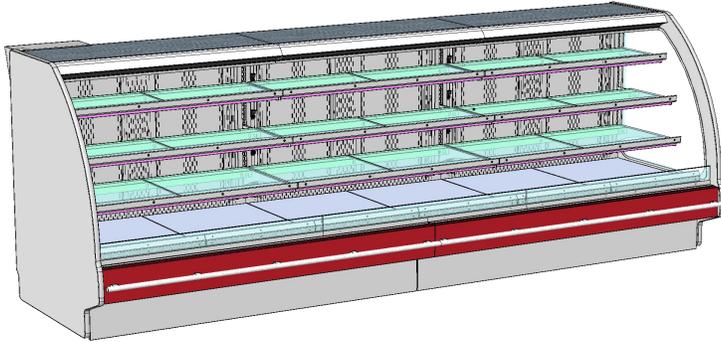


CAREFULLY FOLLOW THESE INSTRUCTIONS

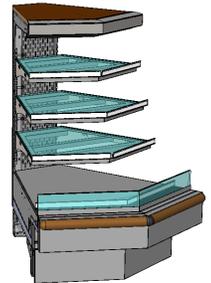
FUSION USER MANUAL

SCC P/N
20-01693

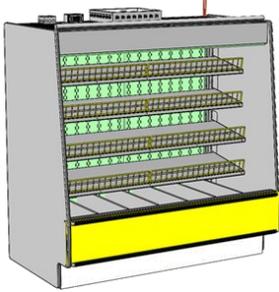
FUSION HIGH-VOLUME SELF-SERVICE REFRIGERATED DISPLAY CASES ||| **NOTE:** CASES SHOWN WITH FULL & OPEN END PANELS AS WELL AS WITH STRAIGHT OR ANGLED BASES. YOURS MAY DIFFER.



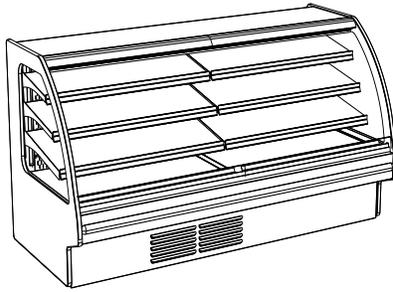
GHSS1252RLB.6796F
(With Rear Swinging Doors)



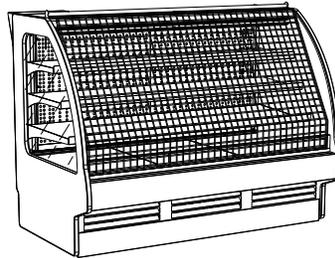
GHSSVX452RLB
45° Outside Wedge



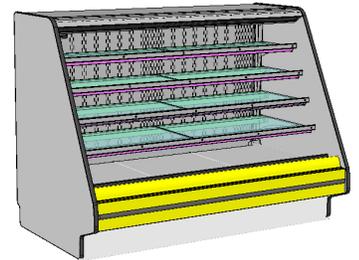
GHBSS5R.4986A
(Remote)



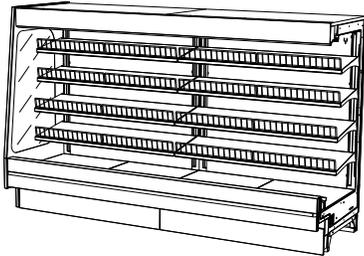
GHSS850R



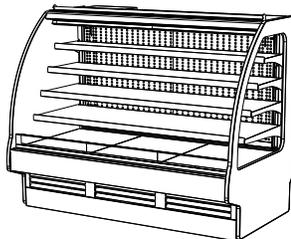
GHSS656R / Optional Night
Air Curtain / Locking Security
Cover / Rear Sliding Doors



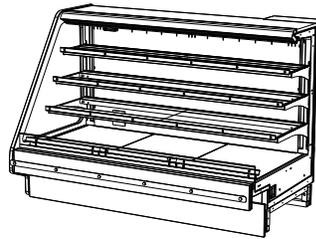
GHSS656RLB (Remote)



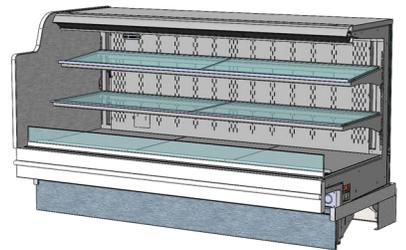
GHSS1075RLB.5422



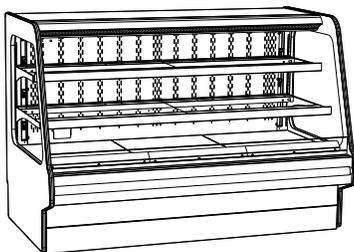
GHSS660R w/Optional Perforated
Plexiglas® Sliding Doors



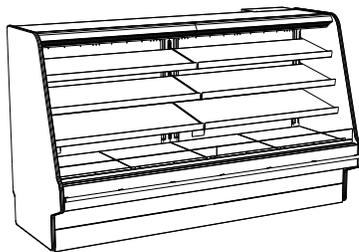
GHSS652RLB Without
Right End Panel



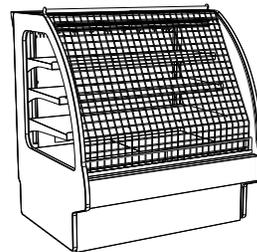
GHSSACS645RLB.6527



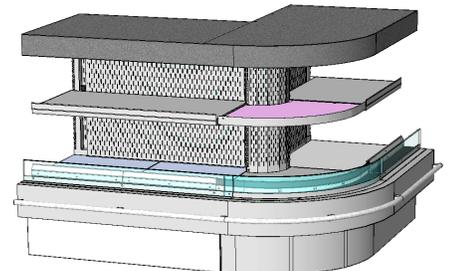
GHSSAC652R



GHSSACS857R
Includes Scale Stand



GHSS456R
Optional Night Air Curtain
& Locking Security Cover



GHSSFHX945RLB.6100E / 90°
Outside Wedge & Full Length Header

Structural Concepts®

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OVERVIEW

- These Structural Concepts cases are designed to merchandise packaged products at 41 °F (5 °C) or less product temperatures (unless custom cases with wire rack shelving).
- Product must be pre-chilled to 41 °F (5 °C) or less before being placed in merchandiser.
- Cases should be installed and operated according to this operating manual's instructions to ensure proper performance. Improper use will void warranty.

TYPE 1 vs. TYPE 2 CONDITIONS

This unit is designed for the display of products in ambient store conditions where temperatures and humidity are maintained within a specific range.

- Type 1 conditions: ambient conditions are to be 55% max. humidity and 75 °F (24 °C) max. temperature.
- Type 2 conditions: ambient conditions are to be 55% max. humidity and 80 °F (27 °C) max. temperature.

- If unsure if unit is Type 1 or 2, see tag next to serial label. See **SERIAL LABEL LOCATION & INFORMATION LISTED / TECH INFO & SERVICE** section in this manual for sample serial labels).

COMPLIANCE

- Performance issues when in violation of applicable NEC, federal, state and local electrical and plumbing codes are not covered by warranty.
- See below compliance guideline.

WARNINGS

- This page contains important warnings to prevent injury or death. Please read carefully!

PRECAUTIONS and WIRING DIAGRAMS

- See next page for **PRECAUTIONS** and **WIRING DIAGRAM** information.



COMPLIANCE
This equipment **MUST** be installed in compliance with all applicable NEC, federal, state and local electrical and plumbing codes.



WARNING
Risk of electric shock. Disconnect power before servicing unit. **CAUTION!** More than one source of electrical supply is employed with units that have separate circuits. *Disconnect ALL ELECTRICAL SOURCES before servicing.*



WARNING
Hazardous moving parts. Do not operate unit with covers removed. Fan blades may be exposed when deck panel is removed. Disconnect power before removing deck panel.



WARNING
This product can expose you to chemicals, including Urethane (Ethyl Carbamate), which are known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to P65Warnings.ca.gov.



WARNING
Condensate pan and overflow condensate pans are **HOT!** Disconnect and allow to cool before cleaning or removing from case.

PRECAUTIONS

- Following are important precautions to prevent damage to unit or merchandise. Read carefully!
- See previous page for specifics on **OVERVIEW**, **CONDITION TYPE**, **COMPLIANCE** and **WARNINGS**.

WIRING DIAGRAM

- Each case has its own wiring diagram folded and in its own packet. It may be placed near ballast box, field wiring box, raceway cover, or other related location.

REFRIGERANT DISCLOSURE STATEMENT

- This equipment is prohibited from use in California with any refrigerants on the “List of Prohibited Substances” for that specific end-use, in accordance with California Code of Regulations, title 17, section 95374.
- This disclosure statement has been reviewed and approved by Structural Concepts and Structural Concepts attests, under penalty of perjury, that these statements are true and accurate.



CAUTION! GFCI BREAKER REQUIREMENT
 If N.E.C. (National Electric Code) or your local code requires GFCI (Ground Fault Circuit Interrupter) protection, you **MUST** use a GFCI breaker in lieu of a GFCI receptacle.



CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

- Performance issues caused by adverse conditions are **NOT** warranted.
- To prevent damage to end panels due to condensation, apply industrial grade silicone sealant and tightly join to opposite end panels. When not adjoining cases, keep end panels at least 6” away from walls/structures. Rear panels must also be kept at least 6” from walls and structures.
- Case must not be exposed to direct sunlight or any heat source.
- To maintain proper case temperature, keep case at least 15-feet from exterior doors, overhead HVAC vents or any air curtain disruption.
- Self-contained case clearance: 6” min. air intake / 6” min. air discharge.

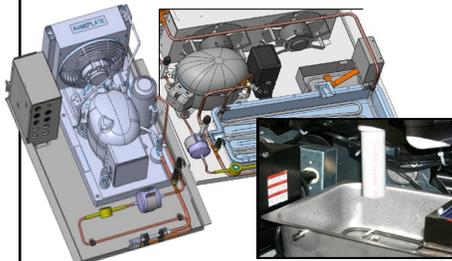


CAUTION! POWER CORD AND PLUG MAINTENANCE
 Risk of electric shock. If cord or plug becomes damaged, replace only with cord and plug of same type.



CAUTION! DO NOT RELY ON THERMOMETERS OR THERMOSTATS FOR PRODUCT (FOOD) TEMPERATURES.

- Thermometers & thermostats reflect air temperatures **ONLY**.
- For **ACTUAL** product (food) temperatures, use a calibrated food probe thermometers **ONLY**.
- For accurate readings, **DO NOT** use infrared food thermometers.



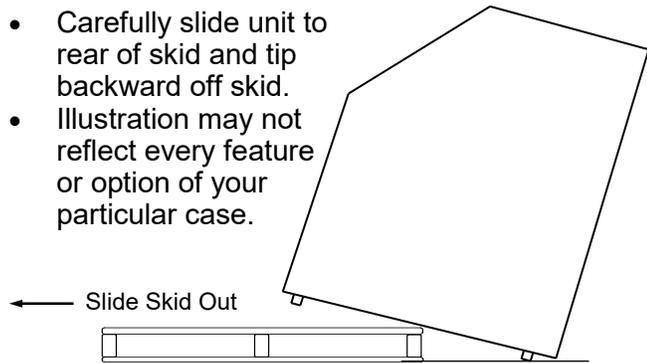
CAUTION! CHECK CONDENSATE PAN, ITS POSITION & PLUG!
 Water on flooring can cause extensive damage!

- Before powering up case, check that condensate pan is positioned directly under case’s condensate drain.
- Before powering up case, check that condensate pan’s electrical plug is **SECURELY** connected to condensate system’s receptacle.
- If wicking material is used in condensate pan, check that it is **secure**.

INSTALLATION: REMOVAL FROM SKID, REMOVING VERTICAL LOWER FRONT PANELS

1. Remove From Skid (Rails or Levelers)

- Remove shipping brace that may be securing case to skid.
- Support case to prevent tipping.
- **Caution! Frame Support Rails (or levelers) can be damaged if case hits floor with heavy force!**
- Carefully slide unit to rear of skid and tip backward off skid.
- Illustration may not reflect every feature or option of your particular case.

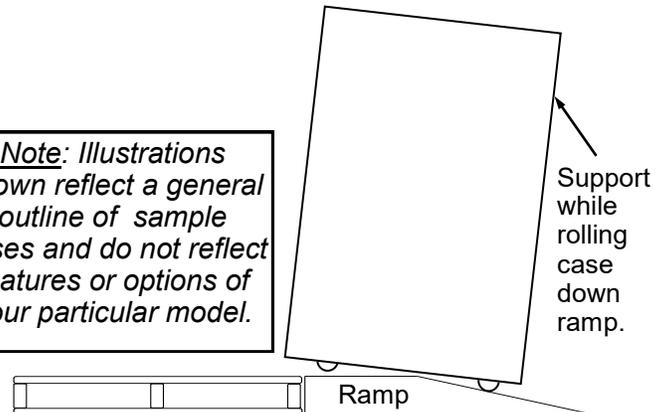


Note: Case can be repositioned with pallet truck when front lower panel is removed. Blocking may be necessary to obtain adequate height.

2. Remove Case From Skid (Casters)

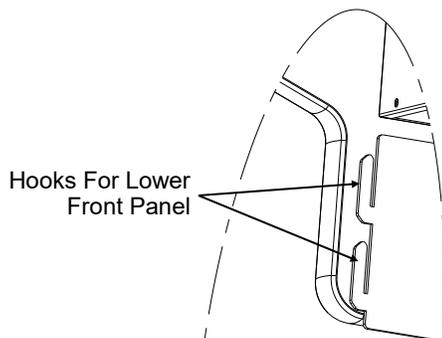
- Remove shipping brackets that may be securing casters to skid
- Place ramp up against skid (to allow case to smoothly slide off from skid).
 - Maintain support of case at all times or center of gravity may cause case to fall.
 - Unlock Casters. Roll unit to rear of skid. Roll down ramp and off from skid.

Note: Illustrations shown reflect a general outline of sample cases and do not reflect features or options of your particular model.



3. Removing Vertical Lower Front Panels

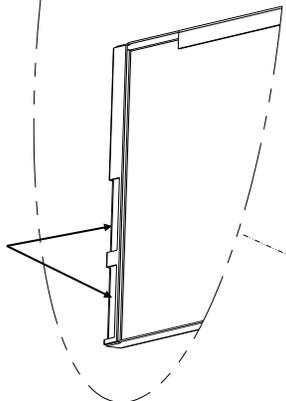
Note: No screw removal required: Simply lift lower front panel up (off hooks) and out (away from case).



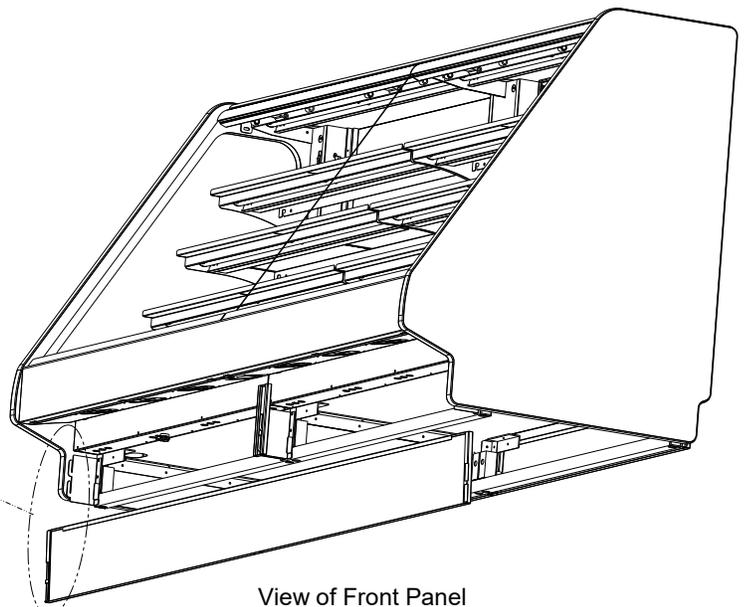
Hooks For Lower Front Panel

Note
Lower Front Panel
Removed & Reversed
For Illustrative
Purposes Only

Slots For Lower Front Panel



Note: Illustration below reflects case unit with front flat glass. Your case may not reflect every feature or option of this particular case. However lower front panel removal illustration will apply.

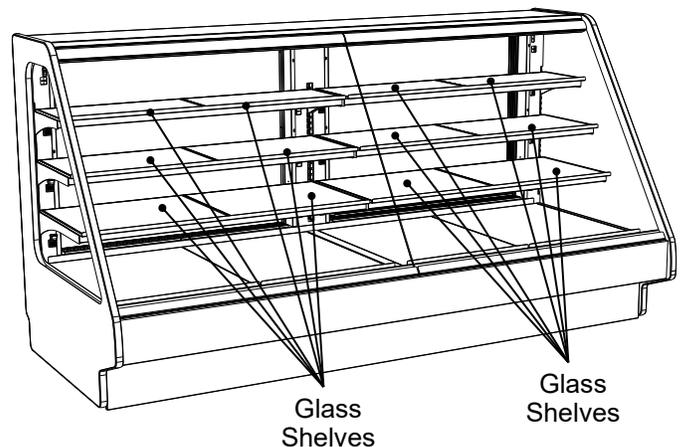
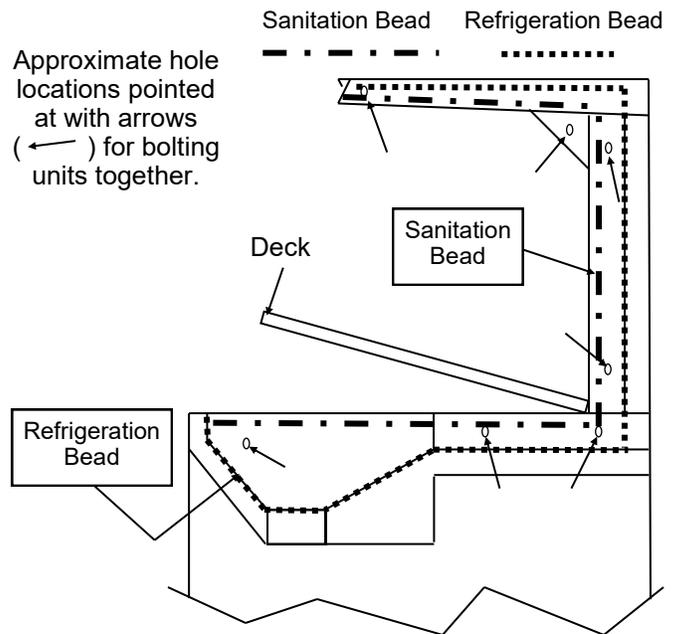


View of Front Panel
(Removed & Reversed)

4. Bolting and Caulking Units Together

Follow these steps to assure a secure, level lineup.

- A. Begin all lineups leveling from highest point of floor.
- B. After the 'first' case is level, apply industrial grade butyl caulk on non-visible areas (at case end). Use industrial grade silicone sealant on visible areas (at case end).
- C. **Form Two (2) Caulk/Sealant Lines:** (Sanitation and Refrigeration). See illustration at mid-right for outline of caulk/sealant lines.
- D. Line up 'second' case bolt-hole to bolt-hole to 'first' case.
- E. Using SCC-supplied bolts (found in hole locations OR in installation packet), insert bolts in bolt hole locations (shown at top-right). You may need to remove decking to access lower bolt holes.
- F. **Caution!** Front of cases **MUST** be flush with each other! After leveling, all cases to be same height.
- G. Using SCC-supplied nuts & bolts, **lightly tighten** each of the 5 to 8 bolts in a cross-wise pattern. Work your way around the pattern, tightening more firmly at each pass. **Do not** firmly tighten one bolt and then start on the next!
- H. After the cases are bolted together, level the 'second' case. Repeat this process for each case to be adjoined.
- I. After all lined-up cases are level, seal all seams with industrial grade silicone sealant.
 - See illustration at top-right.



Note: Illustration above reflects dual case unit with glass in end panels. Your case may not reflect every feature or option of this particular case.

5. Glass Shelving

If your unit has glass shelving, it will be packed separately.

Caution! Carefully remove from packaging.

- Grasp firmly and carefully install.
- **Caution! Check that plastic edging is intact before placing glass shelving onto brackets!**
- Plastic edging must NOT be removed from glass shelves. Contact Structural Concepts for replacement edging (see **TECHNICAL SERVICE CONTACT INFORMATION** section).
- Check that glass shelving is in proper position before placing product in case.
- See illustrations at mid and lower-right showing both curved and flat front glass (optional).

6. Electrical Connections (Remote Units)

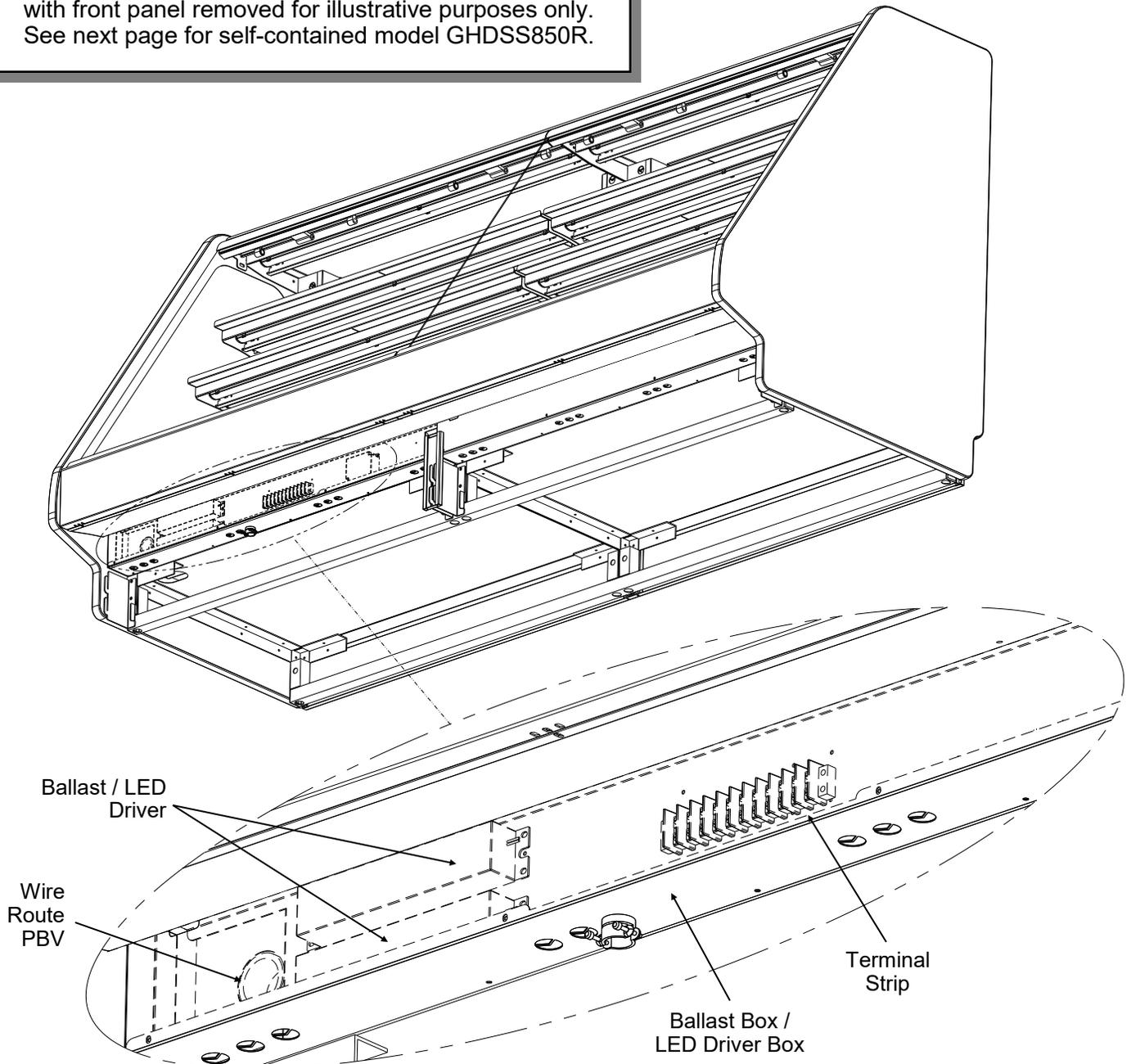
Ballast / LED Driver

Remove front panel. See **INSTALLATION: REMOVAL FROM SKID, REMOVING VERTICAL LOWER FRONT PANELS** section in this manual for instructions.

- Stub-up connections are in ballast box.
- Remove ballast box / LED driver box cover.

- Knockouts are on the underside of ballast box / LED driver box making electrical connections.
- Voltage rating is on serial label at case rear.
- Remote case illustration shown below reflects flat front glass. Your case may differ (but electrical layout will be accurate).
- Note: Wiring process must be performed by certified electrician only.

Note: Illustration reflects remote Model GHBSS5R.4986A with front panel removed for illustrative purposes only. See next page for self-contained model GHDSS850R.

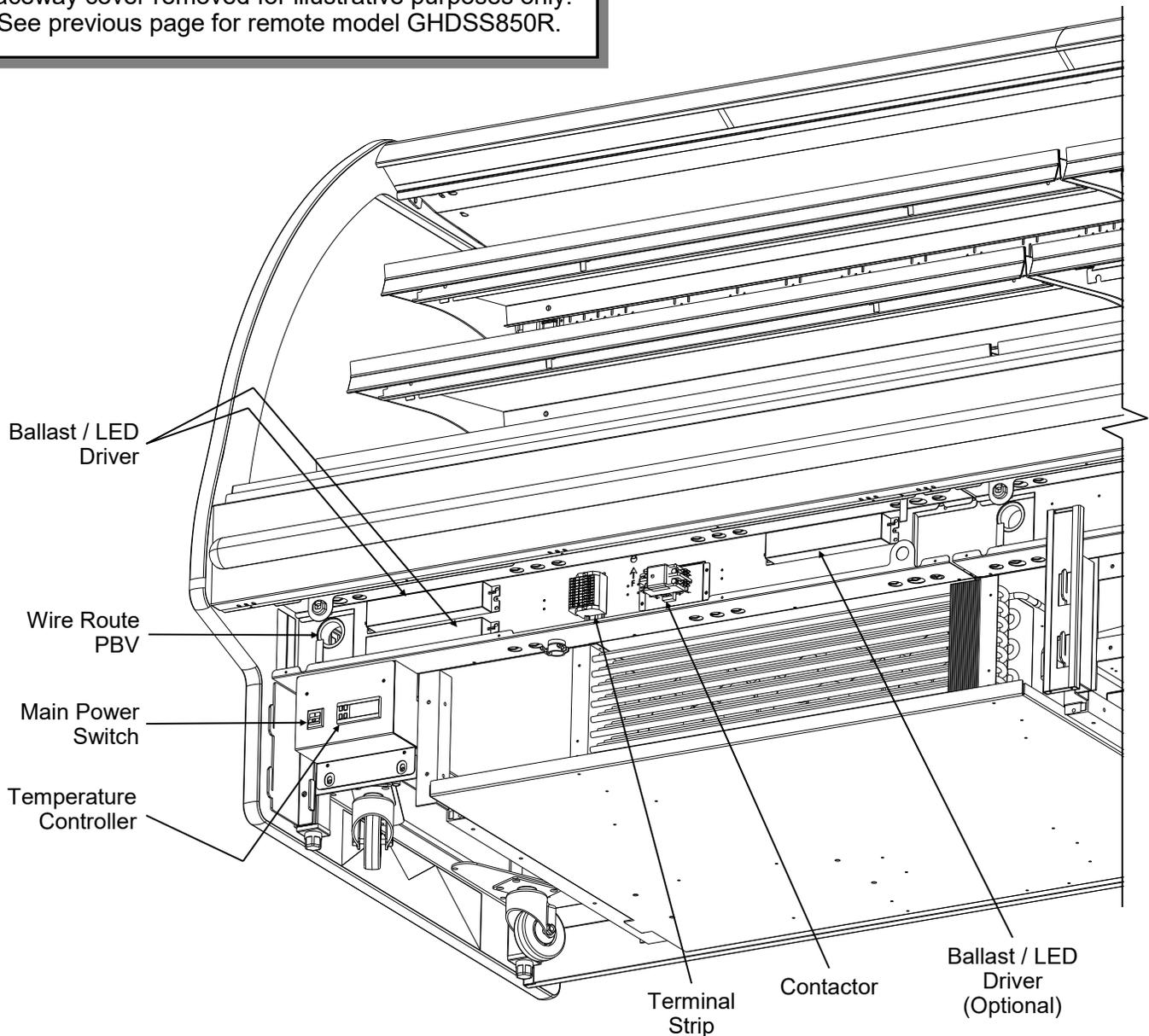


7. Electrical Connections (Self-Contained Units)

Front Ballast / LED Drivers:

- Remove front panel.
- See **INSTALLATION: REMOVAL FROM SKID, REMOVING VERTICAL LOWER FRONT PANELS** section in manual for instructions.
- Stub-up connections are in ballast box.
- Remove electrical raceway cover.
- Knockouts are on the underside of electrical race way for making electrical connections.
- Voltage rating is on serial label at case rear.
- Self-contained case illustration shown below reflects curved front glass. Your case may slightly differ (but electrical layout is accurately portrayed).
- Wiring process must be performed by certified electrician only.

Note: Illustration reflects self-contained Model GHBSS5R.4986A with lower-front panel and electrical raceway cover removed for illustrative purposes only. See previous page for remote model GHDSS850R.



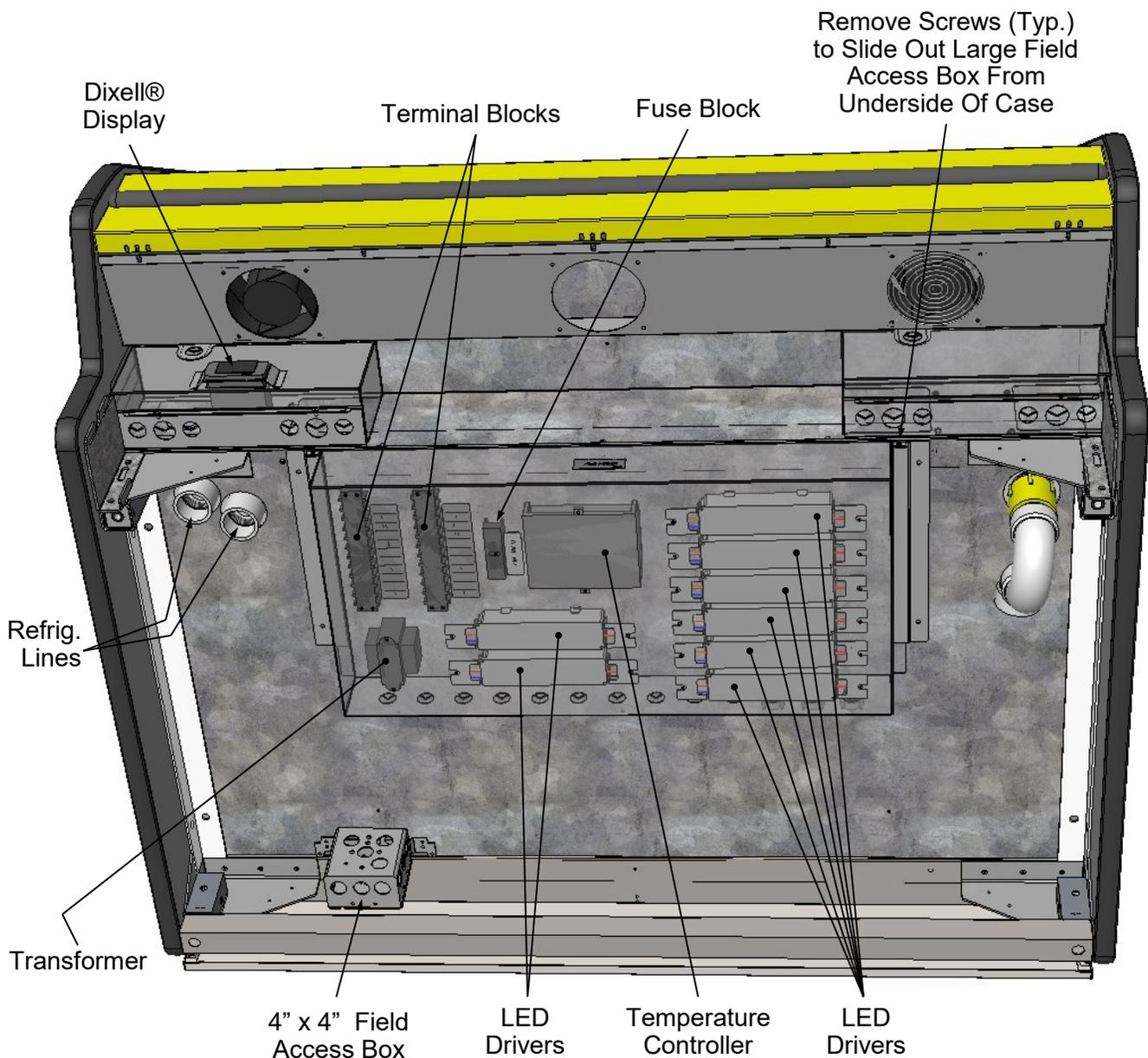
INSTALLATION, CONT'D: UNDERSIDE FIELD ACCESS COMPONENTS (MODEL GHSSEH456RLB)

8. Underside Field Access Box Components and Underside Refrigeration Line Route

- On certain models, field access components (a variety of which is shown below) are at underside.
- Model GHSSEH456RLB is illustrated below; your underside component layout may vary.

- Caution! Only certified electricians are to perform electrical connectivity duties.
- To access large field access box, two screws (at case front) must be removed and box slid out.

Note: Illustration Reflects Remote Model GHSSEH456RLB With Underside Electrical Components. Your Case May Vary.

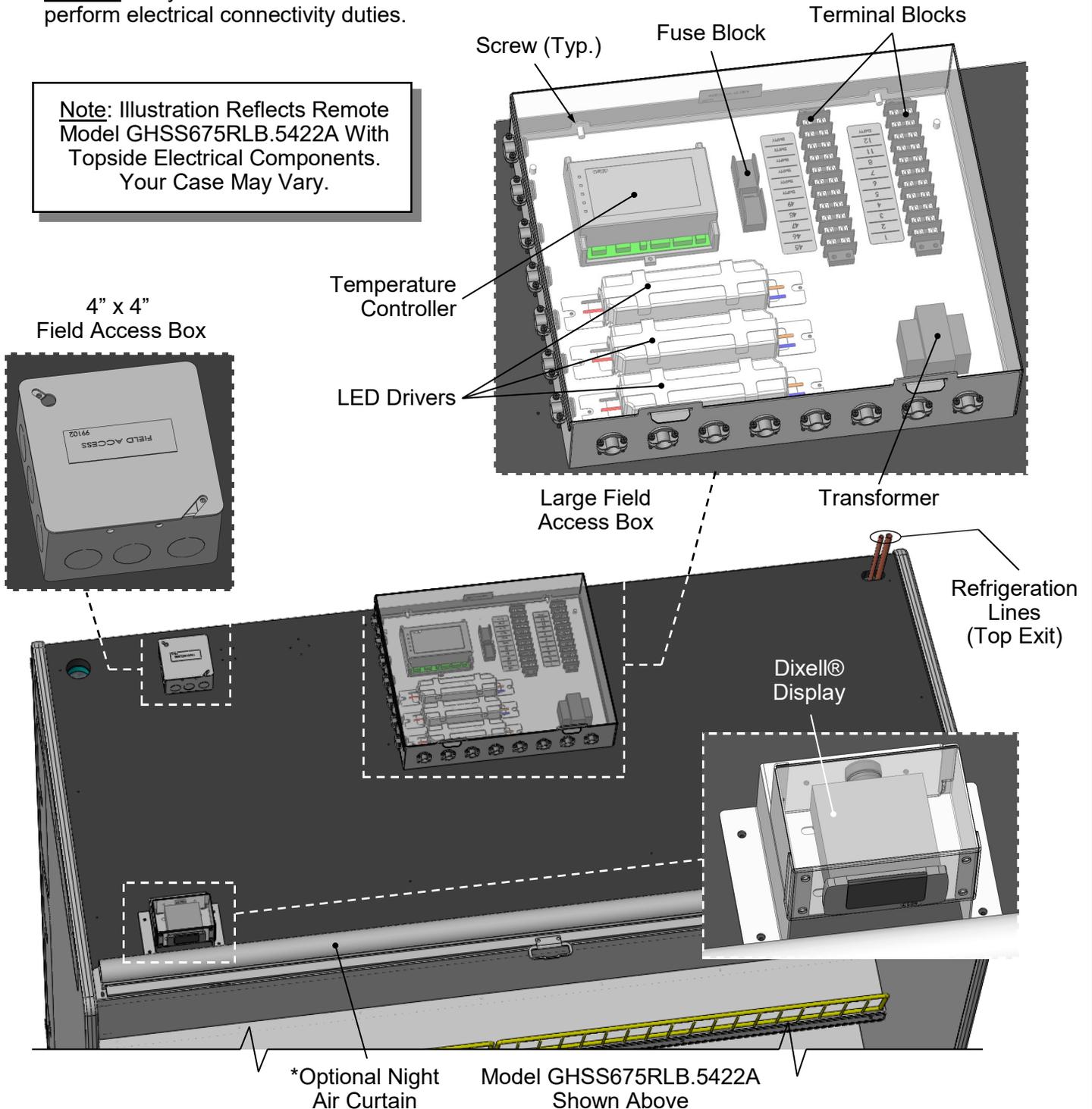


9. Topside Field Access Box Components and Topside Refrigeration Line Route

- On certain models, field access components (a variety of which is shown below) are topside.
- Model GHSS675RLB.5422A is illustrated below; your topside component layout may vary.
- **Caution!** Only certified electricians are to perform electrical connectivity duties.

- To access large field access box, two screws (at case rear) must be removed and cover lifted up and off.
- ***Note:** See **MAINTENANCE: OPTIONAL NIGHT AIR CURTAIN ATTACHMENT...** section in this manual for night curtain operating instructions.

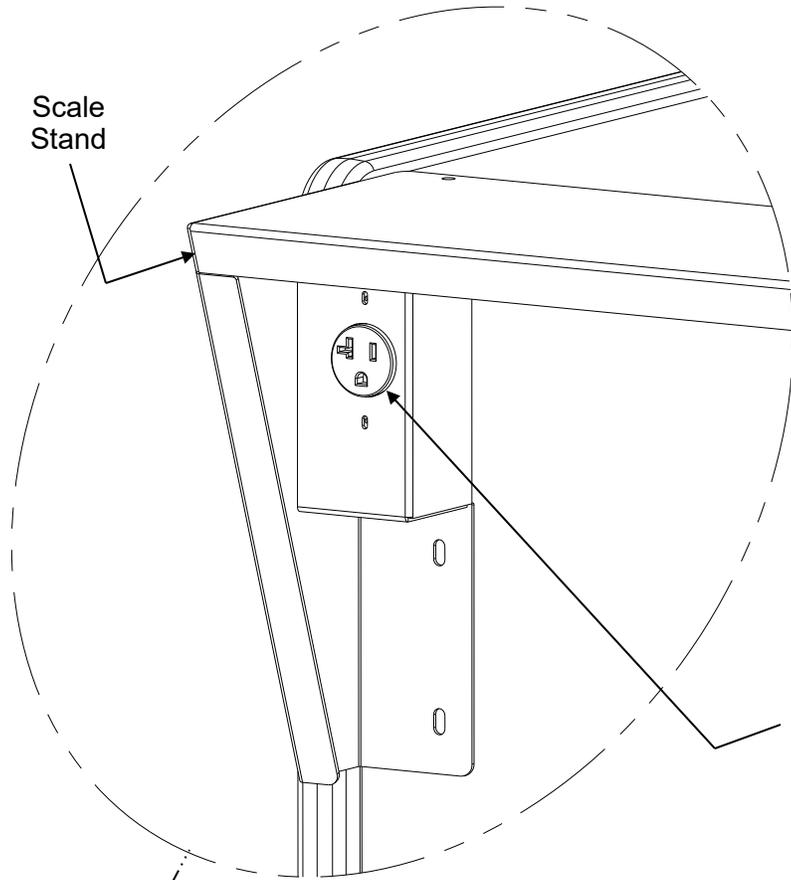
Note: Illustration Reflects Remote Model GHSS675RLB.5422A With Topside Electrical Components. Your Case May Vary.



10. Optional Scale Stand

- Scale stand is on model GHSSACS857R (and may be on additional models).
- Scale stand is provided with isolated ground receptacle.
- Depending upon options chosen, scale stand may be at either left or right of case.

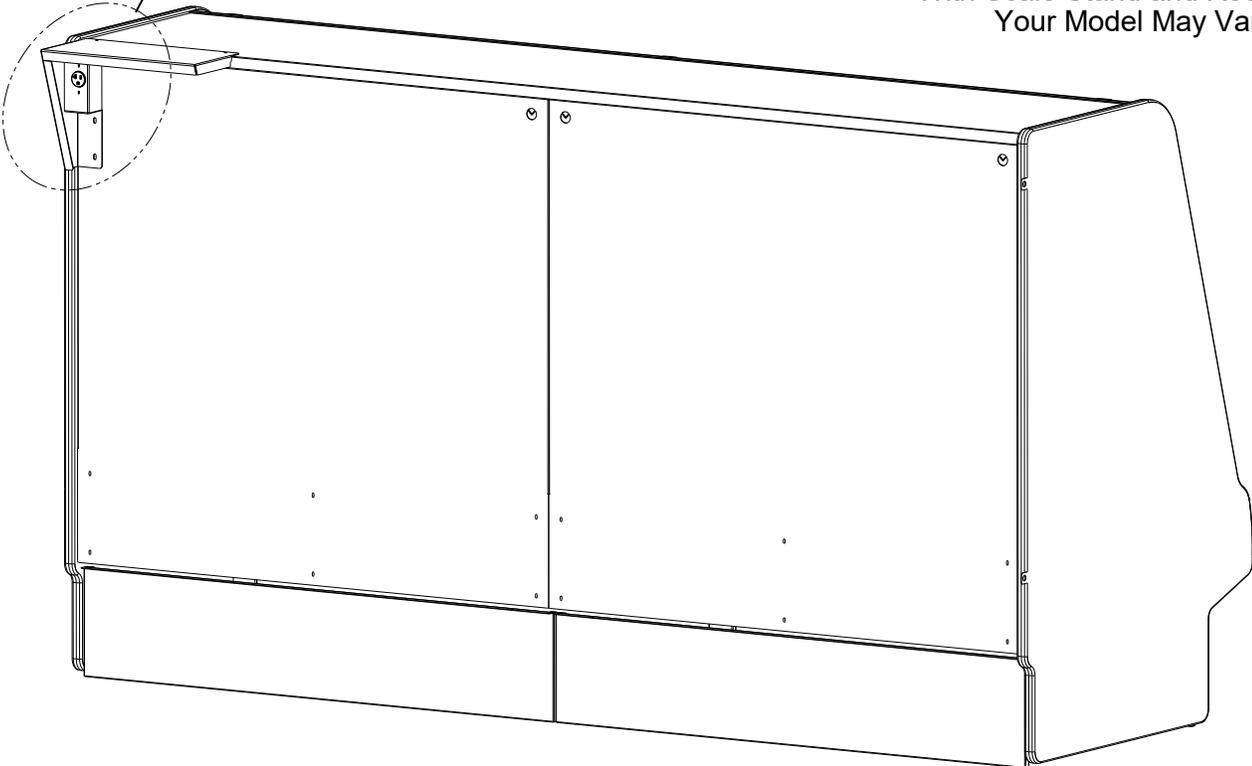
Scale Stand



Scale Stand Receptacle

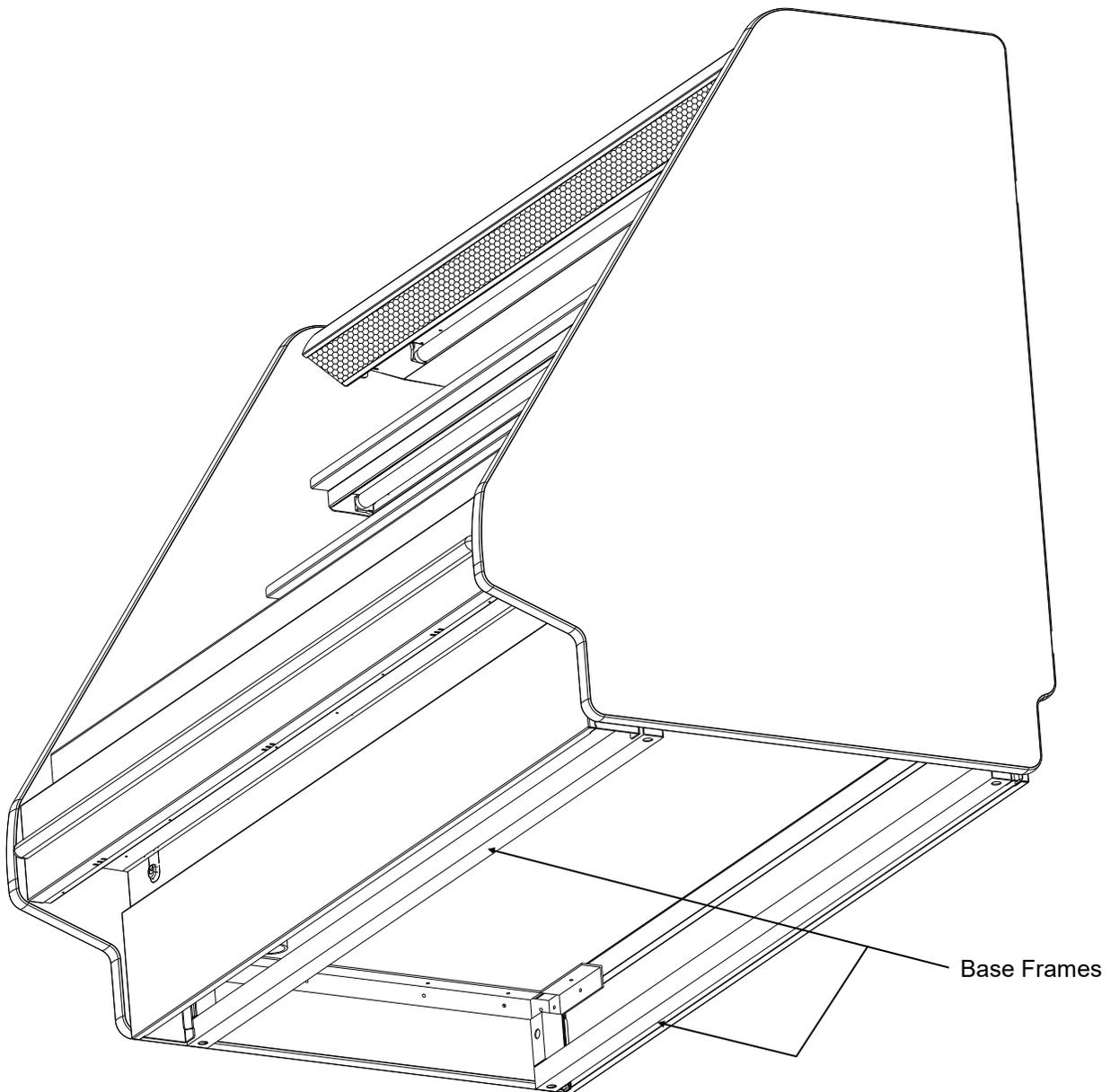
← View of Typical Case With Scale Stand and Receptacle

Model GHSSACS857R Shown Below With Scale Stand and Receptacle. Your Model May Vary.



11. Cases With Base Rails: Shim

- Illustration below shows case with frame support rails. End panel has been removed for illustrative purposes only.
- Shims will be provided with all cases that have frame support rails.
- Use shims to level case.
- See illustration below.
- **Note:** *After case is in position, it must be sealed to floor to prevent entry or leakage of liquid or moisture.*



INSTALLATION, CONT'D: ADJUSTING LEVELERS

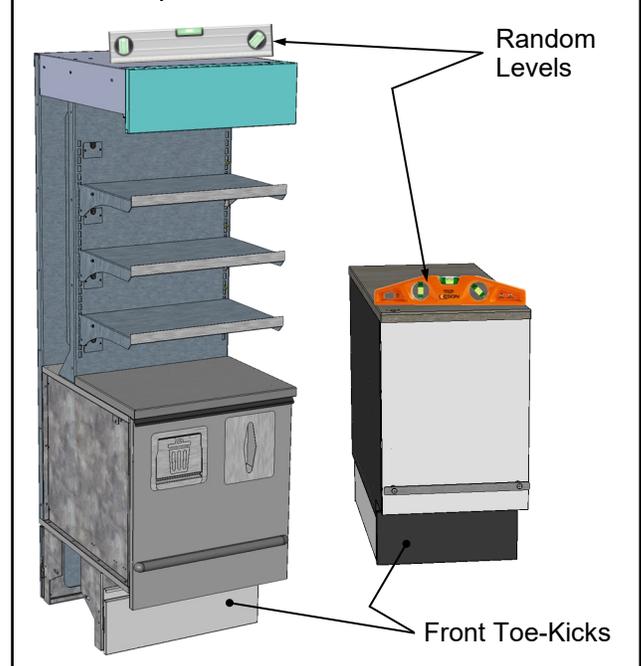
12. Adjusting Levelers

>> Structural Concepts utilizes three (3) different leveler styles; they are illustrated on this page.

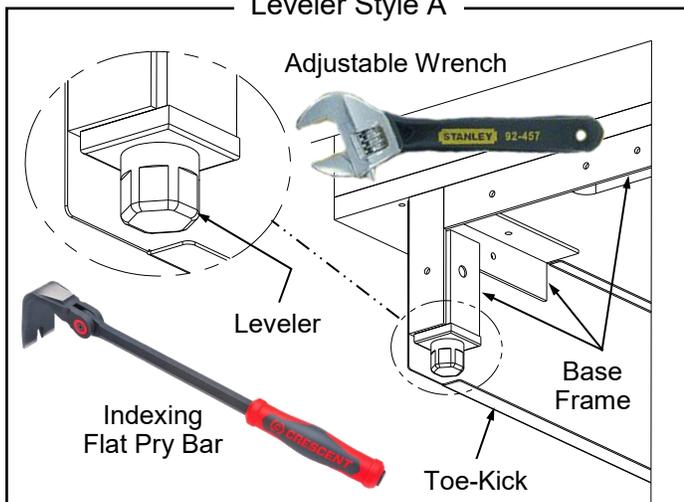
- After case is in position, you must adjust case so it is level and plumb. See illustrations of random levels on sample cases at top-right of page.
- You must remove front and/or rear toe-kicks to access levelers. See illustrations at top-right.
- Leveler Style "A" and "B" may require the use of an adjustable wrench and an indexing flat pry bar (or similar pry bar) to adjust levelers.
- Leveler Style "C" may NOT have accessible base frames to use a pry bar; if so, use adjustable channel lock pliers to adjust levelers.
- If base frame is accessible, use indexing flat pry bar to raise case (and adjust levelers as needed).
- **DO NOT use indexing flat pry bar on toe-kicks as they may buckle.**
- **DO NOT use indexing flat pry bar on end panels as surfaces may chip or mar.**
- **Use indexing flat pry bar ONLY on base frames to avoid damaging case!**

- Structural Concepts' three (3) main leveler styles (A, B and C) are shown below.
- **Note: After case is level and plumb, use silicone sealant to seal rear splash guard to floor to prevent entry (or leakage) of liquid or moisture. If there is no rear splash guard, check with store manager as to whether rear toe-kick should be sealed to floor.**

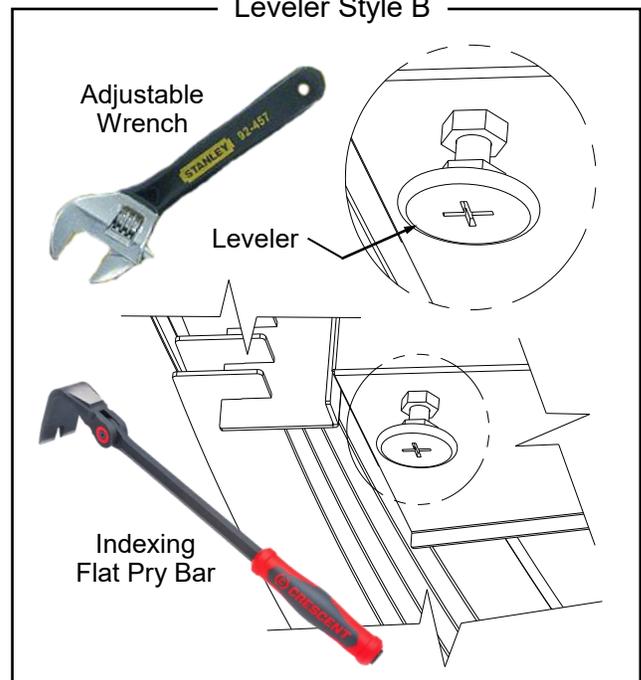
Sample Cases With Random Levels



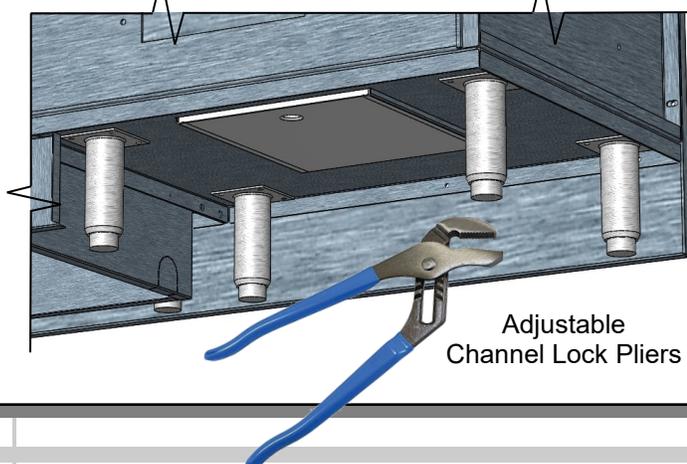
Leveler Style A



Leveler Style B



--- Leveler Style C ---



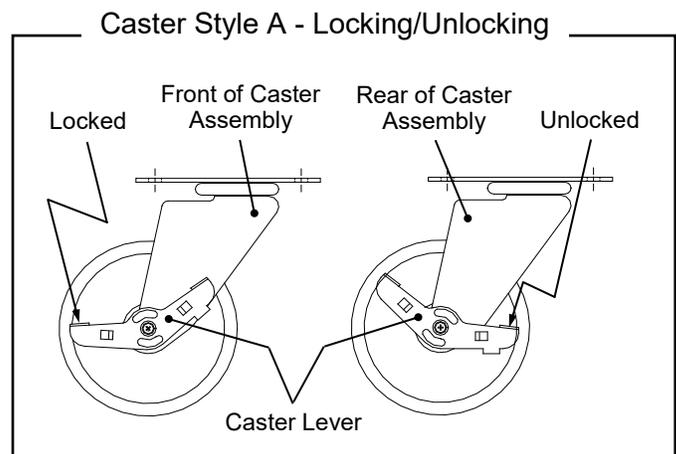
Caster Styles - Overview

>> Structural Concepts utilizes two (2) different caster styles on its merchandisers.

>> Both caster styles are illustrated on this page.

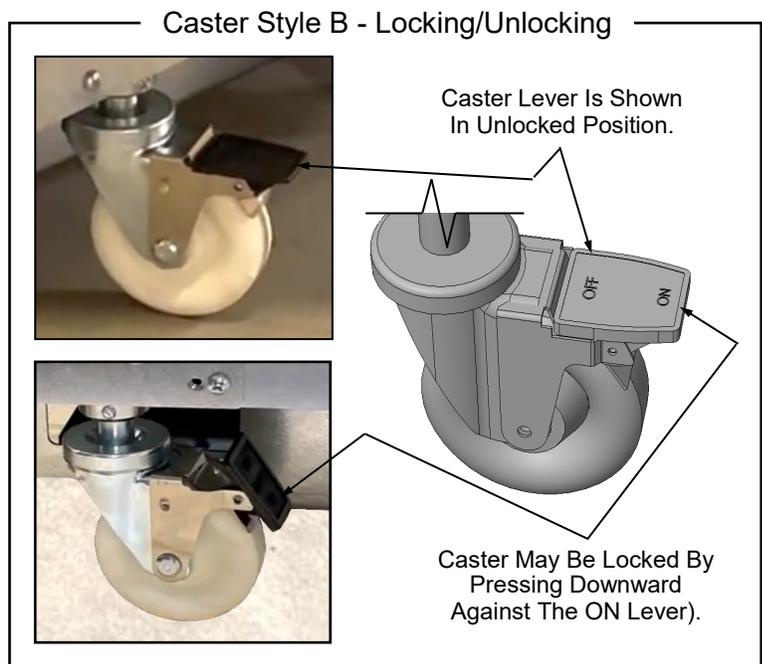
13. Caster Style "A" - Locking/Unlocking Only

- Caster Style "A" is shown at top right on this page.
- Case must be level and plumb before locking; levelers are usually adjusted to do so; see previous page for leveler adjustment instructions..
- Caster assembly Style "A" is identified as having a "front" and "rear" for these instructions.
- To lock caster, press down caster lever at "rear."
- To unlock caster, press down caster lever at "front."
- This style of caster cannot be raised or lowered.



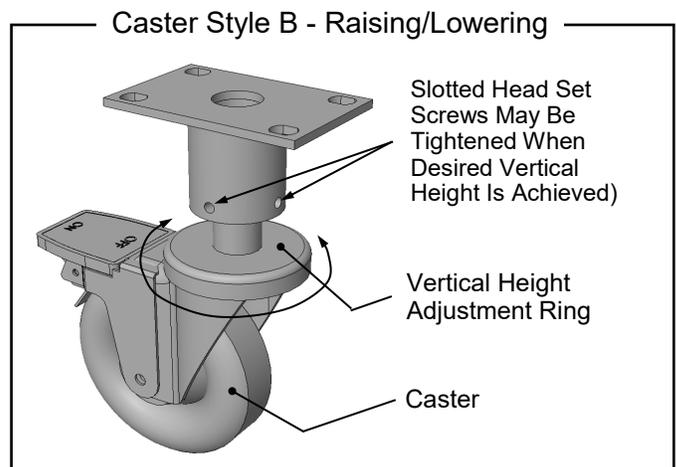
14A. Caster Style "B" - Locking/Unlocking

- Style "B" casters are unlocked at shipment (as casters are held in place by wooden blocks and metal brackets).
- Style "B" casters are in unlocked position; caster levers will be parallel to floor.
- After case has been moved into position, casters may be locked. To do so, press downward against the "ON" marking on the caster lever.
- To unlock casters (and move case to a different location), press downward against the "OFF" marking on the caster lever. Casters will now be unlocked, allowing the case to be moved.
- See caster/lever illustrations at lower right for specifics.



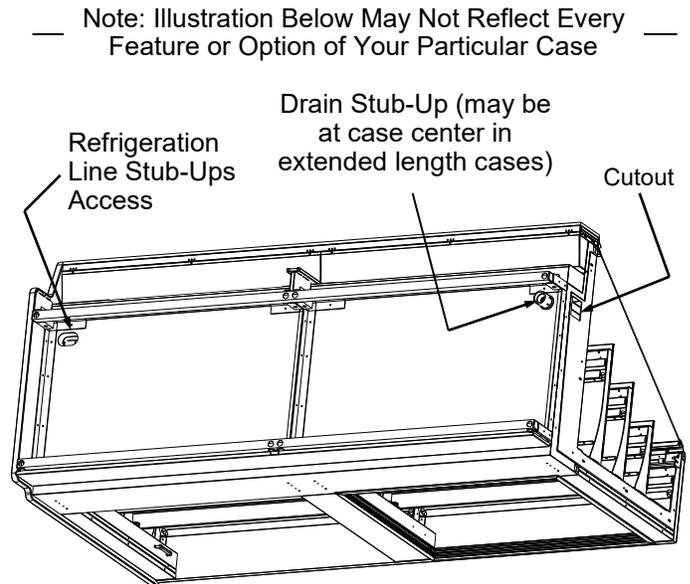
14B. Caster Style "B" - Raising/Lowering

- Style "B" vertical height adjustment ring illustrations are shown at mid and lower right on this page.
- Style "B" casters are utilized in lieu of levelers.
- Cases are shipped from factory with Style "B" casters RAISED to maximum height; this position aids in skid removal.
- After case has been moved into position, Caster Style "B" allows vertical adjustment of case so it may be adjusted until case is level and plumb.
- Slotted head screws MAY be tightened/loosened to lock vertical height adjustment ring; usually, these Slotted head screws are NOT tightened at factory.
- After case is level and plumb (as described on previous page), must may be locked.



15. Refrigeration Line Stub-Up Connections (Remote Units)

- Remove front panel.
- Refrigerant stub-up access opening is at the front on the left hand side of the base (see illustration at top-right).
- Stub-up connections are accessed from inside the case.
 - Remove interior decks.
 - Remove fan shroud assembly.
- Line connections are in the tub front, on the left hand side
- Remove foam material from the entry hole provided in the tub drain trough.
- Route refrigerant lines through access hole.
 - Run case-to-case connections through cutouts in base.
 - Sweat the high and low pressure connections.
- Fill access hole with suitable filler to insure watertight integrity of tub.
- Illustration at top-right may not reflect every feature or option of your particular case.



16. Refrigeration Drain Connection (Remote Units)

- Depending upon drain access needs, either front or rear panel may be removed to gain access to drain stub-up.
- 1.5" male PVC stub-up connection is under the case on the right hand side.
- Drain stub-up may be at case center in extended length cases.
- Connect tub drain to floor drain. Maintain 1/4"-fall per foot to provide proper drainage.
- Illustration at top-right may not reflect every feature or option of your particular case.

17. Condensate Pan / Drain Position (Self-Contained Units)

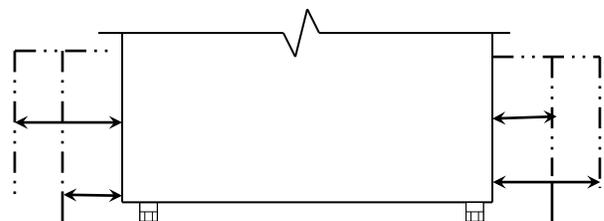
- Remove the front panel by lifting up & out.
- Slide the condenser unit out from case.
- Condenser unit access is now available.
- Insure that the condensate pan is installed under the PVC condensate drain trap.
- Insure that the condensate pan is plugged into the receptacle inside base.
- Lower rear panel back into place.
- See ***Drain, Hose and Bracket Placement*** section in Operating Manual for details.

18. Electrical Wiring Diagram

- Each case has its own wiring diagram folded and in its own packet.
- Wiring diagram placement may vary; it may be placed near condenser fan cover, ballast box, raceway cover, or other related location.

19. Ventilation and Clearance

- **Self-Contained** refrigerated cases must maintain airflow clearance of 6" (minimum) to 12" (recommended) at front and rear.
- Restriction of air can void warranty.
- Illustration below may not reflect every feature or option of your particular case.



Check air grilles for obstructions.
Maintain airflow clearance of 6" (min.)
to 12" (recommended) at front & rear.

20. Display Case Start-Up

A. Case

- Remote: Case will power-up when properly field wired (or plugged in).
- Self-contained: Turn main power on.
- After case is powered up, lift curved or flat front glass by grasping lift handle and raising (see illustration at right).
- **Note:** Illustration at right reflects flat front glass. Yours may have curved front glass.
- Lift deck to check that coil fans are running.
- Coil fans (and in self-contained units, compressor motor) should turn on.

B. Lights

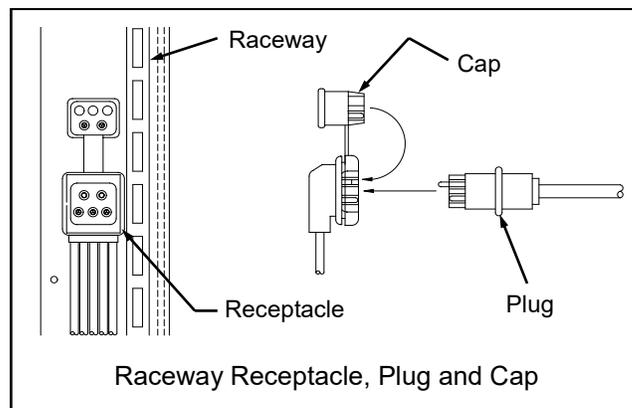
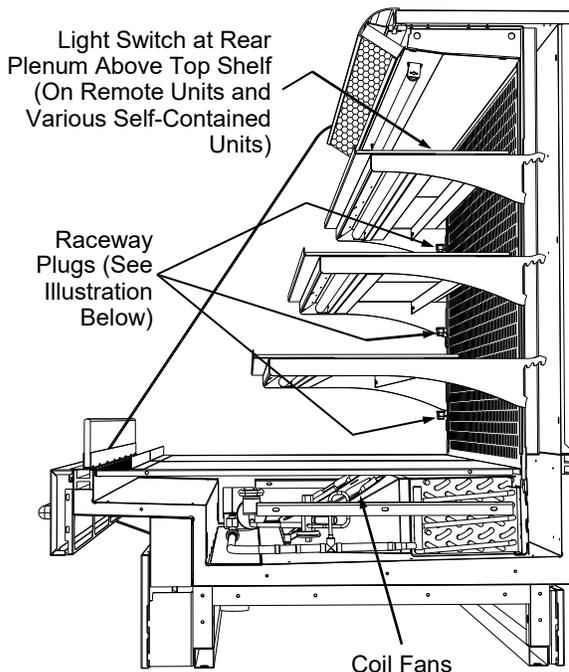
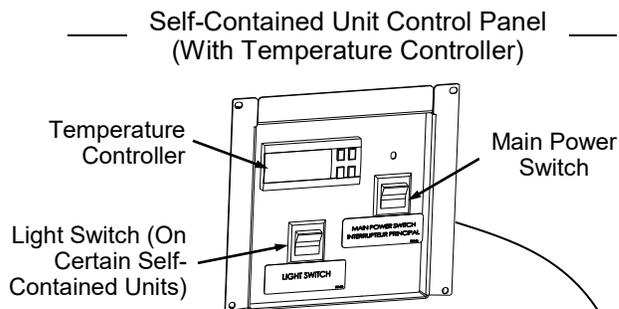
- Turn lights on.
 - > Switch is either at case front, attached to rear plenum, above top shelf (as shown at right) or at case rear (as shown at top-right).
 - > In cases with NO SWITCH, lights will come on when case powers up.
- All lights should come on at the same time. If bulbs are fluorescent, first time lighting may require a short warm-up period. LEDs have no warm-up period.
- Slightly dim / flickering of new bulbs is normal. If lights do not turn on, check raceway plugs.
- Lighting is wired in series so **all lights must be plugged in or receptacles capped** for case lights to be on. See illustration at right.
- LED Lights: If lights do not come on, check that plug is properly inserted into socket.

C. Temperature Controller (All Self-Contained Units and some Remote Units)

- Check that compressor symbol light is on.
- After case has run for a few minutes, check that temperature starts to drop.
- If temperature controller does not begin cooling (in a few minutes) see temperature controller section in this operating manual for instructions.
- Remote units (without temperature controller on case): Verify that refrigeration requirements listed on serial label (found on the case) are being met.

D. Saturated Suction Temperature (Remote)

- See serial label on case for suction temperature requirements and BTU requirements.
- See serial label on case for defrost schedule and temperature termination parameters.



Note: See *INSTALLATION* section in manual for:

- *Front Panel adjustment and removal*
- *Angled Base adjustment and removal*
- *Vertical Base adjustment and removal*

1. Fluorescent Light Fixtures

Warning! Disconnect power before providing maintenance and service to unit.

Caution: Lamps have been treated to resist breakage and must be replaced with similarly treated lamps.

Note: Warranty will be void if claims arise from negligence, misuse of goods, extreme environmental conditions or improper maintenance. See *Overview And Warnings* section in this operating manual.

- Light fixtures are located on underside of shelf assemblies and at the top inside of case.
- See illustration at top-right for locations.

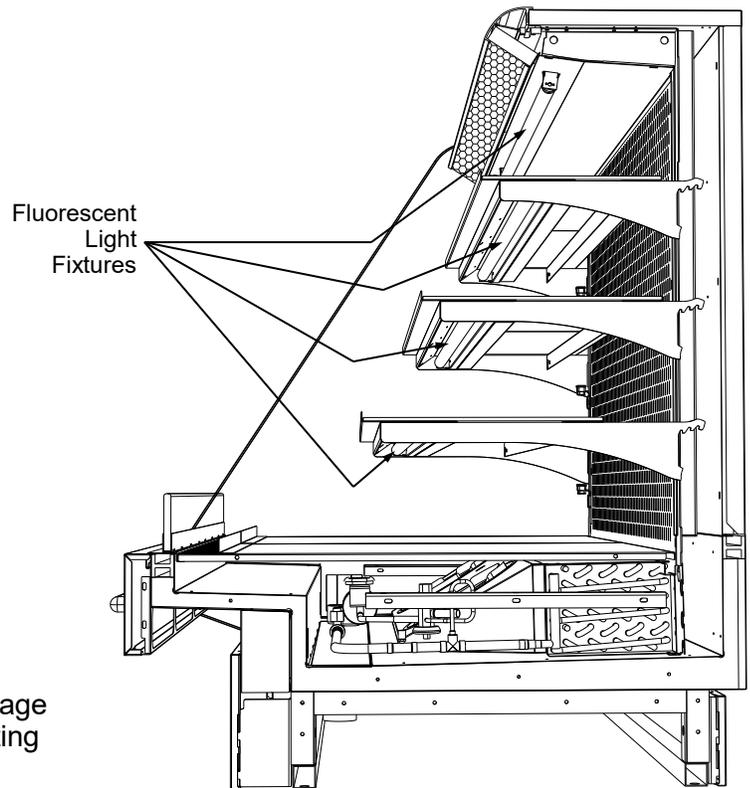
Removal of lamp:

- Rotate lamp (1/4-turn) either direction to disengage (upper or lower) pins/contacts from lamp-mounting sockets.
- Remove bulb by applying even pressure from back side at the bulb ends and pulling the remaining contact from sockets.
- See illustrations at mid and lower-right.

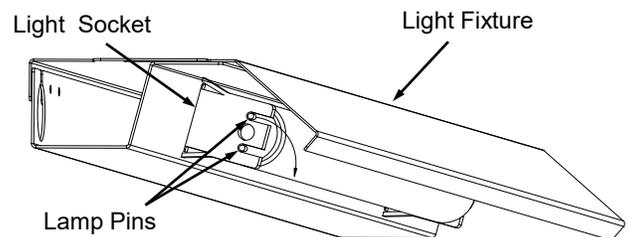
Installation of lamp:

- Align pins with slot.
- Insert pins into socket by rotating the bulb 1/4-turn to secure either the (upper or lower) pin contacts into the sockets.
- Rotate remaining bulb contacts (1/4-turn) into remaining lamp mounting socket contacts.
- See illustrations at right.

See next page for LED Light Fixture information



Above illustration has end panel removed for illustrative purposes only.



2. LED Style Light Fixtures

Removal of Faulty LED Lights:

- Contact Structural Concepts' Technical Service Department for replacement LED lights.
- Turn off LED light switch.
- To remove faulty LED light, follow these steps:
 - A. Disconnect plug from LED light.
 - B. Using both hands, grasp LED light assembly (with its magnetic mounting clips). Pull downward and off its shelf (or header).
 - C. Remove magnetic mounting clips from LED light by pressing against flange part of clip with thumb.

>> **Note:** Mounting clips MAY be riveted to shelf or header. In such instances, simply remove LED light from mounting clips by pressing against flange part of clips with thumb.

Replacement of LED lights:

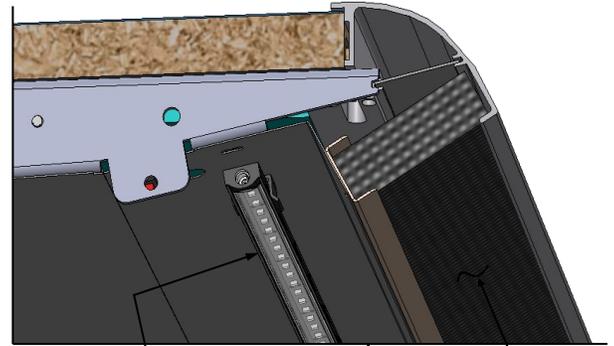
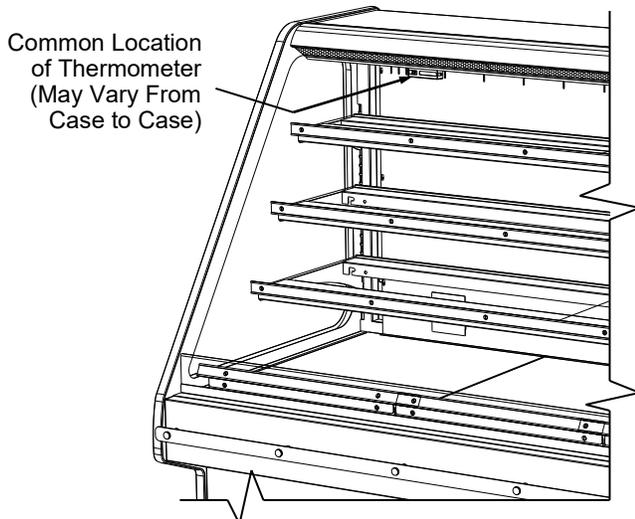
- Attach magnetic mounting clips onto LED light.
- Adjust magnetic mounting clips so they are equally spaced on LED light.
- Reattach LED light assembly to its shelf/header.
- Position properly in shelf/header.

>> **Note:** If mounting clips are riveted to shelf (or header), attach by placing LED in base of clip and then snapping into clip at FLANGE SIDE.

- Press plug's barrel-shaped insert deep into LED light.
- **Important:** If plug is not inserted ALL THE WAY IN the LED light's orifice, the light may not energize. See **"BAD"** vs. **"GOOD"** insertion illustrations at right.
- Turn LED light switch back on.

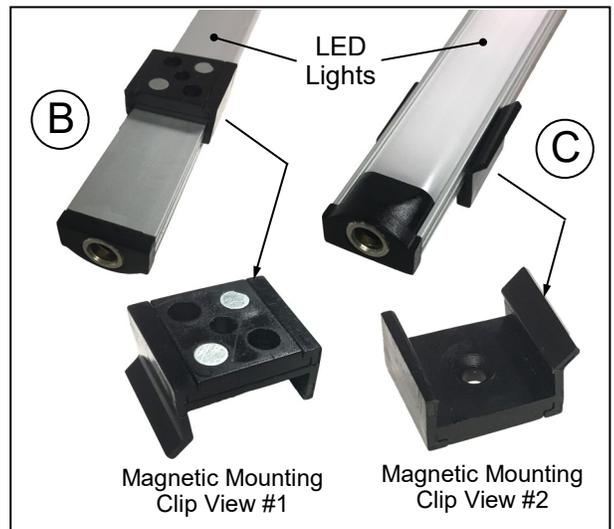
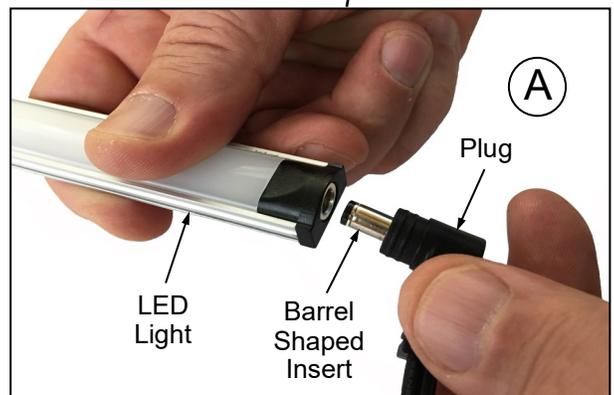
3. Thermometers

- Thermometers are located at rear plenum.
- Thermometers reflect internal air temperature only (not actual food temperature).
- Use probe thermometers to determine product temp.
- See illustration below for common location of thermometer (your location may slightly vary).



LED Light

Honeycomb



4. Bracket Retainer Removal

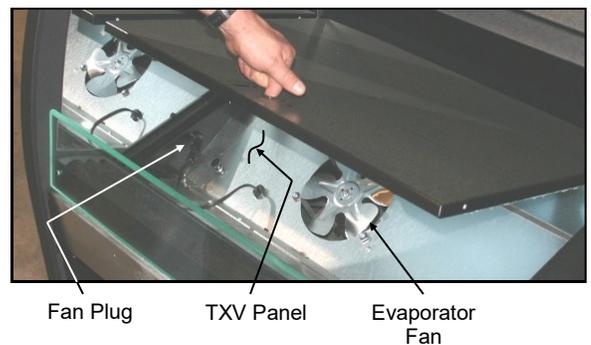
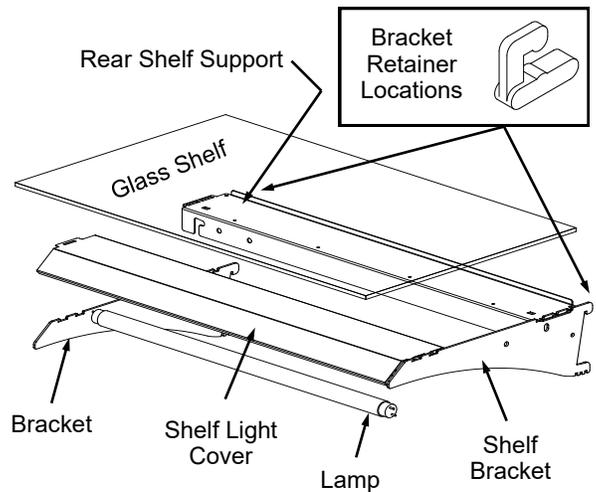
- To remove brackets, it may be necessary to remove the nylon shipping bracket retainers.
- Pliers will be required to accomplish this task.
- See illustration at top-right for location of bracket retainers.

5. Shelf Assembly Removal

- Remove glass shelves
- For lighted shelving, unplug the light cord.
- Remove rear shelf support.
- Remove shelf light cover from brackets.
- Lift brackets up and out.

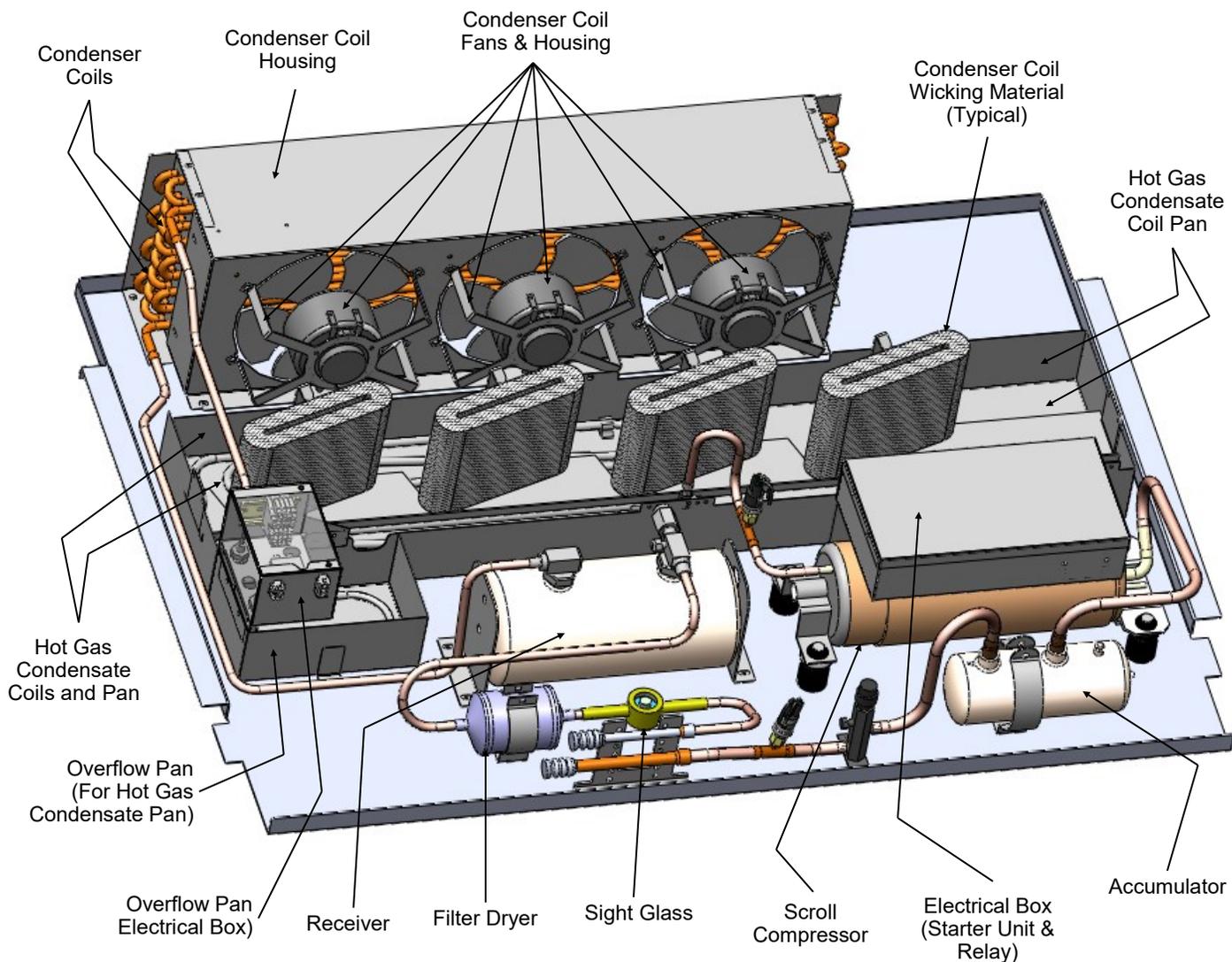
6. Drain and Thermostatic Expansion Valve (TXV) Access

- The drain and thermostatic expansion valve are both accessible from the front of the case.
- Unplug the fans (one plug per side) and remove the fastener from the access panel in the front right (or left) corner of the unit.
- The drain and the thermostatic expansion valve (TXV) are directly below the access panel.



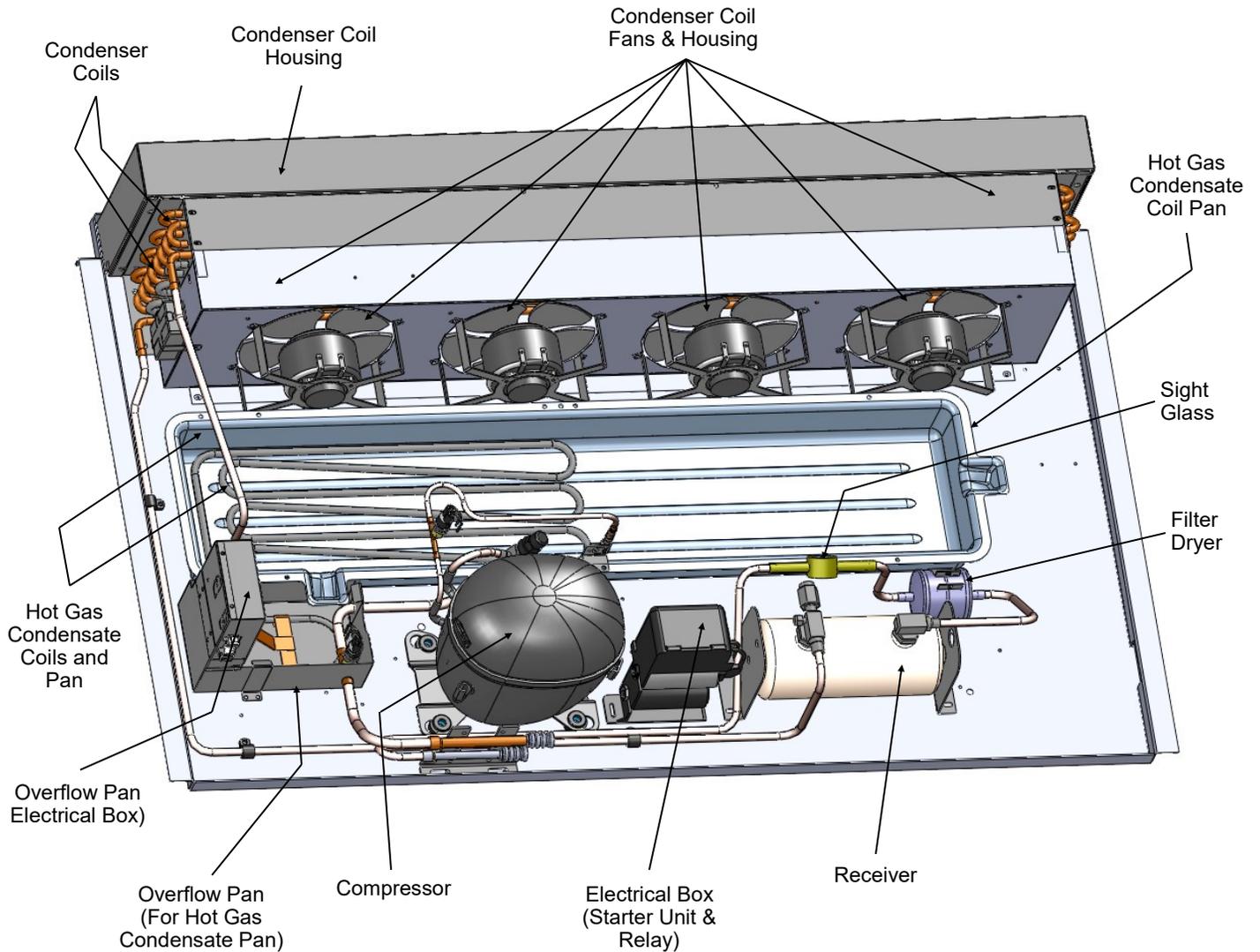
7. Refrigeration Package Configuration

- Illustration shown is from self-contained model GHDSS850R.
- Your particular refrigeration package may have a slightly different refrigeration package layout.



8. Refrigeration Package Configuration

- Illustration shown is from self-contained model GHDSS660R.
- Your particular refrigeration package may have a slightly different layout.



9. Rear Sliding Doors/Perforated Acrylic Plenum (Optional) is Illustrated Below

- Rear sliding doors have metal brackets connected to perforated acrylic plenums.
- These perforated acrylic plenums are designed to maintain proper refrigerated temperature.
- When sliding rear doors open, the perforated acrylic plenums also slide open (allowing access to contents inside case).
- Be sure to completely close the rear sliding doors after accessing case contents.

10. Rear Sliding Door Removal

- Rear sliding doors can be removed WITHOUT removing the perforated acrylic plenum.

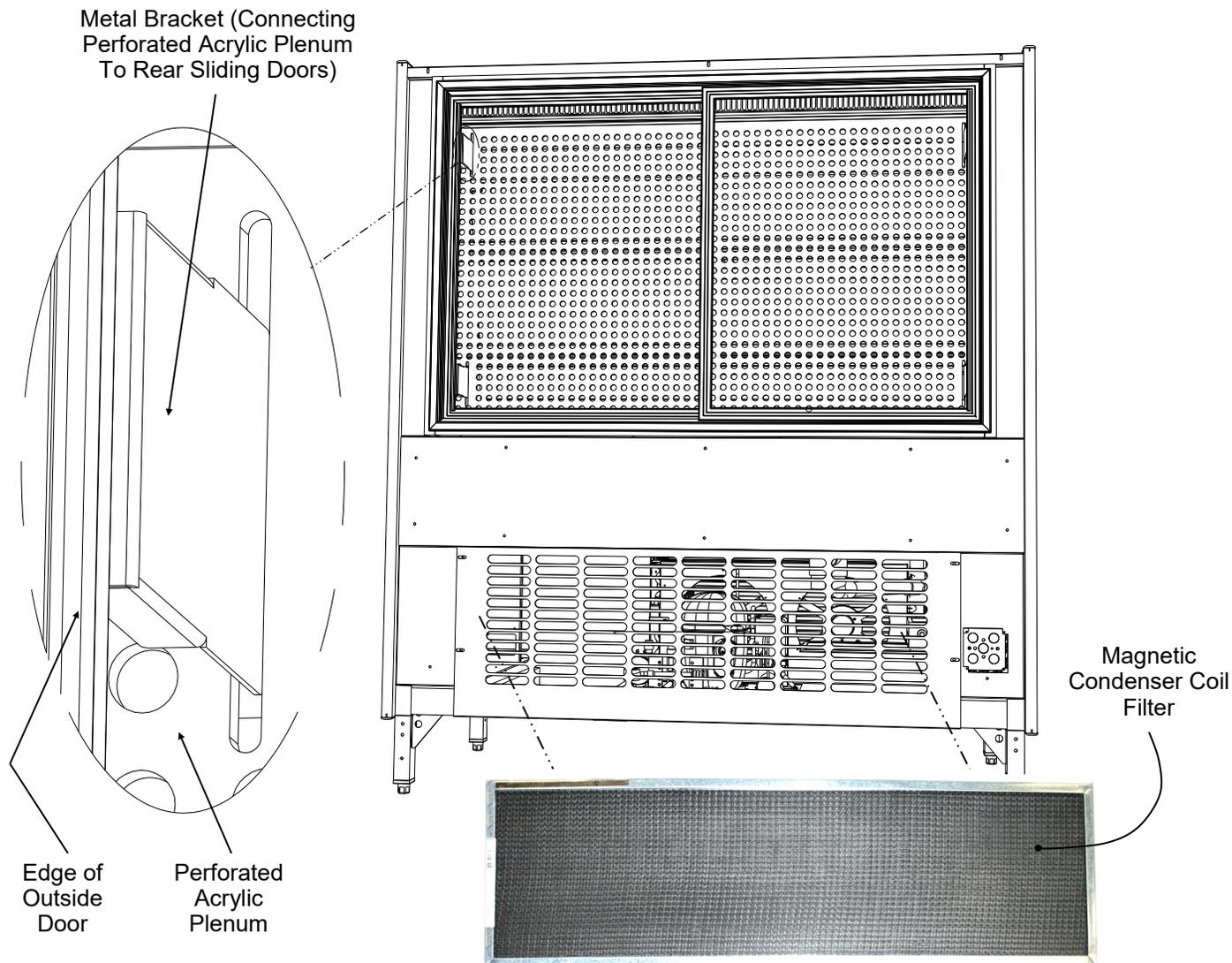
- Simply slide rear sliding doors to case center, lift upward and out. Replace in reverse order the doors were removed.

11. Perforated Acrylic Plenum Removal

- Access perforated acrylic plenums from front of case.
- Simply lift the pieces up and out of case.
- Replace in reverse order they were removed.

12. Magnetic Condenser Coil Filter

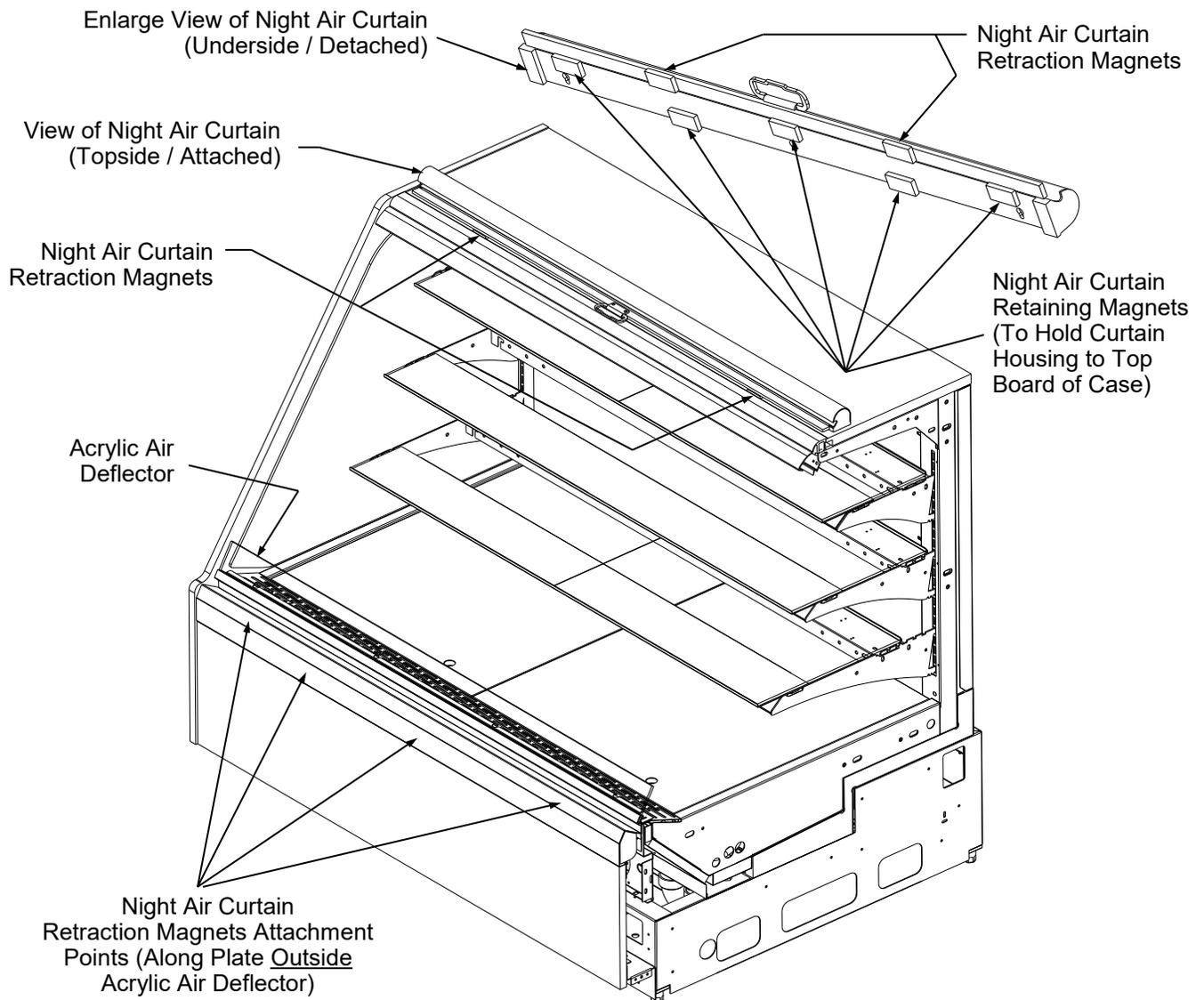
- This filter helps prevent dust particles from entering condenser coil.
- See **GENERAL CLEANING (TO BE PERFORMED BY STORE PERSONNEL)** section in operating manual for cleaning specifics.



13. Optional Night Air Curtain Attachment & Operating Instructions

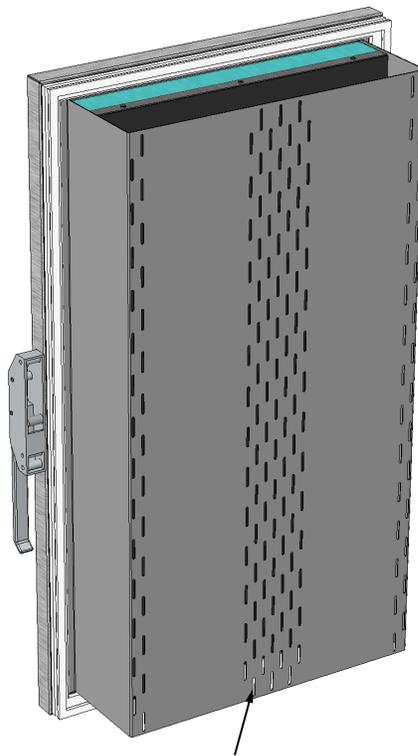
1. Use caution when handling night air curtain.
2. Display case may come with night air curtain already attached. If not, a retrofit kit will be provided. If using SCC-supplied retrofit kit, place night air curtain on top of case as shown.
3. Grasp the handle and pull downward to desired location OUTSIDE of the acrylic air deflector (see illustration below).
4. To return night air curtain to its retracted position, grasp handle, lift up and away from its magnetic attachment and carefully wind night air curtain back into roll.
5. **Caution!** Do not allow spring-loaded night air curtain to freely snap back into roll. Doing so can eventually destroy night air curtain's tension and retractability.
6. To entirely detach night air curtain from case, carefully return curtain into its housing. Lift night air curtain straight up and off. Note, due to magnet strength, two people may need to grasp each end of night air curtain and lift upward together.
7. Store in safe place, where night air curtain will not be damaged.

***NOTE: THE
BELOW
ILLUSTRATION
MAY NOT
EXACTLY
REFLECT
EVERY
PARTICULAR
CASE'S
FEATURES OR
OPTIONS.***



14. Rear Swinging Doors

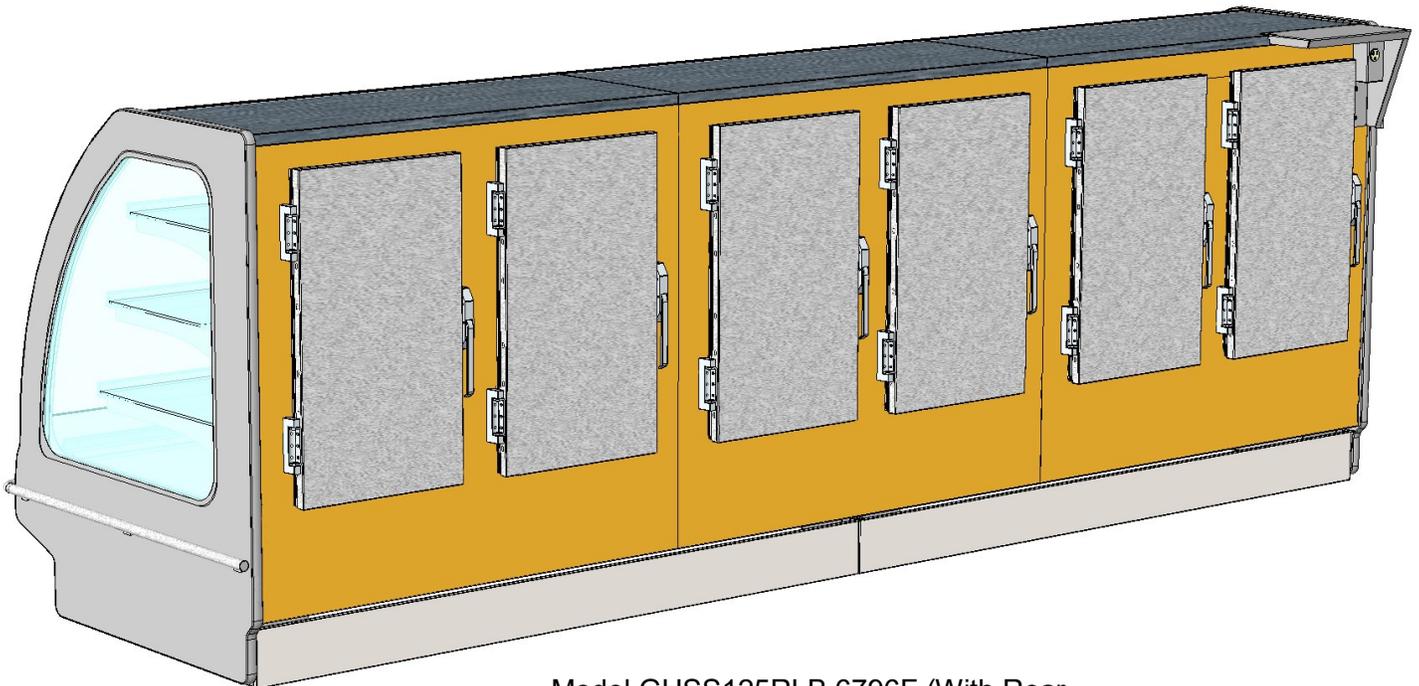
- Model GHSS1252RLB.6796 has rear swinging doors with metal hinges and handles.
- Doors have rear plenums that open/close with door as part of design.
- Doors are carefully aligned.
Caution! Do not slam doors with extreme force or hinges and/or handles could loosen or be damaged.
- See illustrations at right and below.



Inside Rear Swinging Door (With Inner Plenum Shown)



Outside Rear Swinging Door (With Hinges and Handle Shown)



Model GHSS125RLB.6796F (With Rear Swinging Doors) Is Shown Above

GENERAL CLEANING (TO BE PERFORMED BY STORE PERSONNEL)

AREA	FREQ.	INSTRUCTIONS
Exterior	Daily	Acrylic/Plexiglas® (Sneeze Guards/Dividers, etc.): Clean with mild soap and water solution and a soft cloth. Do NOT use household or commercial glass cleaners with ammonia (including Windex) on acrylic or Plexiglas® as it can cause acrylic to degrade and become 'cloudy' over time.
	Daily	PVC Price Tag Molding: Clean thoroughly with microfiber cloth or non-abrasive sponge and general cleaning products such as mild detergent, Windex, Plexi-Clean or Formula 409. Do not use paper towel or "magic erasers" as they can permanently etch surface. Also, do not use harsh chemicals such as trichlorethylene, acetone or lacquer thinner.
	Daily	Glass / Mirrors / Shelving: Clean side glass, glass shelves, and mirrors with a household or commercial glass cleaner.
	Daily	Shelves/Decking: Non-glass shelves and decking can be cleaned with a warm soap and water solution and soft cloth.
	Daily	End Panels, Front Panel, Rear Swinging Doors, Toe-Kick, etc.: Wipe off all surfaces with warm water and mild soap solution and non-abrasive cloth.
	Weekly	Wood, Laminate and Painted Surfaces: Clean with mild soap and water solution and a soft cloth.
	Weekly	Magnetic Condenser Coil Filter: <ul style="list-style-type: none"> • This filter helps prevent dust particles from entering condenser coil. • It is accessible at case rear. • Clean magnetic condenser coil filter by following either of these steps: <ol style="list-style-type: none"> 1. As magnetic condenser coil filter is dishwasher safe, remove from case (no screw removal required) and use a rag or soft-bristled brush to wipe off excess dust particles from filter. Run in normal dishwasher cycle. Remove from dishwasher. Dry with soft cloth or paper towel. Return to case. 2. If not using dishwasher, remove magnetic condenser coil filter from case. Use a rag or soft-bristled brush to wipe off excess dust particles from filter. Submerge in warm, soapy water. Use soft-bristled brush to remove dust, dirt, grease and grime that may collect on filter. Rinse thoroughly. 3. Dry with soft cloth or paper towel (as shown below). Return to case.
Interior	Daily	Shelves/Deck: Shelves/Deck can be cleaned with a warm soap and water solution. For stubborn stains/residue, decks can be removed and cleaned with soap and water solution or submerged in hot, soapy water solution. Rinse thoroughly. Dry. Return to case.
	Weekly	Shelving Brackets / Air Return Grilles / Decking / Rear Plenum <ul style="list-style-type: none"> • Wipe off shelving brackets, air return grilles, decking and rear plenums with moist cloth. • Shelving brackets can be removed for more thorough cleaning. • Air return grilles can be removed for more thorough cleaning. • Decking is NOT to be removed by store personnel.
	Monthly	Condenser Coil: Vacuum or brush grille condenser coil at case front. Use metal or fiber brush to remove dust and dirt that can collect on condenser coils. Be careful not to damage the fins on the coil. See INSTALLATION section in manual for side panel removal information.

TROUBLESHOOTING (TO BE PERFORMED BY STORE PERSONNEL)

CONDITION	TROUBLESHOOTING
Case Not Lining Up	See INSTALLATION section in manual for instructions on properly aligning case (alongside other cases) and adjusting levelers (or rails).
Water Is On The Floor	Call service provider.
Fan Emits Excessive Noise	Call service provider.
Case Lights Are Not Working	Check that Light switch is in the <i>on</i> position.
	Check that ALL of the light cords and plugs are properly connected. See MAINTENANCE FUNDAMENTALS - STANDARD LIGHT FIXTURES or MAINTENANCE FUNDAMENTALS - LED LIGHTS section in manual.
	If case lights still do not come on, call service provider.
Case is Not Holding Proper Temperature	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. Pre-chilled product before placing in case.
	Check that the case is not in the sun or near a heat or air-conditioning vent. See OVERVIEW / TECHNICAL INFORMATION / WARNINGS section in this manual for specifics.
	If case is located near front doors, temperature fluctuation can hinder unit's ability to maintain temperature.
	Check that air filter and condenser coil has been cleaned. See GENERAL CLEANING (TO BE PERFORMED BY STORE PERSONNEL) section in this manual for specifics.
	Check air return grilles (area at front of decking) for obstructions. DO NOT set product on air grilles as this will prevent proper airflow!
	If case still is not holding proper temperature, call service provider.

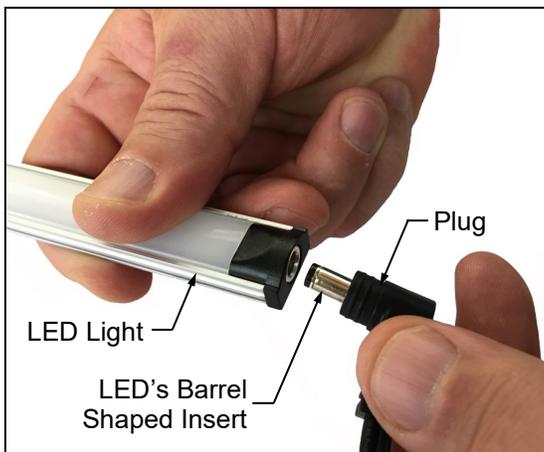
GENERAL CLEANING (TO BE PERFORMED BY TRAINED SERVICE PROVIDERS ONLY)

AREA TO CLEAN	FREQUENCY	INSTRUCTIONS
Case Interior	Monthly	<p><u>Evaporator Fan Shroud Area (Under Decking):</u> <i>Caution! Due to rotating fans in area, turn off case and disconnect plug from wall outlet before beginning fan shroud (and surrounding tub area) cleaning!</i> 1) Turn off power. 2) Remove decks from case. 3) Clean fan shroud area (and surrounding tub area) with moist cloth.</p>
	Quarterly	<p><u>Tub & Drain:</u> <i>Caution! Due to rotating fans in area, turn off case and disconnect plug from wall outlet before beginning tub & drain cleaning!</i> Vacuum tub under decks. Clean with soap and water solution. Wipe dry with clean cloth. Keep drain free of debris to prevent clogging.</p>

CONDITION	TROUBLESHOOTING
Case Not Lining Up	See INSTALLATION section in manual for instructions on properly aligning case (alongside other cases) and adjusting levelers.
Water Is On The Floor	<p>Caution! Water on flooring can cause much damage! Until cause is determined (and repaired), following these procedures:</p> <ul style="list-style-type: none"> • Use wet-dry vacuum (or mop & bucket) to remove standing water. • Use 'catch pans' for water to drain into. Swap out regularly until case has drained. <p>Note: See <i>Drain, Hose and Bracket Placement Illustrations</i> sheet in this manual for views of different condensate systems used in display cases.</p>
	Check that the drain trap is free of debris.
	Check that the drain hose is correctly positioned over condensate pan (or floor drain, for remote units).
	Check store conditions. To prevent condensation in Type 1 environments, maximum conditions are to be 55% humidity / 75 °Fahrenheit. For Type 2, maximum conditions are to be 55% humidity / 80 °Fahrenheit. See serial label (at case rear near main power switch) for case type.
	Check condensate pan float for proper operation (heat rod condensate system only).
	Check that condensate pan is properly plugged in or connected.
	Check that power to case is constant and has not been interrupted.
	Check the circuit breaker box for tripped circuits.
	<p>Wicking material may be dirty or worn and need replacement (hot gas condensate systems only). Note: May be optional on certain equipment.</p> <ul style="list-style-type: none"> • Slide refrigeration system out from under unit. • After refrigeration system has been carefully slid out from under unit, replace wicking material with new. If wicking material is not available, contact Structural Concepts®. See toll-free number at last page of this operating manual.

CONDITION	TROUBLESHOOTING
Fan Emits Excessive Noise	Check that the case is aligned, level and plumb.
	Check evaporator fan for cleanliness.
	Unplug/power off fan motors. Check motor shaft for bearing wear.
	Check that fan motors are securely mounted in brackets.
	Verify that fan blades are securely mounted to fan motor.
	Check that nothing is preventing blade rotation.
	Check that the fan shroud is properly secured.
Fans Are Not Working	Check that the MAIN power switch is on.
	Check that fans are plugged in at the fan shroud.
	Check for foreign material obstructing fan performance.
	Check that fan blades freely rotate within fan shrouds
	Check that power is going to fans
	Check that fan wiring is connected on terminal blocks.
Digital Control Display Is Blank	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
System Not Operating	Check that the utility power is on.
	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.

CONDITION	TROUBLESHOOTING
Control Display Is Flashing	See your case's thermostat label (near temperature controller) for your model's required settings.
Case Is Not Holding Temperature	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. Unit needs product to be pre-chilled.
	Temperature changes during defrost mode but will return to normal. Fourth LED will indicate defrost cycle in progress.
	Check that case is not in sun or near a heat or air-conditioning vent. See OVERVIEW AND WARNINGS section in manual for adverse conditions/spacing issue parameters.
	If case is located near front doors, temperature fluctuation can hinder unit's ability to maintain temperature. See OVERVIEW AND WARNINGS section in manual for adverse conditions/spacing issue parameters.
	Check that magnetic air filter (attached to rear grille) has been cleaned. See GENERAL CLEANING (TO BE PERFORMED BY STORE PERSONNEL) section in operating manual for instructions.
	If case is located near outside doors, temperature fluctuation can hinder unit's ability to maintain temperature.
	Check that condenser coil has been cleaned.
	Check that magnetic condenser coil filter has been cleaned.
	Check return air grilles for obstructions.
	Check sight glass for flashing and/or low charge.
	Check set point temperature; it may be adjusted too high.
Case Lights Are Not Working	Check that light switch is in the <i>on</i> position.
	Check that ALL of the light cords and plugs are properly connected. See MAINTENANCE: STANDARD LIGHT FIXTURES or MAINTENANCE: LED LIGHTS section. Also, see illustrations below.
	Service Technicians Only: Check voltage at LED drivers. If voltage is entering but not exiting, LED driver may be faulty.



TROUBLESHOOTING - CONDENSING SYSTEM (BY TRAINED SERVICE PROVIDERS ONLY)

CONDITION	TROUBLESHOOTING
Head Pressure Too High	Check that the condensing coil is not dirty or covered.
	Check that condensing fans are working.
	Check that refrigerant is not overcharged.
	Perform sub-cooling check and verify that no contaminants are in system.
	Check that liquid line filter dryer is not plugged.
	Check that close-offs are intact (around condensing coil) and that air is not recirculate.
	Check that store ambient temperature isn't above maximum allowed. See OVERVIEW / TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING / PLUGS section in this manual.
Head Pressure Too Low	Check if sight glass is flashing or showing low charge.
	Check that suction pressure isn't too low.
	Check that compressor reed valves aren't bad. Look for high suction/low head pressure. Perform pump-down.

TROUBLESHOOTING - EVAPORATOR SYSTEM (BY TRAINED SERVICE PROVIDERS ONLY)

CONDITION	TROUBLESHOOTING
Low Suction Pressure	Check if sight glass is flashing or showing low charge.
	Check that expansion valve (TXV) isn't restricted. Check element charge.
	Check that liquid line or filter isn't restricted. Check that refrigeration lines and/or hoses are not kinked on either high or low sides.
	Check that evaporator fan motors are working.
	Check that superheat is between 6 °F to 8 °F.
	Check that there is no air recirculation around evaporator coil.
	Check that evaporator coil is not iced up.
High Suction Pressure	Check for refrigerant overcharge.
	Check that compressor reed valves aren't bad. Look for high suction/low head pressure. Perform pump down.
	Check that the "cooling load" isn't high. Product must be pre-chilled before placing in refrigerated section of case.
	Check that case is at least <u>15-feet</u> from exterior doors, overhead HVAC vents or any air curtain disruption.
	Check that unit is not exposed to direct sunlight via windows or any other heat source (ovens, fryers, etc.).
	Check that superheat adjustment isn't low.
	Check TXV bulb installation <ul style="list-style-type: none"> a. Poor thermal contact. b. Warm location.

PREVENTIVE MAINTENANCE (TO BE PERFORMED BY TRAINED SERVICE PROVIDER)

WARNING! TURN OFF CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!

PREVENTIVE MAINTENANCE	FREQ.	INSTRUCTIONS
Case Exterior	Quarterly	<p>Condensing Coil:</p> <ul style="list-style-type: none"> • Remove panel to access area by lifting up and off or by screw removal (depending on case). • Use air pressure or industrial strength vacuum; clean dust and dirt that may collect on the Condenser Coil. • Caution! Airborne dust can contaminating food! Use wet rags to cover area where air pressure is blowing. • Warning! Coil fins are sharp. Handle with care! • Return panel to case.
	Quarterly	<p>Refrigeration Package/Compressor Area: <i>Caution! Be certain to disconnect power from case before cleaning Refrigeration Package!</i></p> <ul style="list-style-type: none"> • <i>Warning! Condensate Pan Is HOT! Disconnect power from case and allow to cool before cleaning condensate pan!</i> • Slide/Roll compressor package out from under case. • See REFRIGERATION FUNDAMENTALS section for in-depth instructions on accessing the condensate pan. • Use a scrub-brush and a de-scaling solution such as CLR® (to prevent corrosion, lime and rust). Follow instructions as to proper dilution, safety precautions and scrubbing method. • Electric heater coil condensate pans can be removed and cleaned. • After thoroughly cleaning pan with scrub-brush and solution, rinse thoroughly with clean water (in spray bottle) and wipe dry with sponge or paper towel. • Use moist cloth to wipe off dust & debris that collects on various parts (fans, sight glass, overflow pan, etc.). • Slide refrigeration assembly back under case. • Replace front panel and lower grille via hooks (no screws required).
	Quarterly	<p>Under Case Cleaning: Once refrigeration package is clear of unit, vacuum under case to remove dust and dirt that may collect under case.</p>
	Quarterly	<p>Honeycomb: Check honeycomb air diffuser to determine whether it is dirty. If dirty, remove from case and clean. See MAINTENANCE FUNDAMENTALS - HONEYCOMB AIR DIFFUSERS (SERVICE TECHNICIANS ONLY) section of this manual (next page) for cleaning specifics.</p>
Case Interior	Quarterly	<p>Tub Area (Evaporator Coil, Drain, Fans, Brackets):</p> <p>Caution! Disconnect power from the case before cleaning tub, coil, fan, motor and drain area!</p> <ul style="list-style-type: none"> • Use vacuum to clean entire area. • After vacuuming, clean area with warm water, clean cloth, and mild soap solution. • Remove any debris that may clog drain. • Wipe down fan blades, motors and brackets with moist cloth.

Honeycomb Air Diffuser Removal

See **PREVENTIVE MAINTENANCE (TO BE PERFORMED BY TRAINED SERVICE PROVIDER)** section in this manual for cleaning frequency.

A. Wedge a non-metallic device of suitable strength (such as a ballpoint pen) between the honeycomb and the end panel.

Caution! Use care not to dislodge the heating wire (that prevents condensation on the lamp assembly).

B. Apply pressure to collapse the honeycomb to allow it to be pulled out of honeycomb retainer.

C. Carefully pry downward and away from the honeycomb retainer. *Clean honeycomb with warm water and soap solution. Submerge if necessary. Use brush to dislodge stubborn or sticky residue. Dry by using vacuum's blow mode (vs. suction mode).*

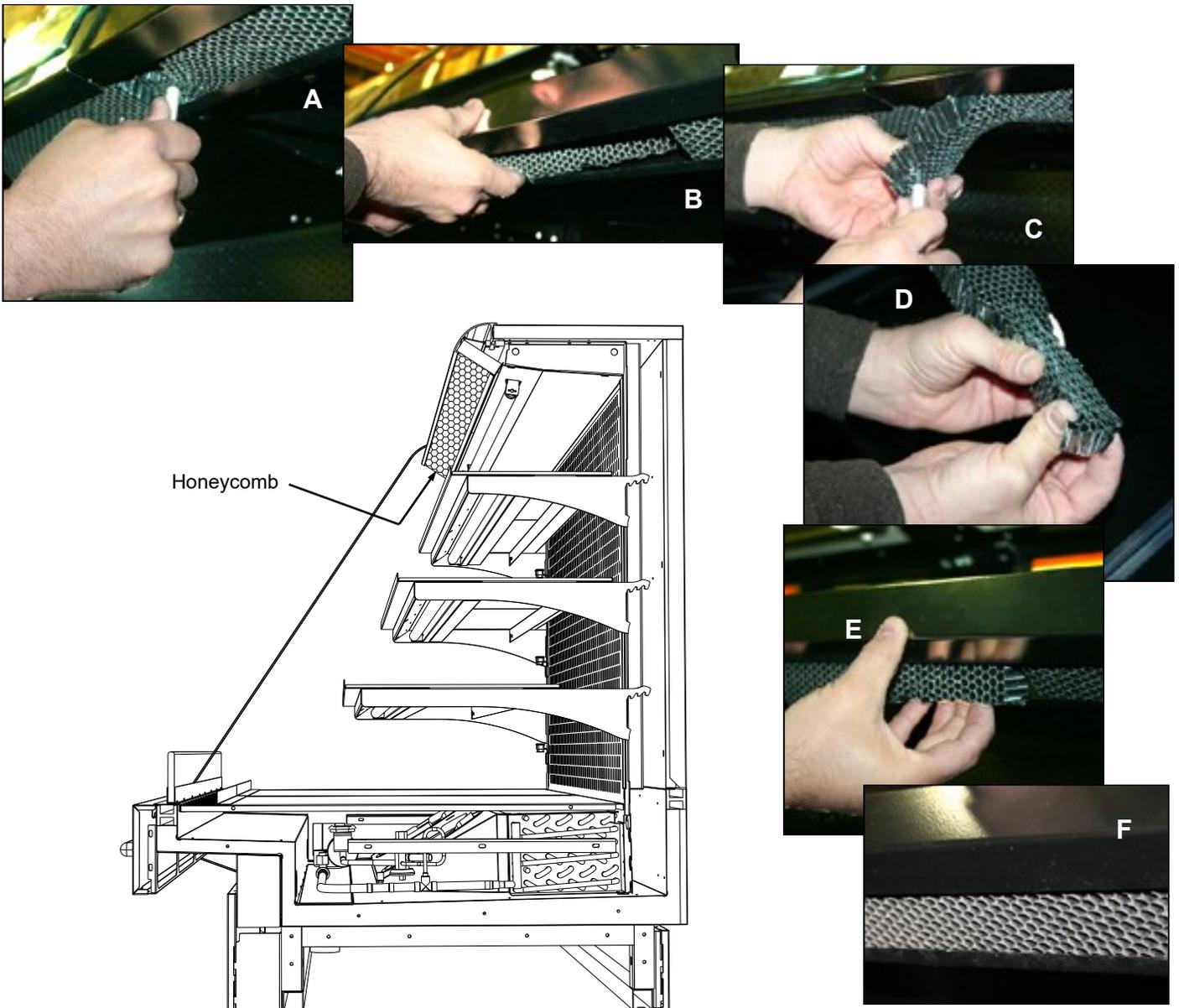
Honeycomb Air Diffuser Installation

D. Squeeze honeycomb to allow it to fit into the honeycomb retainer.

E. Carefully slide honeycomb into place.

F. Adjust honeycomb so that it fits flat against retainer. It must not be wavy or out of position.

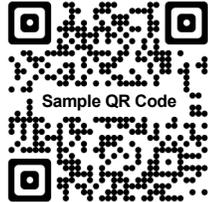
Note: For honeycomb air diffusers in other locations, these same general instructions apply.



Serial Label Location & Information Listed / Technical Information & Service

- Serial labels are affixed at a wide range of places (on the header, near thermostat, at case rear, behind panels/toe-kicks, on electrical boxes, etc.).
- Serial labels contain electrical, temperature and refrigeration information, as well as regulatory standards to which the case conforms.

- Sample serial label shown below.
- For additional technical information and service, see the *TECHNICAL SERVICE* page in this manual for instructions on contacting Structural Concepts' Technical Service Department.

<p>Structural Concepts[®] 888 E. Porter Rd - Muskegon, MI 49441</p>		<p>Fusion</p>	<p>MODEL NRS3648RXV-SAMPLE SERIAL NO. 12345X30DZ098765</p>
 Intertek	 Intertek	<p>SAMPLE ONLY</p>	
<p>SAMPLE ONLY</p> <p>3048256 Conforms to UL Std. 471 Conforms to NSF/ANSI Stds. 2 & 7 CERTIFIED TO CAN/CSA STD C22.2 NO 120</p>	<p>ELECTRICAL RATING REFRIGERANT DESIGN PRESSURE MINIMUM CIRCUIT AMPACITY MAXIMUM OVERCURRENT</p>	<p>120/1/60 16 A R513A AMOUNT 50 OZ HIGH 186 LOW 88 20A 20A</p>	<p>SAMPLE ONLY</p>
<p>Super Heat Temp Defrost</p>	<p>6-8 °F 6 defrosts per day, 45 °F</p>	<p>FOR PARTS AND SERVICE CALL 1-800-433-9490</p>	<p>SCAN FOR PRODUCT LITERATURE</p>  <p>Sample QR Code</p>
<p>SAMPLE ONLY</p>	<p>SAMPLE ONLY</p>	<p>TYPE II DISPLAY REFRIGERATOR: THIS EQUIPMENT IS INTENDED FOR USE IN AN AREA WHERE THE ENVIRONMENTAL CONDITIONS ARE CONTROLLED AND MAINTAINED SUCH THAT THE AMBIENT TEMPERATURE DOES NOT EXCEED 80 °F (27 °C).</p>	

--- Sample Serial Label For Refrigerated Cases ---



Determine Which Programmable Controller Is On Your Case (Controllers That Are Commonly Used By Structural Concepts Are Shown Below). Your Particular Programmable Controller May Differ.



Carel® PJEZ Platform



Carel® ir33 Platform



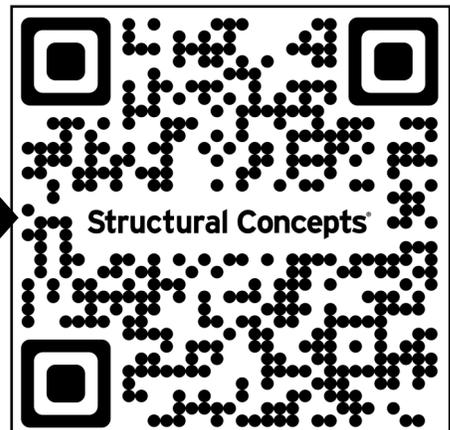
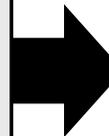
Carel® iJF Platform



Dixell® XM670K-XM679K Platform

To Access Information About The Programmable Controller That Is Used On Your Case, Follow These Instructions:

- > If Viewing This Document on Smart Phone, Tablet or Computer, Select/Click On The QR Code at Right.
- > If Viewing This Document In Print (Hard Copy), Scan The QR Code at Right With Your Smart Phone or Tablet.



STRUCTURAL CONCEPTS TECHNICAL SERVICE CONTACT INFORMATION & LIMITED WARRANTY

TECH SERVICE/WARRANTY CONTACT INFO:

1 (800) 433-9490 / EXTENSION 1

DAYS/HOURS AVAILABLE:

**MONDAY - FRIDAY (CLOSED HOLIDAYS)
8:00 A.M. to 5:00 P.M. EST**

**YOU MUST HAVE THE FOLLOWING INFO AVAILABLE
BEFORE CONTACTING STRUCTURAL CONCEPTS:**

**SERIAL NO. / MODEL NO. / STORE NO. / STORE
ADDRESS / DETAILS (PHOTOS, LEAK LOCATIONS,
DAMAGE, STORE'S AMBIENT CONDITIONS, ETC.)**

**To Access The Limited Warranty To Your
Case, Follow These Instructions:**

**> If Viewing This Document on Smart Phone,
Tablet or Computer, Select/Click On The QR
Code at Right.**

**> If Viewing This Document In Print (Hard
Copy), Scan The QR Code at Right With Your
Smart Phone or Tablet.**

