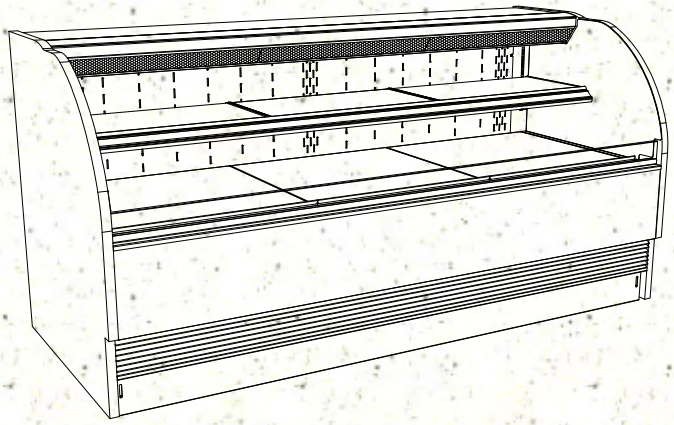
READ AND SAVE THESE INSTRUCTIONS

Harmony™

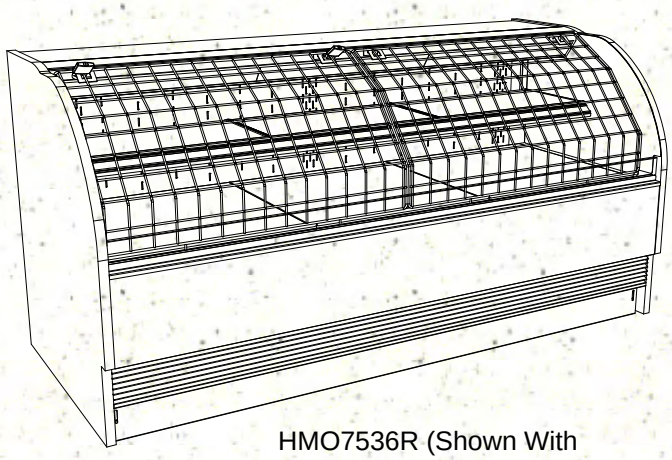
INSTALLATION AND OPERATING MANUAL

PN 54190

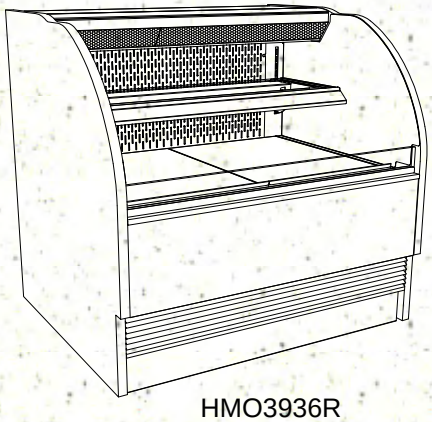
SELF-SERVICE REFRIGERATED BAKERY MERCHANDISER



HMO7536R

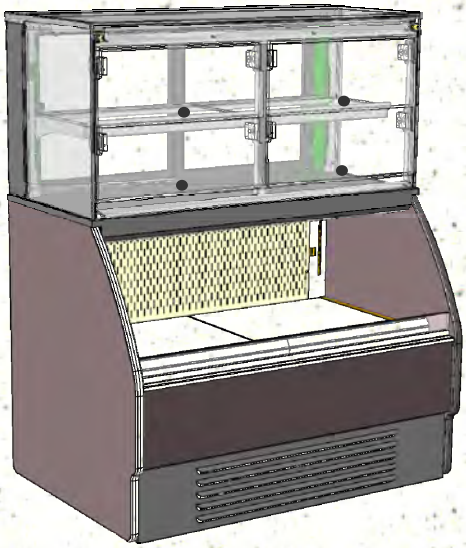


HMO7536R (Shown With Optional Security Grid)

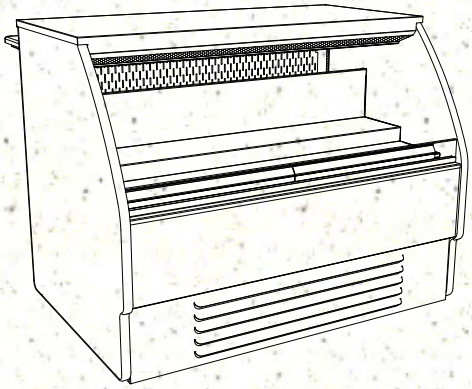


HMO3936R

HMO4836R.5936 (With Ambient Upper Glass Enclosure) / Product Shown For Illustrative Purposes Only



HMO5136R.7121 (Similar To HMO3936R.7121) With Ambient Upper Glass Enclosure & Acrylic Bins



HMO5136R.4716 (With Steps)

Models To Which This Manual Is Applicable*

HMO3936R, HMO3936R.7121, HMO4836R.5936 / HMO5136R.4716, HMO5136R.7121, HMO7236R.4716A and HMO7536R

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

Structural Concepts 888 E. Porter Road · Muskegon, MI 49441 Phone: 231.798.8888 Fax: 231.798.4960 www.structuralconcepts.com

TABLE OF CONTENTS

OVERVIEW

- These Structural Concepts merchandisers are designed to merchandise packaged products at 41 °F (5 °C) or less product temperatures.
- Product must be pre-chilled to 41 °F (5 °C) or less prior to being placed in merchandiser.
- Temperature on control display will read below freezing. This is normal and does not reflect your product temperature.
- Units are set up to defrost every 4 hours. It is normal to see brief temperature spikes into the 50 °F range at this time. Product will remain cold during the short time it takes for the unit to defrost.
- Evaporator fans run constantly as a part of the defrost process.
- A/C adjustments at night will cause condensation issues on refrigerated display units.
- Cases should be installed and operated according to this operating manual's instructions to insure proper performance. Improper use will void warranty.

CASE TYPE

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

- For Type 1 Conditions (these cases) ambient conditions are to be at 55% maximum humidity and maximum temperatures of 75 °F (24 °C).

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

PRECAUTIONS, CORD/PLUG MAINTENANCE & WIRING DIAGRAM INFORMATION

- See next page for ***PRECAUTIONS, CORD/PLUG MAINTENANCE*** and ***WIRING DIAGRAM*** information.

COMPLIANCE

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

WARNING

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

WARNING

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

WARNING

Condenser Pan is Hot!
Disconnect and allow to cool before cleaning or removing from case.

PRECAUTIONS

- This sheet contains important precautions to prevent damage to unit or merchandise.
- Please read carefully!
- See previous page for specifics on ***OVERVIEW, TYPE, COMPLIANCE*** and ***WARNINGS***.

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 ballast box, field wiring box, raceway cover, or other related location.

CAUTION! LAMP REPLACEMENT GUIDELINES

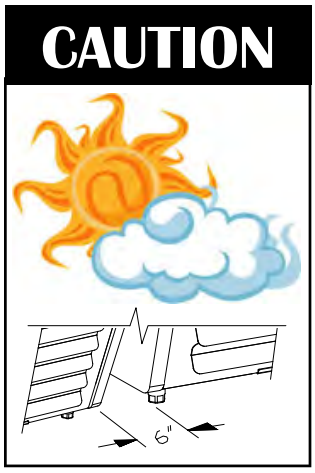
LED lamps reflect specific size, shape and overall design.
Any replacements must meet factory specifications.

CAUTION! GFCI BREAKER USE 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

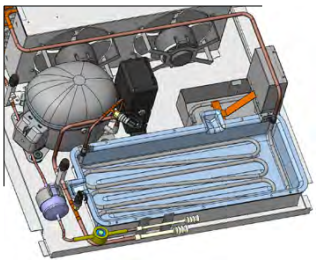
CAUTION! POWER CORD AND PLUG MAINTENANCE

Risk of electric shock. If cord or plug becomes damaged, replace only with cord and plug of same type.



CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

- **Performance issues caused by adverse conditions are NOT warranted.**
- **End panels must be tightly joined or kept at least 6-inches away from any structure to prevent condensation.**
- **Unit must be kept at least 15-feet from exterior doors, overhead HVAC vents or any air curtain disruption to maintain proper temperatures.**
- **Unit must not be exposed to direct sunlight or any heat source (ovens, fryers, etc.).**
- **Tile floors, low ceilings or small rooms increase noise level. Whisper Cool compressor blankets or remote units resolve noise level issues.**
- **Keep at least 8-inch clearance above unit for air discharge (self-contained units only).**



CAUTION! CHECK BOTH CONDENSER PAN AND OVERFLOW PAN

Water on flooring can cause extensive damage!

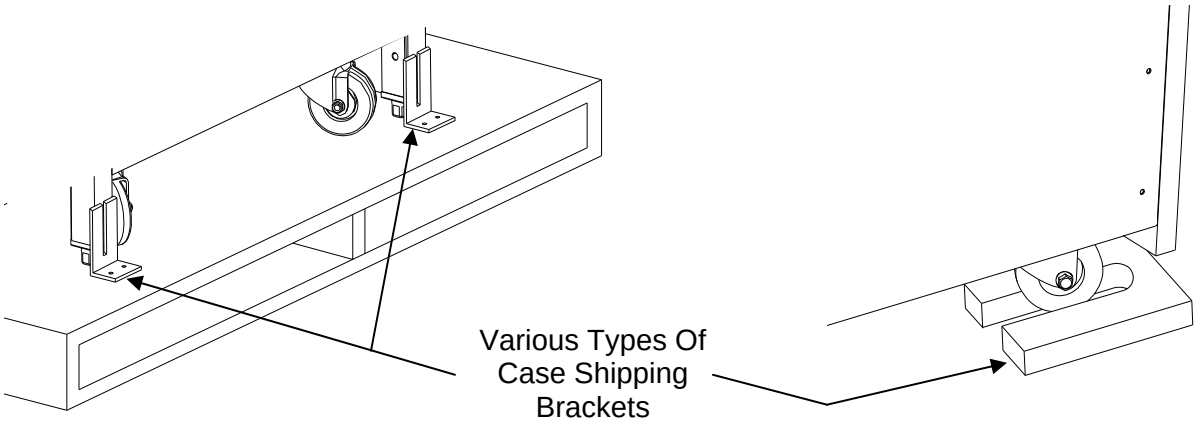
Before powering up unit, check the following:

- **Condenser pan MUST BE positioned directly under condensate drain.**
- **Electric coil overflow pan MUST HAVE single plug connected to its box.**

CASE REMOVAL FROM SKID (LEVELERS OR CASTERS)

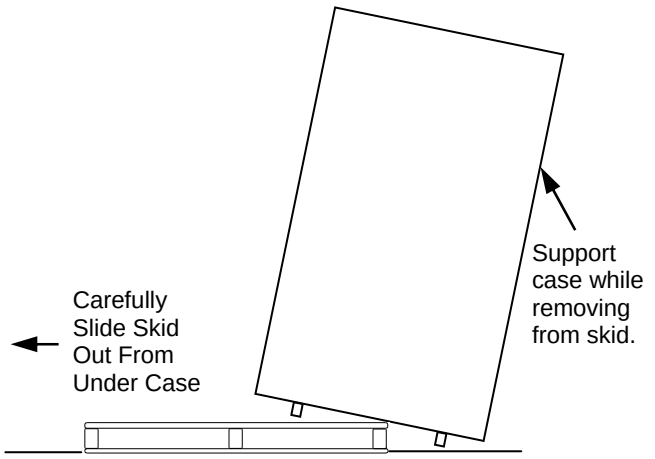
1. Removing Case Shipping Brackets That Are Attached To Skid

- 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

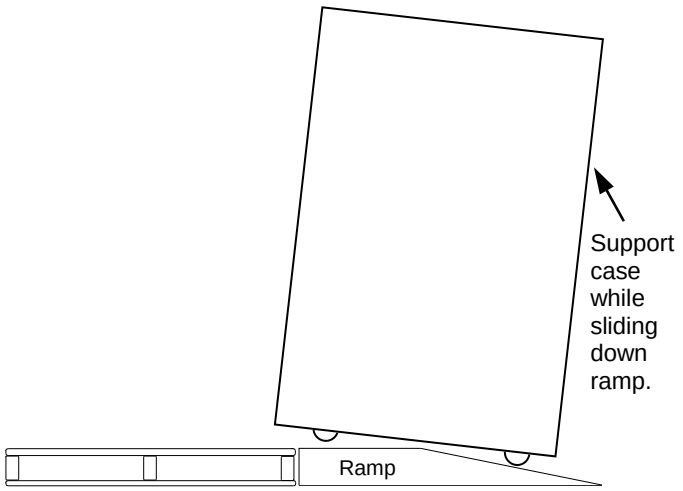
- To prevent damage, support case while sliding it toward edge of skid.
- When case is at edge of skid, carefully lower to floor (so two levelers rest on floor).
- Carefully slide skid out from under case.
- After removal of case from skid, place into position.
- *Note:Illustration below reflects general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



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.

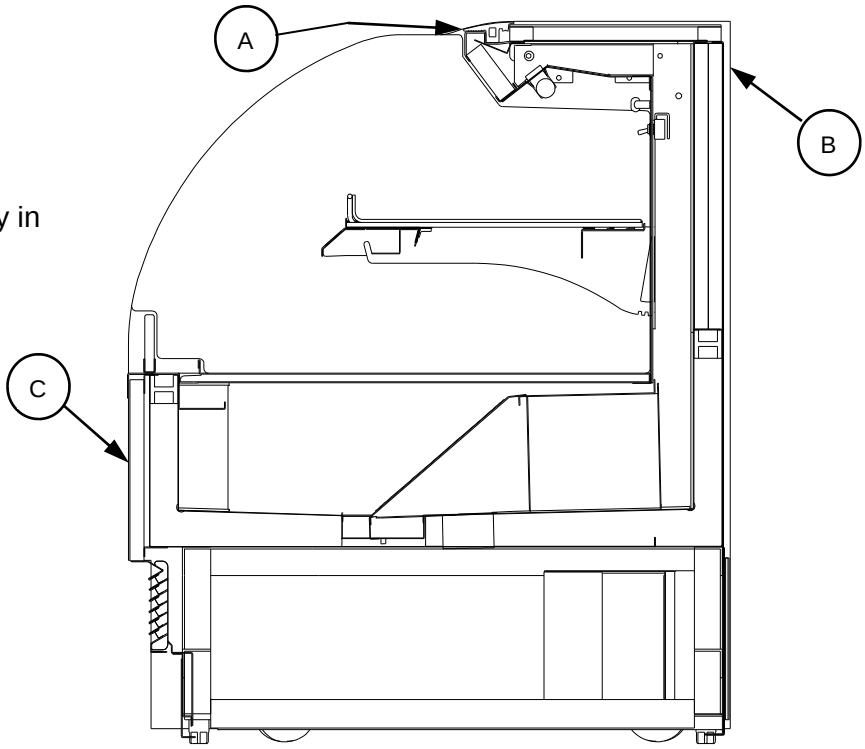
- *Note:Illustrations reflect general outline of sample case and may not reflect your particular model or options).*



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

1. Position and Level Units

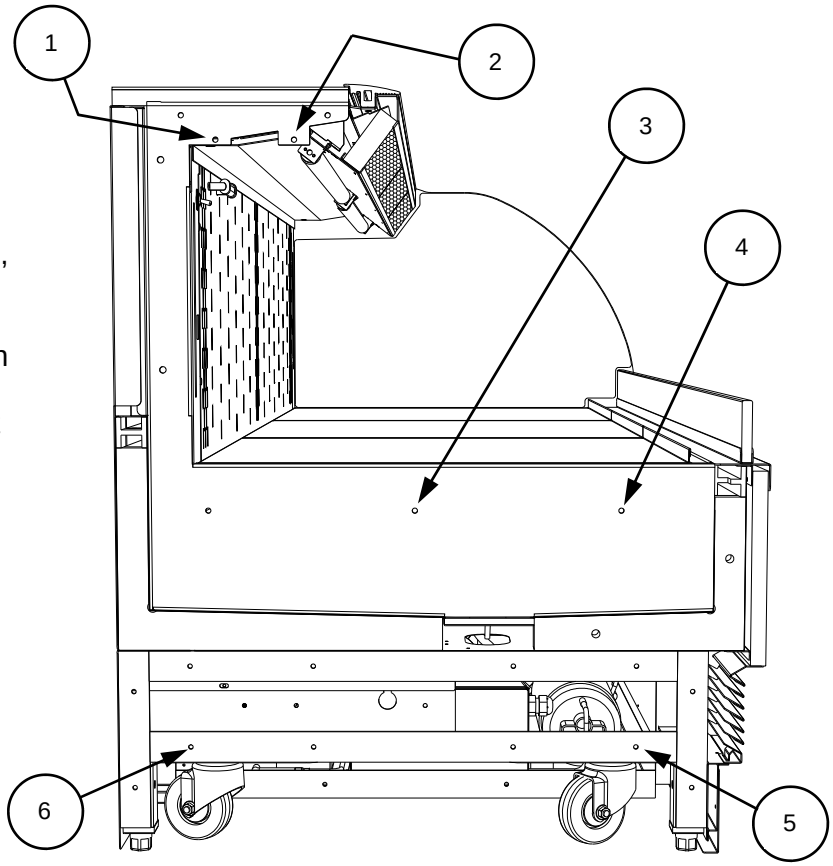
Position Units. Align multiple units carefully in areas A, B, and C.



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).

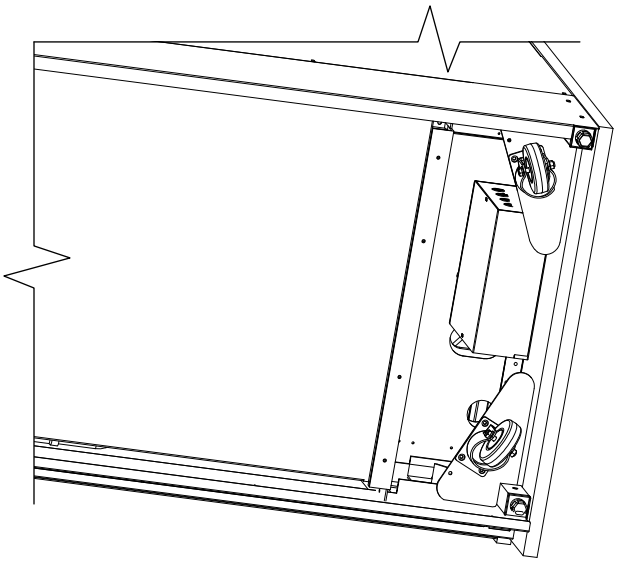
- Note: Use 1/4-20 X .75 bolt at hole location holes 2, 5 and 6 ONLY.
- Use 1/4-20 x 2.25" bolts for locations 1, 3, 4.
- Remove decks to access bolt holes 3, 4.
- Note 1: Both Casters and Levelers Option shown in illustration at right.
- Note 2: Illustration at right may not reflect every feature or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



3. Electrical Connections (Remote Cases)

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

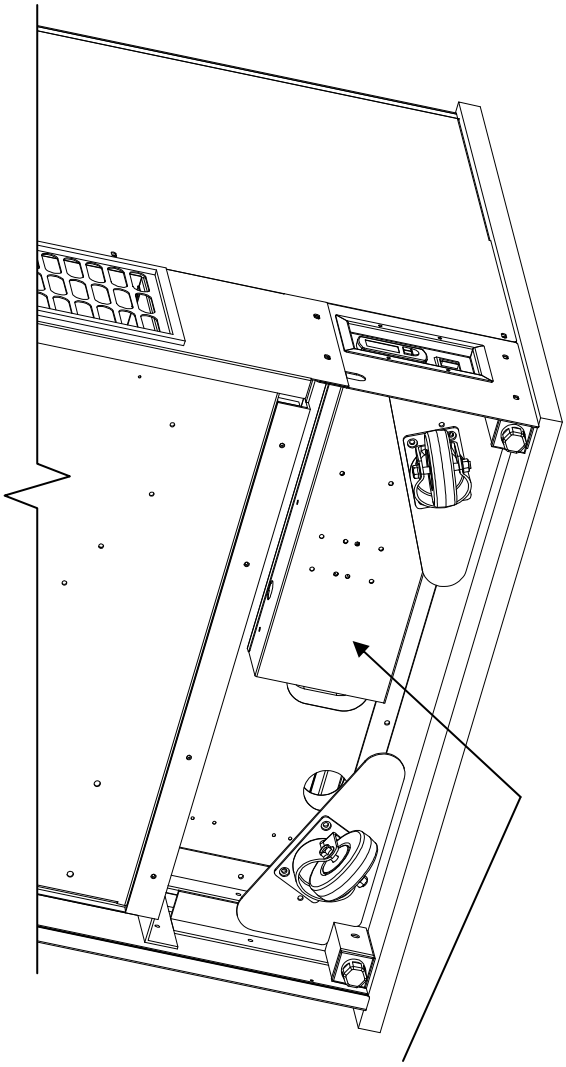
- Single phase leads are provided.
- Connection



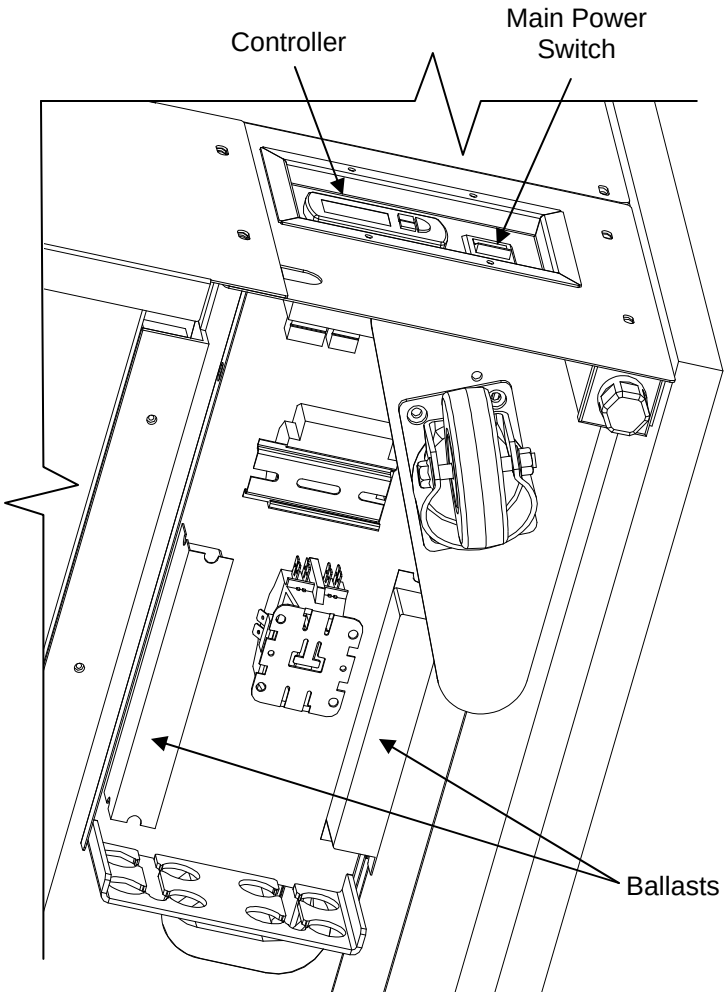
4. Connections/Controller/Main Power Switch (Self-Contained Units)

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.

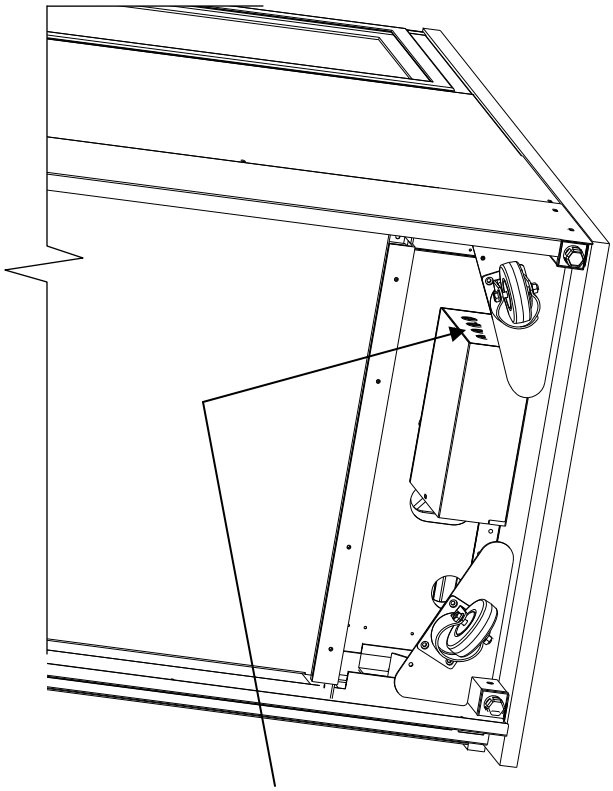


HMO7536R Underside View With Controller/Ballast Box Cover Intact



HMO7536R Underside With Controller/Ballast Box Cover Removed

Case Rear



Field Wiring Electrical Connections

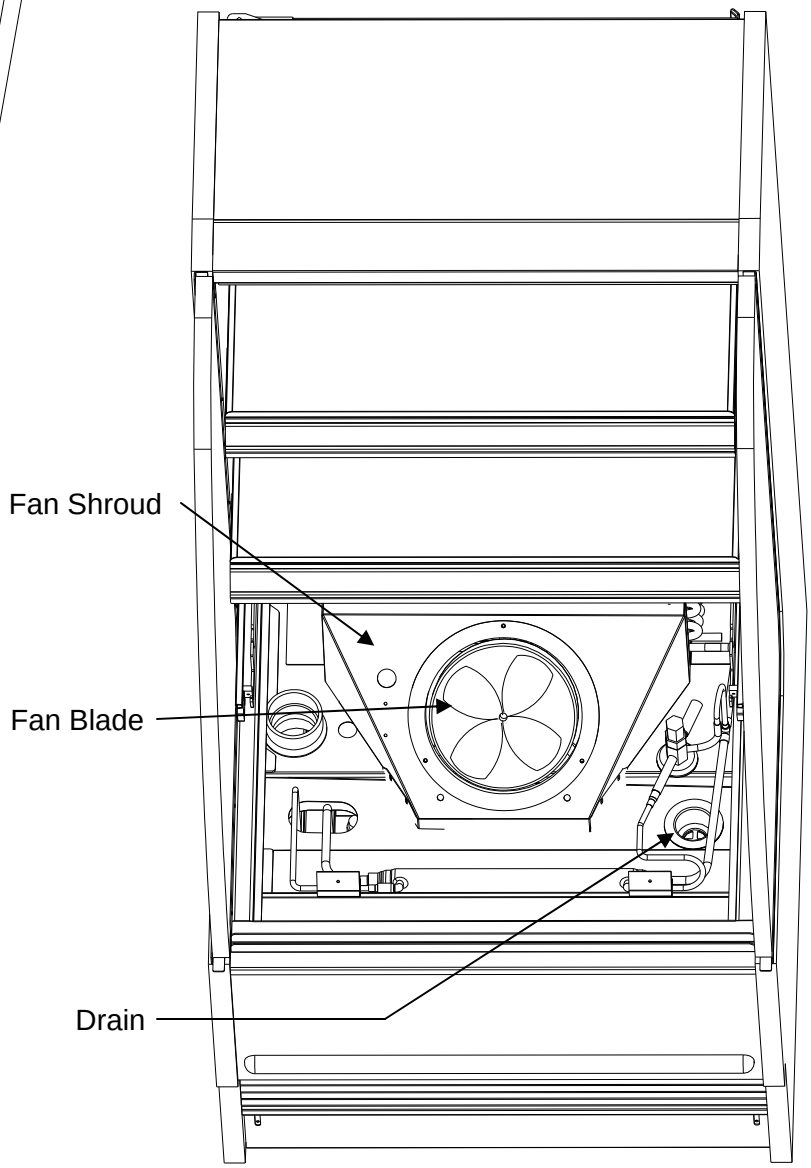
5. Electrical Connections (Certain Remote Cases)

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

- Single phase leads are provided.

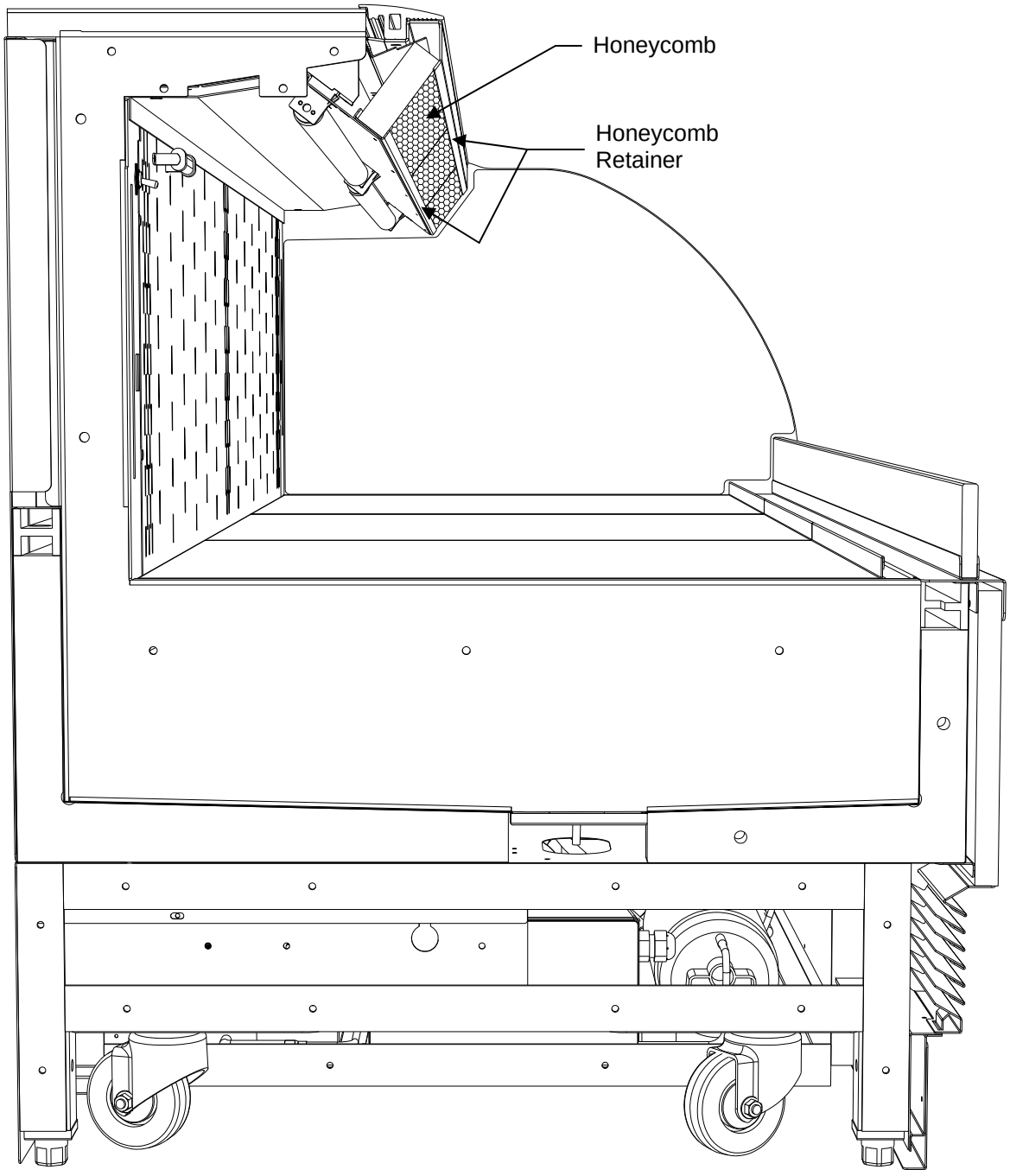
6. Evaporator Fan Area

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



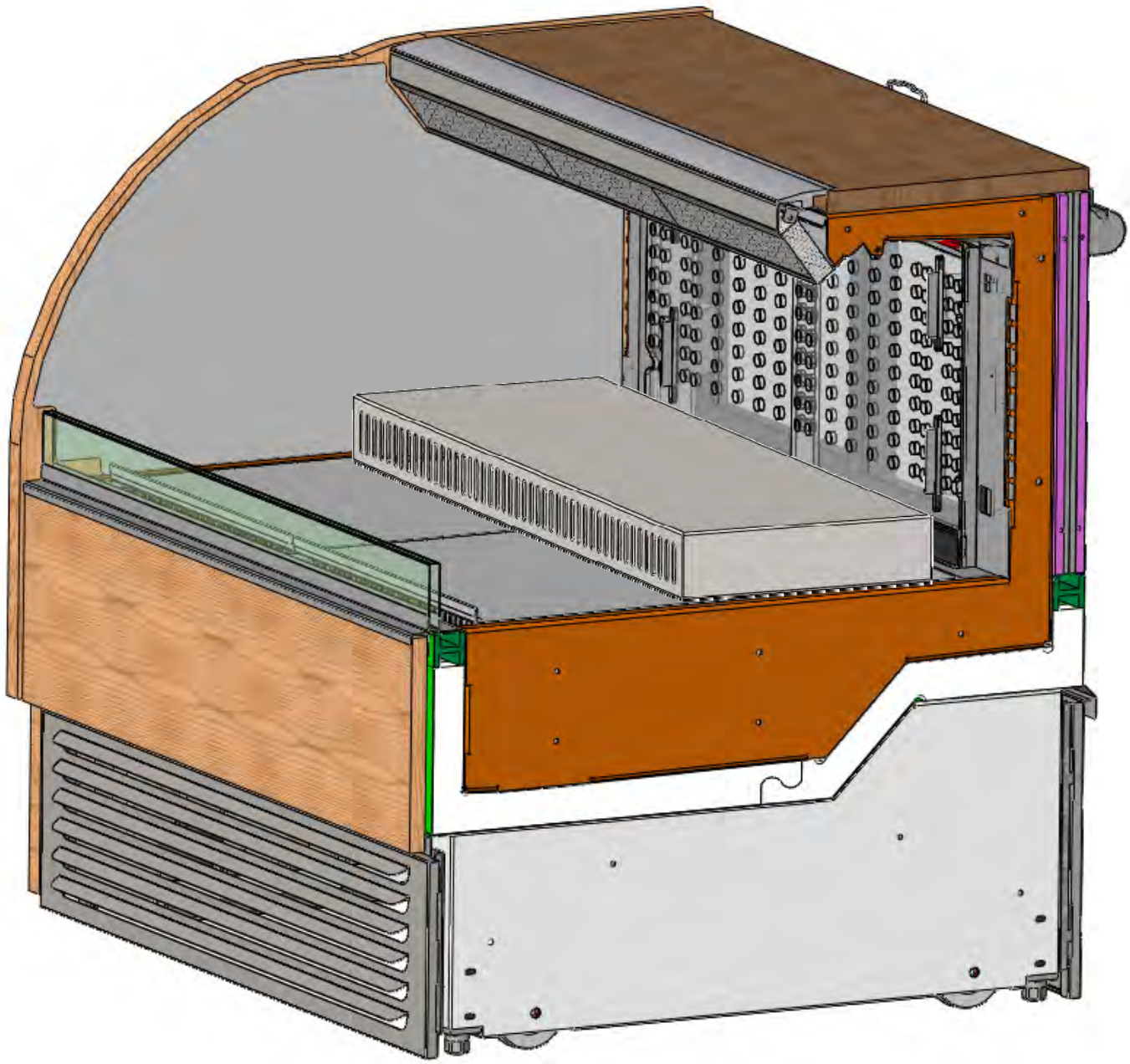
7. Honeycomb Air Diffuser

- 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 ---

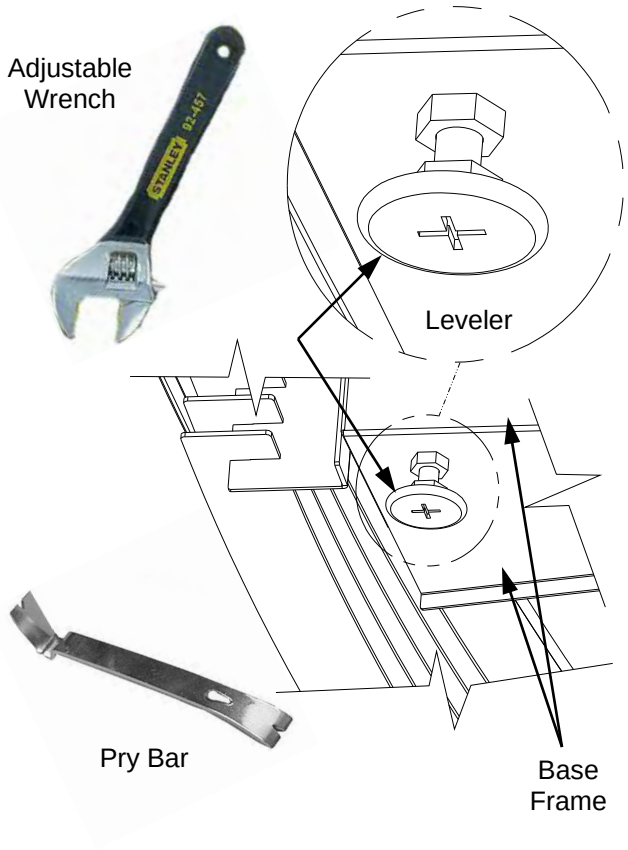
POSITIONING, ALIGNING, LEVELING UNIT, REMOVING FRONT GRILLE

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.

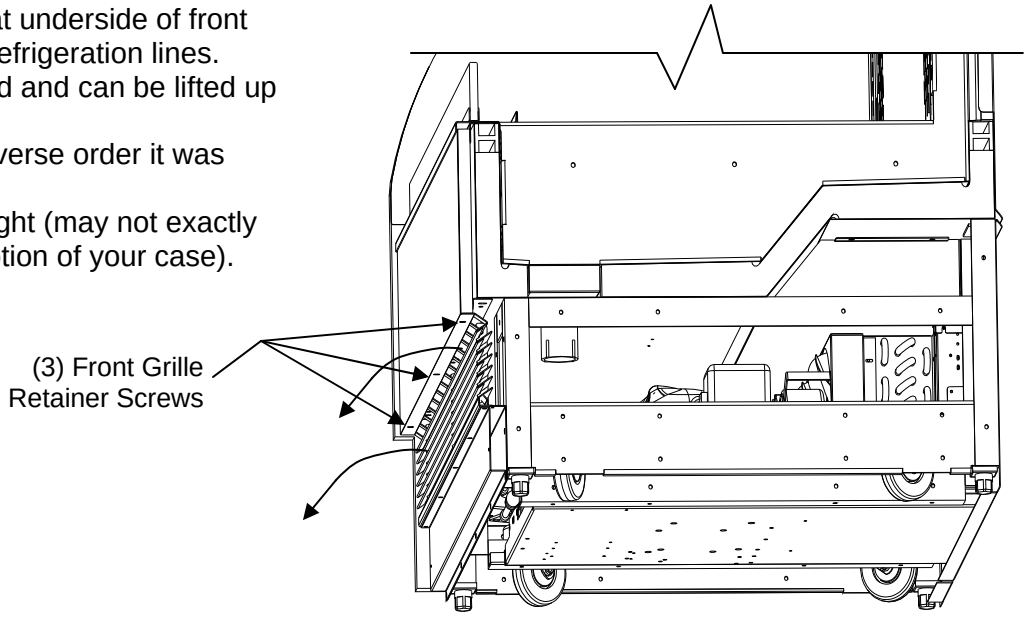
2. Adjust Levelers

- 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.



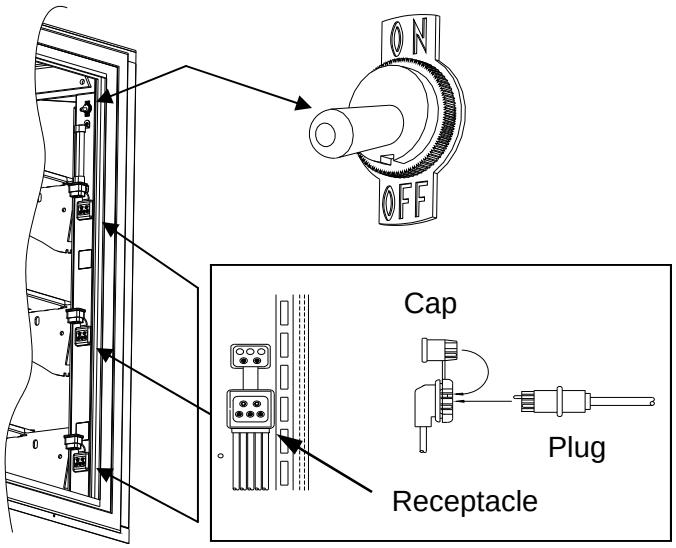
3. Removing Front Grille (If Necessary)

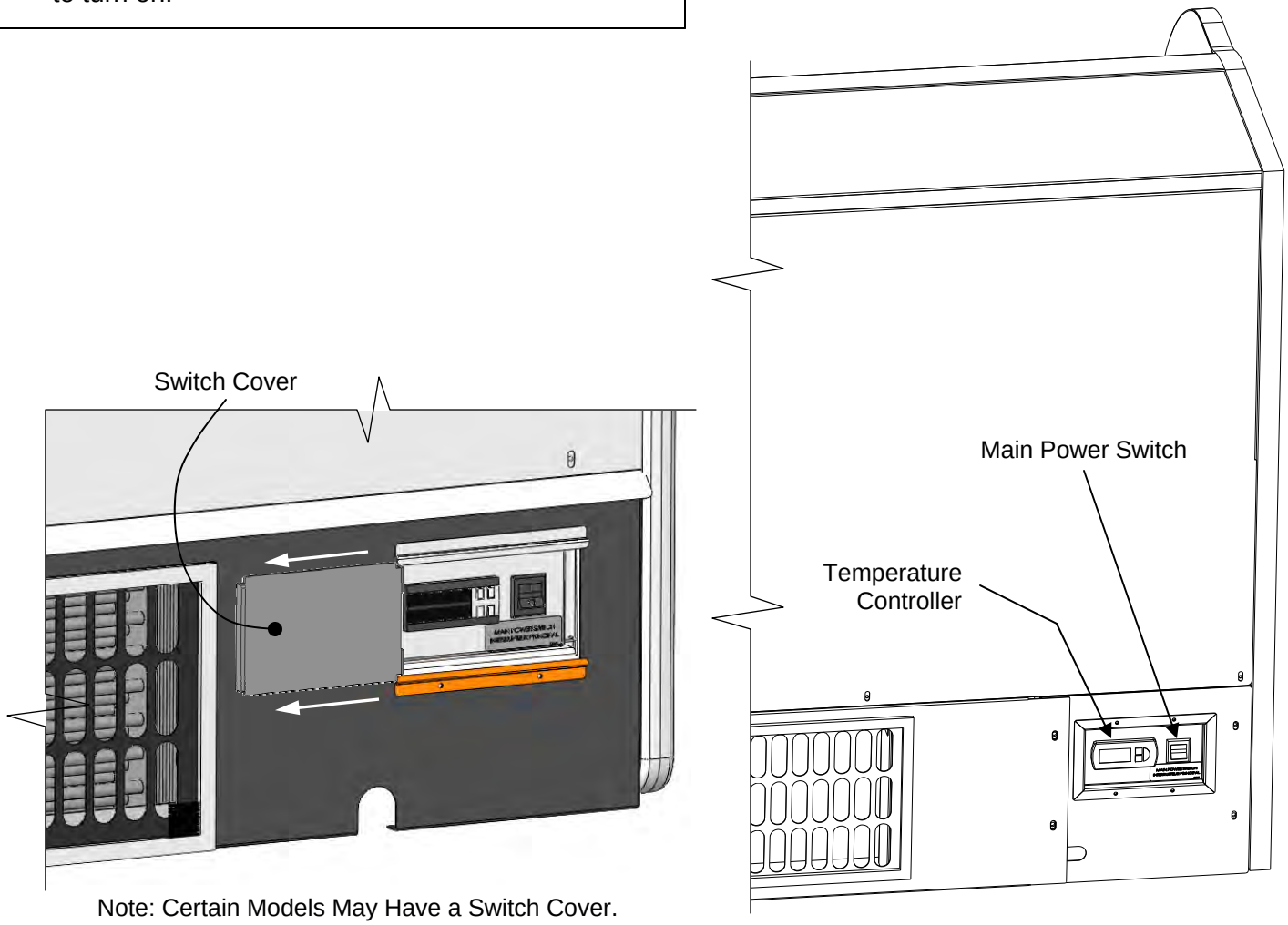
- Remove screws located at underside of front panel to access drain or refrigeration lines.
- Front Grille will fall forward and can be lifted up and away from case.
- Replace Front Grille in reverse order it was removed from case.
- See illustration at lower right (may not exactly reflect every feature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



Merchandiser 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.

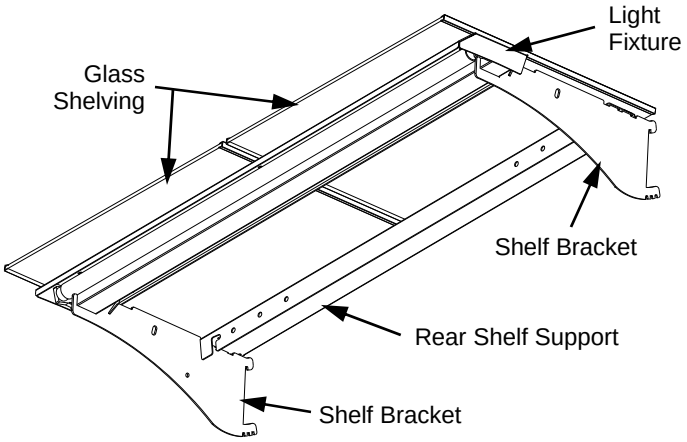




Note: Certain Models May Have a Switch Cover.
If So, Simply Slide To The Left To Access Controls

1. Shelf Assembly Removal

- Remove glass shelves
- For lighted shelving, unplug the light cord.
- Lift light shelf straight up to separate from brackets.
- Remove rear shelf support
- Remove brackets. Note it may be necessary to remove the nylon shipping bracket retainer. Pliers will be required to accomplish this task.



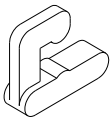
2. Light Fixtures

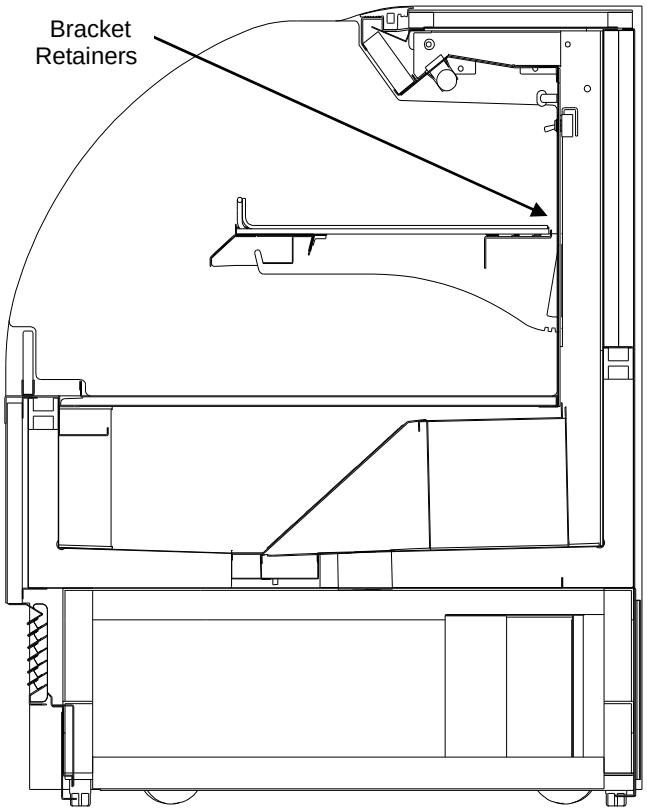
Removal of lamp:

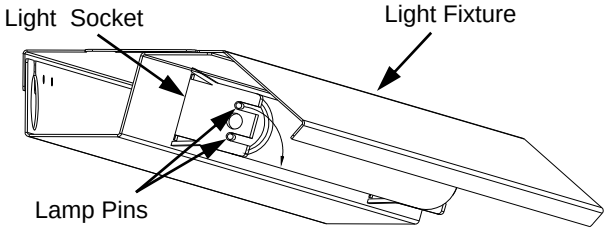
- Rotate lamp (1/4-turn) either direction to disengage (upper or lower) pins/contacts from lamp mounting sockets.
- Remove bulb by applying even pressure from the back side at the bulb ends and pulling the remaining contact from the sockets.

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) pinned contacts into the sockets.
- Rotate the remaining bulb contacts (1/4 turn) into the remaining lamp-mounting socket contacts.
- See illustration below.







Sample light fixture shown above. To remove lamp, simply rotate lamp clockwise and out. To replace, place one set of pins into slots and rotate second set of pins into slots.

3. 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.

4. LED Light Fixture

Removal of lamp:

- This case is provided with LED lights which will rarely require change-out.
- Contact Structural Concepts' Technical Service Department for replacement parts (see Technical Service section of this operating manual).

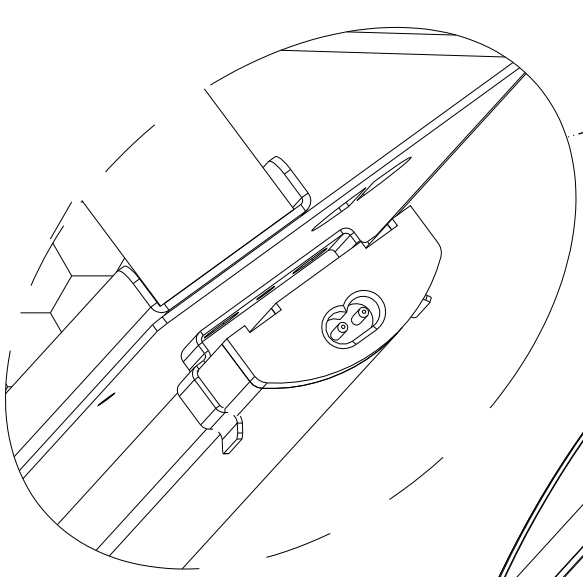
Replacement of lamp:

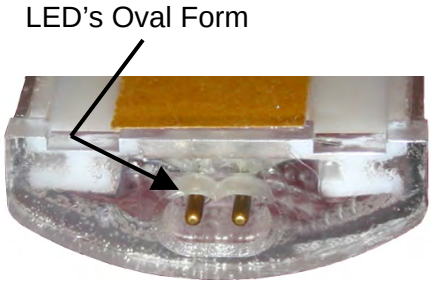
- To replace LED Light Fixture, disconnect the existing LED light from its brackets and self-adhesive tape. Replace.
- Note: LED Light and Plug must be connected in a specific manner or they will not work. Oval edge of plug must connect to oval edge of LED light. See photos below-left.

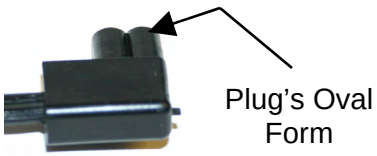
5. LED Power Supply Access

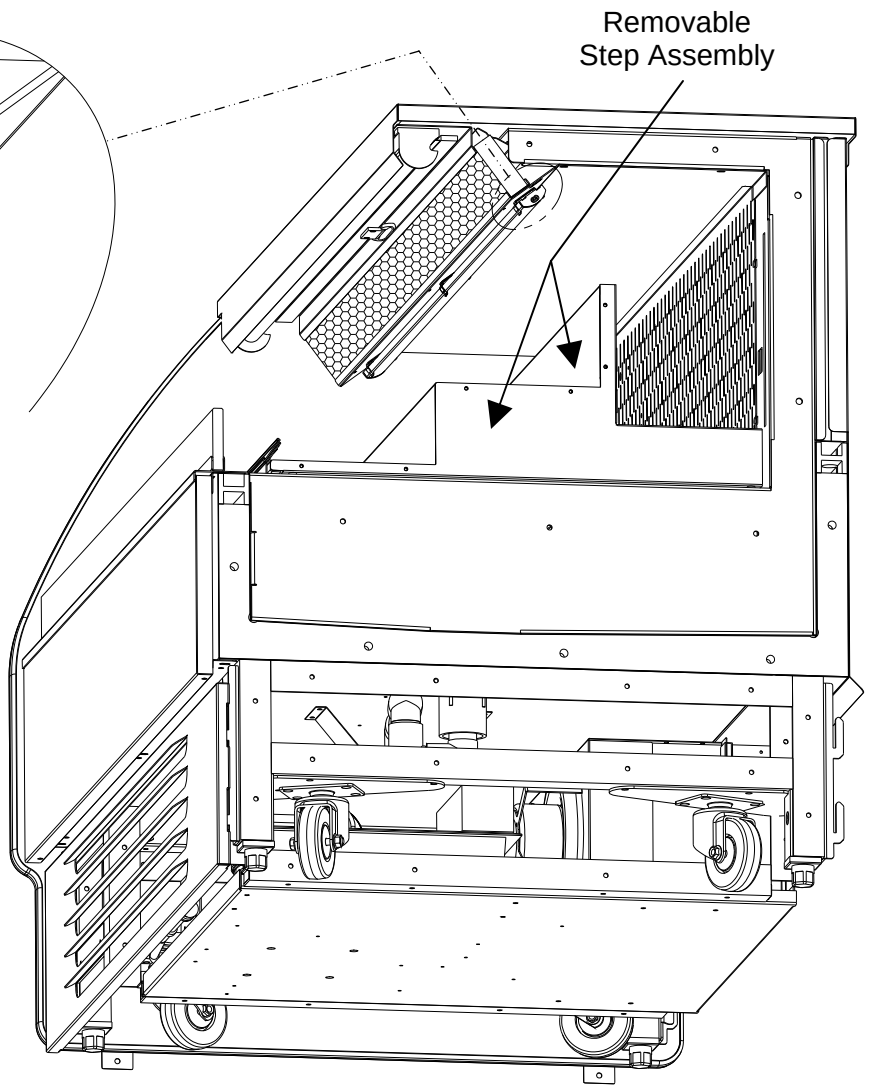
- Disconnect electrical power from unit.
- LED driver is located in electrical box (in same box temperature controller is located).

Note: Model HMO5136R.4716 Shown Below
Your Model May Differ







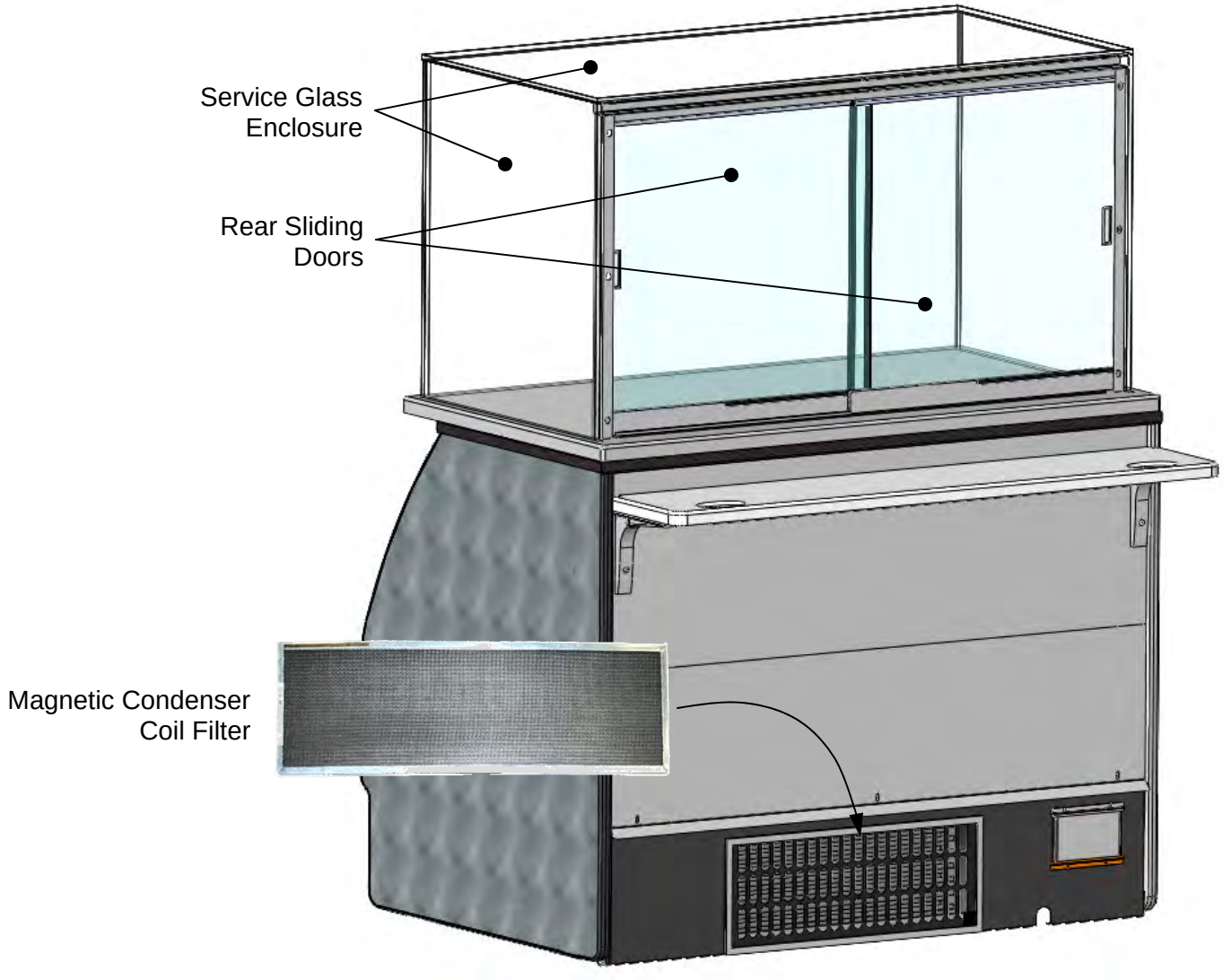


6. Rear Sliding Doors (Ambient Upper)

- 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.

7. 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.



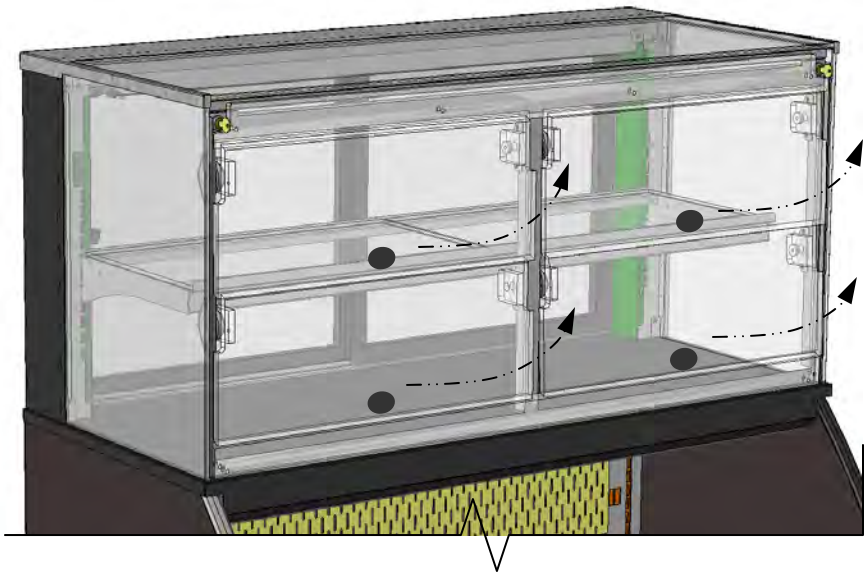
Note: Model HMO4836R.5936 Shown Above
Your Model May Differ

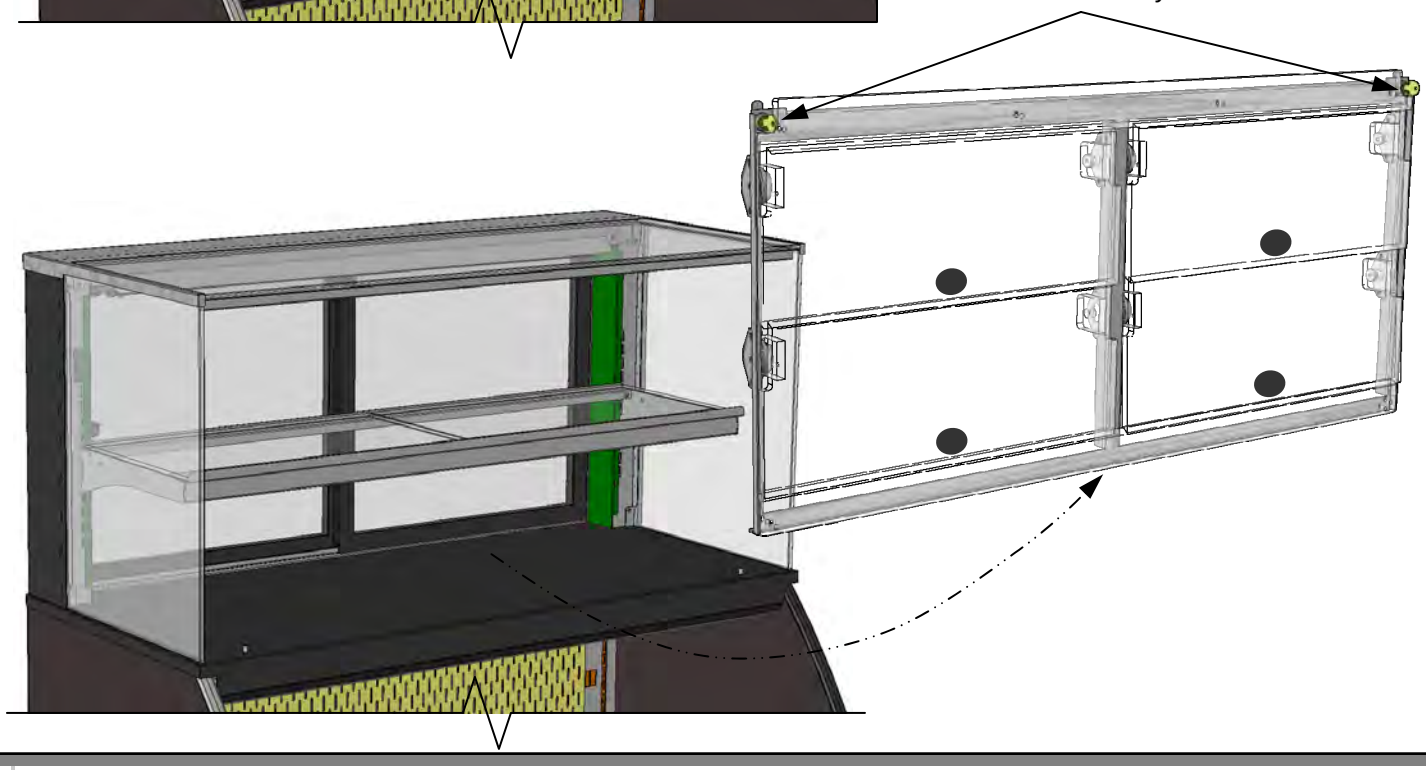
8. Upper Section With Acrylic Bins

- 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.

9. Removable Acrylic Bin Door Assembly

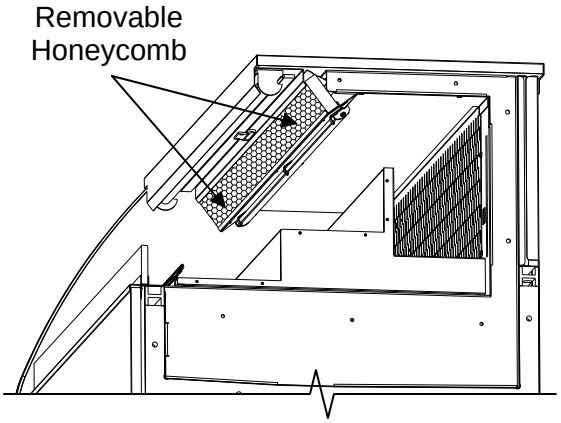
- Acrylic bin door assembly is entirely removable from upper section of case.
- Simply rotate keys (at upper left/right of assembly) and lower the levers holding it intact. Lift assembly up and off the pins that are holding lower acrylic bin door assembly bracket to deck.
- See ***CLEANING SCHEDULE (TO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





10. Honeycomb Air Diffuser

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



Honeycomb Air Diffuser Removal

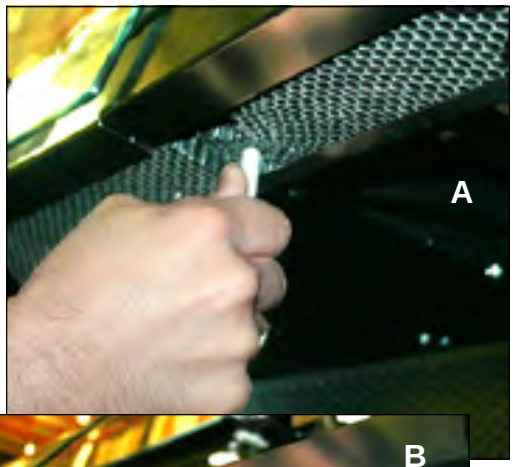
A. Wedge non-metallic device of suitable strength (such as a ballpoint pen) between honeycomb and end panel.
Caution! Use care not to dislodge the heating wire (that prevents condensation on the lamp assembly).
B. Apply pressure to collapse the honeycomb to allow it to be pulled out of honeycomb retainer.
C. Pry downward and away from honeycomb retainer.

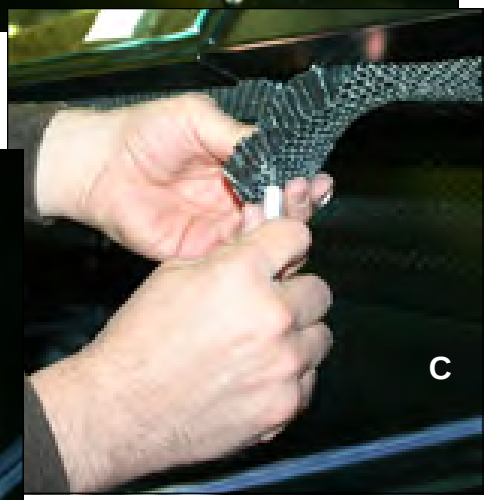
Clean honeycomb with warm water and soap solution. Submerse if necessary. Use brush to dislodge stubborn or sticky residue. Dry by using vacuum's 'blow mode'.

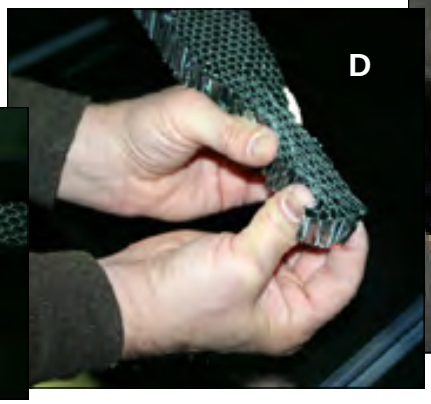
Honeycomb Air Diffuser Installation

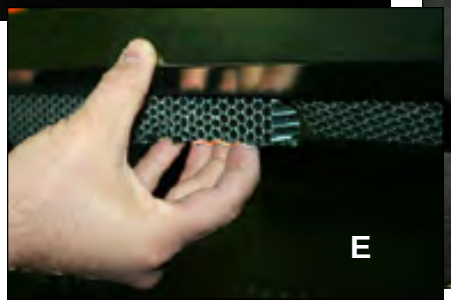
D. Squeeze honeycomb into the honeycomb retainer.
E. Carefully slide honeycomb into place.
F. Adjust honeycomb so that it fits flat against retainer. It must not be wavy or out of position.

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





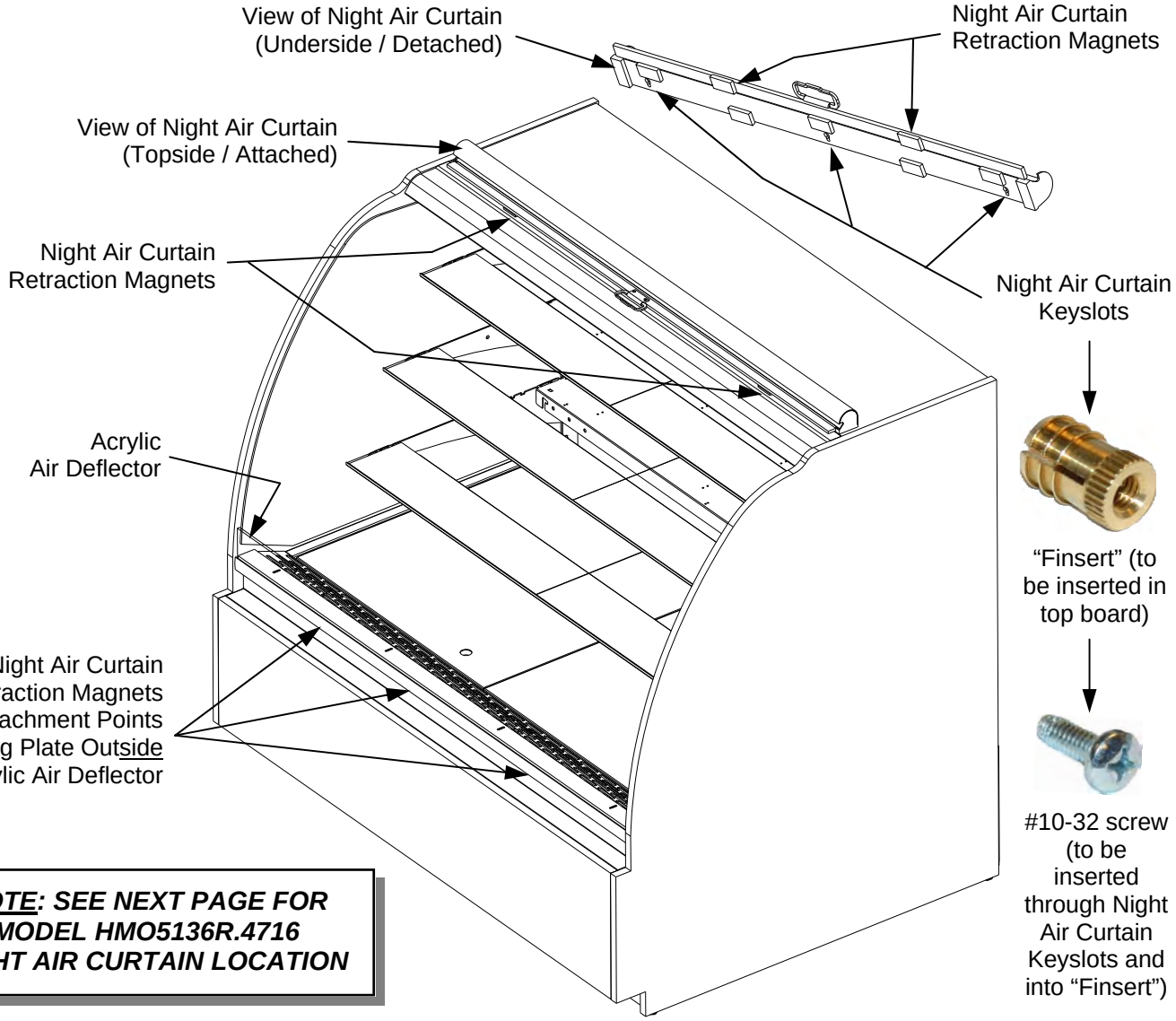




Night Air Curtain Installation & Operating Instructions

1. Use caution when handling Night Air Curtain.
2. Display case may come with Night 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.

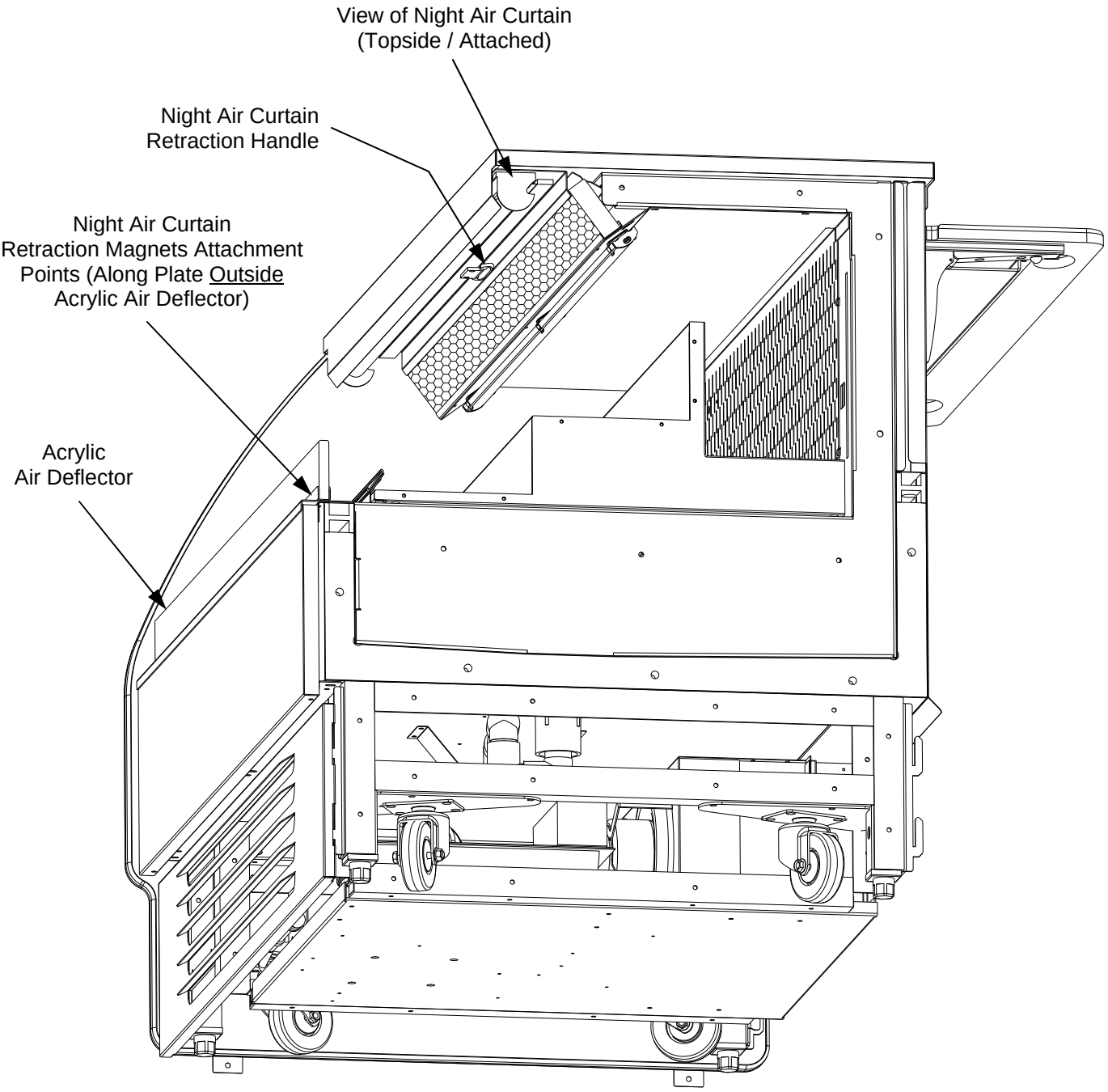
NOTE: THE BELOW ILLUSTRATION MAY NOT EXACTLY REFLECT EVERY PARTICULAR CASE'S FEATURES OR OPTIONS.



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

STANDARD NIGHT AIR CURTAIN LOCATION FOR MODEL HMO5136R.4716

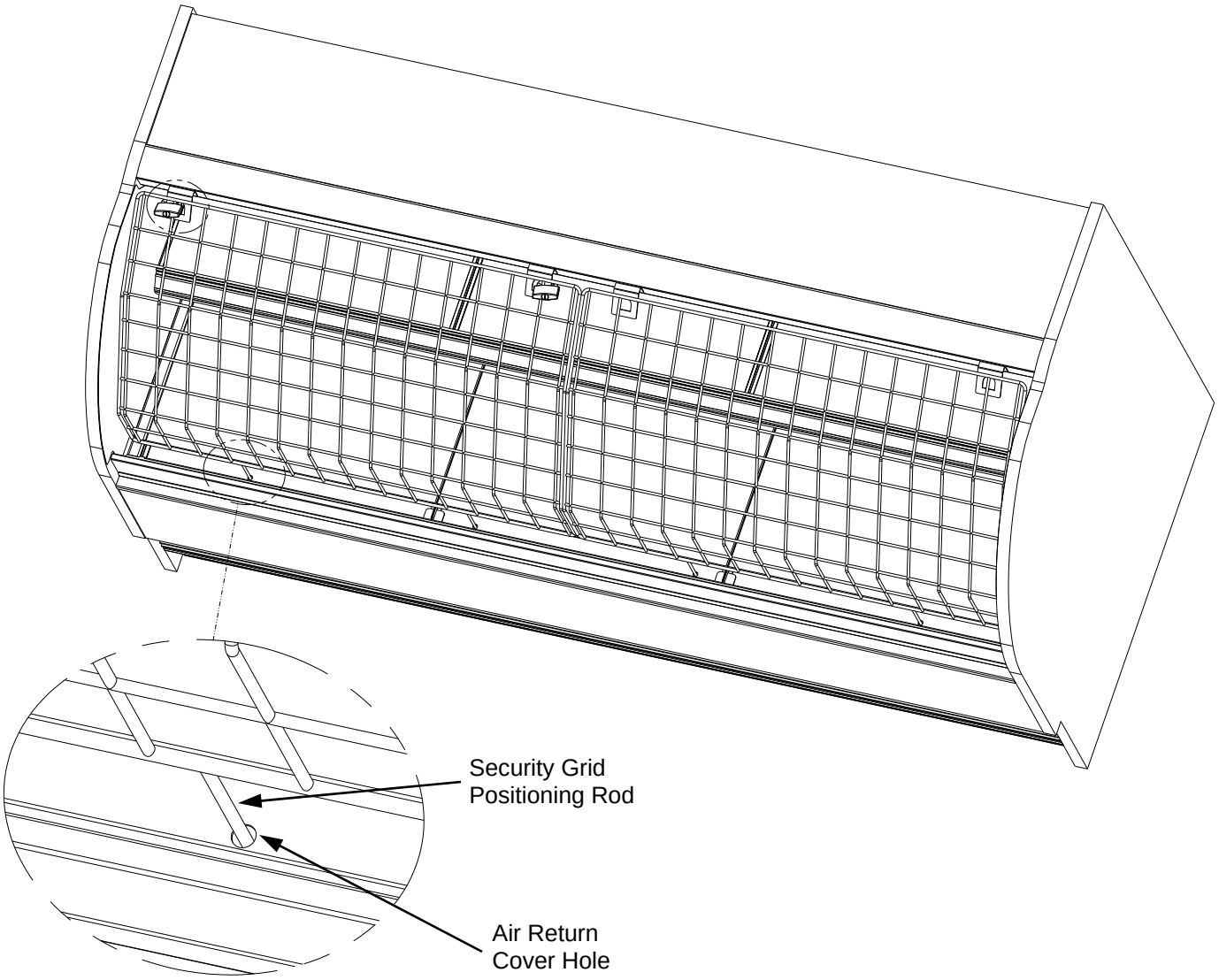
NOTE: BELOW ILLUSTRATION APPLIES TO MODEL HMO5136R.4716 ONLY.



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.

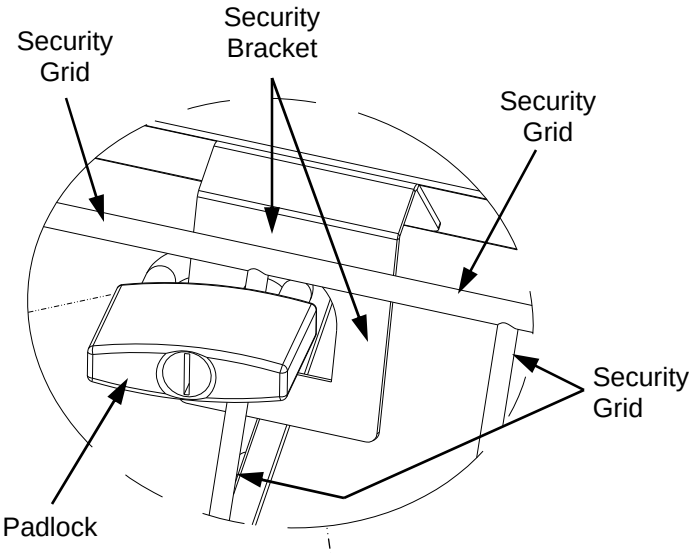
Securing Security Grid Into Place and Locking

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

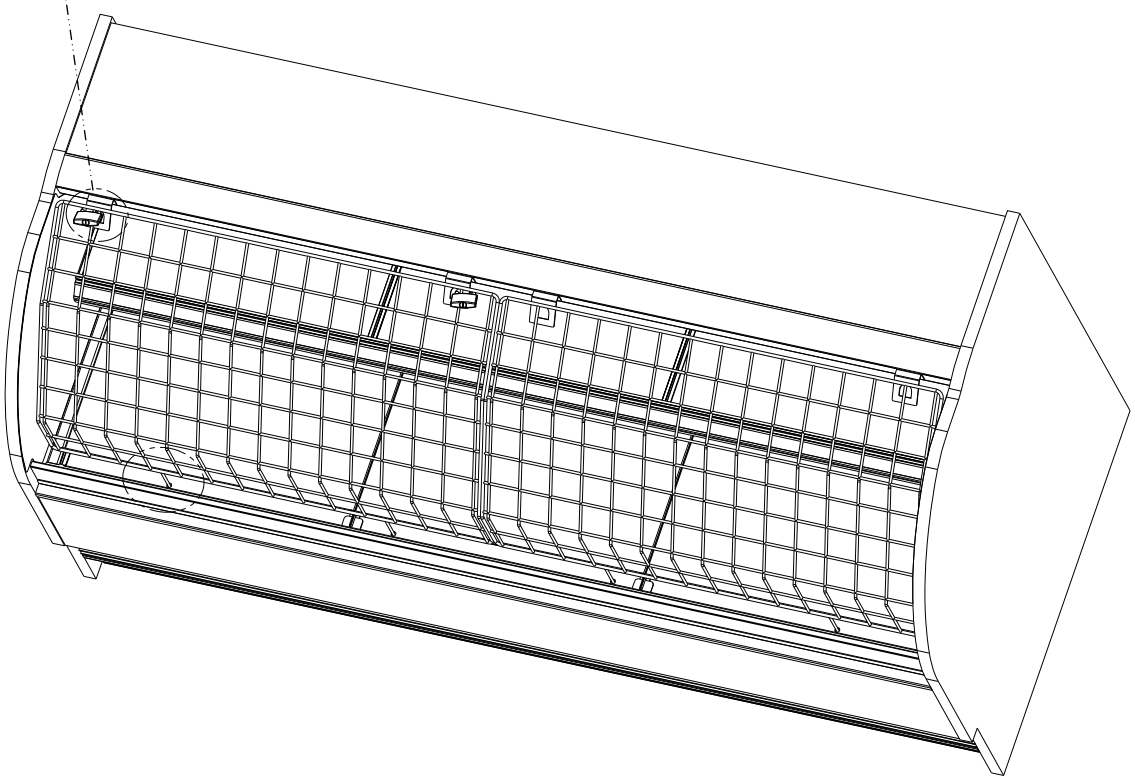
1. Unlock and remove Padlocks. Lean Security Grid forward. Lift upward and out of Baffle Airflow Slots. Tabs fit into (and slide out of) baffle slots as in other units. See next page tab and baffle slot locations and illustrations.
2. Store Security Grid, Padlocks and Keys in a secure location to prevent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

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



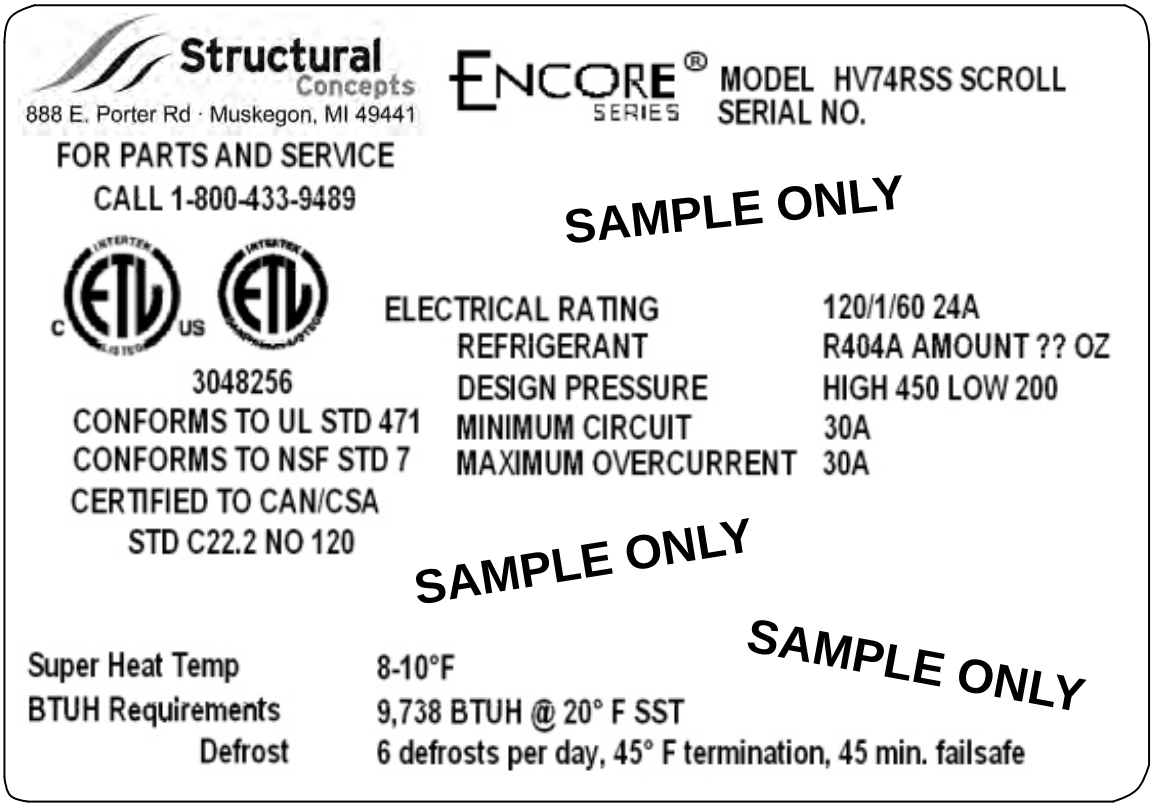
Enlarged View (At Left)

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

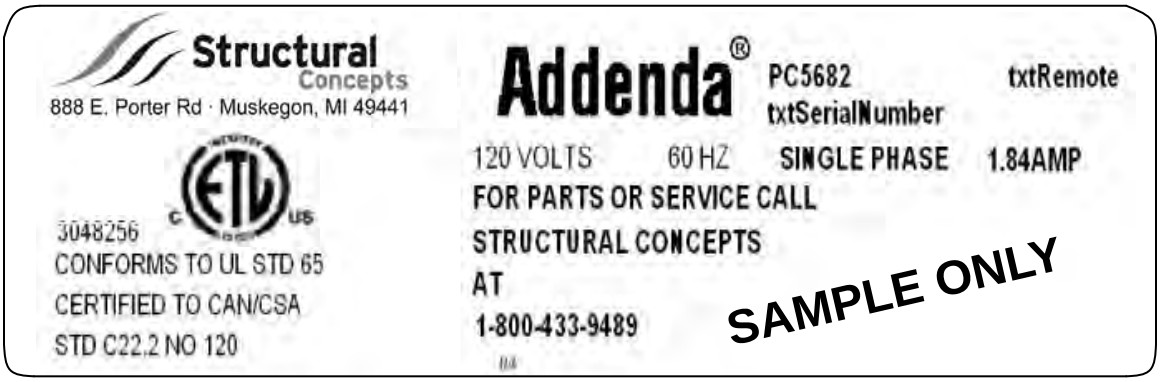


Serial Label Location & Information Listed / Technical Information & Service

- Serial labels are located near the electrical access on your case.
- Serial labels contain electrical, temperature & refrigeration information, as well as regulatory standards to which the case conforms.
- For additional technical information and service, see the *TECHNICAL SERVICE* page in this manual for instructions on contacting Structural Concepts' Technical Service Department.
- See images below for samples of both refrigerated and non-refrigerated serial labels.



----- Sample Serial Label For Refrigerated Case -----

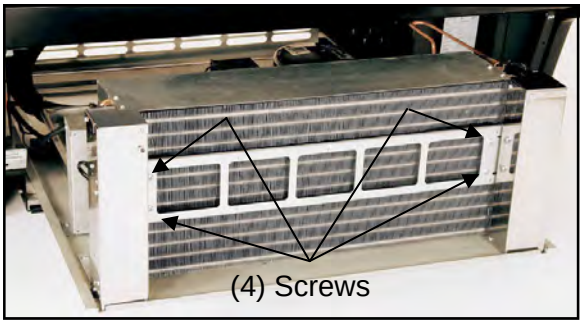


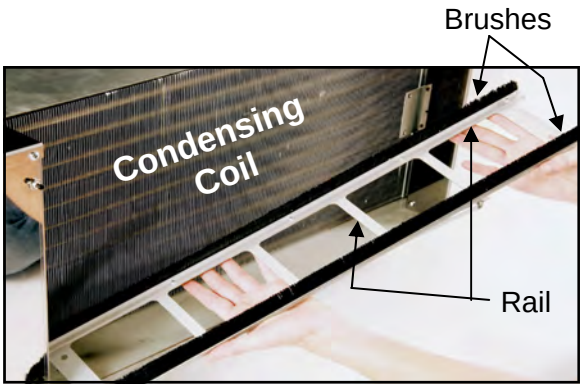
----- Sample Serial Label For Non-Refrigerated Case -----

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

Area	D	W	M	Task
Exterior	X			**Side glass, front curved glass and sliding rear doors:** Clean with household or commercial glass cleaner and soft cloth.
	X			**Wood, laminate and painted surfaces:** • Clean with a warm soap and water solution and soft cloth. • Never use wire cloth or abrasive cleaners on case.
	X			**Acrylic bin doors and door assembly (not on all cases):** • Clean with a warm soap and water solution and soft cloth. • Do not use glass cleaner on acrylic as it causes surface to become 'cloudy'. • 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. • Thoroughly clean upper glass enclosure (while door assembly is removed). • 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. • Important! Store keys in safe but accessible location for ready access.
		X		**Rear door (if any):** Clean with a household or commercial glass cleaner.
		X		**Removable, magnetized condenser coil filter:** Clean magnetic condenser coil filter by following either of these steps: 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. 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. Submerse in warm, soapy water. Use soft-bristled brush to remove dust, dirt, grease and grime that may collect on filter. Rinse thoroughly. 3. Dry with soft cloth or paper towel (as shown below) or allow to air dry. Return to case.
Interior	X			**Decking:** Wipe down with a warm soap and water solution and soft cloth.
	X			**Interior components (rear plenum, sides, stainless steel mirror, etc.):** Wipe down with a warm soap and water solution and soft cloth.
		X		**Acrylic air deflector (front) / perforated Plexi-glas plenum (rear):** • Clean with soap and water solution and soft cloth. • Never use ammonia-based cleaners on acrylic or Plexi-glas.
			X	**Decking:** • Remove decking and clean with soap and water solution and soft cloth. • For stubborn stains, submerse in warm, soapy water and allow to soak. Use soft-bristled brush to remove residue.
			X	**Units with risers ("step assemblies") only:** • Remove from case and clean with mild soap and warm water solution and brush. Dry thoroughly and return to case. • For stubborn stains, submerse in warm, soapy water and allow to soak. Use soft-bristled brush to remove residue. • Caution! Remove (and return) risers carefully to avoid marring inside of case.

PREVENTIVE MAINTENANCE	FREQUENCY	INSTRUCTIONS
Case Exterior	**Monthly**	**<u>Condensing Coil</u>:** • Remove rear grille (by removing 4 screws). • Use air pressure or industrial strength vacuum; clean dust and dirt that may collect on the Condenser Coil. See illustration below. • ***Caution! Coil fins are sharp. Handle with care!*** • Replace Rear Grille to case (4 screws). • See illustration below.
	Quarterly	**<u>Clean Sweep™ Condensing Coil</u>:** *Disconnect power from case before cleaning Clean Sweep™ Condenser Coil!* • Remove Rear Grille (by removing 4 screws). • Slide/Roll out condensing unit assembly. • Remove the four (4) screws holding the Clean Sweep™ rails intact. • Remove the Clean Sweep™ rail. • Wash rails' brushes in hot water and mild soap solution. • If brushes are worn, they must be replaced. Call Technical Service Department to replace. Toll-Free number is listed at end of manual. • Clean Condensing Coil: Use air pressure or industrial strength vacuum; clean the dust and dirt that may collect on the Condenser Coil. • ***Caution! Coil fins are sharp. Handle with care!*** • Reattach Clean Sweep rail to condensing unit (4 screws). • Slide/Roll Condensing Unit Assembly back under case. • Replace Rear Grille to case (4 screws). • See photos below.





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

WARNING! TURN OFF CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!

PREVENTIVE MAINTENANCE	FREQUENCY	INSTRUCTIONS
Case Exterior	**Quarterly**	**<u>Compressor Area</u>:** *Disconnect power from case before cleaning Condenser Coil!* • Slide/Roll out from under case. • Use moist cloth to wipe off dust & debris that collects on various parts. See illustration below.
	Quarterly	**<u>Under Case Cleaning</u>:** Once refrigeration package is clear of unit, vacuum under case to remove all dust and dirt that may collect under case.
Case Interior	**Quarterly**	**<u>Drain, Coil, Fan Blades, Motors, Brackets</u>:** *Disconnect power from the case before cleaning the Drain, Coil, Fan Blades, Motors and Brackets!* • Remove Decking, Sub-Deck and Fan Shroud. • Use vacuum to clean Evaporator Coils. • Clean Tub, Coil and Drain with warm water, clean cloth, brush and mild soap solution. • See below for specific tub flushing instructions. • Remove any debris that may clog drain. • Clean Fan Blades, Motors and Brackets by wiping down with moist cloth.
	Quarterly	**<u>Tub</u>:** *Disconnect power from the case before cleaning the tub!* 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.
	Quarterly	**<u>Honeycomb</u>:** Remove the honeycomb. Vacuum, then clean with warm water and soap. See instructions in case operation section of this manual. See ***MAINTENANCE FUNDAMENTALS - HONEYCOMB AIR DIFFUSER*** section in this manual for specifics.

Product is Drying Out	TSP*: Check the relative humidity in the store.
Doors/Glass Won't Shut Properly	TSP*: Confirm that the case is aligned, level and plumb.
Case Not Properly Lining Up	TSP*: See ***Installation*** section of Manual for instructions on properly aligning case and adjusting levelers (alongside other cases).
System is not Operating	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.
Condensing Unit Not Operating.	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.
Case Lights Not Working	Be sure **ALL** 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.
Fans Not Working	TSP*: Check that fans are plugged in at the fan shroud.
	TSP*: Check for foreign material obstructing fan performance.
Not Holding Temperature	The temperature will change during defrost mode but will return to normal.
	Warm product may have been added to the case. Note: 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**

TROUBLESHOOTING: CONDENSING SYSTEM (BY TRAINED SERVICE PROVIDERS ONLY)

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

TROUBLESHOOTING: EVAPORATOR SYSTEM (BY TRAINED SERVICE PROVIDERS ONLY)

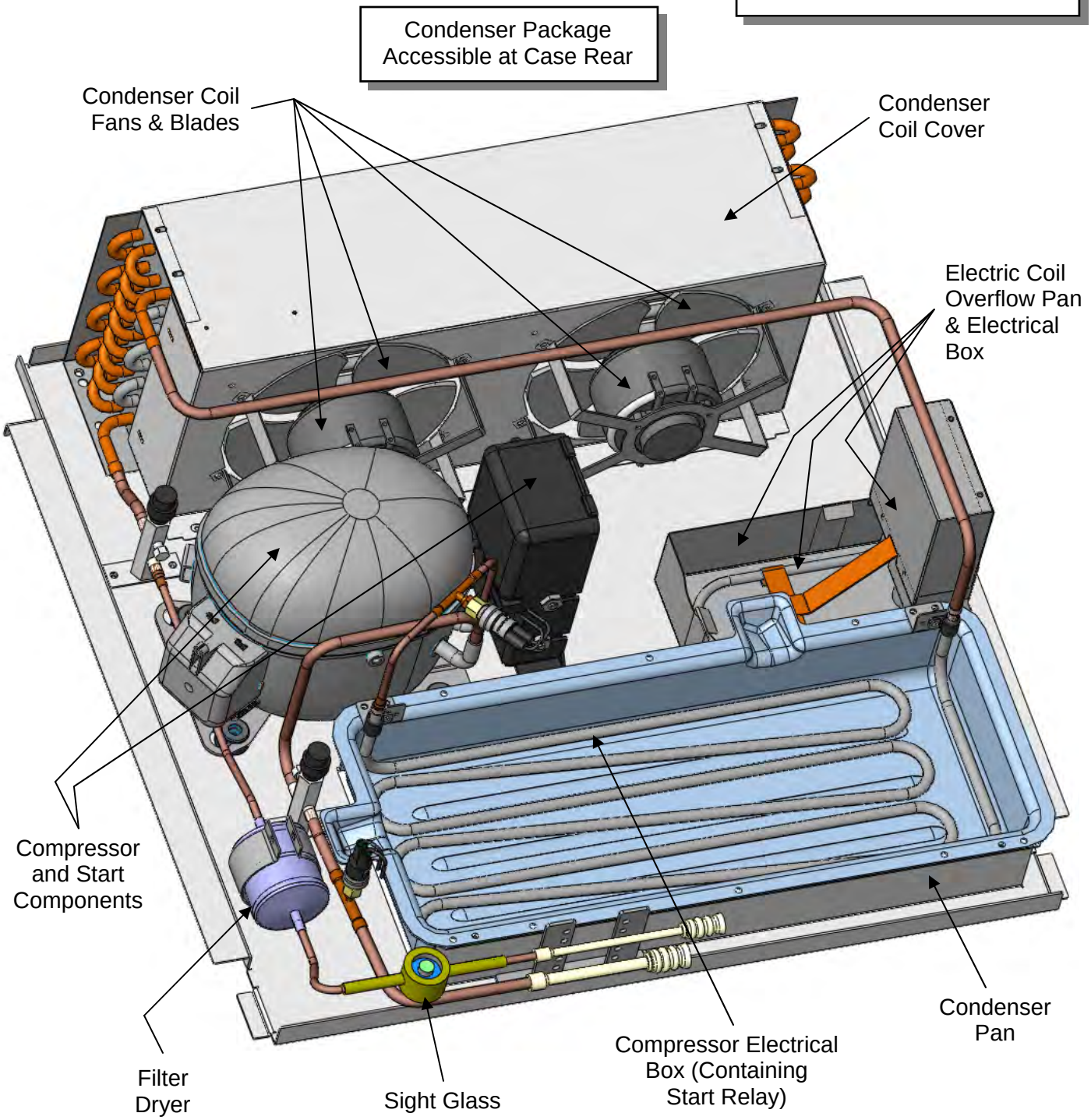
CONDITION	TROUBLESHOOTING
Low Suction Pressure	Check if sight glass is flashing or showing low charge.
	Check that expansion valve (TXV) isn't restricted. Check element charge.
	Check that liquid line or filter isn't restricted. Check that refrigeration lines and/or hoses are not kinked on either high or low sides.
	Check that evaporator fan motors are working.
	Check that superheat is between 6 °F to 8 °F.
	Check that there is no air recirculation around evaporator coil.
	Check that evaporator coil is not iced up.
High Suction Pressure	Check for refrigerant overcharge.
	Check that compressor reed valves aren't bad. Look for high suction/low head pressure. Perform pump down.
	Check that the "cooling load" isn't high. Product must be pre-chilled before placing in refrigerated section of case.
	Check that case is at least 15-feet 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 a. Poor thermal contact. b. Warm location.

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.



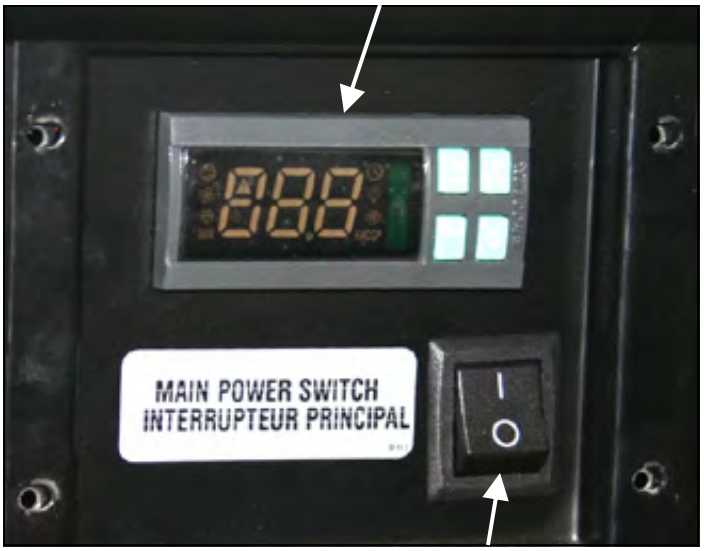
TROUBLESHOOTING: COMPRESSOR NOT ON / NO DISPLAY ON CONTROLLER

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.

Temperature Controller



1 & 4. Main Power Switch

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.

3.D. Contactor

5. Temperature Controller Connectors

Top View of LED Controller in LED Controller Box

TROUBLESHOOTING: LIGHTS NOT OPERATING

Troubleshooting

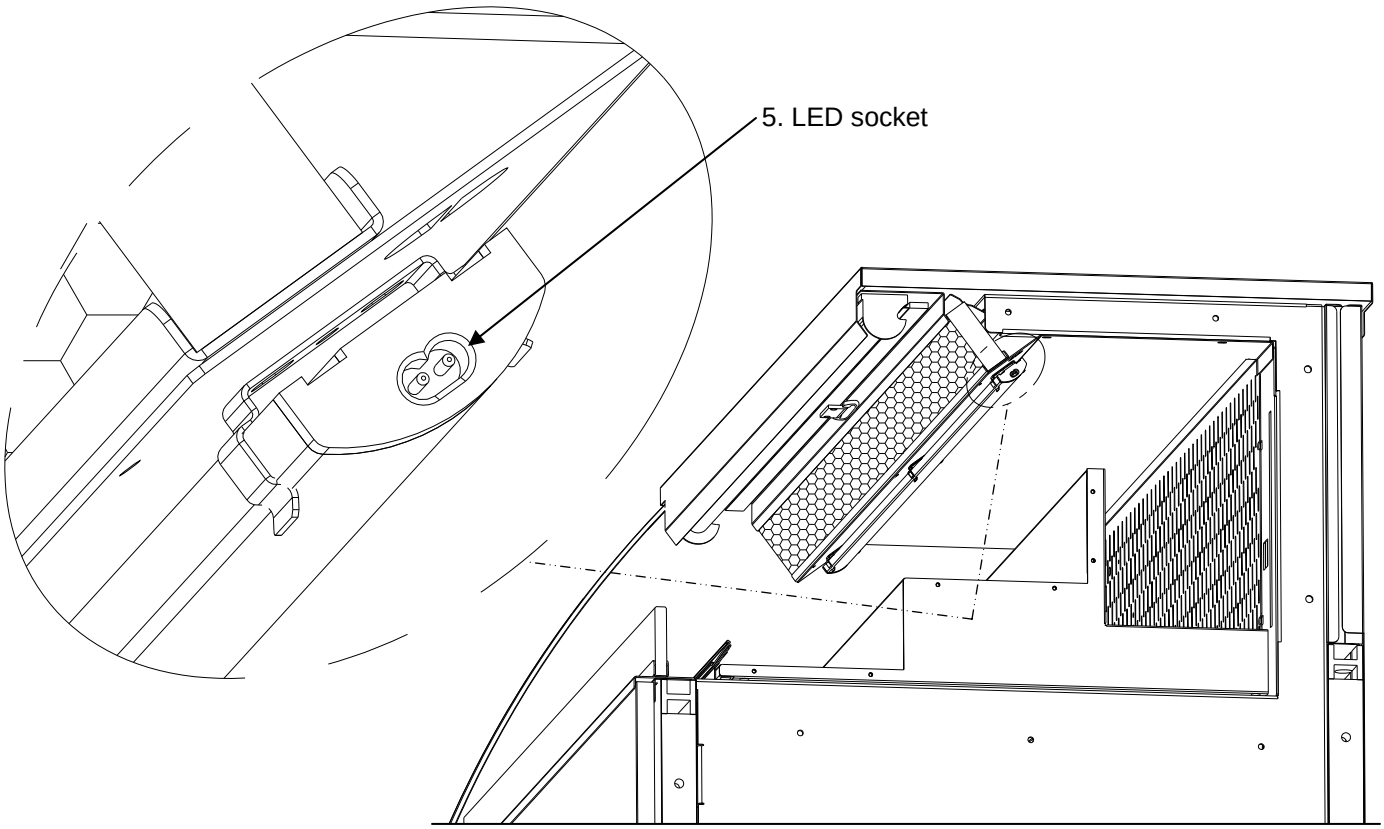
Troubleshooting Issue: Lights do not operate.

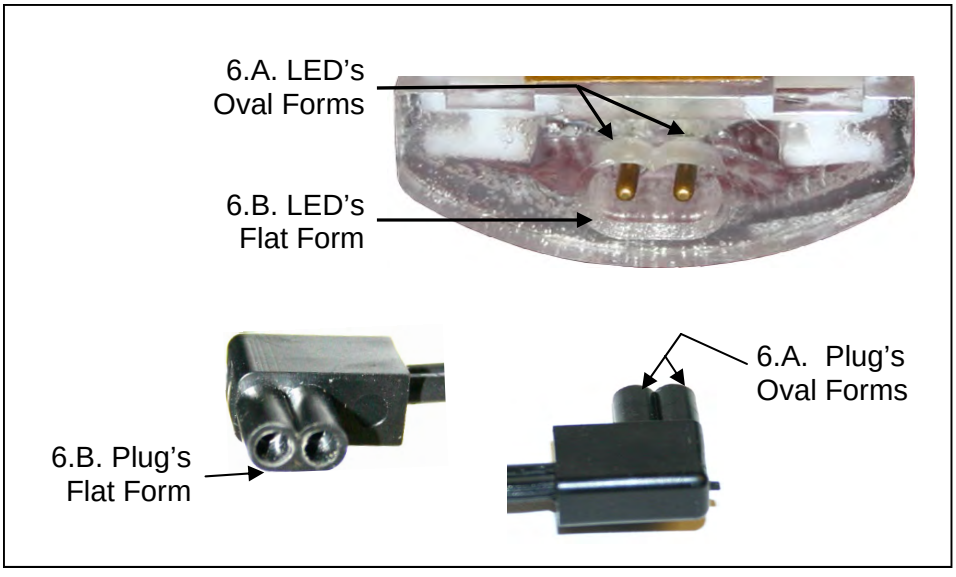
5. See illustration of LED socket (behind honeycomb).

6. Verify that the plug connects to LED light socket properly.

A. ***Important! The plug's oval form MUST be inserted into the LED's oval form.***

B. ***The plug's flat form must be inserted into the LED's flat form.***



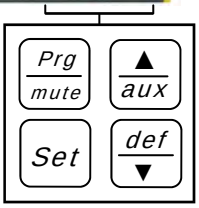


CAREL

ir33 platform

Integrated Electronic Microprocessor Controller

Programming The Instrument



To Modify The Setpoint

Set Press and hold the "SET" key for at least 1 second.

▲ aux def ▼ 2. Use arrow keys ▲ ▼ on temperature controller to increase (or decrease) the setpoint.

Set 3. Quickly press and release the "SET" key again.

To Modify Defrost, Differential, Other Parameters

Prg mute Set 1. Press & hold "Prg" & "SET" keys together for five (5) seconds; display will flash "0", representing password prompt.

Set 2. Confirm by pressing "SET" key.

▲ aux def ▼ 3. Press ▲ or ▼ to reach the category to be modified.

Set 4. Press "SET" to modify this selected parameter.

▲ aux def ▼ 5. Increase or decrease the value using the ▲ or ▼ button respectively.

Set 6. Press the "SET" key to temporarily save the new value and return to the display of the parameter.

Prg mute 7. Press & hold the "Prg" key for at least 5 seconds to save changes. This action will also mute the audible alarm (buzzer) & deactivate the alarm relay.

How To Change Reading From Fahrenheit (°F) To Celsius (°C)

Prg mute Set 1. Press and hold "Prg" and "SET" keys together for at least 5 seconds; display will show "0" (password prompt).

Set 2. Confirm by pressing "SET" key.

▲ aux def ▼ 3. Press ▲ or ▼ until reaching the parameter "/ 5".

Set 4. Press "SET" to modify this selected parameter.

▲ aux def ▼ 5. Press ▲ or ▼ to change value to desired setting: "0" for Celsius (°C) or "1" for Fahrenheit (°F).

Set 6. Press "SET" key to temporarily save the new value and return to the display of the parameter.

Prg mute 7. Press & hold "Prg" key for at least 5 seconds to save changes. ***Note!*** ***All values will automatically convert to new scale. No conversion is required.***

Warning! Save Your Parameter Settings!

1. To store the new parameter values, PRESS and HOLD the "Prg" key for at least 5 seconds.
2. All modifications made to parameters will be lost if you do NOT press a button within 60 seconds. Should this "timeout" occur, normal operational settings (prior to modifications being made) will resume.
3. If the instrument is switched off before pressing the "Prg" key, all modifications to parameters will be lost.

def ▼ *To Activate Manual Defrost*

Press and hold "def" key for at least 5 seconds.

▲ aux *To Activate / Deactivate Auxiliary Output*

Press and hold the "aux" key for 1 second.

Prg mute ▲ aux *To Reset Any Alarms With Manual Reset*

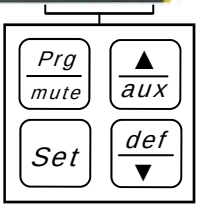
Press and hold the "Prg" and "aux" key for at least 1 second.

Oper Manuals - PUB\Templates\Carel Controller\Carel Controller IR33.pub
This data derived from Carel Material: ir33 +030220441 - rel. 2.0 - 01.05.2006

CAREL

ir33 platform

Integrated Electronic Microprocessor Controller



Programming The Instrument

To Modify The Setpoint

Set Press and hold the "SET" key for at least 1 second.

▲ aux / def ▼ 2. Use arrow keys ▲ ▼ on temperature controller to increase (or decrease) the setpoint.

Set 3. Quickly press and release the "SET" key again.

To Modify Defrost, Differential, Other Parameters

Prg mute / Set 1. Press & hold "Prg" & "SET" keys together for five (5) seconds; display will flash "0", representing password prompt.

Set 2. Confirm by pressing "SET" key.

▲ aux / def ▼ 3. Press ▲ or ▼ to reach the category to be modified.

Set 4. Press "SET" to modify this selected parameter.

▲ aux / def ▼ 5. Increase or decrease the value using the ▲ or ▼ button respectively.

Set 6. Press the "SET" key to temporarily save the new value and return to the display of the parameter.

Prg mute 7. Press & hold the "Prg" key for at least 5 seconds to save changes. This action will also mute the audible alarm (buzzer) & deactivate the alarm relay.

How To Change Reading From Fahrenheit (°F) To Celsius (°C)

Prg mute / Set 1. Press and hold "Prg" and "SET" keys together for at least 5 seconds; display will show "0" (password prompt).

Set 2. Confirm by pressing "SET" key.

▲ aux / def ▼ 3. Press ▲ or ▼ until reaching the parameter "/ 5".

Set 4. Press "SET" to modify this selected parameter.

▲ aux / def ▼ 5. Press ▲ or ▼ to change value to desired setting: "0" for Celsius (°C) or "1" for Fahrenheit (°F).

Set 6. Press "SET" key to temporarily save the new value and return to the display of the parameter.

Prg mute 7. Press & hold "Prg" key for at least 5 seconds to save changes. ***Note!*** ***All values will automatically convert to new scale. No conversion is required.***

Warning! Save Your Parameter Settings!

1. To store the new parameter values, PRESS and HOLD the "Prg" key for at least 5 seconds.
2. All modifications made to parameters will be lost if you do NOT press a button within 60 seconds. Should this "timeout" occur, normal operational settings (prior to modifications being made) will resume.
3. If the instrument is switched off before pressing the "Prg" key, all modifications to parameters will be lost.

To Activate Manual Defrost

def ▼ Press and hold "def" key for at least 5 seconds.

To Activate / Deactivate Auxiliary Output

▲ aux Press and hold the "aux" key for 1 second.

To Reset Any Alarms With Manual Reset

Prg mute / ▲ aux Press and hold the "Prg" and "aux" key for at least 1 second.

Oper Manuals - PUB\Templates\Carel Controller\Carel Controller IR33.pub
This data derived from Carel Material: ir33 +030220441 - rel. 2.0 - 01.05.2006

CAREL

ir33 platform

Integrated Electronic Microprocessor Controller

User Interface - Display

ICON	FUNCTION	DESCRIPTION	Normal operation ON	Normal operation OFF	Normal operation BLINK	Start up
	COMPRESSOR	ON when the compressor starts. Flashes when the activation of the compressor is delayed by safety times.	Compressor on	Compressor off	awaiting activation	
	FAN	ON when the fan starts.Flashes when the activation of the fan is prevented due to external disabling or procedures in progress.	Fan on	Fan off	awaiting activation	
	DEFROST	ON when the defrost is activated. Flashes when the activation of the defrost is prevented due to external disabling or procedures in progress.	Defrost in progress	Defrost not in progress	awaiting activation	
AUX	AUX	Flashes if the anti-sweat heater function is active, ON when the auxiliary output (1 and/or 2) selected as AUX (or LIGHT in firmware version 3.6) is activated.	AUX auxiliary output active(version 3.6 light auxiliary output active)	AUX auxiliary output not active	Anti-sweat heater function active	
	ALARM	ON following pre-activation of the delayed external digital input alarm. Flashes in the event of alarms during normal operation (e.g. high/low temperature) or in the event of alarms from an immediate or delayed external digital input.	Delayed external alarm (before the time 'A7' elapses)	No alarm present	Alarms in norm. operation (e.g. High/low temperature) or immediate or delayed alarm from external digital input	
	CLOCK	ON if at least one timed defrost has been set.At start-up, comes ON for a few seconds to indicate that the Real Time Clock is fitted.	If at least 1 timed defrost event has been set	No timed defrost event set	Alarm clock	ON if real-time clock present
	LIGHT	Flashes if the anti-sweat heater function is active, ON when the auxiliary output (1 and/or 2) selected as LIGHT is activated (in firmware version 3.6 it does not flash in anti-sweat heater mode and comes on when the dead band output is active).	Light auxiliary output on(version 3.6 dead band auxiliary output active)	Light auxiliary output off	Anti-sweat heater function active(version 3.6 does not flash in anti-sweat heater mode)	
	SERVICE	Flashes in the event of malfunctions, for example E2PROM errors or probe faults.		No malfunction	Malfunction (e.g. E2PROM error or probe fault). Contact service	
	CONTINUOUS CYCLE	ON when the CONTINUOUS CYCLE function is activated. Flashes if the activation of the function is prevented due to external disabling or procedures in progress (E.g.: minimum compressor OFF time).	CONTINUOUS CYCLE operation activated	CONTINUOUS CYCLE function not activated	CONTINUOUS CYCLE operation requested	

Summary Table of Alarm and Signals: Display, Buzzer and Relay

Code	Icon on the display	Alarm relay	Buzzer	Reset	Description
rE	flashing	on	on	automatic	virtual control probe fault
E0	flashing	off	off	automatic	room probe S1 fault
E1	flashing	off	off	automatic	defrost probe S2 fault
E2	flashing	off	off	automatic	probe S3 fault
E3	flashing	off	off	automatic	probe S4 fault
E4	flashing	off	off	automatic	probe S5 fault
' '	No	off	off	automatic	probe not enabled
LO	flashing	on	on	automatic	low temperature alarm
HI	flashing	on	on	automatic	high temperature alarm
AFr	flashing	on	on	manual	antifreeze alarm
IA	flashing	on	on	automatic	immediate alarm from external contact
dA	flashing	on	on	automatic	delayed alarm from external contact
dEF	on	off	off	automatic	defrost running
Ed1	No	off	off	automatic/manual	defrost on evaporator 1 ended by timeout
Ed2	No	off	off	automatic/manual	defrost on evaporator 2 ended by timeout
Pd	flashing	on	on	automatic/manual	maximum pump down time alarm
LP	flashing	on	on	automatic/manual	low pressure alarm
AtS	flashing	on	on	automatic/manual	autostart in pump down
cht	No	off	off	automatic/manual	high condenser temperature pre-alarm
CHT	flashing	on	on	manual	high condenser temperature alarm
dor	flashing	on	on	automatic	door open too long alarm
EE	flashing	off	off	automatic	E²prom error, unit parameters
EF	flashing	off	off	automatic	E²prom error, operating parameters
ccb	Signal				start continuous cycle request
ccE	Signal				end continuous cycle request
dFb	Signal				start defrost call
dFE	Signal				end defrost call
On	Signal				switch ON
off	Signal				switch OFF
rES	Signal				reset alarms w/manual reset / reset HACCP alarms / reset temp. monitoring

STRUCTURAL CONCEPTS CORPORATION TECHNICAL SERVICE: Call 1.800.433.9490 or For Your Master Service Agent See WWW.STRUCTURALCONCEPTS.COM/Contact/Master_Service_Agents.asp

LIMITED WARRANTY

All sales by Structural Concepts Corporation (SCC) are subject to the following limited warranty. "Goods" refers to the product or products being sold by SCC.

Warranty Scope: Warranty is for equipment sold in the United States, Canada, Mexico and Puerto Rico. Equipment sold elsewhere may carry modified warranty.

Warranty; Remedies; Limitations: The limit of liability of SCC toward the exchange cost of the original compressor motor (and/or any other components) is one year parts and labor. If any Goods are found to be of faulty material or workmanship within one year of the original F.O.B. unit shipment, SCC will, at its option (after inspection by an authorized representative), replace or pay the reasonable cost of replacement of the faulty Goods. If warranty claim is not made within this one year time period, SCC is not bound to warrant Goods. A motor-compressor (and/or any other components) replaced during the warranty shall not exceed manufacturer's current established wholesaler's exchange price. If replacement motor-compressor (and/or other components) is available via storage facility, parts truck, etc., SCC mandates that readily accessible replacement components be used toward repair of Goods; in such instances, SCC will replace such equipment (at its own expense) after confirmation of its use/placement on defective unit. SCC shall not be charged an additional fee, up-charge or expense for such replacement Goods. If SCC is unable to repair or replace the defective Goods, SCC shall issue a credit to the Purchaser for full or partial purchase price, as SCC shall determine. The replacement or payment in the manner described above shall be the sole and exclusive remedy to Purchaser for a breach of this warranty. If any Goods are defective or fail to conform to this warranty, SCC will furnish instructions for their disposition. No Goods shall be returned to SCC without its prior consent.

SCC's liability for any defect in the Goods shall not exceed the purchase price of the Goods. SCC SHALL HAVE NO LIABILITY TO PURCHASE FOR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, PERSONAL INJURY, PROPERTY DAMAGE, LOST PROFITS, OR OTHER ECONOMIC INJURY DUE TO ANY DEFECT IN THE GOODS OR ANY BREACH OF SCC, SCC SHALL NOT BE LIABLE TO THE PURCHASER IN TORT FOR ANY NEGLIGENT DESIGN OR MANUFACTURE OF THE GOODS, OR FOR THE OMISSION OF ANY WARNING THEREFROM.

SCC shall have no obligation or liability under this warranty for claims arising from any other party's (including Purchaser's) negligence or misuse of the Goods or environmental conditions. This warranty does not apply to any claim or damage arising for or cause by improper storage, handling, installation, maintenance, or from fire, flood, accidents, structural defects, building settlement or movement, acts of God, or other causes beyond SCC's control.

Except as expressly stated herein, SCC makes no warranty, express, implied, statutory or otherwise as to any parts or goods not manufactured by SCC. SCC shall warrant such parts or Goods only (I) against such defects, (II) for such periods of time, and (III) with such remedies, as are expressly warranted by the manufacturer of such parts of Goods. Notwithstanding the foregoing, any warranty with respect to such parts of Goods and any remedies available as a result of a breach thereof shall be subject to all of the procedures, limitations, and exclusions set forth herein.

THE WARRANTIES HEREIN ARE IN LIEU OF ALL WARRANTIES, EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE. IN PARTICULAR, SCC MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

No representative, agent or dealer of SCC has authority to modify, expand, or extend this Warranty, to waive any of the limitations or exclusions, or to make any different or additional warranties with respect to Goods.

Period of Limitations: No claim, suit or other proceeding may be brought by Purchaser for any breach of the foregoing warranty or this Agreement by SCC or in any way arising out of this Agreement or relating to the Goods after one year from the date of the breach. In the interpretation of this limitation on action for a breach by SCC, it is expressly agreed that there are no warranties of future performance of the goods that would extend that period of limitation herein contained for bringing an action.

Indemnifications: Purchaser agrees to indemnify, hold harmless, and defend SCC if so requested, from any and all liabilities, as defined herein, suffered, or incurred by SCC as a result of, or in connection with, any act, omission, or use of the Goods by Purchaser, its employees or customers, or any breach of this Agreement by Purchaser. Liabilities shall include all costs, claims, damages, judgments, and expenses (including reasonable attorney fees and costs).

Remedies of SCC: SCC's rights and remedies shall be cumulative and may be exercised from time to time. In a proceeding or action relating to the breach of this Agreement by Purchaser, Purchaser shall reimburse SCC for reasonable costs and attorney's fees incurred by SCC. No waiver by SCC of any breach of Purchaser shall be effective unless in writing nor operate as a waiver of any other breach of the same term thereafter. SCC shall not lose any right because it has not exercised it in the past.

Applicable Law. This Agreement is made in Michigan; it is governed by and interpreted according to Michigan law. Any lawsuit arising out of this Agreement or the Goods may be handled by a federal or state court whose district includes Muskegon County, Michigan, and Purchaser consents that such court shall have personal jurisdiction over Purchaser.

LED Lighting Components Within Lighting System: Retail: 5-year LED warranty from date of shipment. Foodservice: 2-year LED warranty from date of shipment. After one year, warranty does not include labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of either defective part or replacement parts. The remedy of repair or provision of a replacement part without charge shall be the exclusive remedy for any warranty claim. The replacement LED and/or power supply assumes the unused portion of warranty remaining on unit(s). A 90-day warranty will apply for any LED sold as a service part. Warranty claim must include serial and model number of unit as well as date code on defective LED lighting component(s). Manufacturer may request return of defective part(s) at customer's expense to initiate claim.

Miscellaneous: If any provision of this Agreement is found to be invalid or unenforceable under any law, the provision shall be ineffective to that extent and for the duration of the illegality, but the remaining provisions shall be unaffected. Purchaser shall not assign any of its rights nor delegate any of this obligations under this Agreement without prior written of SCC. This Agreement shall be binding upon and inure to the benefit of SCC and Purchaser and each of their legal representatives, successors and assigns.

SCC warrants its products to be free of defects in materials and workmanship under normal use and service for a period of one (1) year from the date of delivery.

This warranty is extended only to the original purchaser for use of the Goods. It does not cover normal wear parts such as plastic tongs, tong holders, tong cables, bag holders, or acrylic dividers.

General Conditions: All service labor and/or parts charges are subject to approval by SCC. Contact the Customer Service Department in writing or call 231-798-8888.

All claims must contain the following information: (1) model & serial code number of equipment; (2) the date and place of installation; (3) the name and address of the agency which performed the installation; (4) the date of the equipment failure; and (5) a complete description of the equipment failure and all circumstances relating to that failure.

Once the claim has been determined to be a true warranty claim by SCC's Customer Service Department, the following procedure will be taken: (1) replacement parts will be sent at no charge from SCC on a freight prepaid basis; (2) reimbursement for service labor will be paid if the following conditions have been met - (a) prior approval of service agency was awarded from the Customer Service Department; and (b) an itemized statement of all labor charges incurred is received by the Customer Service Department. The cost of the service labor reimbursement will be based on straight time rates and reasonable time for the repair of the defect.

If problems occur with any compressor, notify SCC's Customer Service Department immediately. Any attempt to repair or alter the unit without prior consent from the Customer Service Department will render any warranty claim null and void. This warranty and protection plan does not apply to any condensing unit or any part thereof which has been subject to accident, negligence, misuse, or abuse, or which has not been operated in accordance with the manufacturer's recommendations or if the serial number of the unit has been altered, defaced, or removed.

One Year Limit of Liability: After SCC's one-year parts and labor warranty on the original F.O.B. unit has expired, SCC is not liable for either the equipment or labor costs of repairing or replacing the motor compressor, nor any other components that were included in the original F.O.B. unit.