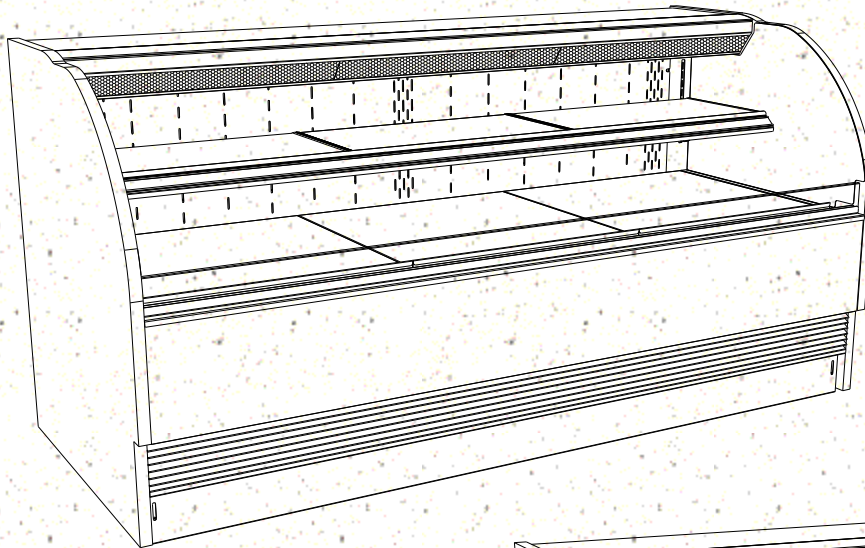


CAREFULLY FOLLOW THESE INSTRUCTIONS

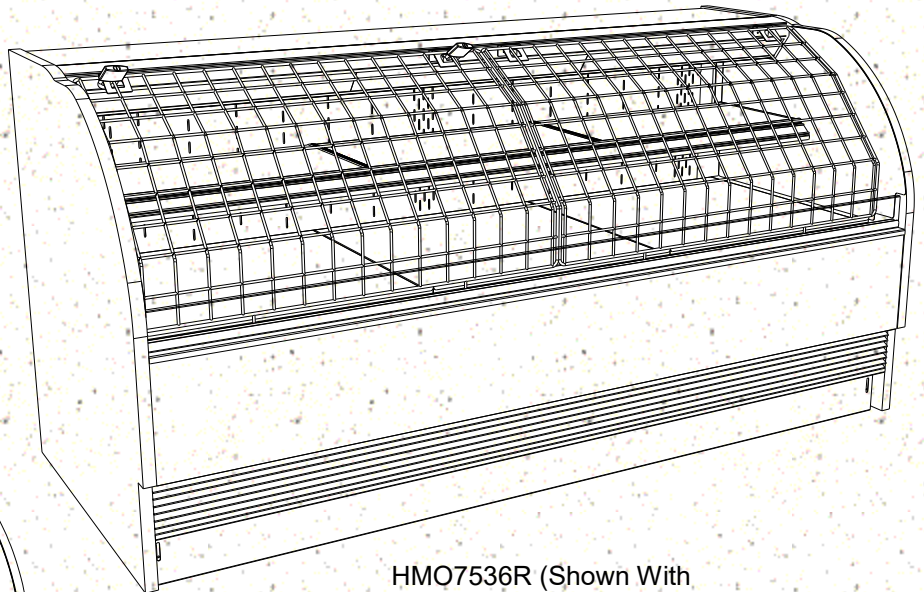
# HARMONY USER MANUAL

SCC P/N  
54190

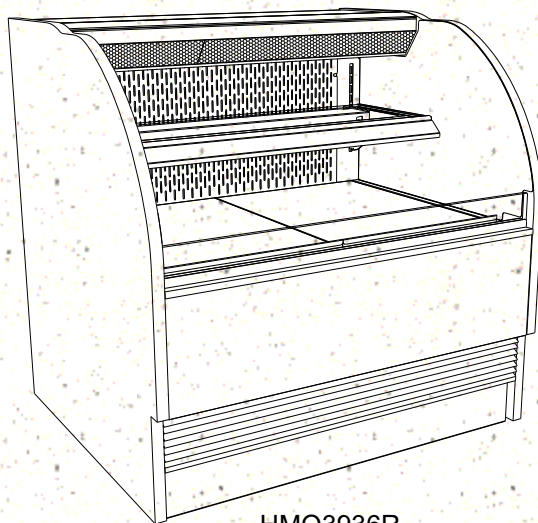
## SELF-SERVICE REFRIGERATED BAKERY MERCHANDISER



HMO7536R



HMO7536R (Shown With  
Optional Security Grid)



HMO3936R

Models To Which This Manual Is Applicable\*

HMO3936R and HMO7536R

\* Note: This Manual May Also Be Applicable To Models Not Listed Herein.

**Structural Concepts®**

Structural Concepts Corp. · 888 E. Porter Rd · Muskegon, MI 49441 Phone: 231.798.8888 Fax: 231.798.4960 · [www.structuralconcepts.com](http://www.structuralconcepts.com)

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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 60% 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

ELECTRICAL  
HAZARD



### 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

KEEP  
HANDS  
CLEAR



### 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](http://P65Warnings.ca.gov).

### WARNING

HOT  
SURFACE



### 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.

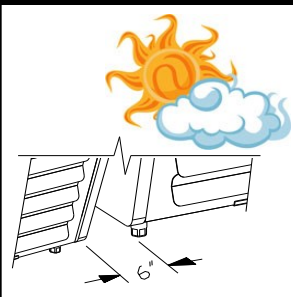
## REFRIGERANT DISCLOSURE STATEMENT

- 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

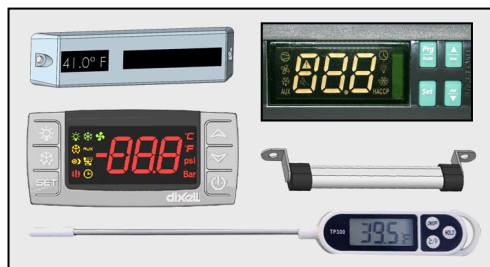


## CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

- 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.

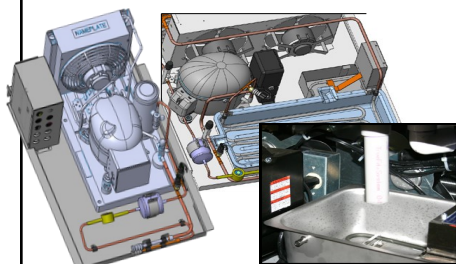


**CAUTION! POWER CORD AND PLUG MAINTENANCE**  
Risk of electric shock. If cord or plug becomes damaged, replace only with cord and plug of same type.



## 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!

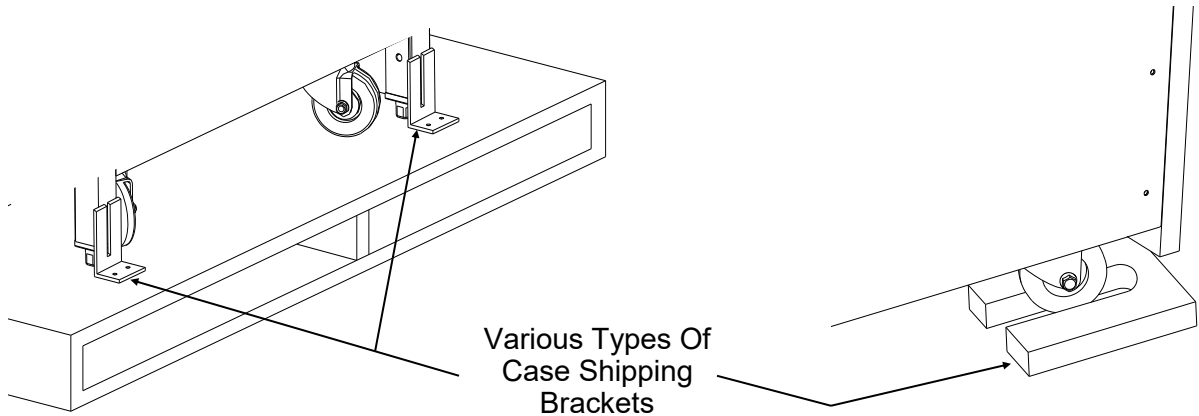
Water on flooring can cause extensive damage!

- 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.

## CASE REMOVAL FROM SKID (LEVELERS OR CASTERS)

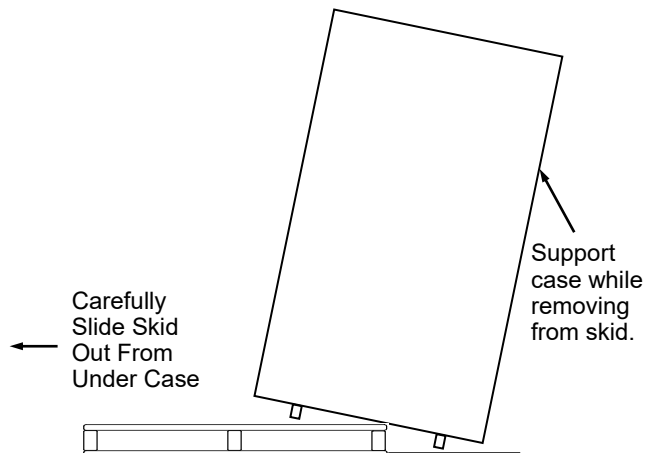
### **1. Removing Case Shipping Brackets That Are Attached To Skid**

- Remove screws holding Case Shipping Brackets to skid.
- Remove Case Shipping Brackets from Skid.
- See illustrations below. **Note:** Shipping Brackets will vary in size, shape, material and location depending upon case type and model.



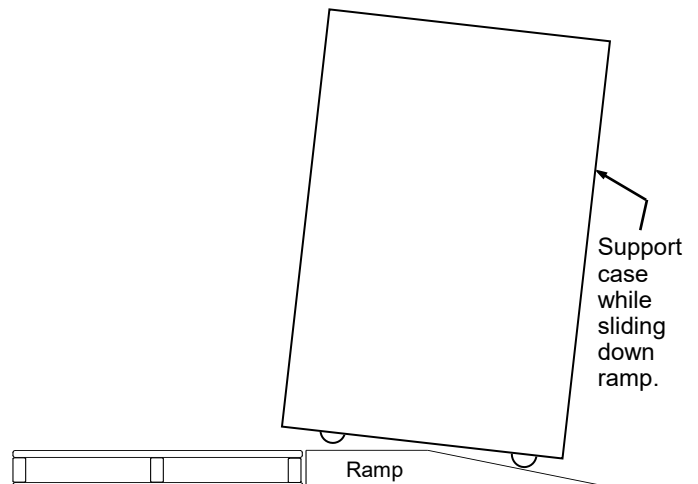
### **2. Remove Case (With Levelers) From Skid**

- To prevent damage, support case while sliding it toward edge of skid.
- When case is at edge of skid, carefully lower to floor (so two levelers rest on floor).
- Carefully slide skid out from under case.
- After removal of case from skid, place into position.
- **Note:** Illustration below reflects general outline of sample case and does not reflect any particular model or options).



### **3. Remove Case (With Casters) From Skid**

- A. Place ramp up against skid (to allow case to smoothly slide off from skid).
- B. Maintain support of case at all times or center of gravity may cause case to fall.
- C. Unlock Casters. Slide unit to rear of skid. Slide down ramp and off from skid.
- **Note:** Illustrations reflect general outline of sample case and may not reflect your particular model or options).



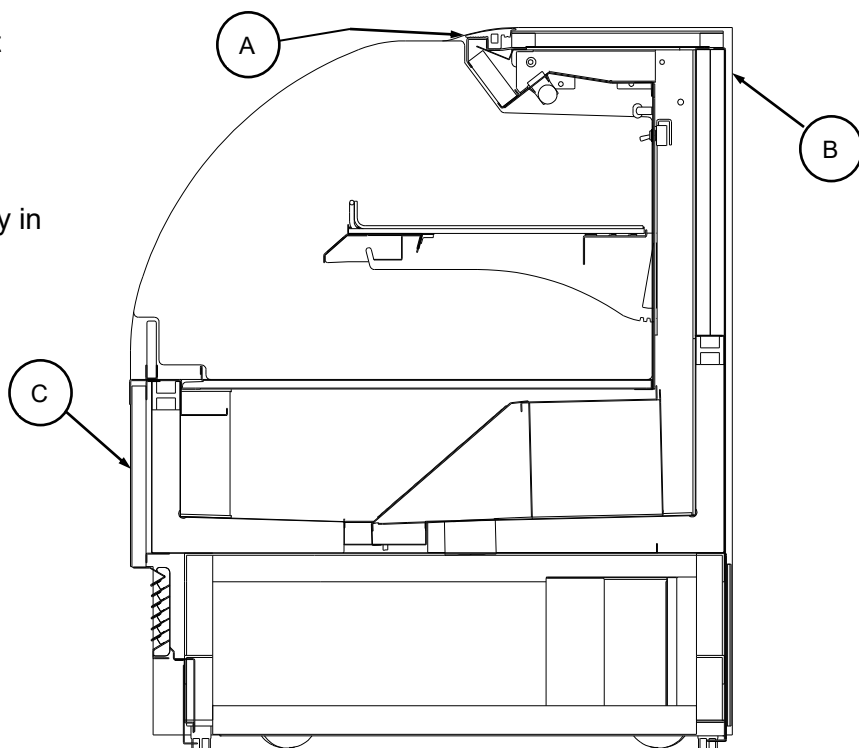
## INSTALLATION

### Installation

Note: Units shown may not depict an exact representation of your particular unit being installed.

#### **1. Position and Level Units**

Position Units. Align multiple units carefully in areas A, B, and C.

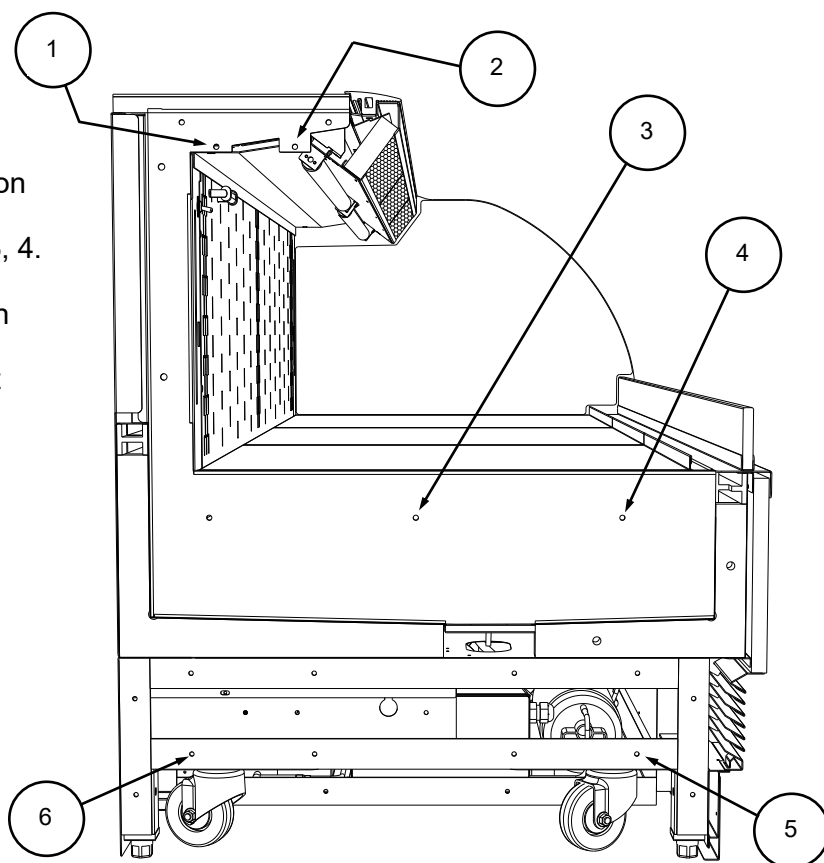


#### **2. Bolting Units Together**

Bolt units together at holes indicated at right.

Note: View at right has shelving removed for illustrative purposes only. Bolt holes to be at 7 locations (shown at right).

- Note: Use 1/4-20 X .75 bolt at hole location holes 2, 5 and 6 ONLY.
- Use 1/4-20 x 2.25" bolts for locations 1, 3, 4.
- Remove decks to access bolt holes 3, 4.
- Note 1: Both Casters and Levelers Option shown in illustration at right.
- Note 2: Illustration at right may not reflect every feature or option of your particular case.



## INSTALLATION, CONTINUED

### **3. Electrical Connections (Remote Cases)**

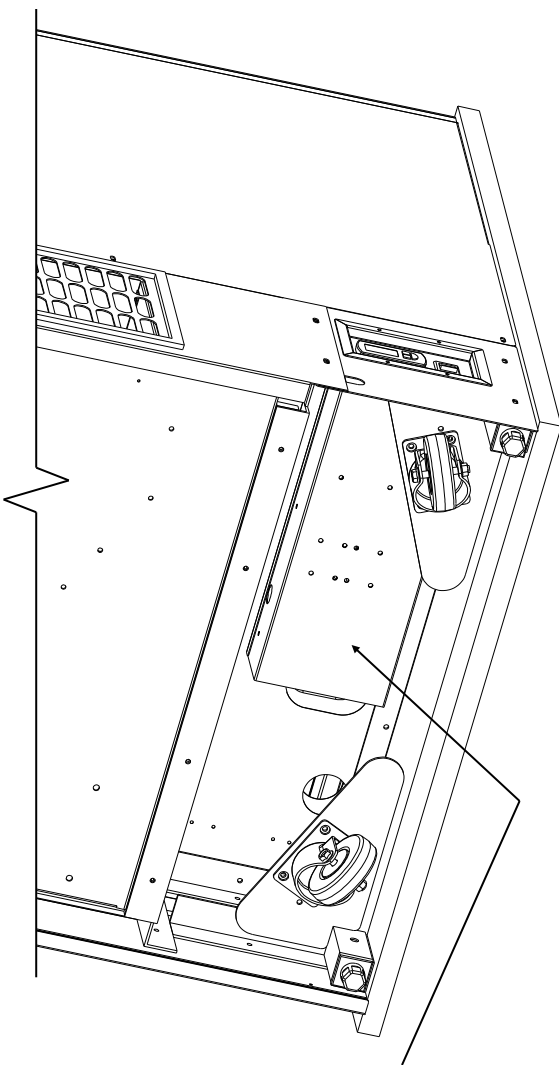
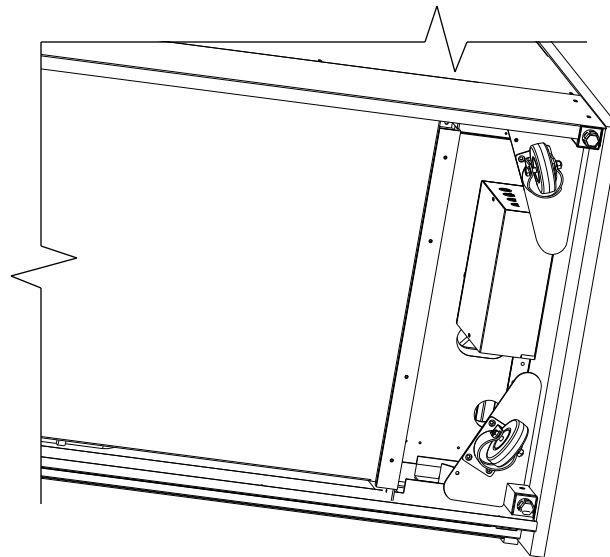
Field wiring connection / electrical access location is at customer-left side of case.

- Single phase leads are provided.
- Connection

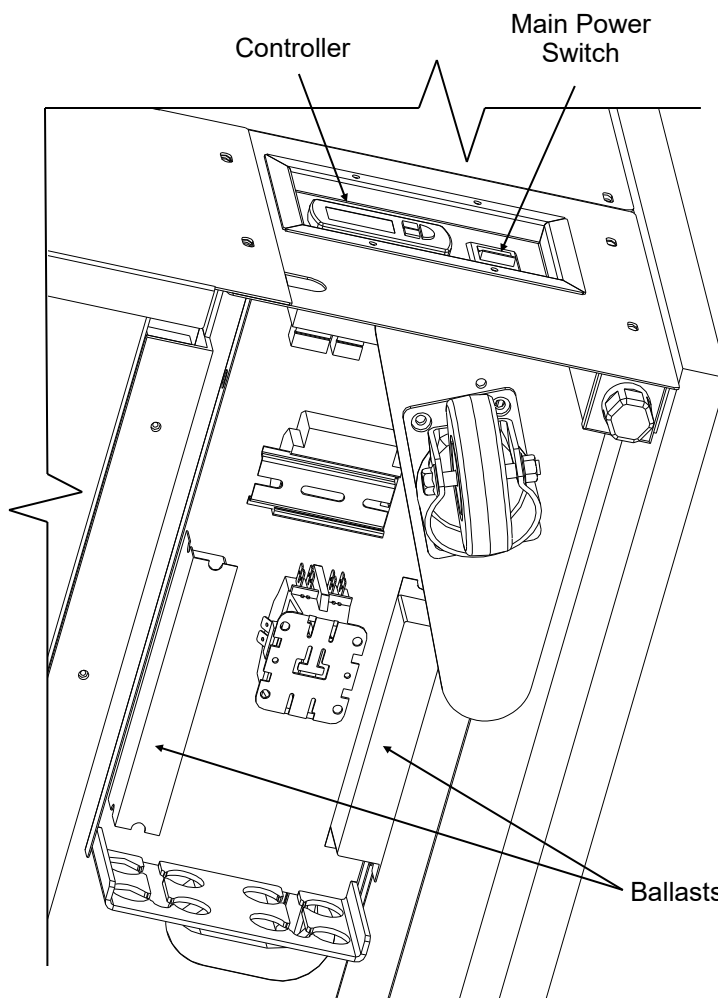
### **4. Connections/Controller/Main Power Switch (Self-Contained Units)**

Controller/Ballast box is at customer rear.

- See illustrations below.
- Below illustrations show layout of controller, ballasts, main power switch, terminal block, etc. after removal of controller/ballast box cover.

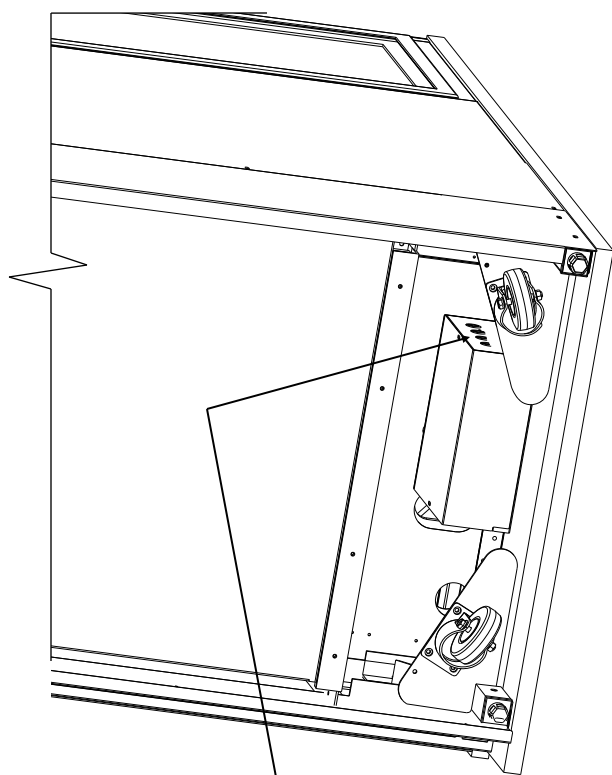


HMO7536R Underside View With  
Controller/Ballast Box Cover Intact



HMO7536R Underside With  
Controller/Ballast Box Cover Removed

Case Rear



Field Wiring Electrical Connections

### **5. Electrical Connections (Certain Remote Cases)**

Field wiring connection / electrical access location is at customer-left side of case.

- Single phase leads are provided.

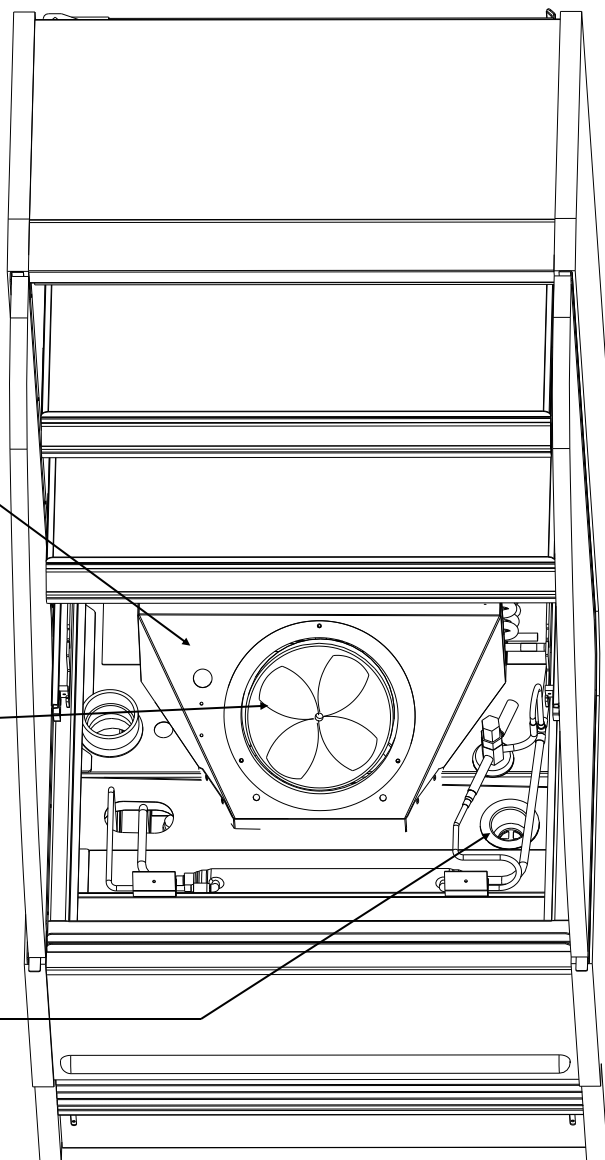
### **6. Evaporator Fan Area**

- Illustration below shows front of case with decking removed.
- See Preventive Maintenance section in this manual for guidelines on cleaning this area.

Fan Shroud

Fan Blade

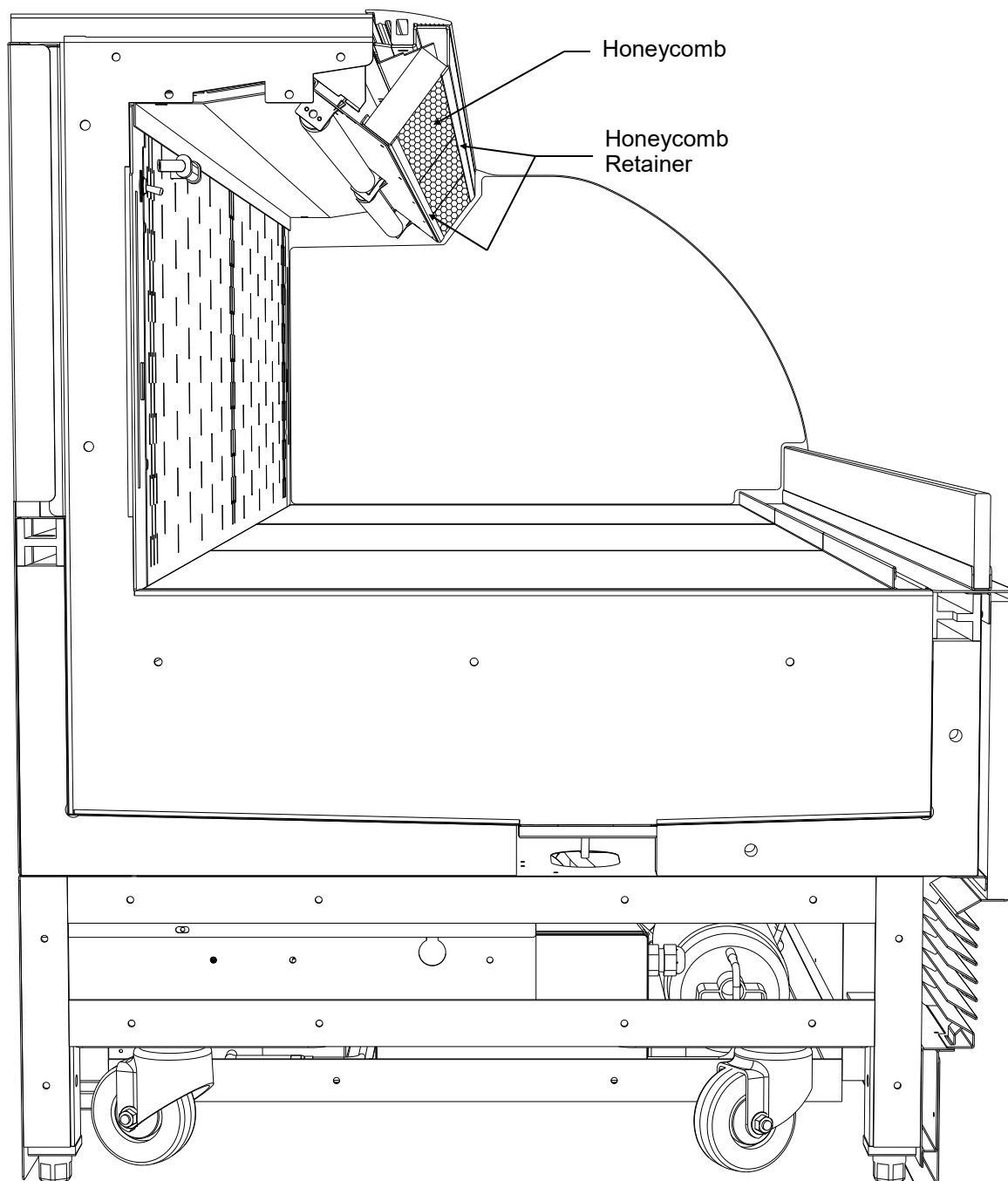
Drain





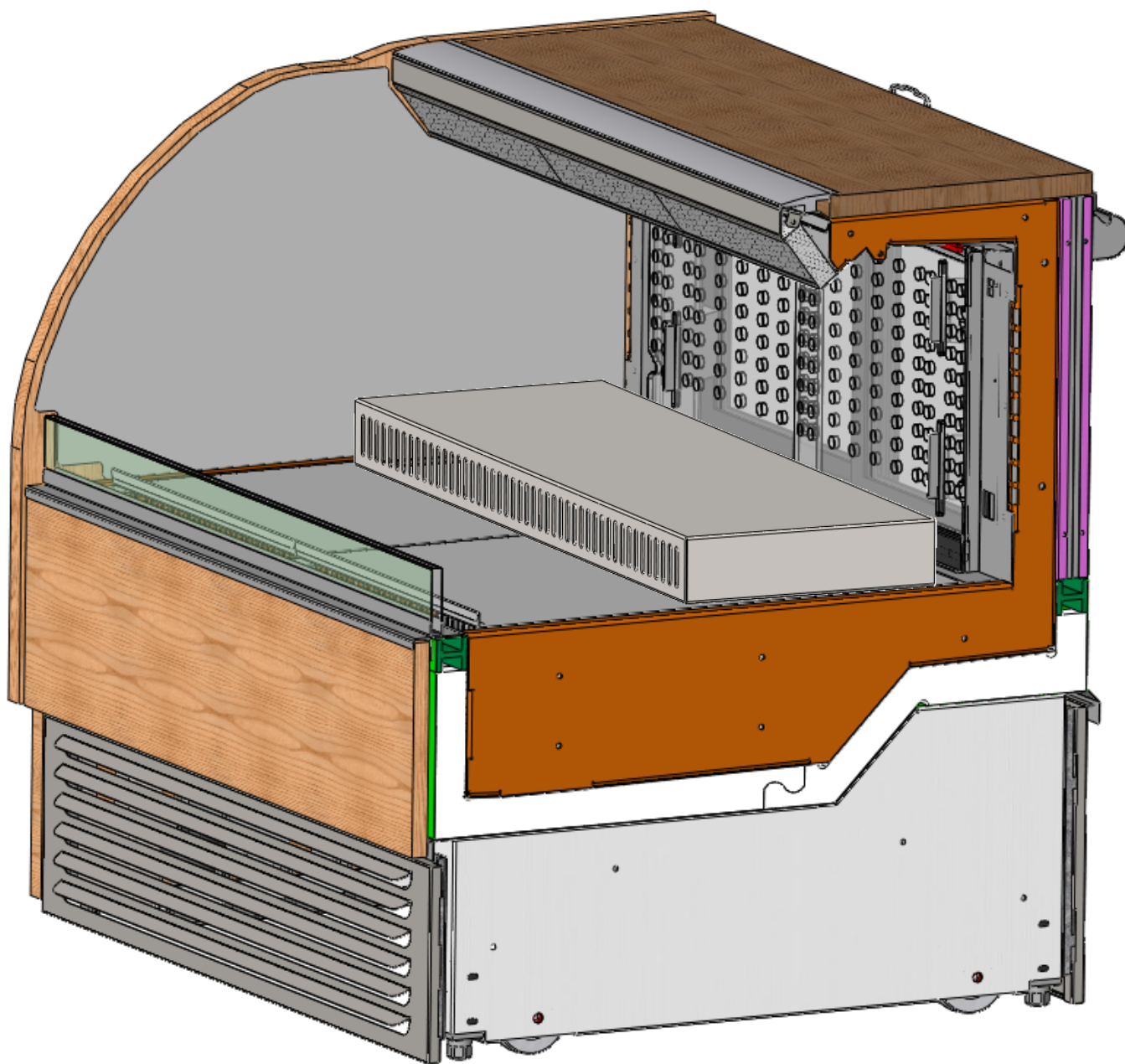
### **7. Honeycomb Air Diffuser**

- Honeycomb is located in discharge air duct.
- From inside lower refrigerated area, locate the two most forward screws which secure the lower light & discharge panel.
- Remove the two most forward screws; panel must hang down supported by the rear screws. ***Do not force panel lower.***
- See ***MAINTENANCE FUNDAMENTALS - HONEYCOMB AIR DIFFUSER*** section in this manual for complete instructions on removal and installation of honeycomb.



### **8. Risers (aka "Step Assemblies")**

- Risers allow product to be more prominently displayed.
- Risers are to rest on decks and be placed as far back as possible in case (as shown below).
- See **CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)** in manual for cleaning instructions.



--- Model HMO3936R Shown Partially Disassembled Above. Your Model May Differ ---

## POSITIONING, ALIGNING, LEVELING UNIT, REMOVING FRONT GRILLE

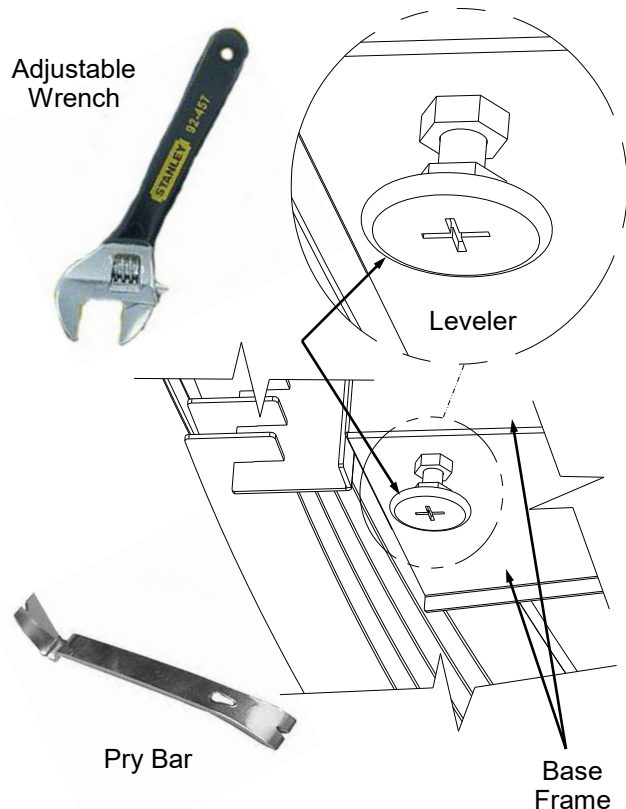
### **1. Position & Align Case Alongside Other Cases**

- Before adjusting levelers, make certain that the case is in proper position and, if required, aligned with adjoining case.
- This may require the repositioning of the case you are installing or the already positioned case.

### **2. Adjust Levelers**

- After case is in proper position, adjust case so it is level and plumb (see illustration at right).
- You may need to remove front and/or rear Toe-Kick to access levelers.
- Use adjustable wrench to adjust leveler.
- Depending upon case weight it may be necessary to use a Pry Bar to accomplish this task.
- Do not use Pry Bar on Toe-Kick as it may buckle.
- Do not use Pry Bar on End Panel; it may chip.
- Use Pry Bar **ONLY** on Base Frame to avoid damaging case.
- See illustration and photos at right.

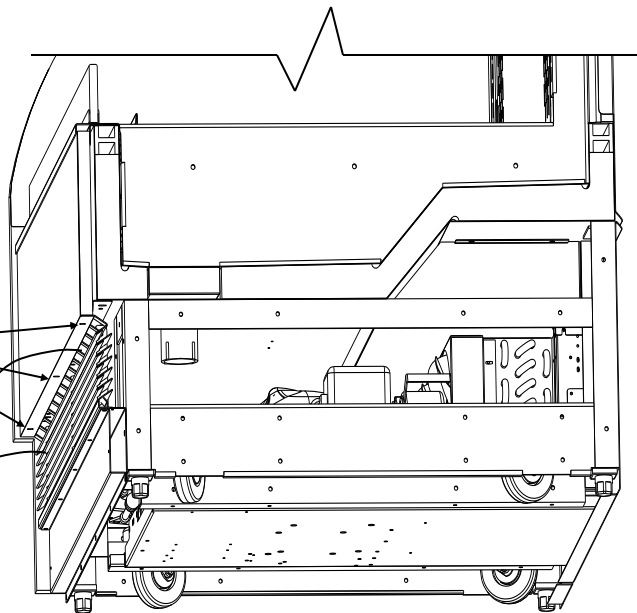
Note: Depending upon options and features chosen, illustrations may not exactly reflect your particular case's features.



### **3. Removing Front Grille (If Necessary)**

- Remove screws located at underside of front panel to access drain or refrigeration lines.
- Front Grille will fall forward and can be lifted up and away from case.
- Replace Front Grille in reverse order it was removed from case.
- See illustration at lower right (may not exactly reflect every feature or option of your case).

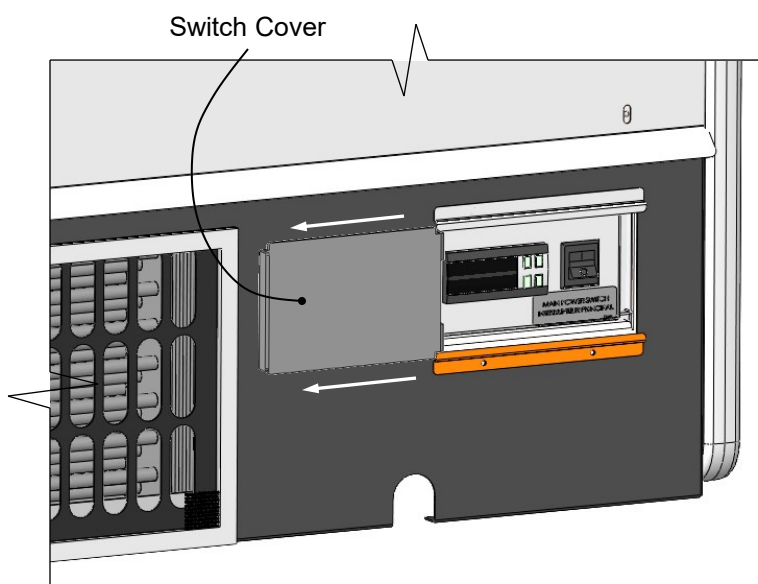
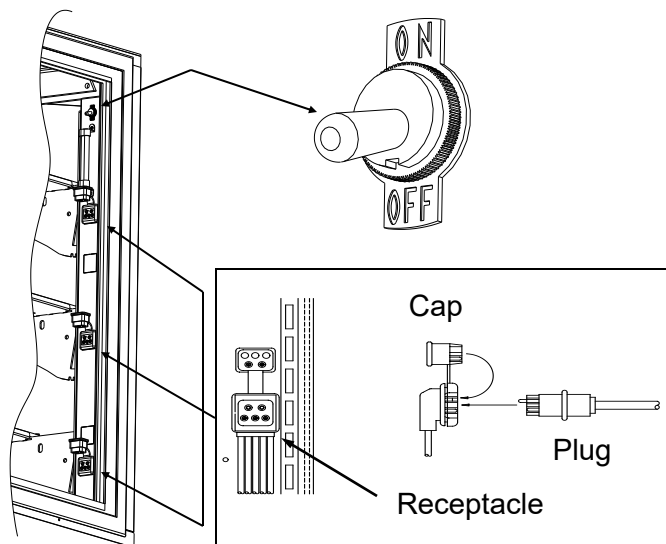
(3) Front Grille Retainer Screws



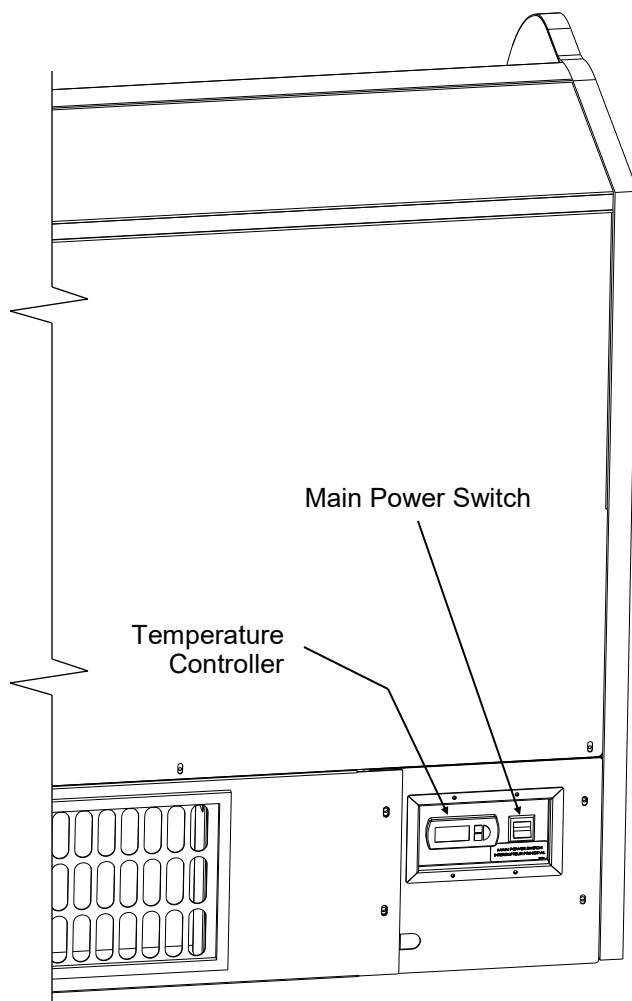
## START-UP AND OPERATION

### Merchandise Start-Up

- **Remote Units:** Case is hard-wired. When power is supplied, case will power-up.
- **Self-Contained:** Main power switch and temperature controller is located at case rear, lower right. See illustrations below-left and right.
- **Self-Contained:** Depending upon model, switch cover may be provided to protect controller and switch. See illustration at lower-left.
- Turn on the lights. Whether Remote or Self-Contained, light switch is located on inside of case at top right, from case rear. See illustration at top right.
- All lights should come on at same time. First time lighting may require a short warm up period for the bulbs. Slightly dim or a flickering of new bulbs is normal.
- The lighting is wired in series so ***all lights must be plugged in or receptacles capped*** for case lights to turn on.



Note: Certain Models May Have a Switch Cover.  
If So, Simply Slide To The Left To Access Controls



## 1. LED Style Light Fixtures

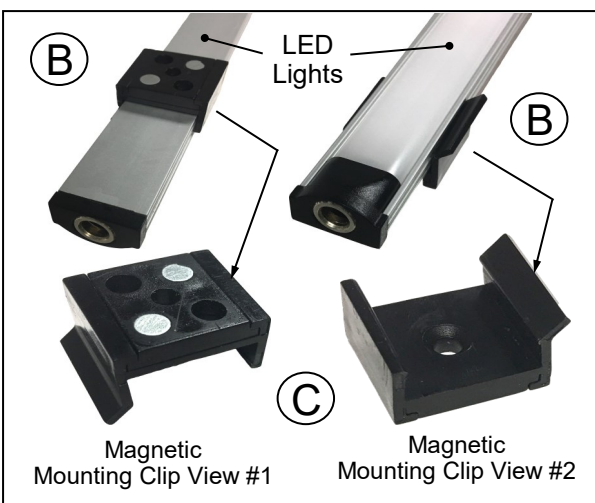
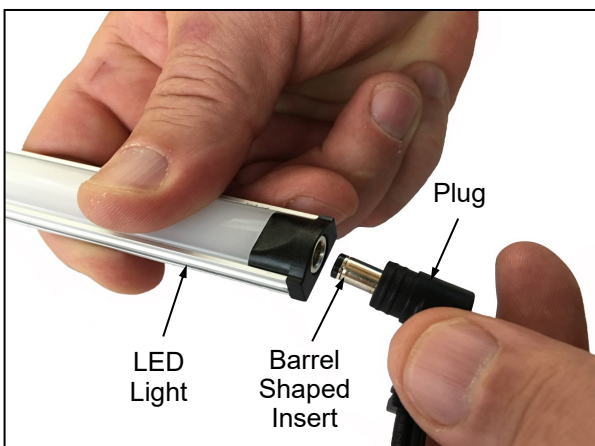
### Removal of Faulty LED Lights:

- LED lights rarely require change-out.
- 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.



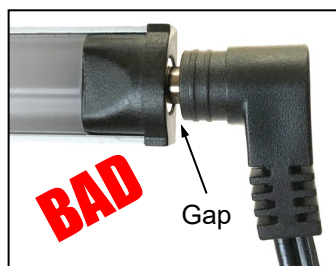
- Reattach LED light assembly to its shelf/header.
- Position properly in shelf/header.

>> **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.

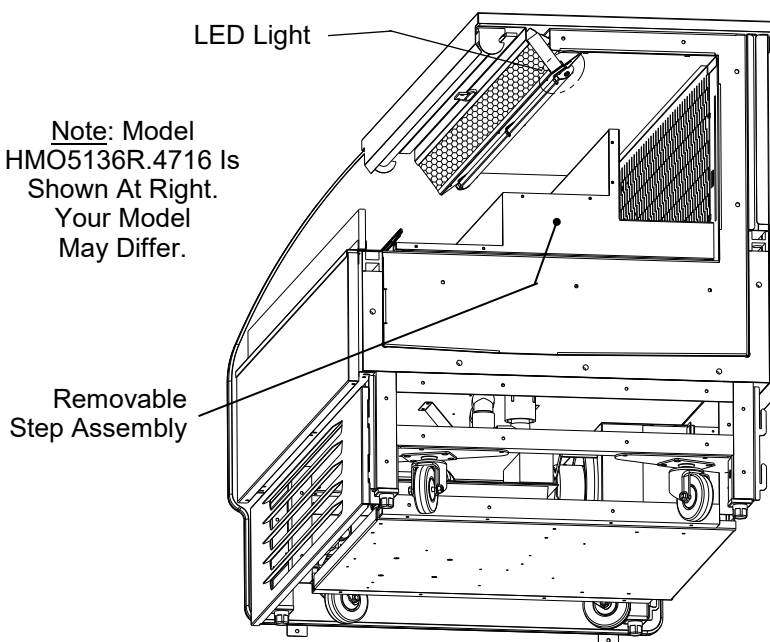
- Press plug's barrel-shaped insert all the way into LED light.
- **Important:** If plug is not inserted ALL THE WAY IN the LED light's orifice, the light may not energize. See "BAD" vs. "GOOD" insertion illustrations below.
- Turn LED light switch back on.

## 2. Step Assembly

- Step assembly is adjustable and is **NOT** held in place by screws or bolts.
- Simply lift up and out.
- Caution! Remove carefully to avoid scratching or marring inside of case.
- Return to case in same location it was removed.
- See Cleaning Schedule section in manual for specifics on cleaning methods and frequency.



**Note:** Model HMO5136R.4716 Is Shown At Right. Your Model May Differ.





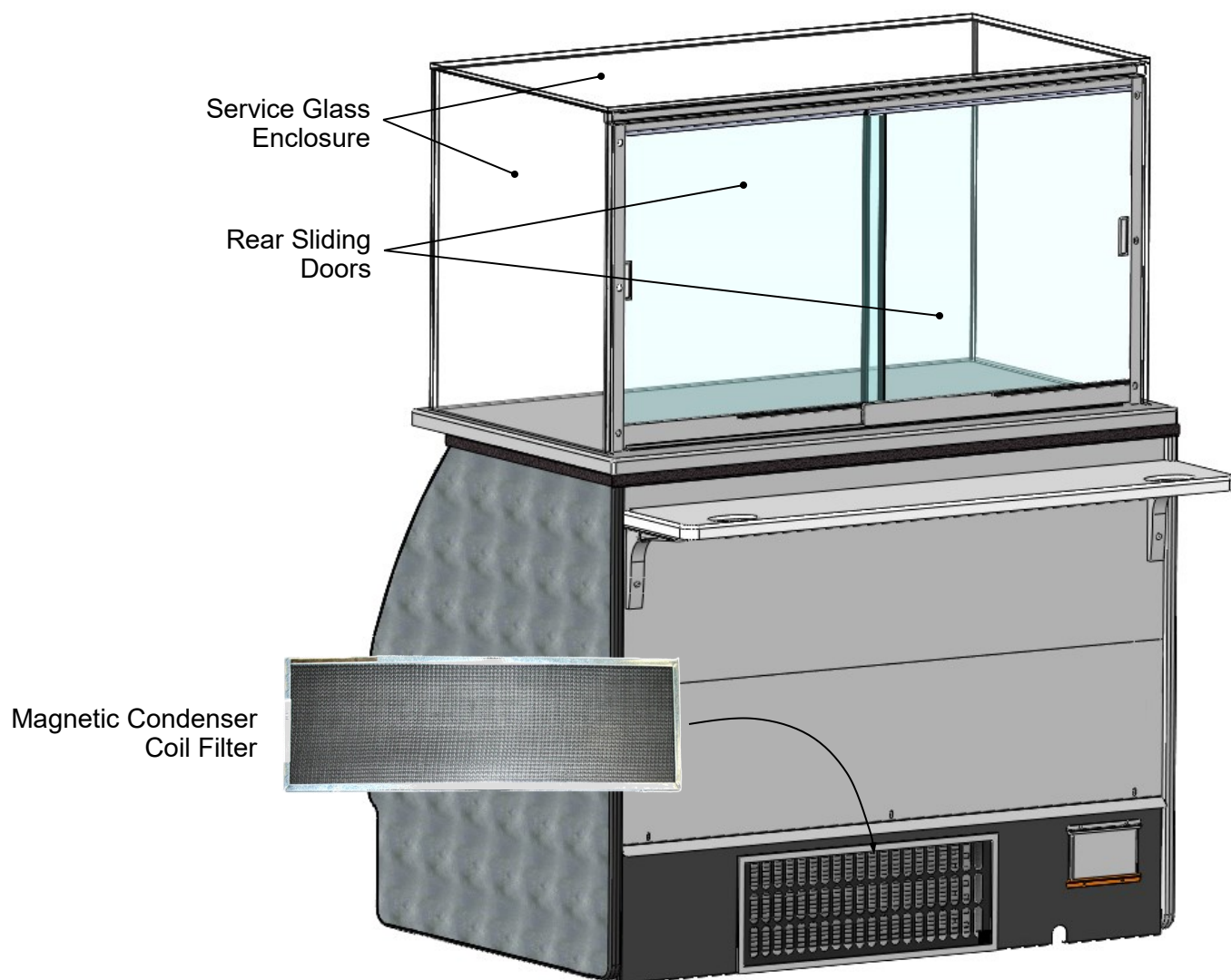
### 3. *Rear Sliding Doors (Ambient Upper)*

- **Note:** Illustration shown reflects model HMO4836R.5936 only. Illustration is not applicable to all models in this manual.
- Rear sliding doors may be removed from case by moving rear doors toward center of case. Individually lift each door upward (toward top of case) and pivot bottom of door outward. Lower door downward and away from case.
- **Caution:** Gently set doors down to avoid marring, scraping, scratching or breakage.

- Return rear sliding doors to upper glass enclosure in reverse order they were removed.
- See next page for upper glass enclosure with acrylic bins.

### 4. *Magnetic Condenser Coil Filter*

- Magnetic condenser coil filter prevents dust and debris from being 'pulled into' condenser coil and causing operational problems.
- See illustration below for general location.
- See **CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)** section in manual for cleaning specifics.



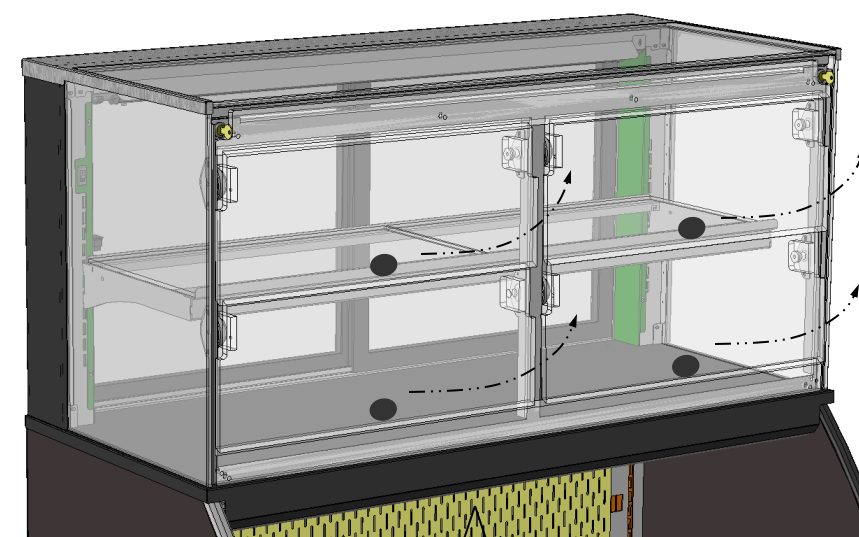
**Note:** Model HMO4836R.5936 Shown Above  
Your Model May Differ

## 5. Upper Section With Acrylic Bins

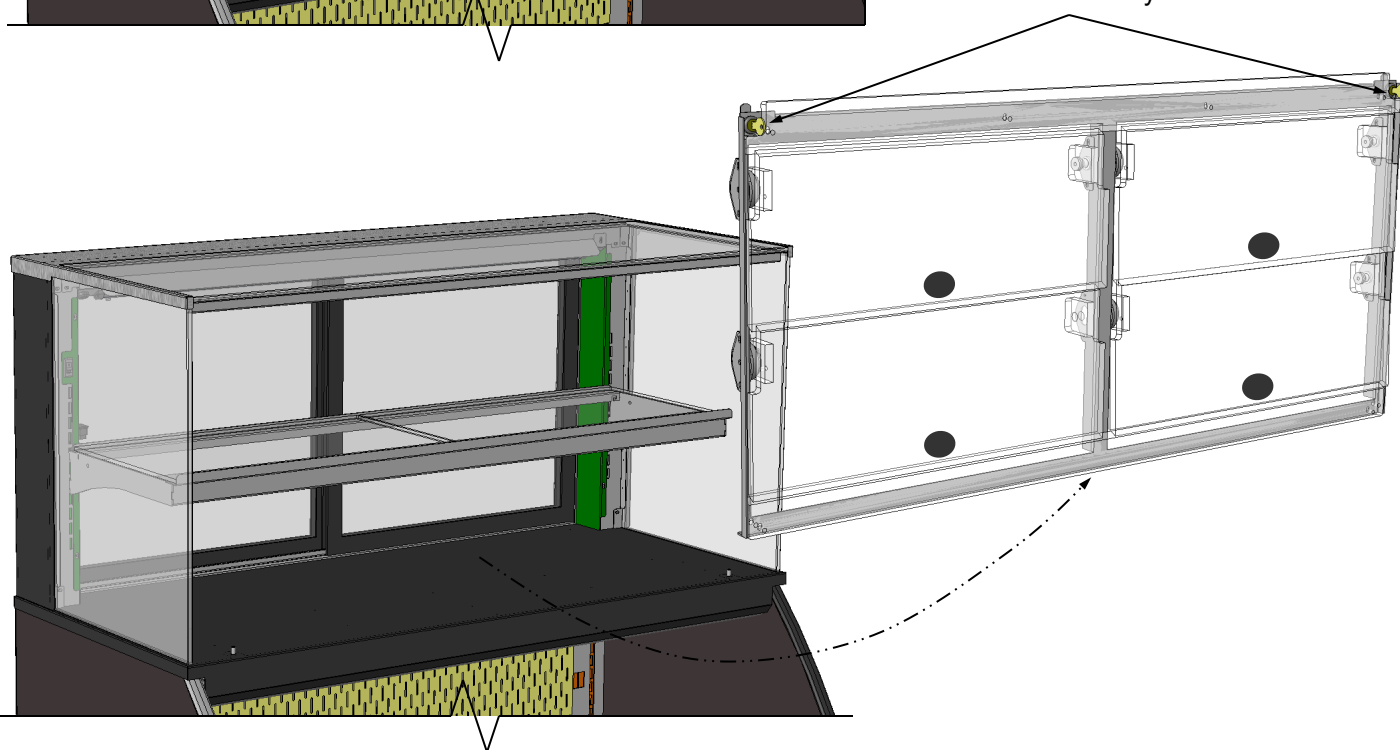
- **Note:** Illustration shown reflects model HMO5136R.7121 (and possibly other models).
- Illustration is not applicable to all models in this manual.
- Acrylic bin doors may be raised and lowered by accessing the knobs (as shown below).
- See **CLEANING SCHEDULE (PERFORMED BY STORE PERSONNEL)** section in manual for cleaning specifics.

## 6. Removable Acrylic Bin Door Assembly

- Acrylic bin door assembly is entirely removable from upper section of case.
- Simply rotate keys (at upper left/right of assembly) and lower the levers holding it intact. Lift assembly up and off the pins that are holding lower acrylic bin door assembly bracket to deck.
- See **CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)** section in manual for cleaning specifics.
- Important! Store keys in safe but accessible location for ready access.



Both Keys Must Be Turned To Lower Levers And Remove Acrylic Bin Door Assembly



### **7. Honeycomb Air Diffuser**

***Preventive maintenance should be performed every 30 days unless conditions warrant a more frequent replacement cycle.***

#### **Honeycomb Air Diffuser Removal**

A. Wedge non-metallic device of suitable strength (such as a ballpoint pen) between honeycomb and 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. Pry downward and away from 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'.*

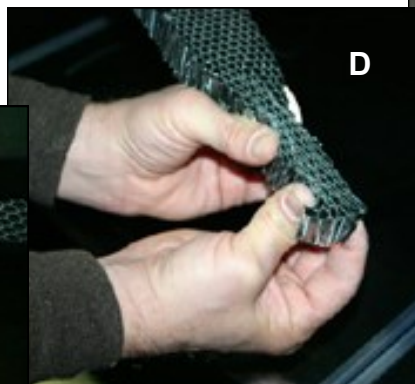
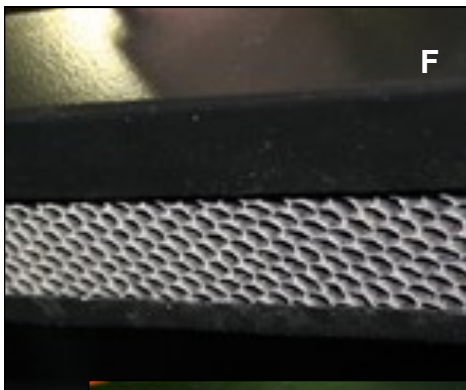
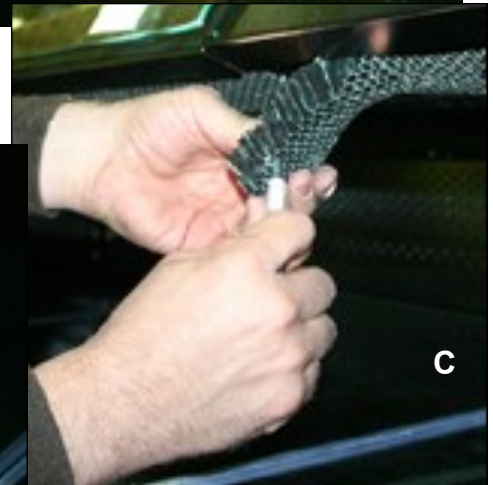
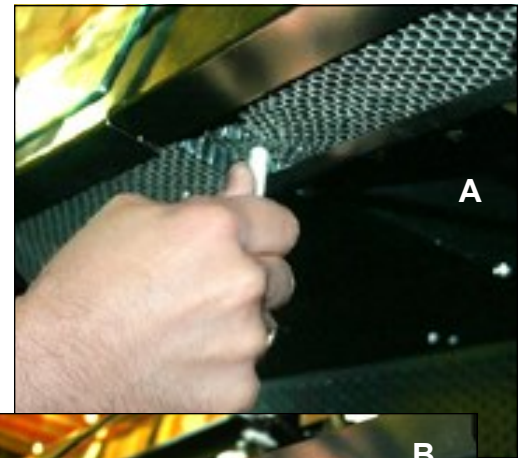
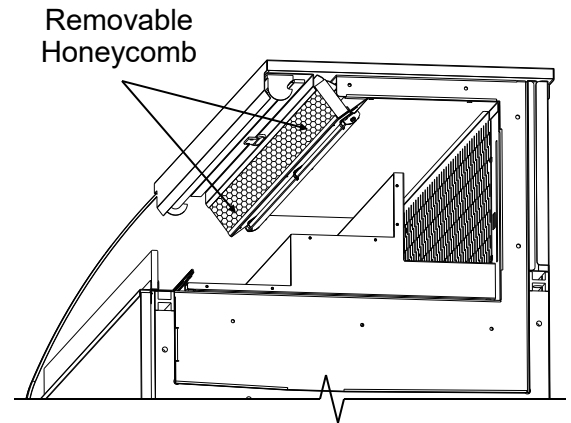
#### **Honeycomb Air Diffuser Installation**

D. Squeeze honeycomb into the honeycomb retainer.

E. Carefully slide honeycomb into place.

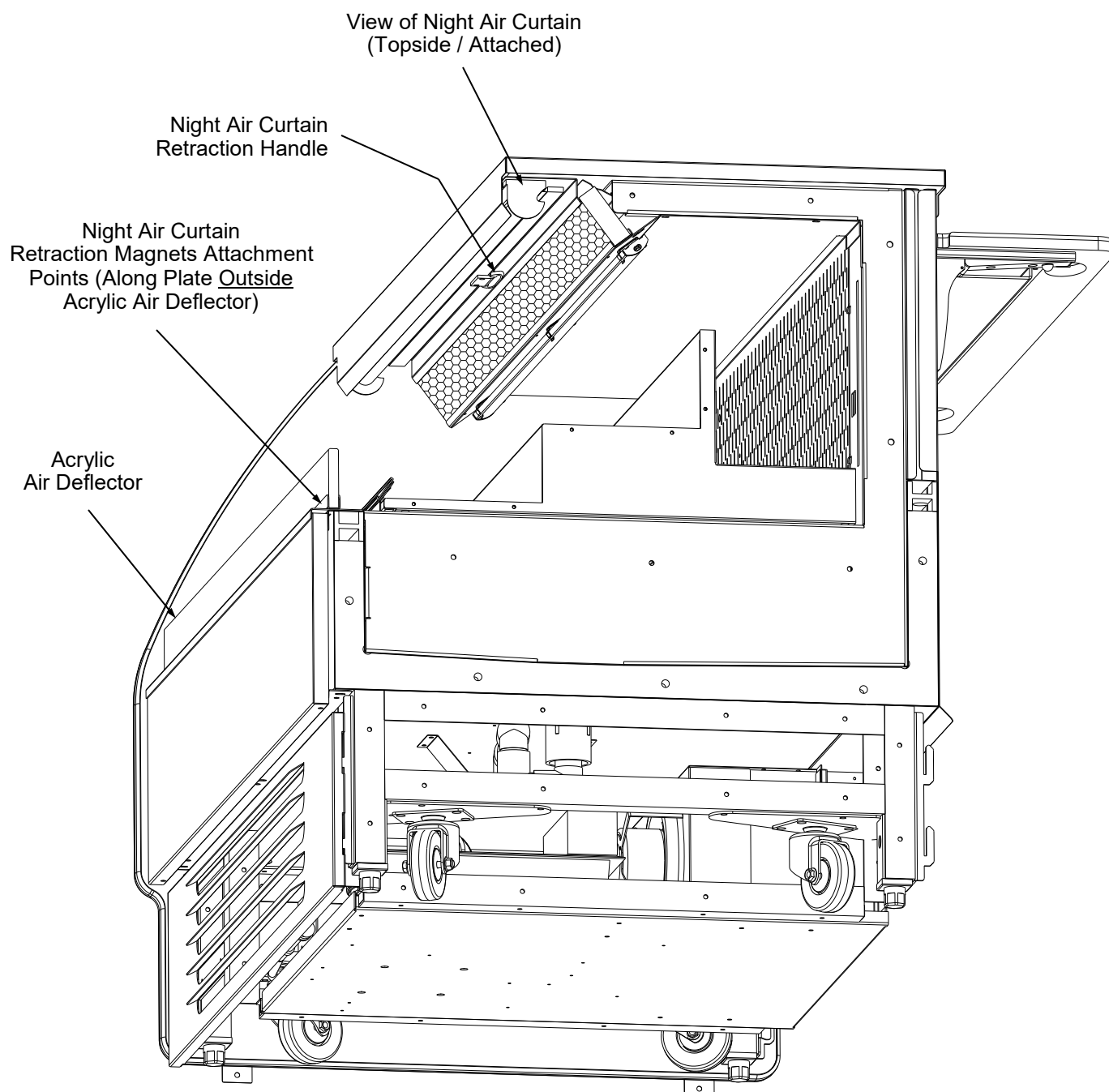
F. Adjust honeycomb so that it fits flat against retainer. It must not be wavy or out of position.

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





**NOTE: BELOW ILLUSTRATION APPLIES  
TO MODEL HMO5136R.4716 ONLY.**

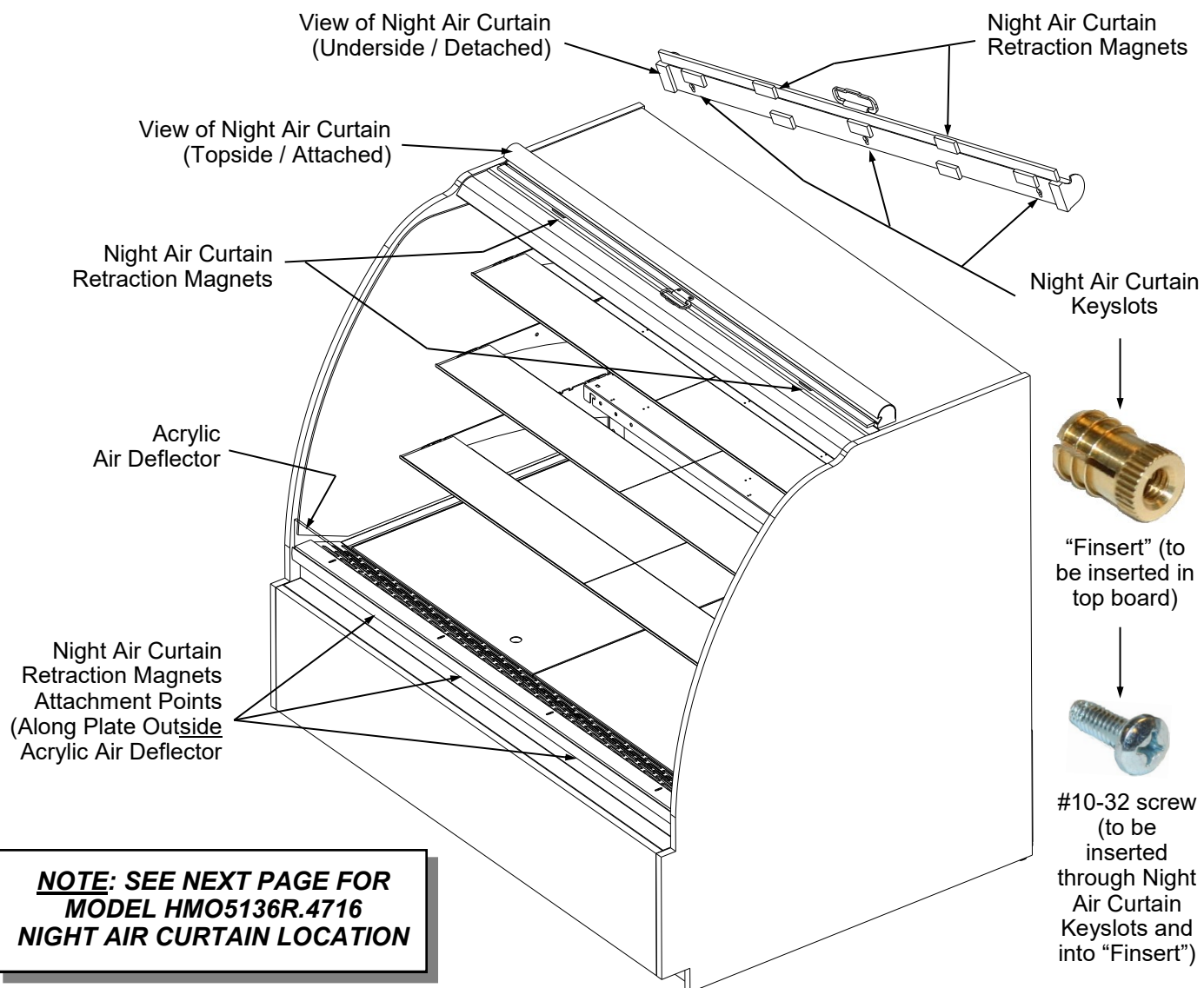


## OPTIONAL NIGHT AIR CURTAIN INSTALLATION & OPERATING INSTRUCTIONS

### Night Air Curtain Installation & 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, attach to display case by centering night curtain along top-front of case as shown in illustration below. Attachment Magnets will hold Night Air Curtain firmly in place. To attach to display case, place night curtain on top of case as shown. Mark "key slot" locations using night curtain as a template (you may have to retract the curtain from housing to reveal "key slots." Drill Ø11/32" holes in top board 1/2" deep. Press "finserts" (shown below) into holes. Carefully tap in with flat object to prevent top board damage. Attach Night Air Curtain with #10-32 screws.
  3. Grasp handle and pull downward to desired location INSIDE acrylic air deflector.
  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, retract curtain (to access key slots), remove screws. Lift Night Air Curtain upward and away from case.

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

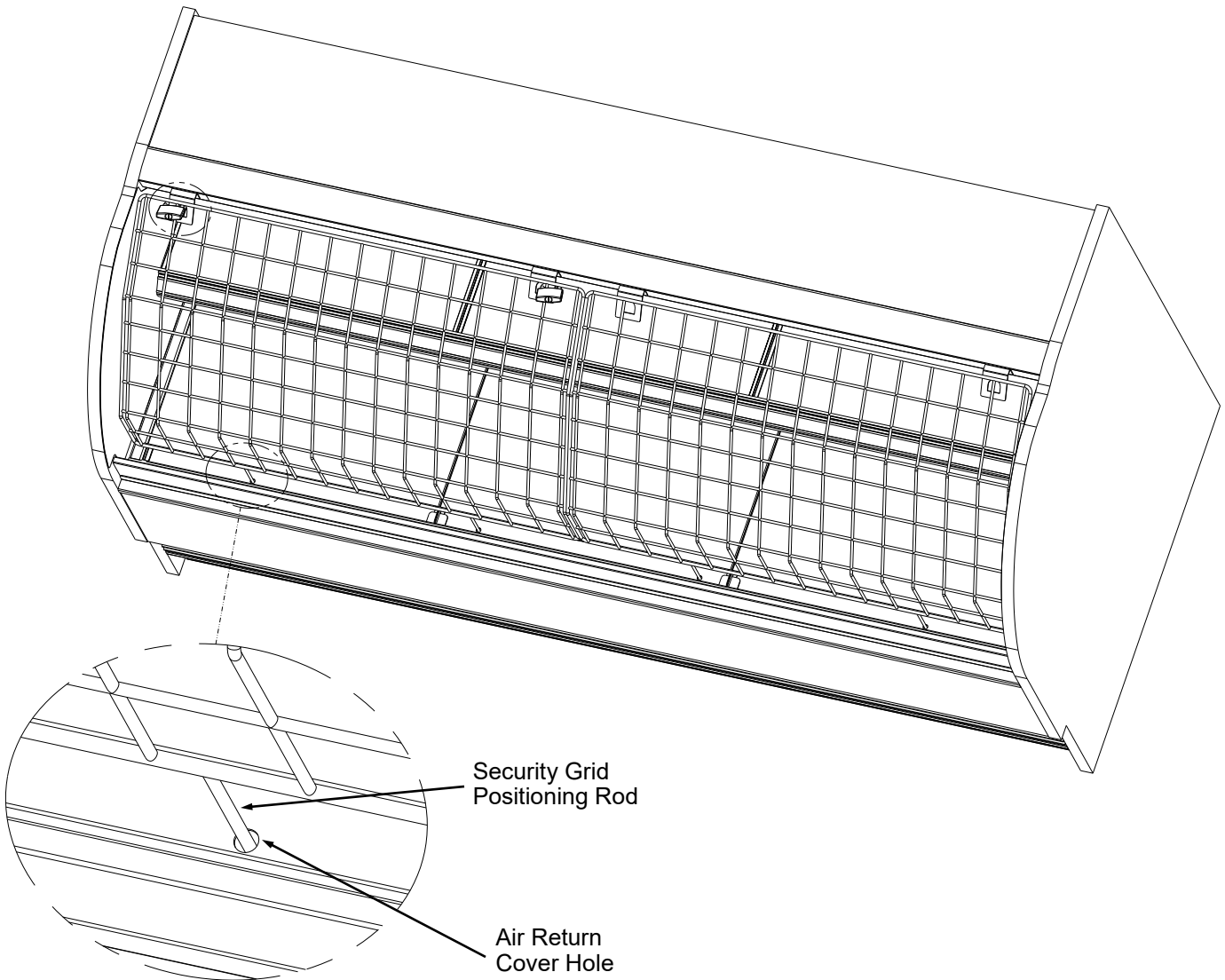


***NOTE: SEE NEXT PAGE FOR  
MODEL HMO5136R.4716  
NIGHT AIR CURTAIN LOCATION***

### Initial Positioning and Installation of Security Grid

1. After hoisting the Security Grid directly over Air Return Cover, drop Security Grid Positioning Rods into the Air Return Cover Holes (see enlarged view below).
2. After securely positioned in the Air Return Cover Holes, carefully and slowly lean the Security Grid back against the Security Brackets.
3. The next page in this manual will show how to secure the top of the Security Grid to the Security Brackets.

**NOTE:**  
**ILLUSTRATIONS**  
**MAY NOT**  
**EXACTLY**  
**REFLECT EVERY**  
**PARTICULAR**  
**CASE'S**  
**FEATURES**



#### Enlarged View (Above)

- Enlarged View (above) shows Security Grid Positioning Rod slid into Air Return Cover Hole.
- There are two Security Grid Positioning Rods along each Security Grid.
- Security Grid Positioning Rods must be securely in place prior to locking with Padlocks.

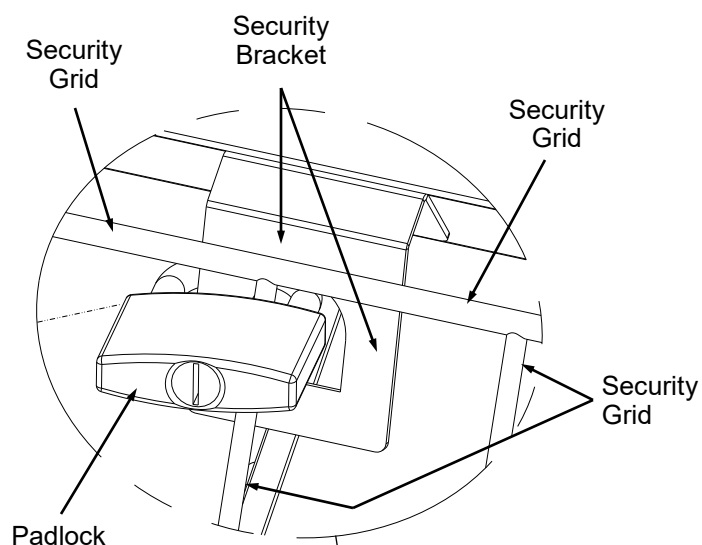
### Securing Security Grid Into Place and Locking

1. After leaning the Security Grid back against the two Security Brackets, slide the Padlocks through the Security Grid and the Security Brackets.
2. Securely lock the Padlocks (one Key fits both Padlocks).

### Removing and Storing Security Grid and Locks

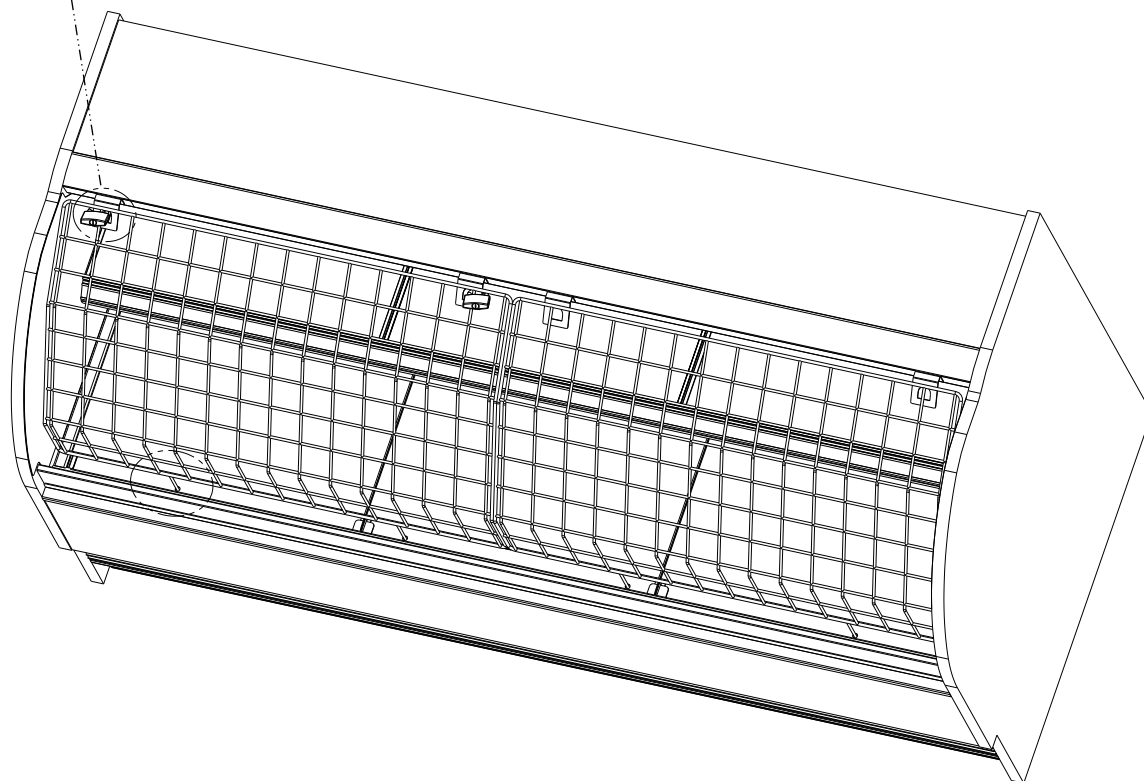
1. Unlock and remove Padlocks. Lean Security Grid forward. Lift upward and out of Baffle Airflow Slots. Tabs fit into (and slide out of) baffle slots as in other units. See next page tab and baffle slot locations and illustrations.
2. Store Security Grid, Padlocks and Keys in a secure location to prevent theft or damage.

**NOTE:**  
**ILLUSTRATIONS**  
**MAY NOT**  
**EXACTLY**  
**REFLECT EVERY**  
**PARTICULAR**  
**CASE'S**  
**FEATURES**



### Enlarged View (At Left)

- Enlarged View (at left) shows Padlock through Security Grid and Security Bracket.
- There are two Security Brackets for each Security Grid.

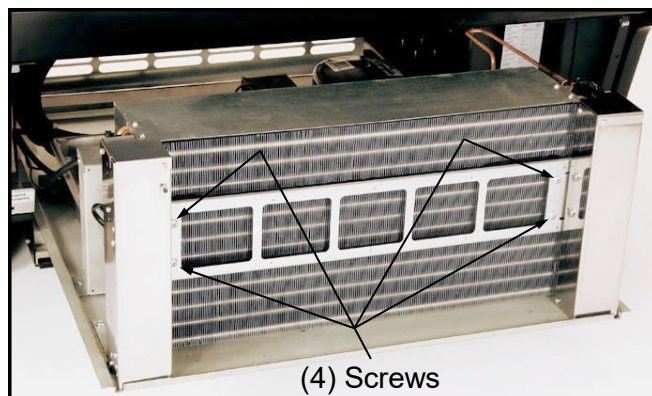


**CLEANING SCHEDULE (PERFORMED BY STORE PERSONNEL) D = Daily / W = Weekly / M = Monthly**

Area	D	W	M	Task
Exterior	X			<b><u>Side glass, front curved glass and sliding rear doors:</u></b> Clean with household or commercial glass cleaner and soft cloth.
	X			<b><u>Wood, laminate and painted surfaces:</u></b> <ul style="list-style-type: none"> <li>• Clean with a warm soap and water solution and soft cloth.</li> <li>• Never use wire cloth or abrasive cleaners on case.</li> </ul>
	X			<b><u>Acrylic bin doors and door assembly (not on all cases):</u></b> <ul style="list-style-type: none"> <li>• Clean with a warm soap and water solution and soft cloth.</li> <li>• Do not use glass cleaner on acrylic as it causes surface to become 'cloudy'.</li> <li>• To clean acrylic bins doors (and surrounding areas) more thoroughly, rotate keys (at upper assembly areas); lower levers holding it intact. Lift assembly up and off pins holding lower acrylic bin door assembly bracket to deck.</li> <li>• Thoroughly clean upper glass enclosure (while door assembly is removed).</li> <li>• Rinse any soap/water residue from acrylic bins and/or assembly. Dry. Return to upper glass enclosure in reverse order it was removed. Lock in place.</li> <li>• Important! Store keys in safe but accessible location for ready access.</li> </ul>
		X		<b><u>Rear door (if any):</u></b> Clean with a household or commercial glass cleaner.
		X		<b><u>Removable, magnetized condenser coil filter:</u></b> Clean magnetic condenser coil filter by following either of these steps: <ol style="list-style-type: none"> <li>1. As magnetic condenser coil filter is dishwasher safe, remove from case 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.</li> <li>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.</li> <li>3. Dry with soft cloth or paper towel (as shown below) or allow to air dry. Return to case.</li> </ol>
Interior	X			<b><u>Decking:</u></b> Wipe down with a warm soap and water solution and soft cloth.
	X			<b><u>Interior components (rear plenum, sides, stainless steel mirror, etc.):</u></b> Wipe down with a warm soap and water solution and soft cloth.
		X		<b><u>Acrylic air deflector (front) / perforated Plexi-glas plenum (rear):</u></b> <ul style="list-style-type: none"> <li>• Clean with soap and water solution and soft cloth.</li> <li>• Never use ammonia-based cleaners on acrylic or Plexi-glas.</li> </ul>
			X	<b><u>Decking:</u></b> <ul style="list-style-type: none"> <li>• Remove decking and clean with soap and water solution and soft cloth.</li> <li>• For stubborn stains, submerge in warm, soapy water and allow to soak. Use soft-bristled brush to remove residue.</li> </ul>
			X	<b><u>Units with risers ("step assemblies") only:</u></b> <ul style="list-style-type: none"> <li>• Remove from case and clean with mild soap and warm water solution and brush. Dry thoroughly and return to case.</li> <li>• For stubborn stains, submerge in warm, soapy water and allow to soak. Use soft-bristled brush to remove residue.</li> <li>• <b><u>Caution!</u></b> Remove (and return) risers carefully to avoid marring inside of case.</li> </ul>

## PREVENTIVE MAINTENANCE (TO BE PERFORMED BY TRAINED SERVICE PROVIDER)


PREVENTIVE MAINTENANCE	FREQ.	INSTRUCTIONS
Case Exterior	Monthly	<p><b><u>Condensing Coil:</u></b></p> <ul style="list-style-type: none"> <li>Remove rear grille (by removing 4 screws).</li> <li>Use air pressure or industrial strength vacuum; clean dust and dirt that may collect on the Condenser Coil. See illustration below.</li> <li><b><i>Caution! Coil fins are sharp. Handle with care!</i></b></li> <li>Replace Rear Grille to case (4 screws).</li> <li>See illustration below.</li> </ul>
	Quarterly	<p><b><u>Clean Sweep™ Condensing Coil:</u></b> <i>Disconnect power from case before cleaning Clean Sweep™ Condenser Coil!</i></p> <ul style="list-style-type: none"> <li>Remove Rear Grille (by removing 4 screws).</li> <li>Slide/Roll out condensing unit assembly.</li> <li>Remove the four (4) screws holding the Clean Sweep™ rails intact.</li> <li>Remove the Clean Sweep™ rail.</li> <li>Wash rails' brushes in hot water and mild soap solution.</li> <li>If brushes are worn, they must be replaced. Call Technical Service Department to replace. Toll-Free number is listed at end of manual.</li> <li>Clean Condensing Coil: Use air pressure or industrial strength vacuum; clean the dust and dirt that may collect on the Condenser Coil.</li> <li><b><i>Caution! Coil fins are sharp. Handle with care!</i></b></li> <li>Reattach Clean Sweep rail to condensing unit (4 screws).</li> <li>Slide/Roll Condensing Unit Assembly back under case.</li> <li>Replace Rear Grille to case (4 screws).</li> <li>See photos below.</li> </ul>



--- Above photos are taken after rear grille has been removed from case ---

# PREVENTIVE MAINTENANCE, CONT'D (TO BE PERFORMED BY TRAINED SERVICE PROVIDER)

## WARNING! TURN OFF CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!

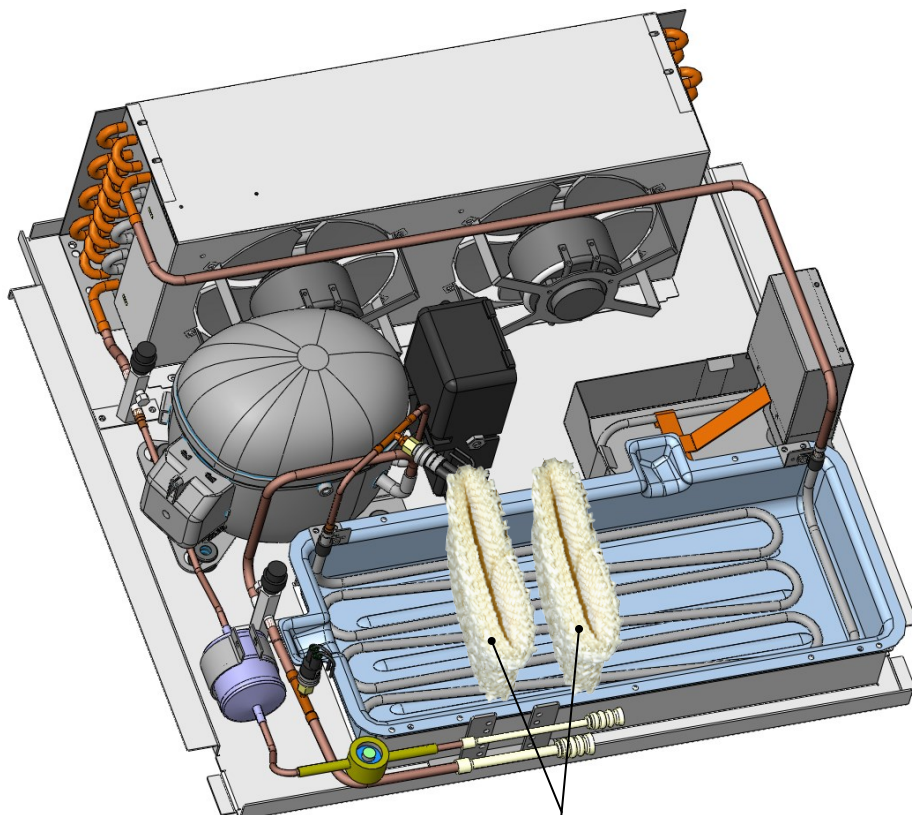
PREVENTIVE MAINTENANCE	FREQ.	INSTRUCTIONS
Case Exterior	Quarterly	<p><b>Compressor Area:</b> <i>Disconnect power from case before cleaning Condenser Coil!</i></p> <ul style="list-style-type: none"> <li>Slide/Roll out from under case.</li> <li>Use moist cloth to wipe off dust &amp; debris that collects on various parts. See illustration below.</li> </ul>
	Quarterly	<p><b>Condensate Package / Overflow Condensate Pan / Compressor Area:</b> <i>Caution! Be certain to disconnect power from case before cleaning condensate package!</i></p>  <ul style="list-style-type: none"> <li>Slide/roll compressor package out from under case.</li> <li>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.</li> <li>Electric heater coil condensate pans can be removed and cleaned.</li> <li>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.</li> <li>Use moist cloth to wipe off dust &amp; debris that collects on various parts (fans, sight glass, overflow pan, etc.).</li> <li>Slide refrigeration assembly back under case.</li> <li>Replace lower panel via hook/magnet method (no screws required).</li> <li>Check if wicking material is dirty, worn, tattered or disintegrating. If so, it must be replaced with new. Contact Structural Concepts for replacement wicking material (toll-free number is listed on last page of this operating manual).</li> </ul>
	Quarterly	<p><b>Under Case Cleaning:</b> Once refrigeration package is clear of unit, vacuum under case to remove all dust &amp; dirt that may collect under case.</p>
Case Interior	Quarterly	<p><b>Drain, Coil, Fan Blades, Motors, Brackets:</b> <i>Disconnect power from the case before cleaning the Drain, Coil, Fan Blades, Motors and Brackets!</i></p> <ul style="list-style-type: none"> <li>Remove Decking, Sub-Deck and Fan Shroud.</li> <li>Use vacuum to clean Evaporator Coils.</li> <li>Clean Tub, Coil and Drain with warm water, clean cloth, brush and mild soap solution.</li> <li>See below for specific tub flushing instructions.</li> <li>Remove any debris that may clog drain.</li> <li>Clean fan blades, motors &amp; brackets by wiping down with moist cloth.</li> </ul>
	Quarterly	<p><b>Tub:</b> <i>Disconnect power from the case before cleaning the tub!</i></p> <p>Vacuum tub under deck or flush with water if necessary. To flush out the tub, disconnect power to the case. Remove the deck and fan shroud. Direct drain to floor drain or a bucket and hose out the tub. Run hose into the drain to flush out debris.</p>
	Quarterly	<p><b>Honeycomb:</b> Remove the honeycomb. Vacuum, then clean with warm water and soap. See instructions in case operation section of this manual. See <b>MAINTENANCE FUNDAMENTALS - HONEYCOMB AIR DIFFUSER</b> section in this manual for specifics.</p>

<b>Product is Drying Out</b>	TSP*: Check the relative humidity in the store.
<b>Doors/Glass Won't Shut Properly</b>	TSP*: Confirm that the case is aligned, level and plumb.
<b>Case Not Properly Lining Up</b>	TSP*: See <b>Installation</b> section of Manual for instructions on properly aligning case and adjusting levelers (alongside other cases).
<b>System is not Operating</b>	Confirm that the utility power is on.
	Confirm that the MAIN power switch is on.
	TSP*: Check the circuit breaker box for tripped circuits.
	If cord is used, confirm that unit is properly plugged in.
<b>Condensing Unit Not Operating.</b>	Controller is in defrost mode (not an alarm). Compressor is running in a normal condition. See the Temperature Controller section of this manual.
	Check that the power is turned on.
	TSP*: Review factory time settings on the temperature controller.
<b>Case Lights Not Working</b>	Be sure <b>ALL</b> lights are plugged in or receptacles capped.
	Check bulbs for proper installation and connection.
	Check for burned out bulbs.
	Clean dirt and dust from the bulbs to prevent flickering.
	After performing all other checkpoints, if lights are still not working check for faulty ballasts; this should be performed by a certified electrician.
<b>Fans Not Working</b>	TSP*: Check that fans are plugged in at the fan shroud.
	TSP*: Check for foreign material obstructing fan performance.
<b>Not Holding Temperature</b>	The temperature will change during defrost mode but will return to normal.
	Warm product may have been added to the case. <b>Note:</b> Product must be pre-chilled to 41 °F (5 °C) or less prior to being placed in merchandiser.
	Discharge air must not be disrupted or blocked by product.
	TSP*: Check that the coil fans are working.
	TSP*: Check the evaporator coil for ice build up.
	Check that the case is not in the sun or near a heat or air-conditioning vent.
	Check that case is NOT located near outside doors. Wide temperature fluctuation can challenge case's ability to hold internal product temperatures.
	Check that the condenser coil is clean (self contained unit).

\*TSP = Trained Service Providers



CONDITION	TROUBLESHOOTING
<b>Water Is On The Floor</b>	<p><b>Caution!</b> Water on flooring can cause much damage! Until cause is determined (and repaired), following these procedures:</p> <ul style="list-style-type: none"> <li>• Use wet-dry vacuum (or mop &amp; bucket) to remove standing water.</li> <li>• Use 'catch pans' for water to drain into. Swap out regularly until case has completely drained.</li> </ul>
	TSP*: Check that the drain trap is free of debris.
	TSP*: Check that the drain hose is correctly positioned over floor drain.
	TSP*: Check store conditions. To prevent condensation in Type 1 environments, maximum conditions are to be 55% humidity / 75 °Fahrenheit. For Type 2 environments, maximum conditions are to be 60% humidity / 80 °Fahrenheit. See serial label (at case rear near main power switch) for Type of your case.
	TSP*: Check that overflow evaporator pan is plugged in and operating properly.
	<p>TSP*: Wicking material (shown below) may be dirty, worn, tattered or disintegrating.</p> <ul style="list-style-type: none"> <li>• Check if wicking material needs to be replaced with new.</li> <li>• Contact Structural Concepts Corporation for replacement wicking material (toll-free number is listed on final page of operating manual).</li> </ul>
	If unable to stop water from draining on floor, Contact Structural Concepts Technical Service. See telephone number on final page of operating manual.



\*TSP = Trained Service Providers

Wicking Material (Optional)

**TROUBLESHOOTING: CONDENSING SYSTEM (BY TRAINED SERVICE PROVIDERS ONLY)**

CONDITION	TROUBLESHOOTING
<b>Head Pressure Too High</b>	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 <b>OVERVIEW / TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING / PLUGS</b> section in this manual.
<b>Head Pressure Too Low</b>	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)

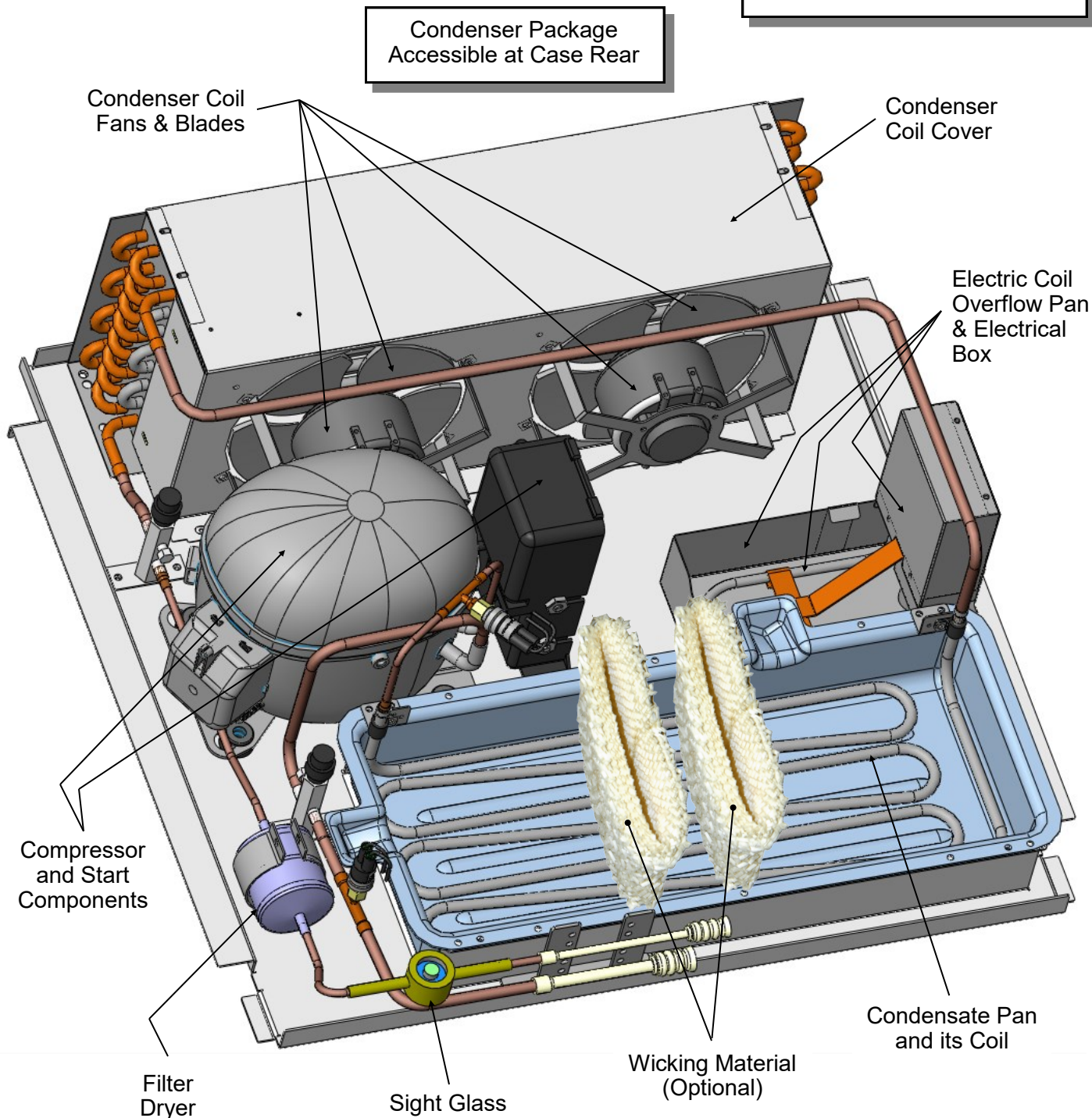
CONDITION	TROUBLESHOOTING
<b>Low Suction Pressure</b>	Check if sight glass is flashing or showing low charge.
	Check that expansion valve (TXV) isn't restricted. Check element charge.
	Check that liquid line or filter isn't restricted. Check that refrigeration lines and/or hoses are not kinked on either 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.
<b>High Suction Pressure</b>	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"> <li>a. Poor thermal contact.</li> <li>b. Warm location.</li> </ul>

## TROUBLESHOOTING: CONDENSER PACKAGE OVERVIEW

### **Condenser Package / Compressor Component Locations**

- Illustration below shows refrigeration package, compressor, condenser pan, fans, blades, etc.
- See pages that follow for troubleshooting instructions.
- Refrigeration unit pulls out from back of unit for service.
- Only refrigeration contractors are to access refrigeration package.

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





## TROUBLESHOOTING: COMPRESSOR NOT ON / NO DISPLAY ON CONTROLLER

### Troubleshooting

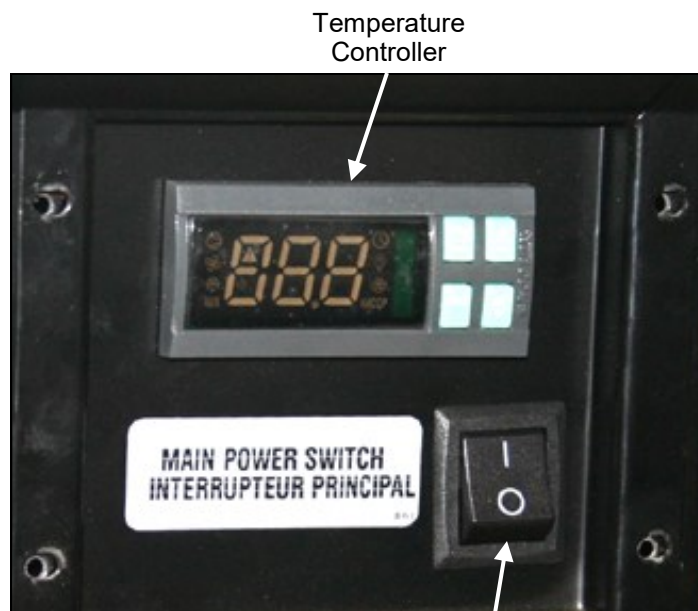
Troubleshooting Issue: Compressor will not turn on

1. Confirm that main power switch is ON (at case rear). See photo at right.
2. Check for proper voltage. Make certain wall outlet is energized and providing proper voltage (as specified on serial label).
3. Determine where power is lost (see wiring diagram in this Troubleshooting Guide).
  - A. Check for loose wires/connectors.
  - B. Check power going into temperature controller.
  - C. Check power coming from temperature controller.
  - D. Check power at contactor.
  - E. Check power at start components.
  - F. Check power at compressor.
  - G. Check continuity through pressure controls' high and low pressure.

Troubleshooting Issue: No display on controller.

Note: Settings are programmed at factory.

- No adjustments should be required.
  - Set point will be below freezing.
4. Check that power switch is turned on.
  5. Check for loose connections at the back of the temperature controller.



1 & 4. Main Power Switch

3.D. Contactor

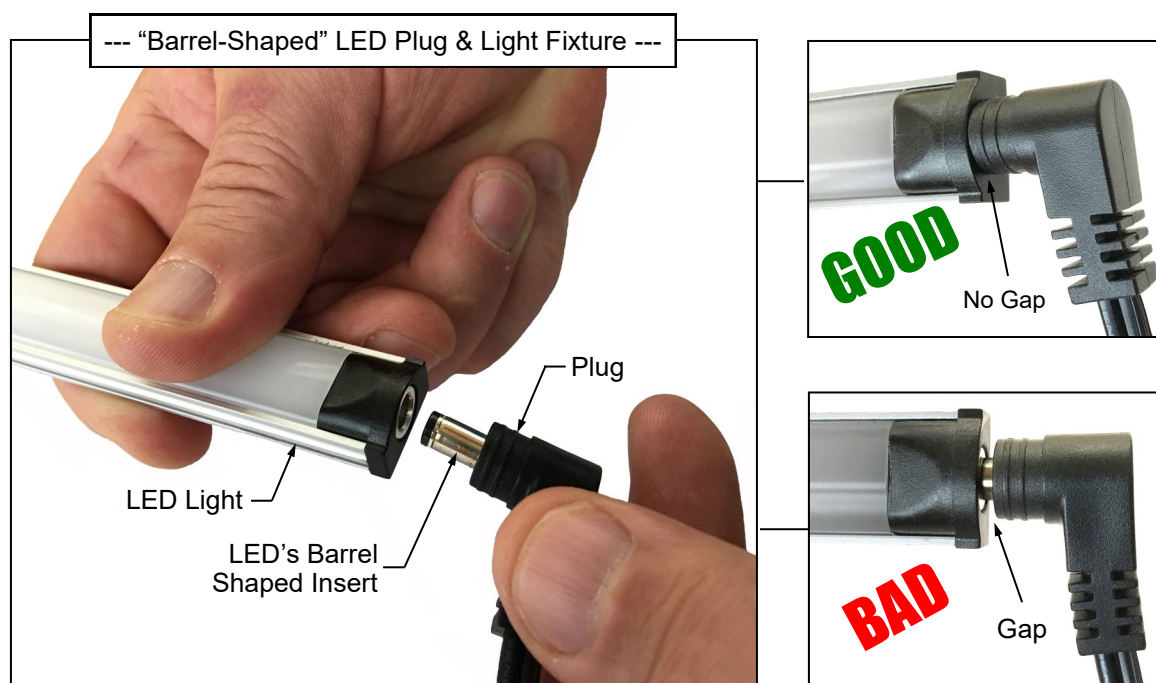


5. Temperature Controller Connectors

Top View of LED Controller  
in LED Controller Box

## TROUBLESHOOTING: LIGHTS NOT OPERATING

CONDITION	TROUBLESHOOTING
Lights Not Operating	<p>Check that light switch is in the ON position.</p> <ul style="list-style-type: none"> <li>See <b>POWER CORD &amp; PLUG / LED LIGHT SWITCH LOCATIONS / LED LIGHTS</b> section in manual for switch location (regardless of case design).</li> </ul>
	<p>If case is not hard-wired, check that power cord is properly connected to wall outlet.</p>
	<p>Check that ALL of the light plugs are properly connected to the LED light.</p> <ul style="list-style-type: none"> <li>Plug must be inserted ALL THE WAY into the LED light orifice (with no gap).</li> <li>See illustrations below.</li> </ul>
	<p>Power may not be reaching the case.</p> <ul style="list-style-type: none"> <li>Contact store management to have trained service provider perform troubleshooting.</li> </ul>
	<p>If case light still do not come on, it may need to be replaced.</p> <ul style="list-style-type: none"> <li>Contact Structural Concepts' Technical Service Department for replacement light (see <b>TECHNICAL SERVICE</b> section of this manual for contact information).</li> <li>To replace, disconnect plug from existing LED light. Disconnect LED light from its brackets. Replace with new LED light. Insert plug ALL THE WAY into LED light orifice.</li> </ul>





**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.

**Structural Concepts®**  
888 E. Porter Rd - Muskegon, MI 49441

**3048256**  
Conforms to UL Std. 471  
Conforms to NSF/ANSI Stds. 2 & 7  
CERTIFIED TO CAN/CSA  
STD C22.2 NO 120

Super Heat Temp  
Defrost

**Reveal**  
**Blend**  
**Harmony**  
**Impulse**  
**Oasis**

**Addenda**  
**Grocerant**  
**Fusion**

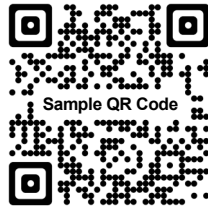
**MODEL NRS3648RXV-SAMPLE**  
**SERIAL NO. 12345X30DZ098765**

**ELECTRICAL RATING**  
**REFRIGERANT**  
**DESIGN PRESSURE**  
**MINIMUM CIRCUIT AMPACITY**  
**MAXIMUM OVERCURRENT**

120/1/60 16 A  
R513A AMOUNT 50 OZ  
HIGH 186 LOW 88  
20A  
20A

FOR PARTS AND SERVICE  
CALL 1-800-433-9490

SCAN FOR PRODUCT LITERATURE



Sample QR Code

SAMPLE ONLY

SAMPLE ONLY

SAMPLE ONLY

SAMPLE ONLY

SAMPLE ONLY

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).

--- 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**



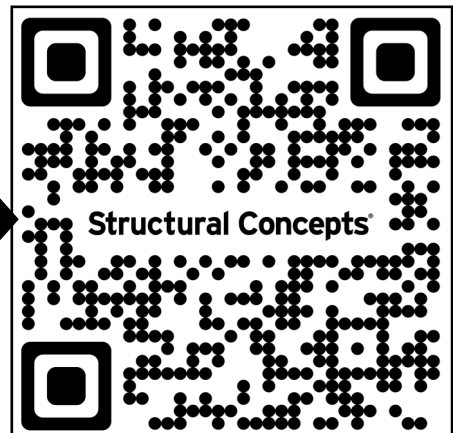
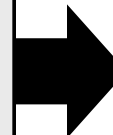
**Carel® iJF Platform**



**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.

