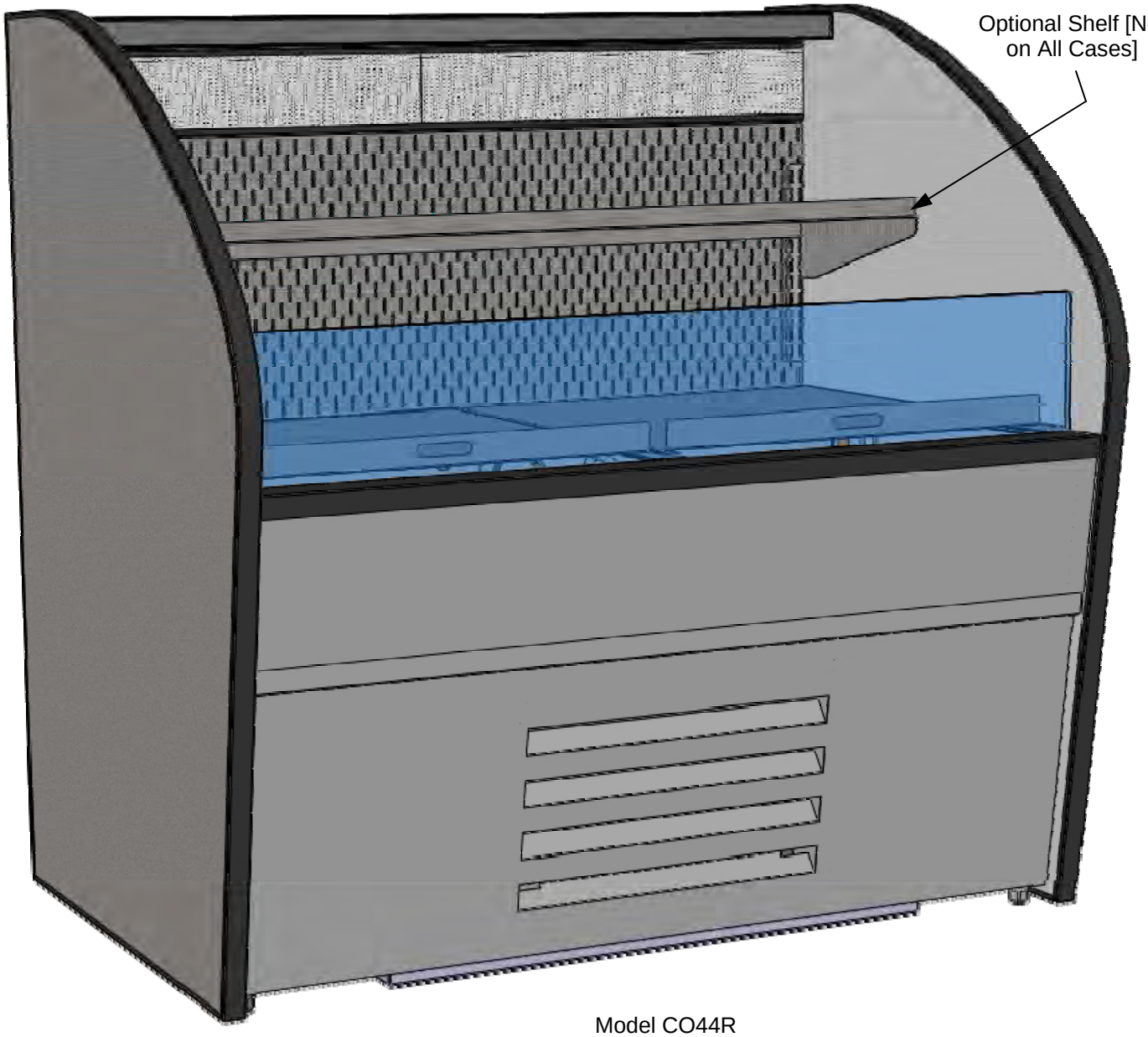
READ AND SAVE THESE INSTRUCTIONS

Oasis

INSTALLATION AND OPERATING MANUAL

SCC PN 20-25622

OPEN REFRIGERATED SELF-SERVICE MERCHANDISER



Model CO44R

Model CO34R: 45 1/4”L* x 33 1/4”D x 47”H
CO44R: 47 1/4”L* x 33 1/4”D x 47”H

Includes end panels.

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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

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

- For Type 1 Conditions (most cases): ambient conditions are to be at 55% maximum humidity and maximum temperatures of 75 °F [24 °C].
- For Type 2 Conditions: ambient conditions are to be at 60% maximum humidity and maximum temperatures of 80 °F [27 °C].
- If unsure if unit is Type 1 or Type 2, see tag next to serial label. See ***SERIAL LABEL LOCATION & INFORMATION LISTED / TECH INFO & SERVICE*** section in this manual for sample serial labels.

COMPLIANCE

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

WARNINGS

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

PRECAUTIONS and WIRING DIAGRAMS

- See next page for ***PRECAUTIONS*** and ***WIRING DIAGRAM*** information.

COMPLIANCE

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

WARNING

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

WARNING

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

WARNING

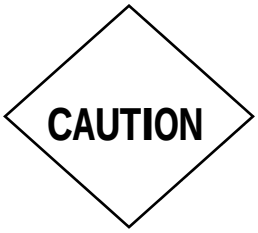
Condenser Pan is Hot!
Disconnect and allow to cool before cleaning or removing from case.

PRECAUTIONS

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

WIRING DIAGRAM

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



CAUTION! LAMP REPLACEMENT GUIDELINES

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

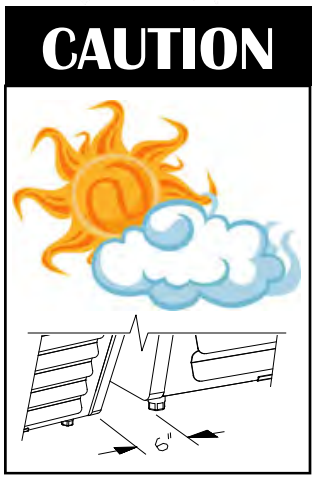
Fluorescent lamps have been treated to resist breakage and must be replaced with similarly treated lamps.

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.

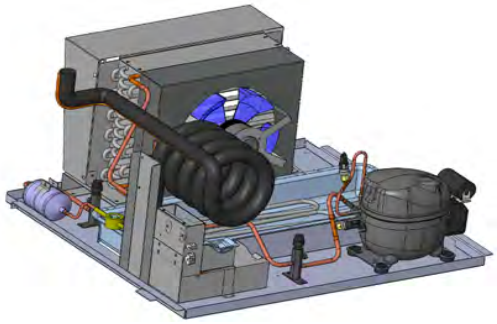
CAUTION! POWER CORD AND PLUG MAINTENANCE

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



CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

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



CAUTION! CHECK CONDENSATE PAN

Water on flooring can cause extensive damage!

Before powering up unit, check and confirm that:

- **Condensate pan is DIRECTLY UNDER condensate drain.**
- **Overflow pan has plug connected to its box. Units with optional Clean Sweep™ MUST HAVE 2 plugs connected.**

1.Shipment Condition

- Before and during unloading check all equipment for damage.

2.Damage Discovered During Delivery

- *3rd Party Carrier:* Describe damage on freight bill and obtain signature of driver. Carrier will supply necessary claim forms. If these steps are not taken, carrier may refuse your claim.
- *Prepaid and Add:* Contact carrier (and follow same procedure as with 3rd party carrier). Also contact Structural Concepts at 1-800-433-9489.

3.Damage Discovered After Uncrating

- *3rd Party Carrier:* Contact carrier within 10 days of delivery for their procures; retain all packaging. If these steps are not taken, carrier may refuse your claim.
- *Prepaid and Add:* Contact carrier (and follow same procedure as with 3rd party carrier). Also contact Structural Concepts at 1-800-433-9489 within 10 days of delivery.

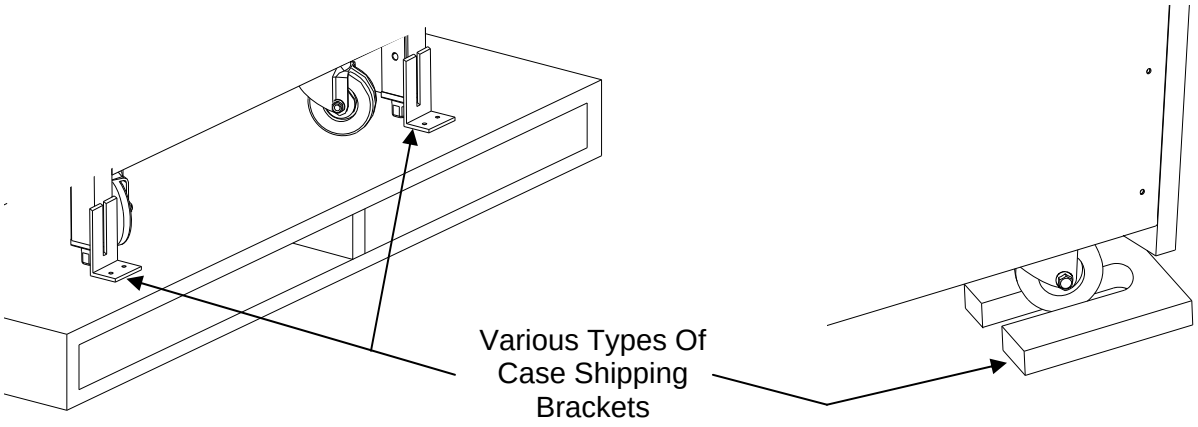
4.Shortages

- If a shortage exists (and it is the responsibility of Structural Concepts) call 1-800-433-9489. Structural Concepts will acknowledge shortages within 10 days from receipt of equipment.
- If a shortage involves the carrier, notify carrier immediately and request an inspection.

CASE REMOVAL FROM SKID [LEVELERS OR CASTERS]

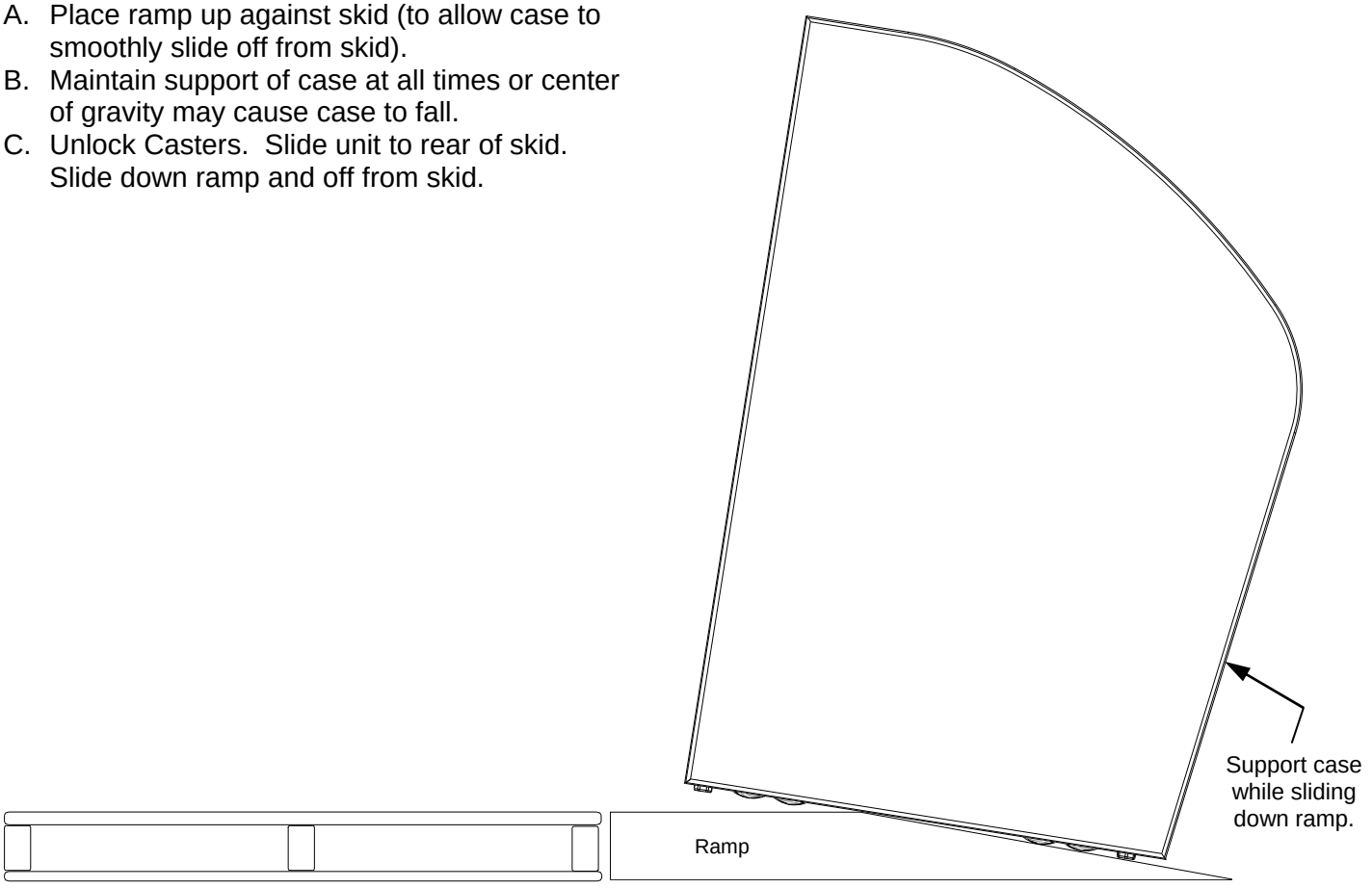
1. Removing Case Shipping Brackets That Are Attached To Skid

- Remove screws holding Case Shipping Brackets to skid.
- Remove Case Shipping Brackets from Skid.
- See illustrations below. Note: Shipping Brackets will vary in size, shape, material and location depending upon case type and model.



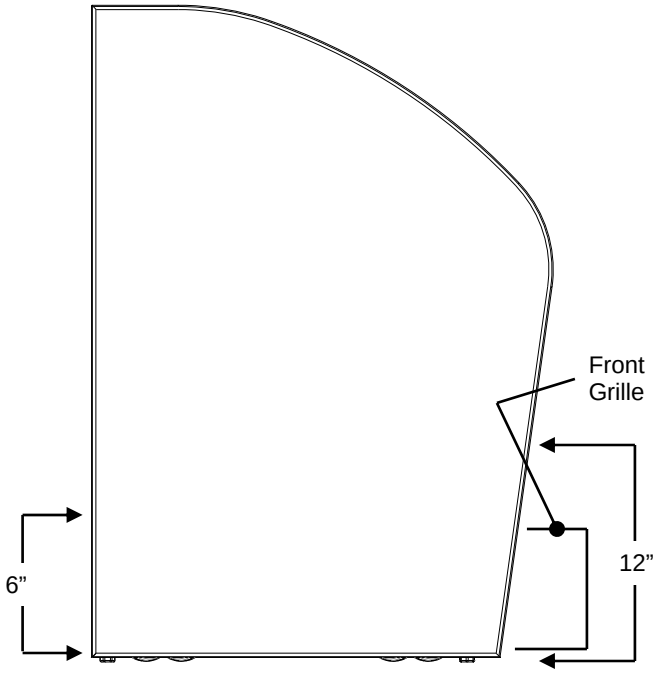
2. Remove Case (With Casters) From Skid

A. Place ramp up against skid (to allow case to smoothly slide off from skid).
B. Maintain support of case at all times or center of gravity may cause case to fall.
C. Unlock Casters. Slide unit to rear of skid. Slide down ramp and off from skid.



1. Ventilation and Clearance

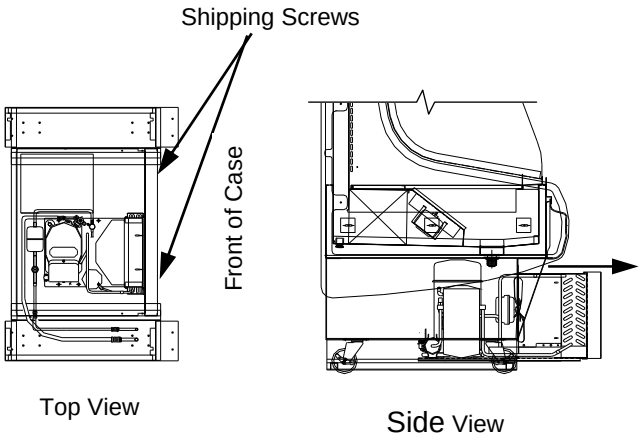
It is recommended that **Self-Contained** refrigerated cases maintain a airflow clearance of approximately 6” at the rear to 12” in the front of the case. Obstruction or restriction of air can void warranty.



2. Removing Shipping Screws

Plastic glides are mounted to the unit base to assist in sliding the condenser out for access.

- Remove the front grill by removing the screws located in each of the corners.
- Remove the shipping screws located at base of condenser frame.

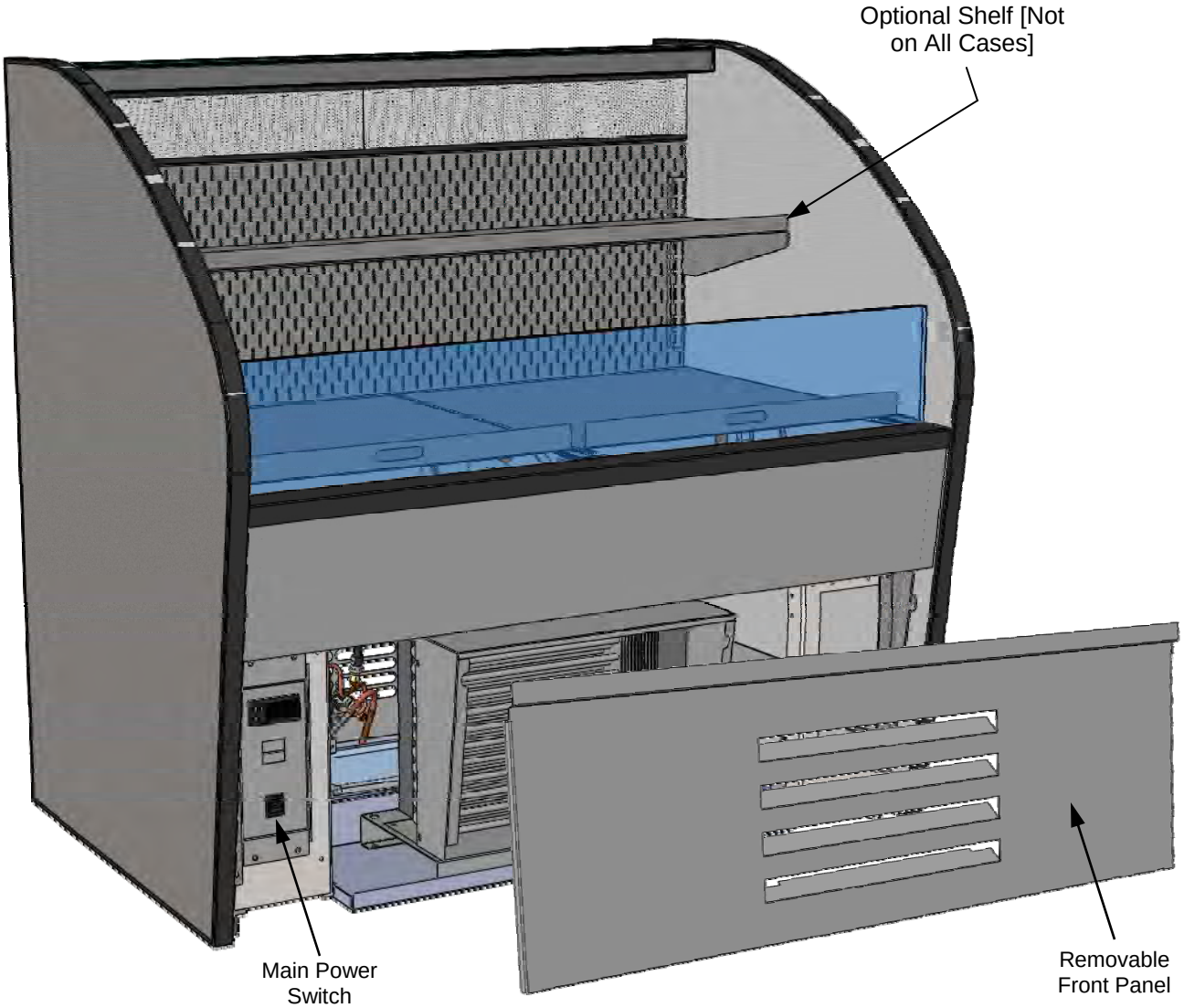


1. Merchandiser Start-Up - Main Power

- Turn on main power switch located behind the front grille. Main power switch is on left hand side of base. Replace front grille.

>> ***Supply power will start evaporator coil fans, and the compressor motor.***

- From front of case, raise deck pans and check to see that the coil fan is functioning properly.
- Replace front grille by inserting screws in locations provided.



2. Merchandiser Start-Up/Lights

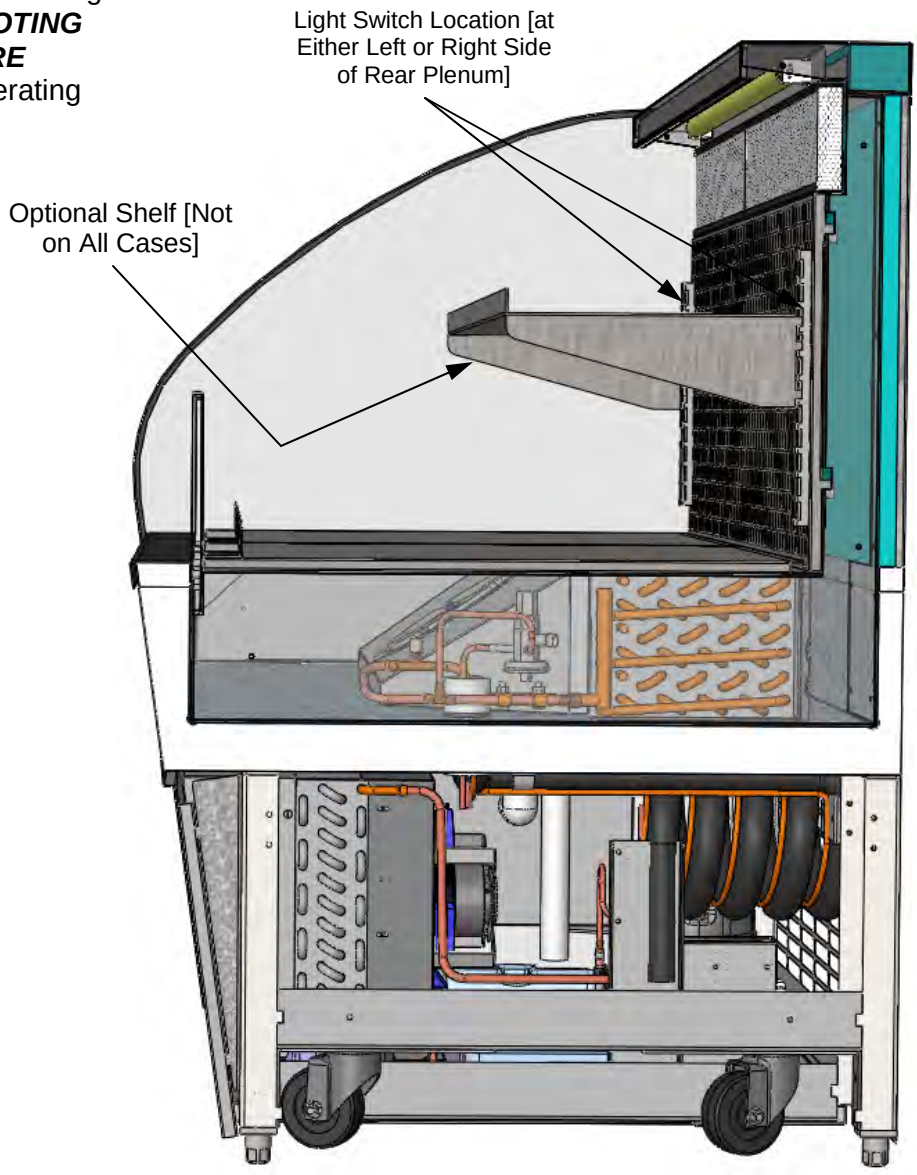
- Turn on the main power. Remove the front grille by removing the screws located in each of the corners. Switch is on the left hand side of base. Supply power will start evaporator coil fans, and the compressor motor. From the front of the case, raise the deck pans and check to see that the coil fans are all functioning properly.
- Replace front grille by inserting screws in locations provided.
- Turn on the lights. Light switch is in the interior of the case. Switch may be above or below the top shelf and to the left or right side [as shown in illustration below]. First time lighting may require a short warm-up period for the bulb. Slightly dim or a flickering of new bulb is normal. If light do not turn on, see ***TROUBLESHOOTING [TO BE PERFORMED BY STORE PERSONNEL]*** section in this operating manual.

3. Temperature Settings

- The case temperature is set at the factory, (supply air 25 °F for a case temp of 41 °F), as determined by the case size.
- The temperature is controlled by a thermostat. If a temperature setting change is required, refer to temperature control access.

4. Product Rotation

- To prevent freezing or spoilage of stock, product must be rotated.
- At every re-stocking, rotate old stock to front of shelves and new stock to rear of shelves.



1. Shelf Assembly Removal

- Shelf can be removed for cleaning or adjustment.
- For lighted shelving, unplug the light cord.
- Lift shelf straight up to separate from brackets.
- Remove brackets.
- Note: Initially, it may be necessary to remove the nylon shipping bracket retainer. Pliers will be required to accomplish this task.

2. Light Fixtures

- Light fixture is located on the top header of case.

Removal of lamp:

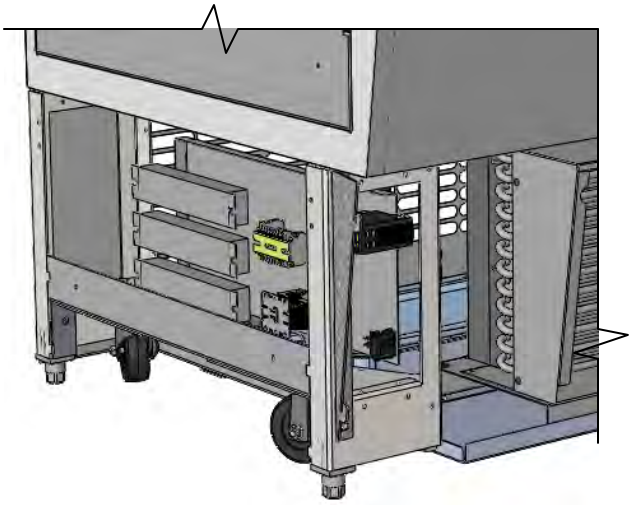
- Rotate lamp (1/4-turn) so that pins are aligned in slots and remove bulb.

Installation of lamp:

- Align pins with slot.
- Insert pins into socket and rotate 1/4 turn to secure pin contacts in socket.

3. Ballast Access

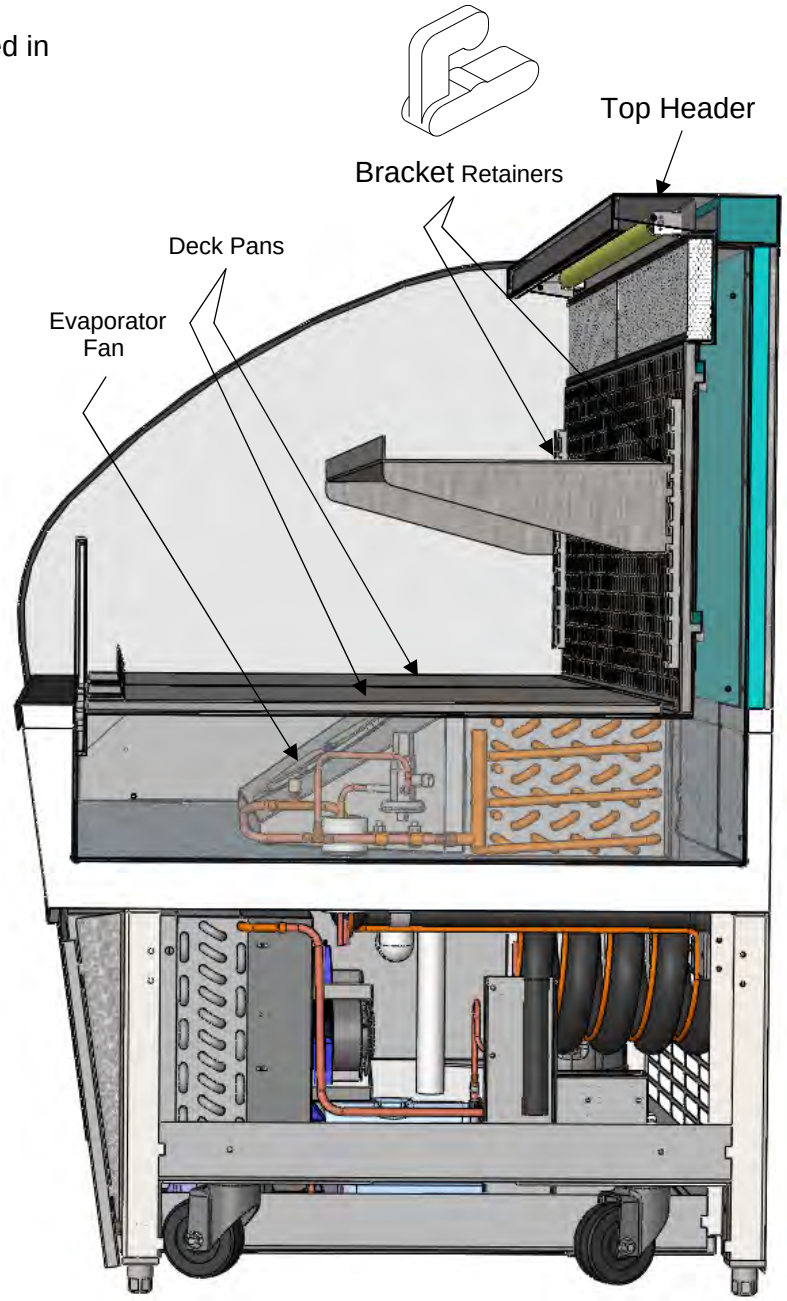
- ***Assembly or disassembly and servicing to be accomplished by licensed electrical contractors only.***
- Remove the front grille by lifting up and off.



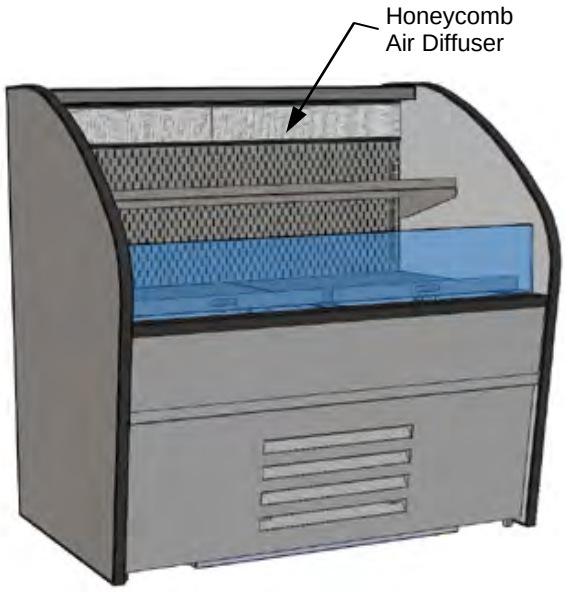
View of Ballasts (After Removal of Electrical Box Cover)

Caution! Do not crimp or kink copper tubing while sliding condenser unit out from under case!

- ***Refrigerant lines are flexible to facilitate maintenance. However, use caution to avoid crimping or kinking copper tubing while sliding condenser unit out from under case!***
- Plastic glides are mounted to the unit base to assist in sliding the condenser out for access.
- Remove shipping retaining screws.
- Slide condenser unit forward approximately twelve inches to access the light ballast.
- Ballast is located on the left side of the condenser in electrical box. See illustration below left.



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



Note: Model features and options may vary.

Honeycomb Air Diffuser Removal

Honeycomb is located in discharge air duct.

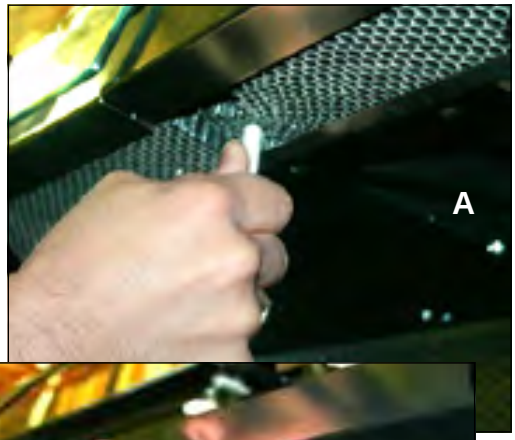
A. Wedge a non-metallic device of suitable strength (such as a ballpoint pen) between the honeycomb and the end panel.
Caution! Use care not to dislodge the heating wire (that prevents condensation on the lamp assembly).
B. Apply pressure to collapse the honeycomb to allow it to be pulled out of honeycomb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

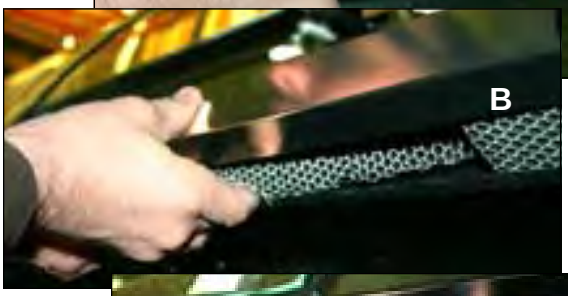
- *Clean honeycomb with warm water and soap solution.*
- *Submerse if necessary.*
- *Use brush to dislodge stubborn or sticky residue.*
- *Dry by using vacuum's blow mode (vs. suction mode).*

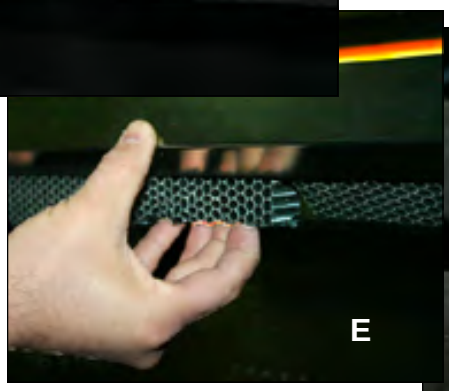
Honeycomb Air Diffuser Installation

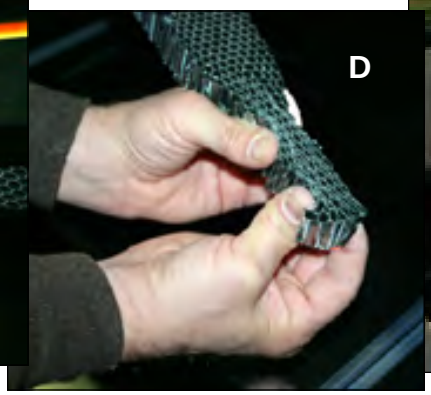
D. Squeeze honeycomb to allow it to fit into honeycomb retainer.
E. Carefully slide honeycomb into place.
F. Adjust honeycomb so that it fits flat against retainer. It must not be wavy or out of position.

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









Temperature Control Access

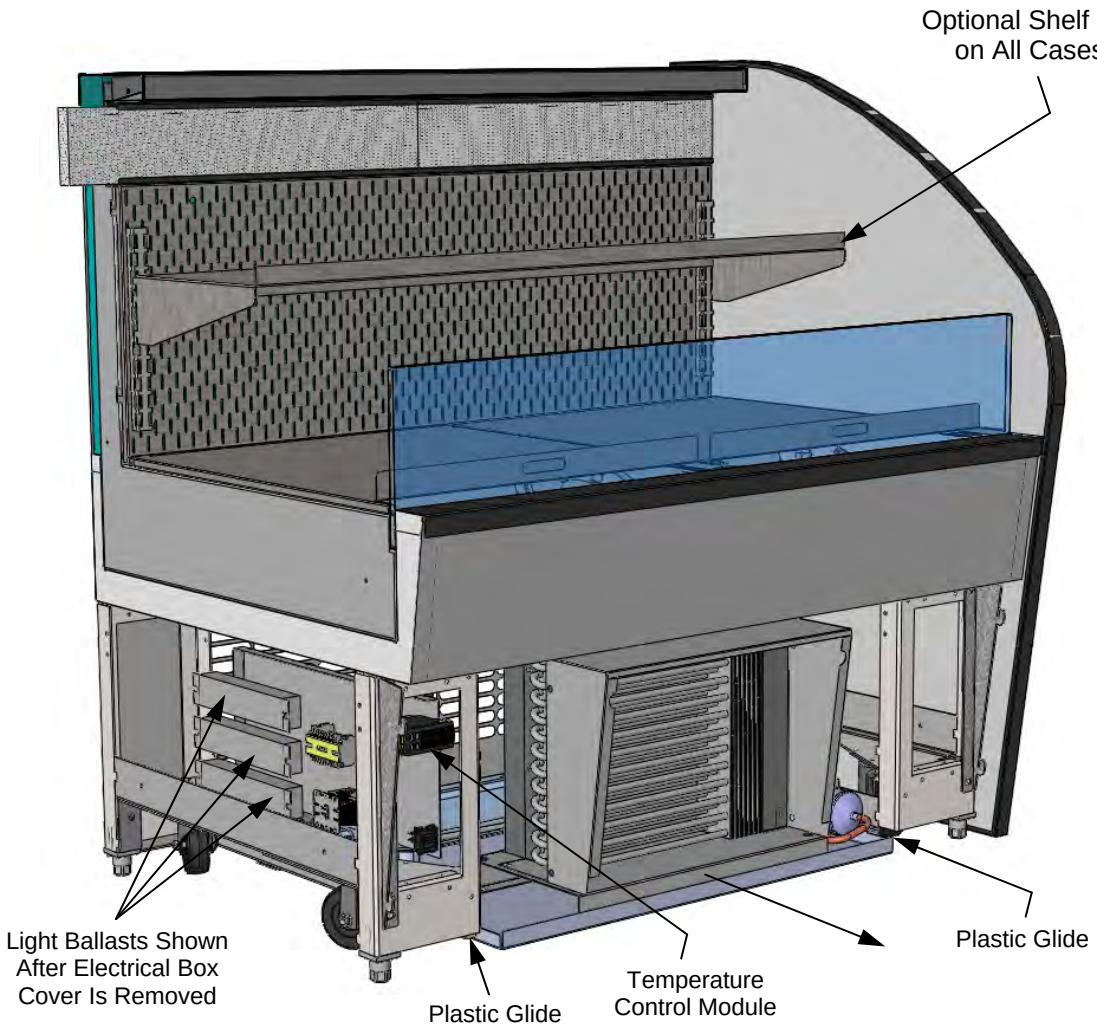
- ***Assembly or disassembly and servicing to be accomplished by licensed electrical / refrigeration contractor.***
- Temperature control module is located to the left side of the condenser package. See below.
- Follow the ***Carel® Temperature Controller*** section of this manual for specifics on adjusting temperature settings.

Refrigeration: Access, Connections & Servicing

- ***Assembly or disassembly and servicing is to be accomplished by licensed refrigeration contractors only.***
- Servicing refrigerant is accomplished from the rear of the case.
- *Note: Condenser unit does not slide to the rear.*
- Lift front panel up and off hooks to remove.
- Service connections are located to the left of the compressor.

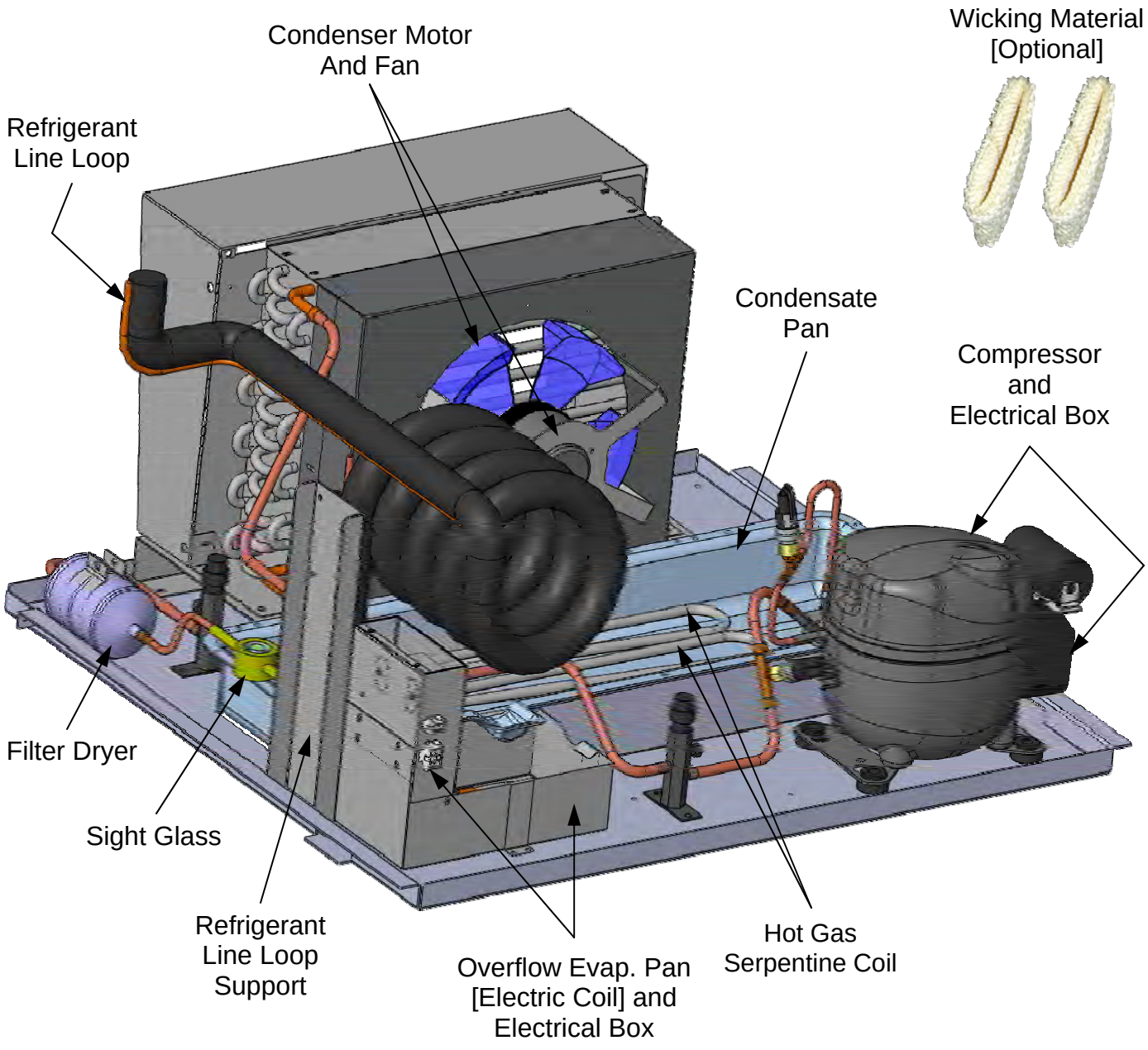
>> See next page for illustrated parts breakdown of condenser unit.

Caution! Do not crimp or kink copper tubing while sliding condenser unit out from under case!



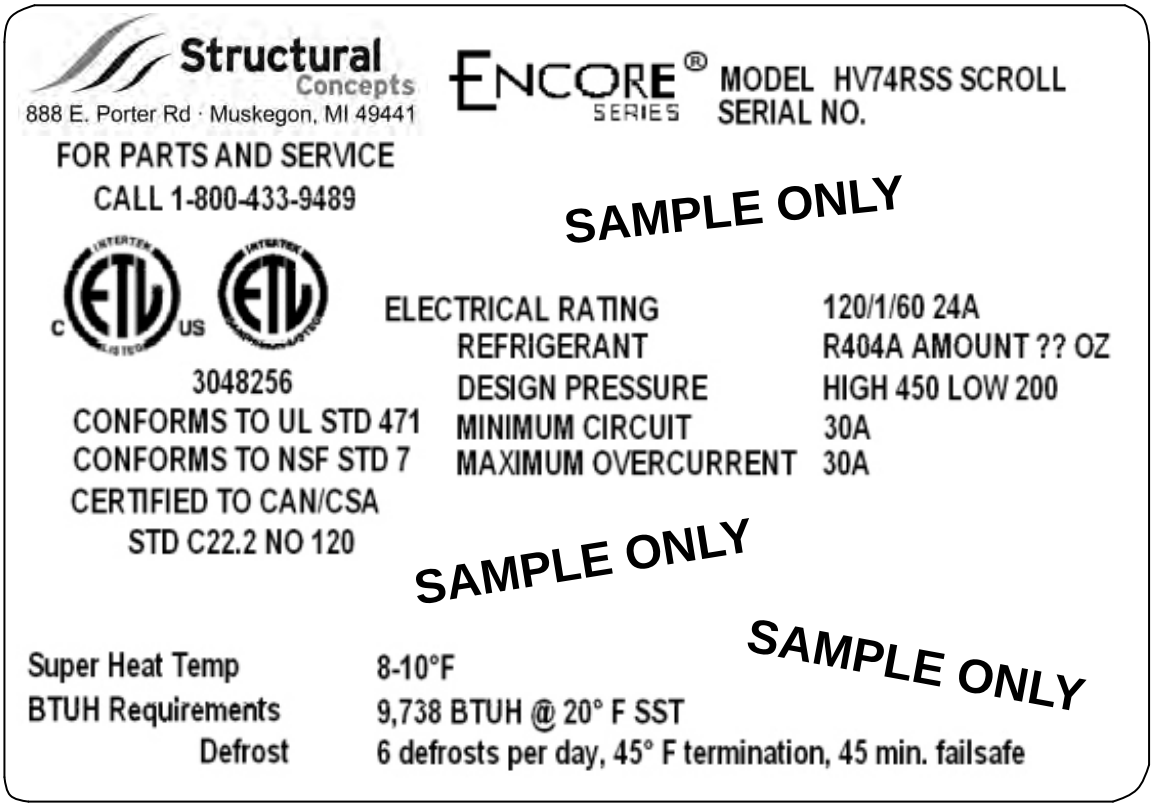
Hot Gas Condensate Unit

- ***Assembly or disassembly and servicing must be accomplished by licensed electrical / refrigeration contractor.***
- Remove the front grille by lifting up and off.
- Plastic glides are mounted to the unit base to assist in sliding the condenser out for access.
- Ensure that shipping screws have been removed.
- ***Caution! Though refrigerant lines are flexible to facilitate front access maintenance, do not crimp or kink copper tubing while sliding condenser unit out from under case!***
- Slide condenser unit forward approximately 12" to access components.
- Wicking material [optional] may be part of hot gas loop serpentine coil.
- After servicing or cleaning unit, carefully slide condensing unit back under case.
- Return front grille to case.

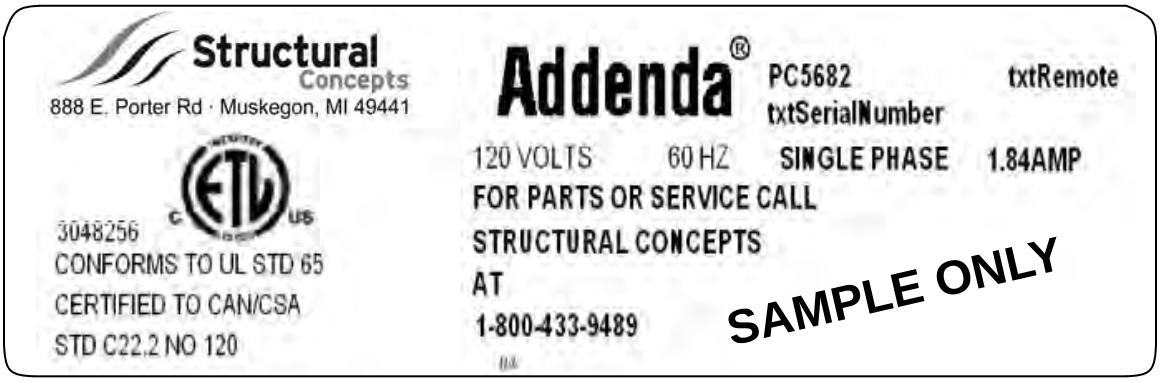


Serial Label Location & Information Listed / Technical Information & Service

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



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



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

CLEANING SCHEDULE [TO BE PERFORMED BY STORE PERSONNEL]

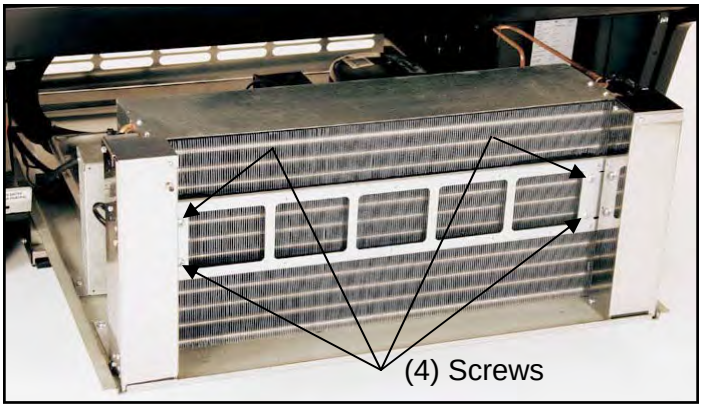
AREA	FREQUENCY	INSTRUCTIONS
Case Exterior	**Daily**	**Acrylic:** Clean acrylic sneeze guard with a mild soap and water solution and a soft cloth. ***Caution! Never use ammonia-based cleaners on acrylic. Incorrect cleaning agents or abrasive cleaning cloths cause acrylic surfaces to 'cloud' over time.***
	Daily	**Stainless Steel "Mirrors" on Each Inside End Panel:** • 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. It will scratch stainless steel. • Brighten by polishing with 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 by rubbing with club soda.
	Daily	**End Panels, Front Panel, Toe-Kick, etc.:** Wipe off all surfaces with warm water and mild soap solution and non-abrasive cloth.
	Weekly	**Wood, Laminate and Painted Surfaces:** Clean with mild soap and water solution and a soft cloth.
	Monthly	**Under Case:** Remove rear panel (and/or front panel). Clean under case with vacuum.
Case Interior	**Daily**	**Decks & Inserts:** Wipe down and clean with mild soap, water & soft cloth.
	Daily	**Shelves:** Shelves can be cleaned with a warm soap and water solution and soft cloth or paper towel. For stubborn stains or residue, shelves can be removed and cleaned with soap and water solution or submersed in hot, soapy water solution. Rinse thoroughly. Dry. Return to case.
	Weekly	**Decks & Inserts:** Remove and clean with mild soap, water & soft cloth
	Weekly	**Shelving Brackets / Air Return Grilles / Decking** • Wipe off shelving brackets, air return grilles and decking with moist cloth. • Shelving brackets can be removed for more thorough cleaning. • Air return grilles can be removed for more thorough cleaning. • Decking is NOT to be removed by store personnel.
	Weekly	**Condenser Coil:** Vacuum or brush grille condenser coil at case front. Use metal or fiber brush to remove dust and dirt that can collect on condenser coils. Be careful not to damage the fins on the coil.

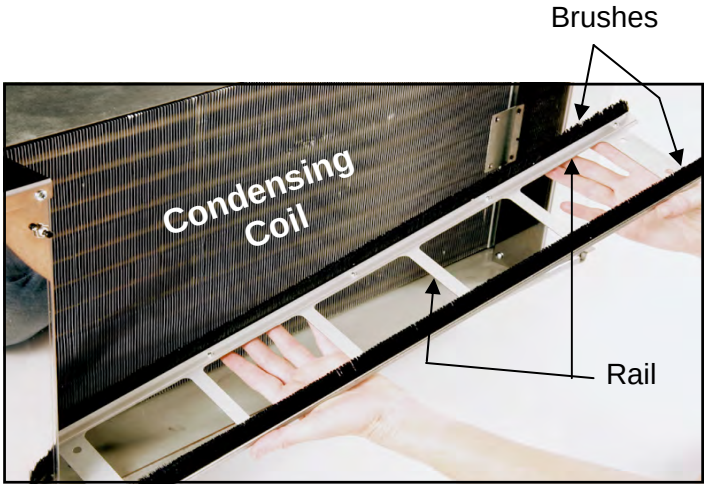
CLEANING SCHEDULE [TO BE PERFORMED BY TRAINED SERVICE PROVIDERS ONLY]

WARNING! TURN OFF POWER TO CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!

Maintenance	Freq.	Instructions
Case Exterior	**Qtly**	**Condensing Coil:** Using vacuum with soft-bristled brush or air pressure or an industrial strength vacuum, clean the dust and dirt that may collect on the condenser coil. Use the soft-bristled brush to dislodge caked dust and debris that may form on coil.
	Qtly	**Under Case Cleaning:** Once refrigeration package is clear of unit, vacuum under case to remove all dust and dirt that may collect.
Case Interior	**Qtly**	**Tub, Coil and Drain:** Remove evaporator fan panel and clean tub, coil and drain with warm water and mild soap solution. Remove any debris that may clog drain.
	Qtly	**Compressor Area:** Slide out from case. Wipe off dust & debris w/moist cloth.
Warning: Condensate pan may be hot. Allow pan to cool 30-minutes before cleaning.	**Qtly**	**Hot Gas Loop Condensate Unit:** Turn off power. Disconnect case from power source. Remove front panel. Slide out condenser unit. Use a de-scaling solution (such as CLR® that will prevent corrosion, lime and rust) to thoroughly clean condensate pan and overflow electric coil condensate pan. Use wet /dry vacuum to remove all residue. Use clean towel dipped in soap and water solution to wipe down all fans, motor, refrigeration lines, cords, knobs, sight glass, connectors and all other surfaces. Wipe dry. Slide back under case. Replace front panel.
	Qtly	**Evaporative Wicking Material [Optional]:** Wicking material (if any on your hot gas loop condensate system) may be dirty or worn and need replacement. • Slide refrigeration system out from under unit. • After refrigeration system has been carefully slid out from under unit, replace wicking material with new. If wicking material is not available, contact Structural Concepts®. See toll-free number at last page of this operating manual.
	Qtly	**Fan Blades, Shroud, Drain:** Wipe down each blade and shroud with moist cloth. Clean out drain. See images #6 and 7 below.
	Qtly	**Honeycomb:** See ***PREVENTIVE MAINTENANCE - HONEYCOMB AIR DIFFUSERS [SERVICE TECHNICIANS ONLY]*** section in this manual for specs.
	Qtly	**Upper and Lower Step Inserts:** Remove from Case. Clean w/soap and water.

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





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

WARNING! TURN OFF CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!

PREVENTIVE MAINTENANCE	FREQUENCY	INSTRUCTIONS
Case Exterior	**Quarterly**	**Compressor Area:** *Disconnect power from case before cleaning Condenser Coil!* • Slide/Roll out from under case. • Use moist cloth to wipe off dust & debris that collects on various parts.
	Quarterly	**Condensate Pan:** Disconnect from receptacle box. Remove mounting screw(s) from base. Use a de-scaling solution (such as CLR® that will prevent corrosion, lime and rust) to clean pan. Rinse thoroughly; do not submerse in water.
	Quarterly	**Under Case Cleaning:** Once refrigeration package is clear of unit, vacuum under case to remove all dust and dirt that may collect under case.
Case Interior	**Quarterly**	**Tub, Coil, Drain, Fan Blades, Motors, Brackets:** *Disconnect power from the case before cleaning the Tub, Coil, Fan, Motor and Drain Area!* • Remove Decking, Sub-Deck and Fan Shroud. • Use vacuum to clean Evaporator Coils. • Clean Tub, Coil and Drain with warm water, clean cloth, brush and mild soap solution. • Remove any debris that may clog drain. • Clean Fan Blades, Motors and Brackets by wiping down with moist cloth.
	Quarterly	**Honeycomb Air Diffuser:** Remove the honeycomb. See **MAINTENANCE, CONTINUED: HONEYCOMB AIR DIFFUSERS** section in this manual for step-by-step instructions.

Product is Drying Out	Check the relative humidity in the store.
Water on the Floor	***Caution!*** Water on flooring can cause much damage! Until cause is determined (and unit repaired), follow these procedures: • Use wet-dry vacuum (or mop & bucket) to remove standing water. • Use 'catch pans' for water to drain into. Swap out regularly until case has completely drained.
	Check store conditions. • To prevent condensation in Type 1 environments, maximum conditions are to be 55% humidity / 75° Fahrenheit. • For Type 2 environments, maximum conditions are to be 60% humidity / 80° Fahrenheit. • See serial label (at case rear near main power switch) for Type of case.
	If unable to resolve issue of water on floor, contact technical service. Call toll-free number listed at end of manual.
Excessive Fan Noise	Check that the case is aligned, level and plumb.
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.
Digital Control Display is Blank	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
Fans Not Working	Check that the MAIN power switch is on.
	Check that the case is aligned, level and plumb.
Case Lights Not Working	Check that light is properly installation.
	Check bulb for proper connection.
	Check for burned out bulb.
	Clean dirt and dust from the bulb to prevent flickering.
	Check that light switch is in the *on* position.

Not Holding Temperature	Check that the coil fans are working.
	Check that the discharge air is not disrupted or blocked by product.
	If a large amount of warm product was added to the case, it will take time for the temperature to adjust.
	Check the coil for ice build up.
	Check that the condenser coil is clean.
	Check that the case is not in the sun or near a heat or air conditioning vent.
	Case temperature will rise during defrost mode but will return to normal. Proper product temperature will be maintained.
	See ***OVERVIEW / TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / PLUGS / WIRING*** section in this manual for issues pertaining to case location. Wide temperature fluctuation can take place in certain environments.
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 pre-chilled product.
	The temperature will change during defrost cycle but will return to normal when compressor turns on.
	Check to see if the condenser coil has been cleaned.
	Check that the case is not in the sun or near a heat or air-conditioning vent.
	Check *air* grilles for obstruction and remove.
	Ensure that front air grilles are not obstructed by product or other décor.
	Note: Product displayed on Front Air Grilles will cause case to run warm and will negate warranty.
Condensing Unit Not Operating	Check that the main power switch is turned on.
	Check that case is on and the control display is not blank. If blank, call toll-free number at end of manual.
	Controller may be in defrost mode. Compressor cycling on and off is a normal condition. Carel® Temperature Controller Section in this manual.

CONDITION	TROUBLESHOOTING
Water Is On Floor	***Caution!*** Water on flooring can cause much damage! Until cause is determined (and repaired), follow these procedures: • Use wet-dry vacuum (or mop & bucket) to remove standing water. • Use 'catch pans' for water to drain into. Swap out regularly until case has completely drained.
	Check that the drain trap is free of debris.
	Check that all of the hoses are connected.
	Check that condensate pan is properly plugged in or connected.
	Check that condensate pan float is operating properly (electric coil condensate units only).
	Check that the drain hose is correctly positioned over condensate pan (or floor drain, for remote units).
	Check store conditions. To prevent condensation in Type 1 environments, maximum conditions are to be 55% humidity / 75° Fahrenheit. For Type 2 environments, maximum conditions are to be 60% humidity / 80° Fahrenheit. See serial label (at case rear near main power switch) for Type of case.
	Caution! Wicking material (if any on your particular hot gas loop system) may be dirty or worn and need replacement. • Slide refrigeration system out from under unit. • After refrigeration system has been carefully slid out from under unit, replace wicking material with new. If wicking material is not available, contact Structural Concepts®. See toll-free number at last page of this operating manual.

CONDITION	TROUBLESHOOTING
Fan Emits Excessive Noise	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.
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.
Digital Control Display Is Blank	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
System Not Operating	Check that the utility power is on.
	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.

CONDITION	TROUBLESHOOTING
Case Lights Are Not Working	Check that light switch is in the *on* position.
	Check that **ALL** of the light cords and plugs are properly connected. See ***MAINTENANCE - LIGHT FIXTURES (LED LIGHT FIXTURES)*** section.
	Service Technicians Only: Check voltage at LED drivers. If voltage is entering but not exiting, LED driver may be faulty.
Control Display Is Flashing	*See your case's serial label for your model's specified settings. See* ***SERIAL LABEL LOCATION & INFORMATION LISTED / TECH INFO & SERVICE*** for label location, etc.
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. See ***OVERVIEW / NSF® TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING / PLUGS*** section in manual for adverse conditions/spacing issue parameters.
	If case is located near front doors, temperature fluctuation can hinder unit's ability to maintain temperature. See ***OVERVIEW / NSF® TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING / PLUGS*** section in manual for adverse conditions/spacing issue parameters.
	Check that condenser coil air filter (attached to grille) has been cleaned.
	Check that condenser coil has been cleaned.
	Check air return grilles for obstructions.
	Check sight glass for flashing and/or low charge.
	Check Set Point Temperature; it may be adjusted too high.
Condensing Unit Is Not Operating	Check that the power is turned on.
	Determine if temperature controller settings are properly set. *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.

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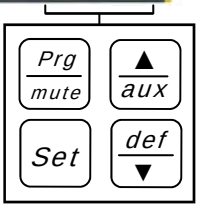
Integrated Electronic Microprocessor Controller

Programming The Instrument



To Modify The Setpoint

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

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

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

To Modify Defrost, Differential, Other Parameters

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

Set 2. Confirm by pressing "SET" key.

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

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

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

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

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

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

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

Set 2. Confirm by pressing "SET" key.

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

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

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

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

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

Warning! Save Your Parameter Settings!

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

To Activate Manual Defrost

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

To Activate / Deactivate Auxiliary Output

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

To Reset Any Alarms With Manual Reset

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

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This data derived from Carel Material: ir33 +030220441 - rel. 2.0 - 01.05.2006

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User Interface - Display

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

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

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

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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) 433.9489
/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 CORPORATION TECHNICAL SERVICE
PHONE NUMBER: 1.800.433.9489 or For Your Master Service Agent See
WWW.STRUCTURALCONCEPTS.COM/Contact/Master_Service_Agents.asp

LIMITED WARRANTY

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

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

Warranty; Remedies; Limitations. SCC warrants that if any Goods are found by an authorized representative of SCC not to be of good material or workmanship within one year of the date of shipments SCC will, at its option after inspection by an authorized representative, replace any defective Good or pay the reasonable cost of replacement for any such defective Goods, provided that written notice of the defect is given to SCC within 30 days of the appearance of such defect. If notice is not given within such period, any claim for breach of warranty shall be conclusively deemed to have been waived and SCC shall not be liable under this warranty. If SCC is unable to repair or replace the defective Goods, SCC shall issue a credit to the Purchaser for all or part of the purchase price, as SCC shall determine. The replacement or payment in the manner described above shall be the sole and exclusive remedy of Purchaser for a breach of this warranty. If any Goods are defective or fail to conform to this warranty, SCC will furnish instructions for their disposition. No Goods shall be returned to SCC without its prior consent.

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

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

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

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

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

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

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

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

Applicable Law. This Agreement is made in Michigan and shall be 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.

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

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

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

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

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

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

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

Limit of Liability. The limit of liability of SCC toward the exchange cost of the original condensing unit, F.O.B. SCC, Norton Shores, MI, of each motor-compressor assembly replaced during the warranty shall not exceed manufacturer's current established wholesaler's exchange price and in no case shall the labor of removing or replacing the motor-compressor or parts thereof be the responsibility of SCC.