

Reveal®

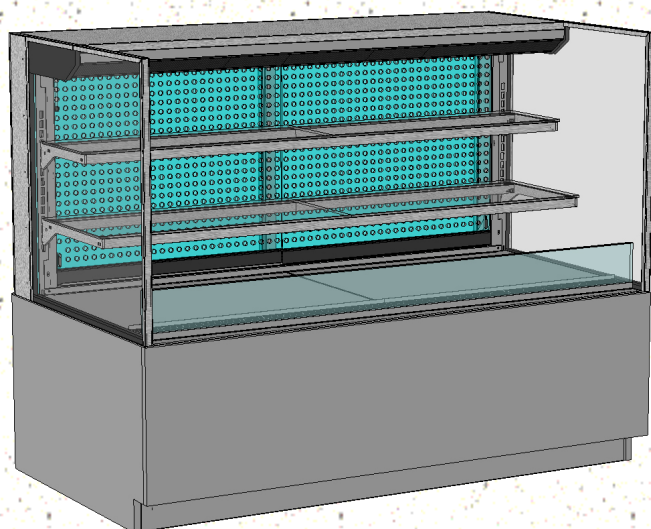
INSTALLATION & OPERATING MANUAL

SCC P/N
20-78252

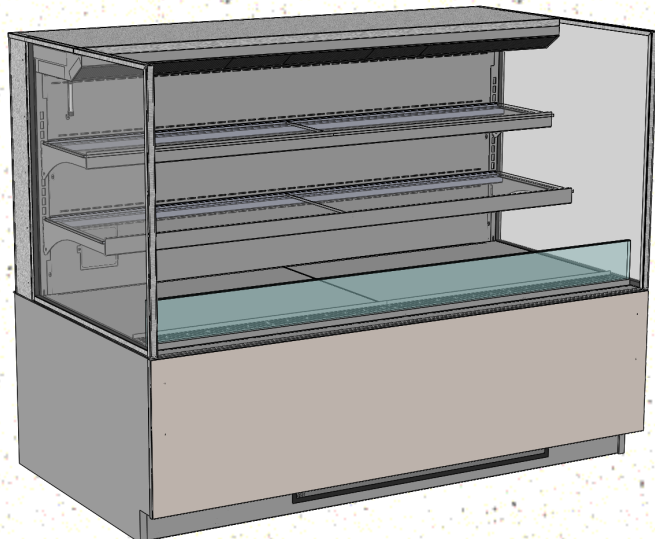
REVEAL® FREE STANDING SELF-SERVICE REFRIGERATED MERCHANDISERS

- > SELF-CONTAINED OR REMOTE UNITS
- > **CAUTION! DO NOT PUSH OR PULL ON END PANELS!**
- > **ONLY USE HANDLES (ON CASE) TO PUSH OR PULL CASE INTO POSITION!**
- > **SINGLE ACCESS MODELS: REAR SLIDING DOORS WITH PERFORATED PLENUMS OR SOLID BACK PANELS**
- > **DUAL ACCESS MODELS: BACK-TO-BACK PERFORATED PLENUMS**
- > **SEE PAGES 10-11 FOR PANEL, GRILLE & TOE-KICK ATTACHMENT INSTRUCTIONS**

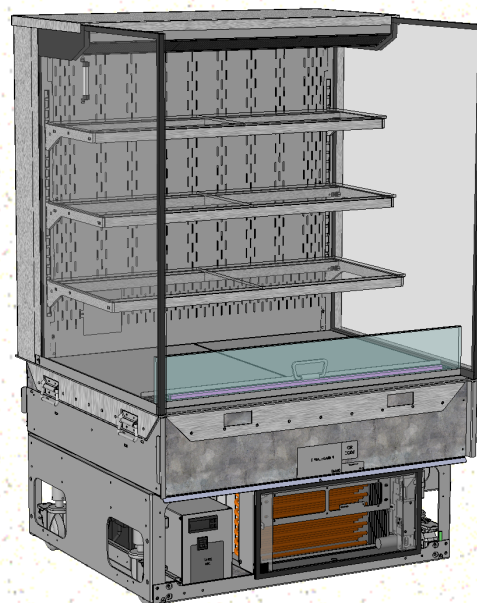
Models Are Shipped WITHOUT Panels and Cladding Attached. See Pages 10 and 11 for Component Attachment Instructions.



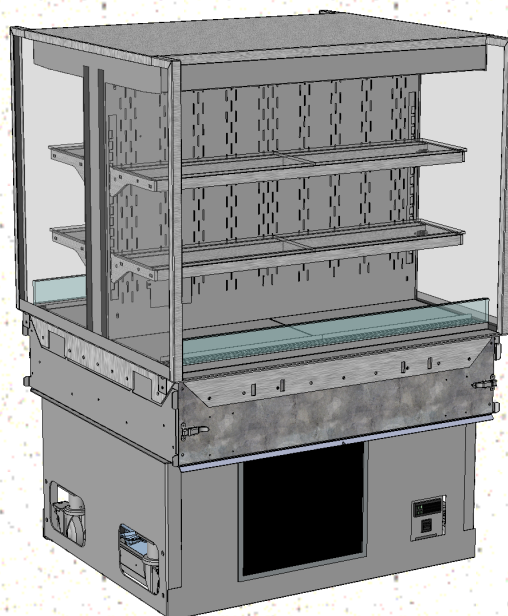
Model With Rear Sliding Doors and Acrylic Perforated Plenums (Cladding Attached)



Perforated Rear Panel Model Shown (Cladding Attached)



Perforated Rear Panel Model Shown (Cladding Removed For Illustrative Purposes Only)



Dual Access Model With Perforated Back-To-Back Rear Panels (Cladding Remove For Illustrative Purposes Only)



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TABLE OF CONTENTS

TABLE OF CONTENTS	2
REVEAL® FREE STANDING REFRIGERATED SELF-SERVICE MODEL APPLICABILITY AND INDIVIDUAL MODEL DIMENSIONS	3
OVERVIEW / DISPLAY TYPE I vs. II / COMPLIANCE / WARNINGS / PRECAUTIONS	4-5
INSTALLATION: TOE-KICK & AIR INTAKE GRILLE REMOVAL / DISCONNECTING CASE FROM PALLET	6
INSTALLATION, CONT'D.: CASTER ADJUSTMENT / LOCK / UNLOCK / CASE REMOVAL FROM PALLET	7
INSTALLATION, CONT'D: SHELVING ASSEMBLY COMPONENTS	8
INSTALLATION, CONT'D: PLUG IN UNIT / MAIN POWER SWITCH / TURN ON LED LIGHTS	9
INSTALLATION, CONT'D: SHIPPING BRACE / ATTACHING FRONT PANEL COMPONENTS / HANDLES	10
INSTALLATION, CONT'D: ATTACHING SIDE PANELS, REAR PANEL AND REAR GRILLE	11
INSTALLATION, CONT'D: OPTIONAL ACRYLIC SECURITY COVER	12
CASE DESIGN: FRONT VIEW OF FREE STANDING, SELF-SERVICE MERCHANDISERS	13
CASE DESIGN, CONT'D: REAR VIEW OF FREE STANDING, SELF-SERVICE MERCHANDISERS	14
CASE DESIGN, CONT'D: CONTROLLER / DC DRIVERS / MAIN POWER SWITCH / CONDENSER COIL FILTER	15
CASE DESIGN, CONT'D: NIGHT CURTAIN ACCESS AND OPERATION	16
CASE DESIGN, CONT'D: TUB AREA (AFTER DECK PAN REMOVAL)	17
CASE DESIGN, CONT'D: LED LIGHT SWITCH LOCATIONS / LED LIGHTS / THERMOMETER	18
CASE DESIGN, CONT'D: REAR SLIDING DOOR REMOVAL / REAR PERFORATED PLENUM CONTROL	19
CASE DESIGN, CONT'D: CONDENSER PACKAGE (SELF-CONTAINED UNITS ONLY)	20
PRODUCT PLACEMENT / HONEYCOMB AIRFLOW CONSIDERATION / LOAD LINES	21
CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)	22
PREVENTIVE MAINTENANCE (TO BE PERFORMED BY TRAINED SERVICE PROVIDER)	23-25
TROUBLESHOOTING (TO BE PERFORMED BY STORE PERSONNEL ONLY)	26-27
TROUBLESHOOTING (TO BE PERFORMED BY TRAINED SERVICE PROVIDERS ONLY)	28-31
TROUBLESHOOTING (TO BE PERFORMED BY TRAINED SERVICE PROVIDERS ONLY) - CONDENSING SYSTEM	32
TROUBLESHOOTING (TO BE PERFORMED BY TRAINED SERVICE PROVIDERS ONLY) - EVAPORATOR SYSTEM	33
SERIAL LABEL INFORMATION & LOCATION	34
TEMPERATURE CONTROLLER - CAREL®	35-37
TECHNICAL SERVICE CONTACT INFORMATION & WARRANTY INFORMATION	38

REVEAL® FREE STANDING REFRIGERATED SELF-SERVICE MODEL APPLICABILITY & DIMENSIONS

Model	Upper Display Case Height	Overall Case Height	Case Depth x Width
NR3633RSSV	13 5/8"	32 7/8"	33"D* x 35 3/4"W
NR3640RSSV	20 3/8"	39 5/8"	33"D* x 35 3/4"W
NR3647RSSV	27 7/8"	47 1/8"	33"D* x 35 3/4"W
NR3647RSSV2*	27 7/8"	51 1/8"	33"D* x 35 3/4"W
NR3655RSSV	35 1/4"	54 5/8"	33"D* x 35 3/4"W
NR4833RSSV	13 5/8"	32 7/8"	33"D* x 47 3/4"W
NR4840RSSV	20 3/8"	39 5/8"	33"D* x 47 3/4"W
NR4847RSSV	27 7/8"	47 1/8"	33"D* x 47 3/4"W
NR4855RSSV	35 1/4"	54 5/8"	33"D* x 47 3/4"W
NR6033RSSV	13 5/8"	32 7/8"	33"D* x 59 3/4"W
NR6040RSSV	20 3/8"	39 5/8"	33"D* x 59 3/4"W
NR6047RSSV	27 7/8"	47 1/8"	33"D* x 59 3/4"W
NR6055RSSV	35 1/4"	54 5/8"	33"D* x 59 3/4"W
NR7233RSSV	13 5/8"	32 7/8"	33"D* x 71 3/4"W
NR7240RSSV	20 3/8"	39 5/8"	33"D* x 71 3/4"W
NR7247RSSV	27 7/8"	47 1/8"	33"D* x 71 3/4"W
NR7255RSSV	35 1/4"	54 5/8"	33"D* x 71 3/4"W

*V2 Models = Dual Access Models. See Cover Sheet For Dual Access Merchandiser Illustration.

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.

WARNINGS

- Please read these important warnings carefully as they can prevent injury or death.



**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**

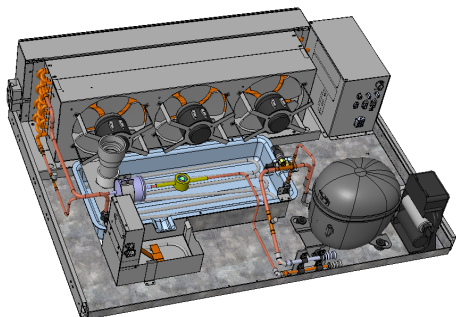
**Risk of electric shock. Disconnect power before servicing unit.
CAUTION! More than one source of electrical supply is employed with units that have separate circuits.
Disconnect ALL ELECTRICAL SOURCES before servicing.**

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 AND 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.



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

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).

REFRIGERANT DISCLOSURE STATEMENT

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



CAUTION! 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.



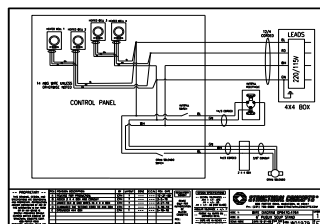
CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

- 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 a calibrated food thermometers **ONLY**.

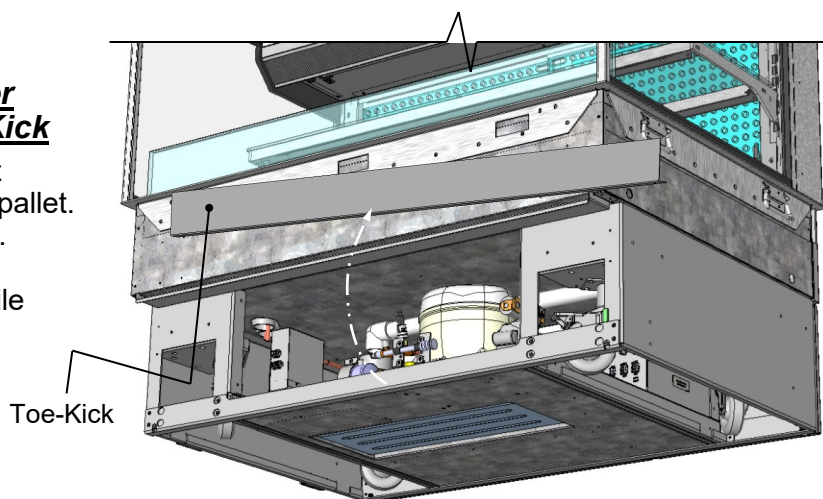


WIRING DIAGRAM FORMAT & LOCATION

- 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.

1. Cases With Rear Access Condenser Package Only: Remove Front Toe-Kick

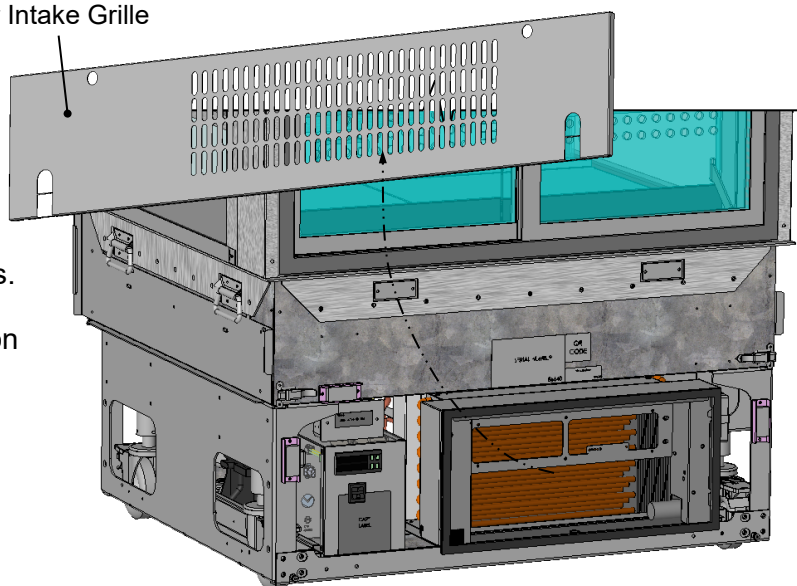
- To prevent damage to case, remove front toe-kick from case before removing from pallet.
- Toe-kick is held in place by magnets only. No screw removal is required.
- Place front toe-kick in secure location while removing case from pallet.



Toe-Kick

2. Remove Air Intake Grille From Case

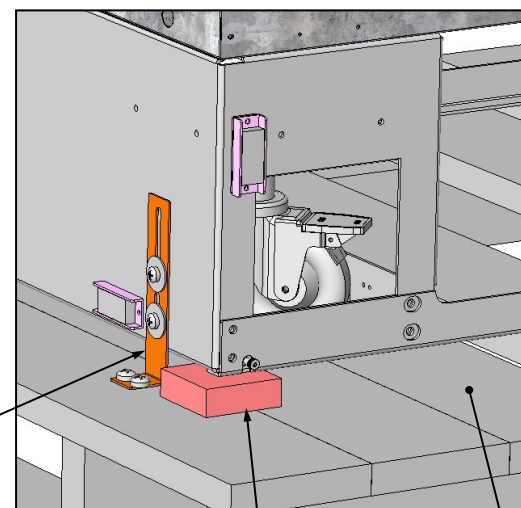
- To prevent damage to case, lift air intake grille **UP and OFF** case.
- Rear grille is held in place by magnets. No screw removal is required.
- Place air intake grille in secure location while removing case from pallet.



Air Intake Grille

3. Disconnect Case From Pallet

- Use Phillips driver to remove screws from shipping brackets. Remove and discard shipping brackets from pallet.
- Place J-bar/pry bar 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.



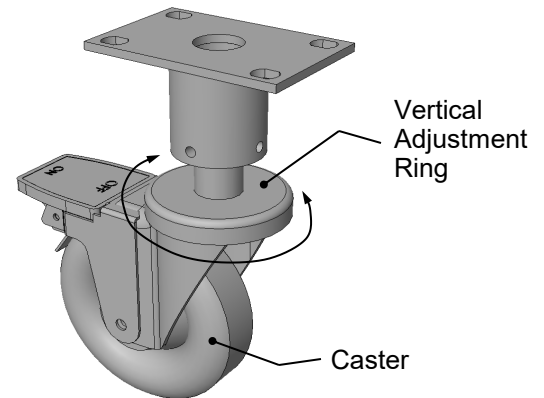
Shipping Bracket

Rubber Shipping Block

Pallet

4. Caster Height: Raising and Lowering

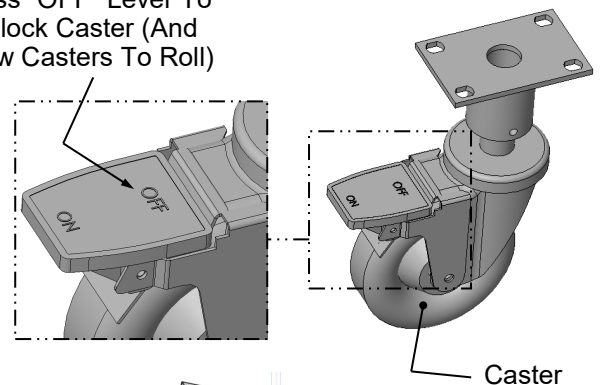
- Raise or lower casters (to adjust case height) by rotating casters' vertical adjustment rings.
 - Rotate vertical adjustment ring clockwise to lower caster (and increase height of case).
 - Rotate vertical adjustment ring counter-clockwise to raise caster (and decrease height of case).



5. Caster Rolling Capability: Unlocking

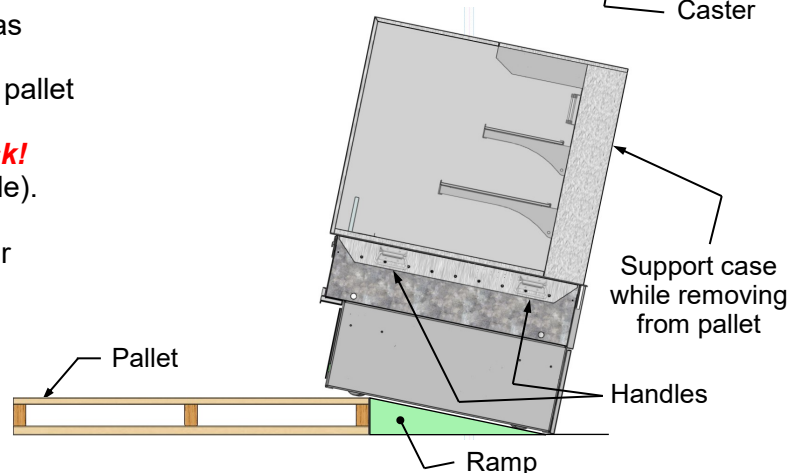
- Important! Case is shipped with caster mechanisms factory set at **ON** (locked) to prevent case from rolling.
- Unlock casters by pressing **OFF** on the caster mechanism.
- See illustration at right.

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



6. Carefully Remove Case From Pallet

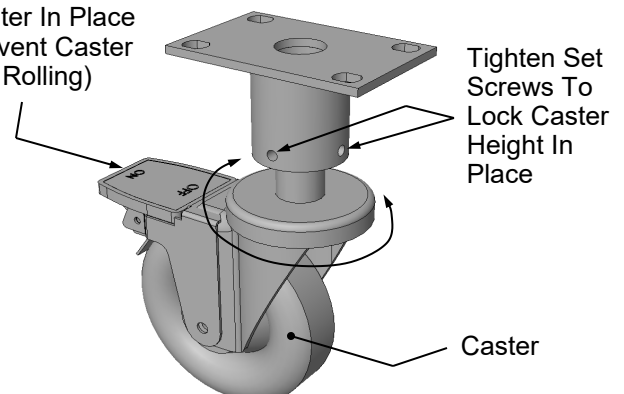
- Check that casters are lowered as far down as they will go (as instructed in step #4).
- Use handles to carefully slide case to rear of pallet (see illustration at right).
- **Caution! 4 people are required for this task!**
- Carefully lower to floor (using ramp if available).
- Slide pallet from under case as required.
- Maintain support of case at all times or center of gravity may cause case to fall.
- See illustration at right.



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 Caster From Rolling)

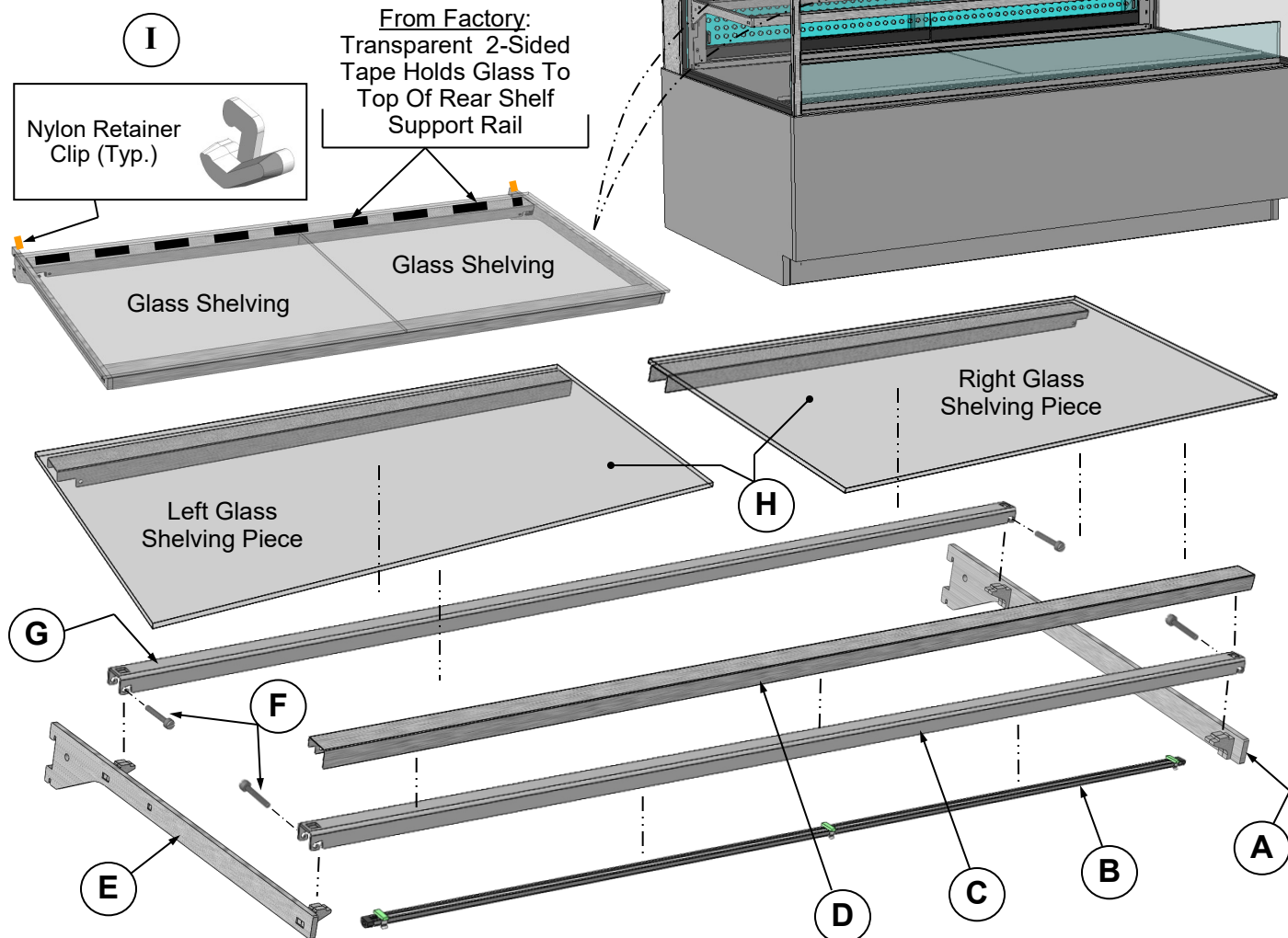


8. Shelving Assembly Components

- 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 brackets ARE NOT able to be angled. They are at a fixed 90° position.
 - There are 12 components comprising each shelf assembly:
- Right bracket (with hooks to attach to slots in upright)
 - LED light with magnets
 - Front shelf support rail (LED light attaches to its inner cavity via magnets)
 - Cover (rests atop front shelf support rail)
 - Left bracket (hooks to attach to slots in upright)
 - Nylon thumbscrews (4 per shelf) secure shelving during shipment. Note: Remove and

discard thumbscrews (using pliers, if necessary) after case is installed so shelves can be disassembled (to clean or service).

- Rear shelf support rail
- Left and right glass shelf/cover assemblies (glass is affixed to covers with 2-sided tape from factory). Caution! Glass pieces ARE NOT IDENTICAL! Notches on underside metal covers determine placement in case.
- Nylon retainer clips (2 per shelf) secure brackets during shipment. Note: To adjust or remove shelves, you must remove retainers; pliers may be required to accomplish this task.

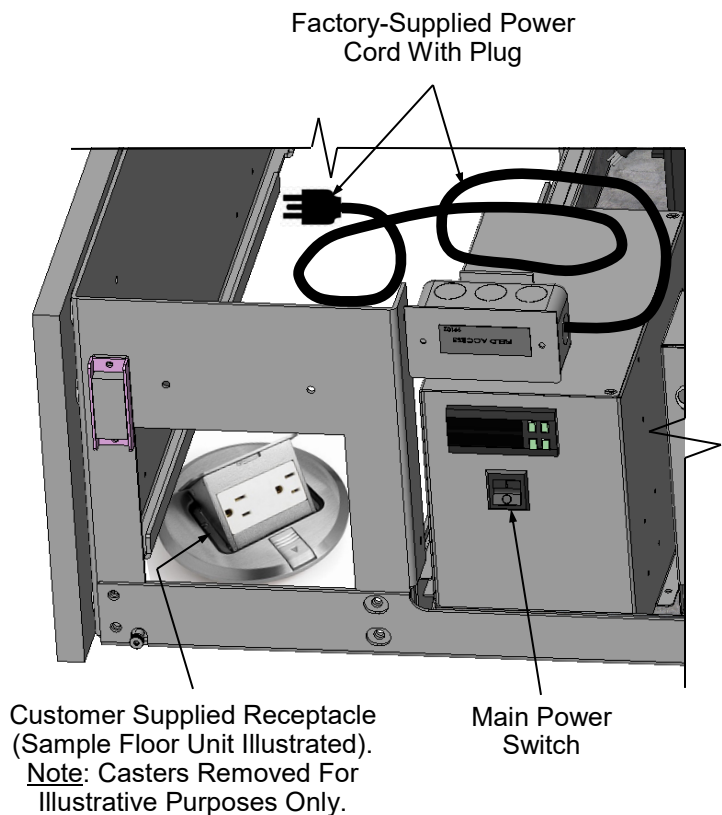


9. Plug Case In / Turn Main Power Switch On

- 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 fans are rotating).
- Turn on LED light switch at front-left header.

10. Turn On LED Lights

- See **CASE DESIGN, CONT'D: LED LIGHTS / LED LIGHT SWITCH / THERMOMETER** section in manual for LED light switch location.



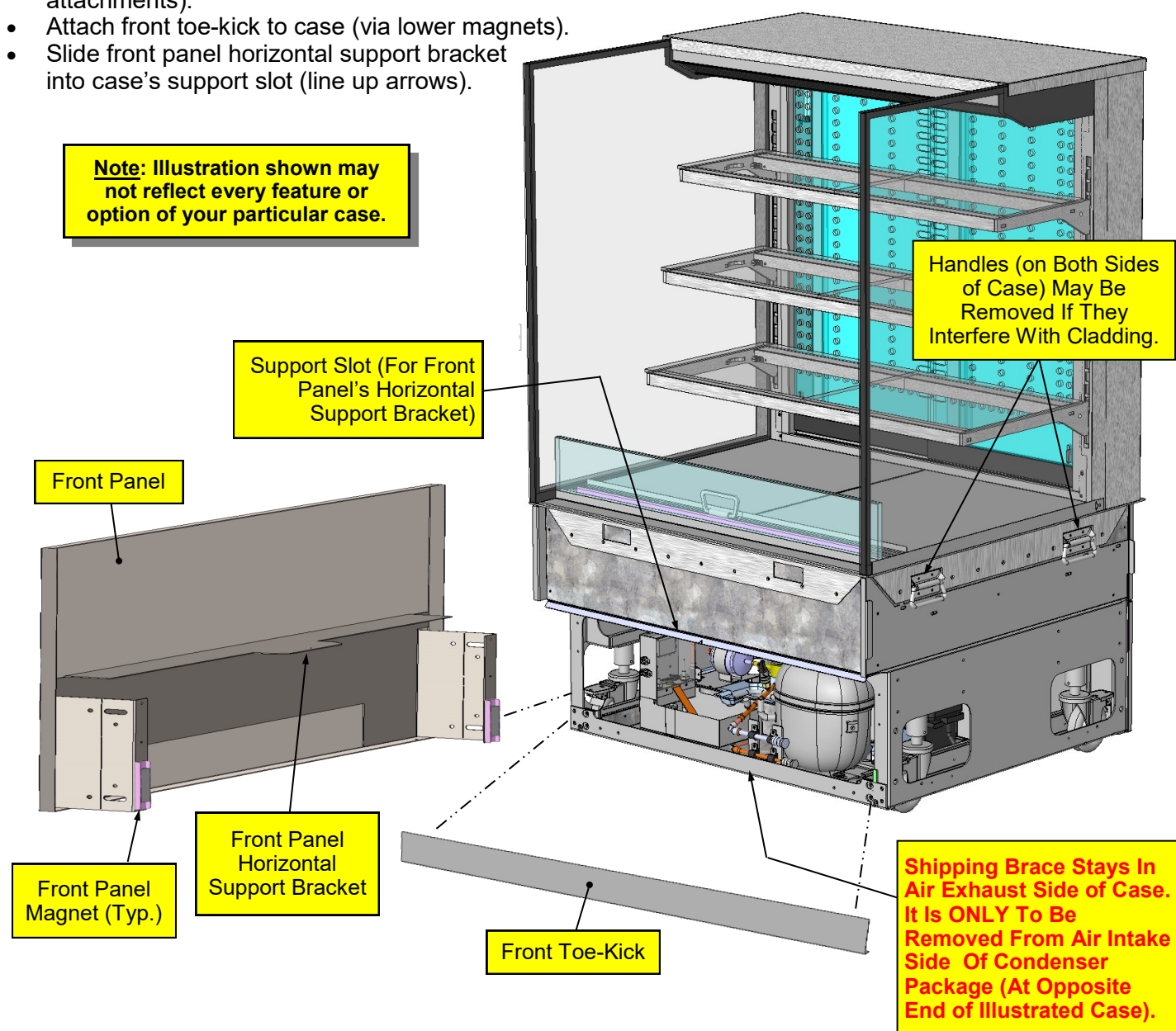
11. Remove Shipping Brace

- Shipping brace keeps condenser package secure during shipment and while positioning case.
- After case has been moved into position, remove shipping brace at air intake side of condenser package only (opposite end of that shown below).
- **Note:** Shipping Brace Is ONLY To Be Removed From Air Intake Side of Condenser Package!

12. Attaching Front Panel Components

- Carefully remove components from packaging.
- **Note:** All front panel components may be attached to case via magnets (WITHOUT screw attachments).
- Attach front toe-kick to case (via lower magnets).
- Slide front panel horizontal support bracket into case's support slot (line up arrows).

Note: Illustration shown may not reflect every feature or option of your particular case.



- Then, slide front panel into case until it attaches to case via lower magnets.
- See illustration below.

13. Handles On Sides of Case

- Handles may remain on case after it has been moved into position and cladding is attached.
- However, if handles interfere with the placement of cladding, they may be removed.

>> See Next Page For Instructions on **ATTACHING SIDE PANELS, REAR PANEL AND GRILLE.**

14. Attaching Side Panels

- Attach side panels to case using slot/hook method.
- Use latches at case rear to firmly attach side panels to case.
- See illustrations below.

15. Attaching Rear Upper Panel

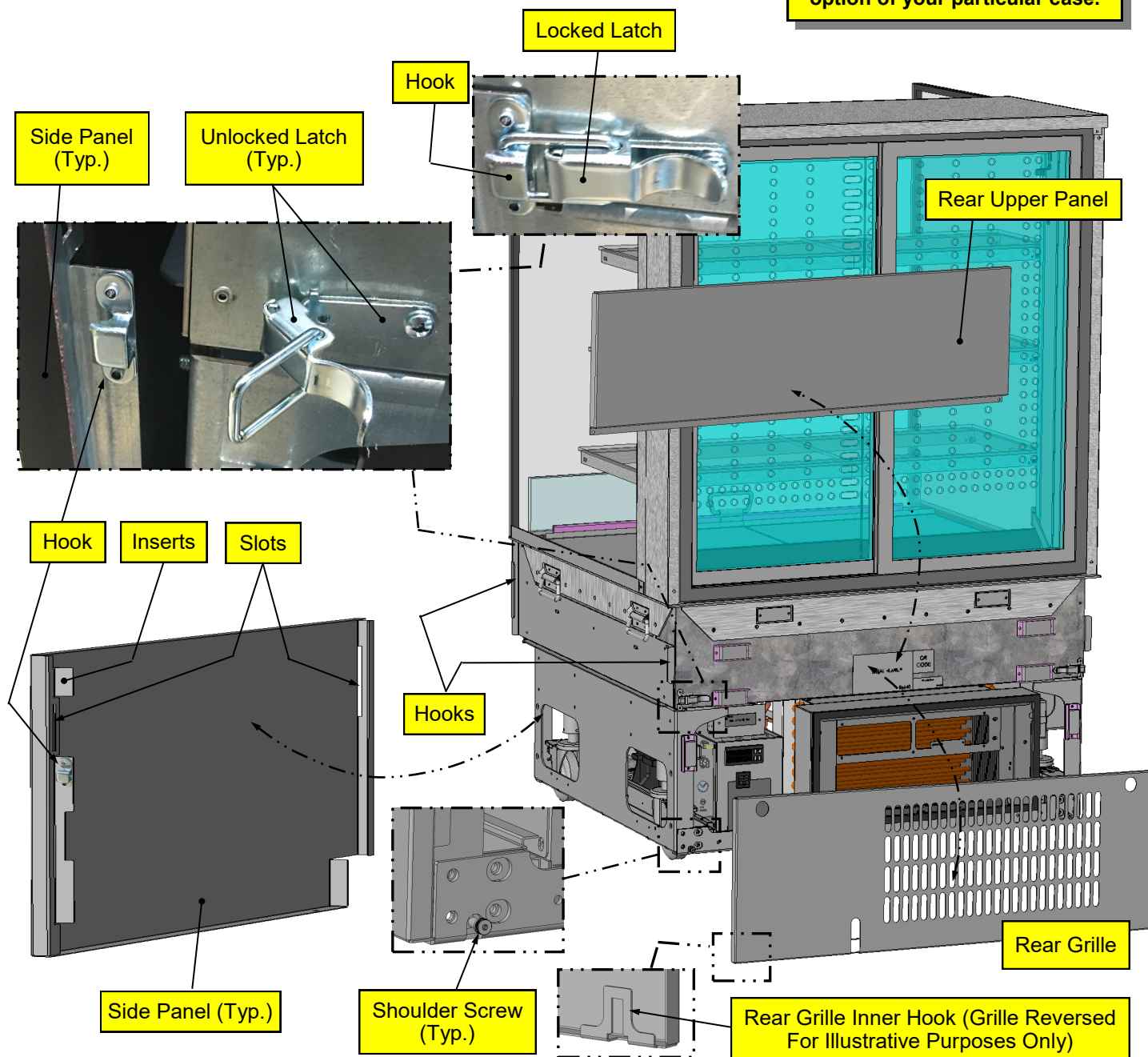
- Place rear upper panel onto care rear.
- Four (4) magnets will hold it firmly in place.
- See illustration below

16. Attaching Rear Grille

- Use finger holes to place rear grille's inner hooks onto case rear's lower shoulder screws.
- Snap onto case's two (2) rear vertical magnets.

>> Note: Components may be removed in reverse order they were shown being attached on this sheet.

Note: Illustration shown may not reflect every feature or option of your particular case.



17. Optional Acrylic Security Cover

Note: Illustrations reflects random model; it may not reflect every feature or option of your case.

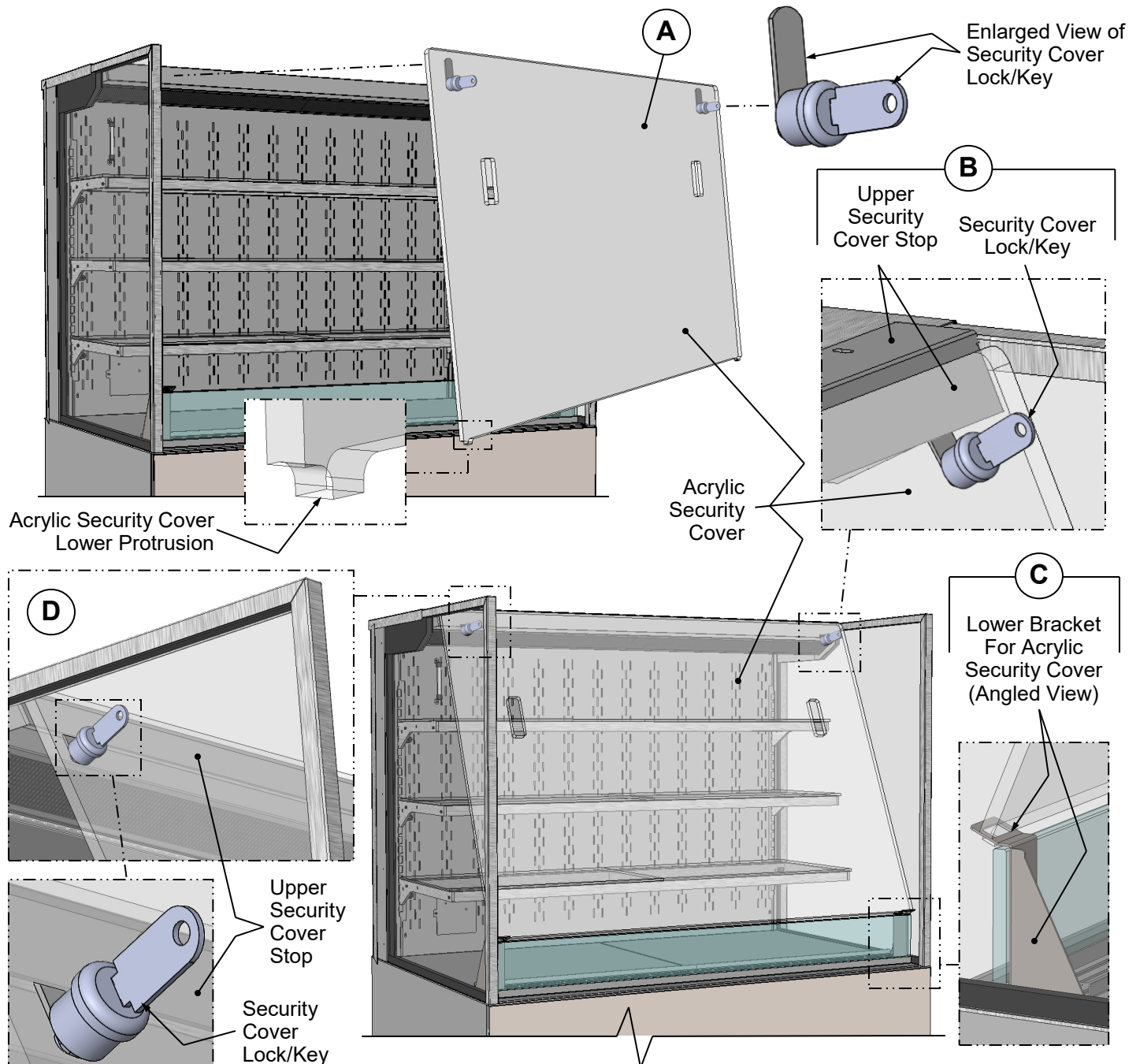
- A. View of optional acrylic security cover with holes for grasping (for removing and replacing), enlarged lock/key and lower protrusion.
- B. Acrylic security cover rests against upper security cover stop.
- C. Acrylic security cover's lower protrusions are to rest in lower bracket slots (one in each bracket).

- D. Upper acrylic security cover must rest against upper security cover stop. Lock at both ends of cover with locking mechanism.

> Important! After locking in place, store keys in safe yet accessible place.

> If removing acrylic security cover, store in safe location away from foot traffic or work areas that could lead to scratching or marring of acrylic surfaces.

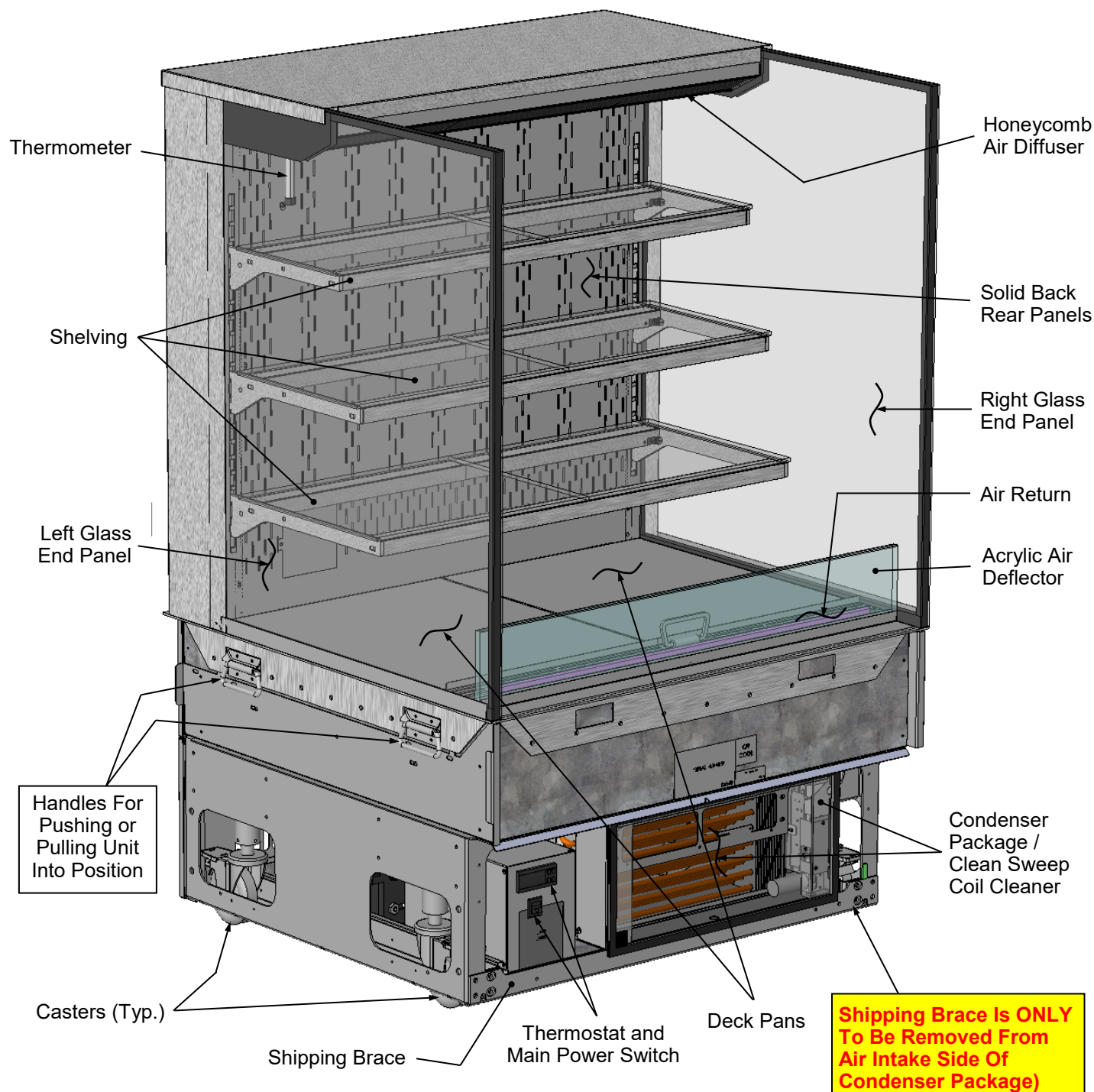
> See **CLEANING SCHEDULE (TO BE PERFORMED BY STORE PERSONNEL)** for cleaning information.



CASE DESIGN: FRONT VIEW OF FREE STANDING, SELF-SERVICE MERCHANDISERS

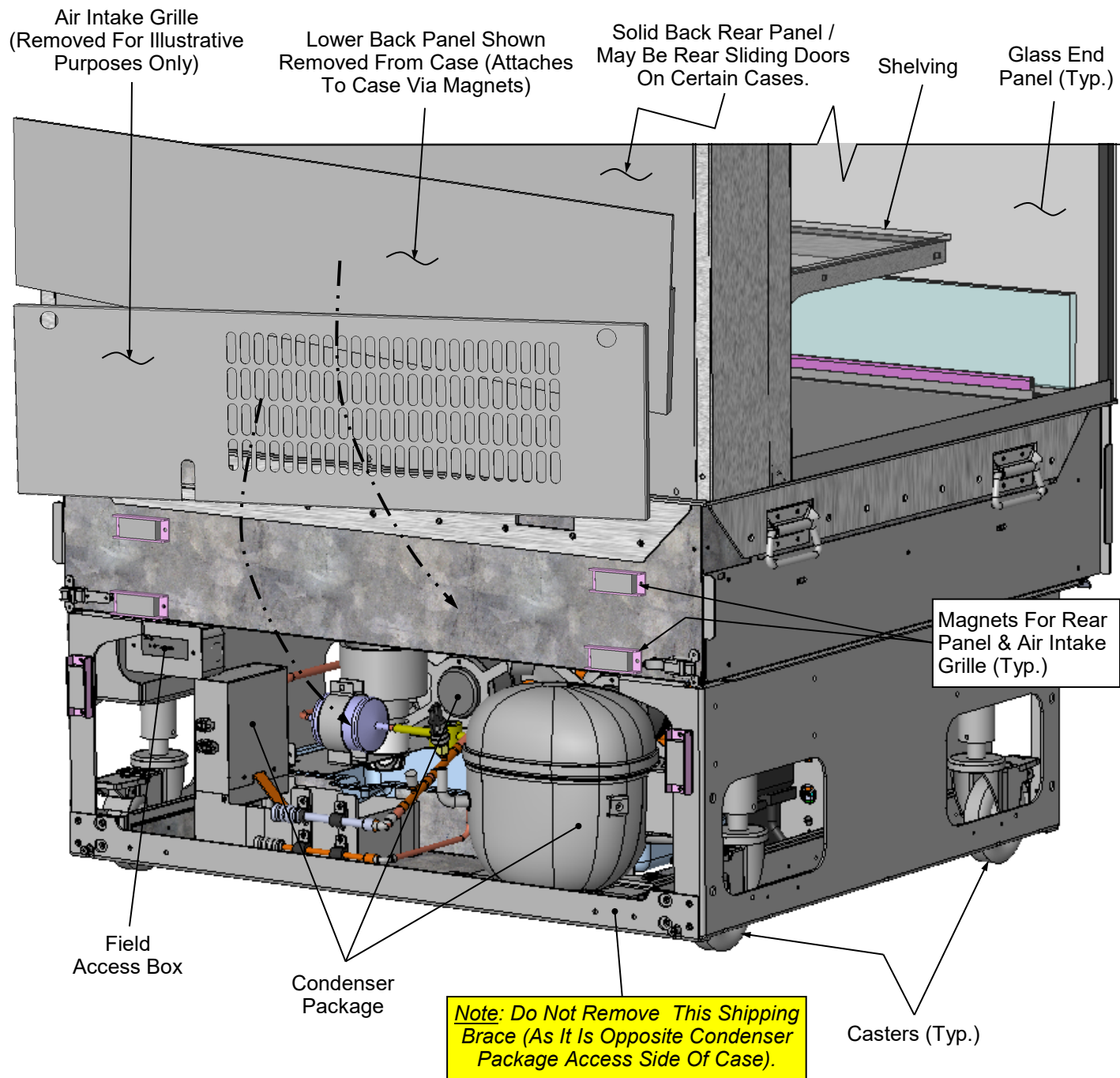
1. Front View Of Free Standing, Self-Service Merchandisers

- Model illustrated below may not reflect every feature or option of your particular merchandiser.
- Solid back panel is shown. Your unit may have acrylic perforated plenums (controlled by rear door brackets' opening and closing action).
- See next page for rear view of merchandiser.



2. Rear View Of Free Standing, Self-Service Merchandisers

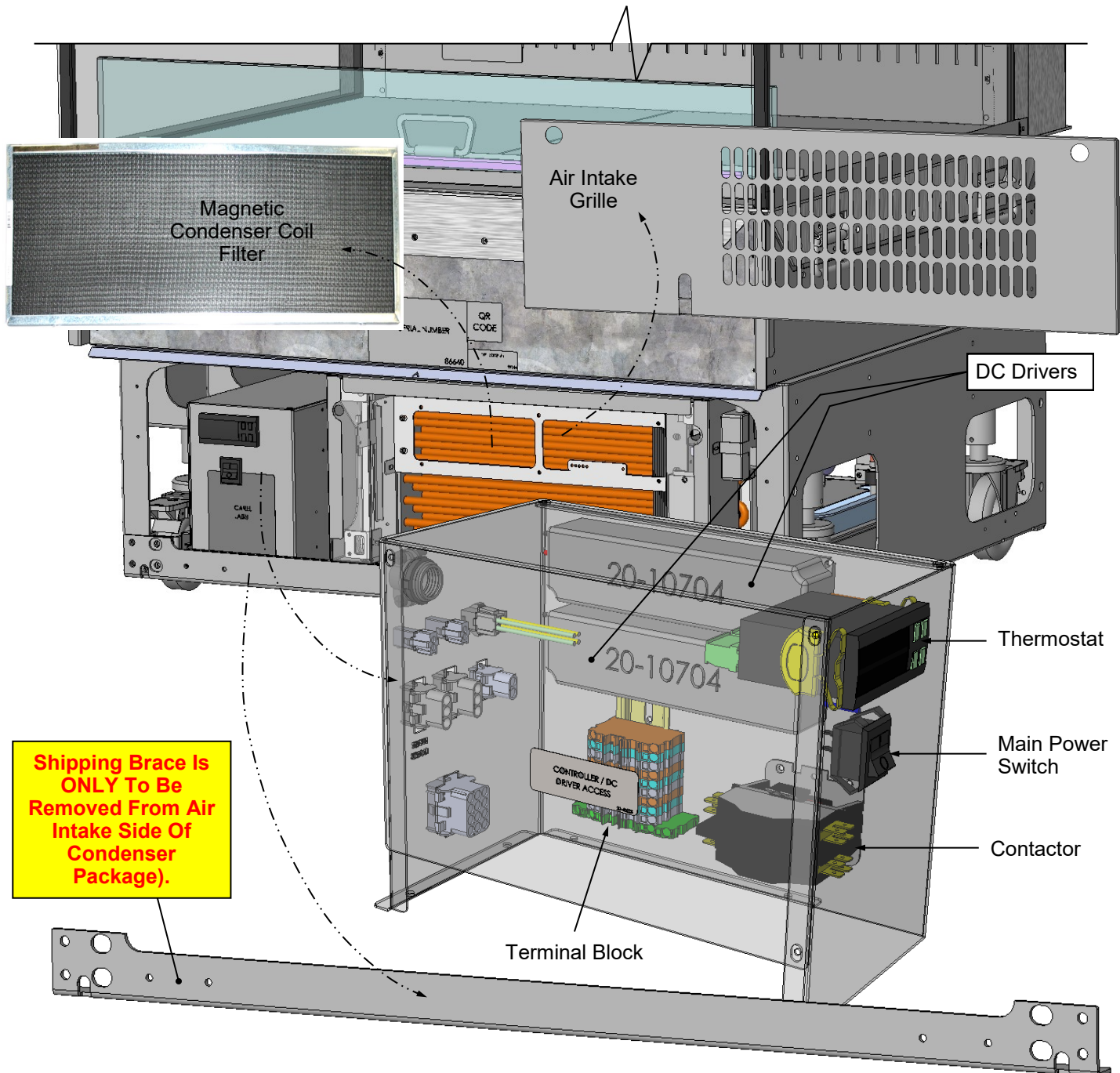
- Model illustrated below may not reflect every feature or option of your particular merchandiser.
- Solid back rear panel is shown. Rear sliding doors with acrylic perforated plenums may be on your model.
- Power cord route may differ depending upon customer request.
- See previous page for front view of merchandiser.



3. Controller / DC Driver Access / Components

- Remove air intake grille with slot/hook method; 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 removing 4 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.

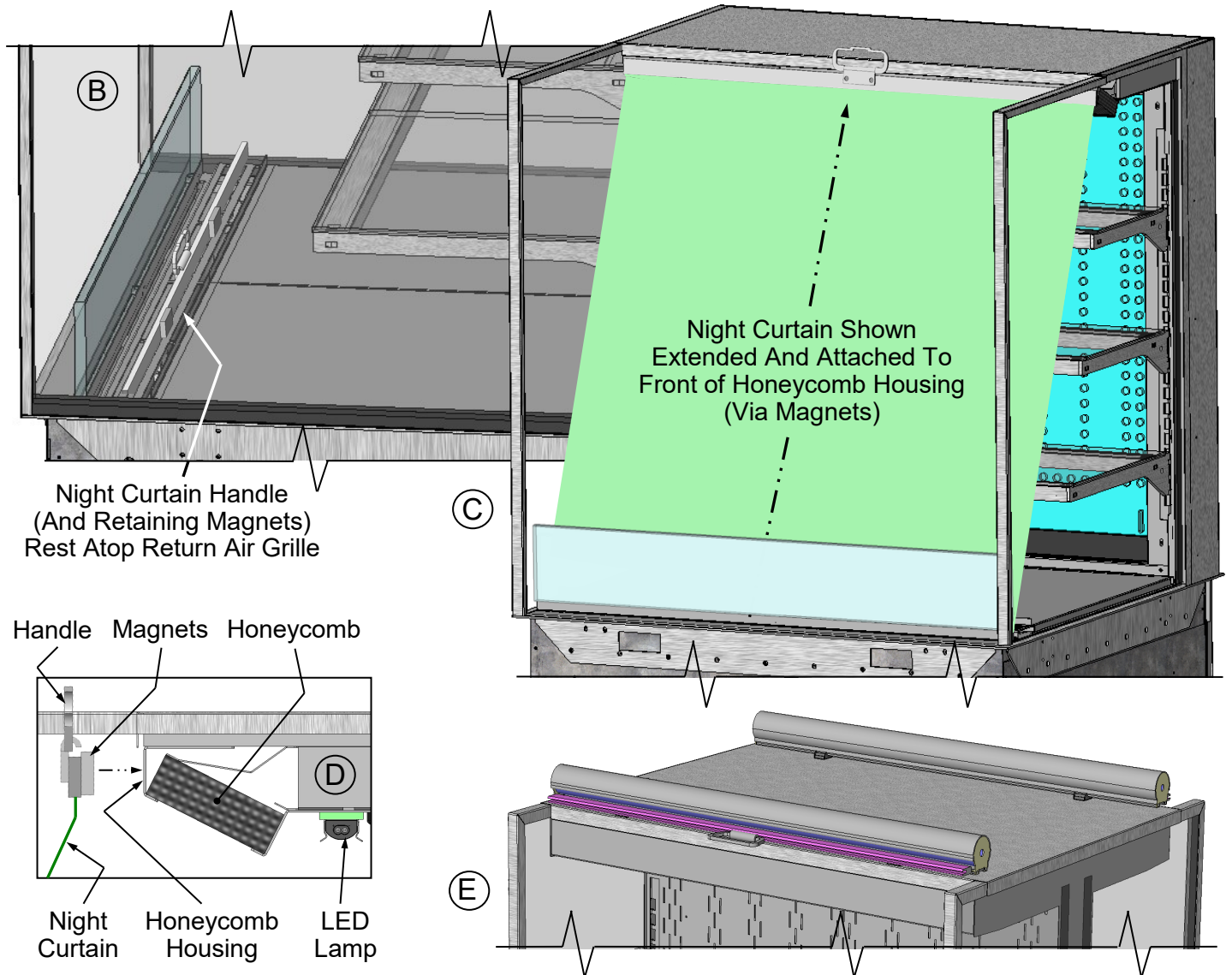
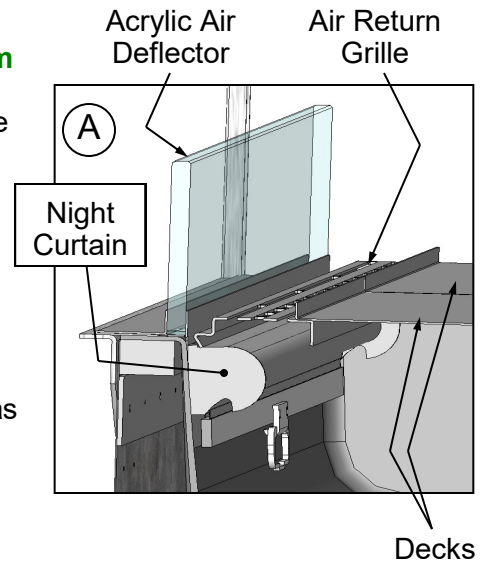


4. Night Curtain Access and Operation

The night curtain saves energy by preventing outside ambient air from entering case. Use night curtain whenever possible.

- Night curtain is attached to inside of case at underside of air return grille and decks (at case front).
- Night curtain handle (and retaining magnets) is to rest atop air return grille (as shown). If not, remove decking; remove (2) screws holding return air grille in place. Reach in, grasp handle and pull night curtain upward. Replace grille. Reattach screws.
- Firmly grasp handle and slowly extend night curtain (shown green for illustrative purposes). Attach magnets to front of honeycomb housing.
- Side view of night curtain attachment to honeycomb housing.
- Dual access models only: Night curtains (optional) are on top of case, as shown. Unwind and attach via magnets OUTSIDE acrylic air deflector.

>> Caution! To retract curtain, carefully break magnet's hold on front of honeycomb housing; slowly rewind curtain until it rests back on return air grille. If allowed to 'snap back' to return air grille, it could be damaged!

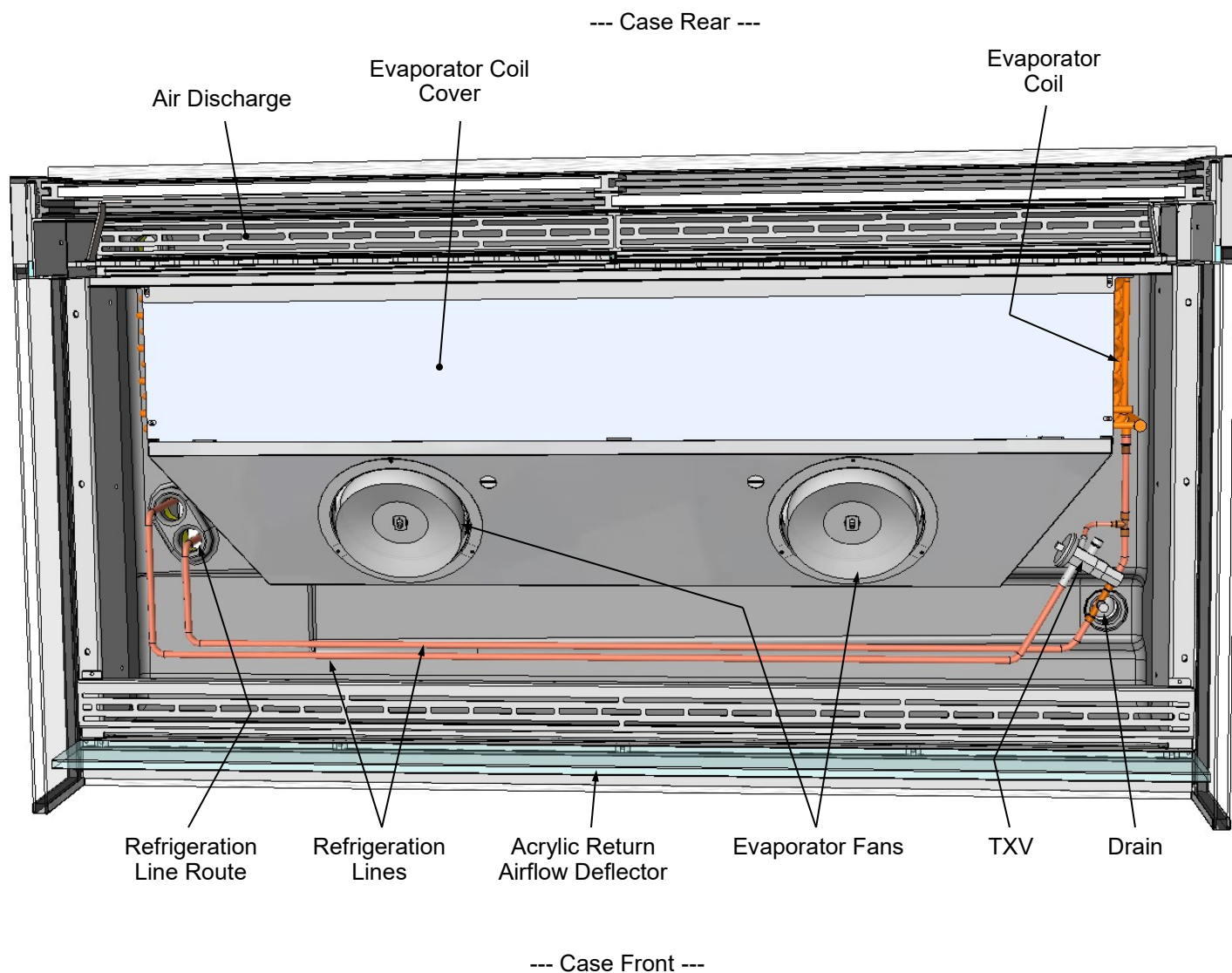


5. Tub Area After Deck Pan Removal

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.



6. LED Light Switch Locations

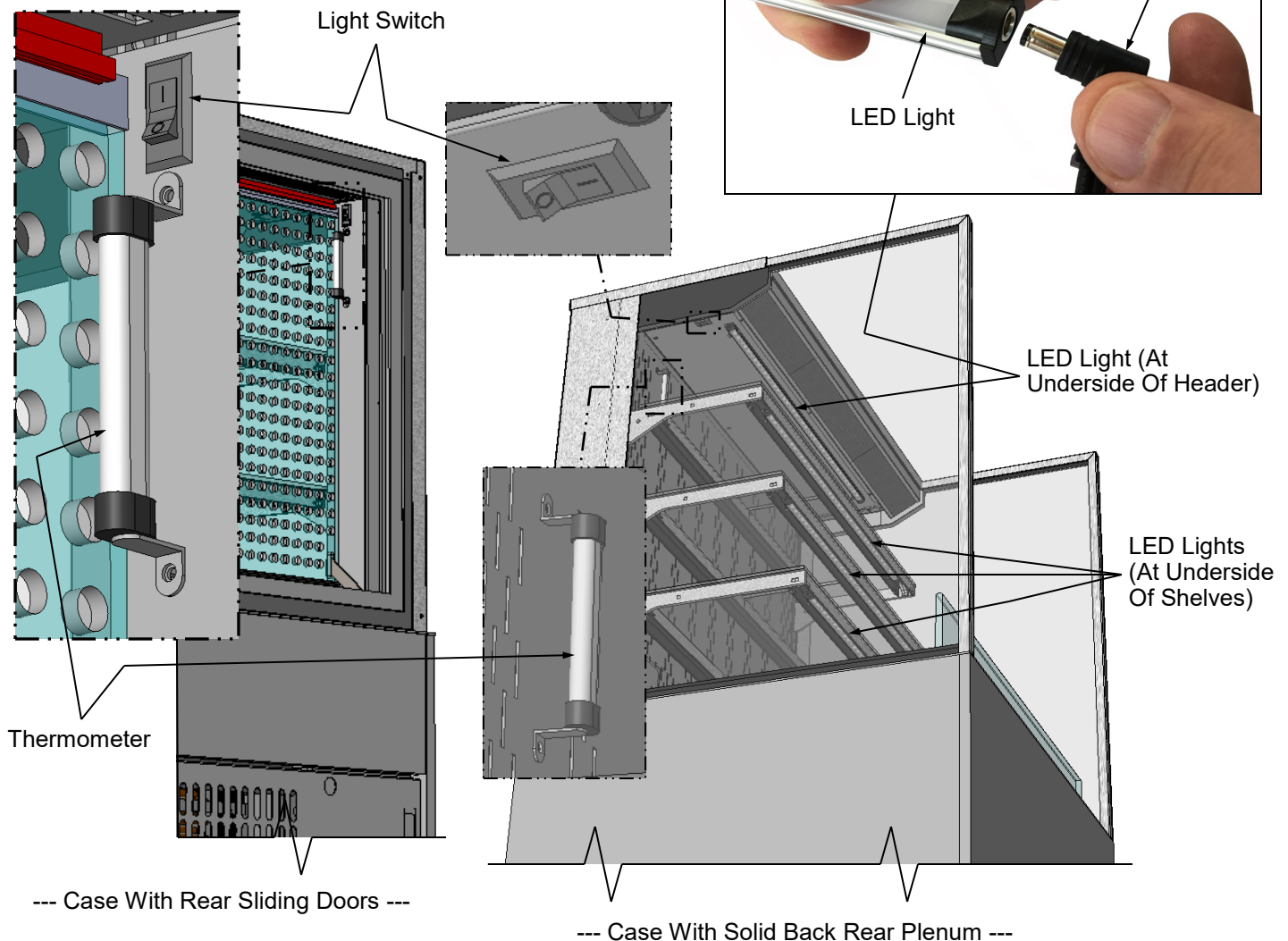
- Cases with rear sliding doors have light switch in column cover (for easy access at case rear).
- Cases with solid back rear plenums have light switch in header.
- See illustrations below.

7. LED Lights

- LED lights are located at both header and shelving of case (as shown below).
- Check that ALL of the light plugs are properly connected to the LED light.
- Plug must be inserted ALL THE WAY into the LED light orifice (with no gap) to work properly.
- See **TROUBLESHOOTING** section in manual if LED lights malfunction.

8. Thermometer Function & Placement

- Cases with lower rear sliding doors have different thermometer location than units with solid back rear lower plenums (as shown in illustrations below).
- 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.

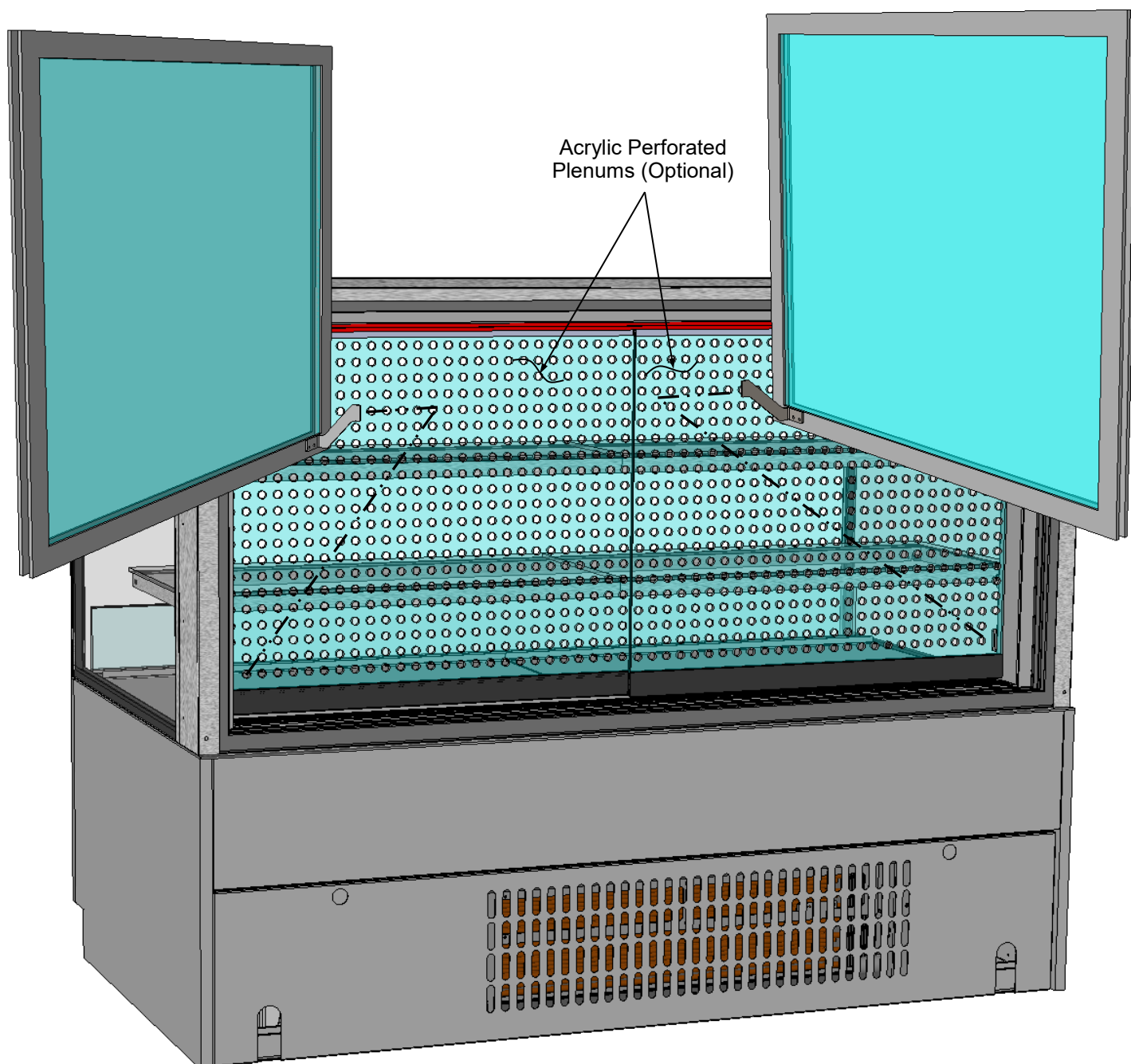


9. Rear Sliding Door Removal

- 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.

10. Rear Perforated Plenum Control

- Optional acrylic perforated plenums are shown. Your unit may have solid back panel.
- Units with acrylic perforated plenums have sliding doors with angled brackets that insert into acrylic perforated plenum slots (as shown below).
- As doors open and close, acrylic perforated plenums follow.

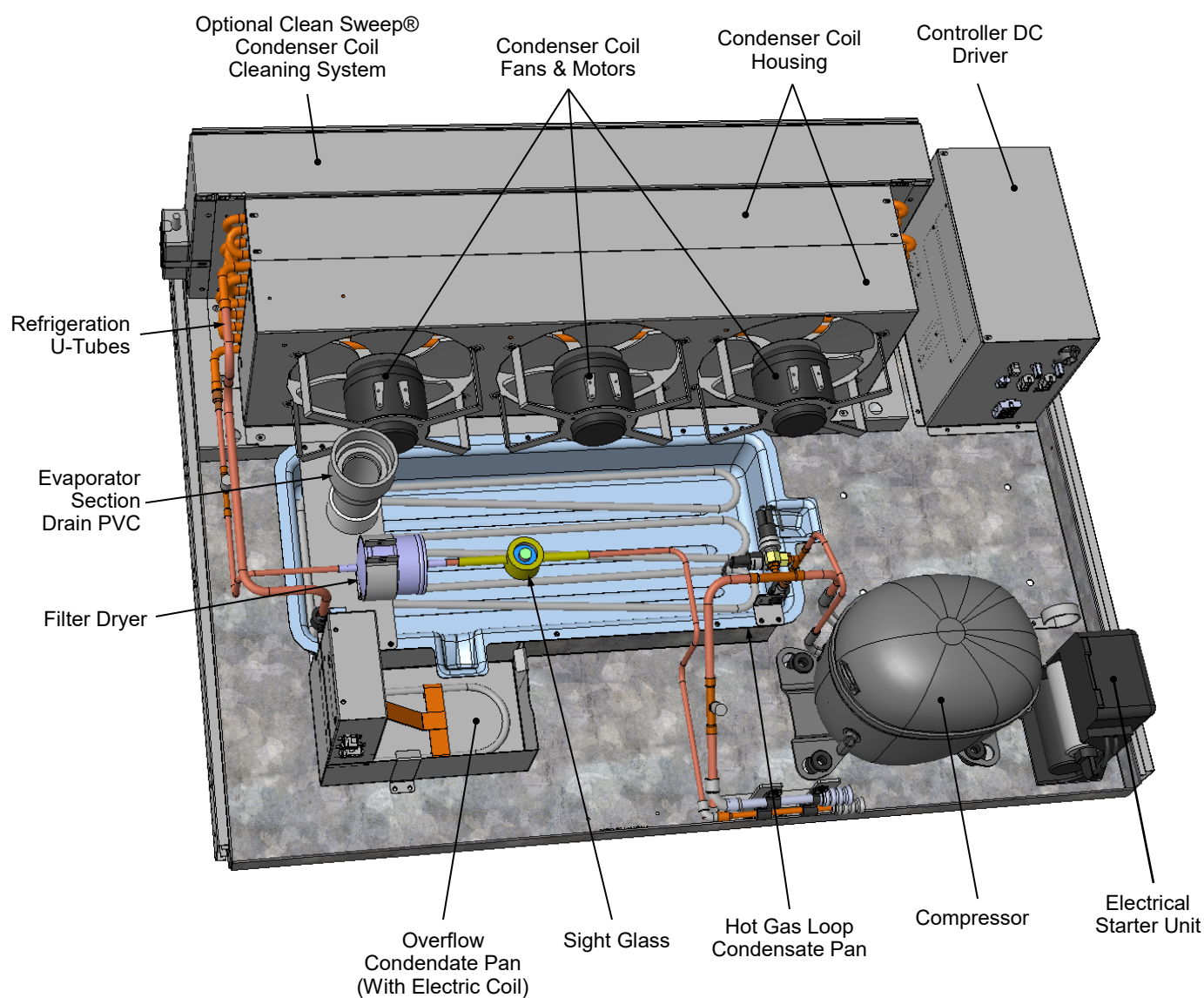


11. Condenser Package (Self-Contained Units Only)

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

Condensate Package Configuration

- Illustration below may not reflect every feature or option of your particular condenser package.



1. Product Placement

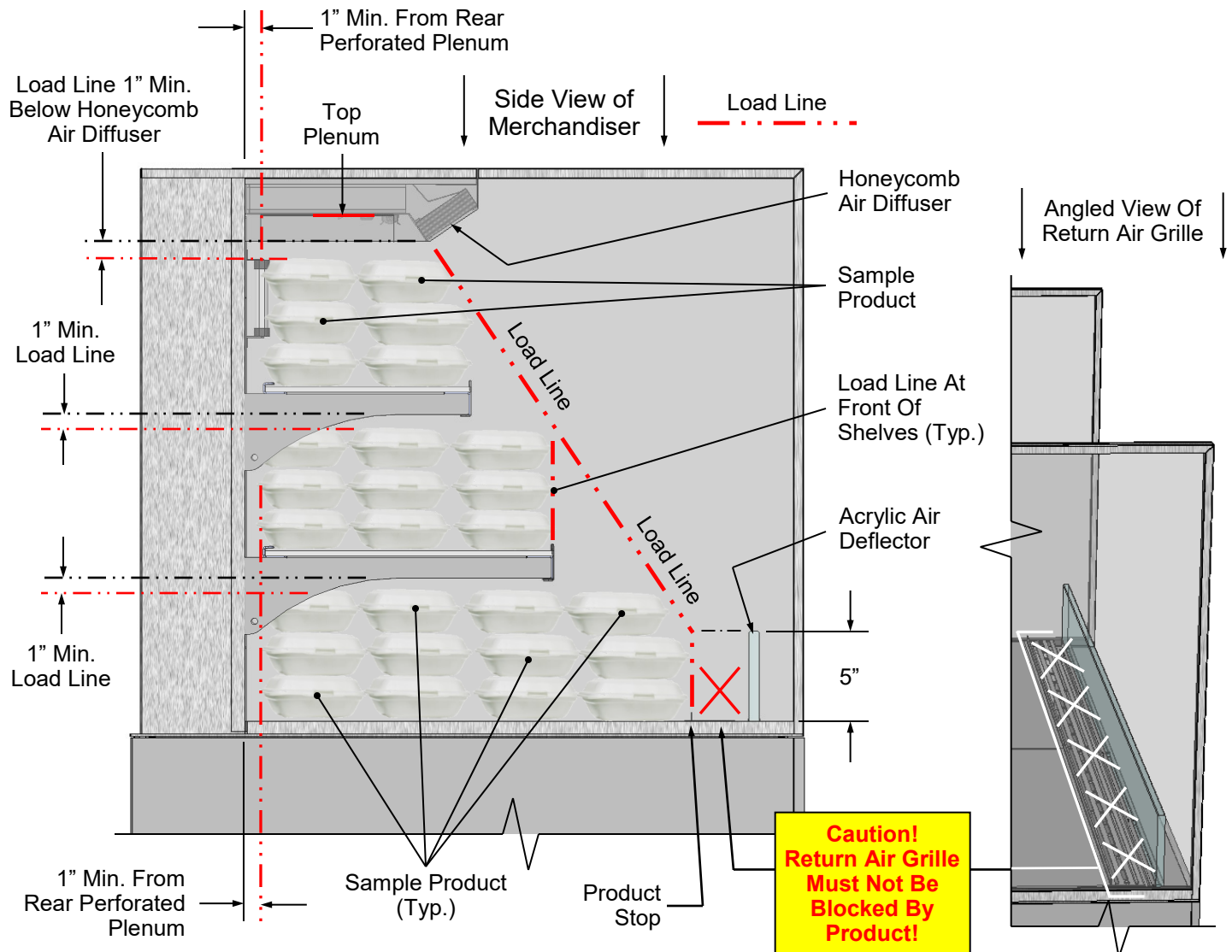
- Product can be placed on decking or steps (risers) within self-service display area.
- A wide range of product may be displayed.

2. Honeycomb Airflow Consideration

- Airflow from honeycomb air diffuser is designed to flow over (and around) product to return air grille at case front.
- Caution! You must keep the honeycomb air diffuser unblocked by product for airflow to reach return air grille.
- Caution! You must ALSO keep product OFF return air grill at case front (as illustrated below).

3. Load Lines

- Load lines limit where product can be placed and/or stacked in case.
- Do not allow product to break load line between honeycomb air diffuser and return air grille.
- Do not stack product nearer than 1" to underside of honeycomb air diffuser.
- Do not stack product nearer than 1" to underside of shelves.
- Do not stack product nearer than 1" from rear plenum.
- Do not stack product on return air grille.
- Do not allow product to hang over front of shelves.
- Do not allow product on decks to hang over product stop.
- 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 Surfaces (Sneeze Guard/Optional Security Cover and/or Perforated Plenums): • Clean: Use soft, clean cloth dipped in solution of warm water and small amount of mild, liquid soap. Apply light pressure while wiping away all smudges and residue. • Rinse: Use pure water in spray bottle to rinse. • Dry: Use soft, clean cloth (rather than abrasive paper towel). • Avoid: Never use window or household cleaners such as Windex®, Formula 409®, or fantastik®. Never use scouring compounds or solvents such as acetone, gasoline, alcohol, 111 trichloroethylene, WD-40® or lacquer thinner. • Polishing: Buff with light coat of automobile paste wax or plastic cleaner/polish. • Scratches: Use high quality buffing compound. Carefully follow instructions.
Daily	Stainless Steel Surfaces: • Wash with a solution of hand dishwashing liquid detergent and water or a solution of baking soda and water. Rinse and polish dry with paper towel or soft cloth. • Never use scouring powders or steel wool as they will scratch stainless steel. • Brighten by polishing with a cloth dipped in vinegar or in ammonia; sprinkle baking soda on sponge and rub gently; rinse. Polish dry with paper towel. • Remove streaks or heat stains from stainless steel by rubbing with club soda.
Weekly	Magnetic Condenser Coil Filter (Self-Contained Units Only): • 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: 1. 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 dishwasher is used, 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.
Quarterly	Under Case Cleaning: > Remote units: Remove lower rear panel (and/or front panel) and clean as directed below. > Self-contained units/moving case: Remove lower grille and opposite side (front or rear panel) panel. Unlock casters and lower casters to floor. See INSTALLATION, CONT'D.: CASTER ADJUSTMENT / LOCK / UNLOCK / CASE REMOVAL FROM PALLET section in manual for instructions. Slide/roll case out of current position. Clean as directed below. > Self-contained units/stationary case: Remove lower grille (at intake side); slide condenser package out from under case. Optional: remove panel that is opposite lower grille. Clean as directed below. • Use vacuum with brush to remove all dust, dirt, food particles or residue from underside of case. • Replace lower grille (and/or panel that is opposite lower grille) when cleaning is complete.

WARNING! TURN OFF CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!

FREQ.	INSTRUCTIONS
Quarterly	<u>Condensing Coil:</u> • Remove air intake grille to access area. Simply lift up and off. • Roll/slide out condenser package. Note: 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	<u>Condenser Package:</u> <i>Caution! Disconnect power from case before cleaning!</i> • See CASE DESIGN, CONT'D: CONDENSER PACKAGE (SELF-CONTAINED UNITS ONLY) section in manual for illustrations. • Warning! Condensate pan may be HOT! Disconnect power from case and allow to cool before cleaning condensate pan! • 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. • Replace air intake grille to case (no screws required).
Quarterly	<u>Under Case Cleaning:</u> Once refrigeration package is clear of unit, vacuum under case to remove dust and dirt that may collect under case.
Quarterly	<u>Tub Area (Evaporator Coil, Drain, Fans, Brackets, Etc.):</u> Caution! Disconnect power from case before cleaning tub, coil, fan, motor and drain area! • 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.
Quarterly	<u>Honeycomb:</u> Check honeycomb air diffuser to determine if it is dirty. If dirty, remove from case. See next page for cleaning specifics.

NOTE: PREVENTIVE MAINTENANCE IS TO BE PERFORMED BY TRAINED SERVICE PROVIDERS ONLY.

Preventive maintenance should be performed quarterly (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 or stylus) between honeycomb and end panel.

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

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

C. Pry downward & away from honeycomb retainer.

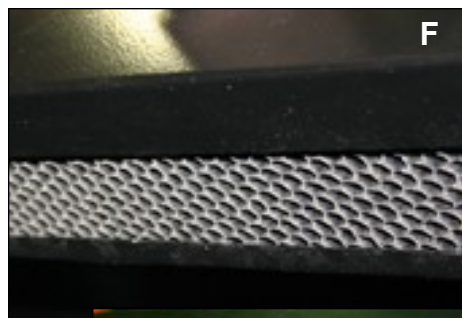
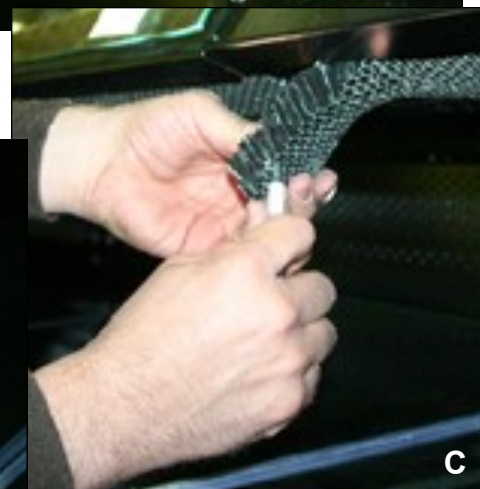
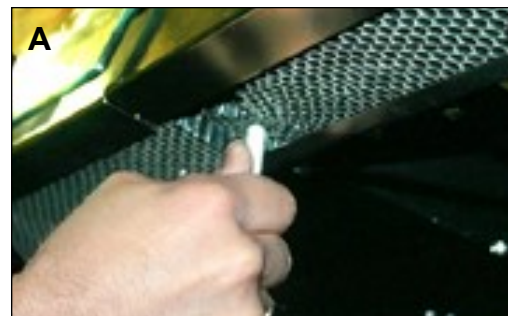
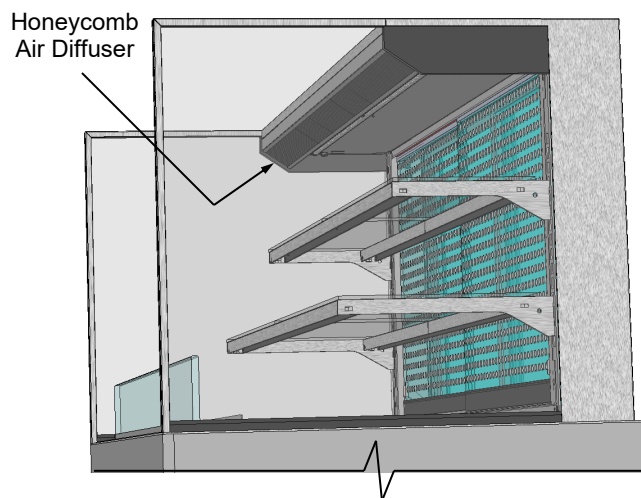
Clean honeycomb with warm water and soap solution. Submerge if necessary. Use brush to dislodge stubborn or sticky residue. Dry by using vacuum's 'blow mode'.

Honeycomb Air Diffuser Installation

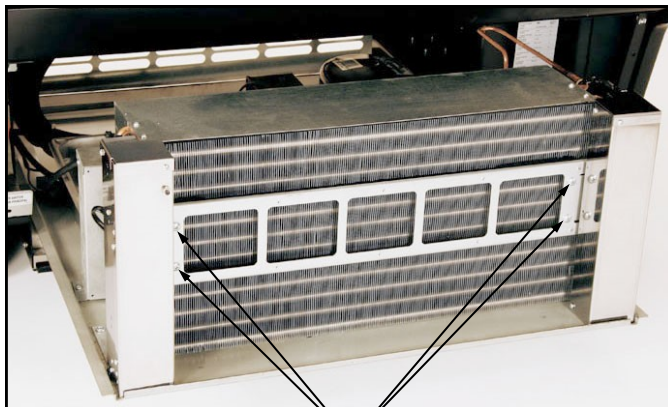
D. Squeeze honeycomb into the honeycomb retainer.

E. Carefully slide honeycomb into place.

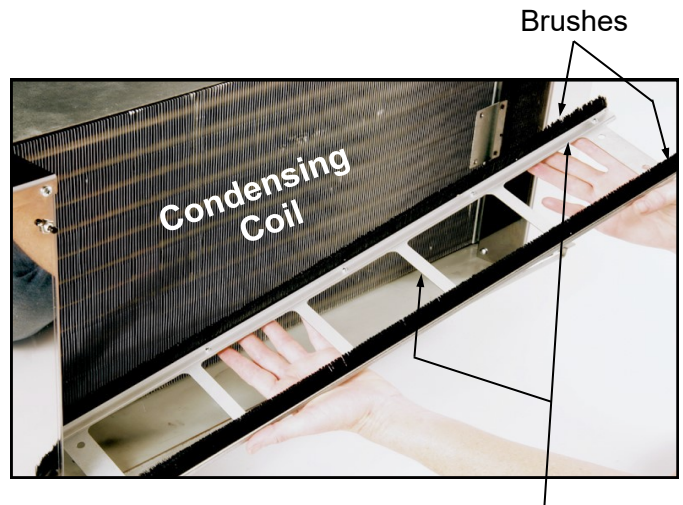
F. Adjust honeycomb so that it fits flat against retainer. It must not be wavy or out of position.



FREQUENCY	INSTRUCTIONS
Quarterly	Optional Clean Sweep™ Condensing Coil Cleaner: <i>Disconnect power from case before servicing the Clean Sweep™ Condenser Coil Cleaner!</i> • 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.



(4) Screws

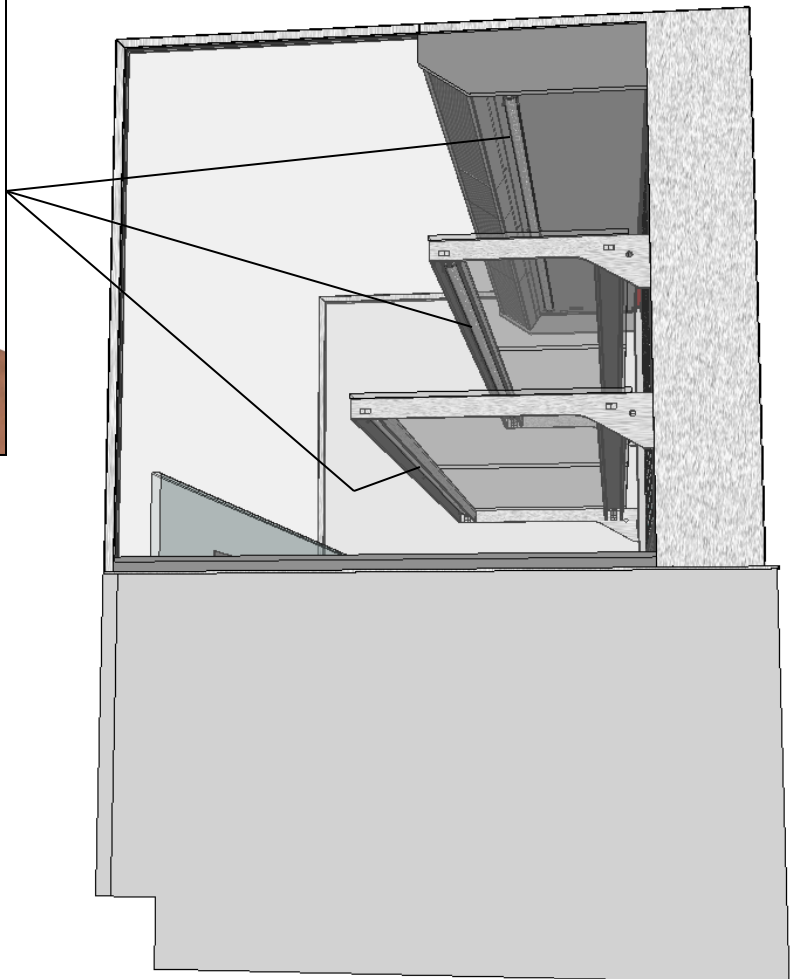
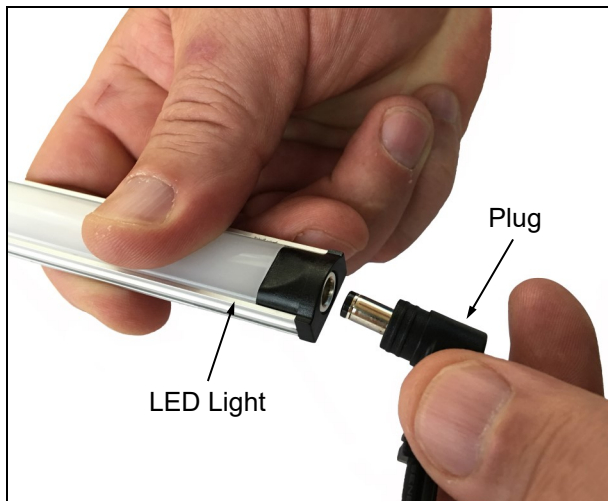


Rail

--- 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 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.
	• 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.

CONDITION	TROUBLESHOOTING
Case Lights Not Working	Check that light switch is in the ON position. See CASE DESIGN, CONT'D: LED LIGHT SWITCH LOCATIONS / LED LIGHTS / THERMOMETER section in manual for switch location (regardless of case design).
	If case is not hard-wired, check that power cord is properly connected to wall outlet.
	Check that ALL of the light plugs are properly connected to the LED light. - Plug must be inserted ALL THE WAY into the LED light orifice (with no gap). - See illustrations below-left.
	Power may not be reaching the case. - Contact store management to have trained service provider perform troubleshooting. - Troubleshooting to be performed by trained service providers only is on next page.
	If case light still do not come on, it may need to be replaced. - Contact Structural Concepts' Technical Service Department for replacement light (see TECHNICAL SERVICE section of this manual for contact information). - To replace, disconnect plug from existing LED light. Disconnect LED light from its brackets. Replace with new LED light. Insert plug ALL THE WAY into LED light orifice.



CONDITION	TROUBLESHOOTING
Water Is On The Floor	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: • 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.
	Check that the drain trap is free of debris.
	Check that the drain PVC is correctly positioned over condensate pan.
	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 (at case rear near main power switch) for NSF® Type of your case.
	Check that electric coil overflow condensate pan is properly plugged in or connected.

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	See <i>TROUBLESHOOTING (TO BE PERFORMED BY STORE PERSONNEL)</i> section in manual (previous sheet) for most common troubleshooting solutions.
	Check power. • If power is not supplied to the case, facility may have faulty power distribution. • If power is supplied to the case but lights are not energized, case's power supply 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.

CONDITION	TROUBLESHOOTING
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. <i>See your case's serial label for your model's specified settings. See SERIAL LABEL LOCATION & INFORMATION LISTED / TECH INFO & SERVICE section in manual for label location, etc.</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 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.



Structural Concepts
888 E. Porter Rd · Muskegon, MI 49441

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

ENCORE[®] SERIES MODEL HV74RSS SCROLL
SERIAL NO.



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

Super Heat Temp

BTUH Requirements

Defrost

8-10°F

9,738 BTUH @ 20° F SST

6 defrosts per day, 45° F termination, 45 min. failsafe

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



Structural Concepts
888 E. Porter Rd · Muskegon, MI 49441

Addenda[®] PC5682 txtRemote
txtSerialNumber



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

120 VOLTS 60 HZ SINGLE PHASE 1.84AMP

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

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



Structural Concepts

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

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 or Other Parameters

Prg **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 **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 **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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Integrated Electronic Microprocessor Controller



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

STRUCTURAL CONCEPTS TECHNICAL SERVICE CONTACT INFORMATION & LIMITED WARRANTY

TECH SERVICE/WARRANTY CONTACT INFO: **1 (800) 433-9490 / EXTENSION 1**

DAYS/HOURS AVAILABLE:
MONDAY - FRIDAY (CLOSED HOLIDAYS)
8:00 a.m. TO 5:00 p.m. EST

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

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

LIMITED WARRANTY

Overview: All sales by Structural Concepts Corporation (hereafter referred to as "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 warranties.

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. (free on board) 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 PURCHASER 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 or 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: Supermarket: 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. 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.

Glass Material: Glass (UV-bonded glass, glass sneeze guards, glass enclosures, glass held in place via posts, etc.) is only warranted to FIRST POINT OF DELIVERY.

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 assignees. 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 Customer Service Dept. in writing, by phone, fax or email.

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. (free on board) 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. (free on board) unit.