

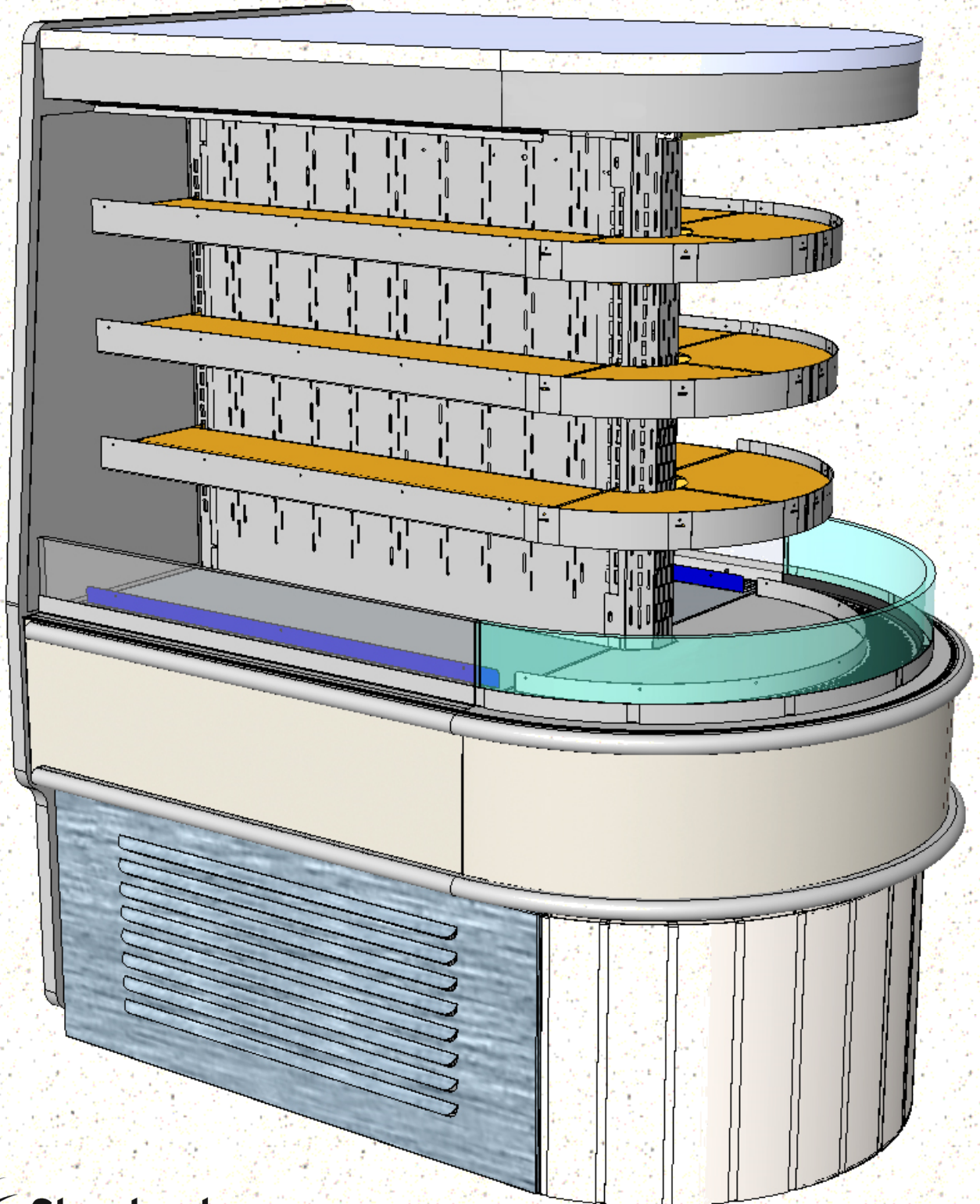
READ AND SAVE THESE INSTRUCTIONS

**Oasis**

# INSTALLATION & OPERATING MANUAL

P/N 54306

MODEL FSE45R MULTI-PURPOSE SELF-SERVICE REFRIGERATED END CAP CASE



**Structural**

**Concepts**

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**OVERVIEW**

- These Structural Concepts merchandisers are designed to merchandise packaged products at 41 °F (5 °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.

**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.



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



**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.

**WARNING**

**HOT SURFACE**



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

**PRECAUTIONS**

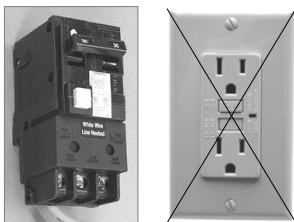
- Following are important precautions to prevent damage to unit or merchandise.
- Please read carefully!
- See previous page for specifics on **OVERVIEW**, **NSF TYPE**, **COMPLIANCE** and **WARNINGS**.

**WIRING DIAGRAM**

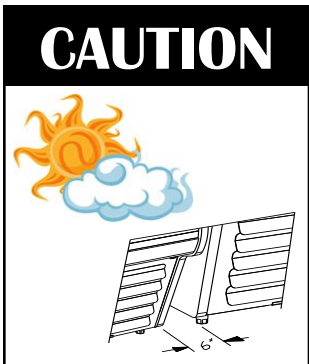
- Each case has its own wiring diagram folded and in its own packet.
- Wiring diagram placement may vary; it may be placed near ballast box, field wiring box, raceway cover, or other related location.



**CAUTION! LAMP REPLACEMENT GUIDELINES**  
 LED lamps, they must reflect specific size, shape and overall design. Any replacements must meet factory specifications.  
 Fluorescent lamps have been treated to resist breakage and must be replaced with similarly treated lamps.

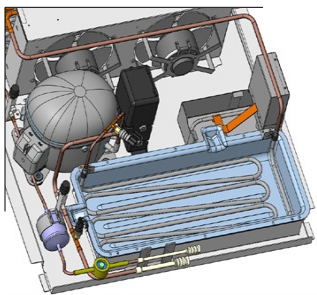


**CAUTION! GFCI BREAKER USE REQUIREMENT**  
 If N.E.C. (National Electric Code) or your local code requires GFCI (Ground Fault Circuit Interrupter) protection, you **MUST** use a GFCI breaker in lieu of a GFCI receptacle.



**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! 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 CleanSweep® **MUST HAVE** two plugs connected to receptacle.



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

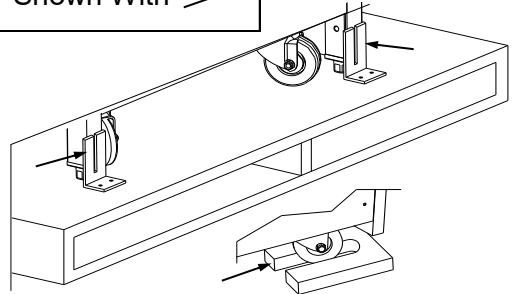
- Thermometers and thermostats reflect air temperatures **ONLY**.
- For **ACTUAL** food temperatures, use a calibrated food thermometer.

## INSTALLATION: SHIPPING BRACKET REMOVAL / RAISING LEVELERS

### 1. Remove Shipping Brackets From Pallet

- Shipping brackets are designed to secure case as well as condenser package during shipment.
- Remove shipping brackets securing case to pallet (as shown at right).

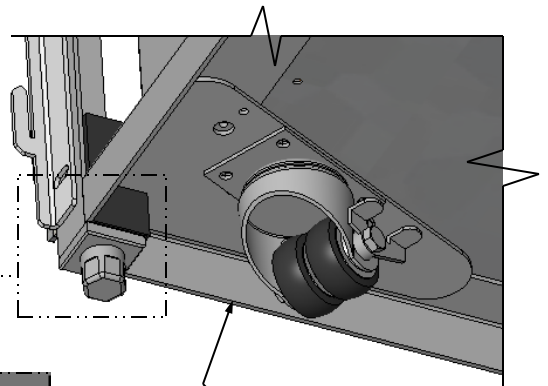
Various Types Of Shipping Brackets Shown With →



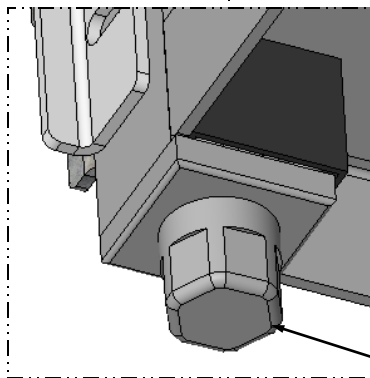
### 2. Raising Levelers

- **Important! Case is shipped with levelers in the DOWN position (for stability). To prevent damage to the case, all levelers must be raised ALL THE WAY UP before moving unit off pallet and into position.**
- You will need to remove kick panels to access levelers.
- Use adjustable wrench to adjust leveler.
- Depending upon case weight it may be necessary to use a pry bar to accomplish this task.
- Do not use pry bar on toe-kick as it may buckle.
- Do not use pry bar on end panel as it may chip.
- Use pry bar ONLY on base frame to avoid damaging case.
- See illustrations at right.

Adjustable Wrench



Base Frame



Leveler



Pry Bar



**3. Caution! Kick Panels Are NOT To Be On Case During Removal From Pallet!**

- Kick panels can easily buckle or bend while removing case from pallet.
- If kick panels are on case, remove by lifting up and off. No screw removal is required to remove kick panels.
- After unit is in position, kick panels are to be replaced.

**4. Remove Unit From Pallet (With Fork Lift)**

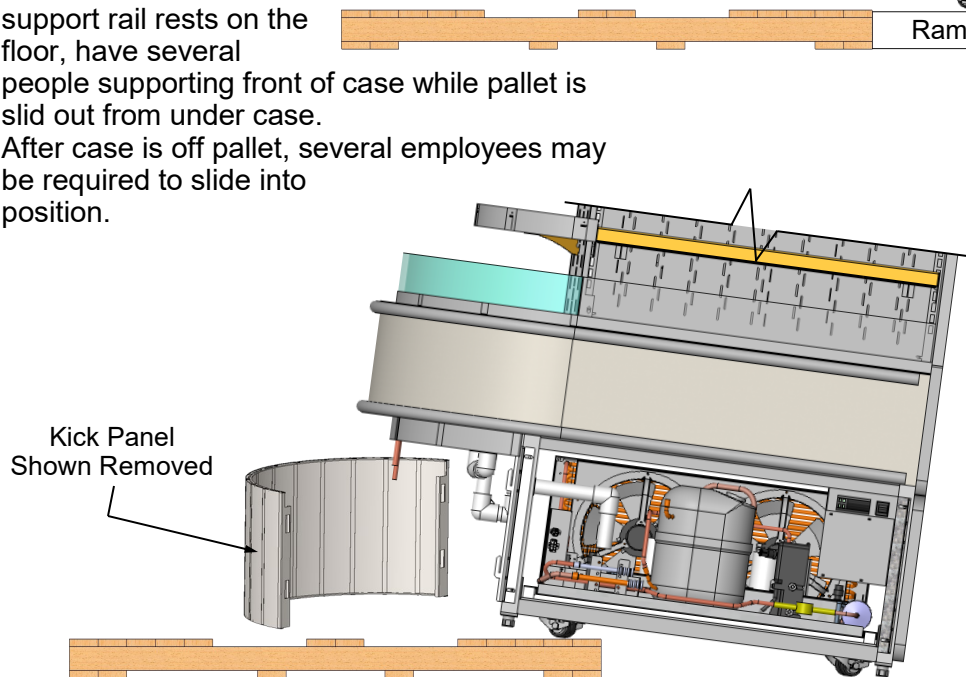
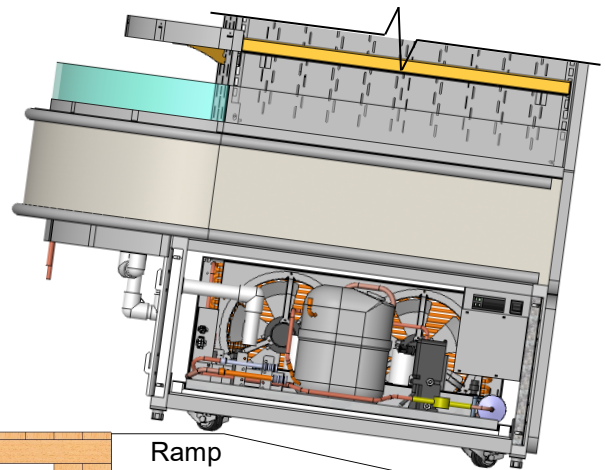
- To lift case up for lift-truck forks to slide into position, use J-Bar lift tab.
- Make certain case is well-supported on lift truck. Move into position.

**5. J-Bar or Dolly (Without Fork Lift)**

- Slide case to edge of pallet.
- With several people in position, carefully slide frame support rail to edge of pallet.
- With several people in position, slide case several more inches (off pallet) and lower rear frame support to floor.
- Once the rear frame support rail rests on the floor, have several people supporting front of case while pallet is slid out from under case.
- After case is off pallet, several employees may be required to slide into position.

**6. Using Ramp**

- If ramp is available, after levelers are raised all the way up, place ramp up against pallet (to allow case to smoothly roll off from pallet).
- Maintain support of case at all times or center of gravity may cause case to fall.
- Roll unit to rear of pallet, down ramp and off pallet (as shown in illustration immediately below).



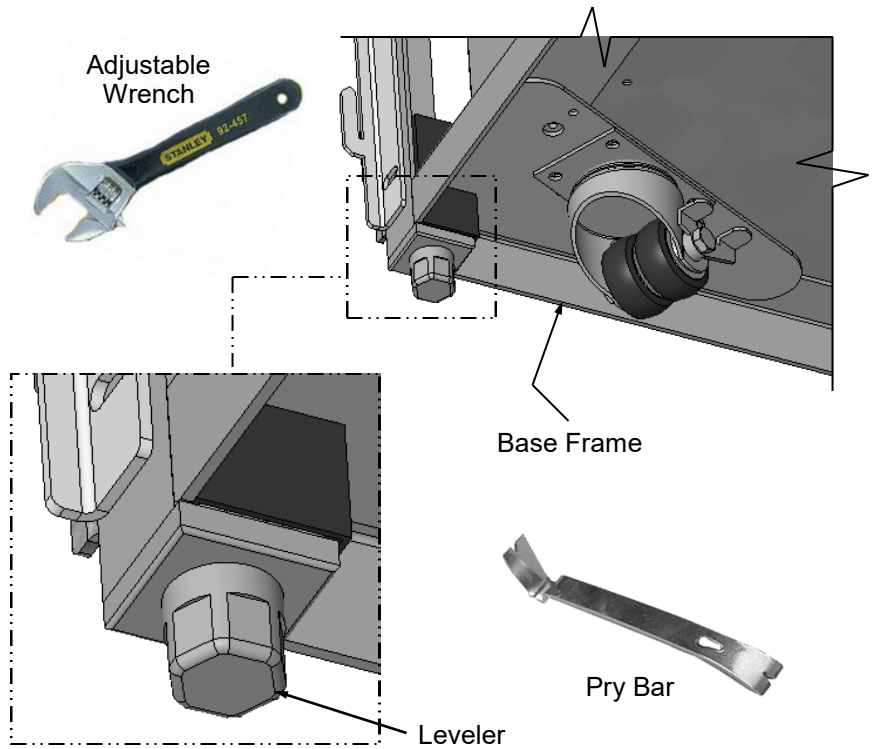
**Caution! Kick Panels Are NOT To Be On Case During Removal From Pallet!**

### 7. Positioning Case

- Carefully and slowly move case (on its casters) to its new location in store.

### 8. Lowering & Adjusting Levelers

- *Important! After case is in proper position, levelers must then be **LOWERED** to floor.*
- Using adjustable wrench, adjust levelers so the case is level and plumb.
- Depending upon case weight it may be necessary to use a pry bar to accomplish this task.
- Do not use pry bar on e-kick as it may buckle.
- Do not use pry bar on end panel as it may chip.
- Use pry bar **ONLY** on base frame to avoid damaging case.
- See illustrations at right.



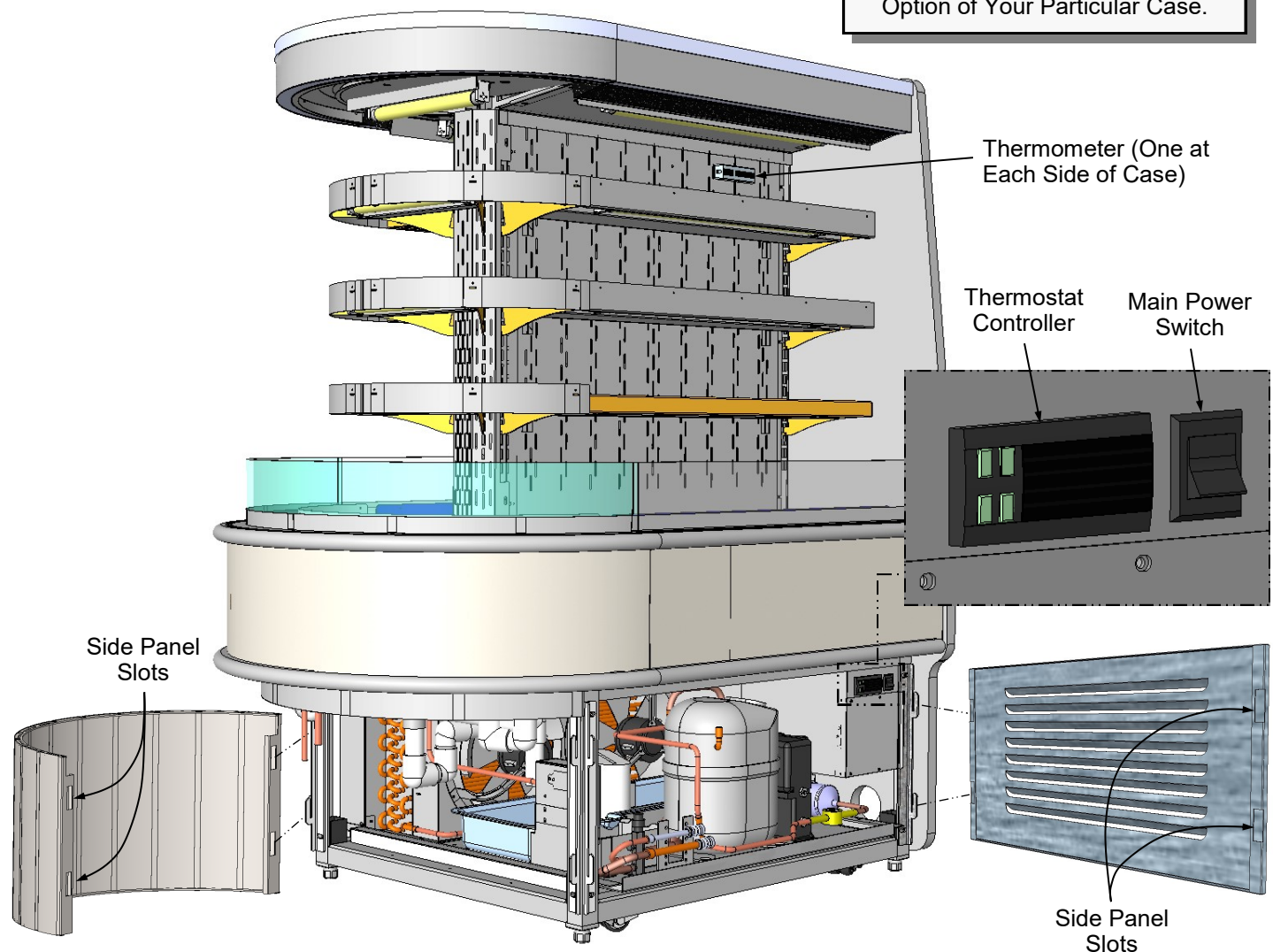
**1. Power Cord / Exhaust Grille / Main Power Switch / Thermostat**

- Plug power cord into outlet (3-prong plug is provided).
- Lift off exhaust grille on right side of unit. No screw removal required. Simply lift up and off.
- Turn on main power switch at right rear side of case.
- Main power switch will start evaporator coil fans, and the compressor motor.
- Thermostat controls temperature. See **MAINTENANCE - LIGHT BALLASTS / THERMOSTAT** section in this operating manual for more information.
- See illustration below.

**2. Thermometers**

- Thermometers are located in the side refrigerated compartment.
- They do not measure actual product temperature; they monitor warmest air temperature.
- Use a probe to determine actual product temperature.
- Thermometers are located on BOTH refrigerated sides of case.

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





### 3. Evaporator Coil Fans

After power has been supplied, evaporator coil fans and compressor motor will be operational.

- To verify fans are operational, lift up deck pans; check to see that the coil fans are all functioning properly.
- See illustration below.

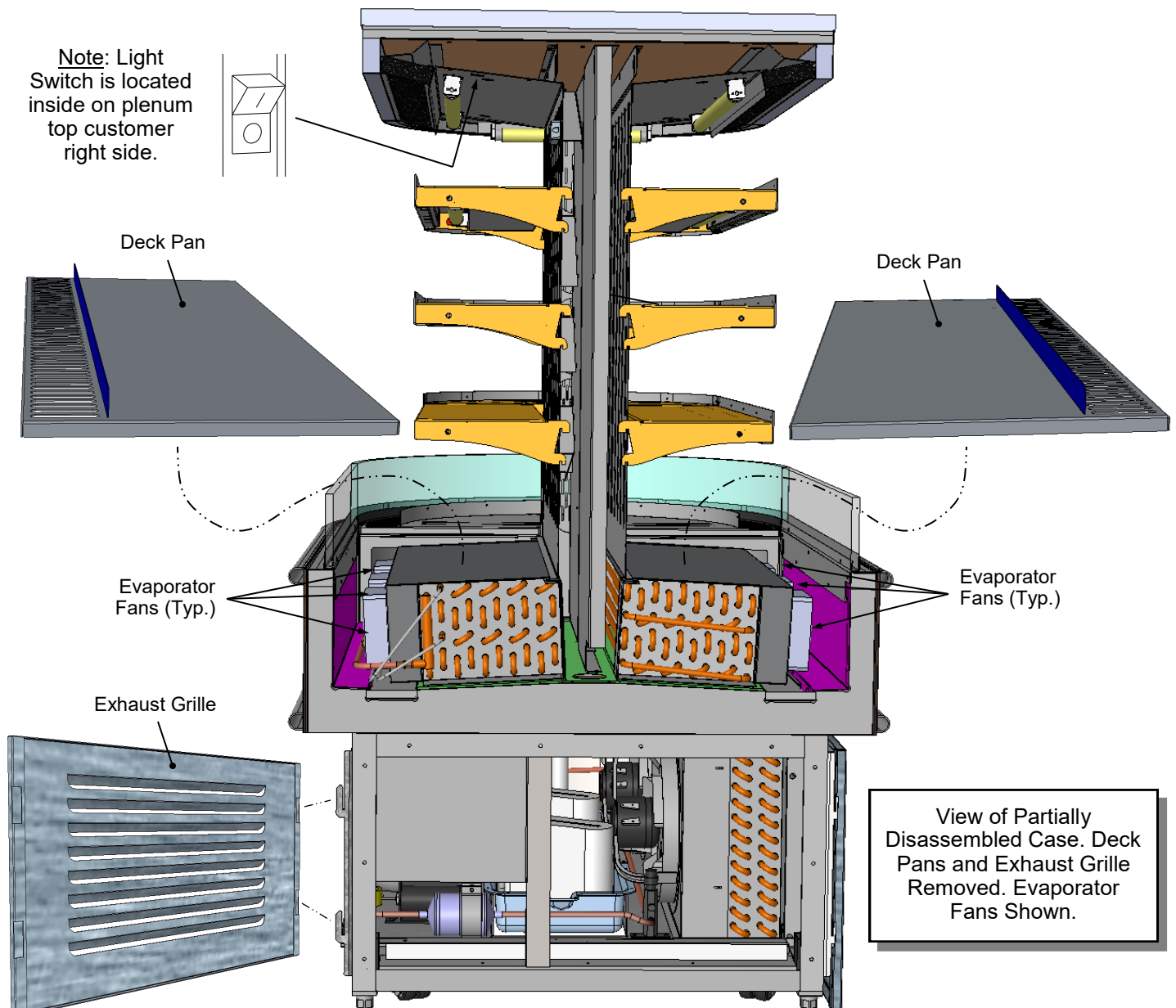
Note: Illustrations Shown May Not Exactly Reflect Every Feature or Option of Your Particular Case.

### 4. Light Switch Location

- Light switch is located inside on the plenum top toward back of the unit (as shown below).

Note: All lights should come on at the same time. First time lighting may require a short warm up period for the bulbs. Slightly dim or a flickering of new bulbs is normal. If lights do not turn on, check all of the plug connections.

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

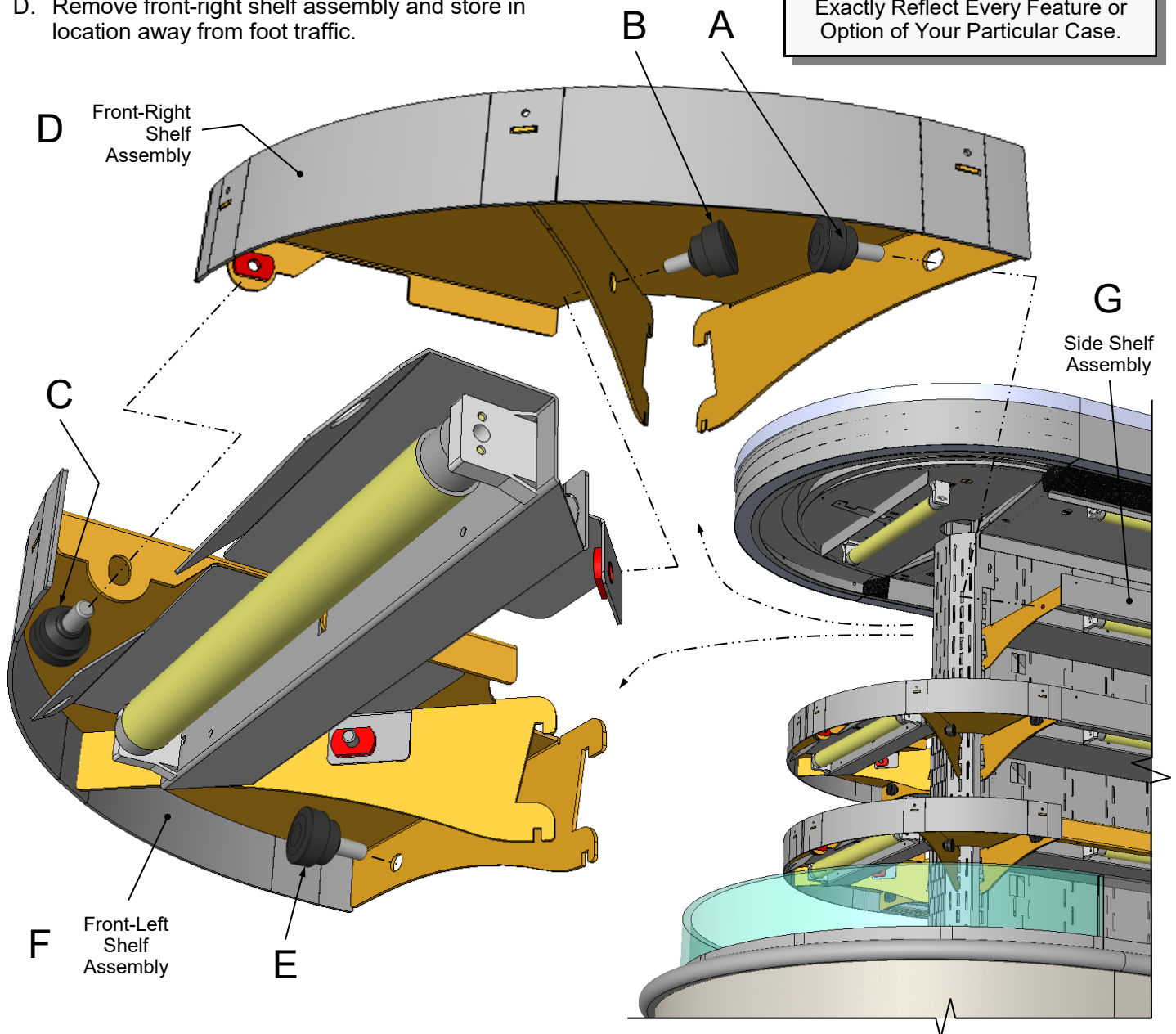


**1. Shelving Assembly Removal / Adjustment**

- Shelving is vertically adjustable on 1" centers.
  - Due to angled bracketry, shelves must be removed and raised/lowered in a specific order.
  - Thumbscrews allow each shelving assembly to be separated from each other. No tools are required.
  - To remove shelving assemblies, follow these step-by-step instructions.
- A. Remove thumbscrew "A" that connects to side shelf assembly (as shown below).
  - B. Remove thumbscrew "B" that connects to light assembly (as shown below).
  - C. Remove thumbscrew "C" that connects front-left shelf assembly to front-right shelf assembly.
  - D. Remove front-right shelf assembly and store in location away from foot traffic.

- E. Remove thumbscrew "E" that connects front-left shelf assembly to opposite side shelf assembly.
  - F. Remove front-left shelf assembly and store in location away from foot traffic.
  - G. Side shelf assembly may now be removed and/or adjusted to new position. No tools required.
- >> After side shelf assembly (or assemblies) have been move to desired locations, replace front-left and front-right shelf assemblies in reverse order they were removed.
- >> Perform these steps on any shelving assemblies that need to be raised or lowered.

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



## **2. Light Fixtures (Fluorescent)**

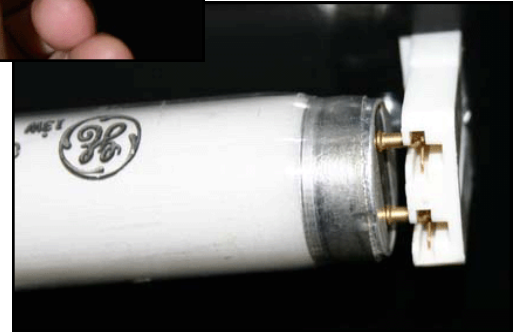
Light fixtures are located on the underside of each shelf assembly (at both sides and front).

Removal of lamp:

- Firmly pull one end of lamp outward to disengage pins/contacts from lamp mounting sockets.
- After the one end has been removed, carefully disengage from opposite end of bulb.
- Take care to not bump bulb into shelves or end panels as it is possible to shatter bulb.

Installation of lamp:

- Align pins with slot.
- Insert pins into socket. Press pins firmly into slots. Wiggle back and forth to assure that pins are secure.
- See photos and illustration on this sheet.

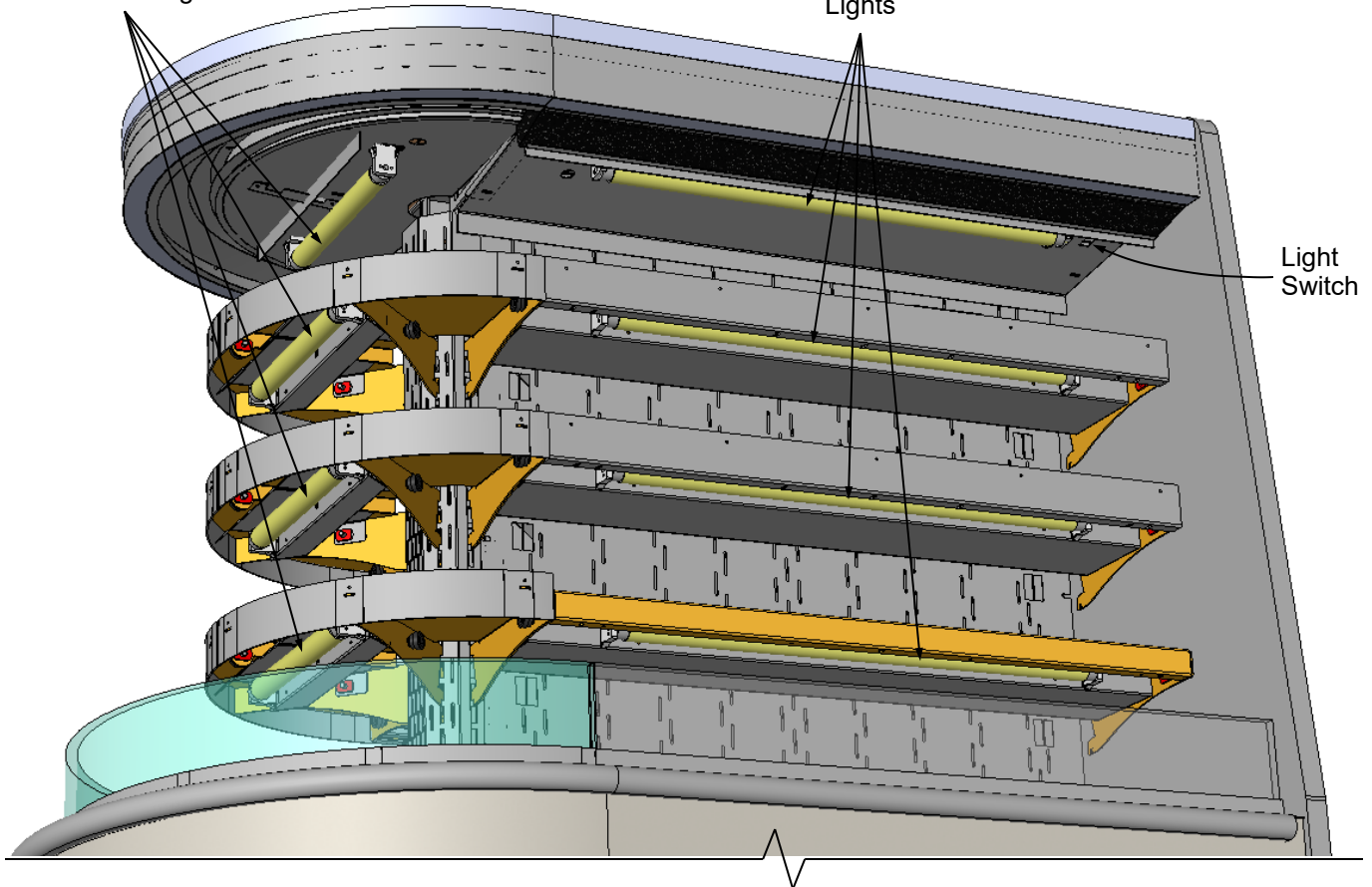


**Note:** Illustrations Shown May Not Exactly Reflect Every Feature or Option of Your Particular Case.

Fluorescent Lights

Side Fluorescent Lights

Light Switch



**3. Light Fixtures (LED)**

*Removal of Faulty LED Lights:*

- Contact Structural Concepts' Technical Service Department for replacement LED lights.
- Turn off LED light switch.
- To remove faulty LED light, follow these steps:
  - A. Disconnect plug from LED light.
  - B. Using both hands, grasp LED light assembly (with its magnetic mounting clips). Pull downward and off its shelf (or header).
  - C. Remove magnetic mounting clips from LED light by pressing against flange part of clip with thumb.

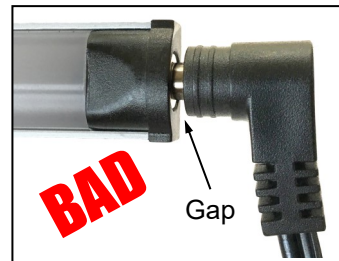
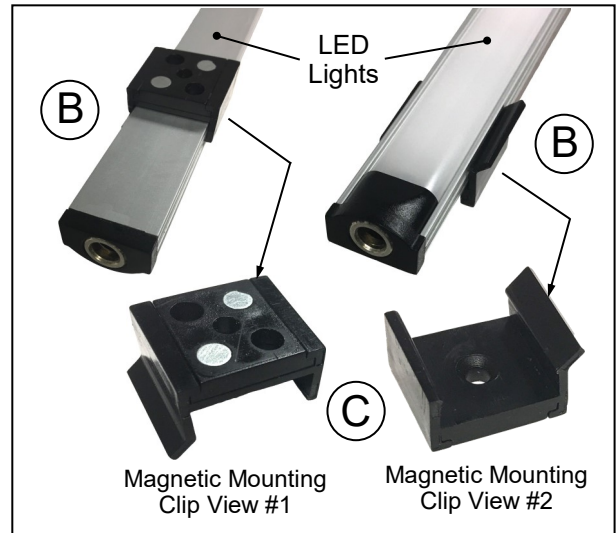
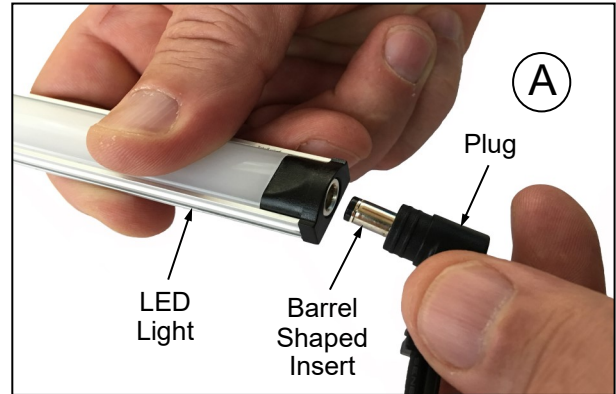
>> **Note:** Mounting clips MAY be riveted to shelf or header. In such instances, simply remove LED light from mounting clips by pressing against flange part of clips with thumb.

*Replacement of LED lights:*

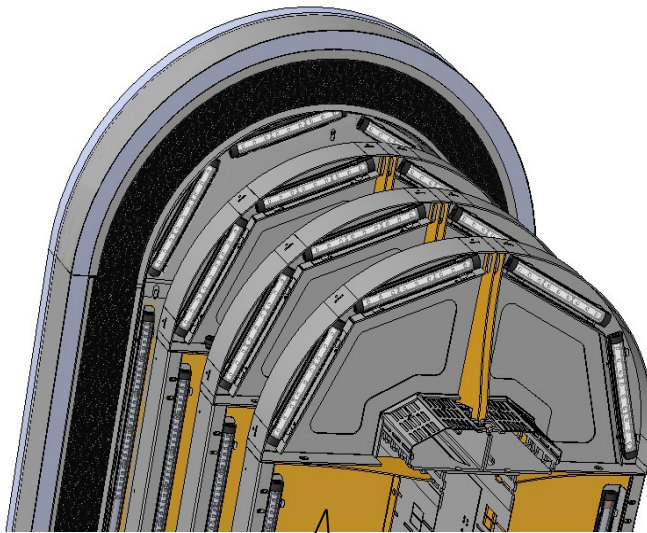
- Attach magnetic mounting clips onto LED light.
- Adjust magnetic mounting clips so they are equally spaced on LED light.
- Reattach LED light assembly to its shelf/header.
- Position properly in shelf/header.

>> **Note:** If mounting clips are riveted to shelf (or header), attach by placing LED in base of clip and then snapping into clip at FLANGE SIDE.

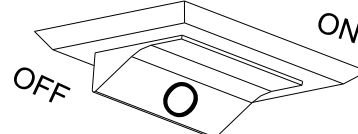
- Press plug's barrel-shaped insert deep into LED light.
- **Important:** If plug is not inserted ALL THE WAY IN the LED light's orifice, the light may not energize. See "**BAD**" vs. "**GOOD**" insertion illustrations below-right.
- Turn LED light switch back on.



LED Shelving Lights



--- Section View of Shelf Assembly Underside ---





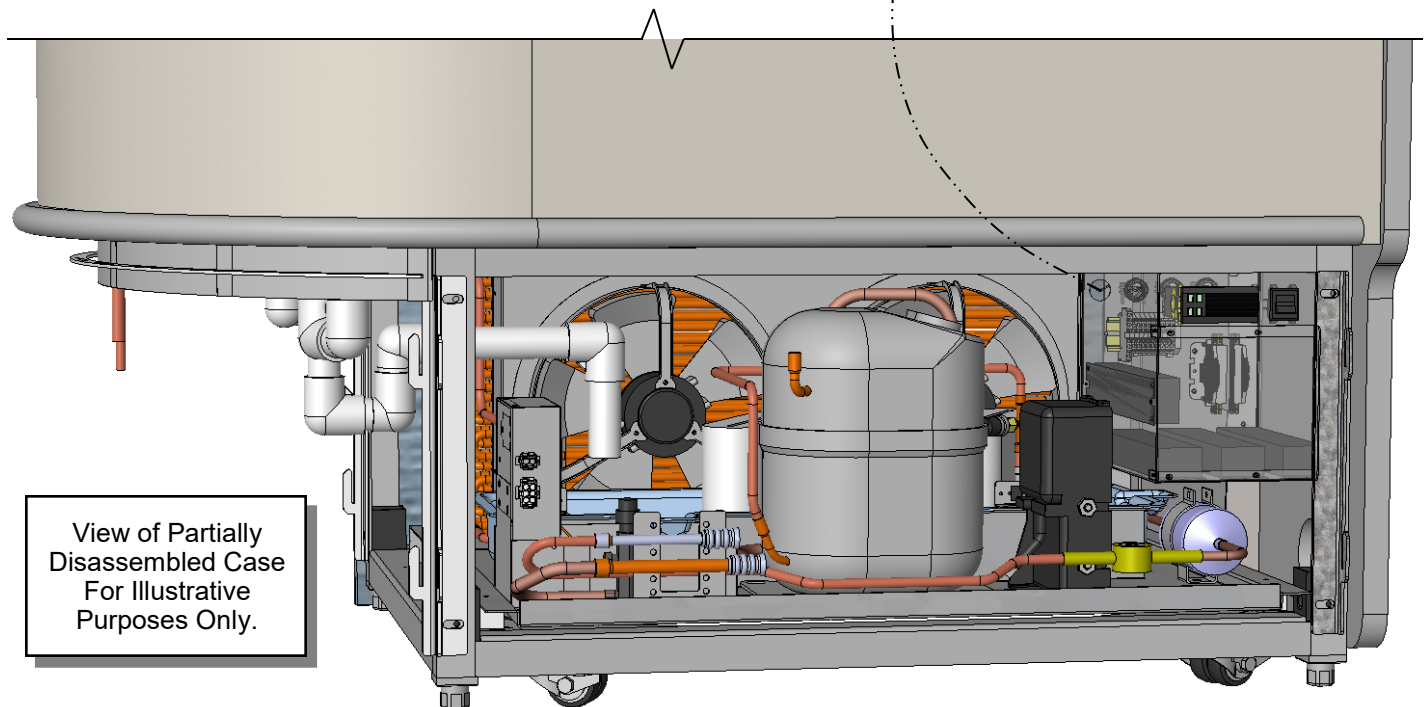
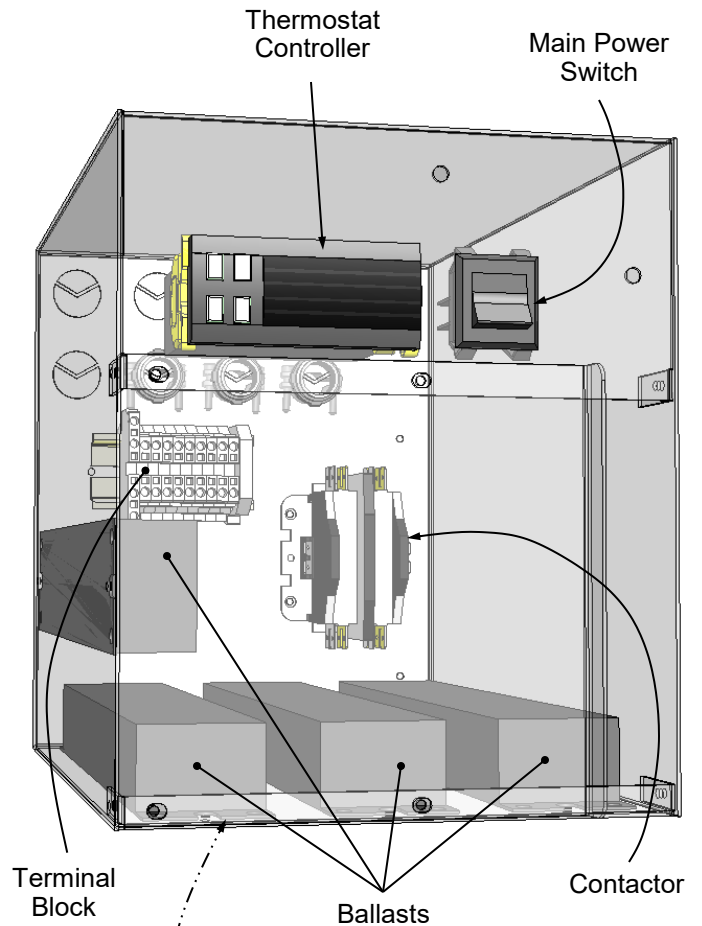
#### 4. Ballast Access

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

- **Assembly or disassembly and servicing is to be accomplished by a licensed electrical contractor.**
- Ballasts are located on the right side of the case (see illustration at top-right)
- Lift off exhaust grille on customer right side of unit. Remove screws to remove the electrical cover. The ballast may be accessed with cover removed.

#### 5. Thermostat

- Thermostat is located in electrical box.
- Thermostat / defrost control settings are programmable from these locations.
- Case temperature set point is set at factory, as determined by case size & sensor probe location.
- Temperature is controlled by thermostat.
- If a temperature setting change is required, follow instructions regarding temperature control programming steps in the technical information section of this operating manual.
- If service is required to the temperature control unit, call Structural Concepts Corporation.
- See Carel® Controller section in this manual.



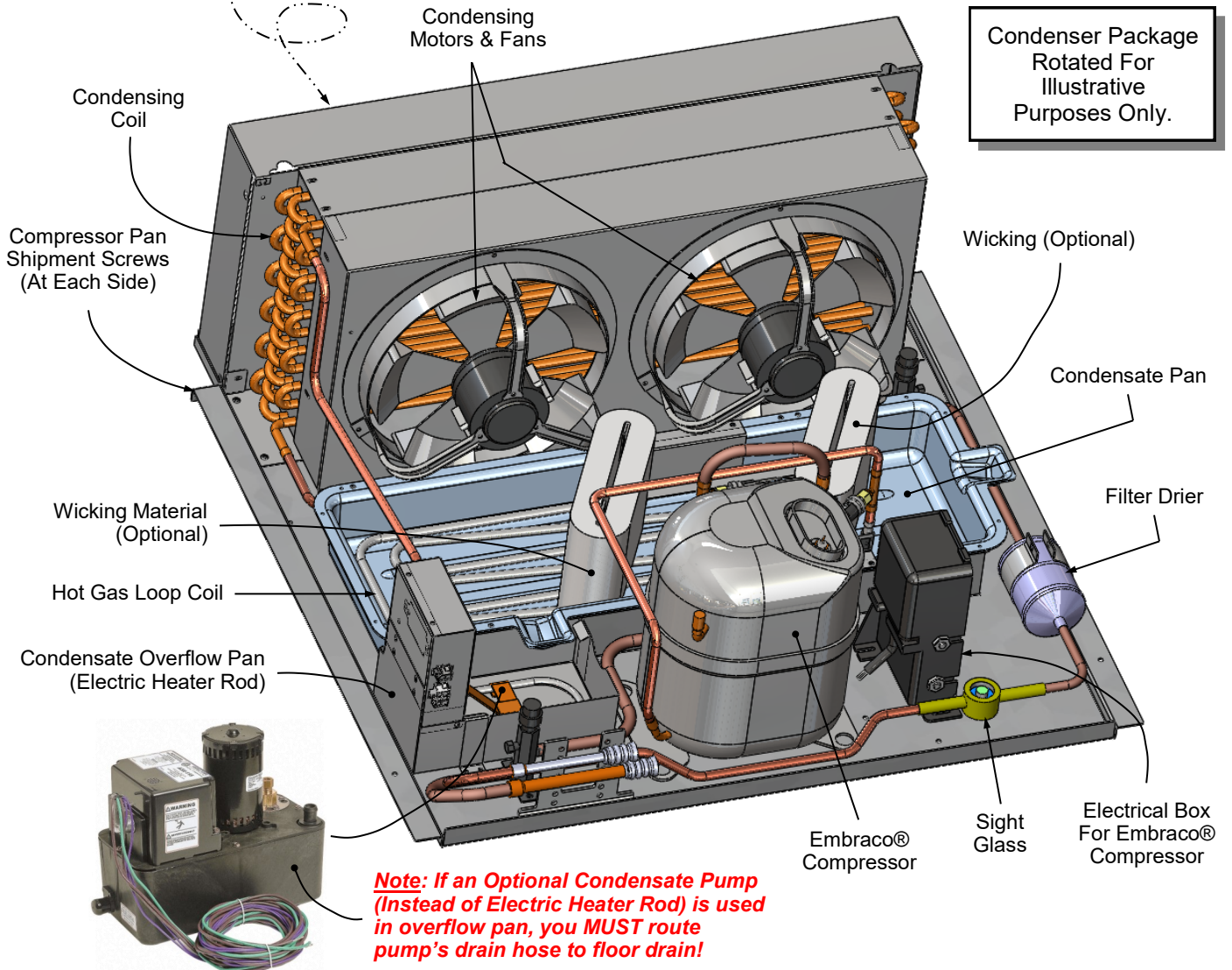
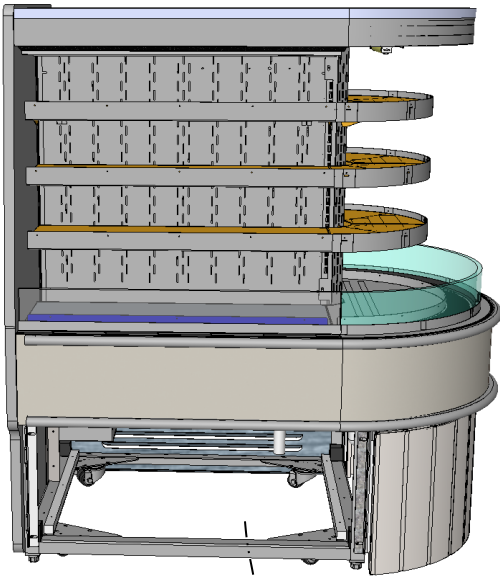


**6. Refrigeration: Access, Connections & Servicing**

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


**Pull Out Condenser Package**

- Remove exhaust side panel. Panel may be lifted up & off hooks.
- **Note:** At initial slide-out, it may be necessary to remove compressor pan shipment screws.
- *Refrigerant lines are flexible to facilitate rear access maintenance.*
- Plastic glides are mounted at base to assist in sliding the condenser out for access.
- Service connections are at the left of compressor.
- Slide condenser package out 12 to 18 inches to access high pressure service connection.
- ***Important Condensate Overflow Pan Note:*** *If an optional condensate pump (instead of electric heater rod) is used in overflow pan, you MUST route pump's drain hose to floor drain or water could overflow, causing damage! See below.*



**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<sup>®</sup>** MODEL HV74RSS SCROLL  
SERIES SERIAL NO.

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

**SAMPLE ONLY**


  3048256 CONFORMS TO UL STD 471 CONFORMS TO NSF STD 7 CERTIFIED TO CAN/CSA STD C22.2 NO 120	ELECTRICAL RATING REFRIGERANT DESIGN PRESSURE MINIMUM CIRCUIT MAXIMUM OVERCURRENT	120/1/60 24A R404A AMOUNT ?? OZ HIGH 450 LOW 200 30A 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 Serial Label For Refrigerated Case -----




888 E. Porter Rd · Muskegon, MI 49441

**Addenda<sup>®</sup>** PC5682 txtRemote  
txtSerialNumber

120 VOLTS 60 HZ SINGLE PHASE 1.84AMP

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

**SAMPLE ONLY**

 3048256 CONFORMS TO UL STD 65 CERTIFIED TO CAN/CSA STD C22.2 NO 120	N/A
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----- Sample Serial Label For Non-Refrigerated Case -----

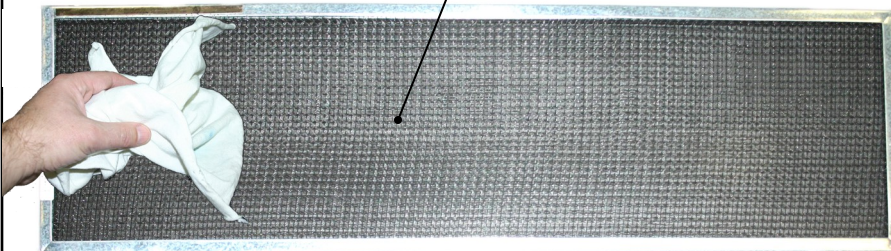
**GENERAL CLEANING BY STORE PERSONNEL - ACRYLIC SNEEZE GUARD, FILTER, SHELVES, ETC.**

AREA TO CLEAN	FREQUENCY	INSTRUCTIONS
Case Exterior	Daily	<p><b>Acrylic:</b> Acrylic sneeze guard must be cleaned with a mild soap and water solution and a soft cloth. <i>Never use a household cleaner on acrylic.</i></p>
	Weekly	<p><b>Condenser Coil Filter (Attached to Exhaust Grille Nearest Condenser Coil):</b></p> <ul style="list-style-type: none"> <li>• Condenser coil filter must be cleaned weekly.</li> <li>• See next page for step-by-step instructions.</li> </ul>
Case Interior	Daily	<p><b>Shelves/Decks:</b></p> <ul style="list-style-type: none"> <li>• Shelves and deck can be cleaned with a warm soap and water solution and soft cloth.</li> </ul>
	Weekly	<p><b>Shelf Supports / Air Return Grilles / Decking</b></p> <ul style="list-style-type: none"> <li>• Wipe off shelf supports, air return grilles and decking with moist cloth.</li> <li>• Shelf supports can be removed for more thorough cleaning.</li> <li>• Air return grilles can be removed for more thorough cleaning.</li> <li>• Decking is NOT to be removed by store personnel.</li> </ul>

## GENERAL CLEANING BY STORE PERSONNEL - CONDENSER COIL FILTER

### **Weekly Condenser Coil Air Filter Cleaning** **(Self-Contained Units Only):**

- A magnetized air filter is attached to the inside of your unit's lower panel (on condenser coil side).
  - Clean the magnetic condenser coil air filter by following these steps:
1. Grasp lower panel. Lift up and off merchandiser (as shown in illustration below). No screw removal is required.
  2. Remove magnetic condenser coil air filter from inside of lower panel.
  3. Use a soft-bristled brush or cloth to wipe off excess dust particles and debris from filter.
  4. As magnetic condenser coil filter is dishwasher safe, you may run it in normal dishwasher cycle. Remove from dishwasher. Dry with soft cloth or paper towel. Return to case.
  5. 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 in sink. Use soft-bristled brush to remove dust, dirt, grease and grime that may collect on filter. Rinse thoroughly.
  6. Reattach magnetic condenser coil air filter to inner lower panel (as shown below).
  7. Reattach lower panel to case.



Sample Condenser Coil Cleaning Brush

**Note:** Any revisions to this sheet must also be made to SCC P/N 20-45889

## TROUBLESHOOTING BY STORE PERSONNEL

CONDITION	TROUBLESHOOTING
<b>Water Is On The Floor</b>	If overflow pan uses condensate pump (rather than electric heater rod), check that its drain hose is properly routed to floor drain. Call service provider.
<b>Fan Emits Excessive Noise</b>	Call service provider.
<b>Case Lights Are Not Working</b>	Check that Light switch is in the <i>on</i> position. Check that ALL of the light cords and plugs are properly connected. If case lights still do not come on, call service provider.
<b>Case is Not Holding Proper Temperature</b>	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 <b>OVERVIEW / TYPE 1 vs. 2 / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING</b> section in this manual for specifics. If case is located near front doors, temperature fluctuation can hinder unit's ability to maintain temperature. Check that magnetic condenser coil filter has been cleaned. <ul style="list-style-type: none"> <li>• See <b>GENERAL CLEANING BY STORE PERSONNEL - CONDENSER COIL FILTER</b> section in this manual for specifics.</li> </ul> Check air return grilles (area at front of decking) for obstructions. <b>DO NOT</b> set product on air grilles as this will prevent proper airflow! If case still is not holding proper temperature, call service provider.



**GENERAL CLEANING BY TRAINED SERVICE PROVIDERS ONLY**

AREA TO CLEAN	FREQUENCY	INSTRUCTIONS
Case Interior	Monthly	<p><b><u>Evaporator Fan Shroud Area (Under Decking):</u> <i>Caution! Due to rotating fans in area, turn off case and disconnect plug from wall outlet before beginning fan shroud (and surrounding tub area) cleaning!</i></b> 1) Turn off power. 2) Remove decks from case. 3) Clean fan shroud area (and surrounding tub area) with moist cloth.</p>
	Quarterly	<p><b><u>Tub &amp; Drain:</u> <i>Caution! Due to rotating fans in area, turn off case and disconnect plug from wall outlet before beginning tub &amp; drain cleaning!</i></b> Vacuum tub under decks. Clean with soap and water solution. Wipe dry with clean cloth. Keep drain free of debris to prevent clogging.</p>

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

FREQ.	AREA / INSTRUCTIONS
Quarterly	<p><u>Tub, Coil, Drain, Evaporator Fan (Axial) Blades, Motors, Brackets:</u></p> <ul style="list-style-type: none"> <li>• <i>Disconnect power from the case before cleaning the tub, coil, fan, motor and drain area!</i></li> <li>• Remove decking, sub-deck (if any) and fan shroud.</li> <li>• Remove any debris that may clog drain.</li> <li>• Use spray bottle with mild detergent solution on tub, coil, drain, trough, tub, fan blades, motors and other components. Clean with paper towel or wet/dry vacuum to remove residue.</li> <li>• Use spray bottle with rinse solution on components.</li> <li>• Replace decking.</li> </ul>
Quarterly	<p><u>Condensing Coil (Self-Contained Units Only):</u></p> <ul style="list-style-type: none"> <li>• Remove lower panel (by lifting it up and off).</li> <li>• Condenser coil brush may be used to dislodge dust, dirt and debris from condenser coil.</li> <li>• Slide condensing package out from underside of case (taking care to NOT slide out too far and damage lines).</li> <li>• Use air pressure or industrial strength vacuum; clean dust and dirt that may collect on condenser coil. DO NOT allow dust to become airborne. Use wet cloths or paper towels to cover area where dust will fly when air pressure is applied.</li> <li>• <i>Caution! Coil fins are sharp. Handle with care!</i></li> <li>• Replace lower panel in reverse order it was removed.</li> <li>• See sample condenser coil cleaning brushes at right.</li> </ul>
Quarterly	<p><u>Refrigeration Package/Compressor Components (Self-Contained Units Only):</u></p> <ul style="list-style-type: none"> <li>• <i>Caution! Disconnect power from case before cleaning!</i></li> <li>• <i>Warning! Hot gas loop is HOT! Allow to cool before cleaning evaporator pan and wiping down hot gas loop!</i></li> <li>• Remove exhaust panel slide/roll compressor package out from under case.</li> <li>• See <b>REFRIGERATION FUNDAMENTALS</b> section breakdown of condenser package.</li> <li>• Clean condensate pan (and overflow condensate pan, if needed) with scrub-brush and a non-corrosive de-scaling solution (to prevent corrosion, lime and rust); follow instructions as to proper dilution, safety precautions and scrubbing method. After cleaning pan with scrub-brush and solution, use spray bottle with rinse solution on evaporator pan.</li> <li>• Use spray bottle with mild detergent solution on tub, coil, drain, fans, fan blades, sight glass, overflow condensate pan, motors and other components. Wipe down and remove residue with paper towel or wet/dry vacuum. Use spray bottle with rinse solution on components. Wipe with paper towel.</li> <li>• Slide refrigeration assembly back under case.</li> <li>• Replace exhaust panel.</li> </ul>
Quarterly	<p><u>Under Case Cleaning:</u> Once refrigeration package is clear of unit, vacuum under case to remove all dust and dirt that may collect under case.</p>
Quarterly	<p><u>Honeycomb:</u> See next page for cleaning instructions.</p>



### **1. Honeycomb Air Diffuser Removal**

See **PREVENTIVE MAINTENANCE BY TRAINED SERVICE PROVIDERS ONLY** section in this manual for cleaning frequency.

A. Wedge a non-metallic device of suitable strength (such as a ballpoint pen) between the honeycomb and the end panel.

**Caution!** Use care not to dislodge the heating wire (that prevents condensation on the lamp assembly).

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

C. Carefully pry downward and away from the 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 (vs. suction mode).

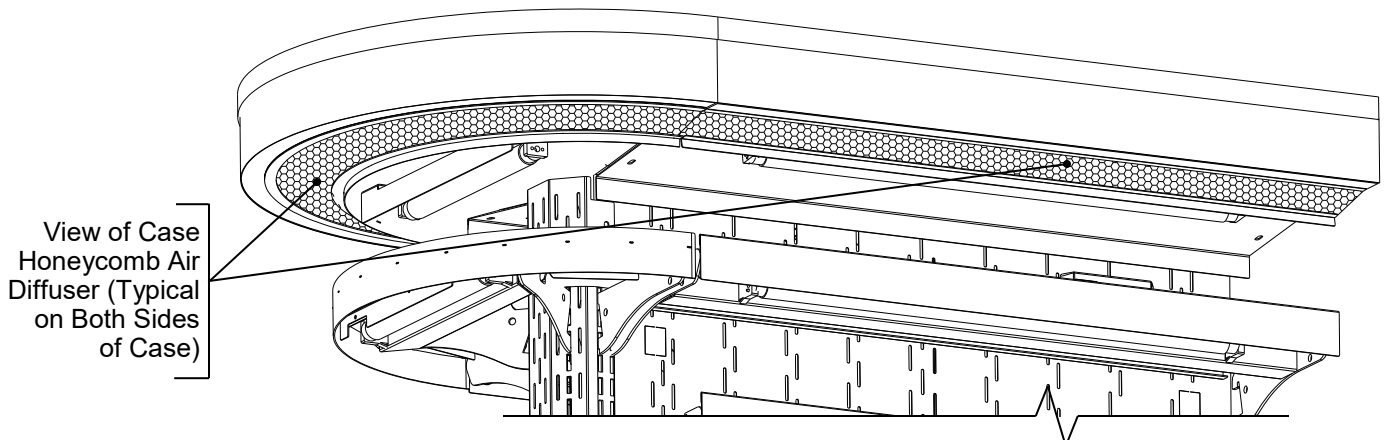
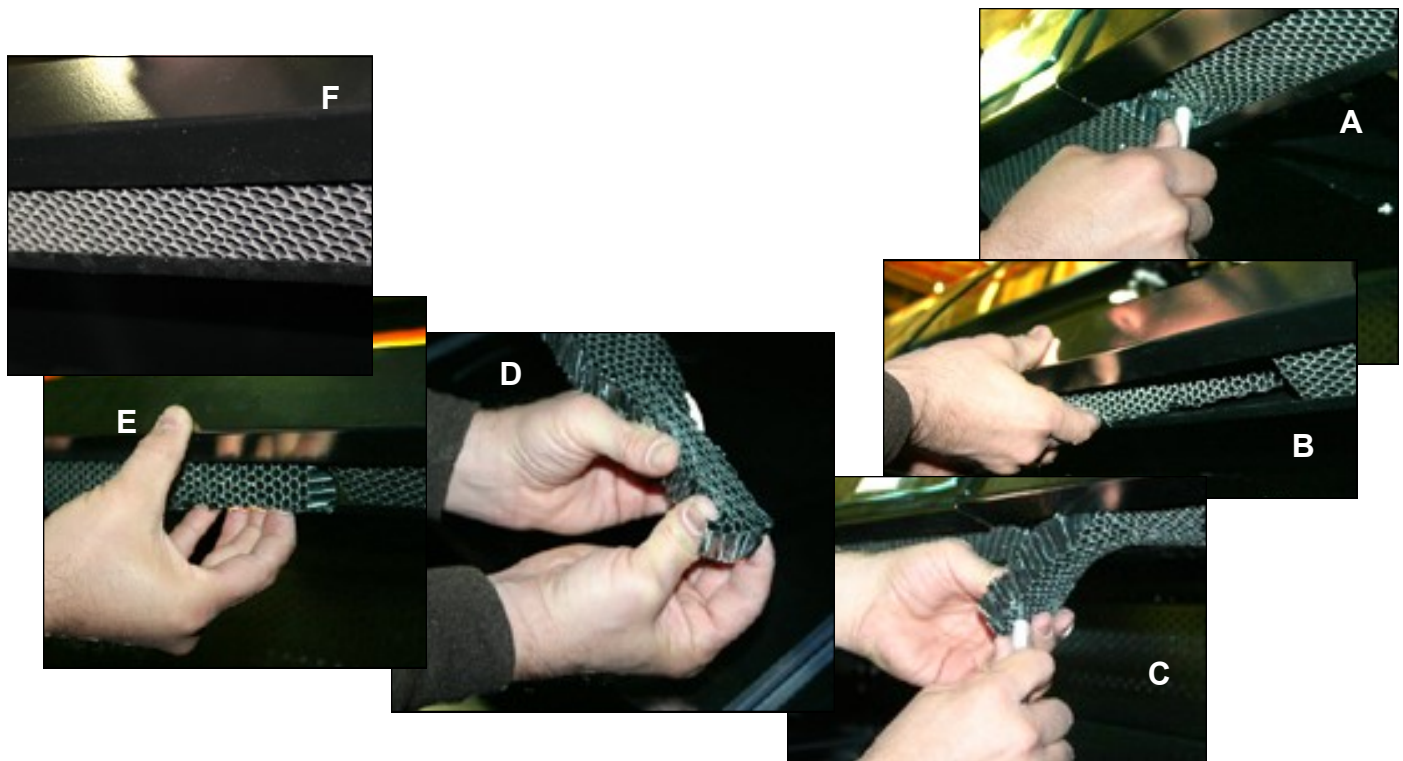
### **2. Honeycomb Air Diffuser Installation**

D. Squeeze honeycomb to allow it to fit into the honeycomb retainer.

E. Carefully slide honeycomb into place.

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

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



**TROUBLESHOOTING BY TRAINED SERVICE PROVIDERS ONLY**

CONDITION	TROUBLESHOOTING
<b>Water Is On The Floor</b>	Check that the drain trap is free of debris.
	Check that the drain hose is correctly positioned over evaporator pan.
	Check store conditions. <ul style="list-style-type: none"> <li>• For NSF® Type 1 Conditions (most cases): ambient conditions are to be at 55% max. humidity / 75°F.</li> <li>• For NSF® Type 2 Conditions: ambient conditions are to be at 55% maximum humidity / 80°F.</li> </ul>
	Check that condensate pan is properly connected and heating.
<b>Fan Emits Excessive Noise</b>	Check that the case is aligned, level and plumb.
	Check evaporator fan 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.
<b>Fans Are Not Working</b>	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.
<b>Digital Control Display Is Blank.</b>	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
<b>System Not Operating</b>	Check that the utility power is on.
	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.

**TROUBLESHOOTING BY TRAINED SERVICE PROVIDERS ONLY, CONTINUED**

CONDITION	TROUBLESHOOTING
<b>Case Lights Are Not Working</b>	Check that Light switch is in the <i>on</i> position.
	Check that <b>ALL</b> of the light cords and plugs are properly connected. See <b>MAINTENANCE, CONTINUED - LIGHT FIXTURES</b> section in manual.
	Service Technicians Only: Check voltage at LED drivers. If voltage is entering but not exiting, LED driver may be faulty.
<b>Control Display Is Flashing</b>	<i>See your case's serial label for your model's specified settings. See <b>SERIAL LABEL LOCATION &amp; INFORMATION LISTED / TECH INFO &amp; SERVICE</b> for label location, etc.</i>
<b>Case Is Not Holding Temperature</b>	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. 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 front doors, temperature fluctuation can hinder unit's ability to maintain temperature.
	Check that condenser coil has been cleaned.
	Check air grilles for obstructions.
	Check sight glass for flashing and/or low charge.
	Check Set Point Temperature; it may be adjusted too high.
<b>Condensing Unit Is Not Operating</b>	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 <b>SERIAL LABEL LOCATION &amp; INFORMATION LISTED / TECH INFO &amp; SERVICE</b> section in manual for label location, etc.</i>



**TROUBLESHOOTING BY TRAINED SERVICE PROVIDERS ONLY - CONDENSING SYSTEM**

CONDITION	TROUBLESHOOTING
<b>Head Pressure Too High</b>	Check that the condensing coil is not dirty or covered.
	Check that condensing fans are working.
	Check that refrigerant is not overcharged.
	Perform sub-cooling check and verify that no contaminants are in system.
	Check that liquid line filter dryer is not plugged.
	Check that close-offs are intact (around condensing coil) and that air is not recirculating
	Check that store ambient temperature isn't above maximum allowed. See <b>OVERVIEW / TYPE 1 vs. 2 / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING</b> section in this manual.
<b>Head Pressure Too Low</b>	Check if sight glass is flashing or showing low charge.
	Check that suction pressure isn't too low.
	Check that compressor reed valves aren't bad. Look for high suction/low head pressure. Perform pump-down.

**TROUBLESHOOTING BY TRAINED SERVICE PROVIDERS ONLY - EVAPORATOR SYSTEM**

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

**PREVENTIVE MAINTENANCE BY TRAINED SERVICE PROVIDERS ONLY**

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

PREVENTIVE MAINTENANCE	FREQUENCY	INSTRUCTIONS
Case Exterior	Quarterly	<p><b><u>Condensing Coil:</u></b></p> <ul style="list-style-type: none"> <li>• Remove side panel (by lifting up and off).</li> <li>• Use air pressure or industrial strength vacuum; clean dust and dirt that may collect on condenser coil.</li> <li>• <b>Caution! Coil fins are sharp. Handle with care!</b></li> <li>• Replace side panel to case.</li> </ul>
	Quarterly	<p><b><u>Refrigeration Package/Compressor Area:</u></b> <i>Caution! Be certain to disconnect power from case before cleaning Refrigeration Package!</i></p> <ul style="list-style-type: none"> <li>• <i>Warning! Evaporator Pan Is HOT! Disconnect power from case and allow to cool before cleaning evaporator pan!</i></li> <li>• Slide/Roll compressor package out from under case.</li> <li>• See <b>REFRIGERATION - ACCESS, CONNECTIONS &amp; SERVICING</b> section in this manual for in-depth instructions on accessing the condensate pan.</li> <li>• Use a scrub-brush and a de-scaling solution such as CLR® (to prevent corrosion, lime and rust). Follow instructions as to proper dilution, safety precautions and scrubbing method.</li> <li>• After thoroughly cleaning pan with scrub-brush and solution, rinse thoroughly with clean water (in spray bottle) and wipe dry with sponge or paper towel.</li> <li>• Use moist cloth to wipe off dust &amp; debris that collects on various parts (fans, sight glass, overflow pan, etc.).</li> <li>• Slide refrigeration assembly back under case.</li> <li>• Replace front panel and lower grille via hooks (no screws required).</li> </ul>
	Quarterly	<p><b><u>Under Case Cleaning:</u></b> Once refrigeration package is clear of unit, vacuum under case to remove all dust and dirt that may collect under case.</p>
Case Interior	Quarterly	<p><b><u>Tub, Coil, Drain, Fans, Brackets:</u></b></p> <ul style="list-style-type: none"> <li>• Remove decking.</li> <li>• Use vacuum to clean entire area.</li> <li>• After vacuuming, clean area with warm water, clean cloth, and mild soap solution.</li> <li>• Remove any debris that may clog drain.</li> </ul>
	Quarterly	<p><b><u>Honeycomb:</u></b> Check honeycomb air diffuser to determine whether it is dirty. If dirty, remove from case. See <b>PREVENTIVE MAINTENANCE BY TRAINED SERVICE PROVIDERS ONLY</b> section of this manual for cleaning specifics.</p>

# CAREL

## ir33 platform

Integrated Electronic  
Microprocessor Controller



### Programming The Instrument

#### To Modify Defrost, Differential and Other Parameters

**Prg** **Set** 1. Press & hold “Prg” & “SET” keys together for at least five (5) seconds; display will flash “0,” representing password prompt.

**▲** **aux** 2. Press ▲ until password “22” is reached.

**Set** 3. Press “SET” key to confirm password.

**▲** **def** **▼** 4. Press ▲ or ▼ to reach a category to be modified.

**Set** 5. Press “SET” to modify selected parameter.

**▲** **def** **▼** 6. Increase or decrease the value using the ▲ or ▼ button respectively.

**Set** 7. Press the “SET” key to temporarily save the new value and return to the parameter display.

**Prg** **mute** 8. Press & hold the “Prg” key for 5 full seconds to save changes. This will also mute the audible alarm (buzzer) and deactivate the alarm relay.

#### Warning! Save Your Parameter Settings!

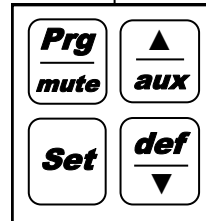
1. To store the new parameter values, PRESS and HOLD the “Prg” key for at least 5 seconds.
2. All modifications made to parameters will be lost if you do NOT press a button within 60 seconds. Should this “timeout” occur, normal operational settings (prior to modifications being made) will resume.
3.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

#### To Activate Manual Defrost

**def** **▼** Press and hold “def” key for at least 5 seconds.

#### To Activate / Deactivate Auxiliary Output

**▲** **aux** Press and hold the “aux” key for 1 second.



#### 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” (password prompt).

**▲** **aux** 2. Press ▲ until password “22” is reached.

**Set** 3. Confirm by pressing “SET” key.

**▲** **def** **▼** 4. Press ▲ or ▼ until reaching the parameter “/ 5.”

**Set** 5. Press “SET” to modify this selected parameter.

**▲** **def** **▼** 6. Press ▲ or ▼ to change value to desired setting: “0” for Celsius (°C) or “1” for Fahrenheit (°F).

**Set** 7. Press “SET” key to temporarily save the new value and return to the display of the parameter.

**Prg** **mute** 8. Press & hold “Prg” key for 5 full seconds to save changes. **Note! All values will automatically convert to new scale. No conversion is required.**

#### To Reset Any Alarms With Manual Reset

**Prg** **▲** **aux** **mute** Press and hold the “Prg” and “aux” key for at least 1 second.

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Structural Concepts Document - Revision B Date: 4/25/2019

# CAREL

**ir33 platform**  
**Integrated Electronic  
 Microprocessor Controller**



## User Interface - Display

ICON	FUNCTION	DESCRIPTION	Normal operation		BLINK	Start up
			ON	OFF		
	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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# CAREL

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### Summary Table of Operating Parameters

CODE	PARAMETER	UOM*	TYPE	MINIMUM	MAXIMUM	DEFAULT
/5	Select Celsius (°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) 433.9490 Ext. 1
/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

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## 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 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: 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.