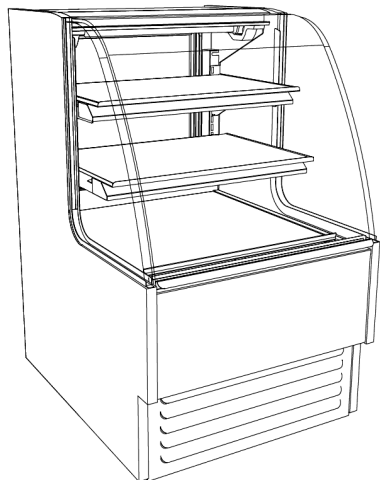


CAREFULLY FOLLOW THESE INSTRUCTIONS

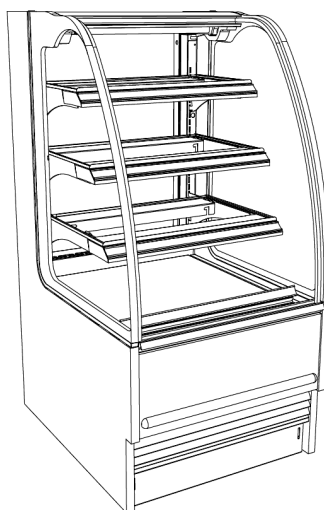
# HARMONY USER MANUAL

SCC P/N  
55009

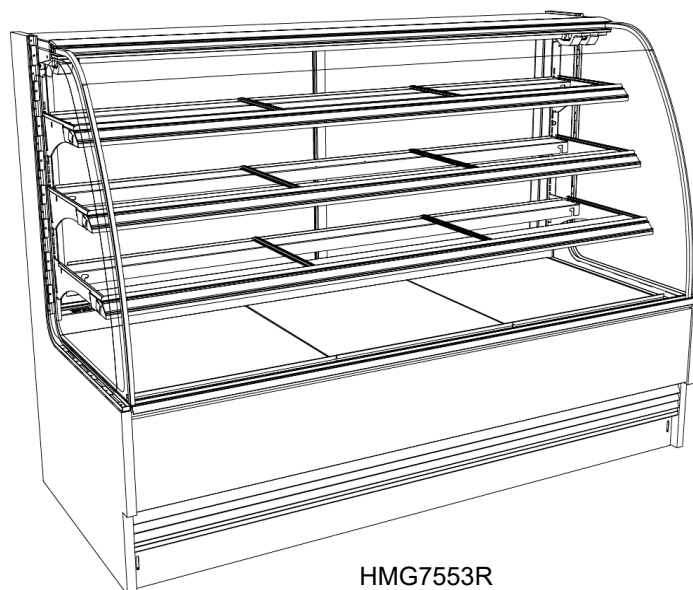
## HARMONY™ 33" and 35" DEEP REFRIGERATED SERVICE DISPLAY MERCHANDISERS



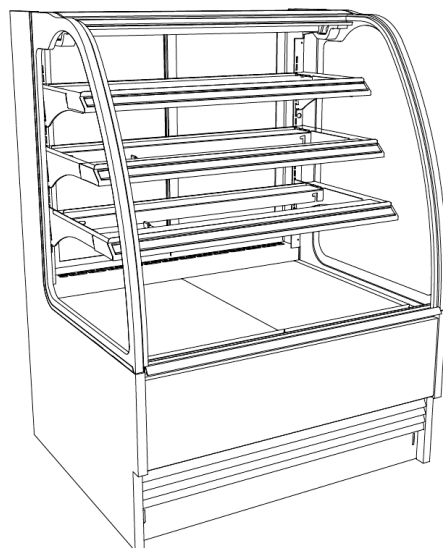
(HMG2642R.4439)  
[35" Deep Model]



HMG2653R  
[33" Deep Model]



HMG7553R  
[33" Deep Model]



HMG3953R  
[33" Deep Model]

HMG5153R  
[33" Deep Model]



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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.

**NSF/ANSI TYPE I vs. II ENVIRONMENTAL CONDITIONS**

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

- NSF/ANSI Type I Conditions: Product is displayed in store conditions with maximum ambient temperature of 75 °F (24 °C) and relative humidity of 55%.
- NSF/ANSI Type II Conditions: Product is displayed in

store conditions with maximum ambient temperature of 80 °F (27 °C) and maximum relative humidity of 55%.

- If unsure if your unit is classified as NSF/ANSI Type I or Type II, see tag next to serial label on your case.

**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.

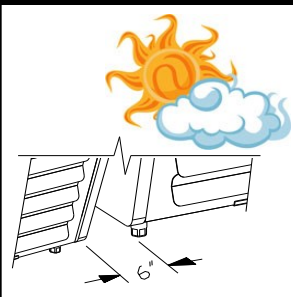
## REFRIGERANT DISCLOSURE STATEMENT

- 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

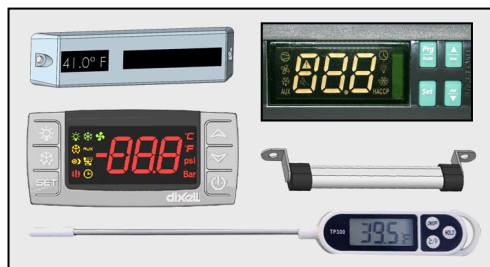


## CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

- 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.

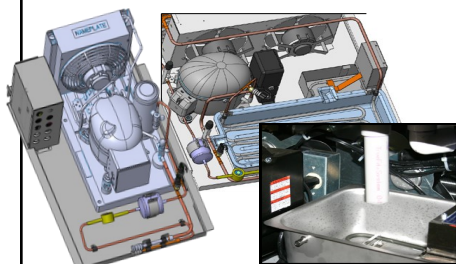


**CAUTION! POWER CORD AND PLUG MAINTENANCE**  
Risk of electric shock. If cord or plug becomes damaged, replace only with cord and plug of same type.



## 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!

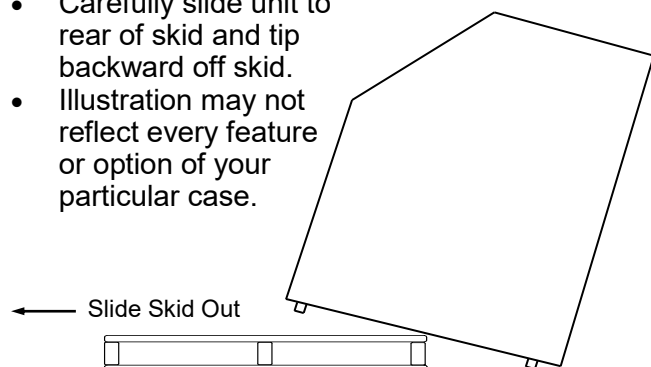
Water on flooring can cause extensive damage!

- 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.

## INSTALLATION: SKID REMOVAL, ADJUSTABLE FRONT TOE-KICK / REMOVABLE FRONT GRILLE

### 1. Remove Case From Skid (Levelers)

- Remove shipping brace that may be securing case to skid.
- Support case to prevent tipping.
- **Caution! 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.



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

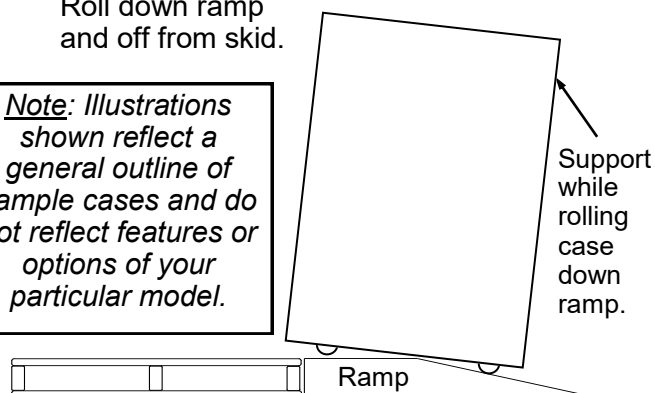
### 2. Remove Case From Skid (Casters)

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.

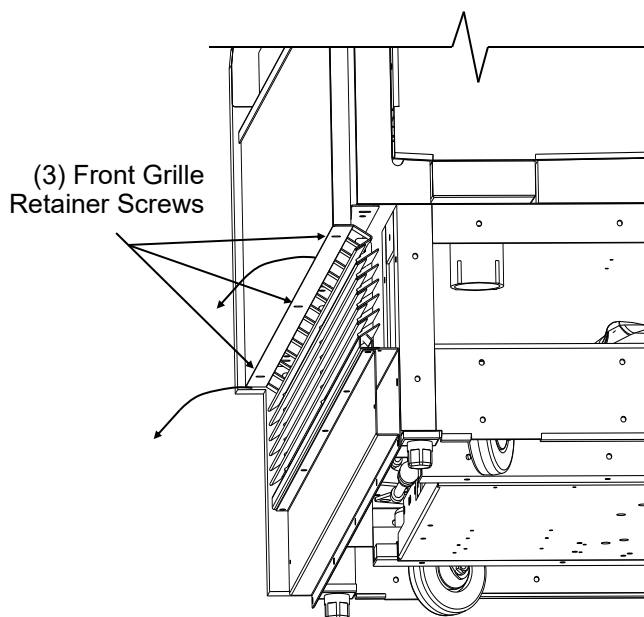
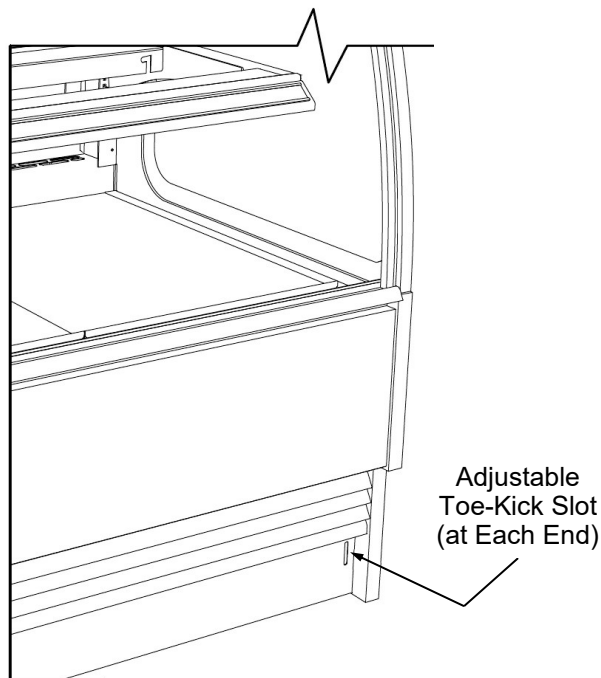
Roll down ramp and off from skid.

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



### 3. Adjustable Front Toe-Kick / Removable Front Grille

- Front toe-kick is adjustable. Simply loosen screws (one at each end) and adjust accordingly.
- To remove front grille, remove screws located at underside of front panel. This will allow access to drain line 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.
- **Note:** Illustration below may not reflect every feature or option of your particular case.



## **4. Glass Shelving**

Glass shelving 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 illustration at mid-right.

## **5. Electrical Connections**

### **Remote Units**

- Remove front or rear panel (by removing screws and lifting off case)

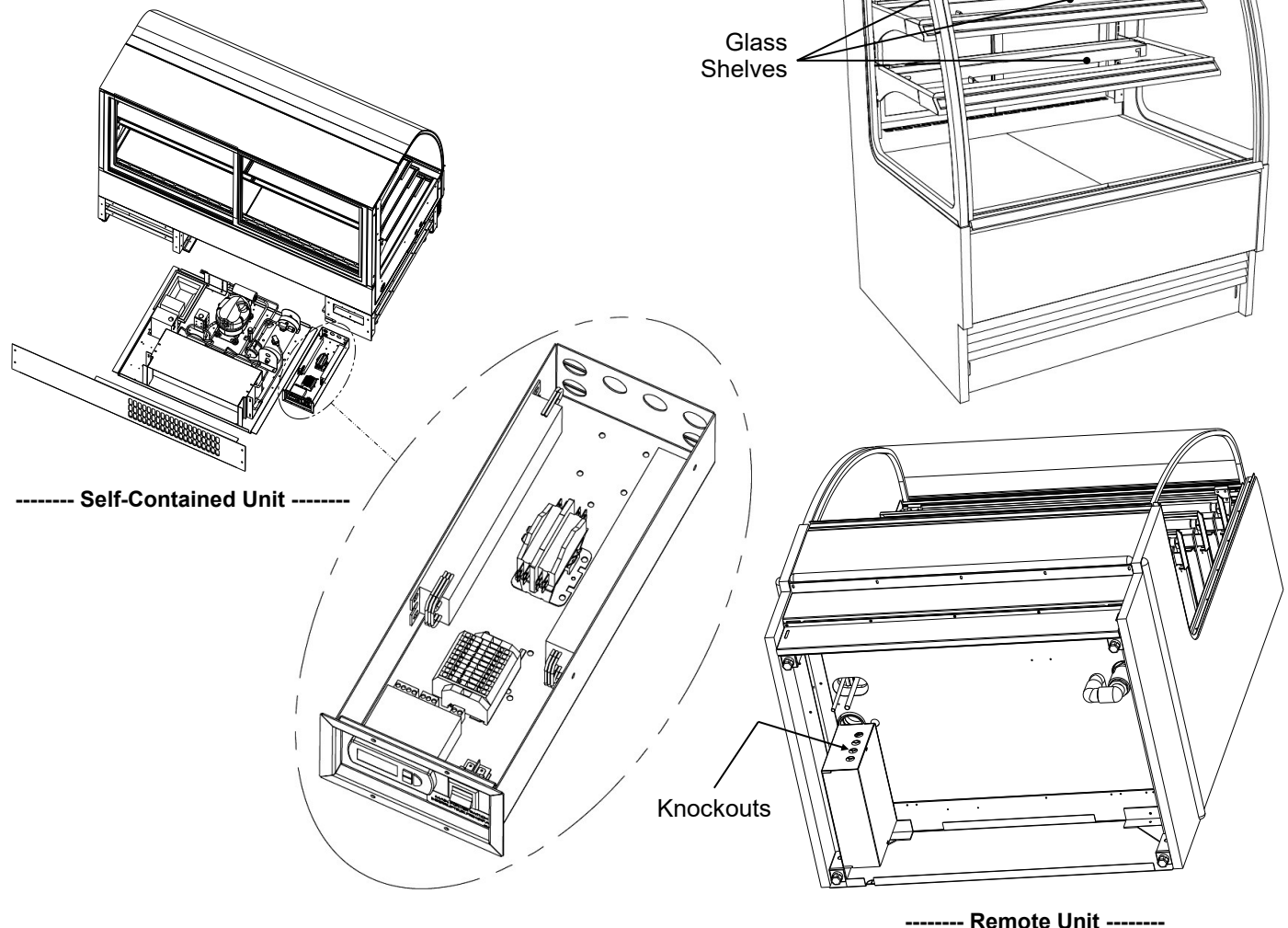
- Knockouts are located on side and rear of electrical box.
- Single phase leads are provided.
- See serial label (at case rear) for voltage rating.
- See illustration at lower-right.

### **Self-Contained Units**

Field wiring connection / junction box location is at rear-right of case.

- See illustration at below-left.
- Single phase leads are provided.
- Plug unit into wall outlet.
- See serial label (at case rear) for voltage rating.

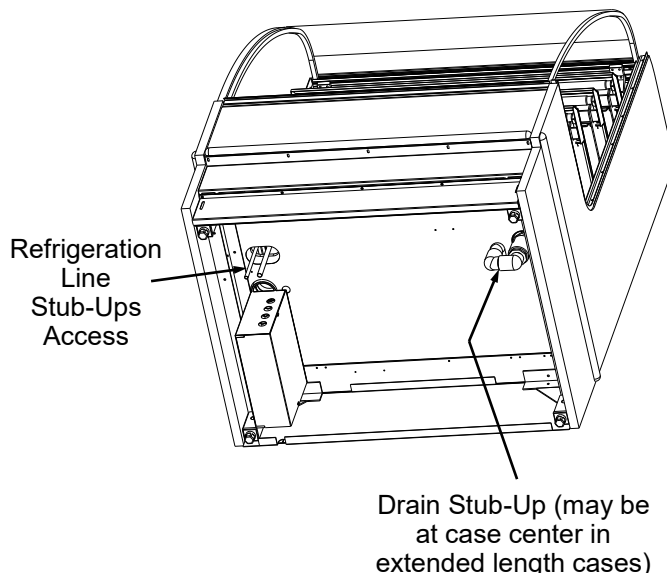
**Note:** Wiring process must be performed by certified electricians only.





## **6. 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 ABS 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.



## **7. 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.

## **8. Evaporator Pan / Drain Position** **(Self-Contained Units)**

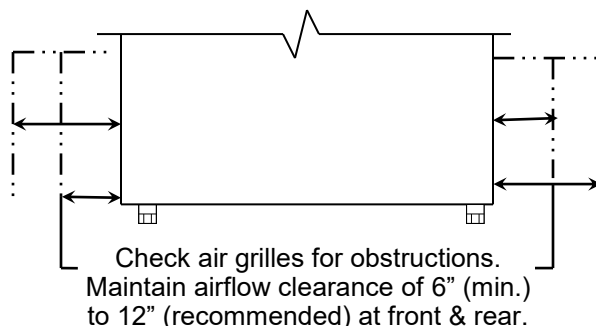
- Remove rear panel (by removing screws).
- Slide the Condenser Unit out from case.
- Condenser Unit access is now available.
- Insure that the evaporator pan is installed under the PVC condensate drain trap.
- Insure that the evaporator pan is plugged into the receptacle inside base.
- Lower rear panel back into place.
- See ***Drain, Hose and Bracket Placement*** section in Operating Manual for details.

## **9. 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.

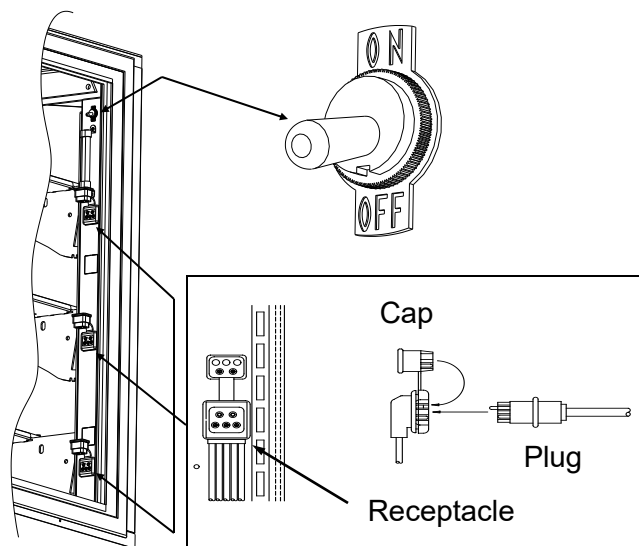
## **10. Ventilation and Clearance**

- **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.



## 11. Display Case Start-Up

- **Remote Units:** Case is hard-wired. When power is supplied, case will power-up.
- **Self-Contained:** Main Power switch on all units are located at case rear, lower right.
- **Self-Contained:** Temperature Controller is located at case rear, lower right.
- Turn on the lights. Whether Remote or Self-Contained, light switch is located on inside of case at top right, from case rear.
- All lights should come on at same time. First time lighting may require short warm up period for bulbs. Slightly dim/flickering of new bulbs is normal.
- The lighting is wired in series so **all lights must be plugged in or receptacles capped** to turn on.

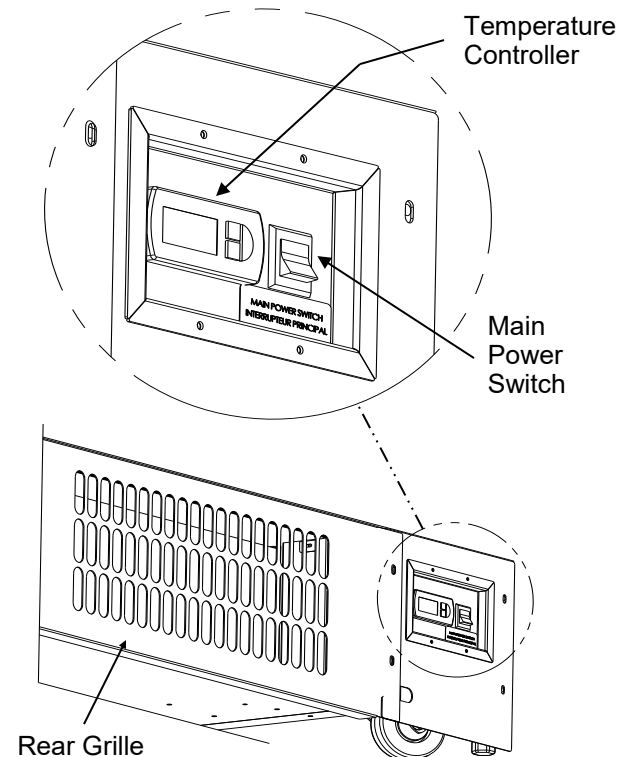


## 12. Cases With Casters: Lock and Unlock

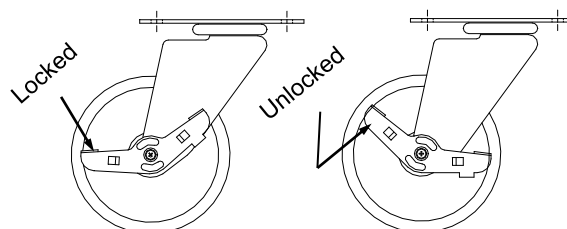
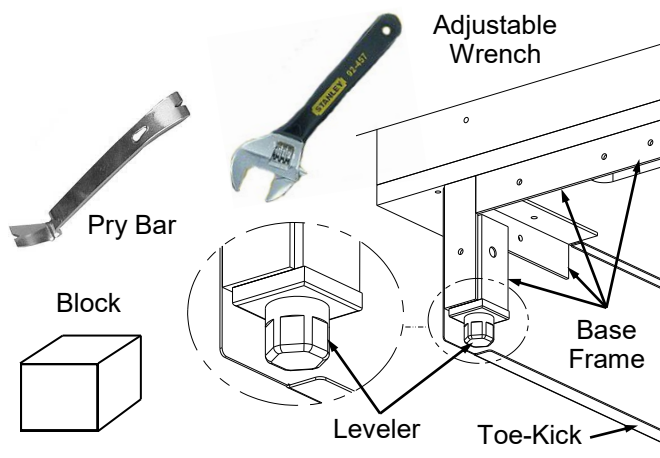
- To lock casters, press down on lever.
- To unlock casters, pull lever up.
- See illustration at lower right.

## 13. Cases With Levelers: Adjust Levelers

- After case is in 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 (and possibly a pry bar) to adjust leveler.
- Do not use pry bar on toe-kick (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.
- Use a block to reach base frames with pry bar.
- See illustrations below.



View of Case Rear, Self-Contained Unit





### **14. Programmable Controller (All Self-Contained Units and some Remote Units)**

- Check that compressor symbol light is on.
- SCC-Supplied temperature controller compressor is identified with:
- 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.
- See Programmable Controller section in User Manual for additional information.

### **15. Saturated Suction Temperature (Remote Units)**

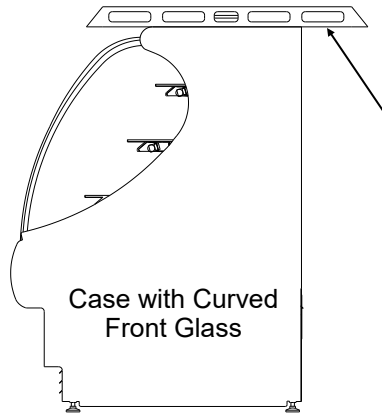
- See serial label on case for suction temperature requirements and BTU requirements.
- See serial label on case for defrost schedule and temperature termination parameters.

## INSTALLATION: FRONT GLASS ALIGNMENT & ADJUSTMENT

### 16. Front Glass Alignment & Adjustment via Levelers

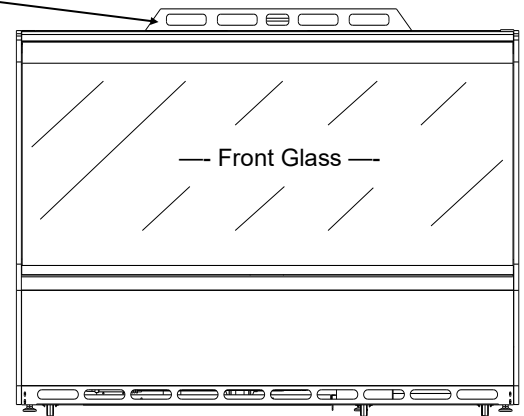
- Proper alignment of the front glass is important to create and maintain a seal inside the case.
- Improper alignment can cause air leaks compromising the environment inside the case and create condensation.
- Follow the five steps listed below to assure proper front glass alignment.

1. **Side-to-Side Leveling:** Place level on top of display case (parallel to the front glass). Raise or lower either side of the case by rotating levelers to center the level bubble (following steps 3 and 4 below).



2. **Front-to-Back Leveling:**

- Place a level on top of case, perpendicular to front glass.
- Raise or lower either side of case by rotating levelers to center the level bubble (follow steps 3 and 4).
- Double-check the side-to-side level.

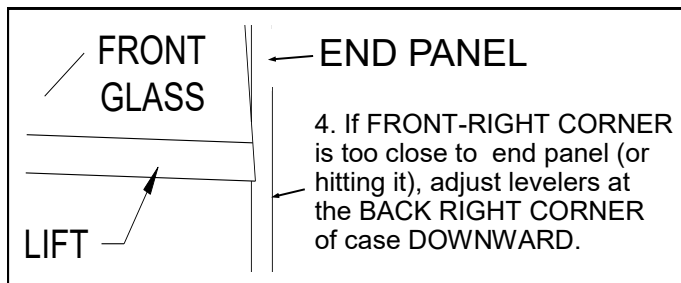


END PANEL

3. If FRONT-LEFT CORNER is too close to end panel (or hitting it), adjust levelers at the BACK LEFT CORNER of case DOWNWARD.

FRONT GLASS

LIFT



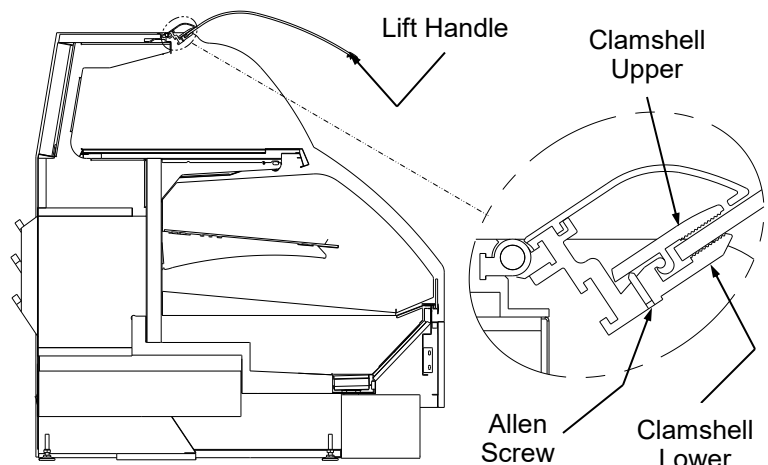
4. If FRONT-RIGHT CORNER is too close to end panel (or hitting it), adjust levelers at the BACK RIGHT CORNER of case DOWNWARD.

5. **Verification:**

- After adjusting the levelers, open and shut the front glass.
- Verify again that front glass is properly aligned at both left-hand and right-hand side of case.
- If not, repeat the above procedure until front glass is properly aligned along both sides of case.

### 17. Front Glass Alignment & Adjustment via Clamshell Allen Screw Adjustment

- Make certain case is level and plumb.
- Lift glass to maximum upright position.
- Determine which side requires realignment.
- While maintaining grip on glass, loosen the Allen screws nearest to misaligned side.
- Adjust the glass until properly positioned.
- Allen screws may now be tightened (taunt, but not overly tightened lest glass breakage occur).
- If other side needs alignment, repeat steps while maintaining grip on glass.
- Illustrations at right may not exactly reflect every feature or option of your particular case.



## RAISING THE CURVED GLASS / OPENING REAR DOOR / REMOVING REAR DOORS

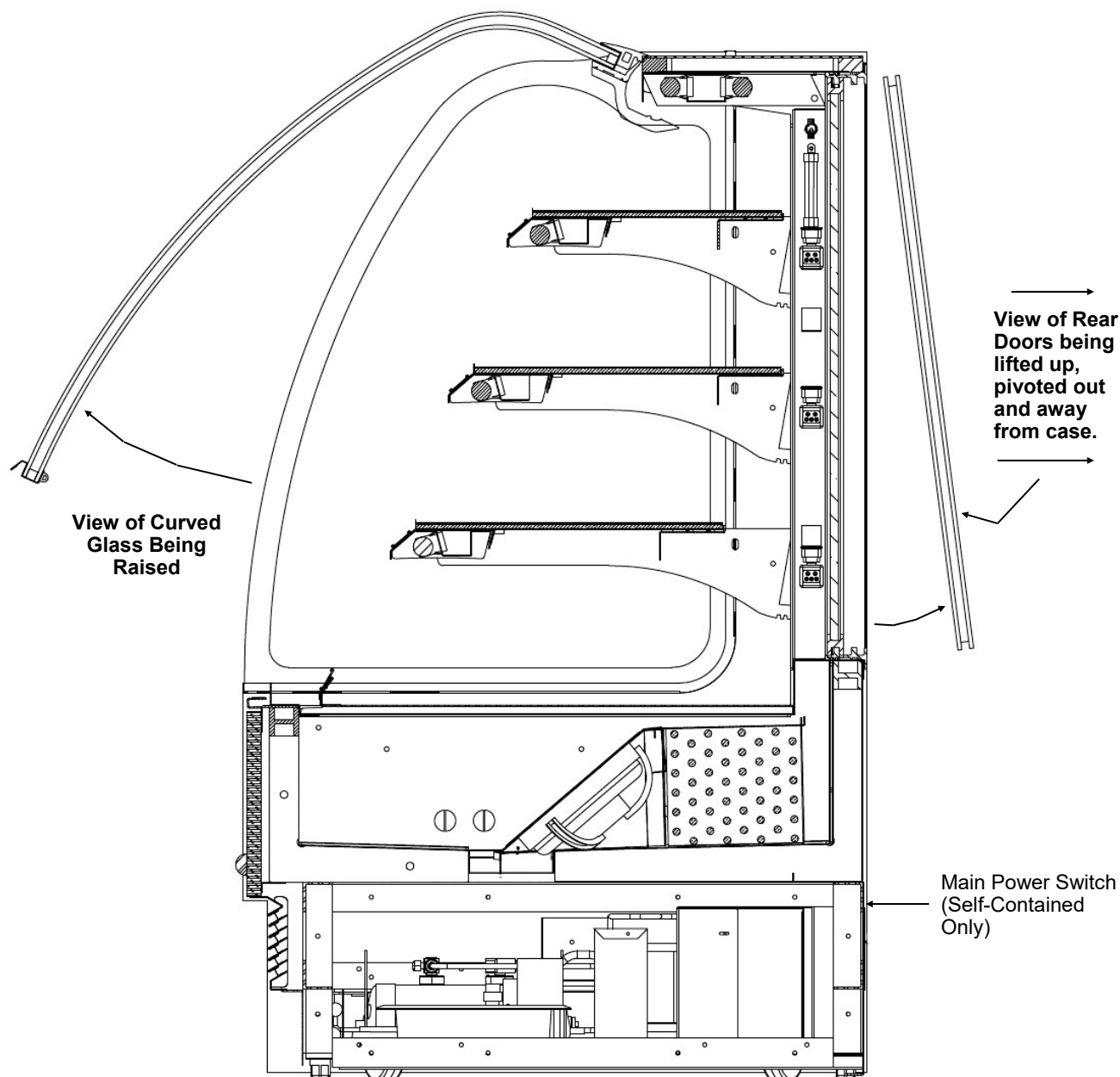
### Raise the Curved Glass

- To raise the curved glass, secure lift handle extrusion on the bottom edge of the door and lift up.
- **Caution:** Gently return curved glass to original position.
- See illustration below.

### Opening Rear Door / Removing Rear Doors

- 26" Models have swinging clear glass door that opens with either left hand (standard) or right hand hinge (optional).

- All other models have removable rear doors (see illustration below).
- Move rear doors toward the center of case.
- Individually lift each door up toward the top of case and pivot bottom of the door out.
- **Caution:** Gently set doors down to avoid marring, scraping, scratching or breakage.



## DRAIN, HOSE AND BRACKET PLACEMENT ILLUSTRATIONS

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

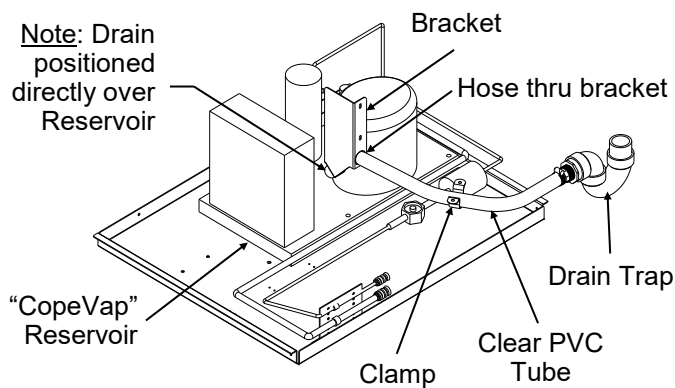
### Three Evaporator Systems Are Illustrated Below:

**Illustration #1:** Hot Gas "CopeVap" Evaporator System. "Copevap" is built into Compressor Unit.

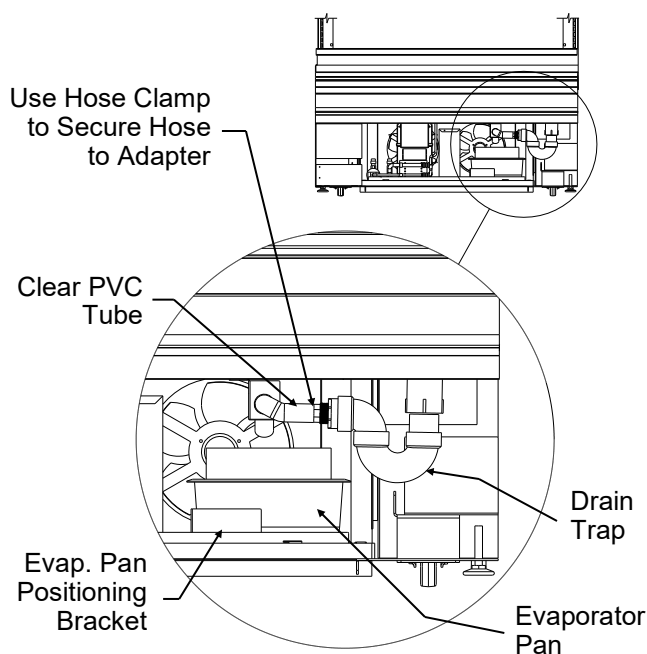
**Illustration #2:** Hot Gas Evaporator System.

**Illustration 3A/3B:** Electrical Heat Rod Evaporator System. **Note:** Separate Evaporator Pan.

**Warning!** Regardless of Evaporator, the Hose and Drain Trap **MUST BE** secured and positioned over Evaporator Pan to prevent water seepage / spillage. When sliding out Condenser Unit, be careful that drain is not pulled from proper position.



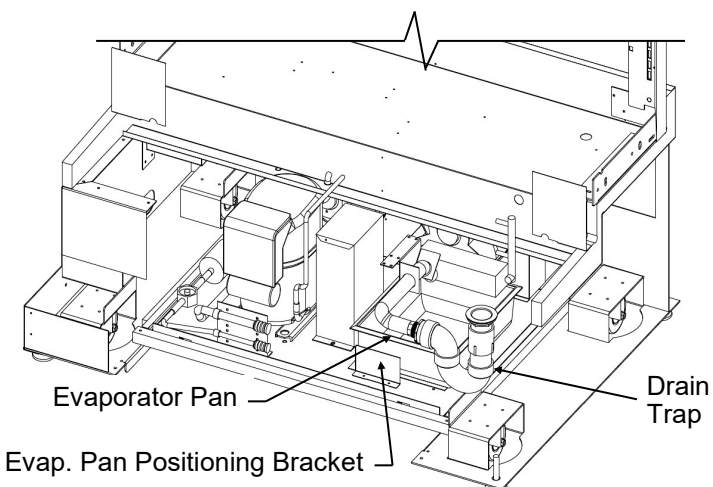
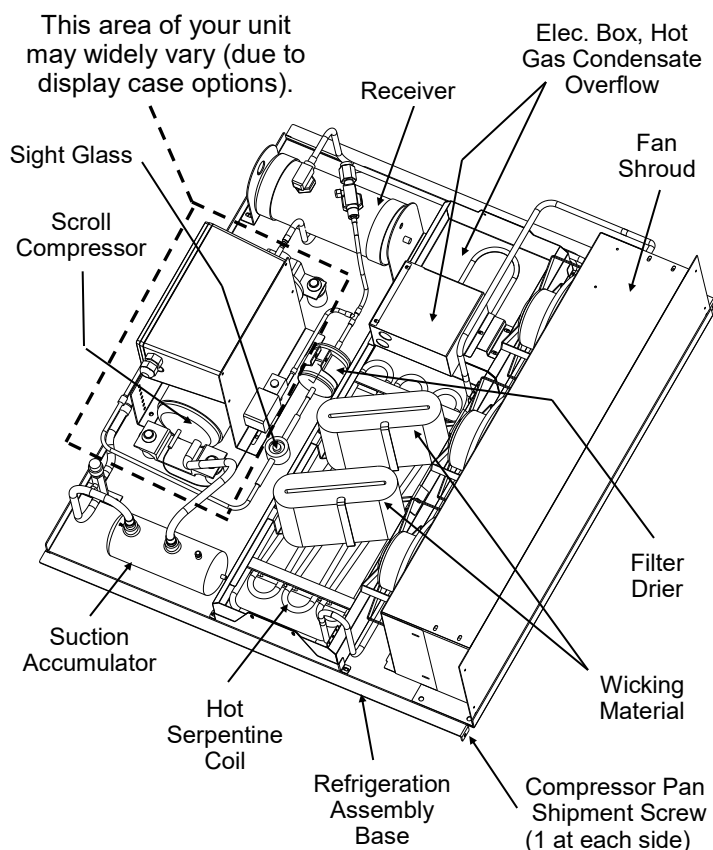
1. Hot Gas "CopeVap" Evaporator System.



3A. Front View of Electrical Heat Rod Evaporator System

### 2. Hot Gas Evaporator System.

- Hot gas serpentine coil is routed through a condensate reservoir allowing water to be heated. This system uses a wicking material (partially submersed) with warm condenser air passing through it for evaporation.
- Also incorporates an overflow reservoir with heating element to ensure complete condensate removal.



3B. Isometric View of Electrical Heat Rod Evaporator System

## CLEANING SCHEDULE - TO BE PERFORMED BY STORE PERSONNEL

AREA	FREQ.	INSTRUCTIONS
Exterior	Daily	<b><u>All Glass / Mirrors</u></b> : Clean side glass, front glass, glass shelves, and mirrors with household or commercial glass cleaner. Clean out door track with moist cloth.
	Daily	<b><u>Rear Sliding Door Exterior Glass</u></b> : Clean with household or commercial glass cleaner.
	Daily	<b><u>End Panels, Front Panel, Toe-Kick, etc.</u></b> : Wipe off all surfaces with warm water and mild soap solution and non-abrasive cloth.
	Weekly	<b><u>Wood, Laminate and Painted Surfaces</u></b> : Clean with mild soap and water solution and a soft cloth .
	Weekly	<b><u>Acrylic</u></b> : Clean with warm water, mild soap solution and soft cloth; acrylic cleaning solutions are also available. Caution! Never use ammonia-based cleaners on acrylic. Incorrect cleaning agents or abrasive cleaning cloths cause surface to 'cloud' over time.
	Weekly	<b><u>Air Filter (with Magnetic Strips) on Rear Grille</u></b> : Remove air filter. Rinse with hot water against air flow direction. Use mild detergent to remove smoke and grease stains.
	Monthly	<b><u>Condensing Coil</u></b> : Remove rear grille. Vacuum or brush grille area on back of case; clean dust and dirt collecting on condenser coil. Avoid damaging fins.
	Monthly	<b><u>Under Case Cleaning</u></b> : Remove front toe-kick (or rear grille). Vacuum under case to remove all dust and dirt. Replace front toe-kick (or rear grille) when complete.
Interior	Weekly	<b><u>Decks</u></b> : Wipe off decks with moist cloth dipped in mild soap and water solution.
	Monthly	<b><u>Tub and Drain</u></b> : Keep clean and free of debris which could clog tub and drain. To access drain area, remove the deck and fan shroud. <ul style="list-style-type: none"> <li>• Vacuum tub under deck.</li> <li>• Direct the drain to a floor drain or a bucket.</li> <li>• Run hose into drain to flush out debris. Carefully hose out the tub.</li> <li>• <b>Caution! Avoid splattering water over the case and surrounding areas!</b></li> </ul>
	Monthly	<b><u>Air Return Grille and Fan Shroud Area</u></b> : 1) Turn off power. 2) Remove decks from case. 3) Clean with moist cloth.

## 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.

### 1. Fluorescent Style Light Fixtures

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 top-right.

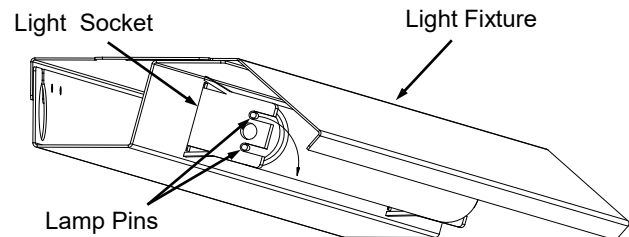
### 2. LED Style Light Fixtures

**Removal of faulty LED light:**

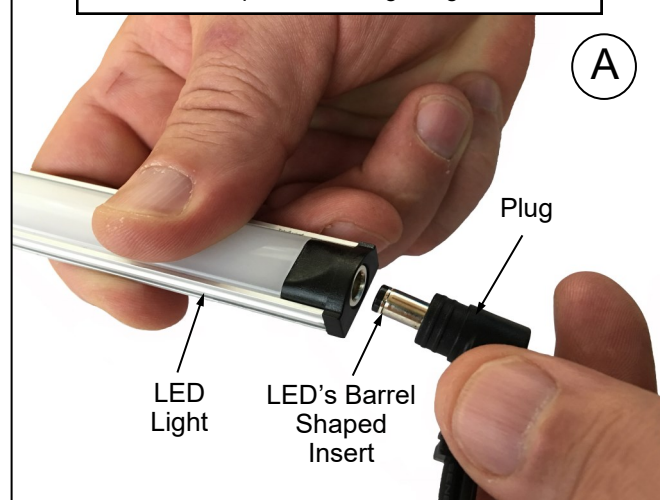
- LED lights rarely require change-out.
- To remove faulty LED light, simply grasp light near retaining spring and carefully pull away from its spring. Disconnect plug from socket.
- Contact Structural Concepts' Technical Service Department for replacement parts (see Technical Service section of this manual for information).

**Replacement of LED light:**

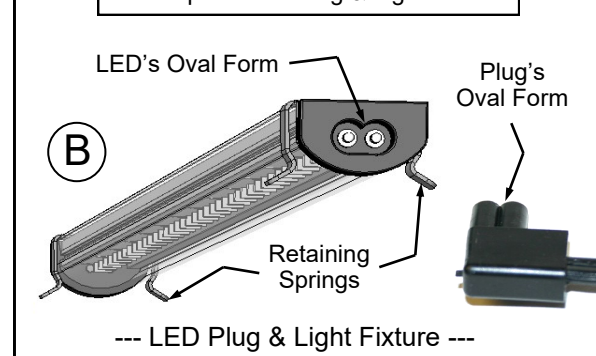
- To replace LED light fixture, simply insert new LED light at proper position (socket must be near plug). Carefully snap into metal springs so LEDs are held firmly in place.
- **Note:** LED light and plug must be connected in a specific manner or they will not work.
- A. Certain plug designs ("barrel type") merely require that plug be pushed all the way in.
- B. Other plugs require "oval edge" of plug to connect to oval edge of LED light.
- See illustrations below.



"Barrel-Shaped" LED Plug & Light Fixture



"B-Shaped" LED Plug & Light Fixture





## Refrigeration Package Access

**Note:** Servicing to be accomplished by licensed electrical / refrigeration contractor.

### Air Filter

- Magnetic strips attached to the filter adhere the filter to the rear grille.
- Clean the nylon mesh filter by rinsing thoroughly with water against the air flow direction.
- Mild detergent removes smoke & grease stains.
- See illustration at top-right.

### Pull Out Refrigeration Package

- Remove the rear grille. Grille may be slid upward and out or removal of two screws may be required.
- **Note:** At initial slide-out, it may be necessary to remove Compressor Pan Shipment Screws (see illustration at right for location).
- Refrigerant lines are flexible to facilitate rear access maintenance.
- Plastic glides are mounted at base to assist in sliding the condenser out for access.
- Service connections are at the left of compressor.
- Slide condenser unit out 12 to 18 inches to access high pressure service connection.

### Temperature Controller (Self-Contained Units)

- Temperature Controller is located in the Ballast Box.
- Temperature / Defrost control settings are programmable from these locations.
- Case Temperature Set Point is set at the factory, as determined by case size & sensor probe location.
- Temperature is controlled by thermostat.
- If a temperature setting change is required, follow instructions regarding Temperature Control Programming Steps in the technical information section of this operating manual.
- If service is required to the temperature control unit, call Structural Concepts Corporation. Maintenance should be performed by a certified technician.
- The toll-free number is listed in the Technical Service section of this manual.
- See Temperature Controller section in this manual.

**NOTE:** Spirit-filled thermometers located in the refrigerated compartment are for monitoring warmest air temperature in accordance with NSF Std. 7

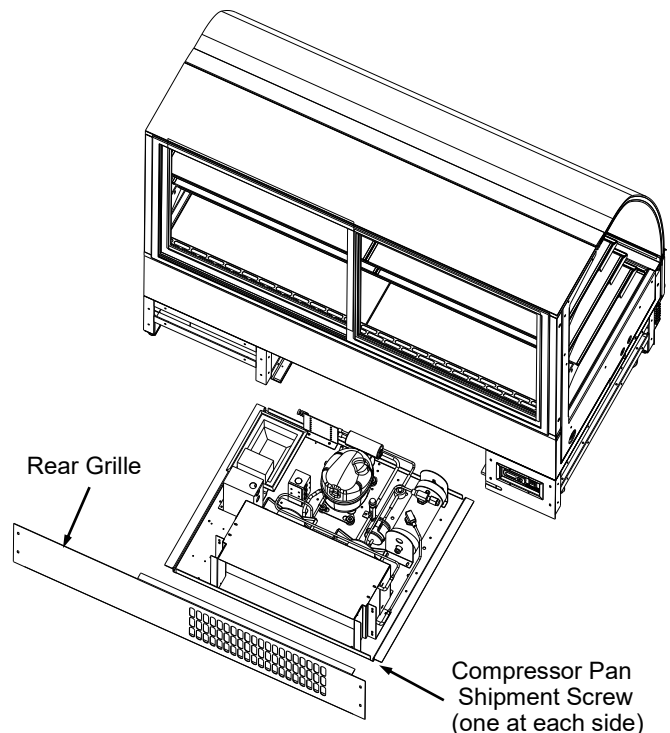
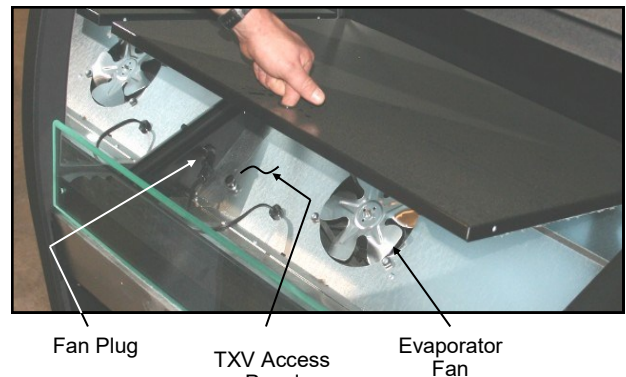
### Evaporator Pan Access / Removal

- Turn off main power; allow evaporator pan to cool.
- Lift Rear Grille up and off (no tools required).
- **WARNING! Evaporator Pan May Be Hot!** Check temperature of pan prior to handling.
- Withdraw evaporator pan from the right side behind electrical box.

- Unplug evaporator pan from the electric outlet.
- Empty evaporator pan contents into suitable container. Replace rear panel when completed.

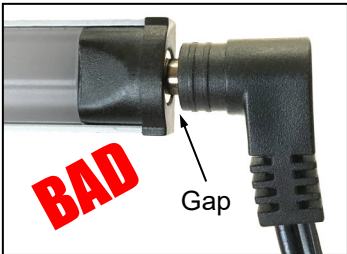

### Drain and Expansion Valve Access

- The drain and 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 expansion valve (TXV) are directly below the access panel.
- See illustration immediately below.



CONDITION	TROUBLESHOOTING
<b>Case Not Lining Up</b>	See Installation Section for instructions on properly aligning case (alongside other cases) and adjusting levelers.
<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> <p><b>Note:</b> See <i>Drain, Hose and Bracket Placement Illustrations</i> sheet in this manual for views of different evaporator systems used in display cases.</p>
	Check that the drain trap is free of debris.
	Check that the drain hose is correctly positioned over evaporator pan (or floor drain, for remote units).
	<p>Check store conditions.</p> <ul style="list-style-type: none"> <li>• To prevent condensation in NSF/ANSI Type I environments, maximum conditions are to be 55% relative humidity / 75° Fahrenheit.</li> <li>• For NSF/ANSI Type II environments, maximum conditions are to be 55% relative humidity / 80° Fahrenheit.</li> <li>• If you are unsure if your unit is classified as NSF/ANSI Type I or Type II, see tag next to serial label on your case.</li> </ul>
	Check evaporator pan float for proper operation (Heat Rod Evaporator System only).
	Check that evaporator pan is plugged in.
	<p><b>Caution!</b> Evaporator pan may be malfunctioning (electrical heat rod evaporator system). If so, water will overflow pan and seep onto flooring causing damage! Until evaporator pan is functioning (or is replaced), 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>
	<p><b>Caution!</b> Disruption of power can cause water to overflow pan and seep onto flooring causing damage! Check that power to case is constant. Until power is restored, 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 drainage. Swap out regularly until evaporation of case is complete (or until power is restored).</li> </ul> <p>When power to case is restored, evaporator pan should function properly and water will no longer overflow onto flooring.</p>
	<p>Wicking material may be dirty or worn and need replacement (hot gas evaporator system).</p> <ul style="list-style-type: none"> <li>• Slide refrigeration system out from under unit.</li> <li>• 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.</li> </ul>

CONDITION	TROUBLESHOOTING
<b>Fan Emits Excessive Noise</b>	Check that the case is aligned, level and plumb.
	Check evaporator fan for cleanliness.
	Unplug fan motors; check motor shaft for excessive 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.
<b>Fans Are Not Working</b>	Check that the MAIN power switch (if present) is on.
	Check that fans are plugged in to 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.
<b>System Is Not Operating</b>	Check that the utility power is on.
	Check the circuit breaker box for tripped circuits.
<b>Case Is Not Holding Temperature</b>	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. Product should be pre-chilled before placing in display case.
	Check programmable controller section in this manual.
	Check that the case is not in the sun or near a heat or air conditioning vent.
	If case is located near outside doors, temperature fluctuation can hinder unit's ability to maintain temperature.
	Check air grilles for obstructions. Maintain airflow clearance of 6" (minimum) to 12" (recommended) at case front and rear.
	Check sight glass for flashing and/or low charge.
	Check Set Point Temperature; it may be adjusted too high.

CONDITION	TROUBLESHOOTING
<b>Case Lights Are Not Working</b>	Check that Light switch is in the <b>ON</b> position (self-contained cases only). Remote case lights come on at start-up.
	Check for burned out bulbs. Turn lights off & replace.
	Clean dirt and dust from the bulbs to prevent flickering.
	<u>Electricians Only</u> : Check to insure voltage at ballasts. If voltage is entering but not exiting the ballast, ballast is faulty.
	<u>LED Lights</u> : Check that <b>ALL</b> lights are plugged in and receptacles capped as shown in illustration below. <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
	See <b>MAINTENANCE FUNDAMENTALS - LED LIGHT FIXTURES</b> section in this manual for illustrations.
<b>Control Display Is Flashing</b>	Check Temperature Controller section in this manual.
<b>Condensing Unit Is Not Operating (Self-Contained Units Only)</b>	Check Temperature Controller section in this manual.
	Check that the power is turned on.
	Review Temperature Controller's Settings for accuracy.

## 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 recirculating.
	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>



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

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

PREVENTIVE MAINTENANCE	FREQUENCY	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>Caution! Coil fins are sharp. Handle with care!</b></li> <li>Replace Rear Grille to case (4 screws).</li> </ul>
	Quarterly	<p><b><u>Evaporator Pan:</u></b> <i>Caution! Disconnect from receptacle box.</i></p> <ul style="list-style-type: none"> <li>Remove mounting screws from base.</li> <li>Use de-scaling solution (such as CLR® that will prevent corrosion, lime and rust) to clean pan.</li> <li>Rinse thoroughly; do not submerge in water.</li> <li>Reattach pan to case with same mounting screws.</li> <li>Reconnect power cord to receptacle box.</li> </ul>
	Quarterly	<p><b><u>Compressor Area:</u></b> <i>Caution! Be certain to disconnect power from case before cleaning Compressor Area!</i></p> <ul style="list-style-type: none"> <li>Slide/Roll compressor package out from under case.</li> <li>Use moist cloth to wipe off dust &amp; debris that collects on various parts.</li> <li>Slide/Roll compressor package back under case.</li> </ul>
	Quarterly	<p><b><u>Under Case Cleaning:</u></b> Once refrigeration package is clear of unit, vacuum under case to remove all dust and dirt that may collect under case.</p>
Case Interior	Quarterly	<p><b><u>Tub, Coil, Drain, Fan Blades, Motors, Brackets:</u></b></p> <p><i>Disconnect power from the case before cleaning the tub, coil, fan, motor and drain area!</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>Remove any debris that may clog drain.</li> <li>Clean Fan Blades, Motors and Brackets by wiping down with moist cloth.</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 is shown. A variety of models is displayed on serial label for illustration purposes only. Your case's serial label will reflect only one model.
- 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

**Fusion**  
**Blend**  
**Addenda**  
**Harmony**  
**Grocerant**  
**Impulse**  
**Oasis**  
**Reveal**

MODEL NRS3648RXV-SAMPLE  
SERIAL NO. 12345X30DZ098765

  
 Intertek

  
 Intertek

**SAMPLE ONLY**

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

6-8 °F  
6 defrosts per day, 45 °F

**SAMPLE ONLY**

ELECTRICAL RATING  
REFRIGERANT  
DESIGN PRESSURE  
MINIMUM CIRCUIT AMPACITY  
MAXIMUM OVERCURRENT

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

**SAMPLE ONLY**

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


**SAMPLE ONLY**

**SAMPLE ONLY**

**SAMPLE ONLY**

**SAMPLE ONLY**

SCAN FOR PRODUCT LITERATURE



Sample QR Code

--- 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**



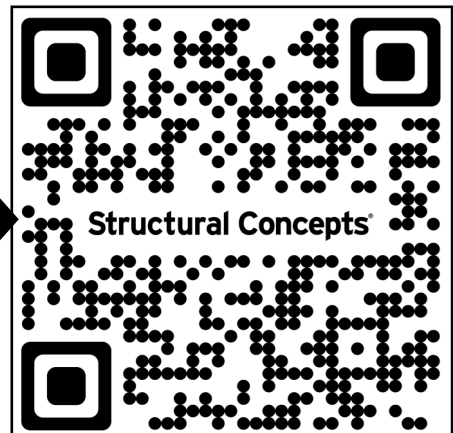
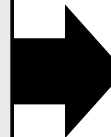
**Carel® iJF Platform**



**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 AM to 8:00 PM 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.

