

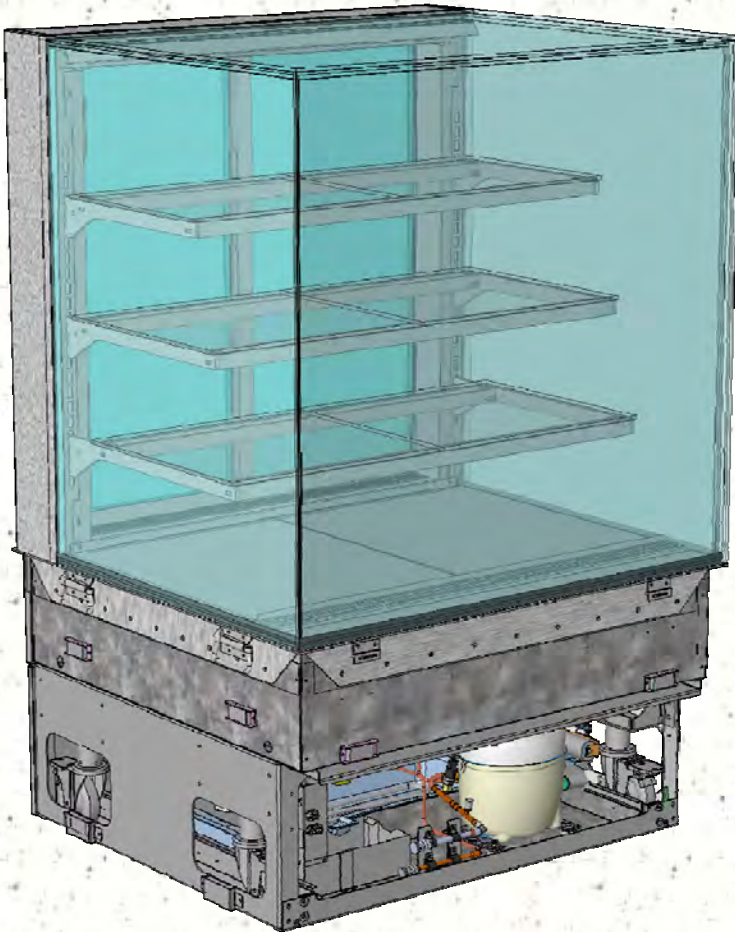
Reveal™ INSTALLATION & OPERATING MANUAL

SCC P/N
20-80692

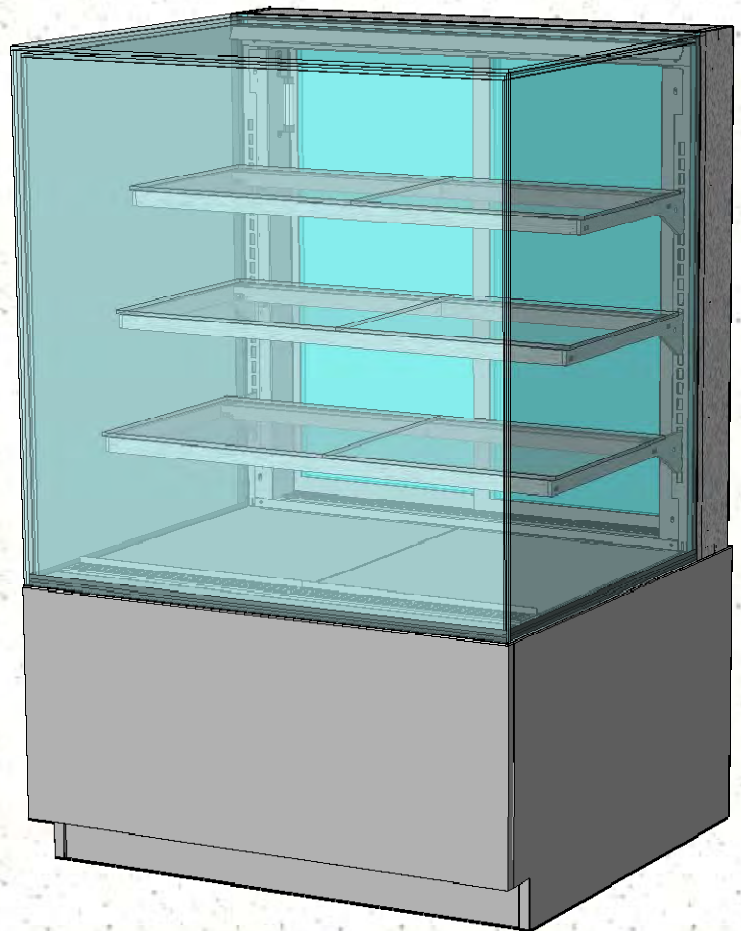
REVEAL™ FREE STANDING SERVICE REFRIGERATED MERCHANDISERS

- > REAR SLIDING DOORS > SELF-CONTAINED OR REMOTE UNITS
- > **CAUTION! DO NOT PUSH OR PULL ON UPPER GLASS ENCLOSURE!**
- > **ONLY USE HANDLES (AT EACH END OF CASE) TO PUSH OR PULL CASE INTO POSITION!**
- > SEE PAGE 3 FOR THIS OPERATING MANUAL'S MODEL APPLICABILITY AND DIMENSIONS
- > SEE PAGE 8 FOR FRONT PANEL, SIDE CLADDING, AIR INTAKE GRILLE & FRONT TOE-KICK ATTACHMENT INSTRUCTIONS

Models Are Shipped WITHOUT Panels and Cladding Attached. See Page 8 For Component Attachment Instructions.



Model NR3655RSV Free Standing Unit Shown Before Front/Side Cladding and Toe-Kick Have Been Attached



Model NR3655RSV Free Standing Unit Shown After Front/Side Cladding and Toe-Kick Have Been Attached

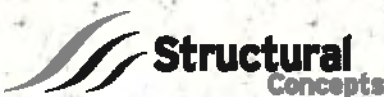


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REVEAL™ FREE STANDING REFRIGERATED SERVICE MODEL APPLICABILITY & DIMS.

Model	Upper Display Case Height	Overall Case Height	Case Depth x Width
NR3633RSV	13 5/8"	32 7/8"	33"D* x 35 3/4"W
NR3640RSV	20 3/8"	39 5/8"	33"D* x 35 3/4"W
NR3647RSV	27 7/8"	47 1/8"	33"D* x 35 3/4"W
NR3655RSV	35 1/4"	54 5/8"	33"D* x 35 3/4"W
NR4833RSV	13 5/8"	32 7/8"	33"D* x 47 3/4"W
NR4840RSV	20 3/8"	39 5/8"	33"D* x 47 3/4"W
NR4847RSV	27 7/8"	47 1/8"	33"D* x 47 3/4"W
NR4855RSV	35 1/4"	54 5/8"	33"D* x 47 3/4"W

OVERVIEW

- These Structural Concepts Reveal™ cases are designed to merchandise packaged products at 40°F (4 °C) or less product temperatures.
- Cases should be installed and operated according to this operating manual's instructions to insure proper performance. Improper use will void warranty.

TYPE I vs. TYPE II ENVIRONMENTAL CONDITIONS

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

- Type I display refrigerators are intended for use in an area where environmental conditions are controlled and maintained so that the ambient temperature does not exceed 75 °F (24 °C) and 55% maximum humidity.
- Type II display refrigerators are intended for use in an area where environmental conditions are controlled

and maintained so that the ambient temperature does not exceed 80 °F (27 °C) and 55% maximum humidity.

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

COMPLIANCE

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

WARNINGS

- Please read the important warnings in this document carefully as they can prevent injury or death.
- See next page for **PRECAUTIONS**.



**ATTENTION
CONTRACTORS**

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

WARNING

**ELECTRICAL
HAZARD**



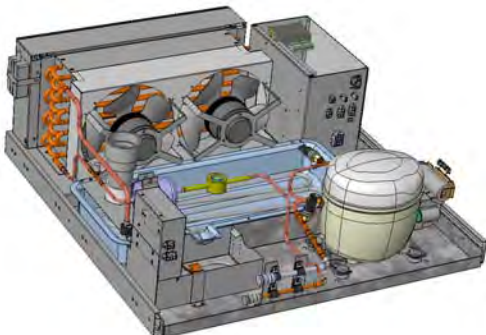
WARNING
Risk of electric shock. Disconnect power before servicing unit.
CAUTION! More than one source of electrical supply is employed with units that have separate circuits.
Disconnect ALL ELECTRICAL SOURCES before servicing.

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.



CAUTION! IF YOUR UNIT IS SELF-CONTAINED, YOU MUST CHECK CONDENSATE PAN POSITION & PLUG!
Water on flooring can cause extensive damage!
Before powering up unit, check and confirm that:

- Condensate pan is **DIRECTLY UNDER** condensate drain.
- Condensate pan plug is securely plugged into receptacle.
- Overflow pan has plug connected to its box. Units with optional Clean Sweep® **MUST HAVE** two plugs connected.

PRECAUTIONS

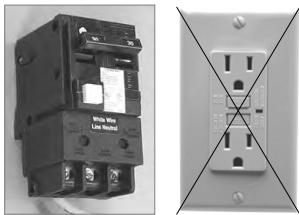
- Following are important precautions to prevent damage to unit or merchandise.
- Please read carefully!

WIRING DIAGRAM

- Each case has its own wiring diagram folded and in its own packet.
- Wiring diagram placement may vary (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.



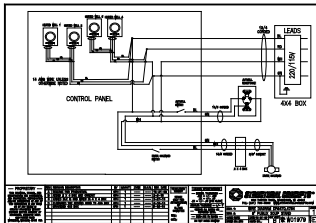
CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

- Performance issues caused by adverse conditions are **NOT** covered by warranty.
- 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.).



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

- Thermometers and thermostats reflect air temperatures **ONLY**.
- For **PRECISE** food temperatures, use calibrated food thermometers only.



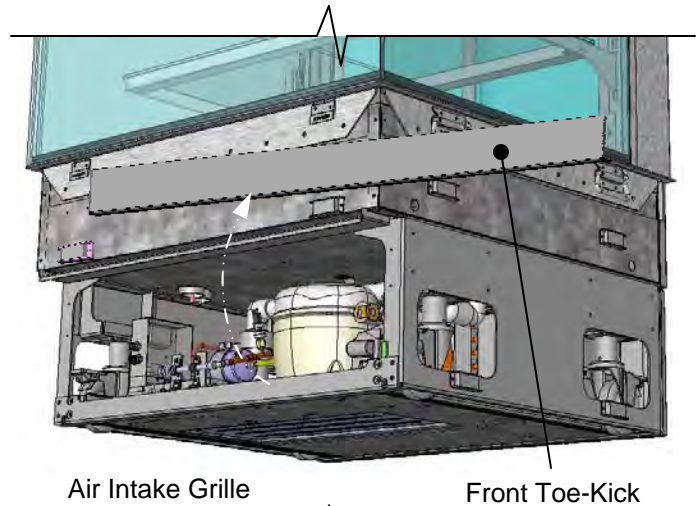
WIRING DIAGRAM FORMAT & LOCATION

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

INSTALLATION: TOE-KICK & AIR INTAKE GRILLE REMOVAL / DISCONNECTING CASE FROM PALLET

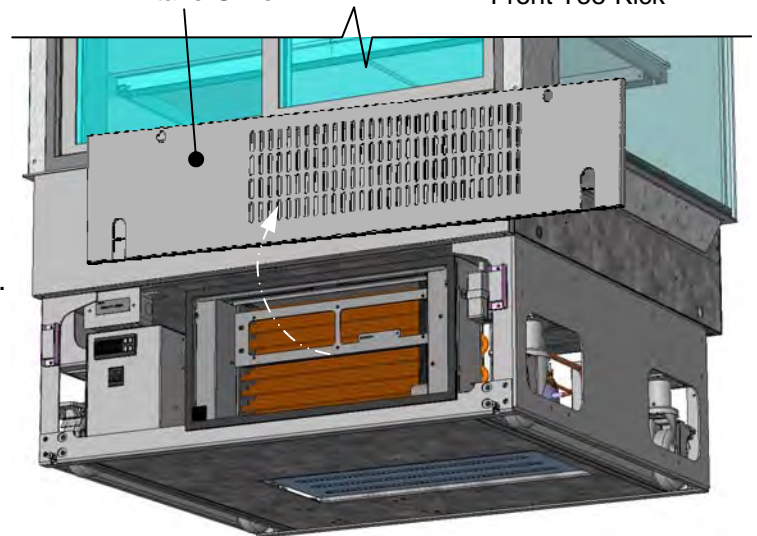
1. Remove Front Toe-Kick From Case

- To prevent damage to case, remove front toe-kick from case before removing from pallet.
- Toe-kick is held in place by magnets only. No screw removal is required.
- Place front toe-kick in secure location while removing case from pallet.



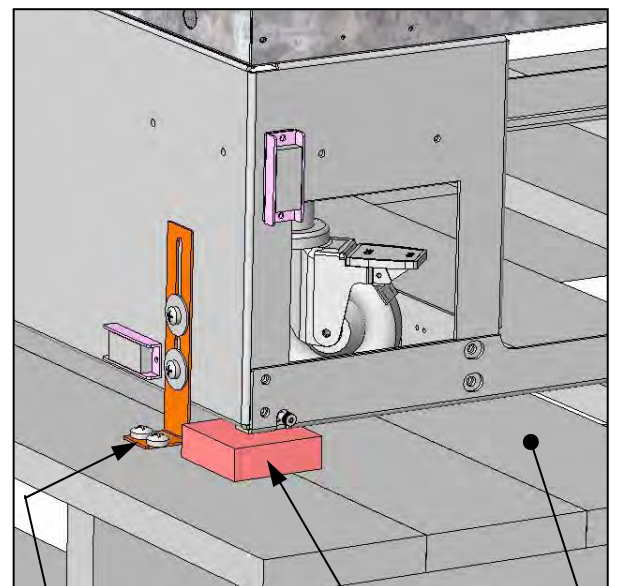
2. Remove Air Intake Grille From Case

- To prevent damage to case, if air intake grille is on the case, lift it **UP and OFF**.
- Air intake grille is held in place by magnets. No screw removal is required.
- Place air intake grille in secure location while removing case from pallet.



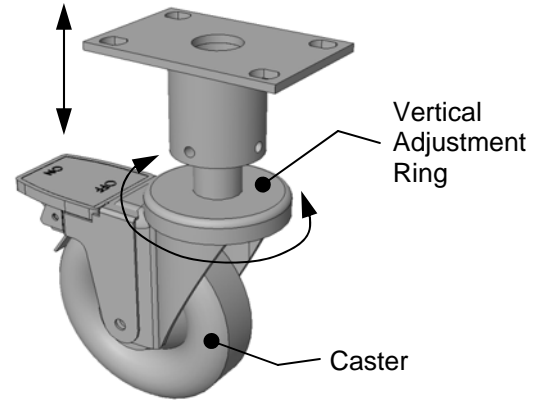
3. Disconnect Case From Pallet

- Remove screws from shipping brackets. Remove and discard shipping brackets from pallet.
- Place J-bar/pry under base frame. Raise case up from pallet to take weight off casters.
- With case raised, lower casters all the way down against pallet (see next step for detailed instructions on lowering or raising casters).
- Remove rubber shipping blocks.



4. Caster Height: Raising and Lowering

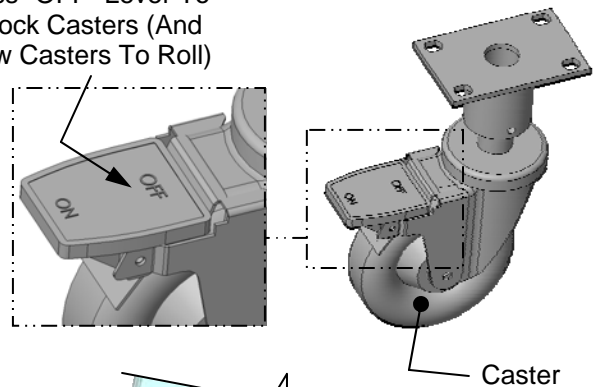
- Raise or lower casters (to adjust case height) by rotating casters' vertical adjustment rings.
 - Rotate vertical adjustment ring clockwise to lower caster (and increase height of case).
 - Rotate vertical adjustment ring counter-clockwise to raise caster (and decrease height of case).



5. Caster Rolling Capability: Unlocking

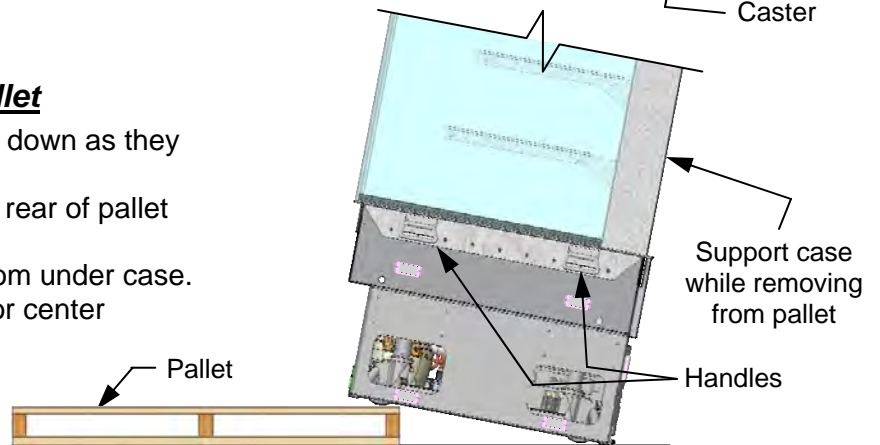
- Important! Case is shipped with caster mechanisms factory set at **ON** (locked) to prevent case from rolling.
- Unlock casters by pressing **OFF** on the caster mechanism.
- See illustration at right.

Press "OFF" Lever To Unlock Casters (And Allow Casters To Roll)



6. Carefully Remove Case From Pallet

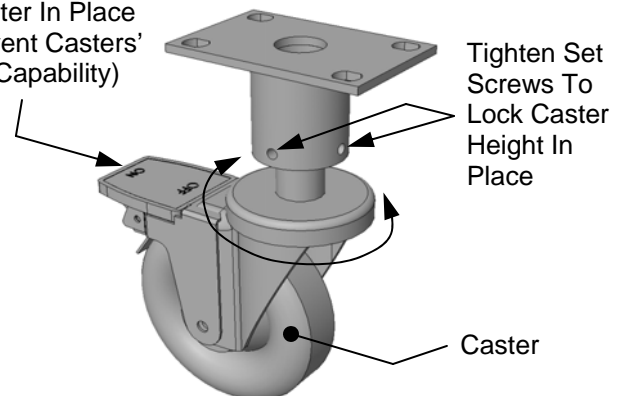
- Check that casters are lowered as far down as they will go (as instructed in step #4).
- Use handles to carefully slide case to rear of pallet (see illustration at right).
- Carefully lower to floor. Slide pallet from under case.
- Maintain support of case at all times or center of gravity may cause case to fall.



7. Casters: Locking

- After case is at desired position (and height), use level to check that case is level and plumb.
- Readjust height as needed (as instructed in step #4).
- **Locking Height:** After proper height (and positioning) of case is attained, tighten the two (2) set screws to lock each caster's height in place.
- **Locking Movement:** Then, to prevent casters' rolling capability, lock casters by pressing ON atop the "ON" and "OFF" lever mechanism (shown at right). Case will now be secured at its new location.

Press "ON" Lever To Lock Caster In Place (And Prevent Casters' Rolling Capability)



INSTALLATION, CONT'D: REMOVE SHIPPING BRACE AND HANDLES / ATTACH COMPONENTS

8. Remove Handles On Sides of Case

- When case has been moved into position, remove handles from both sides of case (shown below).

9. Remove Shipping Brace

- Shipping brace keeps condenser package secure during shipment and while positioning case.
- After case is in position, remove shipping brace that is just below condenser package.
- **Note:** Whether Condenser Package Access Is At Rear (As Illustrated Below) or Front, Shipping Brace Is ONLY To Be Removed From Condenser Package Access Side of Case!

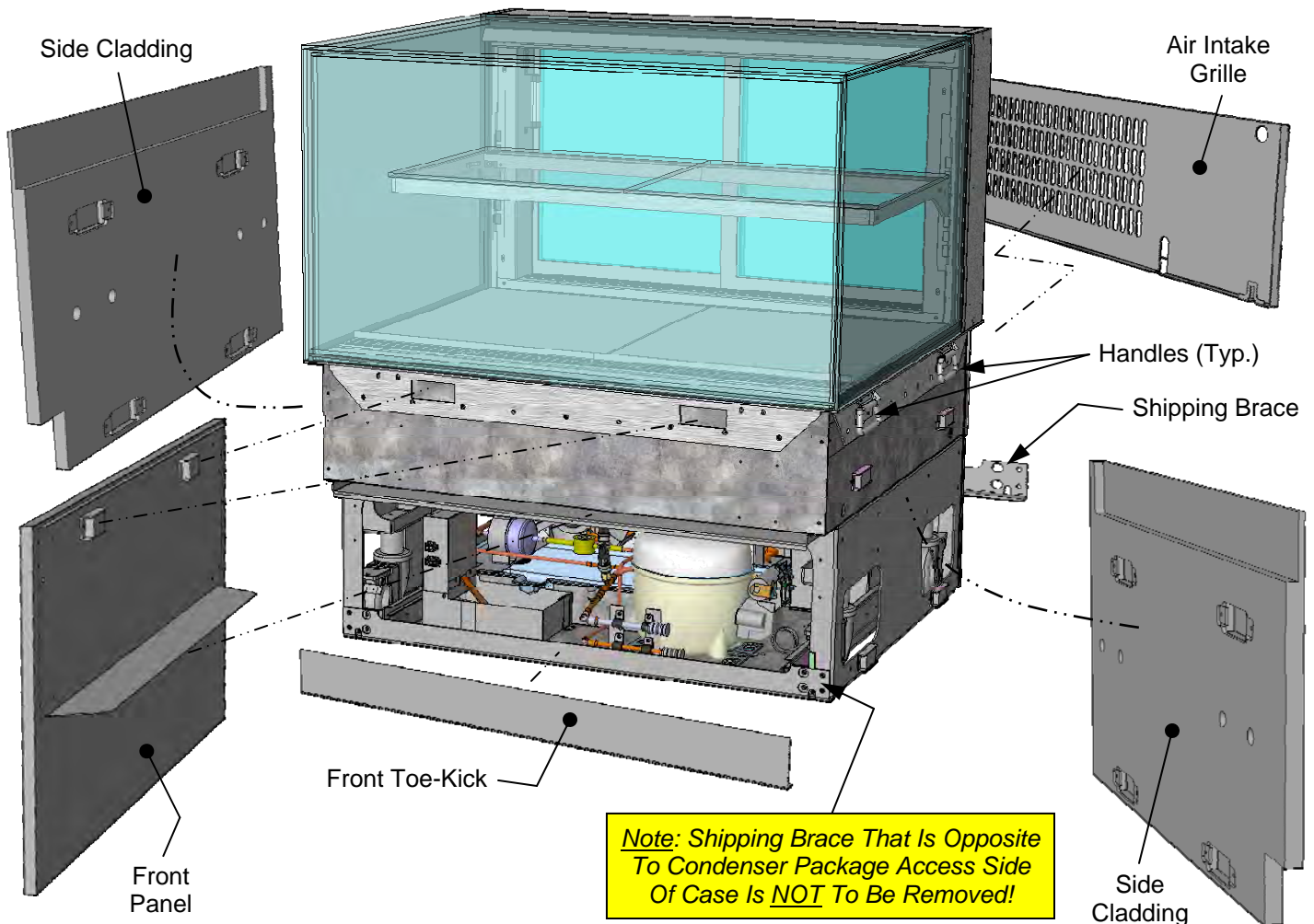
10. Attach Components

- **Important! Attach front panel to case first!**
To do so, slide center bracket (attached to front panel) atop case's front panel support bracket.

Important! Attach Front Panel To Case First!

- Then, slide panel into case until magnets attach to case in flange's cutout openings (as shown).
- Other components to be attached: side cladding, panel base front kick and air intake grille
- After case is in position, all components may be attached to case **WITHOUT** screw attachments.
- Then, attach side cladding to magnets.
- Finally, air intake grille and toe-kick may then be attached to case.
- Components use hook/slot/magnet attachment method for secure retention.
- Carefully remove from packaging.
- Grasp each component firmly and carefully install as illustrated below.

Model NR3640RSV Free Standing Unit (Shown) May Not Exactly Reflect Every Feature or Option of Your Particular Case.



INSTALLATION, CONT'D: BRACKET RETAINERS / SHELVING ASSEMBLY COMPONENTS

11. Nylon Shipping Bracket Retainers

- Retainers keep shelving secure during shipping.
- There are two shipping bracket retainers per side.
- To adjust or remove shelves you must remove nylon shipping bracket retainers.
- Pliers may be required to accomplish this task.
- See illustration below for locations.

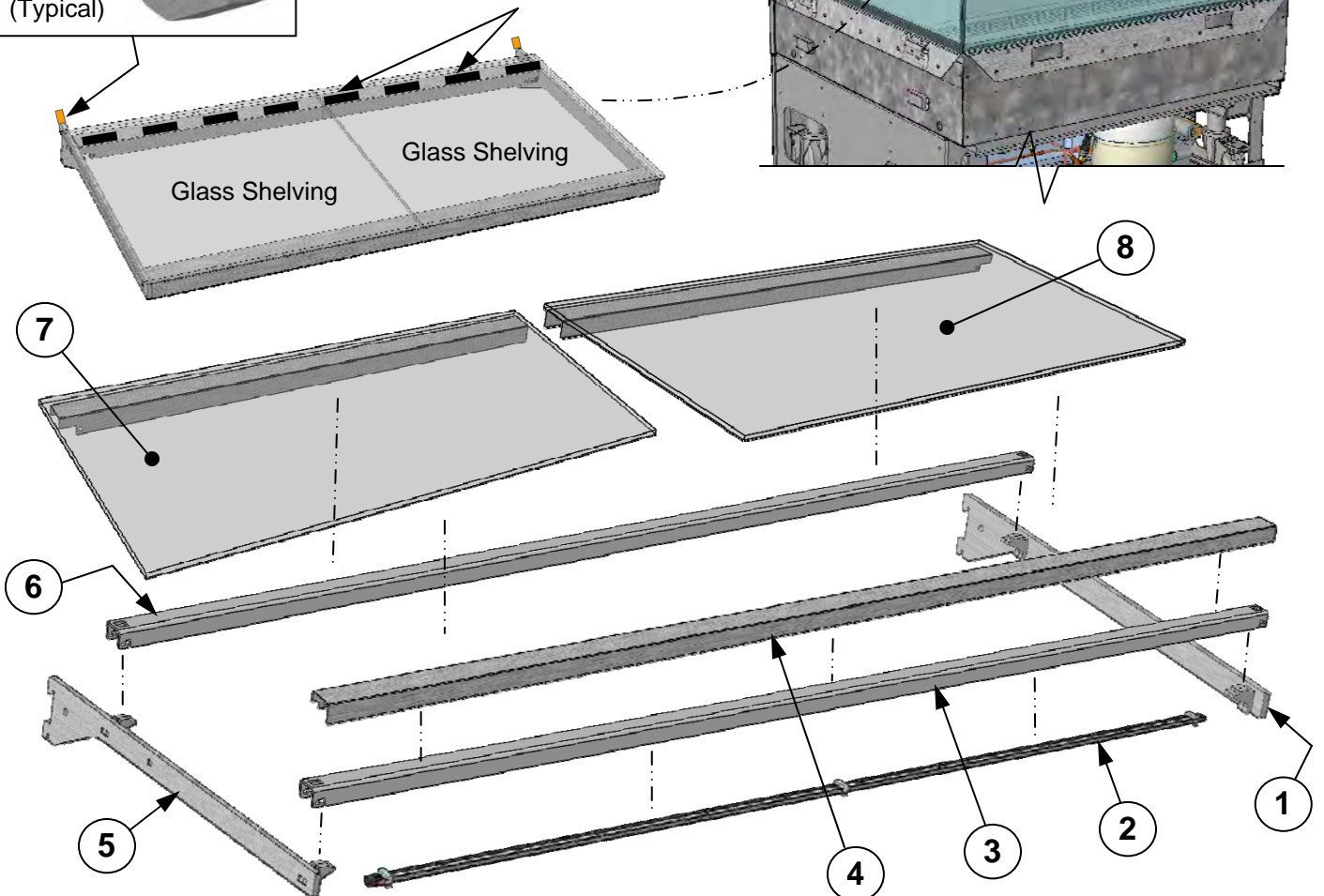
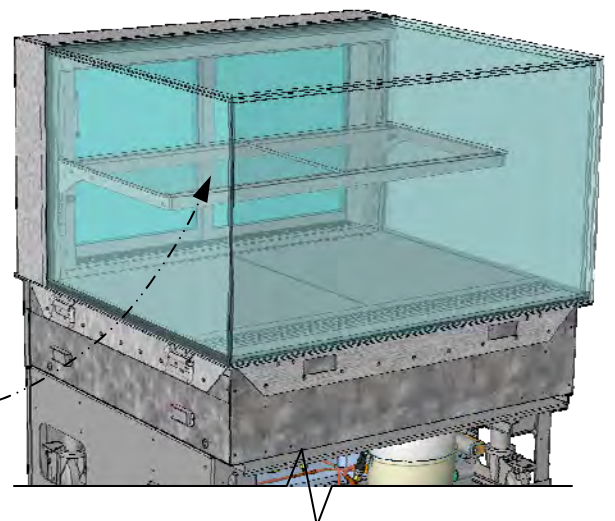
12. Shelving Assembly Components

- Check that glass shelving is in proper position before placing product in case
- Shelves may be adjusted vertically or entirely removed from merchandiser.
- Metal shelving bracket ARE NOT able to be angled. They are at a fixed 90°.

- There are eight (8) components comprising each shelf assembly:
 1. Right bracket (with hooks to attach to slots in upright)
 2. LED light with magnets
 3. Front shelf support rail (LED light attaches to its inner cavity via magnets)
 4. Cover (rests atop front shelf support rail)
 5. Left bracket (with hooks to attach to slots in upright)
 6. Rear shelf support rail
 - 7-8. Left and right glass shelf/cover assemblies (glass is affixed to covers with 2-sided tape).

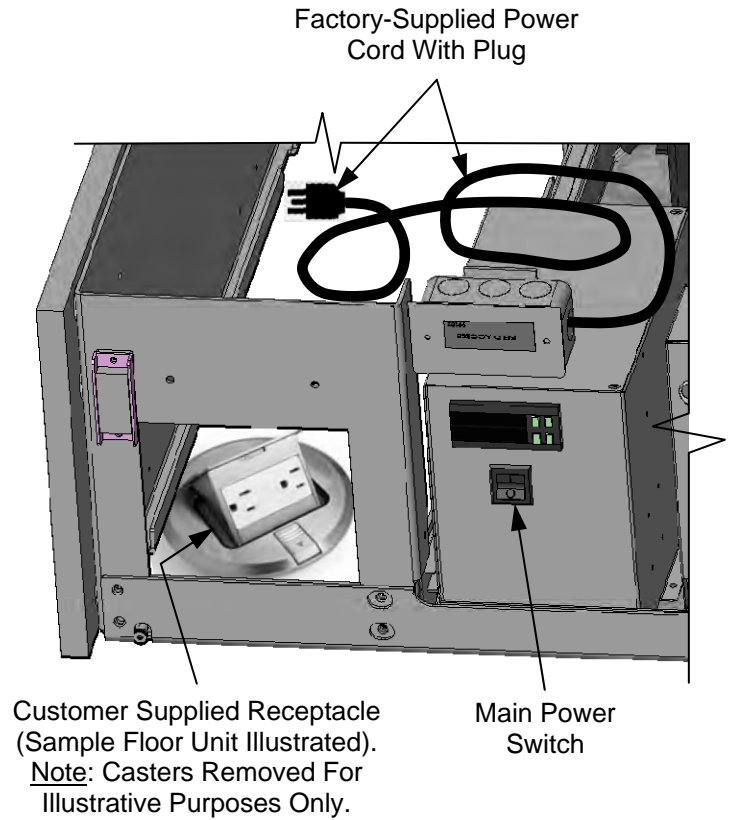


From Factory: Transparent 2-Sided Tape Holds Glass To Top Of Rear Shelf Support Rail



13. Plug Case In / Turn Main Power Switch On

- Power cord with plug is factory-supplied.
- Plug case into customer-supplied electrical outlet.
- Note 1: Partially-disassembled view at right is shown with casters removed for illustrative purposes only. View/location of floor receptacle is for illustrative purposes only.
- Note 2: Due to space constraints, it may be necessary to pull out condenser package to maneuver power cord plug around components and into receptacle.
- Turn main power switch on.
- Check that case is energized. Lift deck pans to confirm that evaporator fans are rotating).
- Turn on LED light switch at front-left header.

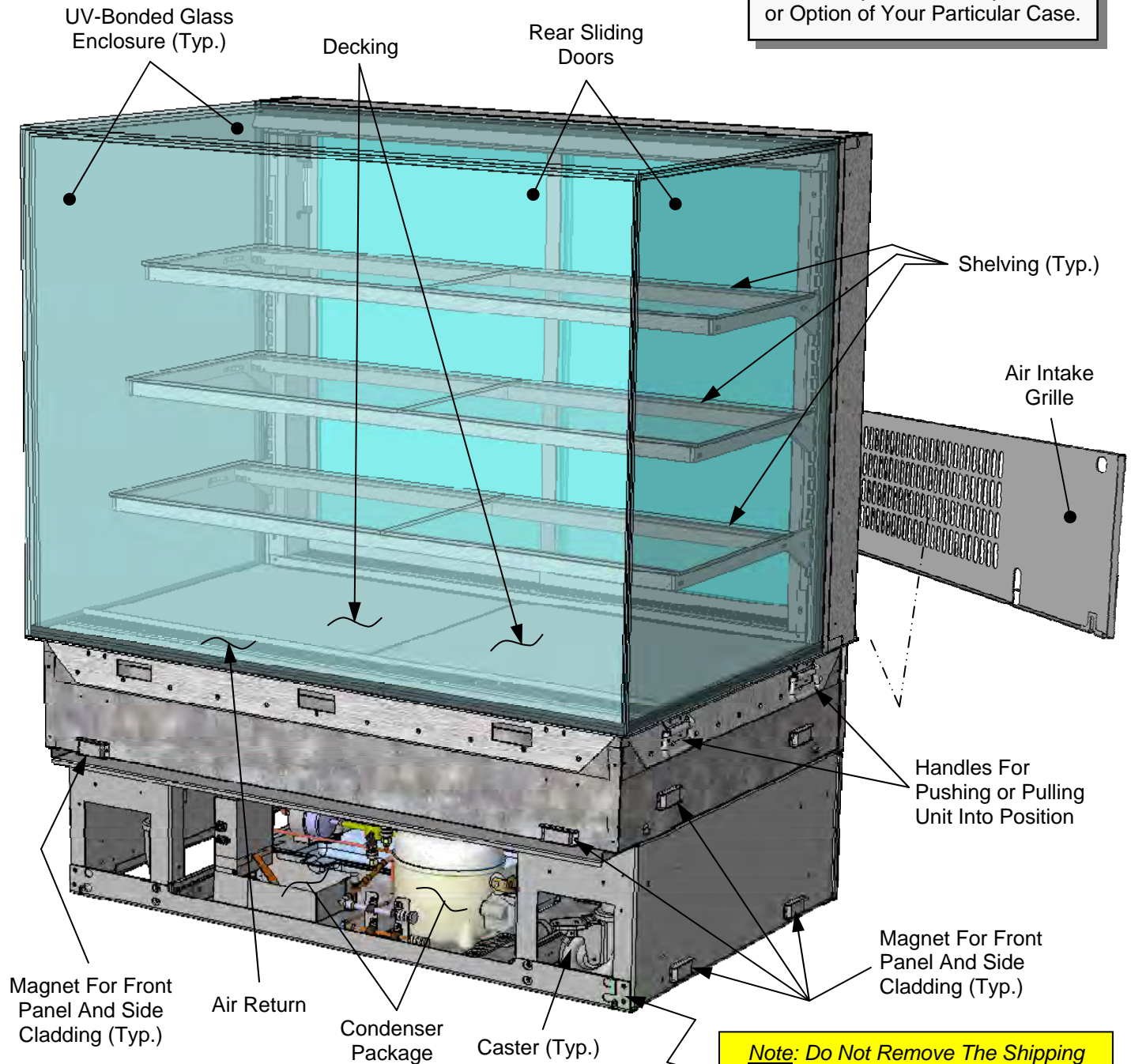


CASE DESIGN: FRONT VIEW OF FREE STANDING, SERVICE MERCHANDISERS

1. Case Design: Front View Of Free Standing, Service Merchandisers

- Model NE3635RSV is illustrated below.
- Air intake grille, side cladding, front base kick & front panel have been removed for illustrative purposes only.
- See next page for rear view.

Model NR4855RSV (Shown) May Not Exactly Reflect Every Feature or Option of Your Particular Case.

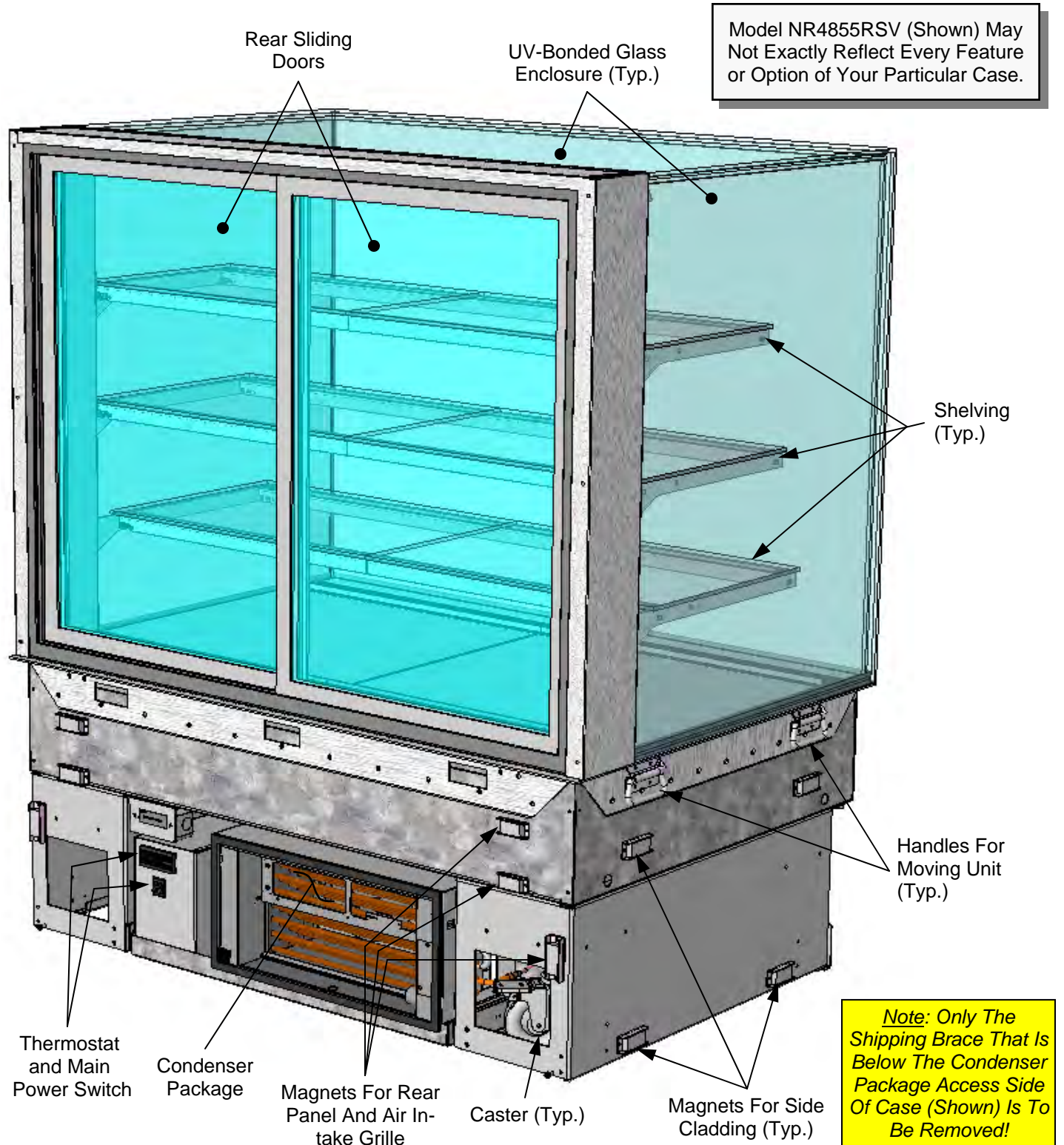


Note: Do Not Remove The Shipping Brace That Is Opposite The Condenser Package Access Side Of Case

CASE DESIGN: REAR VIEW OF FREE STANDING, SERVICE MERCHANDISERS

2. Case Design: Rear View Of Free Standing, Service Merchandisers

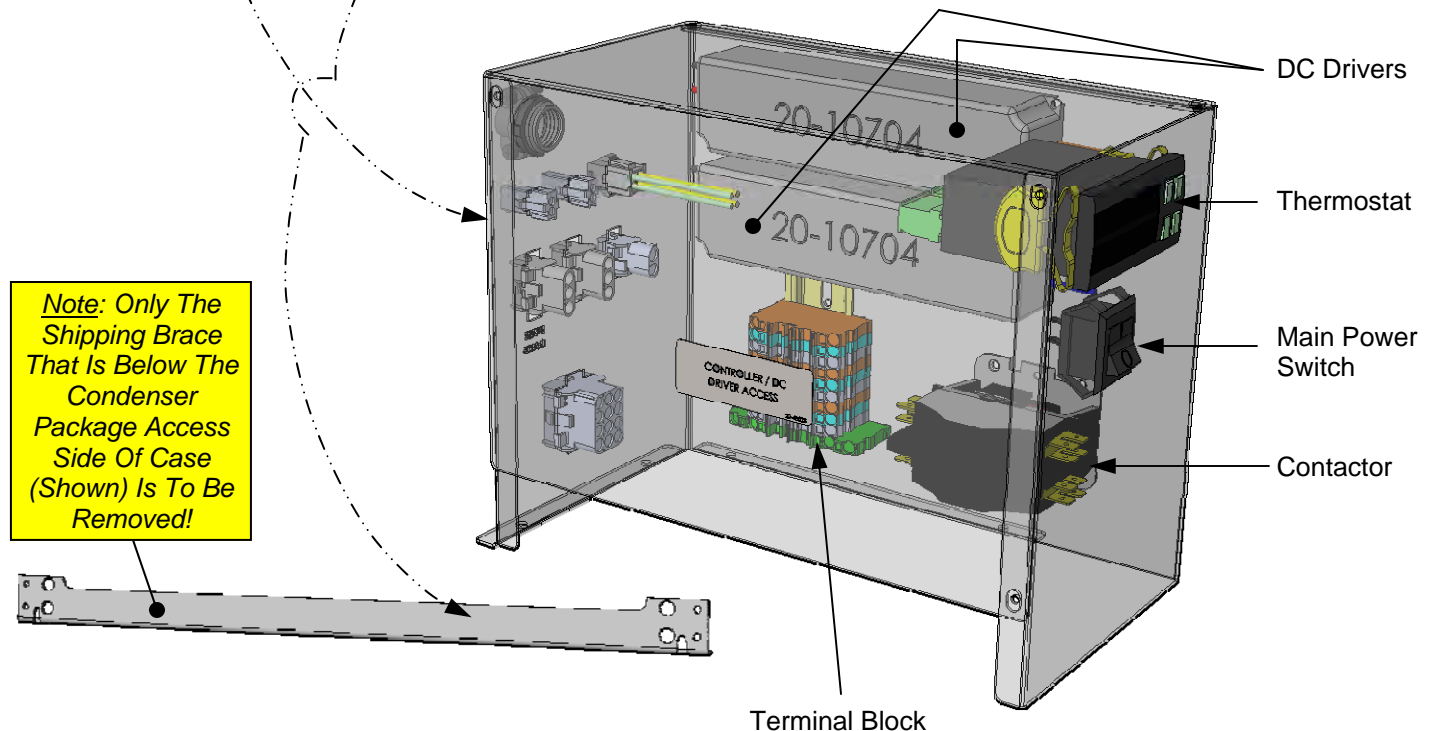
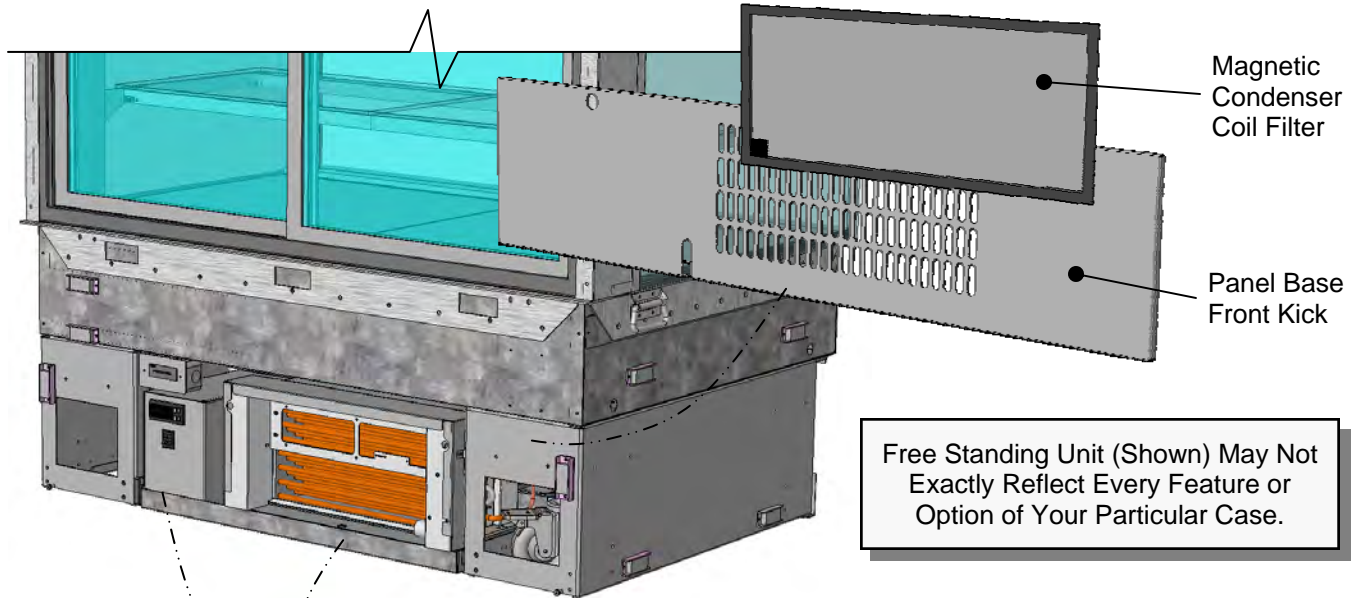
- Model NR4855RSV free standing unit is illustrated below.
- Air intake grille, rear panel, side cladding & shipping brace have been removed for illustrative purposes only.



3. Case Design: Controller / DC Driver Access / Components

- Remove front panel by lifting up and off; no screw removal is required.
- Magnetic condenser coil filter is directly accessible. See **CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)** for cleaning instructions.
- Remove shipping brace by loosening two (2) shoulder screws.

- Remove 4 screws from the controller/DC driver box cover to access electrical components.
- **Note:** Only certified electricians are to access electrical components in case.
- After accessing controller and/or DC drivers, return components to case in reverse order they were removed.



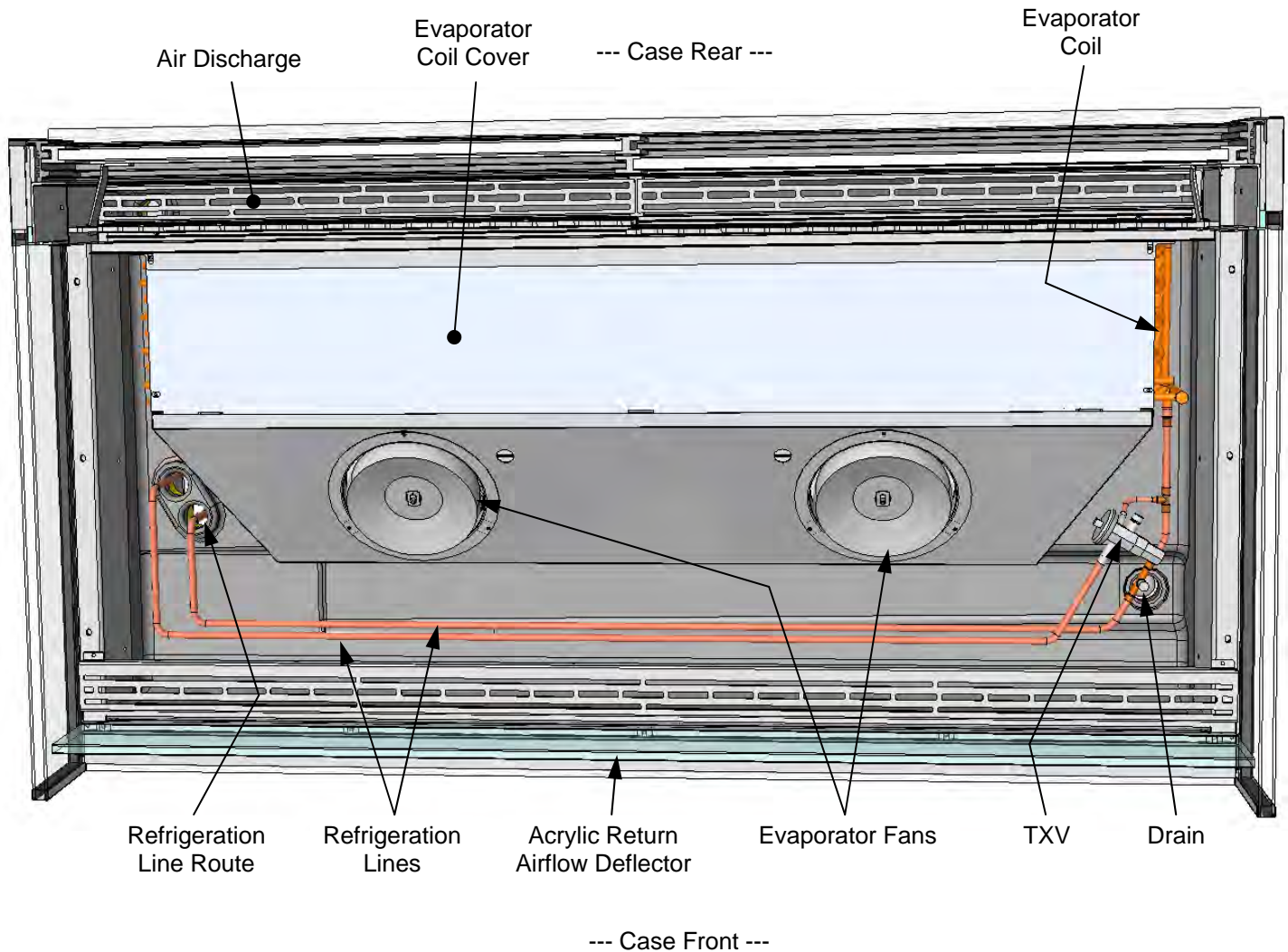
CASE DESIGN, CONT'D: TUB AREA (AFTER DECK PAN REMOVAL)

4. Case Design, Cont'd: Tub Area (After Deck Pan Removal)

Note: Refrigeration service to be accomplished by refrigeration / electrical contractors only.

Caution! Turn main power off before accessing tub area.

- Illustration below shown after removal of deck pans.
- After cleaning or servicing in tub area, return deck pans to case and return power to case.



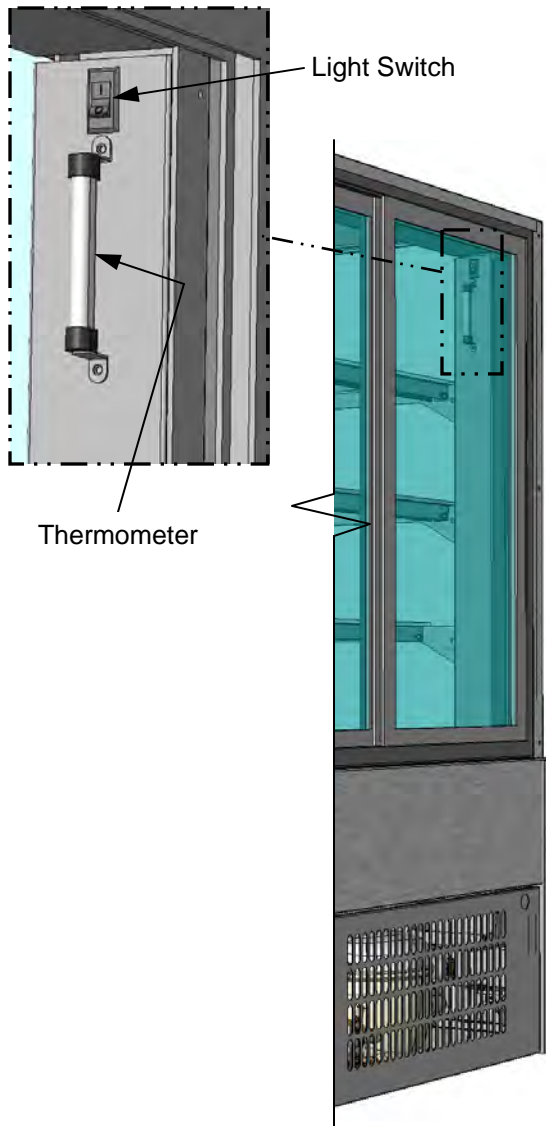
Note: Internals Shown May Not Exactly Reflect Every Feature or Option of Your Particular Case.

5. Case Design, Cont'd: LED Lights / LED Light Switch

- LED lights are located at both header and shelving of case.
- See illustrations below.
- **Note:** For step-by-step change-out instructions, see **MAINTENANCE, CONT'D: LED STYLE LIGHT FIXTURES** section in this operating manual.

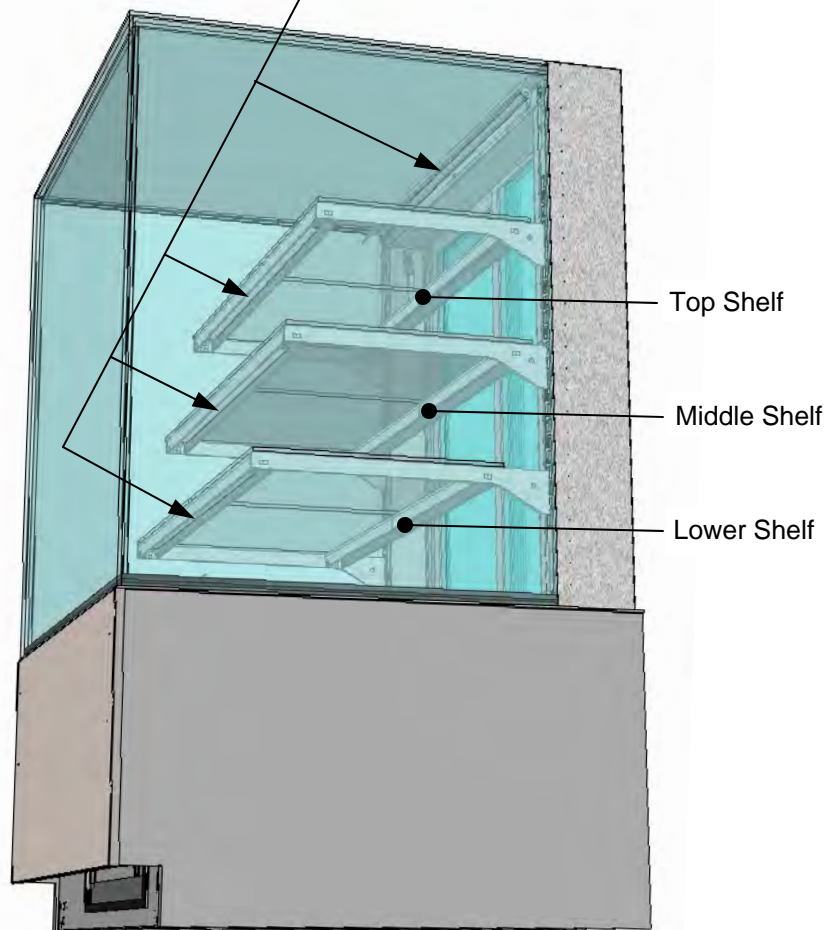
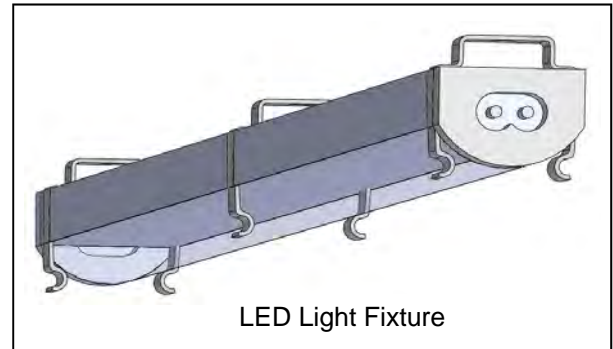
6. LED Light Switch

- LED light switch is at rear-right header (as shown in below-left illustration).
- You must slide rear-right door open to access LED light switch.



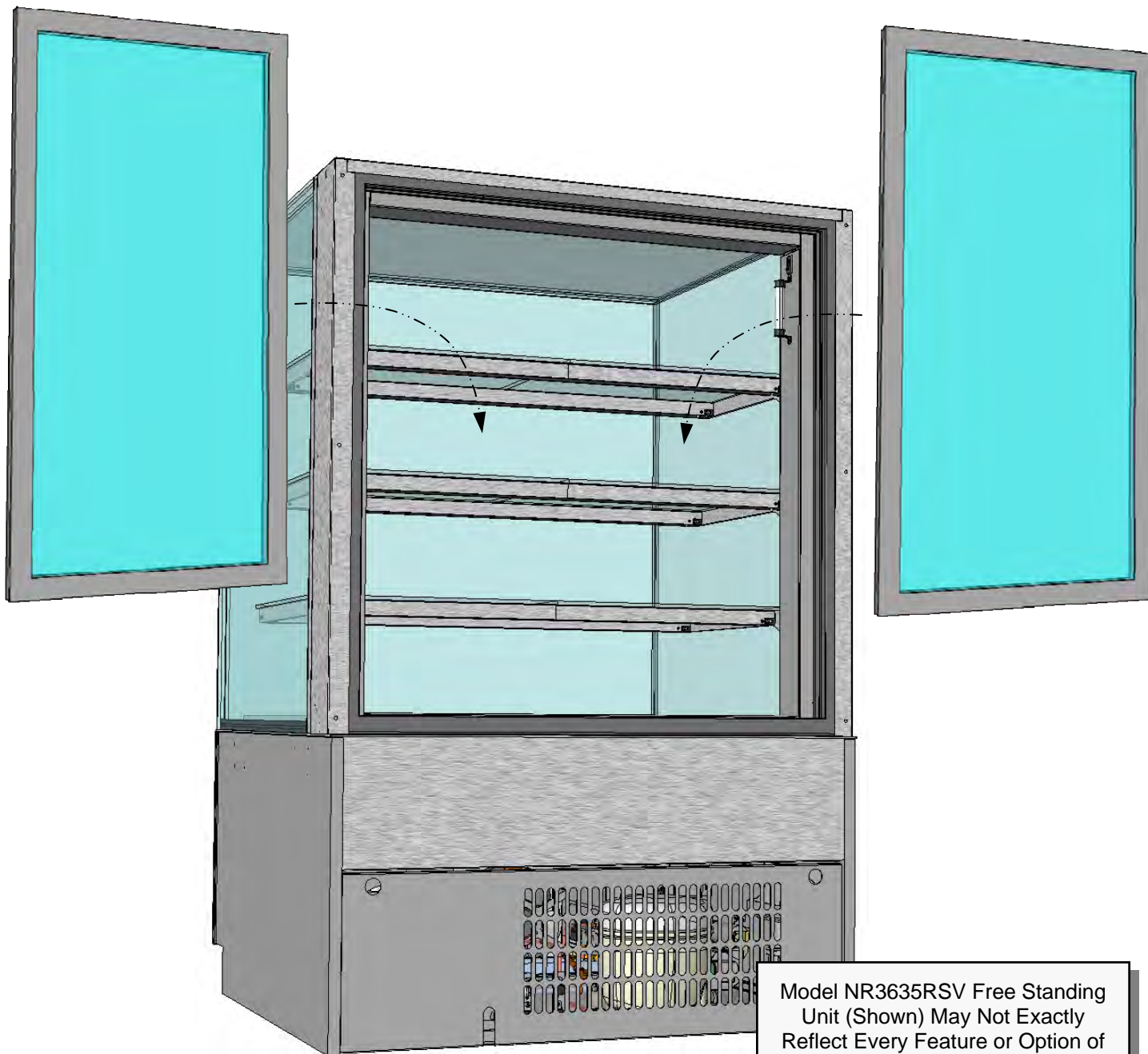
7. Thermometer Function & Placement

- Thermometer provides temperature of refrigerated section of case.
- Thermometers reflect warmest air temperature in merchandiser. They do not provide actual food temperature.
- Use probe thermometers to determine actual product temperatures.



8. Rear Sliding Door Removal / Replacement

- To remove rear sliding doors, move rear doors toward center of the case.
- Individually lift each door up toward the top of the case; pivot the bottom of the door out.
- Return doors to case in reverse order they were removed.



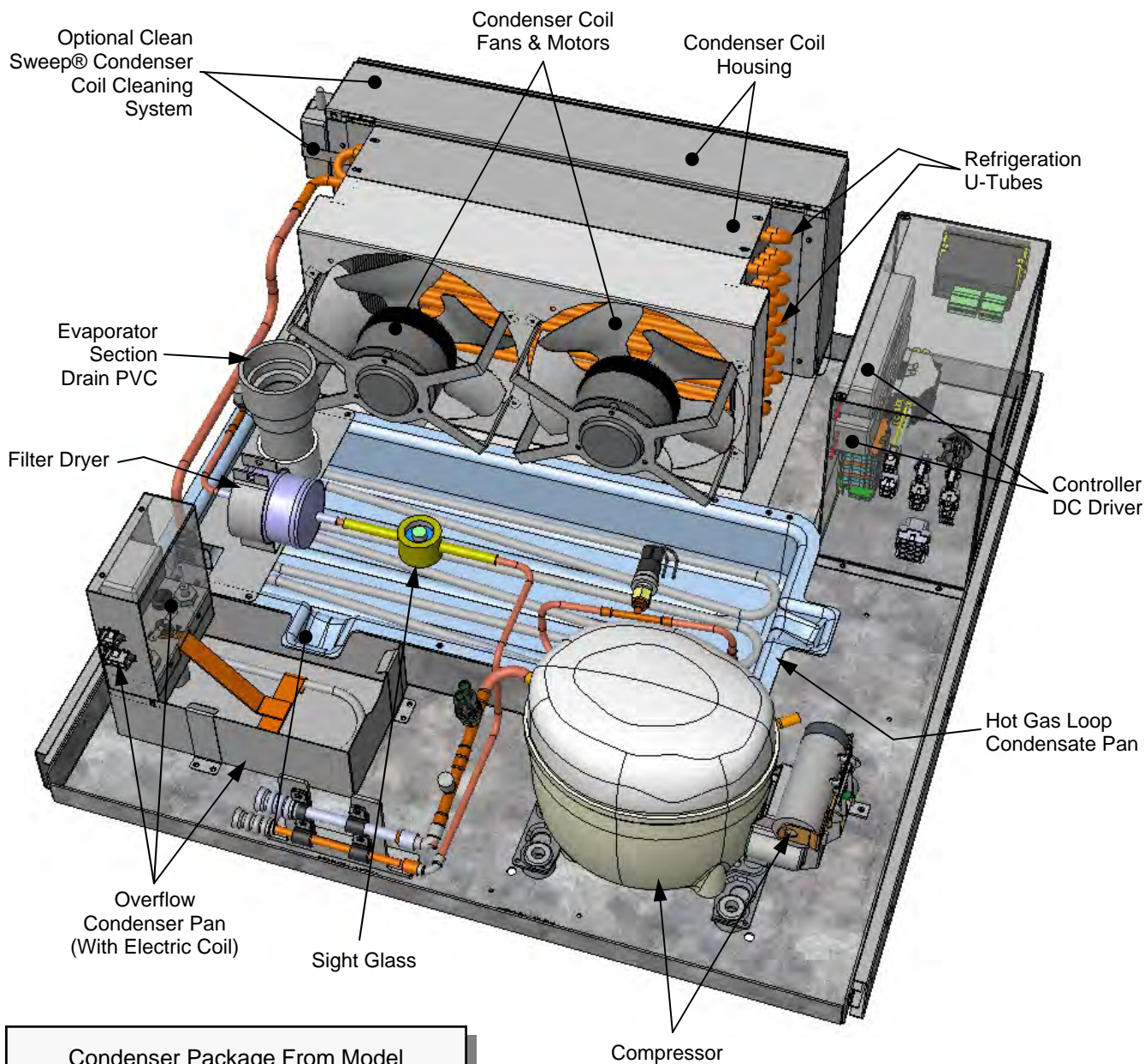
Model NR3635RSV Free Standing Unit (Shown) May Not Exactly Reflect Every Feature or Option of Your Particular Case.

9. Condenser Package (Self-Contained Units Only)

Assembly/disassembly and servicing to be performed by licensed refrigeration contractor.

Condensate Package Configuration

- Illustration shown is from model NR3635RSV. Your unit's component layout may slightly vary.



Condenser Package From Model NR3635RSV Free Standing Unit (Shown) May Not Exactly Reflect Every Feature or Option of Your Particular Case.

PRODUCT PLACEMENT / AIRFLOW CONSIDERATION / LOAD LINES

1. Product Placement

- Product can be placed on decking or steps (risers) within the service display area.
- A wide range of product may be displayed.

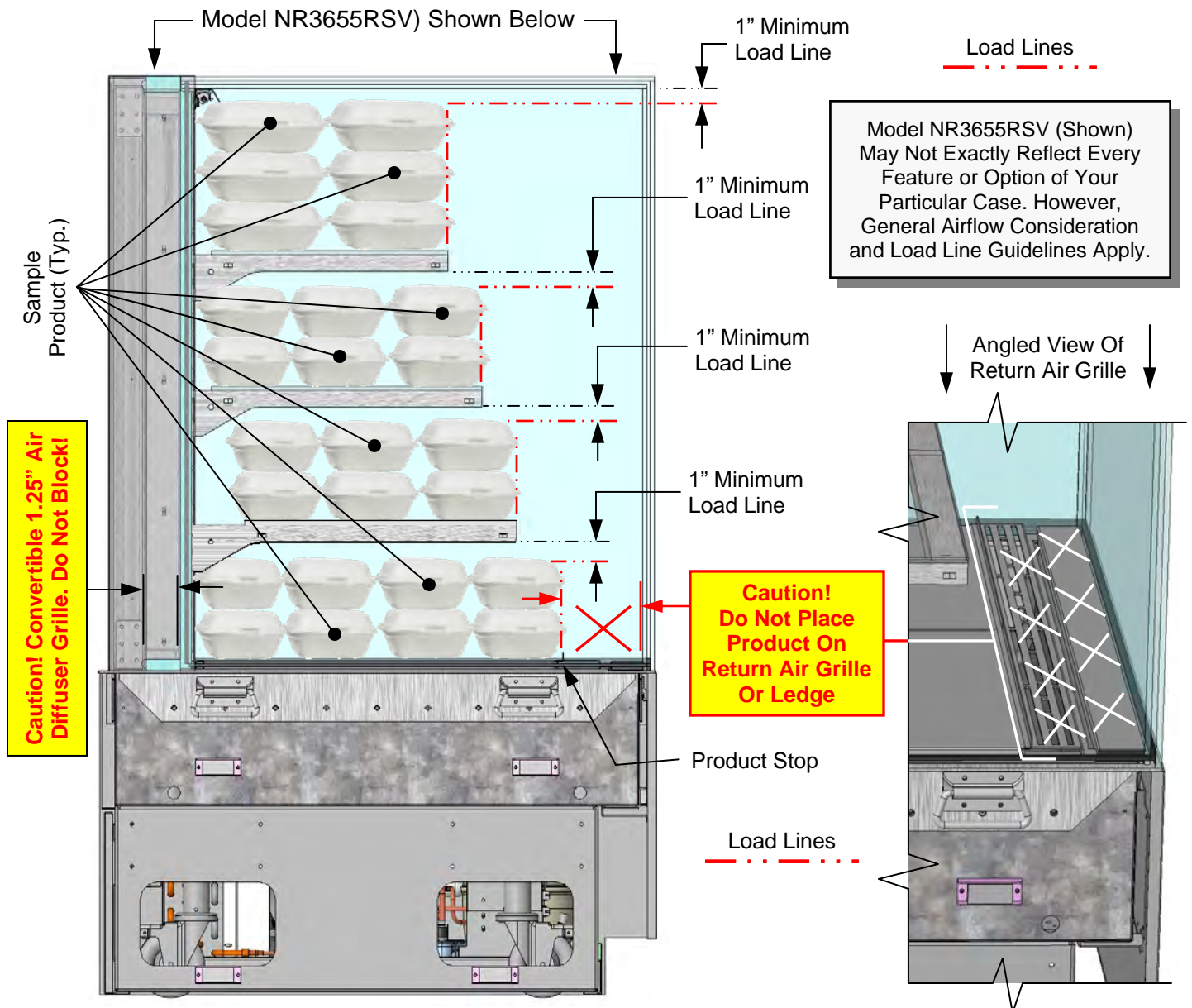
2. Air Diffuser Grille & Return Air Grille Considerations

- Proper airflow is critical to maintain proper product temperature.
- Proper product placement will allow rear air to flow over (and around) product to return air grille at case front. See illustration below for specifics.


- Caution! For airflow to reach return air grille, you must not block front or rear grilles with product.
- Do not place product on front ledge of case.

3. Load Lines

- Load lines represent the limit that product can be placed (either horizontally or vertically) and/or stacked in case.
- Keep product at or under load lines to assure that refrigerated airflow is properly cycled from air diffuser through return air grille.
- Proper product placement will maintain acceptable product temperature.
- See illustration below.



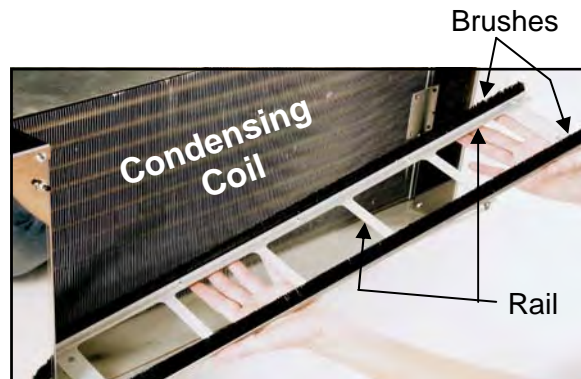
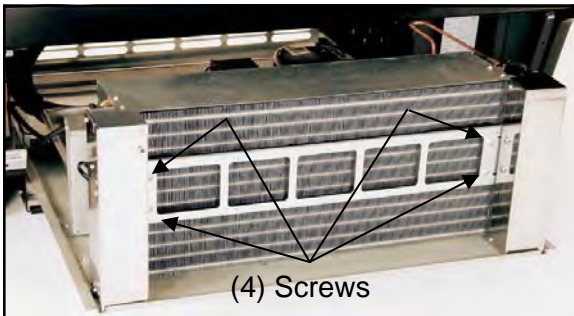
CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)

FREQ.	INSTRUCTIONS
Daily	Glass Surfaces: Clean side glass and shelves with household or commercial glass cleaner.
Daily	Rear Sliding Door Exterior Glass: Clean with household or commercial glass cleaner. Clean out rear door track with moist cloth.
Daily	End Panels, Front Panel, Toe-Kick, etc.: Wipe off all surfaces with warm water and mild soap solution and non-abrasive cloth.
Daily	Decks: Wipe off decks with moist cloth dipped in mild soap and water solution.
Daily	Acrylic Air Deflector: 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	Optional: Rear Acrylic Perforated Plenums: 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	<p>Magnetic Condenser Coil Filter (Self-Contained Units Only):</p> <ul style="list-style-type: none"> • This filter helps prevent dust particles from entering condenser coil. • It is accessible at air intake side of case. • Clean magnetic condenser coil filter by following either step 1 or 2; then follow step 3: <ol style="list-style-type: none"> 1. As magnetic condenser coil filter is dishwasher safe, remove from case (no screw removal required) and use a rag or soft-bristled brush to wipe off excess dust particles from filter. Run in normal dishwasher cycle. Remove from dishwasher. Dry with soft cloth or paper towel. Return to case. 2. If not using dishwasher, remove magnetic condenser coil filter from case. Use a rag or soft-bristled brush to wipe off excess dust particles from filter. Submerge in warm, soapy water. Use soft-bristled brush to remove dust, dirt, grease and grime that may collect on filter. Rinse thoroughly. 3. Dry with soft cloth or paper towel (as shown below) or allow to air dry. Replace. 
Monthly	Under Case Cleaning: Remove toe-kick (or air intake grille). Vacuum under case to remove all dust and dirt. Replace toe-kick (or air intake grille) when complete.

WARNING! TURN OFF CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!

FREQ.	INSTRUCTIONS
Quarterly	<p>Condensing Coil:</p> <ul style="list-style-type: none"> • Remove air intake grille to access area. Simply lift up and off. • Roll/slide out condenser package. <u>Note:</u> At initial slide-out, it may be necessary to remove two (2) compressor pan shipment screws to slide it out from under case. • Warning! Coil fins are sharp. Handle with care! • Caution! Airborne dust can contaminate food! Use wet rags to cover area where air pressure is blowing. • Use air pressure or industrial strength vacuum; clean dust and dirt that may collect on condenser coil. • Slide/roll condensing package back under case. • Return air intake grille to case.
Quarterly	<p>Condenser Package: <i>Caution! Disconnect power from case before cleaning!</i></p> <ul style="list-style-type: none"> • See CASE DESIGN, CONT'D: CONDENSER PACKAGE (SELF-CONTAINED UNITS ONLY) section in manual for illustrations. • <i>Warning! Condensate pan may be HOT! Disconnect power from case and allow to cool before cleaning condensate pan!</i> • Remove air intake grille from case (no screw removal is required). • Slide/roll condenser package out from under case. • Use a scrub-brush and a de-scaling solution such as CLR® (to prevent corrosion, lime and rust). Follow instructions as to proper dilution, safety precautions and scrubbing method. • If electric coil overflow condensate pan is dirty, clean it (and in same manner) while cleaning rest of condenser package. • After thoroughly cleaning condensate pan with scrub-brush and solution, rinse thoroughly with clean water (in spray bottle) and wipe dry with sponge or paper towel. • Use moist cloth to wipe off dust & debris that collects on various parts (fans, sight glass, overflow pan, etc.). • Slide condenser package back under case. • Return air intake grille to case (no screws required).
Quarterly	<p>Under Case Cleaning: Once refrigeration package is clear of unit, vacuum under case to remove dust and dirt that may collect under case.</p>
Quarterly	<p>Tub Area (Evaporator Coil, Drain, Fans, Brackets, Etc.): <i>Caution! Disconnect power from case before cleaning tub, coil, fan, motor and drain area!</i></p> <ul style="list-style-type: none"> • See CASE DESIGN, CONT'D: TUB AREA (AFTER DECK PAN REMOVAL) section in manual for illustration. • Use vacuum to clean entire area. • After vacuuming, clean area with warm water, clean cloth, and mild soap solution. • Remove any debris that may clog drain. • Wipe down fan blades, motors and brackets with moist cloth.

FREQUENCY	INSTRUCTIONS
<p>Quarterly</p>	<p>Optional Clean Sweep™ Condensing Coil Cleaner: <i>Disconnect power from case before servicing the Clean Sweep™ Condenser Coil Cleaner!</i></p> <ul style="list-style-type: none"> • Remove air intake grille (by lifting up and off); no screw removal is required. • Slide/roll out condensing package from underside of case assembly. • Remove the four (4) screws holding the Clean Sweep™ rail 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 package back under case. • Replace air intake grille to case (4 screws). • See photos below.



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

CONDITION	TROUBLESHOOTING
Water Is On The Floor	Call service provider.
Fan Emits Excessive Noise	Call service provider.
Case Lights Are Not Working	Check that light switch is in the <i>on</i> position.
	Check that ALL of the light cords and plugs are properly connected. See next page for step-by-step connection instructions and illustrations.
	If case lights still do not come on, call service provider.
Case is Not Holding Proper Temperature	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. Product must be pre-chilled before placing in case.
	Check that the case is not in the sun or near a heat or air-conditioning vent. See OVERVIEW / NSF® TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS section in this manual for specifics.
	If case is located near outside doors, temperature fluctuation can hinder unit's ability to maintain temperature.
	<ul style="list-style-type: none"> • Check air return grilles (area at front of decking) for obstructions. • DO NOT set product on air grilles as this will prevent proper airflow!
	If case still is not holding proper temperature, call service provider.

LED Light Fixture Replacement

Light fixtures are located in header as well as in shelving (as shown in illustrations below).

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

Note: Warranty will be void if claims arise from negligence, misuse of goods, extreme environmental conditions or improper maintenance.

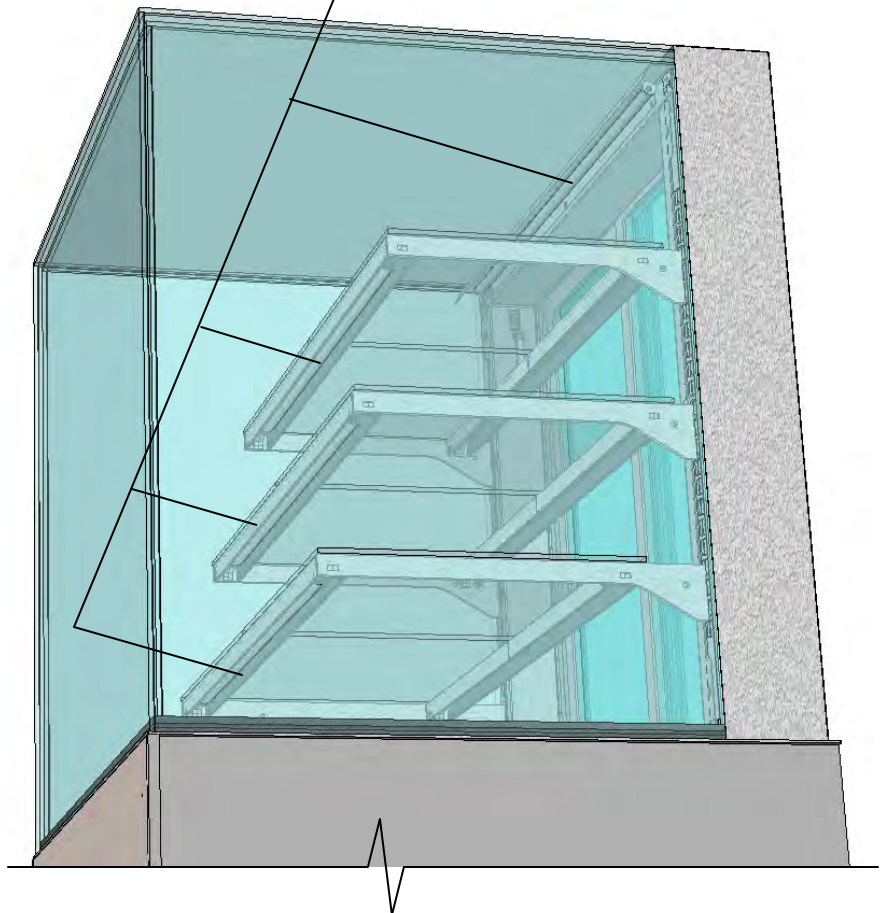
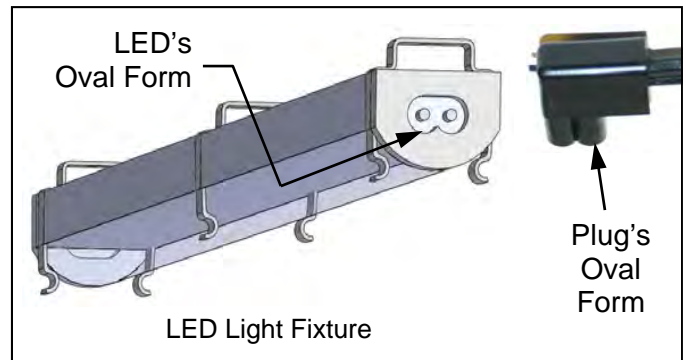
Removal of lamp:

- Certain cases have LED lights. LED lights rarely require change-out.
- Should malfunction occur, contact Structural Concepts' Technical Service Department for replacement parts. See Technical Service section of manual for contact information.

Replacement of lamp:

- To replace LED Light Fixture, simply disconnect the existing LED light from its brackets and/or 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.
- LED light energizes when case is powered up.
- See illustrations at right and below.



CONDITION	TROUBLESHOOTING
<p>Water Is On The Floor</p>	<p>Caution! Disruption of power or malfunctioning condensate pan (or electric coil overflow condensate pan) may cause water to overflow pan and seep onto flooring causing damage! Until condensate pan(s) are functioning (or are replaced), follow these procedures:</p> <ul style="list-style-type: none"> • Use wet vacuum (or mop & bucket) to remove standing water. • Use 'catch pans' for water to drain into. Swap out regularly until case has completely drained. • When power to case is restored, condensate pan should function properly and water will no longer overflow onto flooring.
	<p>Check that the drain trap is free of debris.</p>
	<p>Check that the drain PVC is correctly positioned over condensate pan.</p>
	<p>Check store conditions. To prevent condensation in Type I environments, maximum conditions are to be 55% humidity / 75° Fahrenheit. For Type II environments, maximum conditions are to be 60% humidity / 80° Fahrenheit. See serial label (near main power switch) for NSF® Type of your case.</p>
	<p>Check that electric coil overflow condensate pan is properly plugged in or connected.</p>

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

CONDITION	TROUBLESHOOTING
Case Lights Are Not Working	Check that light switch is in the <i>on</i> position.
	Check that ALL of the light cords and plugs are properly connected. See <i>TROUBLESHOOTING (TO BE PERFORMED BY STORE PERSONNEL) - PAGE 2 OF 2</i> in operating manual for illustrations.
	Service Technicians Only: Check voltage at LED drivers. If voltage is entering but not exiting, LED driver may be faulty.
Case Is Not Holding Temperature	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. Unit needs product to be pre-chilled.
	Temperature changes during defrost mode but will return to normal. Fourth LED will indicate defrost cycle in progress.
	Check that case is not in sun or near a heat or air-conditioning vent.
	If case is located near outside doors, temperature fluctuation can hinder unit's ability to maintain temperature.
	Check that condenser coil has been cleaned.
	Check that magnetic air filter (attached to air intake grille) has been cleaned. See <i>CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)</i> section in operating manual for instructions.
	Check return air grilles for obstructions.
	Check sight glass for flashing and/or low charge.
	Check set point temperature; it may be adjusted too high.
Digital Control Display Is Blank	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
System Is Not Operating	Check that the utility power is on.
	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
Condensing Unit Is Not Operating	Check that the power is turned on.
	Determine if temperature controller settings are properly set. See <i>your case's serial label for your model's specified settings. See SERIAL LABEL LOCATION & INFORMATION LISTED / TECH INFO & SERVICE section in manual for specifics.</i>

TROUBLESHOOTING (BY TRAINED SERVICE PROVIDERS ONLY) - CONDENSING SYSTEM


CONDITION	TROUBLESHOOTING
Head Pressure Too High	Check that the condensing coil is not dirty or covered.
	Check that condensing fans are working.
	Check that refrigerant is not overcharged.
	Perform sub-cooling check and verify that no contaminants are in system.
	Check that liquid line filter dryer is not plugged.
	Check that close-offs are intact (around condensing coil) and that air is not recirculating.
	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 (BY TRAINED SERVICE PROVIDERS ONLY) - EVAPORATOR SYSTEM

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

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.



888 E. Porter Rd · Muskegon, MI 49441

ENCORE[®] MODEL HV74RSS SCROLL
SERIES SERIAL NO.

FOR PARTS AND SERVICE
CALL 1-800-433-9489

3048256
CONFORMS TO UL STD 471
CONFORMS TO NSF STD 7
CERTIFIED TO CAN/CSA
STD C22.2 NO 120

ELECTRICAL RATING 120/1/60 24A
REFRIGERANT R404A AMOUNT ?? OZ
DESIGN PRESSURE HIGH 450 LOW 200
MINIMUM CIRCUIT 30A
MAXIMUM OVERCURRENT 30A


SAMPLE ONLY

Super Heat Temp	8-10°F
BTUH Requirements	9,738 BTUH @ 20° F SST
Defrost	6 defrosts per day, 45° F termination, 45 min. failsafe

SAMPLE ONLY

SAMPLE ONLY

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




888 E. Porter Rd · Muskegon, MI 49441

Addenda[®] PC5682 txtRemote
txtSerialNumber

120 VOLTS 60 HZ SINGLE PHASE 1.84AMP

FOR PARTS OR SERVICE CALL
STRUCTURAL CONCEPTS
AT
1-800-433-9489



3048256
CONFORMS TO UL STD 65
CERTIFIED TO CAN/CSA
STD C22.2 NO 120

SAMPLE ONLY

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

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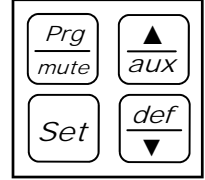
Programming The Instrument

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 or 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", representing 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 the "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.

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User Interface - Display

ICON	FUNCTION	DESCRIPTION	ON	Normal operation OFF	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	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

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Summary Table of Operating Parameters

CODE	PARAMETER	UOM*	TYPE	MINIMUM	MAXIMUM	DEFAULT
/5	Select Celcius (°C) or Fahrenheit (°F)	flag	C	0	1	For Case Specific Defaults See Serial Label Located Near Electrical Access On Your Case. For Additional Technical Information Call Structural Concepts Technical Service Dept. at 1(800) 433.9489
/c1	Calibration of probe 1	°C/°F	C	-20	20	
/c2	Calibration of probe 2	°C/°F	C	-20	20	
St	Temperature set point	°C/°F	F	r2	r1	
rd	Control delta	°C/°F	F	20	0.1	
dl	Interval between defrosts	hours	F	0	250	
dt1	End defrost temperature, evaporator	°C/°F	F	-50	200	
dP1	Maximum defrost duration, evaporator	min	F	1	250	
d6	Display on hold during defrost	-	C	0	2	
dd	Dripping time after defrost	min	F	0	15	
d/1	Display of defrost probe 1	°C/°F	F	-	-	

* Unit Of Measure

SCC TECHNICAL SERVICE CONTACT INFORMATION & WARRANTY INFORMATION

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 from or caused 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 these obligations under this Agreement without prior written consent 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.