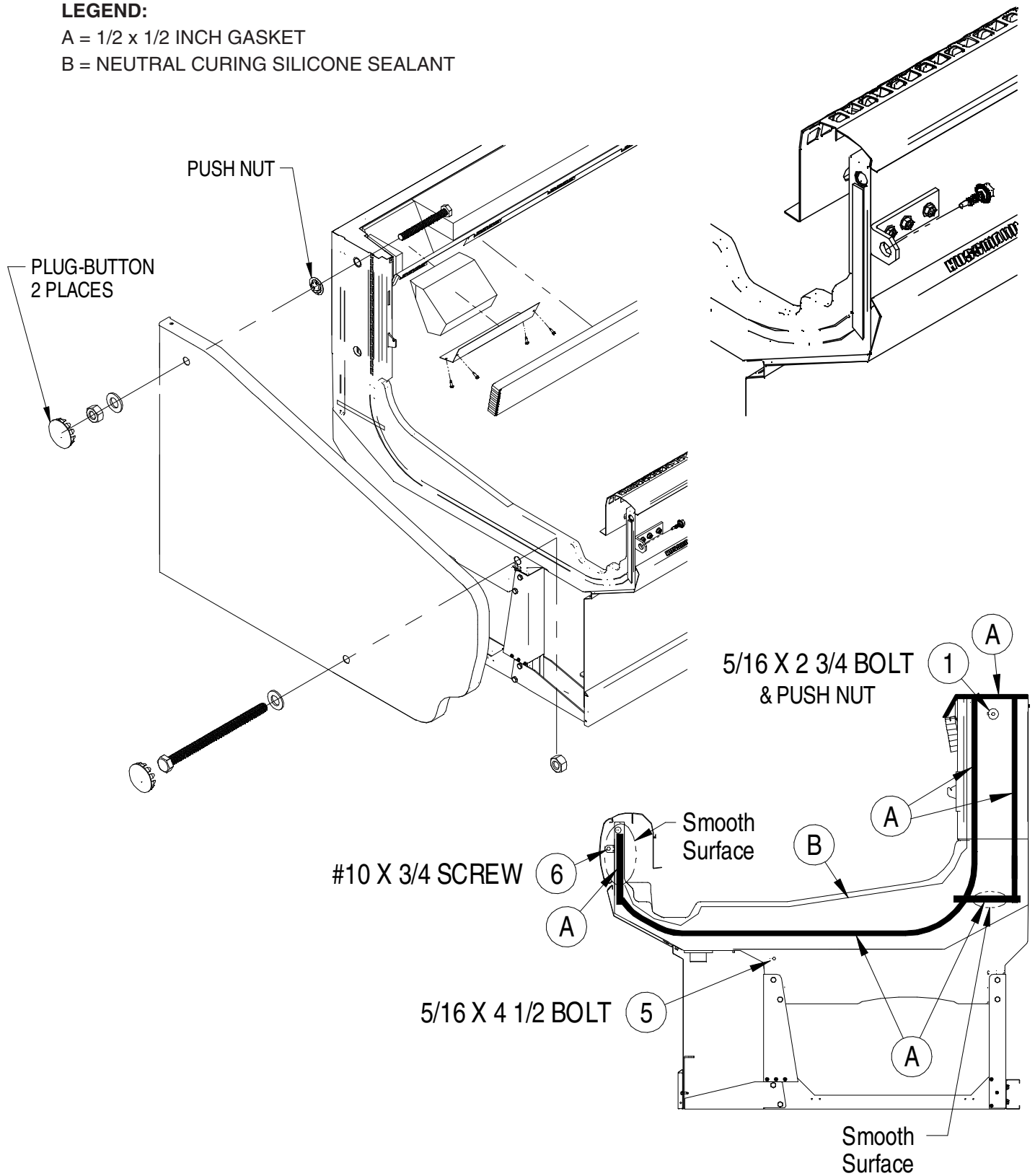
Joints must be air tight to prevent formation of ice or condensation.

SINGLE DECK
CASE END INSTALLATION

LEGEND:

A = 1/2 x 1/2 INCH GASKET

B = NEUTRAL CURING SILICONE SEALANT

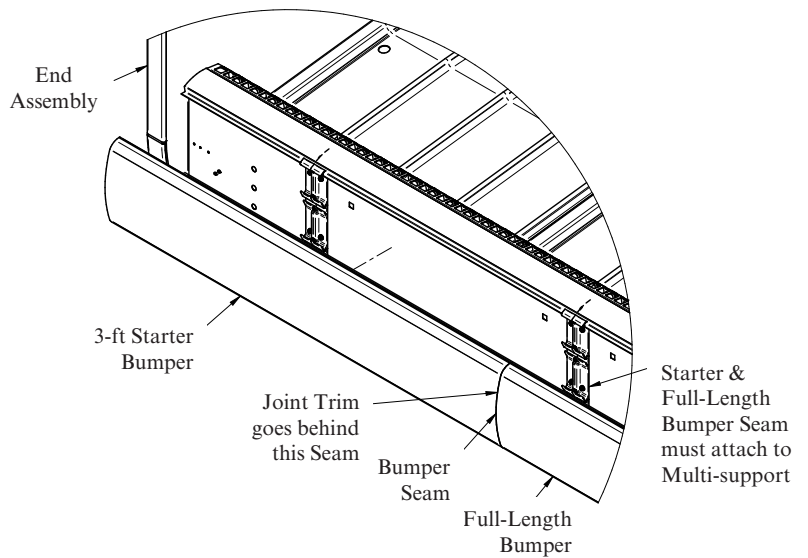
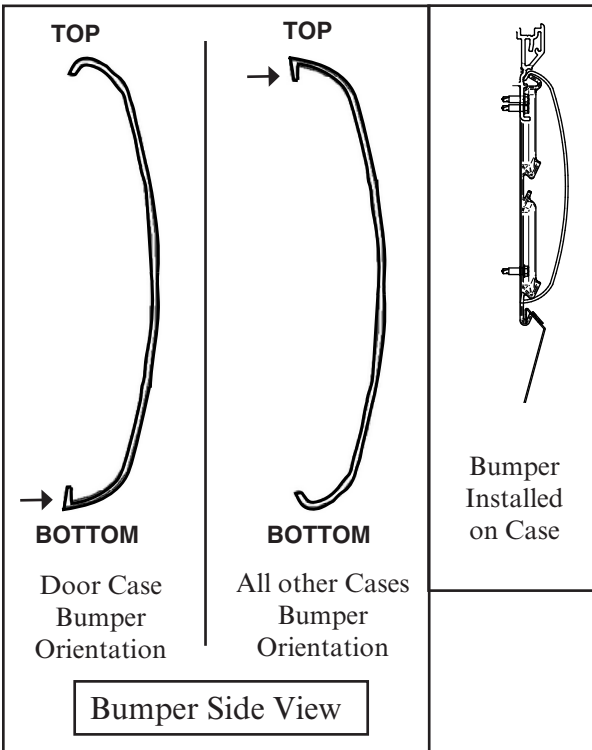
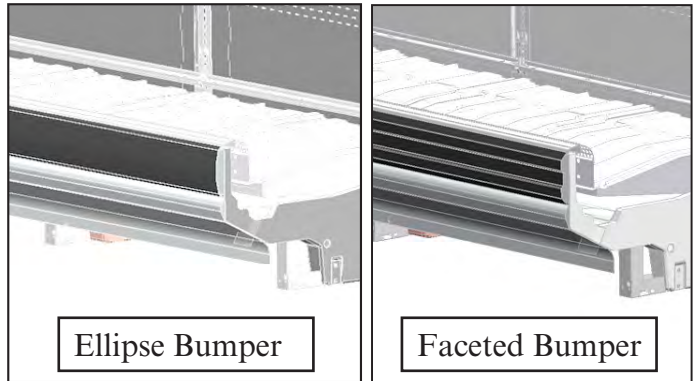


INSTALLING BUMPERS

1. Bumpers are packed out with the case and snap onto the bumper retainer. Gaskets are factory installed in the bumper retainers to provide support for the bumpers. Do not remove the gaskets.
2. Bumper joint inserts are provided with the case to disguise joints for a lineup of cases.
3. Start at the left end of the lineup. Install 3ft starter bumper first. Refer to bumper side view illustration to ensure the bumper is orientated correctly. 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.

4. 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.
5. 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.

NOTE  Bumpers come in two styles — **Ellipse and Faceted.**



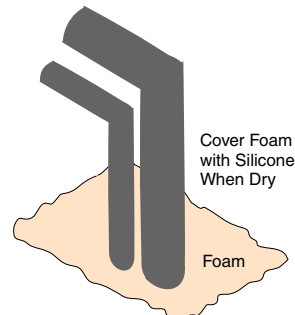
REFRIGERATION / ELECTRICAL

⚠ WARNING

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

It is recommended to use an expanding polyurethane foam insulation. Cover foam with silicone to prevent water from entering foam.

Refrigerant lines must not interfere with the drain covers. Drain covers must be removed to provide access for cleaning.

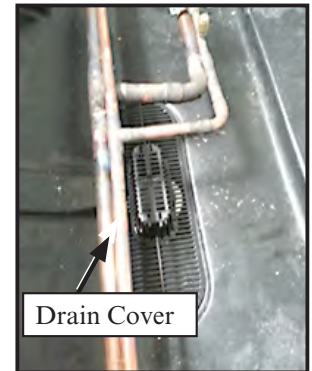


REFRIGERANT

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.



Piping Outlet



Drain Cover

REFRIGERANT PIPING

Standard Case Connection Location

The refrigerant line connections are at the right end of the merchandiser (as viewed from the front) beneath the display pans. The installer must saw a hole to exit the case. After connections have been made, thoroughly seal this outlet. Seal both the inside and the outside.

⚠ WARNING

- » 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.

Back Wall Piping Penetrations

Cases that are to be piped from the back have a factory installed ¼ pilot hole in the exterior liner. Use the pilot hole to locate the hole saw to drill out a hole 2½ in. diameter hole to run the coil piping.

After connections have been made, thoroughly seal this outlet. Seal both the inside and the outside.

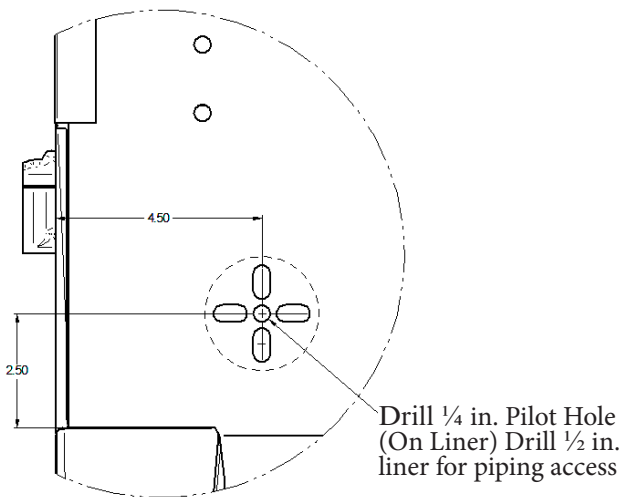
It is recommended to use an expanding polyurethane foam insulation. Cover foam with silicone to prevent water from entering foam.

⚠ CAUTION

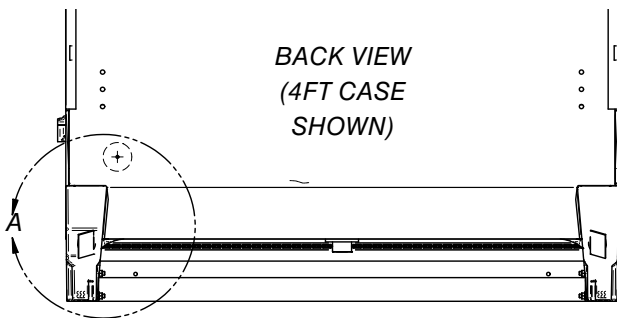
» When brazing pipes be sure to use the insulation blanket shipped with the merchandiser to prevent damage to the foam bottom.

Multiplexing

Piping of merchandisers operating on the same refrigeration system may be run from merchandiser to case. Do not run refrigerant lines through merchandisers that are not on the same refrigeration system branch as this may result in poor refrigeration control and compressor failure.



Detail A



Interconnecting piping inside the case must be located as shown below to allow room for lifting the hinged fan plenums and for clearance beneath the display pans. Alternately, the interconnecting piping may be run outside the case.

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

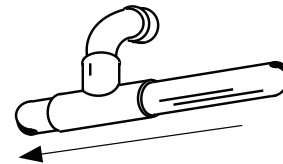
Pressure drop can rob the system of capacity. To keep the pressure drop to a minimum, keep the refrigerant line run as short as possible using a minimum number of elbows. Where elbows are required, use long radius elbows only.

INSULATION

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

SUCTION LINE

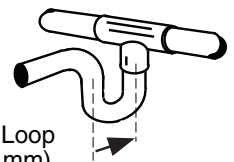
- Pitch in direction of flow.
- May be reduced by one size at one third of merchandiser run load and again after the second third. Do not reduce below the merchandiser suction line size.
- Merchandiser suction lines should enter at the top of the branch line.



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 in. [76 mm] loop).



Minimum Loop
3-in. (76 mm)

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 wireway 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.

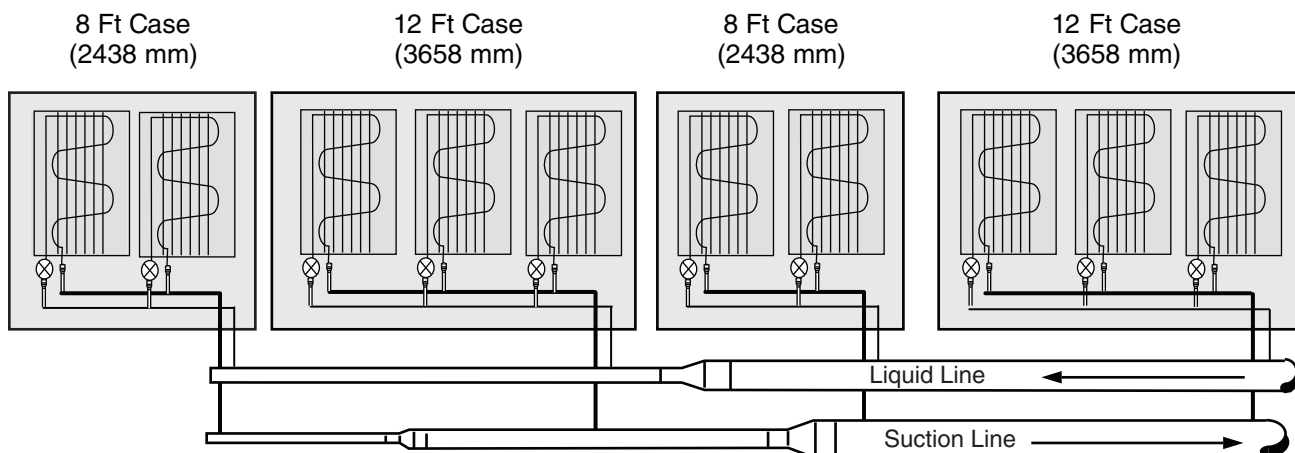
Field wiring from the refrigeration control panel to the merchandisers is required for defrost termination thermostats and for optional refrigeration thermostats. When multiple merchandisers are on the same defrost circuit, the defrost termination thermostats are wired in series.

ALWAYS CHECK THE SERIAL PLATE FOR COMPONENT AMPERES.

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.

Offtime Defrost



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
DARK BLUE....	DEFROST TERM. THERMOSTAT	LIGHTS
PURPLE.....	CONDENSATE HEATERS	MAROON.....
BROWN	FAN MOTORS	RECEPTACLES
GREEN*.....	GROUND	YELLOW
		DEFROST HEATERS 120V
		RED
		DEFROST HEATERS 208V
		*EITHER COLORED SLEEVE OR COLORED INSULATION

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

THESE ARE MARKER COLORS, WIRES MAY VARY.

HANDLING ELECTROSTATIC SENSITIVE DEVICES (FAN SELECTOR)

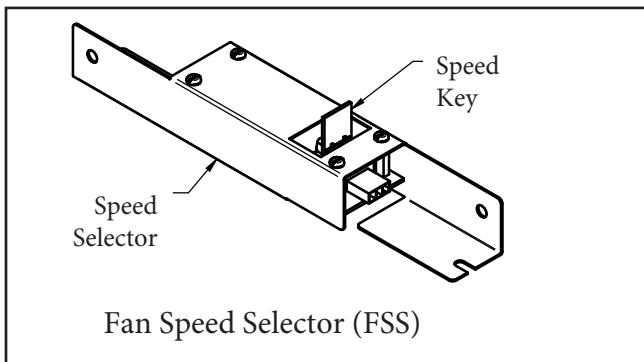
Some Insight merchandisers are equipped with a fan speed selector to optimize fan speeds and enhance energy performance. The electronics may be standard or later installed to the cases as a kit. These electronics consist of an input in the motor, and a controller with a key that allows fan speeds to be changed. (Only a professional technician should make any changes to the fan speeds.) A different speed key may need to be ordered to change the fan speed. Contact your Hussmann representative to learn and order what speed key is appropriate for your products.

ESD (electrostatic discharge) sensitive device. Charged devices and circuit boards can discharge without detection. Although this product contains protection circuitry, damage may occur on devices subjected to high energy ESD. Proper precautions should be taken to avoid loss of functionality.

A field grounding kit is recommended for installation of components from a kit or for field service work performed by internal service personnel. The following equipment is recommended for work being performed in the case:



Example of Grounding Kit 3M 8507 with audible alarm

**DO:**

- Minimize handling.
- Keep parts in original packaging until ready for use.
- Store and carry components in Original Manufacture Packaging or equivalent Static shielding bags.
- Discharge static before handling device by touching nearby grounded surface.
- Handle devices by the body.
- Keep a dust free work area.

DON'T:

- Touch the leads of any device.
- Slide ES Sensitive devices over any surface.
- Store or carry components or assemblies in plastic bags.
- Store sensitive components in thermocole/ plastic foam.

Field Ground Kit with instructions for use
 Recommended Suppliers/Distributors of
 Equipment:

DESCO Industries
 Part Numbers (18575 or 18576 or 95651)

3M Corporation
 Part Numbers (8501 or 8505 or 8507 or FSK-
 L3RD)

Amazon, DigiKey, Grainger, Mouser, Newark.
 Search under ESD Service Kits.

INSTALLING TYPE II FAN SPEED SELECTOR KIT

A fan speed selector may be required for a merchandiser to operate for certain applications such as Type II conditions. However, if the speed key is removed, the fans will return to the default fan speed, which typically aligns with Type I operation. Each key is configured from the factory to operate for the specific model for which it was ordered.

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

Contact your Hussmann representative to order this kit if the cases in your lineup are required to operate in Type II conditions. The selector will operate up to 6 fan motors. Only an experienced electrician should install the fan selector.

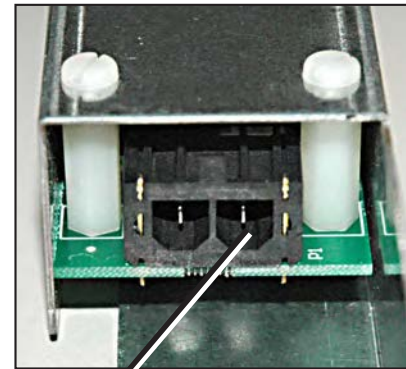
1. Mount the selector inside of the wireway of each case. Insert the speed key into the selector. Insert harness connector (2-pin) into the Selector. The 2-pin side supplies power to the selector. It can be used with 110V or 220V circuits.
2. Insert the harness connector (3-pin) into the selector. The 3-pin side sends a signal to the fan motor and the fan speed RPM is now changed to the new setting.

Harness Routing and Field Connections are shown on the next Page.

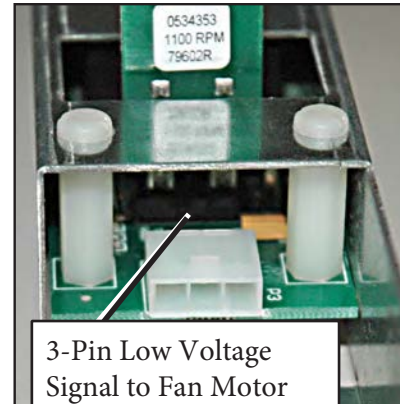
⚠ WARNING

— LOCK OUT / TAG OUT —

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

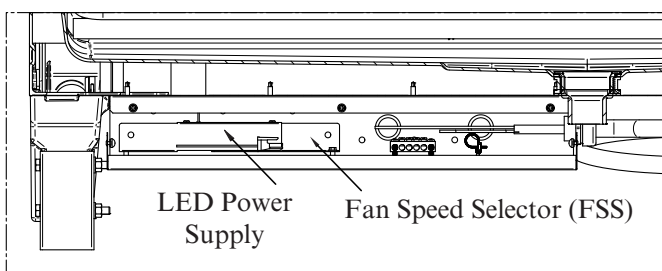


2-Pin Input Line Voltage to Selector

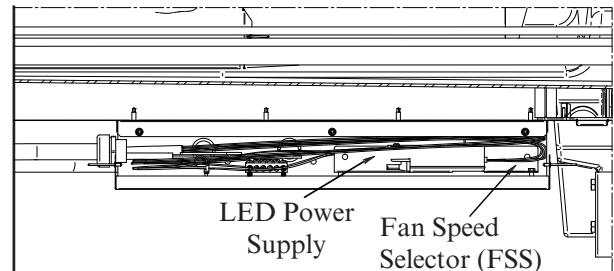


3-Pin Low Voltage Signal to Fan Motor (for RPM Speed)

Fan Speed Selector Harness Routing Single Deck IM1-IP1-IC1 (when required)



4FT LENGTH



6, 8 & 12FT LENGTHS

2-8

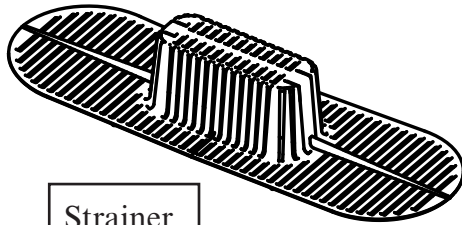
NOTES:

DRIP PIPING & SPLASHGUARDS

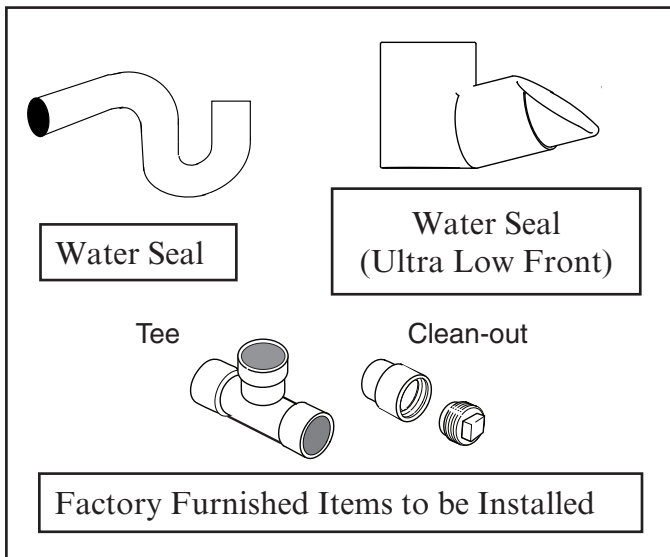
WASTE OUTLET AND WATER SEAL

Insight merchandisers have one waste outlet located in the front center of the bottom or righthand side for 8 ft cases. 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.

A hat-shaped strainer is also shipped with the merchandiser. Place strainer over the waste outlet as shown below.



Strainer



Water Seal

Water Seal (Ultra Low Front)

Tee

Clean-out

Factory Furnished Items to be Installed

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.



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

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 1/4 in. 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.

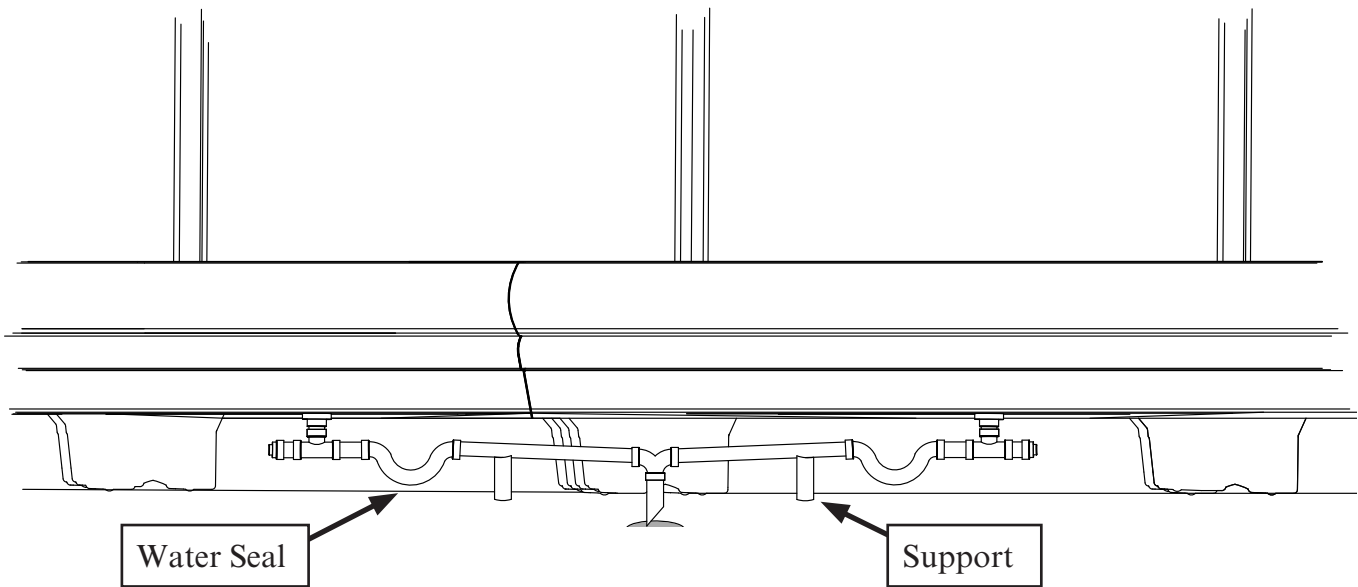


It is the installing contractor's responsibility to consult local agencies for local code requirements.

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.

Drip Piping Example for Standard Case Height (Not for Ultra Low Front Cases)



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.

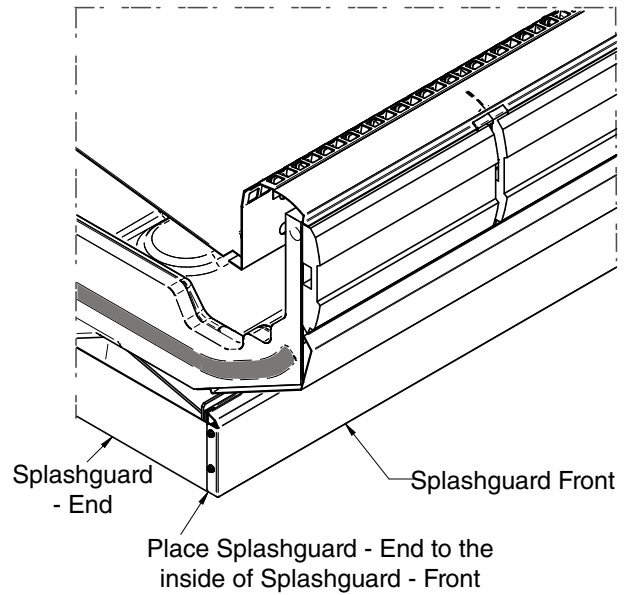
7. Prevent drip pipes from freezing:

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.

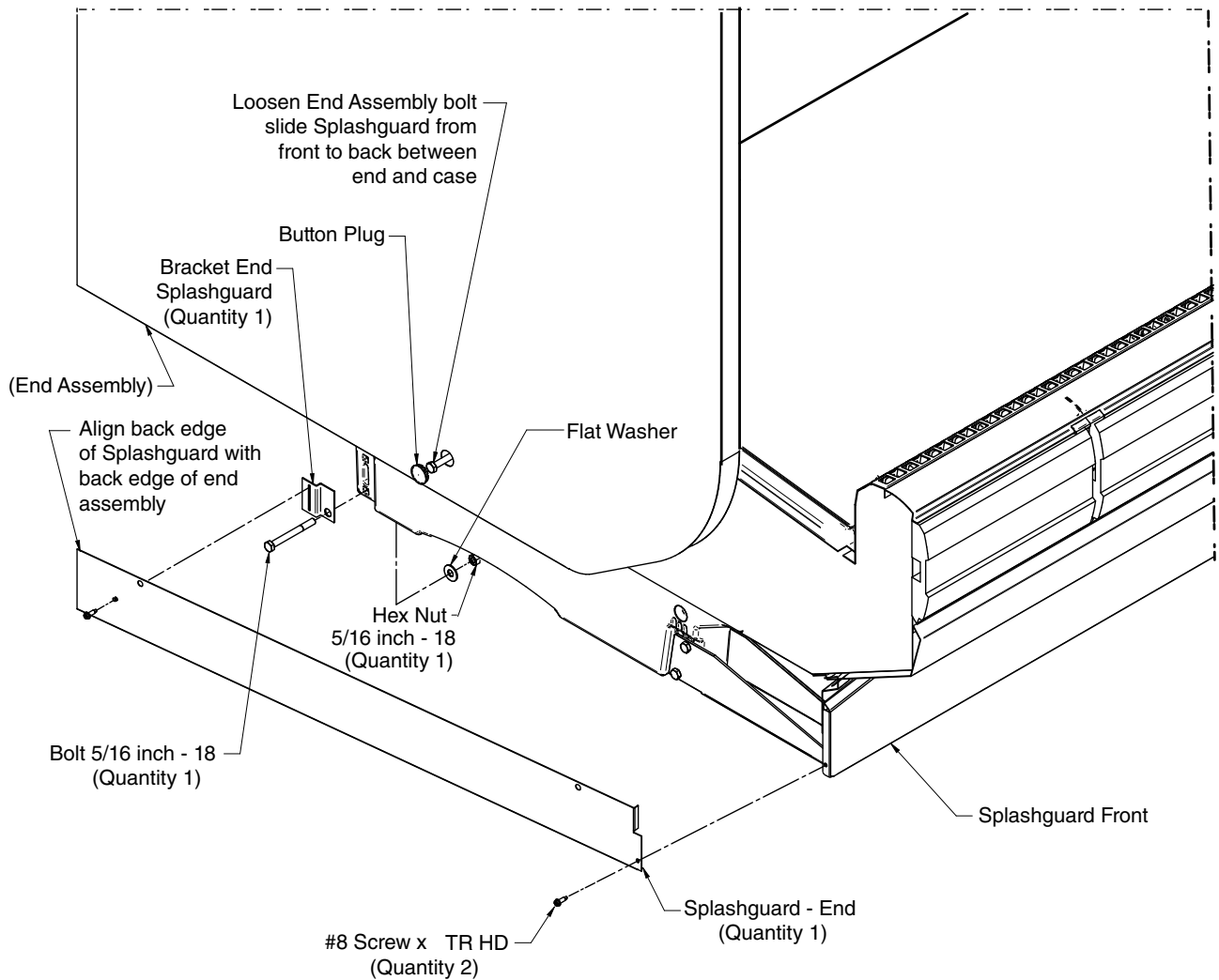
INSTALLING END SPLASHGUARD

1. End splashguard must be slid in from the front, so that it fits behind the end panel. Attach end splashguard brackets (2) 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.



NOTE End Splashguard Panel fits to the inside of End Assembly.

IMPORTANT Install end splashguard before installing front splashguards.



INSTALLING SPLASHGUARD BRACKETS

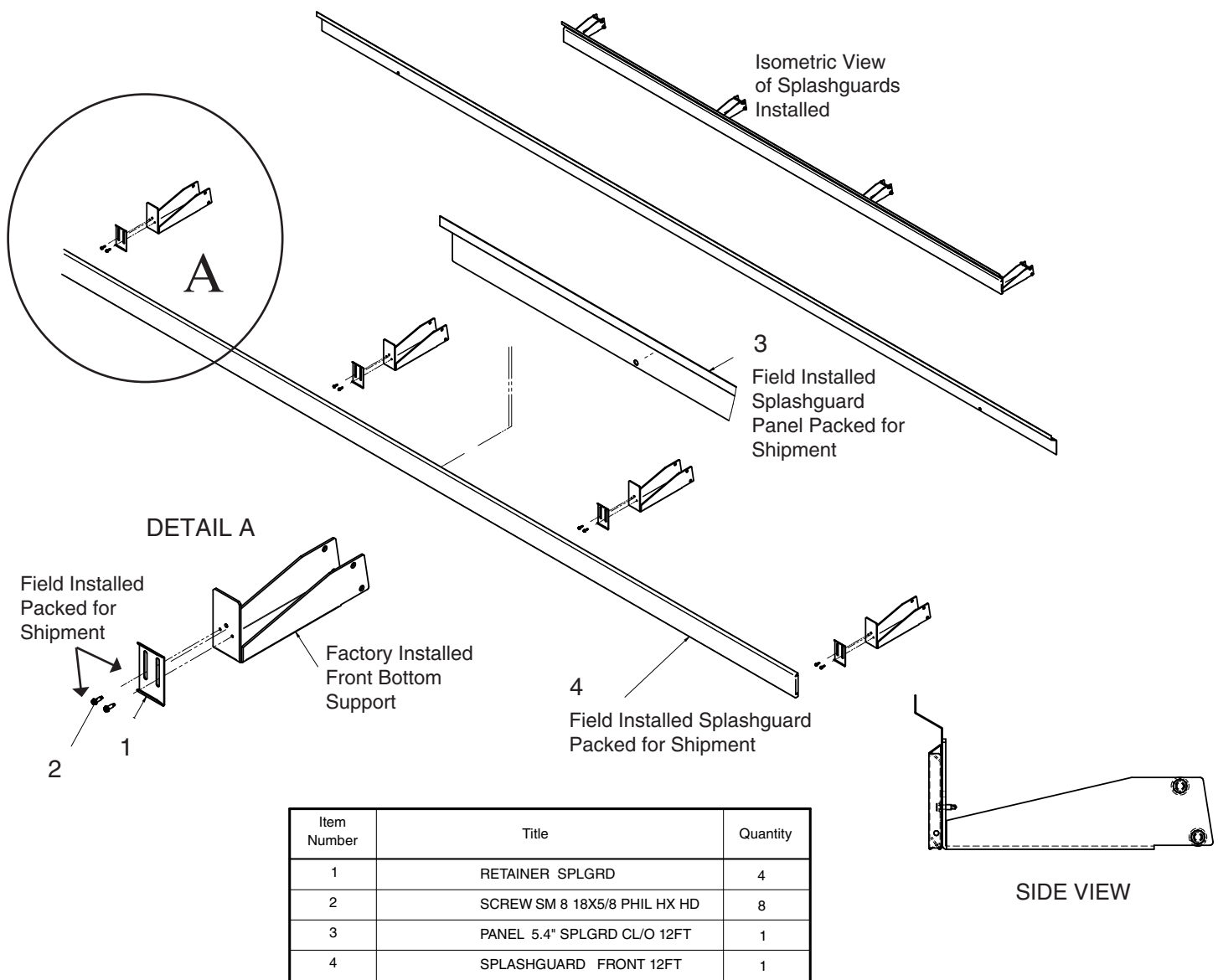
Position splashguard brackets at the front base (legs) of the merchandiser near the floor. Loosely assemble Splashguard Bracket using #8 x 5/8 inch SM screws as shown in Detail A below. More detail of splashguard installation shown on next page.

 IMPORTANT	Install Drip Piping Before Installing Splashguards
--	---

⚠ WARNING

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

Splashguard Bracket and Panel Installation (12 ft Shown)



INSTALLING SPLASHGUARDS (Retainers and Panels)

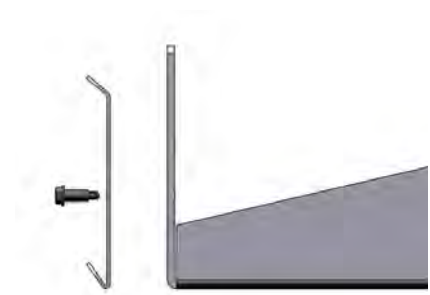
Splashguards are shipped inside each merchandiser, 4 brackets for 12 ft case, 3 for 6 ft , etc. **AFTER** merchandisers have been leveled and joined, and all drip piping, electrical and refrigeration work has been completed, install the splashguard.

To Install Splashguards:

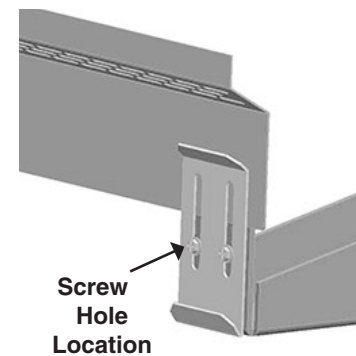
1. Check to be sure that all splashguard brackets are level with the floor. Refer to previous page for additional exploded view pictures.
2. Loosely attach the lower splashguard retainer bracket using # 8 SM screws (1).
3. Install close-off panel as shown in (2 & 3). Slide splashguard close-off panel between the bracket and lower front support.
4. Raise the splashguard close-off panel to where the top fits into bend on the lower color panel, then tighten the splashguard brackets.
5. Fit the lower splashguard into the slots on the lower splashguard retainer. Lower splashguard snaps into place (4).

To install OPTIONAL cove trim to the splashguard:

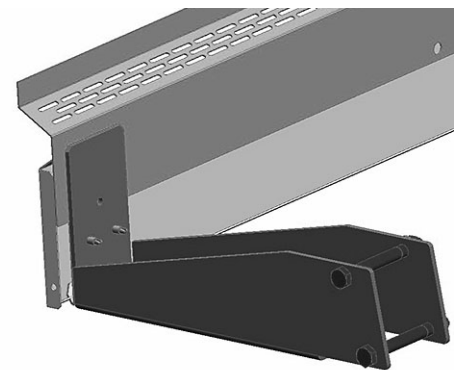
1. Remove all dirt, wax and grease from the area of the splashguard where adhesion will be necessary to ensure a secure installation.
2. Apply a good contact cement to the cove trim and allow proper drying time according to the directions supplied with the cement.
3. Install the trim to the splashguard 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.



1.

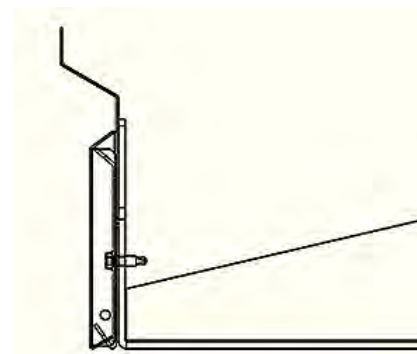


2.



Rear View

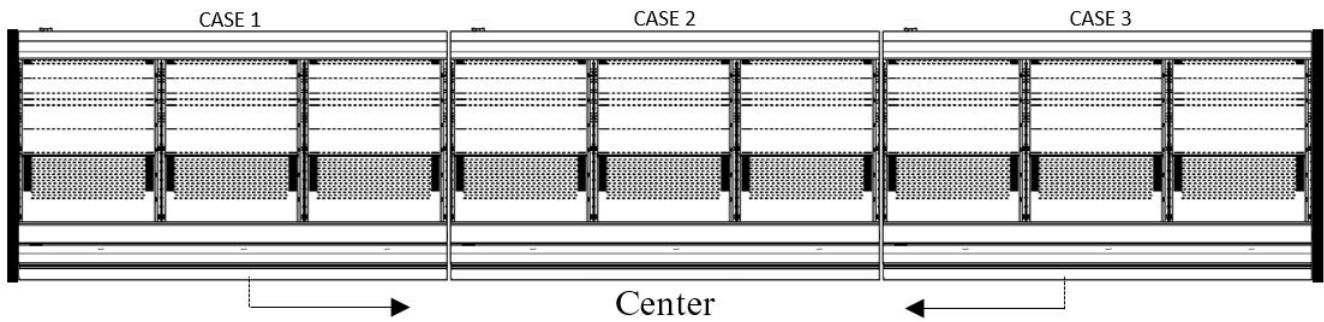
3.



4.

**SPLASHGUARD ALIGNMENT
TO ELIMINATE GAPS IN CASES LINE-UP**

1. Slide Splashguard towards line-up center to eliminate Splashguards gaps.



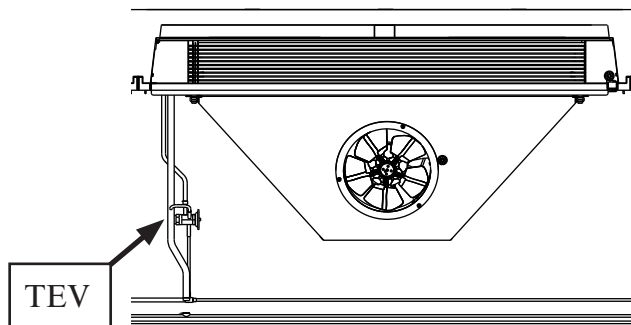
STARTUP / OPERATION

START UP / 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.



CAUTION

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

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

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.

WARNING

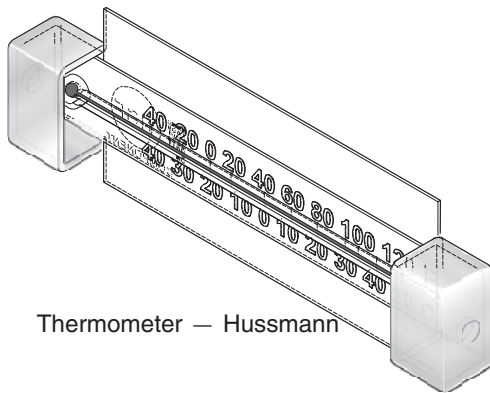
- » Case ventilation openings must be clear of any obstructions. Do not damage the refrigerant circuit.

INSTALLING FDA/NSF REQUIRED THERMOMETER

The thermometer 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.

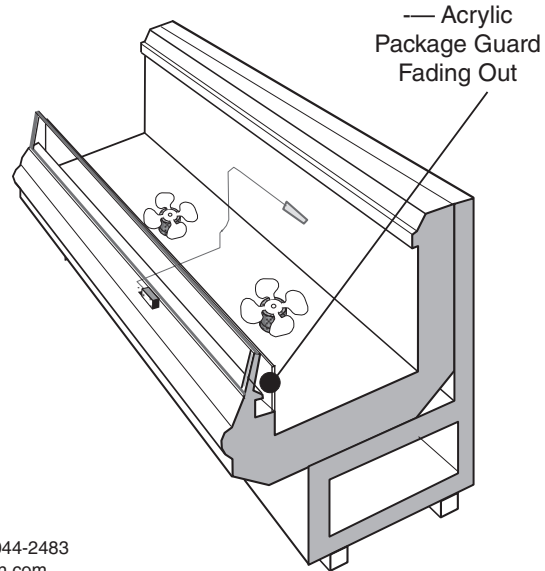
This thermometer may not be required or provided in other countries. Check for local code requirements.

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



Thermometer — Hussmann

Suggested Mounting Locations in Single Deck Glass Front Merchandisers



Hussmann Corporation • 12999 St. Charles Rock Road • Bridgeton, MO 63044-2483
U.S. & Canada 1-800-922-1919 Mexico 1-800-890-2900 www.hussmann.com
© 2013 • Hussmann Corporation

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.

4-4

NOTES:

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 as part of a regular store sanitation schedule.

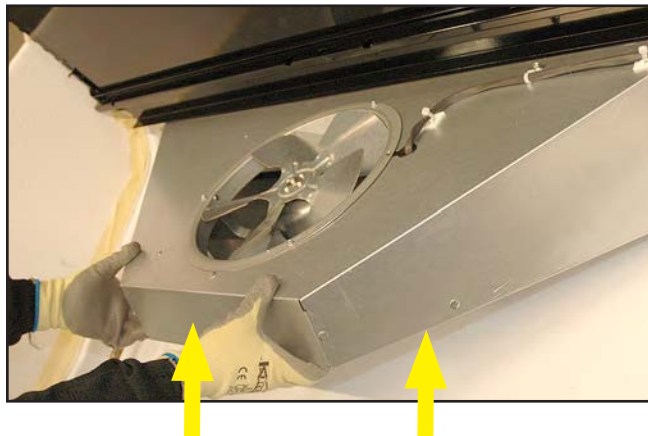
Fan Plenum

To facilitate cleaning, the fan plenum is hinged. After cleaning be sure the plenum is properly lowered into position or product loss will result due to improper refrigeration.

Fan motor harness plug must be securely connected. Do not disconnect fan harness plug for cleaning or maintenance procedures.

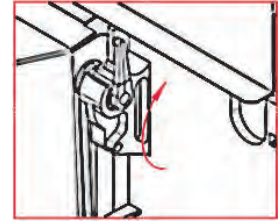
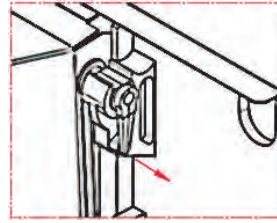
To lift the fan plenum:

1. Gently bend the bottom of the hinge pin arm away from the plenum to release the retainer from the coil support.
2. Rotate the hinge pin 180° so that the arm is pointed upwards.
3. Slide the hinge pin out and away from the plenum.

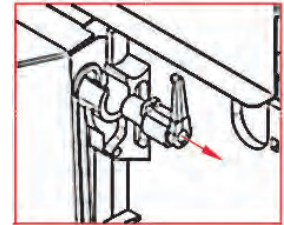


Lift up Fan Plenum. Use chain to hook up fan plenum to facilitate cleaning.

The plenum can also be removed, but this is not necessary for routine cleaning.

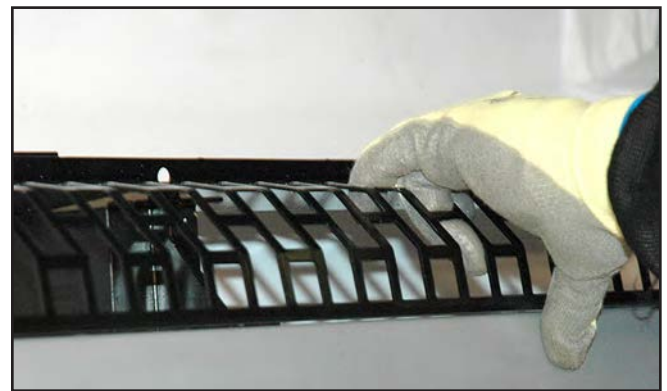


1. Flip the arm up and pull arm out to release the plenum.



Removable Return Air Grilles

The return air grilles may be removed to facilitate cleaning. Lift a four foot section up and out as shown below.



⚠ WARNING

- » All case cleaning and maintenance procedures should be performed with the power disconnected at the breaker.

Fascia Panels

The exterior of the fascia panels should be cleaned with a mild detergent and warm water.

Do not use ammonia-based products to clean optional acrylic panels. Never use abrasive cleansers or scouring pads.

Exterior Surfaces

The exterior surfaces must be cleaned with a mild detergent and warm water to protect and maintain their attractive finish.

NEVER USE ABRASIVE CLEANERS OR SCOURING PADS.

Interior Surfaces

The interior surfaces may be cleaned with most domestic detergents, ammonia based cleaners and sanitizing solutions will not harm the surface. Always read and follow the manufacturer's instructions when using any cleaning product.

Inspect all LED connections and plug/ receptacles for signs of arcing. Replace any component that shows signs of arcing. Make sure all unused receptacles have close-off covers securely attached.

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.
- Do not spray water from a hose directly on the canopy lights or fans.
- Solvent, oil or acidic based cleaners on any interior surfaces.

• A pressure nozzle on canopy lights, shelf lights or any other electrical connection. Do not use water pressure beyond what is supplied from the potable water system and spray nozzle (ie Do not use a pressure washer.)

Do Use:

- First turn off refrigeration, then disconnect electrical power. Shut off lights and fans. Make sure all unused light receptacles have their close-off covers securely attached.
- Remove the product and all loose debris to avoid clogging the waste outlet.
- Store product in a refrigerated area such as a cooler. Remove only as much product as can be taken to the cooler in a timely manner.
- Thoroughly clean all surfaces with soap and warm 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.
- Lift hinged fan plenum for cleaning. Hook chain in rear panel to secure plenum during 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 warm water, but do not flood. Never introduce water faster than the waste outlet can remove it.
- Allow merchandisers to dry before resuming operation.
- Wipe down lighted shelves with a damp sponge or cloth so that water does not enter the light channel.
- After cleaning is completed, turn on power to the merchandiser.

RECOMMENDED CLEANING INSTRUCTIONS

The directions below are recommended cleaning instructions for Insight cases and should not be used as a substitute for the store's regular maintenance schedule. Follow all local and national health codes. Cleanliness of the case encourages long-lasting life of the equipment. 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. The cases may need additional cleaning, especially in high traffic areas, dusty areas and during unusually extended periods of use of the equipment.

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.

CLEANING INSTRUCTIONS Weekly or Monthly

1. Remove product; store it in another case or suitable walk-in cooler.
2. Remove wire racks and bottom pans. Cleaning them in the case with warm water and a soap solution, then rinse and set aside. Flip up the fan plenum assembly to provide more room for cleaning in the case if necessary.
3. Turn OFF power to the fans.
4. Remove all loose debris and food particles that may clog drain. Check drain to make sure it is not clogged. Do not force items down drain, use the drain catch to remove debris and dispose.
5. Remove honeycomb and price display molding.

6. Clean all surfaces including shelves and honeycomb by spraying down water (preferably warm) and mild detergent. Use a brush or cleaner pad if necessary to aid in penetrating dirt.
7. Rinse all surfaces with water, then spray with a sanitizer. Rinse off sanitizer with clean water using a hose. Allow surfaces to air dry, since wiping would defeat the purpose of sanitizing.
8. Replace all internal parts carefully so that they seat properly. This is necessary for proper case operation.
9. Turn ON power to the fans.
10. Replace product.

CLEANING INSTRUCTIONS Quarterly or Semiannually

1. Remove product; store it in another case or suitable walk-in cooler.
2. Remove wire racks and bottom pans. Cleaning them in the case with warm water and a soap solution, then rinse and set aside. Flip up the fan plenum assembly to provide more room for cleaning in the case if necessary.
3. Turn OFF power to the fans.
4. Remove all loose debris and food particles that may clog drain. Check drain to make sure it is not clogged. Do not force items down drain, use the drain catch to remove debris and dispose.
5. Remove honeycomb and price display molding.

6. Clean all surfaces including shelves and honeycomb by spraying down water (preferably warm) and mild detergent. Use a brush or cleaner pad if necessary to aid in penetrating dirt.
7. Remove all the shelves and set aside then remove the back panels.
8. Clean the backside of the back panels in the case as you remove them.
9. Clean the newly exposed surfaces and the coil by spraying down with water (preferably warm) and a mild detergent solution.
10. Rinse the newly exposed surfaces and the coil with water then spray with a sanitizer. Allow surfaces to air-dry, since wiping would defeat the purpose of sanitizing.
11. Replace the back panels and shelves.
12. Rinse all surfaces with water, then spray with a sanitizer. Allow surfaces to air-dry since wiping would defeat the purpose of sanitizing.
13. Replace all remaining internal parts carefully so that they seat properly. This is necessary for proper case operation.
14. Turn ON power to the fans.
15. Replace product.

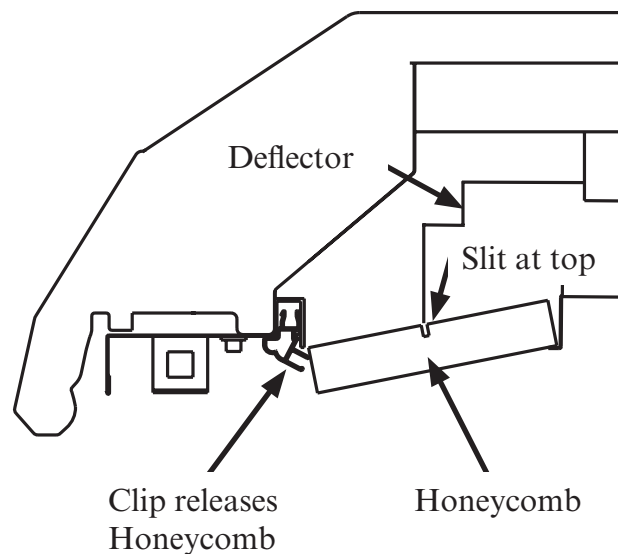
⚠ WARNING

- » 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).

CLEANING HONEYCOMB ASSEMBLIES

Honeycombs should be cleaned every six months, or depending on store environment the honeycombs may need to be cleaned more often. Dirty honeycombs will cause cases 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 replacing. Be careful not to damage the honeycombs.



1. Remove honeycomb by pulling clip as shown above.
2. Clean and dry the honeycomb.
3. Honeycomb is not symmetrical. Orient slot at the top and different color straw to the back.
3. After cleaning, replace honeycomb. Ensure clip is centered and engaged along full-length of honeycomb.

Damaged honeycomb must be replaced.

CLEANING MIRRORS

Mirrors are sheets of clear glass that have very thin reflective and protective coatings applied to one side. These coatings are susceptible to deterioration if certain cleaning solutions and even water are allowed to come in contact with them. Every precaution should be taken to keep all liquids away from the coated side of the mirrors. IF LIQUIDS ARE ALLOWED TO FLOW ALONG THE FACE SIDE OF THE MIRROR TO ITS EDGE, THE LIQUID CAN SEEP UP BETWEEN THE COATING AND THE GLASS, CAUSING SERIOUS DAMAGE.

To Help Prolong the Life of the Mirrors:

- Use only mild cleaning solutions that do not leave residue, such as a weak (10%) solution of vinegar and water.
- Do NOT spray liquids on the mirrors. Away from food, dampen the cleaning cloth, then use the cloth to wipe the mirror.
- Wipe water from the mirrors immediately to prevent difficult to remove water spots and also to prevent the water from reaching the mirror's edge.
- Never use dirty cloths, scrapers or any other abrasive materials for cleaning.

▲WARNING

- » Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.
- » All products in the case should be removed and stored in a cooler at the appropriate temperature before cleaning the interior of the case.

REMOVING INTERIOR BACK PANELS

The interior back panels may be removed for cleaning and to gain access to the evaporator coils. Remove the rear interior back panels as follows:

1. Disconnect the electrical power to the merchandiser.
2. Unplug shelf lights and insert plastic protective cap. Remove shelving.
3. Remove the lower panel first: lift the panel up, then pull forward and out.
4. Remove the top panel.



5. Replace panels in reverse order, starting with the top panel.

BOTTOM LINER REPAIR

Insight merchandisers have bottom liners, which are made of a high density polyethylene material (HDPE). Repairs may be made if the bottom liner becomes damaged. Follow the illustrations at right to repair the liner.

For minor repairs:

Minor repairs consist of deep scratches and tears that are no more than 1/8 inch thick.

1.) Remove all product, and disconnect power to the case that is to be serviced. Locate the damaged area of the liner. Clear and clean the area, then wipe it dry.

2.) Use an electric hot air gun to heat the tear. **Heat to 600°F (316°C)**. Solder the tear with 1/8 inch filler welding rod, made from HDPE. Ensure no voids or skips in completed bead.

3.) Let the area cool, then buff the area flat. A 5-inch, 80 grit disc works well for this. The repair is now complete.

For major repairs:

1.) For repairs with larger size gashes or holes, a piece of HDPE may be cut into a square as shown in **(F)** at right. (The square HDPE shown in the photo is white for clarity.)

2.) Remove all product and disconnect power to the case that is to be serviced. Locate the damaged area of the liner. Clear and clean the area, then wipe it dry. Ensure no voids or skips in completed bead.

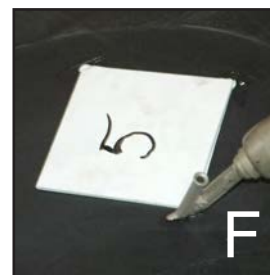
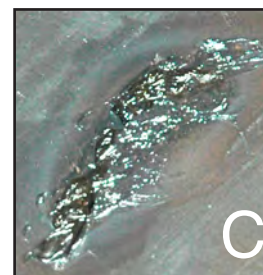
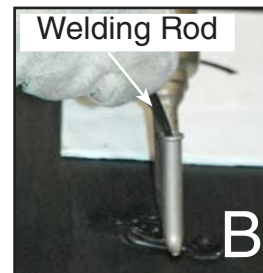
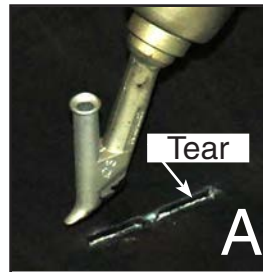
3.) The square is then tacked at all four corners using the hot air gun.

4.) Solder with 1/8 inch filler welding rod around the perimeter of the HDPE square.

5.) Buff the area flat if needed. The repair is now complete.



Forthoff Mini Electric Hot Air Gun
(120V 1300W)



⚠ WARNING

- » Always wear protective clothing when operating hot air gun, such as fire resistant gloves and arm guards. Hot air gun operates at extremely high temperature and could cause serious burns. Always have fire protective gear on hand in case of fire.
- » 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.

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.

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 STAINLESS STEEL FRONT RAILS

Use non-abrasive tools, and always polish with grain of the steel.

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

Clean frequently to avoid build-up of hard, stubborn stains. Rinse and wipe dry immediately after cleaning. Never use hydrochloric acid (muriatic acid) on stainless steel.

REMOVING SCRATCHES FROM BUMPER

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

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

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.

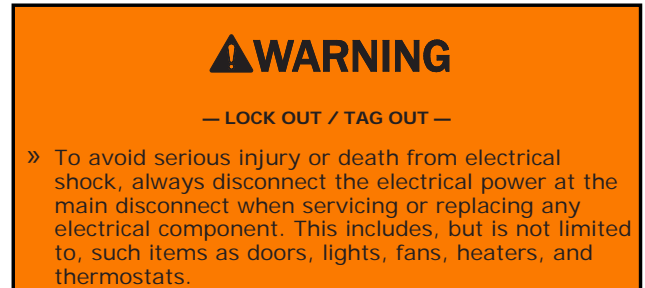
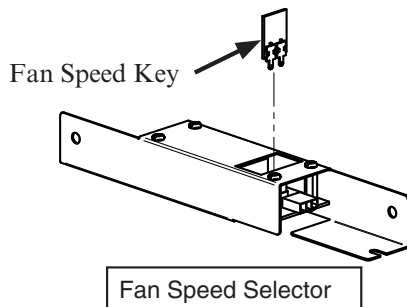
WARNING

- » 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.

SERVICE

REPLACING FAN MOTORS

Fan control electronics are electrostatic sensitive (ESD). If the case is equipped with an optional fan speed selector (FSS), use a grounding kit before handling.



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.

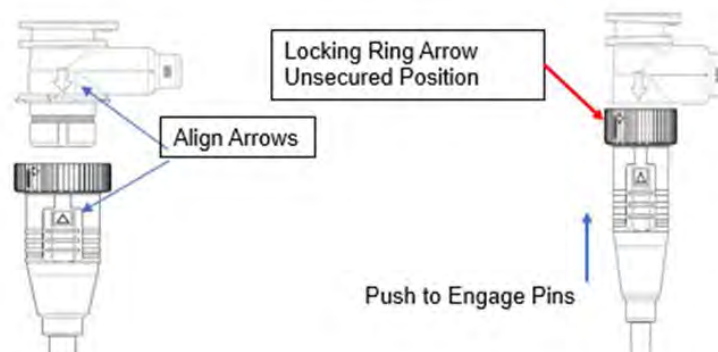
To access and replace fan motor:

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. Unlock and Unplug existing motor harness from harness; remove existing motor.
 - A. Rotate locking ring counterclockwise to unlock.
 - B. Pull connector straight out to disengage.
6. Taking care to avoid any existing moisture in the case, IMMEDIATELY connect and lock new motor harness as follows:

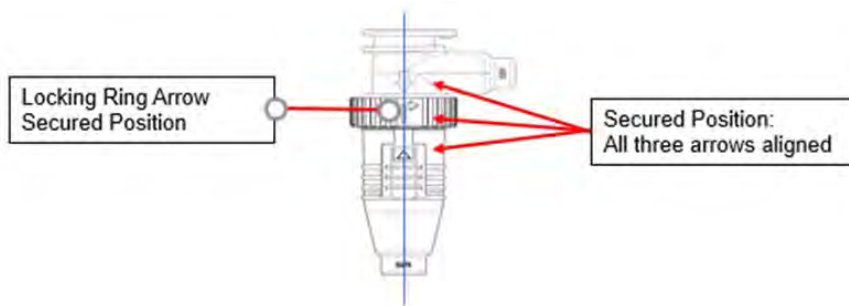


Correct connection procedure for main fan motor harness connector:

- A. Align arrows and push connector into position.
- B. Rotate locking ring until all three arrows are aligned in the secured position.



- C. Push straight in to engage pins.
- D. Turn locking ring until all three arrows are aligned.



Remember. Push to engage, then twist to secure.

! WARNING

STOP - DO NOT UNPLUG

The fan motor harness plug **MUST** be properly secured in order to perform at its IP67 rating. The component is a twist lock style connector with an alignment arrow to validate a secure connection. 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.

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.

REPAIRING ALUMINUM COIL

The aluminum coils used in Hussmann Insight 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. Use PRESTOLITE TORCH ONLY. 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.

HUSSMANN[®]

To obtain warranty information
or other support, contact your Hussmann
representative.

Please include the model and
serial number of the product.