

REACH-IN DOOR MERCHANDISER INSTALLATION & OPERATIONS MANUAL



JNRBH

ACCULINE™

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To ensure proper functionality and optimum performance, it is strongly recommended that Hillphoenix display cases be installed/serviced by qualified and certified technicians who have experience working with commercial refrigerated display merchandisers and storage cabinets. For a list of Hillphoenix authorized installation/service contractors, please visit our Web site: www.hillphoenix.com

Hillphoenix®

A DOVER COMPANY



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02/24

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LIABILITY NOTICE

For Cases with Shelf Lighting Systems

Hillphoenix does NOT design any of its shelf lighting systems or any of its display cases with shelf lighting systems for direct or indirect exposure to water or other liquids. The use of a misting system or water hose on a display case with a shelf lighting system, resulting in the direct or indirect exposure of the lighting system to water, can lead to several serious issues (including, without limitation, electrical failures, fire, electric shock, and mold) in turn resulting in personal injury, death, sickness, and/or serious property damage (including, without limitation, to the display itself, to the location where the display is situated [e.g., store] and to any surrounding property). DO NOT use misting systems, water hoses, or other devices that spray liquids in Hillphoenix display cases with lighted shelves.

If a misting system or water hose is installed or used on a display case with a shelf lighting system, then Hillphoenix shall not be subject to any obligations, damages, or liabilities (whether arising out of breach of contract, warranty, tort [including negligence], strict liability, or other theories of law) directly or indirectly resulting from, arising out of, or related to such installation or use, including, without limitation, any personal injury, death or property damage resulting from an electrical failure, fire, electric shock, or mold. P079211M, REVO

P079211M, REVO

R-744 (CO₂) NOTICE

For Systems Utilizing R-744 (CO₂) Refrigerant

For refrigeration units that utilize R-744 (CO₂), pressure relief and pressure-regulating relief valves may need to be installed based on the system capacity. The valves need to be located such that no stop valve is positioned between the relief valves and the parts or section of the system being protected.

When de-energizing refrigeration units containing R-744 (CO₂), venting of the R-744 (CO₂) refrigerant may occur through the pressure regulating relief valves. These valves are located on the refrigeration system and not on the case model. If venting does occur, the valve must not be defeated, capped, or altered by any means.

WARNING: UNDER NO CIRCUMSTANCES should any component be replaced or added without consulting Hillphoenix Field Service Engineering. Utilizing improper components may result in serious injury to persons or damage to the system.

IMPORTANT

At Hillphoenix®, the safety of our customers and employees, as well as the ongoing performance of our products, are top priorities. To that end, we include important warning messages in all Hillphoenix installation and operations handbooks, accompanied by an alert symbol paired with the word "DANGER", "WARNING", or "CAUTION".

All warning messages will inform you of the potential hazard; how to reduce the risk of case damage, personal injury or death; and what may happen if the instructions are not properly followed.

DANGER

Indicates an immediate threat of death or serious injury if all instructions are not followed carefully.

CAUTION

Indicates the potential threat of injury if all instructions are not followed carefully.

ATTENTION

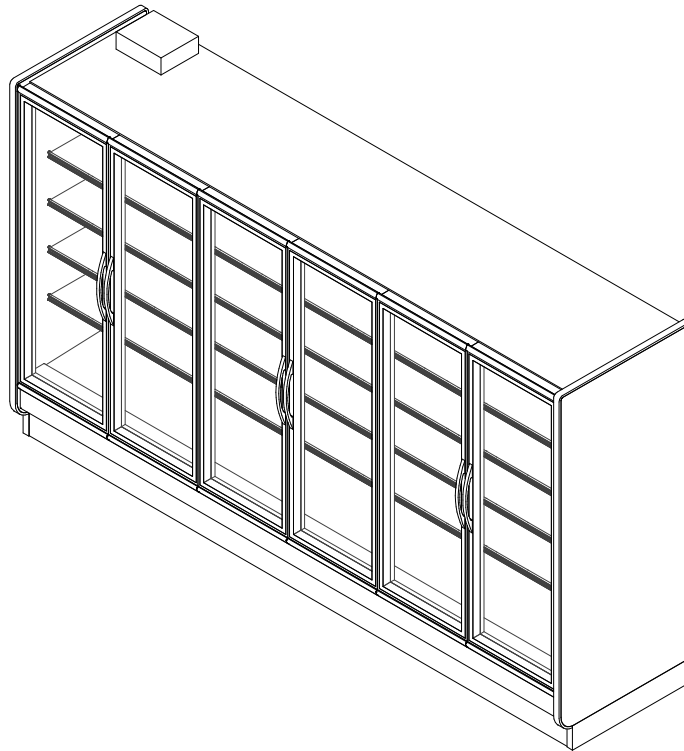
Indicates an important point of information that is key to ensuring proper case functionality.

JNRBH

2, 3, 4 & 5 Door / 6', 8' & 12' High Narrow Reach-In Glass Door Beverage/Bakery/Dairy/Cut Produce/Deli/Meat/Seafood

GENERAL NOTES:

- 6-foot cases are french door, consisting of 3 (24") doors.
- 8-foot case are french door, consisting of 4 (24") doors.
- 12-foot cases are french door, consisting of 6 (24") doors.
- Lighting controls - occupancy sensors are optional.



SHIPPING WEIGHT	
Case	Weight
JNRBH	---



COMPONENT

ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

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Rev. Date	Rev. #	Rev. Title
02-01-24	5	DATA UPDATE
11-09-23	4	CASE OPTIONS



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2, 3, 4 & 5 Door / 6', 8' & 12' High Narrow Reach-In Glass Door
Beverage/Bakery/Dairy/Cut Produce/Deli/Meat/Seafood

ELECTRICAL DATA			
Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
2 Door	1	0.34	22.5
3 Door	2	0.68	45.0
4 Door	2	0.68	45.0
5 Door	3	1.01	67.5
6'	2	0.44	53
8'	2	0.44	53
12'	3	0.66	79

LIGHTING DATA					
Case Length	Door Size	OP7 Single Swing		OP7 French Swing	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
2 Door	30"	0.28	33.0	---	---
3 Door	30"	0.41	49.2	---	---
4 Door	30"	0.55	65.4	---	---
5 Door	30"	0.68	81.6	---	---
6'	24"	---	---	0.44	52.3
8'	24"	---	---	0.44	52.3
12'	24"	---	---	0.64	76.6

ANTI CONDENSATE DATA					
Case Length	Door Size	101 Frames		Vista Frames	
		Un Heated Doors		Un Heated Doors	
		ELMD, I90		I60	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
2 Door	30"	0.36	43	0.36	43
3 Door	30"	0.55	66	0.55	66
4 Door	30"	0.75	90	0.75	90
5 Door	30"	0.94	113	0.94	113
6'	24"	0.39	47	0.39	47
8'	24"	0.43	52	0.43	52
12'	24"	0.68	82	0.68	82



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2, 3, 4 & 5 Door / 6', 8' & 12' High Narrow Reach-In Glass Door Beverage/Bakery/Dairy/Cut Produce/Deli/Meat/Seafood

GUIDELINES AND CONTROL SETTINGS {DIRECT EXPANSION HFC/CO2}								
Application	Case Length	Door Size	Refrigeration Load Per Door (BTU/H)		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
			Conventional	Parallel				
Bakery/Dairy/Cut Produce/Deli	2 - 5 Door	30"	602	572	6 - 8	30	37	230
Bakery/Dairy/Cut Produce/Deli	6'	24"	400	394	6 - 8	30	37	230
Bakery/Dairy/Cut Produce/Deli	8'	24"	400	394	6 - 8	30	37	230
Bakery/Dairy/Cut Produce/Deli	12'	24"	400	394	6 - 8	30	37	230
Beverage	2 - 5 Door	30"	560	532	6 - 8	34	39	230
Beverage	6'	24"	392	386	6 - 8	34	39	230
Beverage	8'	24"	392	386	6 - 8	34	39	230
Beverage	12'	24"	392	386	6 - 8	34	39	230
Meat/Seafood	2 - 5 Door	30"	641	609	6 - 8	28	33	230
Meat/Seafood	6'	24"	480	443	6 - 8	28	33	230
Meat/Seafood	8'	24"	480	443	6 - 8	28	33	230
Meat/Seafood	12'	24"	480	443	6 - 8	28	33	230

DEFROST CONTROLS {DIRECT EXPANSION HFC/CO2}		
Defrosts Per Day	Timed-Off Defrost	
	Fail-Safe (Min)	Termination Temp (°F)
2	46	39

NOTES:

- "-" indicates that this feature is not an option on this case model and/or the data is not yet available yet.
- Anti-condensate heat values represent a door with no glass heat.
- Listed discharge air velocity represents the average velocity at the peak of defrost using a Testo 410i Anemometer.
- Temperature and defrost settings listed above are recommended start-up settings. Final operational settings may need to be adjusted for the store conditions in which the case operates.
- The recommended evaporator temperatures may need to be adjusted based on system setup, store conditions, etc. The minimum recommended evaporator temperature is 4°F below the listed evaporator temperature.
- Discharge air temperature values represent readings taken within the upper air channel immediately behind/upstream of the honeycomb.
- For optimal performance in HFC applications, it is recommended to close the liquid line and close the suction line during defrost. Defrost parameters may need to be adjusted if other methods are used.
- Data listed for the 6', 8', and 12' case models are preliminary values and may be subject to change once final testing is completed.



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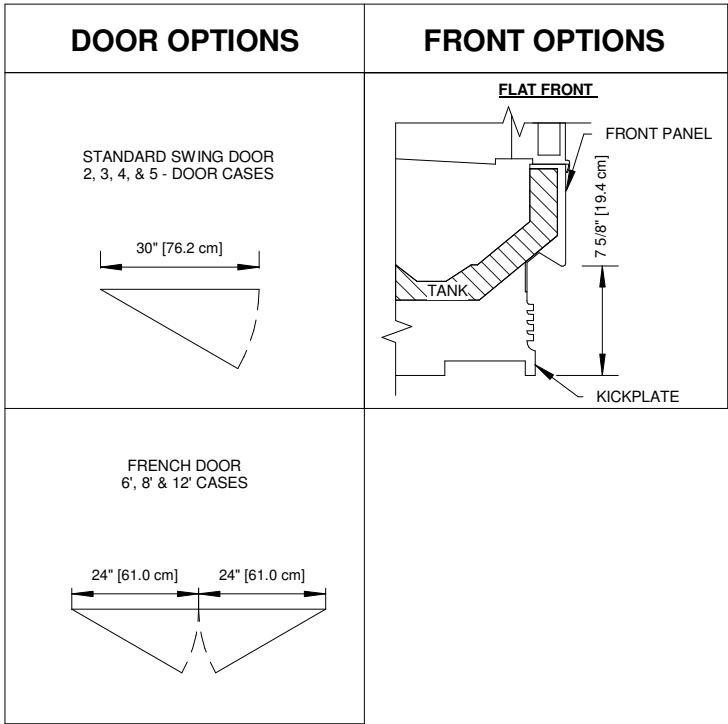
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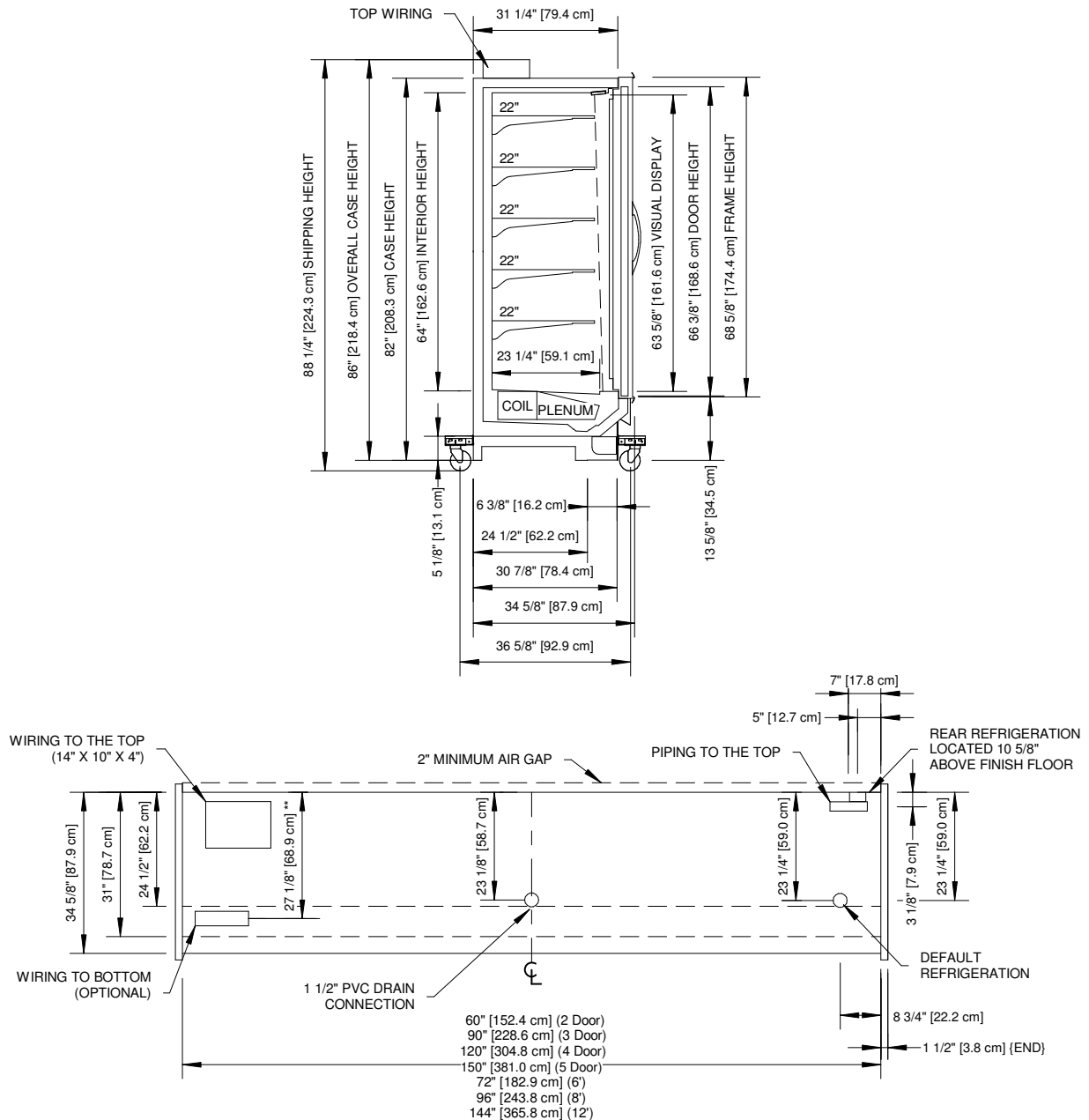
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DRAIN LOCATION FROM CENTERLINE							
CASE LENGTH	2DR	3DR	4DR	5DR	6'	8'	12'
"X"	0"	- 0.5"	0"	0"	---	---	---

NOTES:

- * : STUB-UP AREA.
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS .

• Ends add approximately 1" to case height, 1/2" to the back & 1" to the front.



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Thank you for choosing Hillphoenix for your food merchandising needs. This handbook contains important technical information and will assist you with the installation and operation of your new Hillphoenix specialty cases. By closely following the instructions, you can expect peak performance, attractive fit and finish, and long case life.

We are always interested in your suggestions for improvements (e.g. case design, technical documents, etc.). Please feel free to contact our Marketing Services group at the number listed below. Thank you for choosing Hillphoenix, and we wish you the very best in outstanding food merchandising.

CASE DESCRIPTION

This manual specifically covers the JNRBH beverage, bakery, dairy, deli, meat and seafood reach-in door merchandisers.

STORE CONDITIONS

Hillphoenix cases are designed to operate in an air-conditioned store that maintains a 75°F (24°C) store temperature and 55% (max) relative humidity (ASHRAE conditions). Case operation will be adversely affected by exposure to excessively high ambient temperatures and/or humidity.

REFRIGERATION SYSTEM OPERATION

Air-cooled condensing units require adequate ventilation for efficient performance. Machine-room temperatures must be maintained at a minimum of 65°F in winter and a maximum of 95°F in summer. Minimum condensing temperatures should be no less than 70°F.

SHIPPING CASES

Transportation companies assume all liability from the time a shipment is received by them until the time it is delivered to the consumer. Our liability ceases at the time of shipment.

RECEIVING CASES

Examine fixtures carefully and in the event of shipping damage and/or shortages, please contact the Service Parts Department at the number listed to the right.

CASE DAMAGE

Claims for obvious damage must be 1) noted on either the freight bill or the express receipt and 2) signed by the carrier's agent; otherwise, the carrier may refuse the claim. If damage becomes apparent after the equipment is unpacked, retain all packing materials and submit a written request to the carrier for inspection within 14 days of receipt of the equipment.

Failure to follow this procedure will result in refusal by the carrier to honor any claims with a consequent loss to the consumer.

If a UPS shipment has been damaged, retain the damaged material, the carton and notify us at once. We will file a claim.

LOST/MISSING ITEMS

Equipment has been carefully inspected to insure the highest level of quality. Any claim for lost/missing items must be made to Hillphoenix within 48 hours of receipt of the equipment. When making a claim please use the number listed below.

SERVICE PARTS & TECHNICAL SUPPORT

For service parts questions regarding our cases, please contact our Service Parts Department at 1-833-372-7871 or orderparts@dooverfoodretail.com

For technical questions regarding our cases, please contact our Technical Support Department at 1-833-280-5714.

CONTACTING THE FACTORY

If you need to contact Hillphoenix regarding a specific fixture, be certain that you have both the case model number and serial number. (This information can be found on the data tag, located at the top-left interior, rear exterior panel or interior rear lower storage of the case. *Location may vary based on case design.*)

Hillphoenix
1925 Ruffin Mill Rd.
Colonial Heights, VA 23834
Mon.-Fri. (8 a.m to 5 p.m EST)
Website: www.hillphoenix.com

CASE INSTALLATION

FLOOR PREP

1. Ask the general contractor if your current copy of the building dimensions are the most recently issued. Also, ask for the points of reference from which you should take dimensions to locate the cases.
2. Using chalk lines or a laser transit, mark the floor where the cases are to be located for the entire lineup. The lines should coincide with the outside edges of the case feet.
3. Leveling is necessary to ensure proper case alignment and to avoid potential case damage. Locate the highest point on the positioning lines as a reference for determining the proper height of the shim-pack levelers. A laser transit is recommended for precision and requires just one person.
4. Locate basehorse positions along the chalk line. **Place 2X of the 6" length shims next to each other (Fig 1). They should be placed under the basehorse and kickplate supports (Fig 1). Stack shims until floor is leveled.**

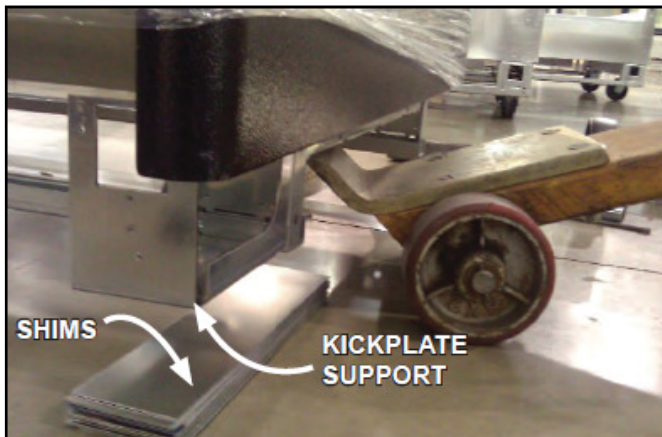


Fig. 1: Kickplate support

LINE-UP & INSTALLATION

Single Case

1. Roll the case into position, leaving a minimum of 2" between the wall and back of case. Using a "J" bar, raise the end of the case (under cross support), remove the caster assemblies (Fig. 2) and lower the basehorse on to the shim packs. Repeat at other end.



CAUTION

Be certain that your hands and feet are out of the way before lowering the case after the removal of the casters. Failure to do so may result in serious injury.

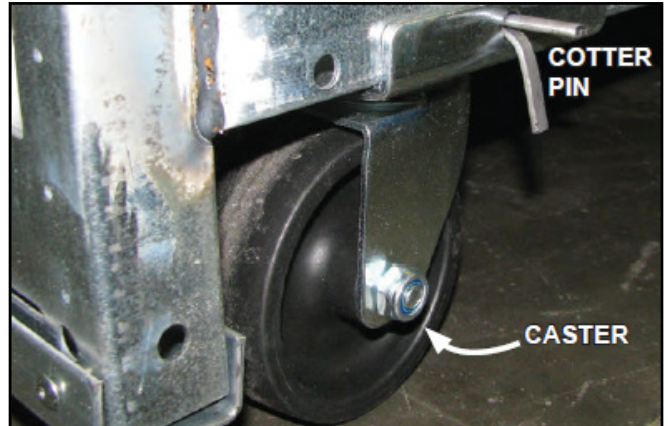


Fig. 2: Removing the casters is an easy process. Simply flatten and remove the cotter pins that are holding the casters in place. Then lift the case with a "J" bar and slide the caster assemblies out. The dismantled casters can now be discarded.

2. Once the basehorse is properly placed on the shim packs, check the horizontal level by placing a bubble level on the front sill. For the vertical plumb, repeat this process by placing the bubble level on the case frame. Add/remove shim packs as needed.

NOTE: DO NOT use doors as plumb reference; doors have a designed setback. Use case frame for measurement.

Multi-Case

1. Remove shelves and discard the shelf clips.
2. Remove any loose items (shipping braces, mirror assemblies, etc.) from the cases that may interfere with case joining. Keep all loose items as they will be used later in the installation process.
3. Remove the return air grill at the case joint. The grill lifts out without fasteners and may be easily removed to gain clear access to the case-to-case joining bolts.
4. Follow the single-case installation instructions for the first case, then position the next case in the line-up approximately 3' away. Apply the foam tape gasket (supplied) and beads of butyl or silicone sealant to one of the adjoining case ends (Fig. 3). Remove the caster assemblies.
5. When the last casters are removed, pipe-rollers may be used to help move the case. While the case is still in a raised position, position the pipe-roller(s) near an interior vertical support of the baseframe assembly, then lower the case onto the pipe-roller(s). Be certain that both the front and back baserails are resting on the pipe-roller(s), since failure to do so may result in case damage.
6. Push the case to within 3-4 inches of the adjoining case. Once the case is properly positioned, lift it at the opposite end with the "J" bar in order to remove the piperoller(s).

7. Push the cases tightly together, then lightly bolt them together through the holes that are provided (Fig. 3). Tighten all the joining bolts until all margins are equal. Be careful not to over tighten.
8. Repeat steps 2-6 of this sequence for all remaining cases.
9. If seismic brackets were ordered, see Appendix E for detailed installation instructions.

TRIM OUT

1. Seal the interior case-to-case joints with caulk (supplied), then apply acrylic tape (supplied) over the pipechase seam (Fig. 4). The tape acts as a watershed preventing water from settling in the case joint.

X = Butyl or Silicone sealant

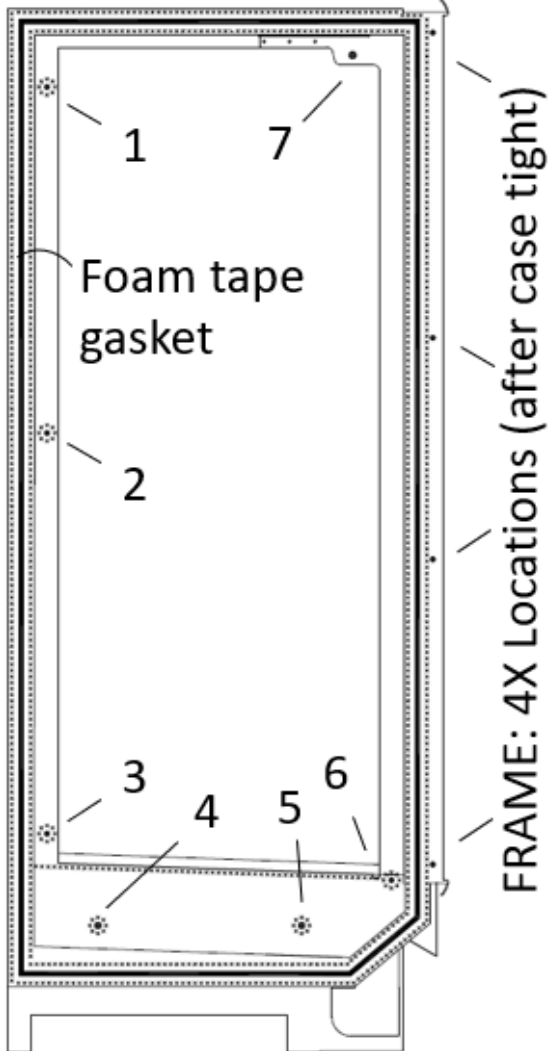


Fig. 3: Bolt holes, foam tape gasket and sealant

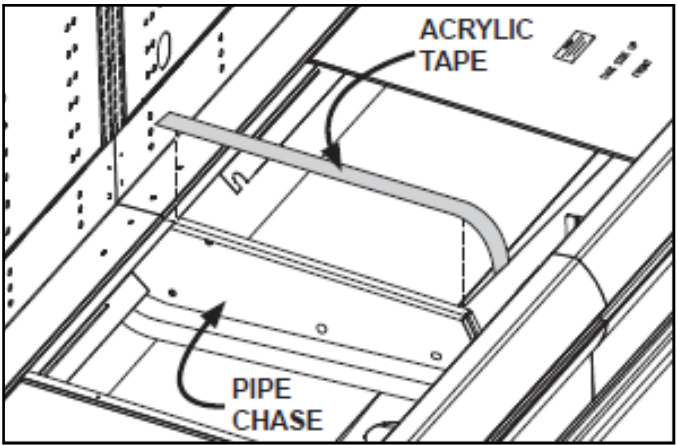


Fig. 4: Sealing the pipe chase

2. Re-install shelves (or peg hook assemblies if applicable). Be aware that differing shelf configurations will affect energy consumption and case performance. If peg hook assemblies are included, see Appendix F for installation instructions.
3. Properly align the front panels as needed, then install the front panel trim (Fig. 5).



Fig. 5: Front panel joint trim

4. Fasten the door-frame joints to the adjoining door frames using the supplied T-bolts.

CASE INSTALLATION

KICKPLATE INSTALLATION

1. Using the screws provided, install the upper kickplate retainer and the "J" rail, both of which are shipped loose in the case (Fig. 6). The kickplate brackets are pre-installed at the factory.

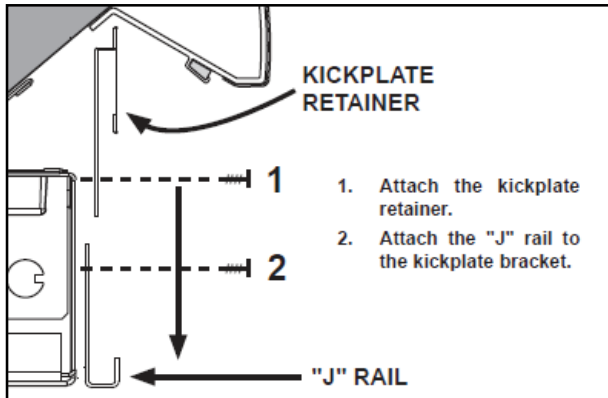


Fig. 6: "J" rail installation

2. Insert top of kickplate into the kickplate retainer. Slide the kickplate up into the retainer, then down onto the "J" rail (Fig. 7). Be certain that the bottom of the kickplate is fitted over extruding "lip" of the "J" rail.

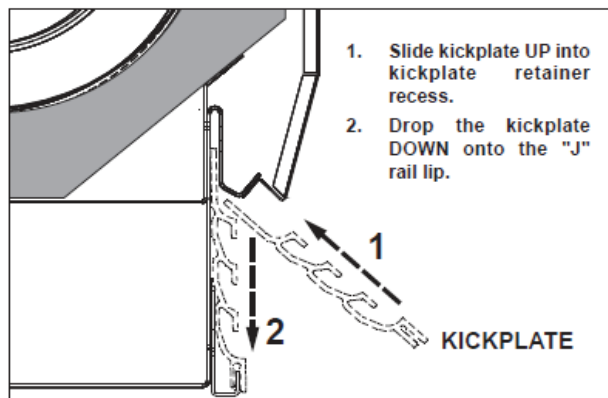


Fig. 7: Kickplate installation

3. Install end kickplates with screws provided and insert plug buttons.
4. Insert nose bumper into streamlyne bumper channel. Roll nose bumper into channel along entire lineup, up to 96'. We recommend leaving an additional 6" of nose bumper at the ends to allow for shrinkage during the first 24-48 hours following case start-up.
5. After sufficient time has passed to allow for bumper shrinkage, cut away the excess bumper for final fit and finish. Be certain to use an appropriate cutting tool (tubing- or PVC-cutter) to ensure a smooth cut.
6. If a case top fascia is included, see **Appendix C** for installation instructions.

REFRIGERATION

Top-piping is the standard configuration for the JNRBH case.

Rear piping penetration is an optional configuration and located at the rear-right area of the case (Fig. 8). If top piping is utilized, piping stub-outs are located at the top-back-right of the case.

If hot gas defrost is utilized, suction lines to each case in the circuit should be of equal distance from the main suction line. The expansion valve and other controls are located on the left-hand side of the case and are accessible by lifting the two left-hand deck pans—lifting the fan plenum is not required.

If it becomes necessary to penetrate the case tank in any area, be certain to seal any open gaps afterwards with canned-foam sealant and white RTV.

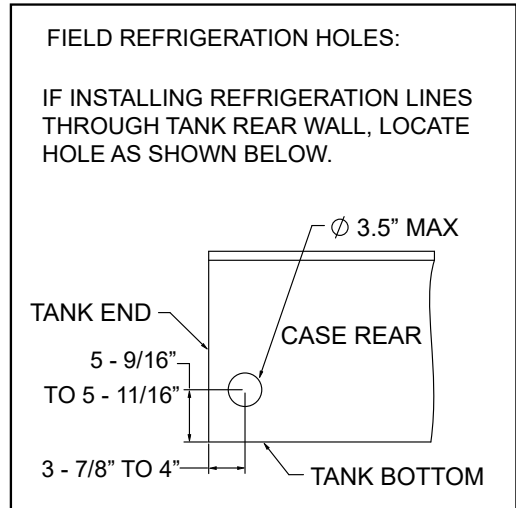


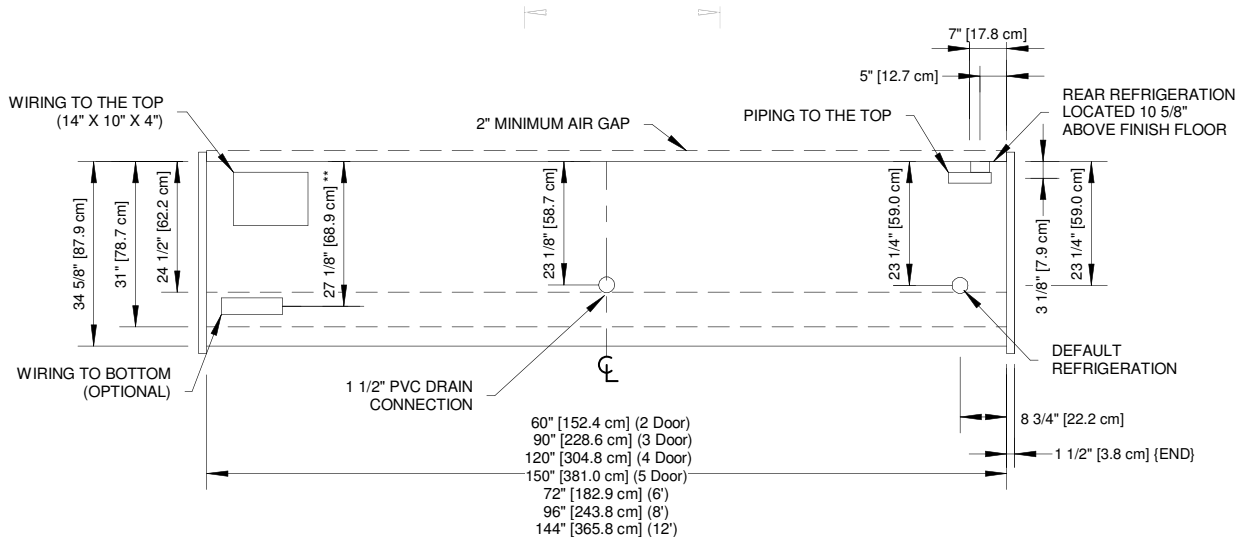
Fig. 8: Penetrate foam as needed to access piping



! ATTENTION

Indicates an important point of information that is key to ensuring proper case functionality.

JNRBH



DRAIN LOCATION FROM CENTERLINE

CASE LENGTH	2DR	3DR	4DR	5DR	6'	8'	12'
"X"	0"	- 0.5"	0"	0"	---	---	---

CASE CONNECTIONS

PLUMBING

The drain outlet is specially molded out of PVC material and is located in the front-center of the case for convenient access. The "P" trap, furnished with the case, is constructed of schedule 40 PVC pipe (Fig. 9). Care should be given to ensure that all connections are water-tight and sealed with the appropriate PVC or ABS cement.

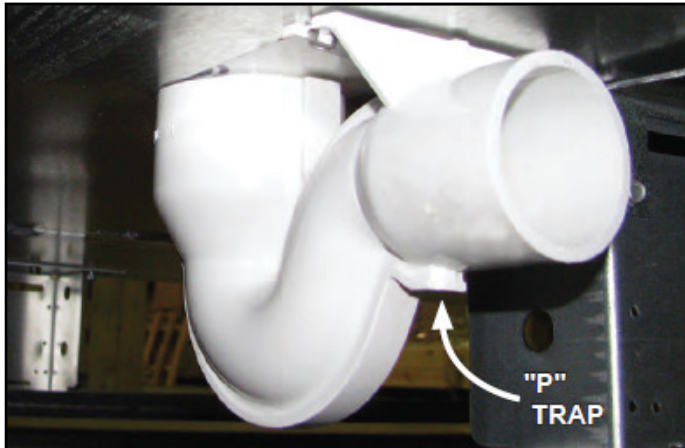


Fig. 9: "P" trap

The drain lines can be run left or right of the tee with the proper pitch to satisfy local drainage requirements. Since the kickplate is shipped loose with the case, you should have open access to the drain line area during installation.

If the kickplate has been installed, you will find it very easy to remove. Simply lift the kickplate up from the "J" rail and pull it out, away from the case (see Trim Out section).

ELECTRICAL

Electrical hookups are made through the power supply box.

Top Piped - The power supply box is mounted to the case top (Fig. 10).

For case-to-case wiring, run conduit between the power supply boxes or run wiring through the raceway. When connecting to the power supply on the case, field wiring should exit box from the side furthest away from case wiring (right side) to allow more room inside for wiring connections. Always check the data tag located on left end exterior panel or top interior of the case. The case must be grounded. *For more detailed electrical wiring information (see Appendix A).*

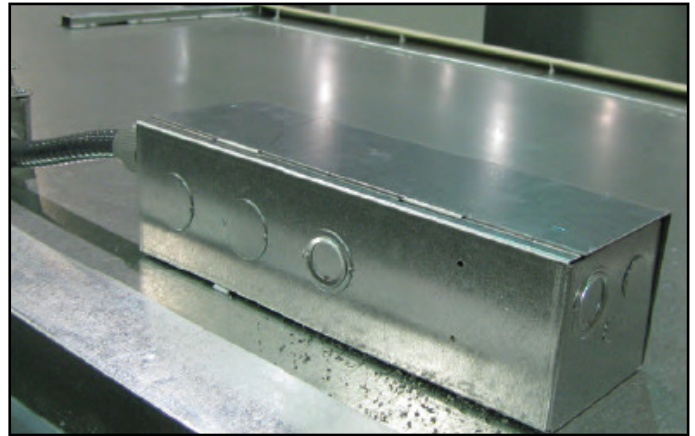


Fig. 10: Junction box above on top of case



⚠ ATTENTION

Be certain to clear the case of any loose packaging or case materials before energizing the case. Failure to do so may result in case damage or malfunction.



⚠ ATTENTION

Be certain that all piping, plumbing and electrical connections comply with local codes.

⚠ CAUTION

If any brazing is necessary, place wet rags around the area to avoid tank damage.

GENERAL LIGHTING INFORMATION

Hillphoenix cases are equipped with LED luminaires. LED power supplies operate the vertical mullion lighting.

The lighting system has an ON/OFF switch located at the inside, left ceiling of the case. Once a case has been properly positioned in the store the lights may be turned on to verify that they are connected and functioning properly.

To ensure peak performance, it is advisable to run the lighting systems only when the store climate control is on and case refrigeration is started. **Note: It is highly recommended that the ambient store temperature not exceed 80°F.**

DANGER

SHOCK HAZARD

Always disconnect power to case when cleaning, servicing or configuring components of the lighting system. Failure to do so may result in serious injury or death.

WARNING

Using improper DC power supplies may damage the luminaires, resulting in sub-standard operation and increased chances of safety issues/injury.

WARNING

Never replace a 24V DC power supply with a T8 or T5 ballast of any kind! Ballasts use alternating current (AC) instead of direct current (DC) and operate at a much higher voltage than is used by this LED system. Doing so will damage the LED system and increases the chance of safety issues/injury.

LED DRIVER/POWER SUPPLY BOX

The LED driver is installed within the mullion itself so this will not be found inside the power supply box. The lighting system has an ON/OFF switch located at the inside, left ceiling of the case.

REPLACING LED LIGHTS

Once store power is connected and the light circuit is energized, the LED system should operate without the need for any significant maintenance for several years. Should a power supply need to be removed and/or replaced, turn off the power to the case before proceeding. Be certain to replace the power supply with genuine Hillphoenix parts or a comparable UL-

listed Class-2 rated regulated 24V DC power supply with 100W output capacity.

LED LUMINAIRES

Replacing Optimax LED Vertical Mullion Lighting:

1. Locate the mullion lighting and check for the orientation of wiring.
2. Remove the zipper strips and contact plates to reach the wiring of the existing light.
3. Remove the LED fixture wiring from the wiring connectors in the back of the mullion.
4. Using a Philips head or power drill, remove the mounting screws on both the top and bottom of the existing light. Gently remove the LED fixture from the mullions including any mounting clips at the center of the mullion.
5. Locate the center of the mullion and make a 0.125" diameter hole for the center clip, but only if needed. **Note: Make sure not to damage any existing wiring inside the mullion.**
6. Using the center clip mounting screw install the center clip.
7. Take the new Optimax LED light and remove the molex connector and the grommet from the cable assembly using a wire cutting tool.
8. Strip the wire ends (1/2") for wire assembly.
9. Feed the cable assembly through the egress hole on the mullion.
10. Make the wire connections to the existing frame wiring inside the mullion.
11. Snap the center fixture into the center mounting clip (Fig. 11).
12. Mount the fixture using 8 x 5/8 Philips screw. **Note: No additional holes are needed in the mullion. Pre-existing holes from the existing Optimax installation can be used on the new fixtures.**
13. Test the lights by turning on the light switch to make sure the connections are secure.
14. Place the contact plates back and secure using the zipper strips. **Note: Use new zipper strips if necessary.**
15. Repeat the same process for the remaining mullions and the end jambs.
16. **Mullions use Center Fixtures 60-24826-7XXXX and End use Left 60-24827-7XXXX and Right 60-24828-7XXXX. (End fixtures use different hardware.)**



Fig. 11 Optimax center mounting clip

Before powering-up the case, be certain that all of the steps listed below have been completed to ensure proper case functionality, safety and compliance with warranty terms.

- Have you thoroughly examined the case for shipping damage? (see pg. 7)**
- Have you removed and discarded the casters? (see pg. 8)**
- Have you checked the vertical plumb of the case? The horizontal level? (see pg. 8)**
- Have you applied the foam tape gasket and sealant between adjoining cases? (see pg. 8 - 9)**
- Have you sealed the case-to-case joints by applying caulk and acrylic tape to the pipe-chase seam? (see pg. 9)**
- Have you sealed any tank penetrations? (see pg. 11)**
- Have you cleared the case of any loose packaging or case materials? (see pg. 12)**

AIRFLOW & DEFROST

AIR FLOW & PRODUCT LOAD

It is important that you do not overload the food product display so that it impinges on the air flow pattern – overloading will cause malfunction and the loss of proper temperature levels, particularly when discharge and return air sections are covered. Please keep products within the load limit line shown on the diagram below (Fig. 12).

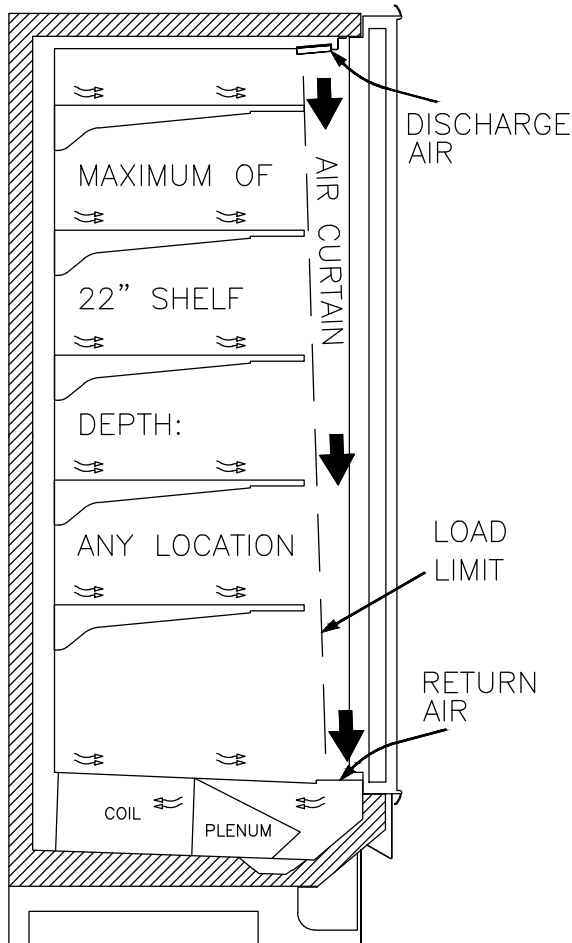


Fig. 12: Airflow and load limit inside case

DETERMINING SUPERHEAT

To identify the correct superheat settings, complete the following steps:

1. Obtain suction pressure from the access port. Obtain suction line temperature from the area near the TXV bulb at the outlet of the evaporator coil (Fig. 13).
2. Use appropriate Refrigerant temperature-pressure chart to convert to Temperature from the measured suction pressure.
3. Finally, subtract the converted temperature reading from the actual temperature reading. The resulting number is the superheat setting—once this has been determined, adjust the TXV as needed to obtain the proper setting.

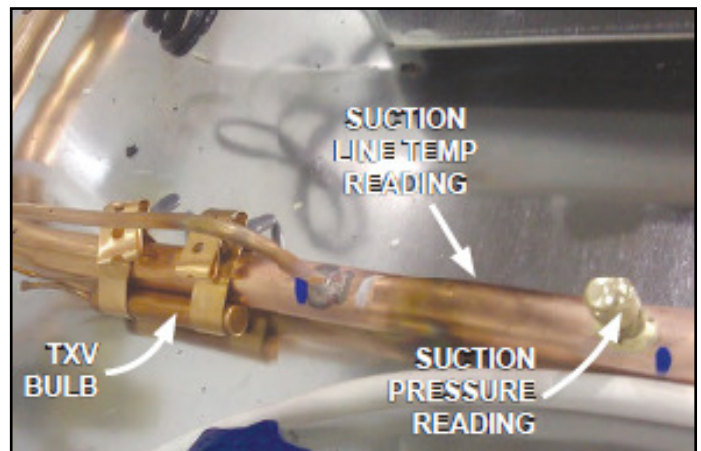


Fig. 13: Obtain pressure and temperature readings

ATTENTION



To insure optimal operation of the door and frame system, a constant 120V supply be used to power the electrical circuits. Cycling the input voltage will adversely impact case performance.



⚠ DANGER

SHOCK HAZARD

Always disconnect power to case when servicing or cleaning. Failure to do so may result in serious injury or death.

FANS

Reach-in door cases feature electronically commutated (ECM) fan motor assemblies, whereby the fan blade, fan motor, and basket are integrated into a single unit.

EBM Papst fans have 8" fan blades with a factory-set blade pitch. The fans are pre-set to run at 1800 RPMs; if an airflow adjustment is required, replacement fans with a different RPM set-point may be ordered.

Fan assemblies may be changed with an easy two-step process without lifting up the plenum, thereby avoiding the necessity to unload the entire product display to change the fan assembly:

1. Unplug the fan motor (Fig. 14) from the receptacle on the exterior of the fan plenum. Push the power cord back through the plenum opening.
2. Remove fasteners, then lift out the entire fan basket.

(Reverse procedure when re-installing fan assembly.)

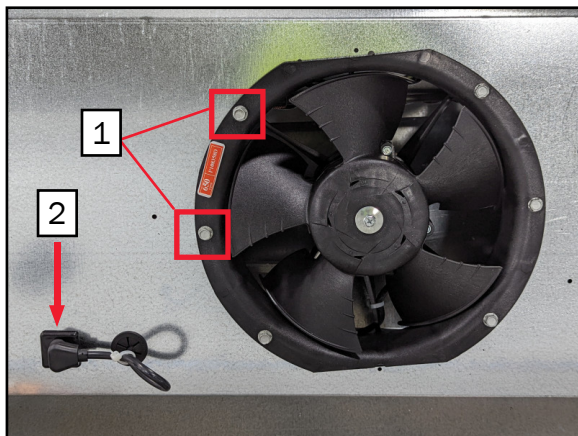


Fig. 14: Fan basket



⚠ ATTENTION

Power cord must be pushed back through the plenum opening before removing the fan basket. Failure to do so may result in damage to the power cord.

CASE CLEANING

A periodic cleaning schedule should be established to maintain proper sanitation, insure maximum operating efficiency, and avoid the corrosive action of food fluids on metal parts that are left on for long periods of time. We recommend cleaning once a week.

- To avoid shock hazard, be sure all electrical power is turned off before cleaning. In some installations, more than one disconnect switch may have to be turned off to completely de-energize the case.
- All surfaces pitch downward to a deep-drawn drain trough, funneling liquids and other debris to the waste outlet. Check waste outlet before starting the cleaning process to insure it is unclogged. Avoid introducing water faster than the case drain can carry it away.
- Lift the fan plenum to gain access to the coil for cleaning and maintenance. Remove screws where plenum flange sits on top front of coil. Pull plenum forward and rotate up (Fig. 15).

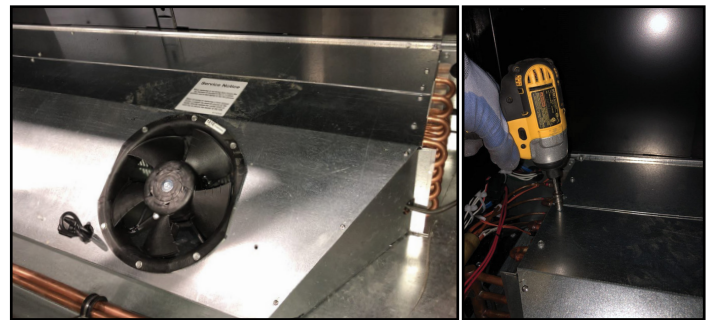


Fig. 15: Fan plenum and removing coil cover

- To clean the lights, shut off the lights in the case, then wipe them down with a soft, damp cloth. Avoid using harsh or abrasive cleaners as they may damage the lights. Be certain that the lights are completely dry before re-energizing.
- If any potentially harmful cleaners are used, be certain to provide a temporary separator (e.g., cardboard, plastic wrap, etc.) between those cases that are being cleaned and those that may still contain product.

⚠ CAUTION



Exercise extreme caution when working in a case with the coil cover removed. The coil contains many sharp edges that can cause severe cuts to the hands and arms.

- Avoid spraying cleaning solutions directly on electrical connections.
- Allow cases to be turned off long enough to clean any frost or ice from coil and pans.
- Remove kickplate and clean underneath the case with a broom and a long-handled mop. Use warm water and a disinfecting cleaning solution when cleaning underneath the cases.

Hillphoenix[®]

a **DOVER**[®] company

Contact the Service Parts Department at:

1-833-372-7871

or

orderparts@doverfoodretail.com

Provide the following information about the part you are ordering:

- **Model number and serial number*** of the case for which the part is intended.
- **Length of the part** (if applicable).
- **Color of part** (if painted) or color of polymer part.
- **Whether part is for left or right-hand application.**
- **Quantity**

***Data tag is located on the left end exterior panel or top interior of the case.**

If the parts are to be returned for credit, contact the Parts Department. Do not send parts without authorization.

A **ELECTRICAL WIRING**

B **CASE TOP FASCIA**

C **PARTS LIST**

D **SEISMIC BRACKETS**

E **PEG HOOKS**

WIRING IDENTIFICATION

WIRE IDENTIFICATION	BLACK	WHITE	BLUE	RED	YELLOW	PURPLE	ORANGE	GREEN	RED/BLK
DEFROST HEATERS (1-PHASE)	1,2								
DEFROST HEATERS (3-PHASE)	L1		L3	L2					
ANTI-CONDENSATE HEATERS	14	13							
	16	15							
	18	17							
AISLE WARMER	10	9							
DRAIN HEATER	36	37							
PRIMARY FANS	4	3	40						
SECONDARY FANS	6	5							
AMBIENT FANS	8	7							
LIGHTS	12	11							
BELL	60,62								
TEMPERATURE CONTROL					19,20				
DEFROST TERMINATION CONTROL	22					21			
DEFROST SAFETY CUT-OUT CONTROL	28					27			
LIQUID LINE SOLENOID					30	31			
SUCTION LINE SOLENOID					38	39			
CASE/CONTROLLER POWER	42	41							
TRANSFORMER	24	25							
CAPACITOR	34		35						
RECEPTACLE	32	33						75	
SYSTEM NEUTRAL (3-PHASE)		N							
POWER CORD (SELF-CONTAINED)	58	57							
SERVICE LIGHT (HI-PRESSURE)	53,54					49,50			
HIGH PRESSURE SWITCH									
DUAL PRESSURE SWITCH	51,52								
CONDENSING UNIT POWER	48	47		44	220V				
CONDENSING UNIT FAN	26	45	46					77	
IG RECEPTACLE	56	43						79	
GFI RECEPTACLE	70	55							
HUMIDIFIER		71							
REFRIGERATED PAN SOLENOID	65	65				64			99
REFRIGERATED PAN BYPASS SOLENOID	67	220V	66						
AIR HEATER DEFROST SOLENOID	69	220V					68		
MAIN SECONDARY FLUID SOLENOID	73	220V		72					
AIR DEFROST FAN	74	59							
SECONDARY COOLANT PUMP	76	61							
TANK FLUSH SOLENOID	87	220V			88			86	
MISTING SOLENOID	89	220V			90				
Drip DOWN TIMER									
REAR STORAGE BOX FANS	94	95							
GROUND TO EXTERIOR/FRAME									81
GROUND TO INTERIOR LINER									83
GROUND TO JUNCTION BOX									85
GROUND TO LIGHTS									97

**ATTENTION
ELECTRICIAN**

FOR SAFETY AND CODE COMPLIANCE GROUND FIXTURE AT TIME OF INSTALLATION

CAUTION:

RISK OF ELECTRIC SHOCK. MORE THAN ONE POWER-SUPPLY. DISCONNECT ALL POWER-SUPPLIES BEFORE SERVICING.

MANUFACTURING SPECIFICATION

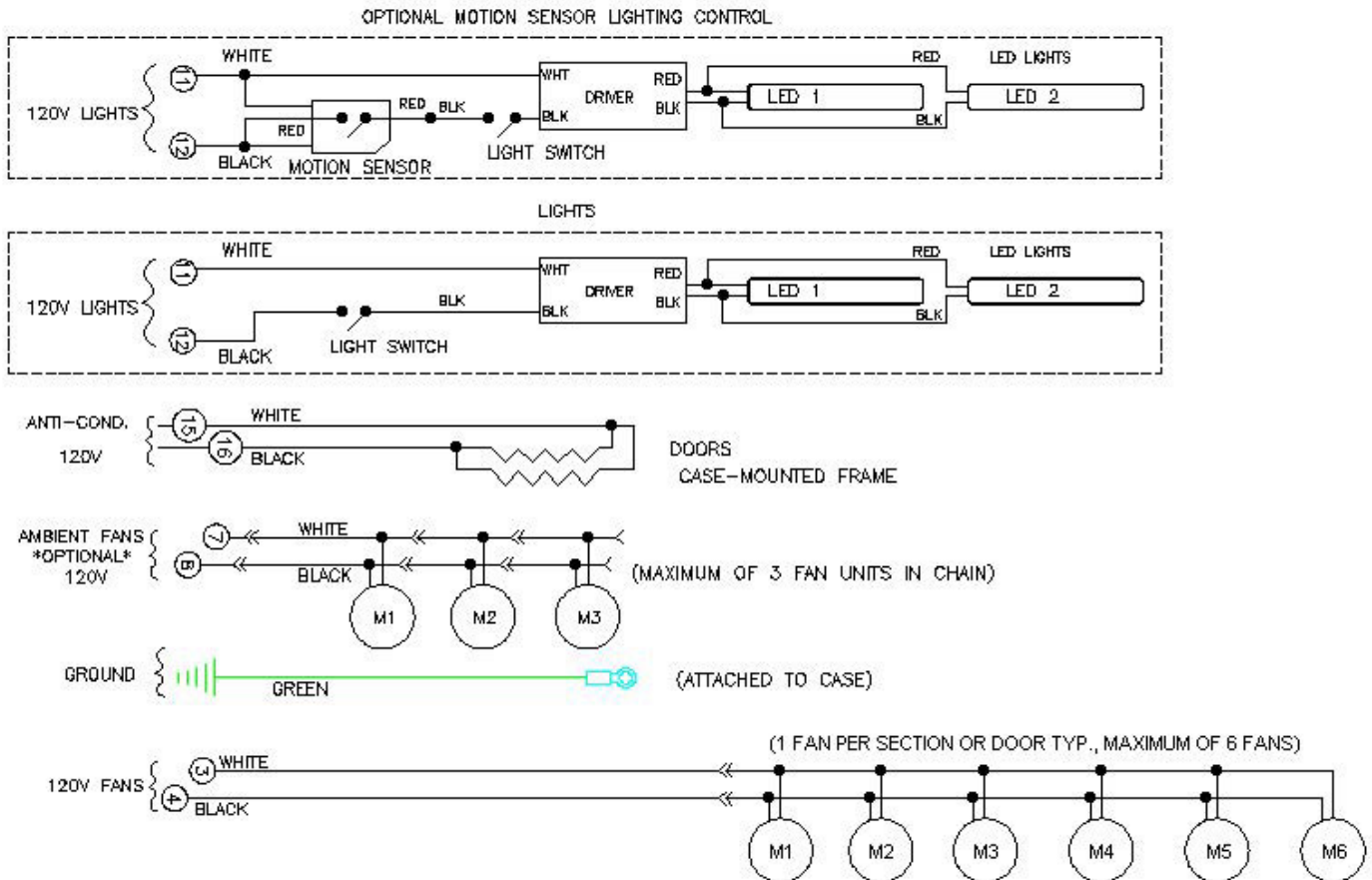


A DOVER COMPANY

WIRING DIAGRAM, MED TEMP DOOR CASE
OFF-TIME DEFROST

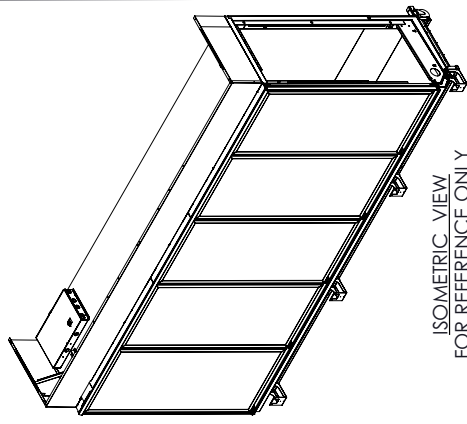
Submitted By: Frank Baze, P.E.

Release Date: 04/20/15 ECN: 99928 Doc. Number: R859742 Rev: 0



NAME: 10084655 OBJECT: R900217 DATE: 03-10-2023 20:44:11

- NOTES:
- THIS SHIPPED LOOSE FASCIA FRAMEWORK MODULE ARRANGEMENT IS APPLICABLE TO 2DR, 3DR, 4DR AND 5DR CASES ONLY.
 - CASE AND JUNCTION BOX SHOWN ARE FOR REPRESENTATION ONLY.
 - REFER WORK ORDER FOR QUANTITY OF FASCIA SUPPORT BRACKET.



SECURE 12" FASCIA TO THE DOOR COVER ASSEMBLY USING 6X #8 SCREWS. (SPECIFIC TO 5DR)

SECURE END FASCIA TO THE FASCIA BASE USING 4X #8 SCREWS. TYPICAL ON RH SIDE

JUNCTION BOX

DOOR COVER ASSEMBLY

REMOTE DISPLAY

ADJUSTABLE END FASCIA LH OUTSIDE PANEL

ADJUSTABLE END FASCIA INSIDE PANEL

JUNCTION BOX

FASCIA FRONT

DOOR COVER ASSEMBLY

FASCIA SUPPORT BRACKET

ADJUSTABLE END FASCIA INSIDE PANEL

ADJUSTABLE END FASCIA RH OUTSIDE PANEL

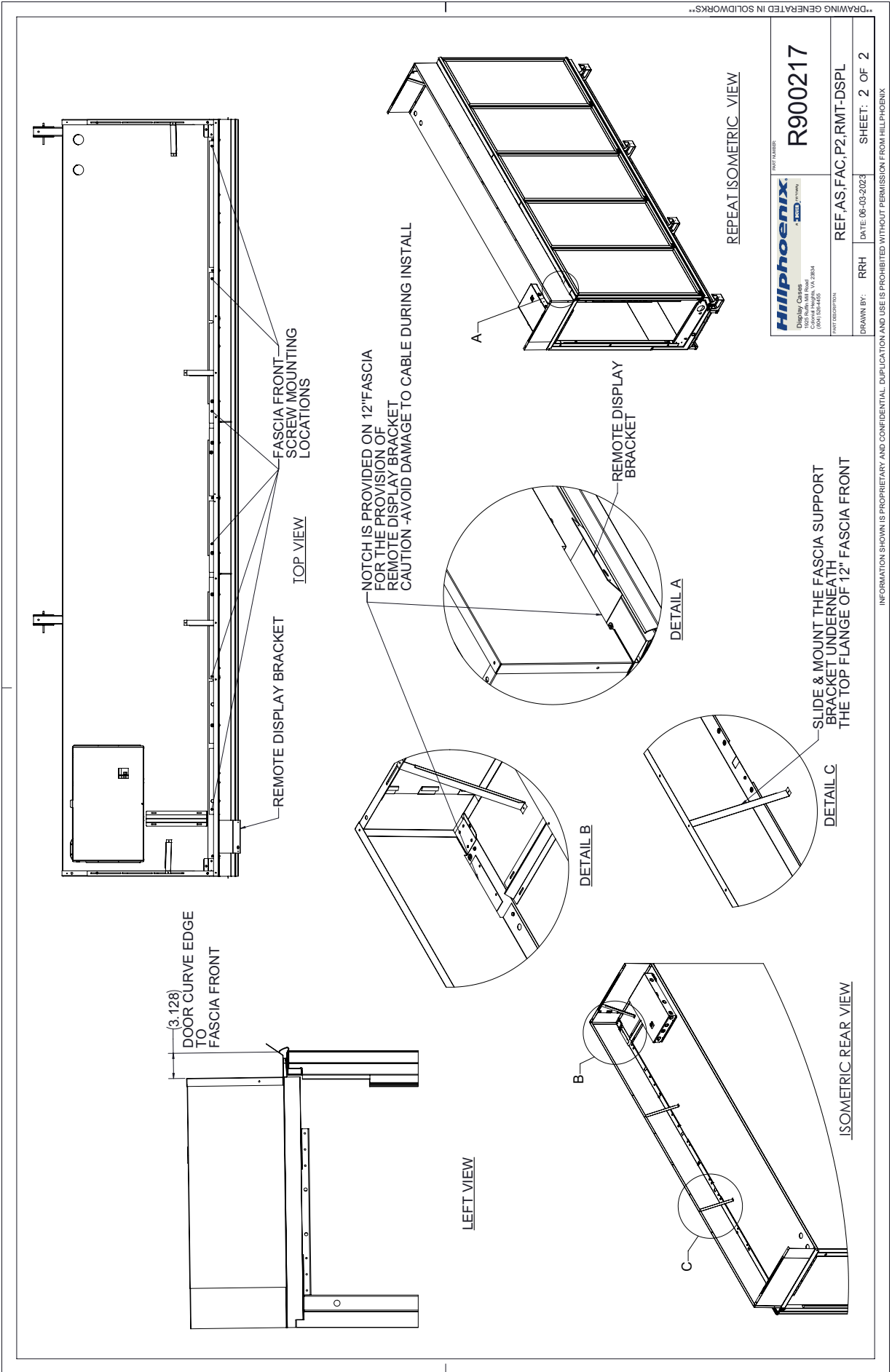
CASE FRONT

REPEAT EXPLODED VIEW SHOWING THE EXPLOSION OF FASCIA FRAMEWORK MODULE, CASE AND JUNCTION BOX

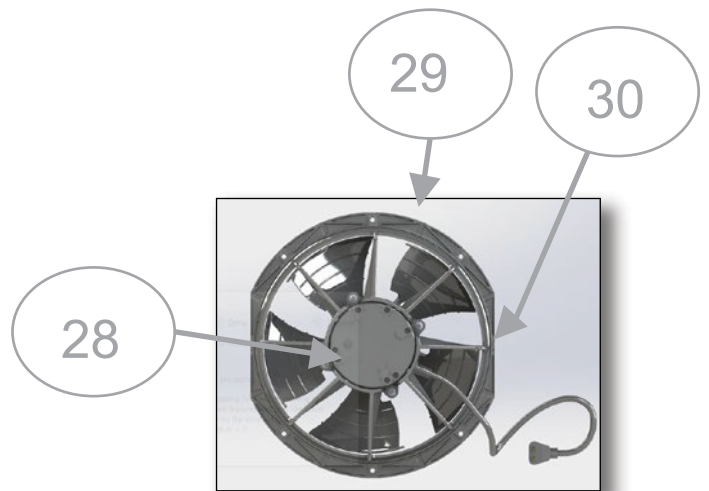
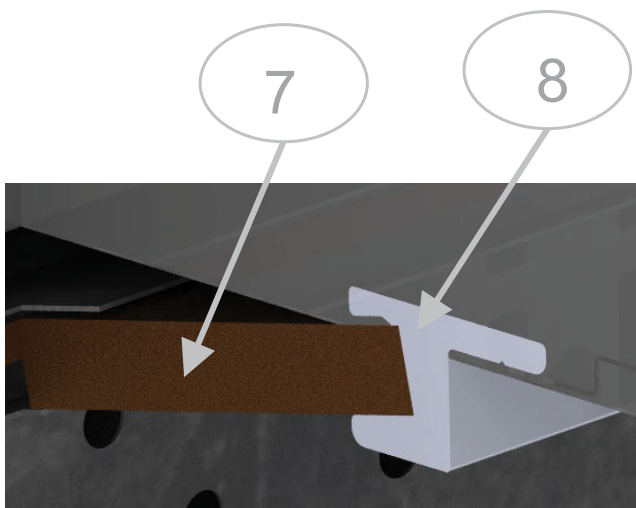
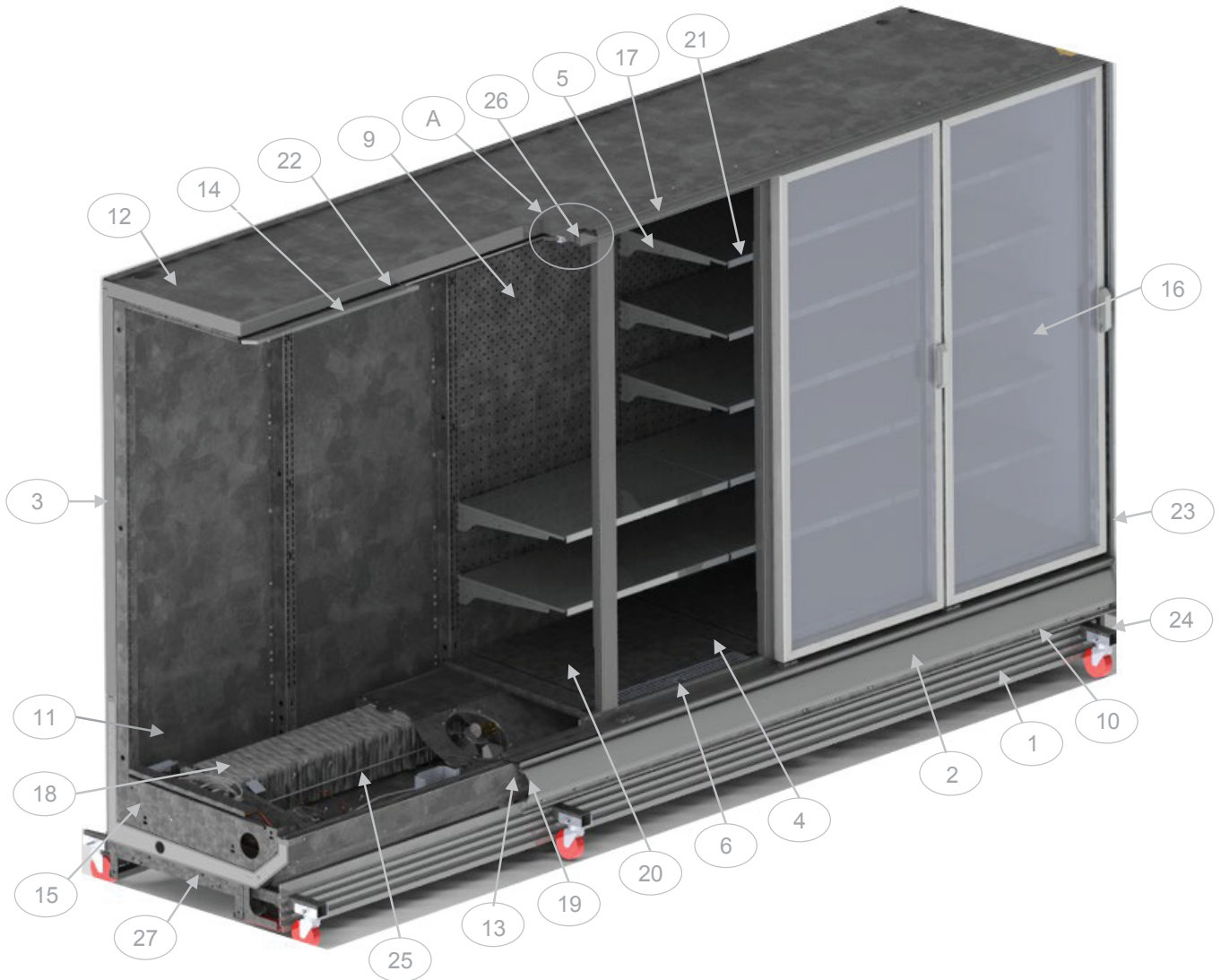
EXPLODED VIEW
SHOWING THE EXPLOSION OF FASCIA FRAMEWORK MODULE, CASE AND JUNCTION BOX

ASSEMBLY TYPE: Sub-Assembly

TOLERANCES: (UNLESS SPECIFIED)
DIMENSIONS: 1/16, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 1/2, 1 3/4, 2, 2 1/4, 2 1/2, 3, 3 1/4, 3 1/2, 4, 4 1/4, 4 1/2, 5, 5 1/4, 5 1/2, 6, 6 1/4, 6 1/2, 7, 7 1/4, 7 1/2, 8, 8 1/4, 8 1/2, 9, 9 1/4, 9 1/2, 10, 10 1/4, 10 1/2, 11, 11 1/4, 11 1/2, 12, 12 1/4, 12 1/2, 13, 13 1/4, 13 1/2, 14, 14 1/4, 14 1/2, 15, 15 1/4, 15 1/2, 16, 16 1/4, 16 1/2, 17, 17 1/4, 17 1/2, 18, 18 1/4, 18 1/2, 19, 19 1/4, 19 1/2, 20, 20 1/4, 20 1/2, 21, 21 1/4, 21 1/2, 22, 22 1/4, 22 1/2, 23, 23 1/4, 23 1/2, 24, 24 1/4, 24 1/2, 25, 25 1/4, 25 1/2, 26, 26 1/4, 26 1/2, 27, 27 1/4, 27 1/2, 28, 28 1/4, 28 1/2, 29, 29 1/4, 29 1/2, 30, 30 1/4, 30 1/2, 31, 31 1/4, 31 1/2, 32, 32 1/4, 32 1/2, 33, 33 1/4, 33 1/2, 34, 34 1/4, 34 1/2, 35, 35 1/4, 35 1/2, 36, 36 1/4, 36 1/2, 37, 37 1/4, 37 1/2, 38, 38 1/4, 38 1/2, 39, 39 1/4, 39 1/2, 40, 40 1/4, 40 1/2, 41, 41 1/4, 41 1/2, 42, 42 1/4, 42 1/2, 43, 43 1/4, 43 1/2, 44, 44 1/4, 44 1/2, 45, 45 1/4, 45 1/2, 46, 46 1/4, 46 1/2, 47, 47 1/4, 47 1/2, 48, 48 1/4, 48 1/2, 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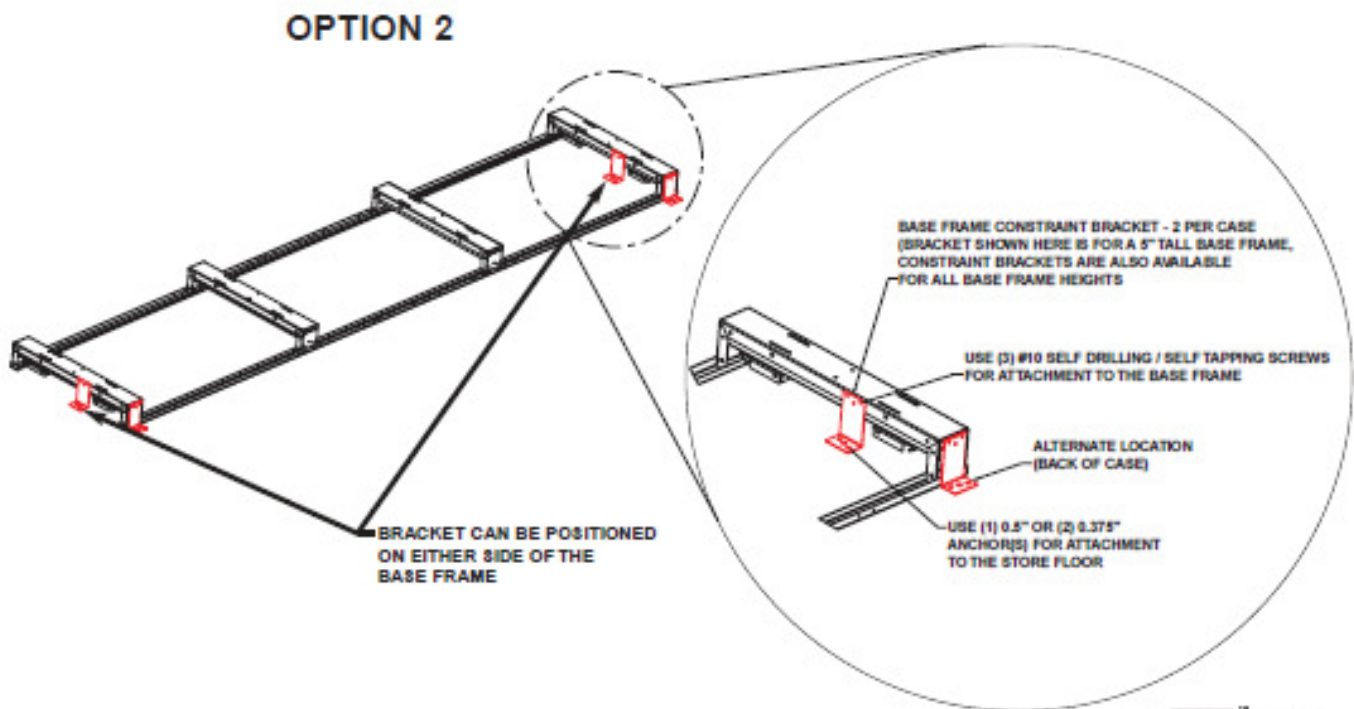
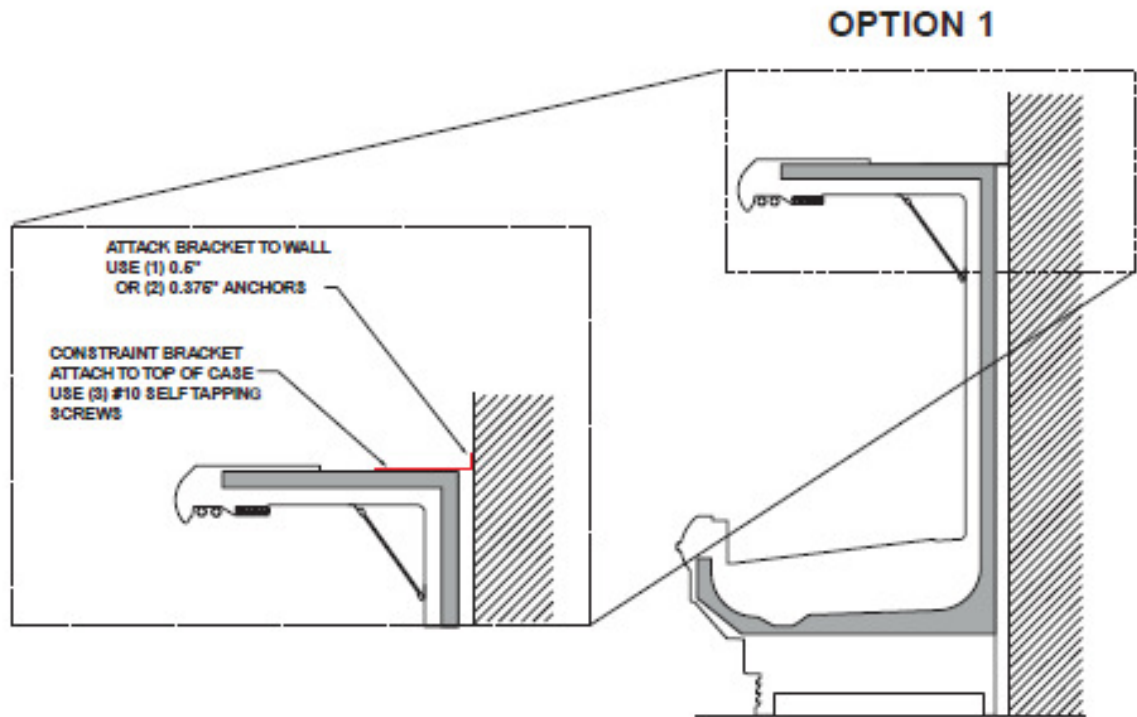
DRAWING GENERATED IN SOLIDWORKS



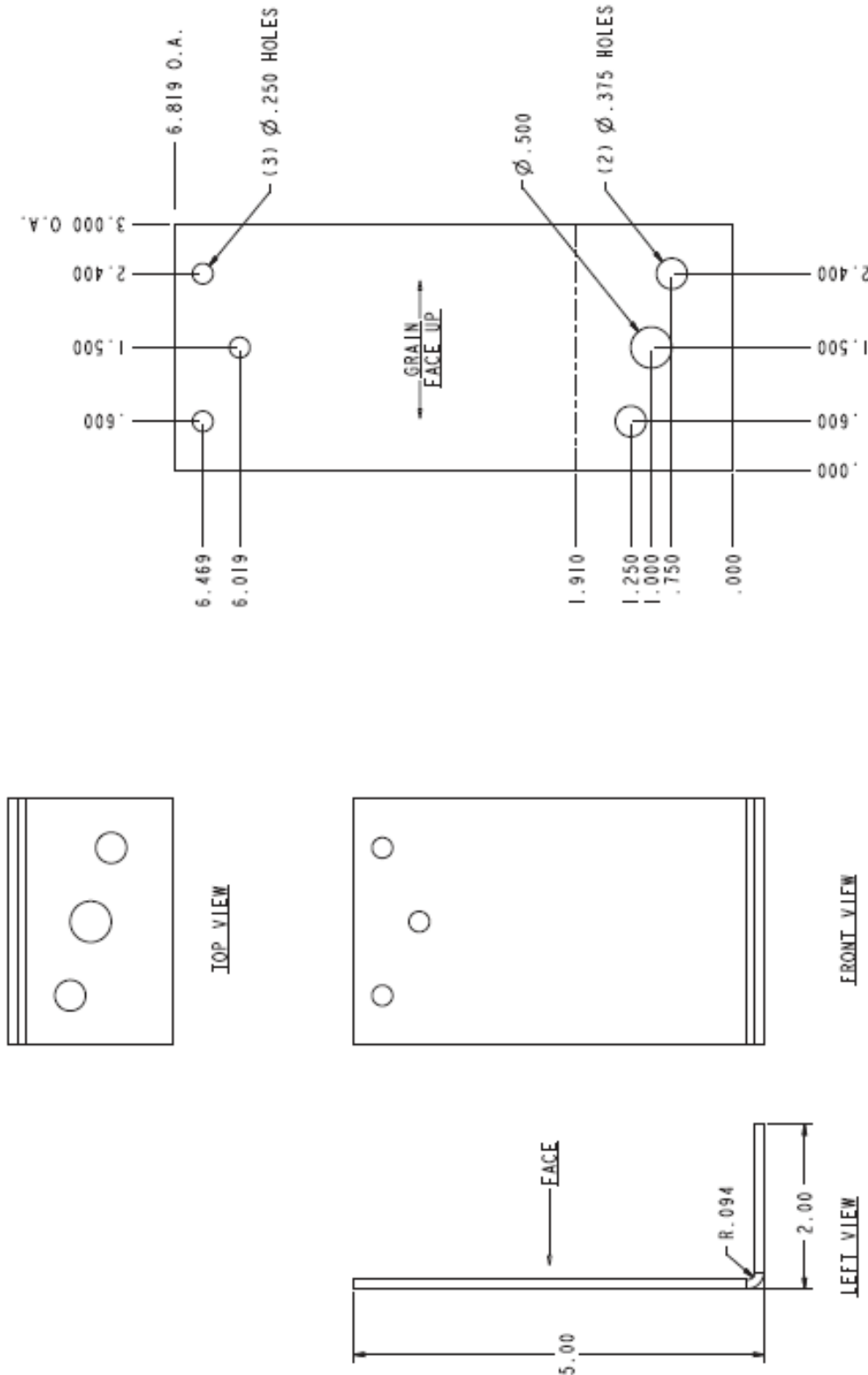
Location Number	Part Descriptions
1	Kickplate, Strome Gray
2	Lower Front Panel, Painted Custom Color
3	Back Panel
4	Deck Pan, Painted, Unpainted
5	Wire Shelving, With or Without Covers
6	Front Baffle, Aluminum
7	Honeycomb 1"x4"x48"
8	Honeycomb Retainer, Painted
9	Upper Rear Baffle, Center or End
10	Nose Bumper, Polymer Custom Color
11	Lower Rear Baffle Painted.
12	Top Canopy
13	" J " Rail, for Kickplate
14	Top Flue Panel Painted
15	Frame Assembly Left, Right & Center
16	Door, Specify Mask Color, Ardco or Anthony, Door Handle Type, Low or Medium Temperature Applications, Door Swing - French, Left or Right-Hand
17	Door Frame Manufactures Low or Medium Temperature Application
18	Coil
19	Bumper Retainer
20	Bottom Wire Racks
21	Tag Molding, PVC, or Aluminum
22	Thermometer Includes Bracket
23	End Assembly Solid Custom Color Identify Left or Right or Color of Panel And Color of End Trim Color
24	End Kickplate, Painted, Stainless Steel
25	Defrost Heaters
26	Anti-Condensate Heaters, Discharge
27	Base Frame
28	Fan Motor – State High Efficiency or Standard
29	Fan Blade
30	Fan Basket 8"

The case constraint brackets can be installed in 2 ways. Option 1 can be used on multi-deck cases and uses an “L” bracket to attach the case to a vertical wall, as shown below. Option 2 can be used on multideck cases or on cases that do not have a canopy.

Attach the “L” brackets to the base frames in either of the locations shown below. Brackets are available for all base frame heights.



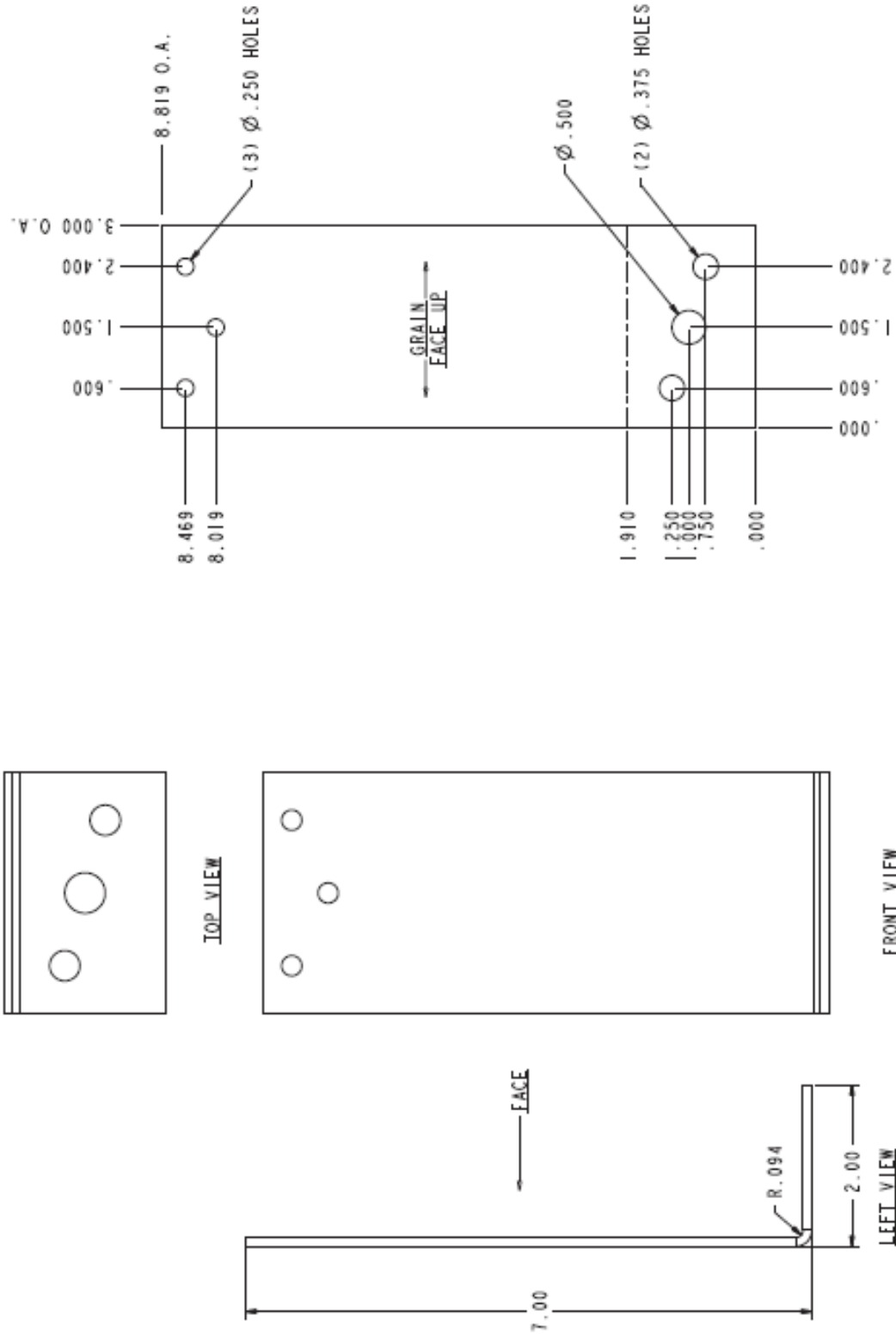
5" BRACKETS



ALL BENDS 90° UNLESS SPECIFIED	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: RELEASED TO PRODUCTION
ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES AND DECIMALS THEREOF	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
SHOWN NOT TO SCALE	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
⊗ = VARIANCE ACCEPTABLE	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
Mill Phoenix	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
1305 MILL ROAD COLONIAL HEIGHTS, VA 23044 PH: (804) 368-4455 FAX: (804) 368-3324	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
NOT TO SCALE	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
QNT. L. 5" BF. CONSTRAINT	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
GL	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
MSP	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
126	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
GALVANIZED	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
F766804AGL	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]
SHEET: 1 OF 1	DATE: 05/15/06	BY: [REDACTED]	DESCRIPTION: [REDACTED]

INFORMATION SHOWN IS PROPRIETARY AND CONFIDENTIAL. DUPLICATION AND USE IS PROHIBITED WITHOUT PERMISSION FROM MILL PHOENIX

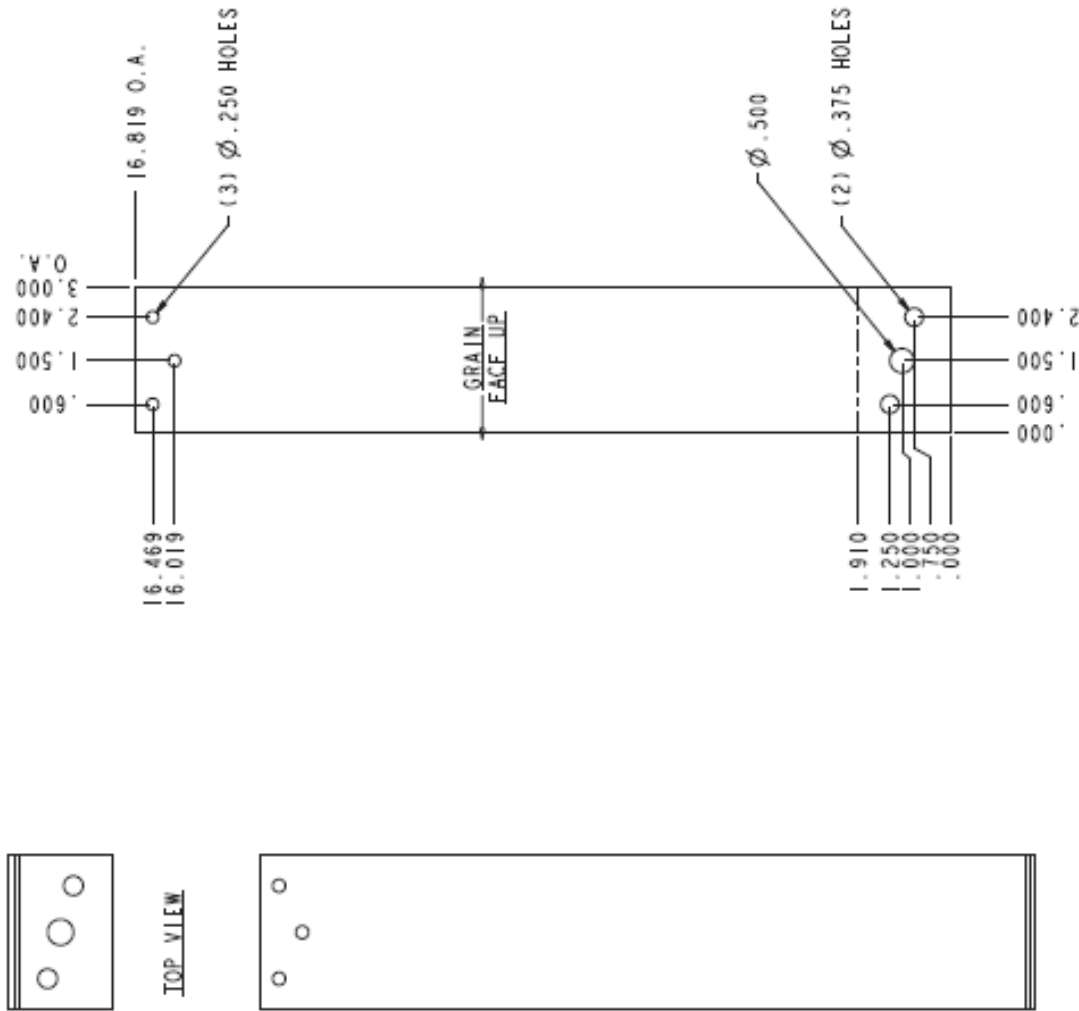
7" BRACKETS



ALL DIMS 90° UNLESS SPECIFIED	TEMP:	GL
ALL DIMS 90° UNLESS SPECIFIED	YEAR:	MSP
REVISIONS & C/P FOR SPECIFICATIONS	REVISION:	120
DATE: 05/15/06	TOTAL:	GALVANIZED
BY: CWC	NET WEIGHT:	F766805KGL
DATE: 05/15/06	DESCRIPTION:	DIRT, L. 7" SF, CONSTRT
REV: 05/15/06	ECN: 62357	RELEASED TO PRODUCTION
BY: CWC	DATE: 05/15/06	FORM BY: CWC
DATE: 05/15/06	DESCRIPTION:	SHEET: 1 OF 1

INFORMATION SEEN IS PROPRIETARY AND CONFIDENTIAL. DUPLICATION AND USE IS PROHIBITED WITHOUT PERMISSION FROM HILL PHOENIX

15" BRACKETS



TOP VIEW

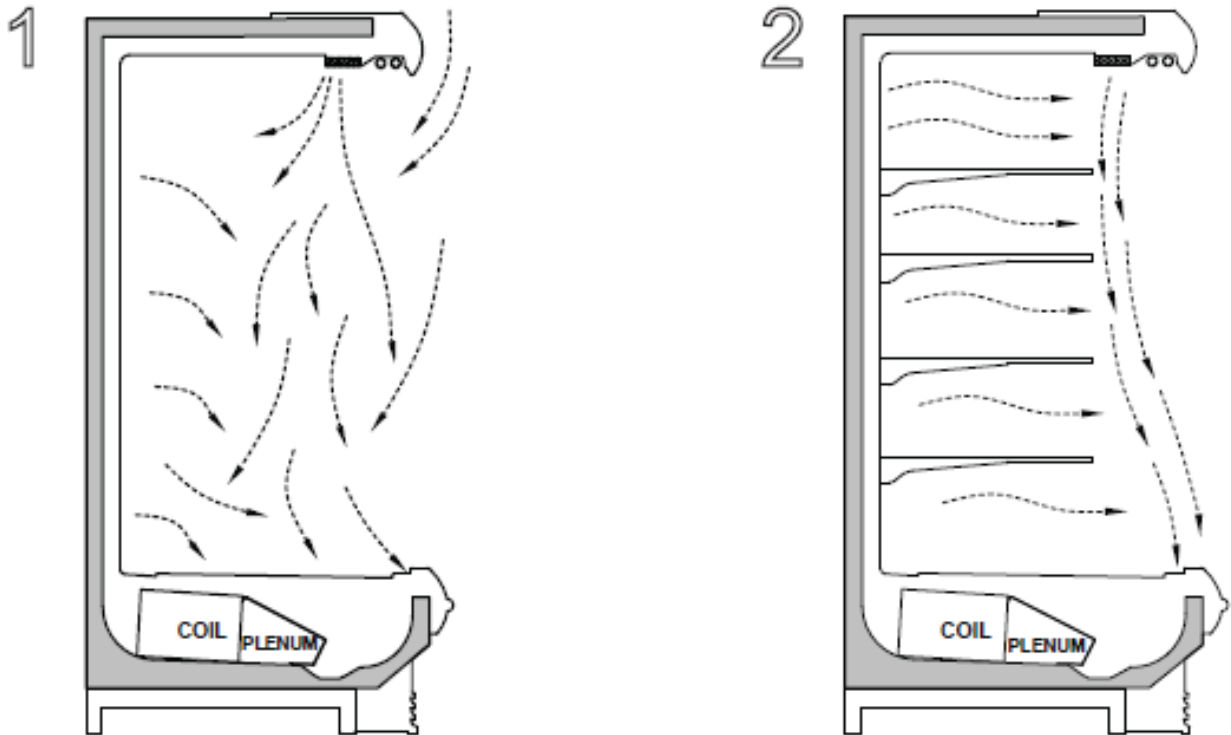
FRONT VIEW

LEFT VIEW

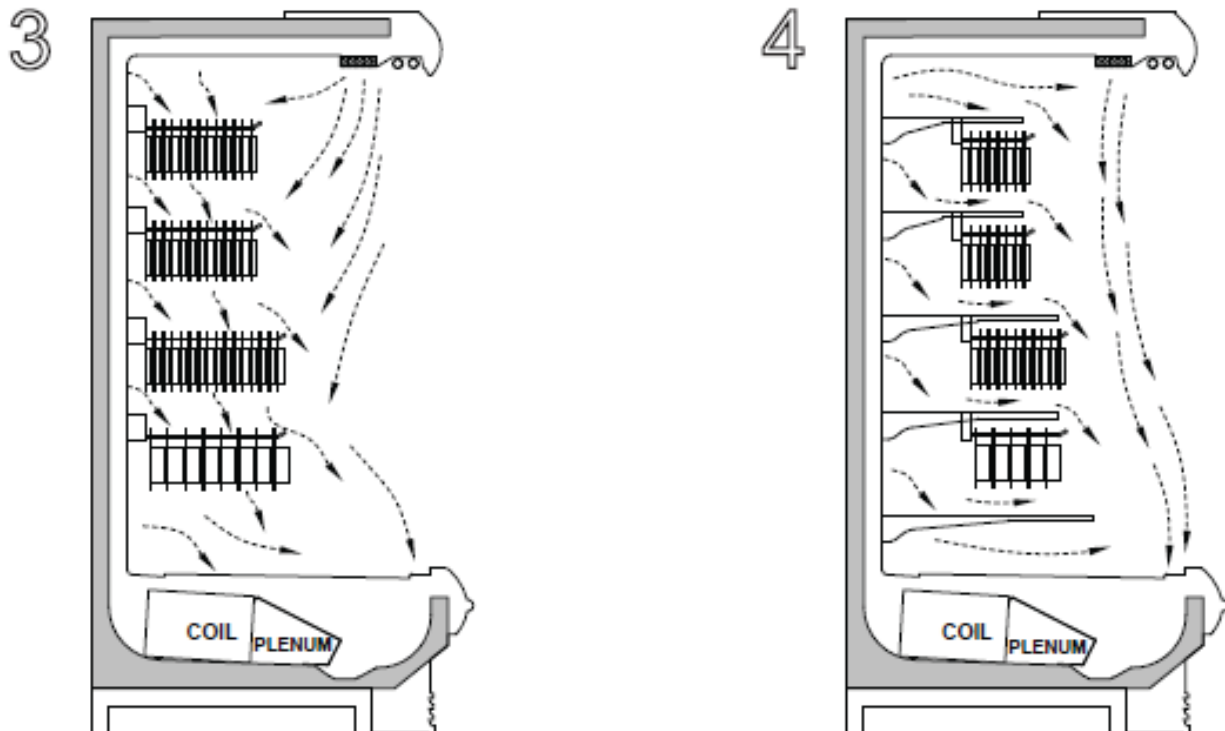
ALL DIMENSIONS UNLESS SPECIFIED	UNIT:	GL
SHOWN IN FEET & INCHES	TYPE:	MSP
ALL DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE	FINISH:	12G
Ø = VARIANCE ACCEPTABLE	FINISH:	GALVANIZED
Mill Phoenix	ITEM NO.:	F766807EGL
1875 MILL STREET, SUITE 100 COLLEGE PARK, VA 22044 PH (804) 308-1055 FAX (804) 308-3728		
REV. 03/10/10	REV. 1.15	RF CONSTANT

E1 PEG HOOKS

When a case merchandiser's shelves are removed, air drifts back to the rear duct and swirls around, thus breaking the protective air envelope and allowing case air to mix with ambient store air (Fig. 1). When the shelves are present, air flows from the top and back, forming a protective barrier against the ambient store air (Fig. 2).



When peg bars are present, air falls through openings between packages and fails to maintain a protective barrier (Fig. 3). When the bars are fully stocked, the effect is minimized; however, product temperatures will not be optimal. Sweating may be noticed on the top duct panel above the bars and frost will build up on the coil faster, requiring more frequent defrost cycles. For proper set-up of a merchandiser with peg bars, install a solid baffle above each row of peg bars - except for the bottom shelf - to maintain proper air flow and temperatures inside the case. Non-load-bearing solid air baffles should run the same width as the peg bars.





A  COMPANY

Hill PHOENIX, Inc.
Hereinafter Referred To As Manufacturer

LIMITED WARRANTY

GENERAL WARRANTY

Manufacturer's products are warranted to be free from defects in materials and workmanship under normal use and maintenance for fourteen months from date of shipment from manufacturer (the "Base Warranty Period"). In the event of a qualifying warranty claim, a new or rebuilt part to replace any defective part will be provided without charge. The replacement part is covered under this warranty for the remainder of the applicable Base Warranty Period. In order to be eligible for warranty coverage, customer must: (i) notify Manufacturer promptly upon discovery of a warrant defect, and (ii) comply with the warranty claim procedures provided by Manufacturer from time to time.

This equipment warranty does not include labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts.

The warranty shall not apply:

1. To any unit or any part thereof which has been subject to accident, alteration, negligence, misuse or abuse, or which has not been operated in accordance with the manufacturer's recommendations, or in conditions outside of Manufacturer's specifications, or if the serial number of the unit has been altered, defaced, or removed.
2. When the unit, or any part thereof, is damaged by fire, flood, or other act of God.
3. To products that are impaired or damaged due to improper installation.
4. When installation and startup forms are not properly completed or returned within two weeks after startup.
5. If the defective part is not returned to the Manufacturer.
6. To service, maintenance or wear and tear parts (such as lights, starters and ballasts)

MODIFICATIONS TO GENERAL WARRANTY

The following sets forth certain modifications to the General Warranty for specific products of Manufacturer:

DISPLAY CASE AND SPECIALTY PRODUCTS CLEARVOYANT® LED LIGHTING

The warranty period for Clearvoyant LED lighting components within the Clearvoyant lighting system is five years from date of shipment.

REMEDY LIMITATION/DAMAGES EXCLUSION

THE REMEDY OF REPAIR OR PROVISION OF A REPLACEMENT PART WITHOUT CHARGE SHALL BE THE EXCLUSIVE REMEDY FOR ANY WARRANTY CLAIM HEREUNDER. WITHOUT LIMITING THE FOREGOING, MANUFACTURER SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF PROFIT, LABOR COST, LOSS OF REFRIGERANT OR FOOD PRODUCTS.

EXCLUSIVE WARRANTY

THE FOREGOING WARRANTY IS THE EXCLUSIVE WARRANTY WITH RESPECT TO THE PRODUCTS. ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED. NO IMPLIED WARRANTY SHALL BE DEEMED CREATED BY COURSE OF DEALING OR USAGE OF TRADE. NO OTHER PERSON IS AUTHORIZED TO EXPAND OR CREATE ANY OBLIGATION GREATER THAN OR MORE EXPANSIVE THAN THE WARRANTY PROVIDED HEREIN.

Submit warranty claims to:

Hillphoenix Refrigeration & Power

Systems Division
2016 Gees Mill Road
Conyers, GA 30013
Warranty / Service
Phone: 1-833-280-5714

Hillphoenix Display Case Division

1925 Ruffin Mill Road
Colonial Heights, VA 23834
Warranty / Service
Phone: 1-833-280-5714

Hillphoenix Specialty Products Division

703 Franklin Street
Keosauqua, IA 52565
Warranty / Service
Phone: 1-833-280-5714

Warning Maintenance & Case Care

When cleaning cases the following must be performed PRIOR to cleaning:

To avoid electrical shock, be sure all electric power is turned off before cleaning. In some installations, more than one switch may have to be turned off to completely de-energize the case.

Do not spray cleaning solution or water directly on fan motors or any electrical connections.

All lighting receptacles must be dried off prior to insertion and re-energizing the lighting circuit.

Please refer to the Use and Maintenance section of this installation manual.

Hillphoenix.

A DOVER COMPANY

Tel: 1-804-526-4455

1925 Ruffin Mill Rd, Colonial Heights, VA 23834

Due to our commitment to continuous improvement, all specifications are subject to change without notice.

Hillphoenix is a Sustaining Member of the American Society of Quality.

Visit our website at www.hillphoenix.com

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