Hill PHOENIX
EXCELLENCE
A DOVER COMPANY

HANDBOOK

INSTALLATION & OPERATION

OWSA

SERVICE/DELI

ORIGIN 2™ series

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NSF COMPONENT

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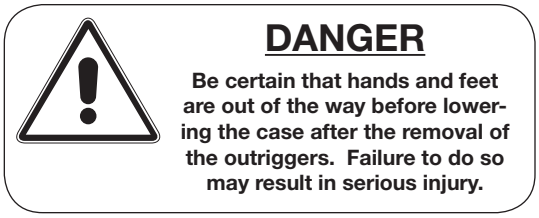
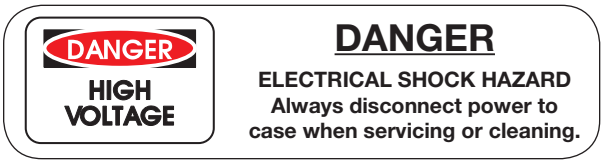


DANGER

Be certain that hands and feet are out of the way before lowering the case after the removal of the outriggers. Failure to do so may result in serious injury.



DANGER

ELECTRICAL SHOCK HAZARD
Always disconnect power to case when servicing or cleaning.

General Information

Welcome to the ORIGIN2 display case family. We're very pleased that you've chosen Hill PHOENIX for your food merchandising needs. This handbook is targeted to individuals involved in the installation and/or operation of ORIGIN2 display cases and contains detailed illustrations and important information about the product. By closely following the manual's instructions, you can expect peak performance, attractive fits and finish, and long case life from the product.

We are always interested in your suggestions for improvements (e.g. case design, technical documents, etc.), so please feel free to contact Marketing Services at the toll-free number listed below. Thank you for choosing Hill PHOENIX, and we wish you the very best in outstanding food merchandising.

Description of Cases
Specifically covered in this manual is the OWSA service deli merchandiser, which is part of the Hill PHOENIX ORIGIN2 design series.

Store Conditions
Hill PHOENIX cases are designed to operate in an air-conditioned store that maintains a 75°F (24°C) store temperature and 55% (max) relative humidity (CRMA conditions). Case operation will be adversely affected by exposure to excessively high ambient temperatures and/or humidity.

Refrigeration System Operation
Air-cooled condensing units require ventilation for the efficient performance of condensers. Machine-room temperatures must be a minimum of 65°F in winter and a maximum of 95°F in summer. Minimum condensing temperatures should be no less than 70°F.

Receiving Cases
Examine fixtures carefully for shipping damage and shortages. For information on shortages, contact the Service Parts Department at the toll-free number listed below.

Apparent Damage
Claims for obvious damage must be 1) noted on either the freight bill or the express receipt and 2) signed by the carrier's agent; otherwise, the carrier may refuse the claim.

Concealed Damage
If damage becomes apparent after the equipment is unpacked, retain all packing materials and submit a written request to the carrier for inspection within 14 days of receipt of the equipment.

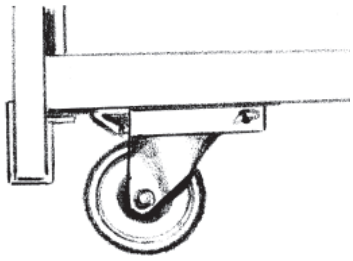
Lost Items
Equipment has been carefully inspected to insure the highest level of quality. Any claim for lost items must be made to Hill PHOENIX within 48 hours of receipt of the equipment.

Technical Support
For technical questions regarding display cases, please contact our Case Division Customer Service Department at the toll-free number listed below. For questions regarding our refrigeration systems or electrical distribution centers, please contact our Power Systems Customer Service Department at 1-770-388-0706.

Contacting the Factory
If you need to contact Hill PHOENIX regarding a specific fixture, be certain that you have both the case model number and serial number - this information is on the serial plate located on the lower rear baffle of the case (see next page for details). When you have this information, call the toll-free number below and ask for a Service Parts Representative.

Hill Phoenix
1925 Ruffin Mill Rd.
Colonial Heights, VA 23834
Tel: 1-800-283-1109
Fax: 804-526-7450
Web site: www.hillphoenix.com

USING CASTERS



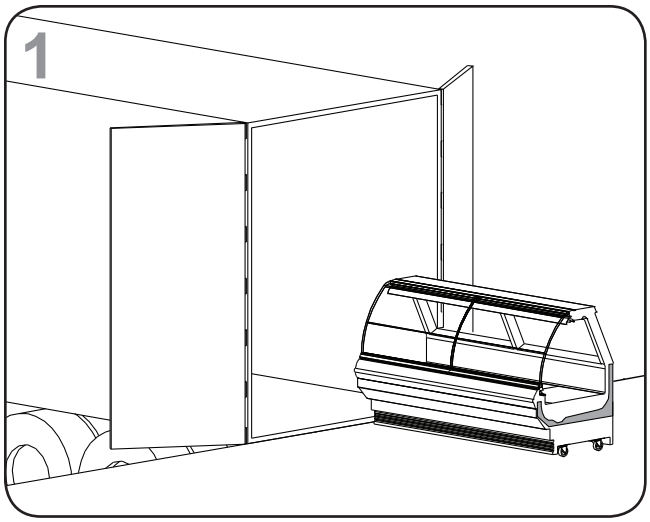
ORIGIN2 cases are shipped to stores with casters installed on the base frame. Casters make moving cases easier and reduce the risk of damage caused by raising and lowering cases with a ”J” bar when placing them on dollies, skates, or rollers. In most situations, one or two persons can move the cases with ease.

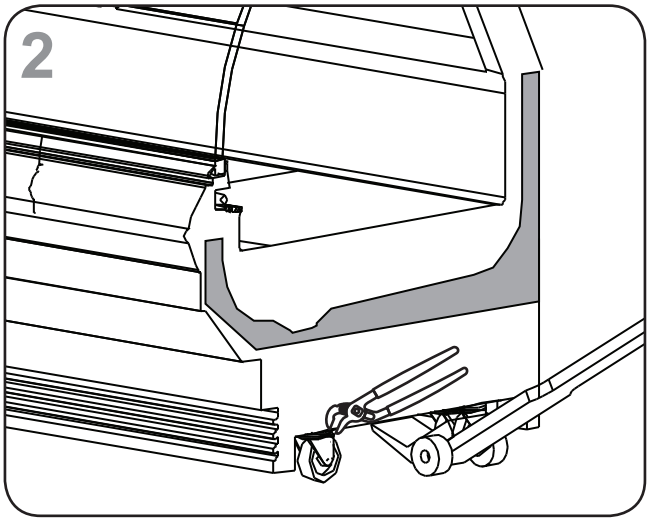
Step 1

If there is a truck-level delivery dock, cases may be rolled directly from the truck to the store floor. Prior to final installation, casters may remain in place to help move the cases to staging areas throughout the store. When you’re ready for final line-up, roll the cases to the set position before removing the casters.

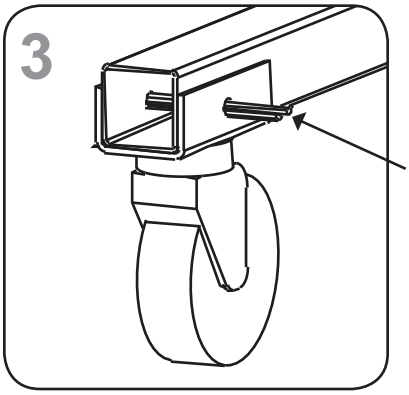
Step 2

To remove the casters, simply flatten out and remove the cotter pins (see diagram 3), the lift the case with “J” bar (see diagram 2), the casters should simply fall off and are ready to be discarded.





IMPORTANT: If skid boards are required for unloading cases, casters should be removed prior to sliding cases down the skid (see Diagram 3). When unloading is complete, re-install the casters.

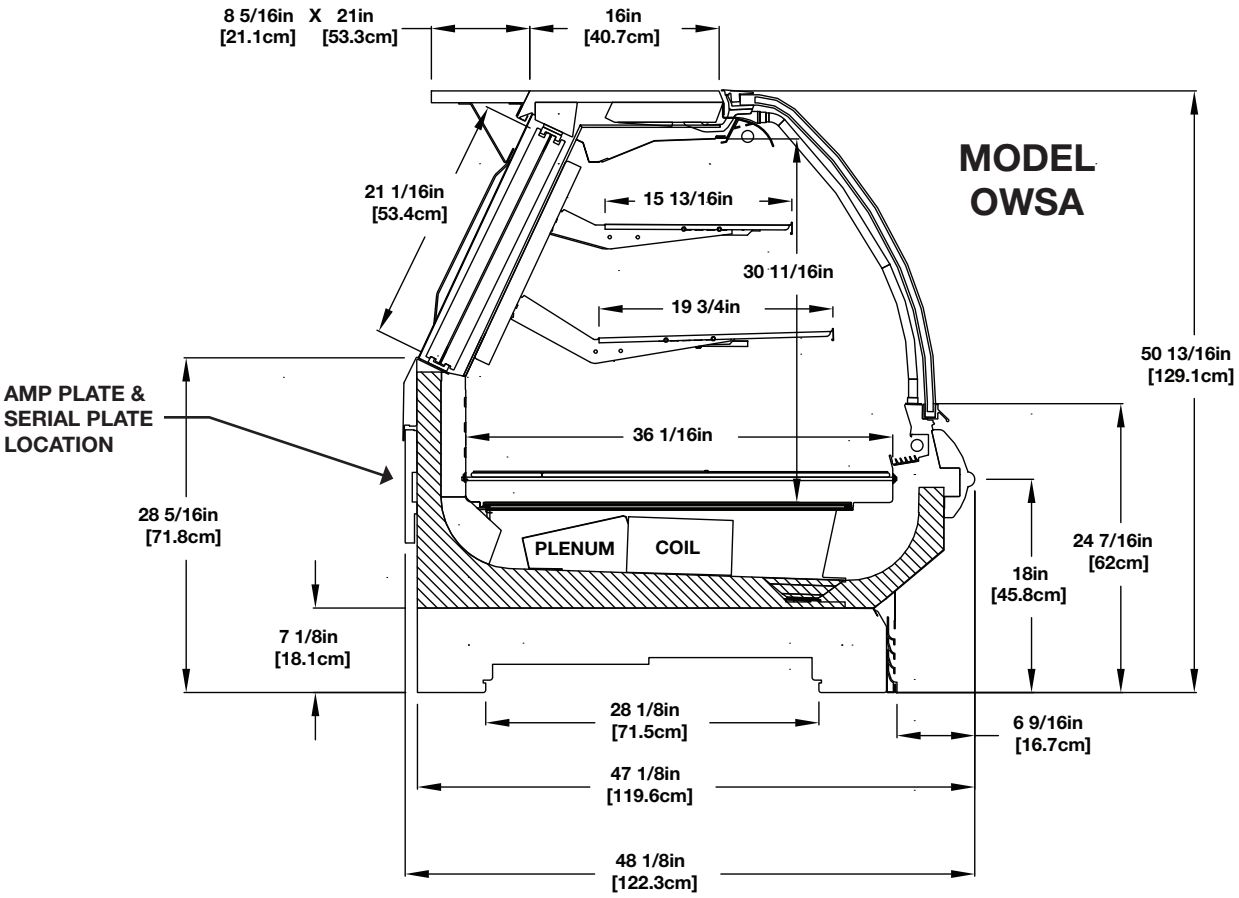


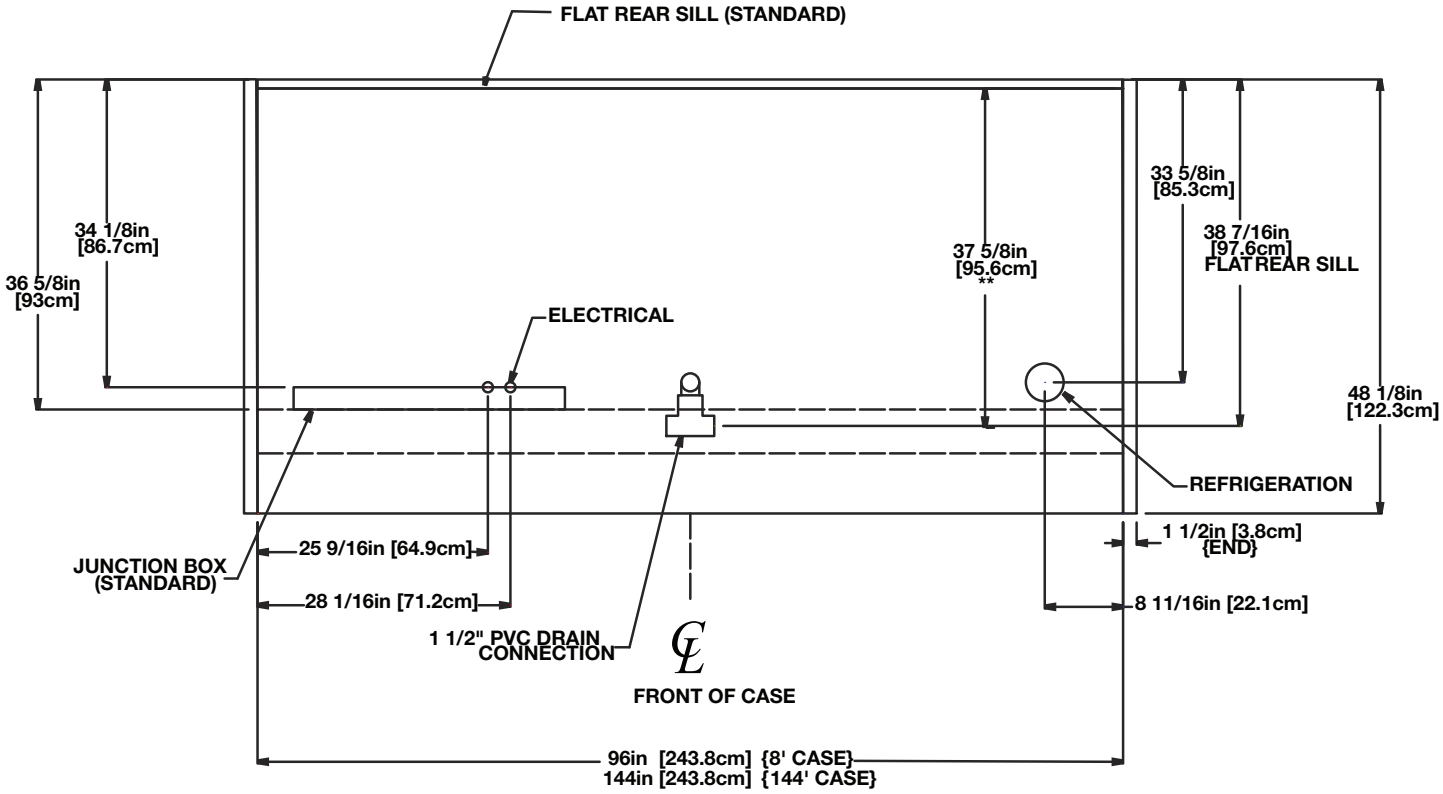
DANGER

Be certain that hands and feet are out of the way before lowering the case after the removal of the casters. Failure to do so may result in serious injury.

NOTE: Casters should be discarded when installation is complete.

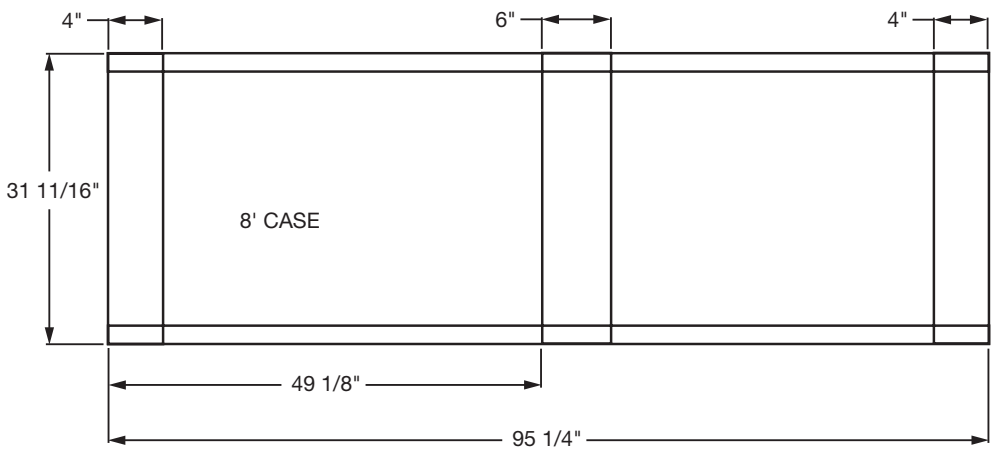
CASE DIMENSIONS



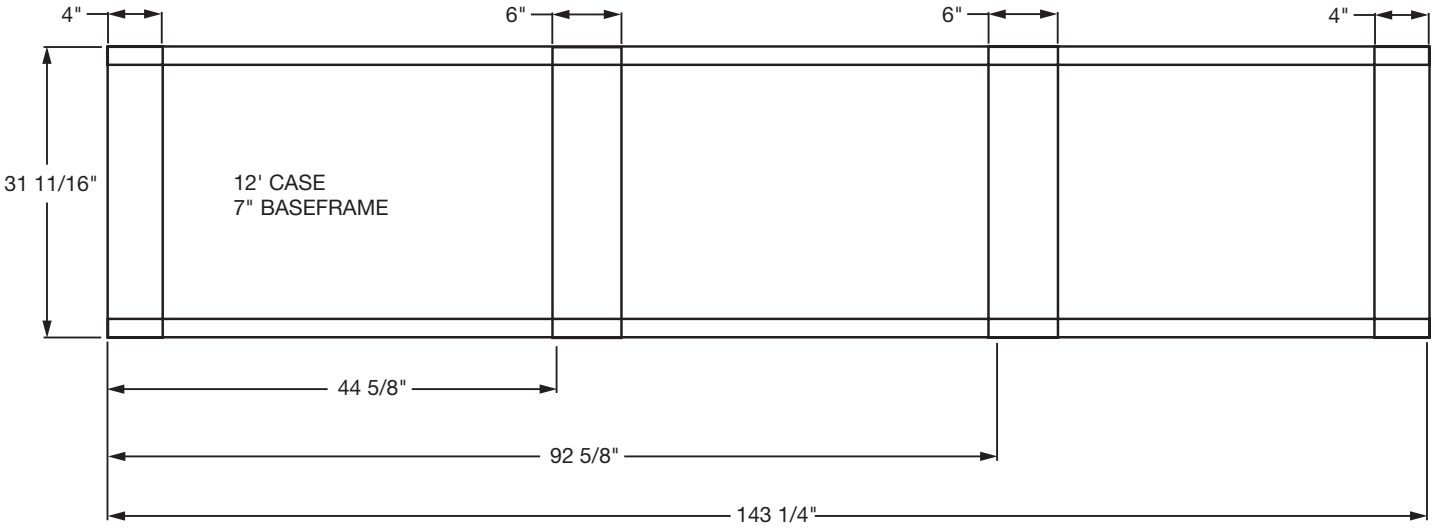


BASEFRAME DIMENSIONS

MODEL
OWSA



FRONT OF CASE



FRONT OF CASE

CASE OPERATION

Electrical Data

Model	Fans per Case	Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWSA-8	3	1.02	51	0.45	33	2.11	253	3.85	800	4.44	1065
OWSA-12	4	1.36	68	0.60	44	2.93	352	5.77	1200	6.67	1600

Lighting Data

Model	Bulbs per Row	Bulb Length	Typical per Light Row		Maximum Lighting	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
OWSA-8	2	4'	0.47	56	2.33	280
OWSA-12	3	4'	0.70	84	3.5	420

Guidelines & Control Settings

Model	BTUH/ft[1]	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity[3] (FPM)
OWSA	320	22°	6-8	29°	34°	245

[1] BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

[2] Average discharge air velocity at peak of defrost.

Defrost Controls

Model	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
OWSA	2	6-8	35	50	75[3]	50[3]	20	45	---	---

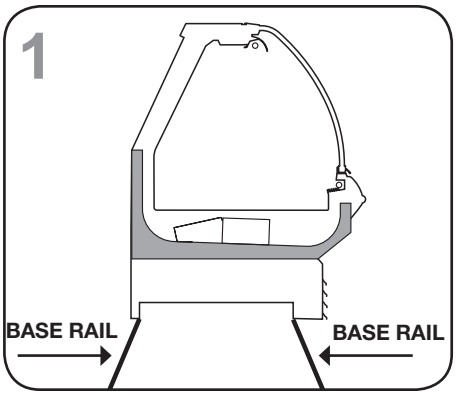
[3] Not recommended on this model because of long defrost time.

Medium Temperature Defrost Schedule	
No. Per Day	Hours
1	12 midnight
2	12 am - 12pm
3	6 am - 2pm - 10pm
4	12 am - 6am - 12pm - 6pm

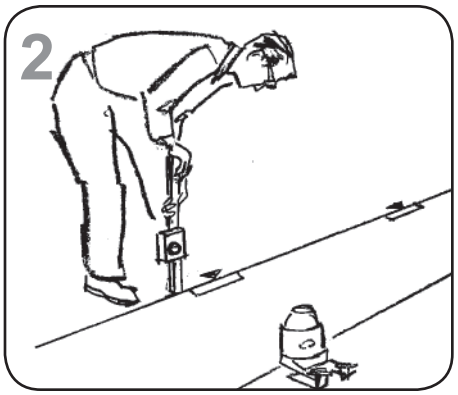
All measurements are taken per ARI 1200 - 2002 specifications.

Line Up

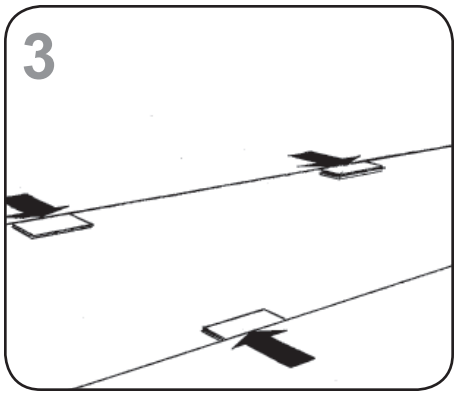
Ask the general contractor if there have been any changes to the building's dimensions since the blueprint you are using was issued. Also, ask the points of reference from which you should take dimensions to locate the cases.



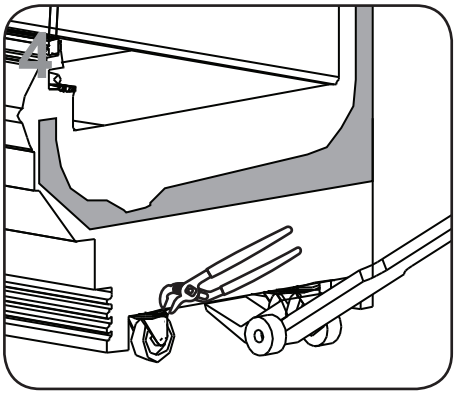
Using chalk lines, mark the floor where cases are to be located for the entire lineup. Snap lines where the base rails are positioned — not the front or back edges of the cases.



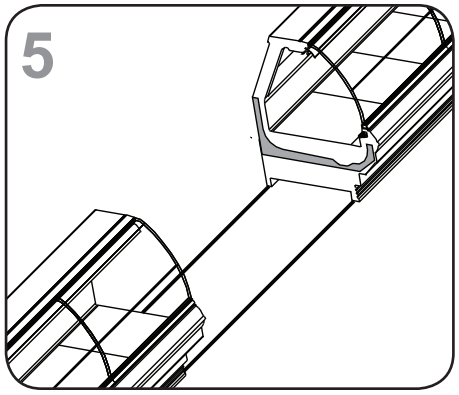
Leveling is necessary to ensure proper case alignment. Locate the highest point on the chalk line as a reference for determining the height of shim-pack levelers. A laser transit is recommended for precision and requires just one person.



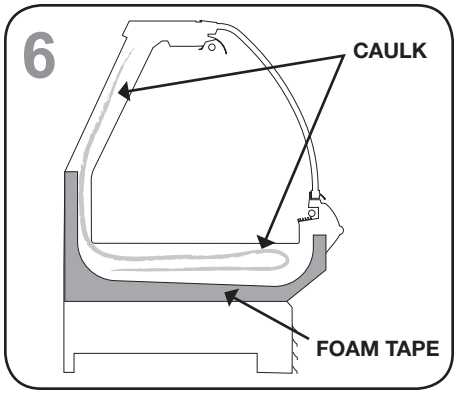
Locate basehorse positions along chalk lines. Spot shim packs at each basehorse location.



Roll the first case into position. Raise case from the end under cross support using “J” bar. Remove cotter pins and casters. Level the case on shims.



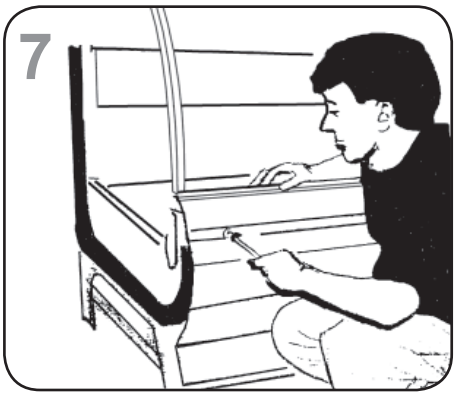
Roll case approximately 2' from adjoining case , then remove casters on that end. With the opposite end's casters still in place, push the cases together. Remove remaining casters.



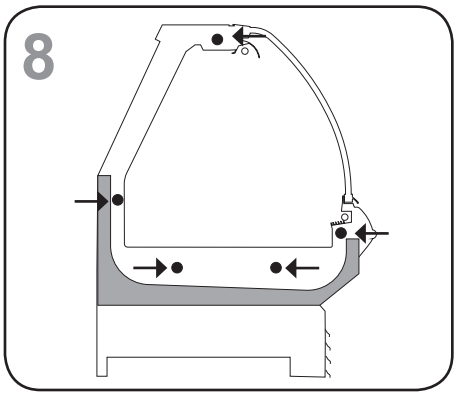
Remove anything from the case that may interfere with case joining. Apply the foam tape that is shipped loose in the case to the end breakers on each side of the case. Run a bead of sealant around the entire end before pushing cases tightly together.

DANGER

Be certain that hands and feet are out of the way before lowering the case after the removal of the casters. Failure to do so may result in serious injury.

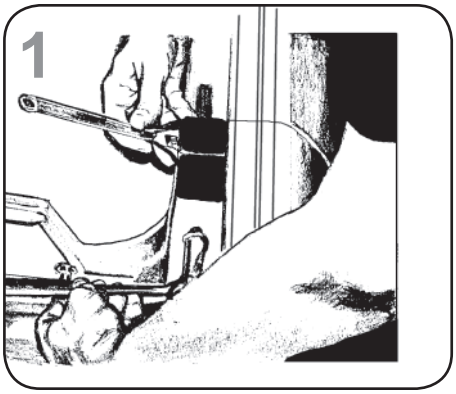


Loosen screws on the master bumper. Move bumper joint to a position for sliding between adjoining case bumper.

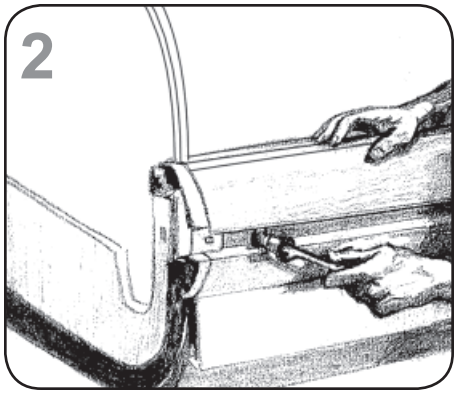


Push cases tightly together. Bolt cases together through the five holes provided in the “C” frame and pipe chase as shown in illustration. Tighten until all margins are equal; do not over tighten.

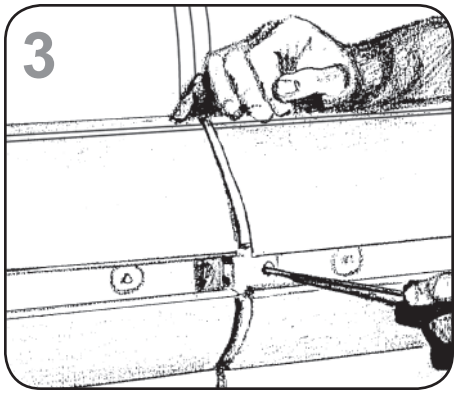
Trim Out



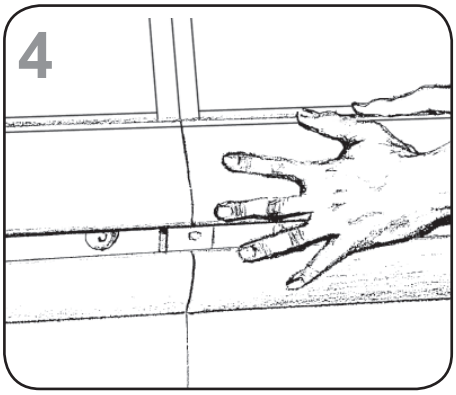
Tighten all joint bolts tightly, but do not over tighten.



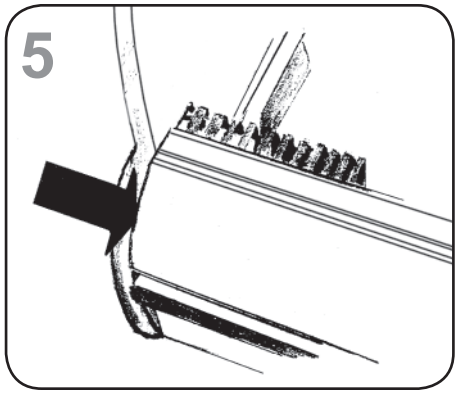
Adjust the polymer master bumper joints, if required. Loosen the bumper screws first.



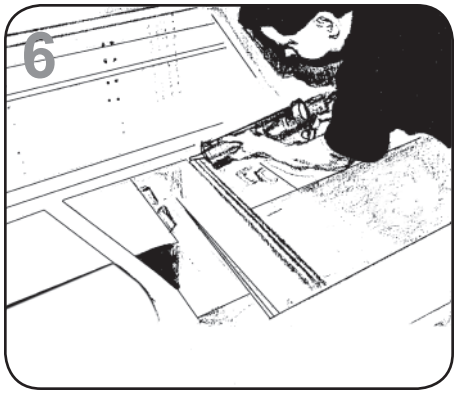
Slide the bumper joint to the center of the joint between the two cases. Use screw driver in hole provided.



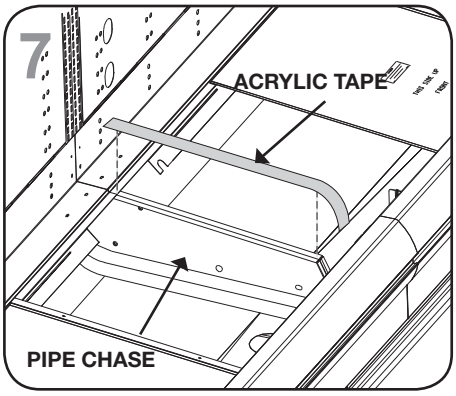
Slide the master bumper left or right to close seam as required. Bumper joint neatly finishes any gap that may remain.



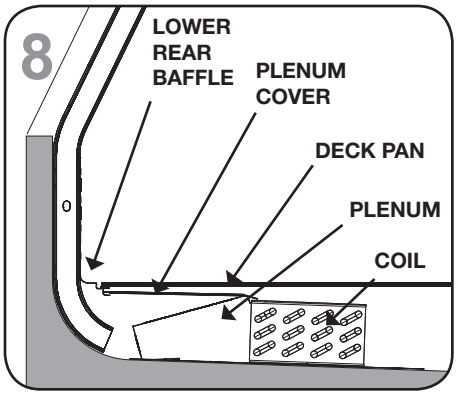
Close the seam where the bumper joins the case end. The bumper joint closes the seam that may develop if the master bumper is moved away from end in order to close the case-to-case joint seam.



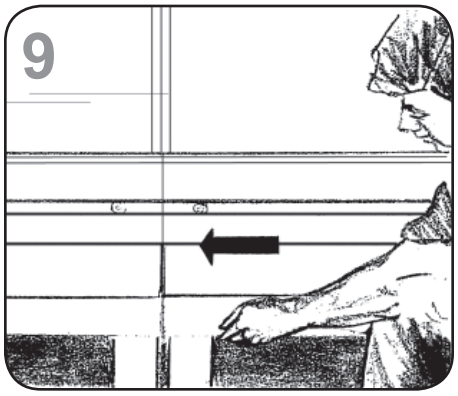
Seal the joints along the pipe chase seam with the caulk provided.



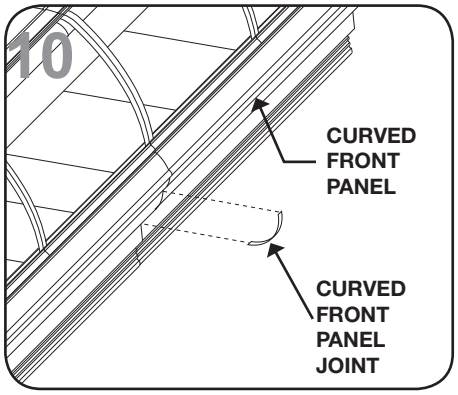
Apply the provided acrylic tape over the pipe chase seam. The tape acts as a watershed, preventing water from settling in case joint.



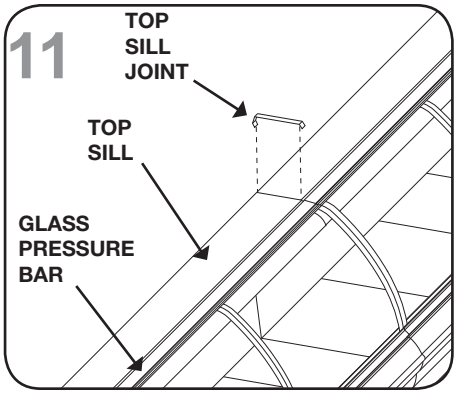
Install the plenum covers under deck pans, between the lower rear baffle and the fan plenum.



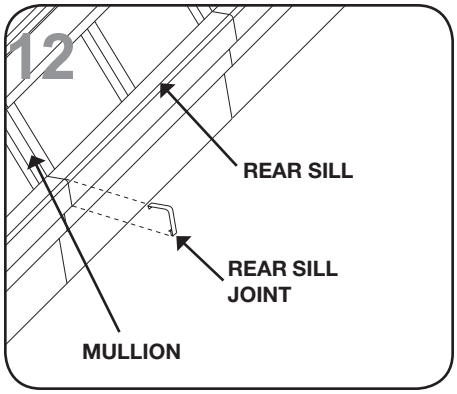
Close the joints of the front panel. The panel is slotted on the bottom to allow left-or-right adjustment as required.



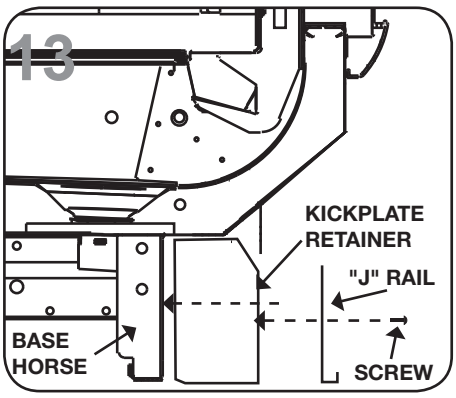
Install the curved front panel joint (if applicable) that is provided. Wide joints (1") are for case-to-case joining and narrow joints (1/2") are for cases with ends.



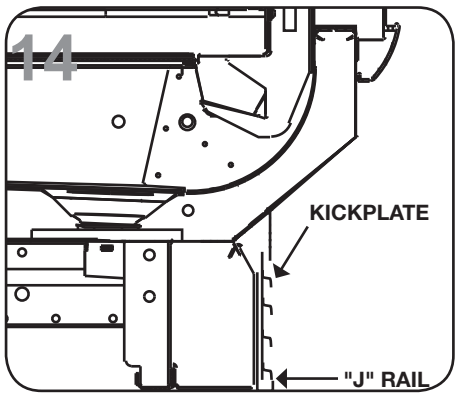
Install the top sill joint that is provided. The front lip of the joint fits into the crevice between the top sill and the glass pressure bar. The rear lip is attached to the back of the case with the screws provided.



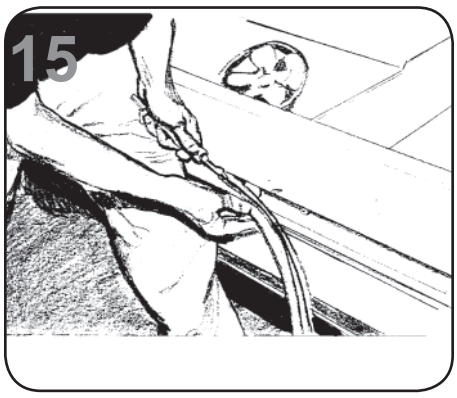
Install the rear sill joint that is provided. The bottom portion of the joint should be slid on the the rear sill first, then the top lip fits between the rear sill and the mullion. Secure the joint underneath the rear sill with the screws provided.



Attach the kickplate retainers to the basehorse, then mount the "J" rails to the kickplate retainers with the screws provided.



Slide the kickplate up and behind the lower front panel bracket, then down on the "J" rail.



Insert the nose bumper into the master bumper channel. Roll the nose bumper into the channel along entire lineup (up to 96'). We recommend that the nose bumper be left in the store 24 hours before installing. DO NOT STRETCH the bumper during installation, as it will shrink to its original length and leave a gap.

NOTE: An easy technique for one person is to press against nose bumper with your leg as you guide bumper into channel with a screen spline. Insert the bottom first.

REFRIGERATION PIPING

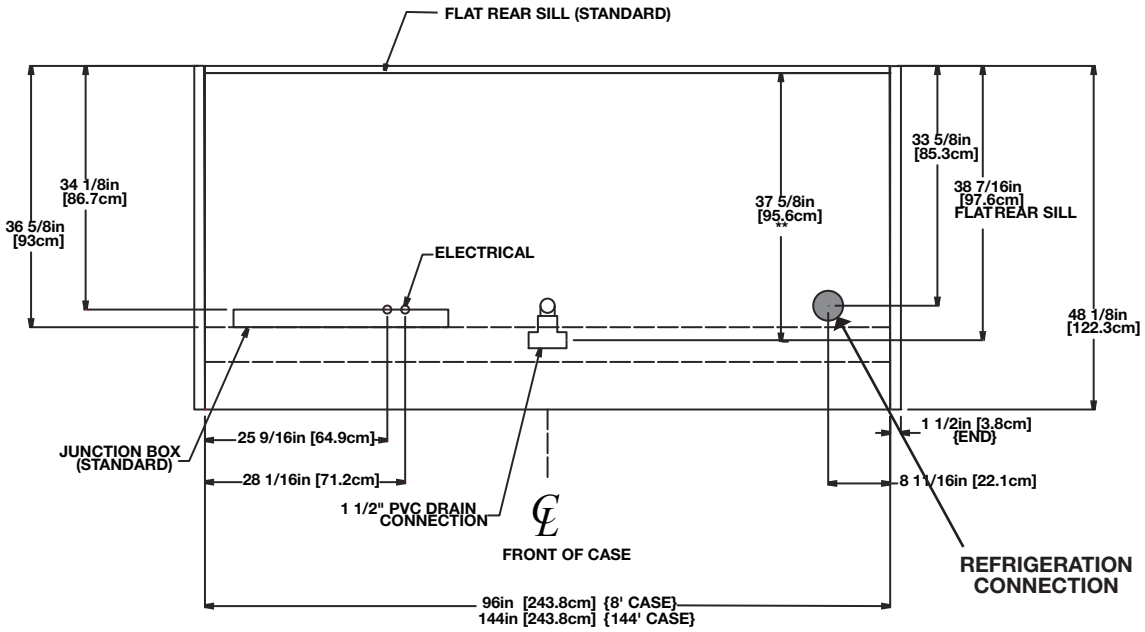
Refrigeration components and the coil outlet hole are located for easy installation and maintenance. As the diagrams below indicates, the coil outlet hole is positioned forward on the right hand side of the case, fully visible in front of the fan plenum. The expansion valve and other controls are located on the left-hand side of the case and are accessible without lifting the fan plenum. The controls cluster may be reached by lifting only the left-hand deck pan, minimizing the need to unload product.

A suction-stop solenoid installed in the top coil's suction line is required for this case. The solenoid can be controlled via a thermostat installed in the case or with an external controller (a liquid line solenoid alone will not allow the case to cycle properly and is not recommended for control of this case).

The thermostat probe should be located on the inlet of the top coil. The cut-out temperature should be set to 30°F and the cut-in temperature should be set to 35°F. These are recommended starting values and may need to be adjusted based on store conditions.

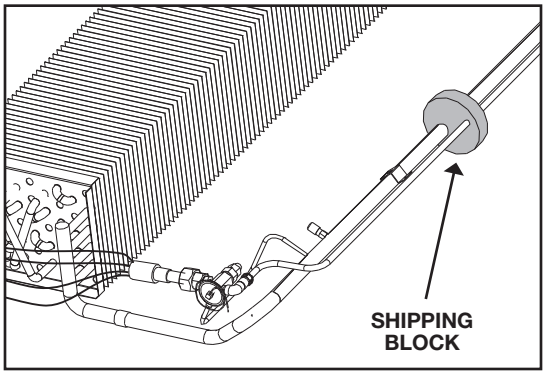
If it becomes necessary to penetrate the case bottom for any reason, be certain to seal it with canned-foam sealant and white RTV after the required work is completed.

MODEL
OWSA



NOTE: Remove the shipping blocks that protect the refrigeration lines during shipment before operating the case.

REMOVE SHIPPING BLOCKS



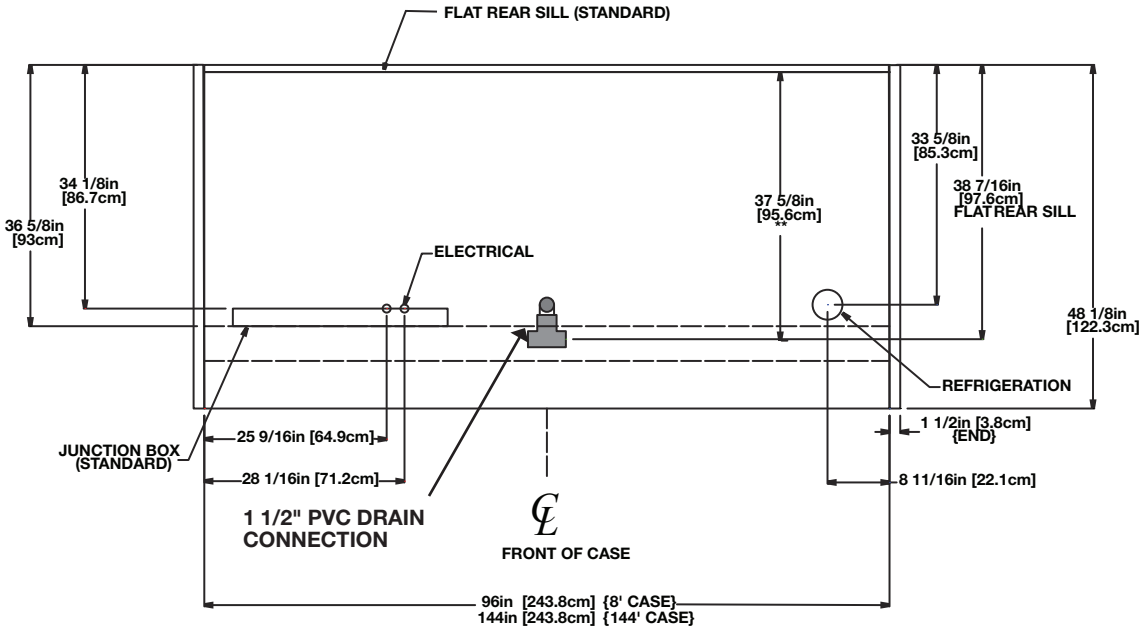
PLUMBING

The drain outlet is specially molded out of ABS material and is located front-and-center of the case for convenient access. The “P” trap, furnished with the case, is constructed of schedule 40 PVC pipe. Care should be given to assure that all connections are watertight and sealed with the appropriate PVC or ABS cement. The drain lines can be run left-or-right of the tee with the proper pitch to satisfy local drainage requirements.

The kickplate is shipped loose with the case for field installation; therefore, you should have open access to the drain line area.

If the kickplate has been installed, the installation instructions on page 15 (diagram 14) will help you with proper removal.

MODEL
OWSA

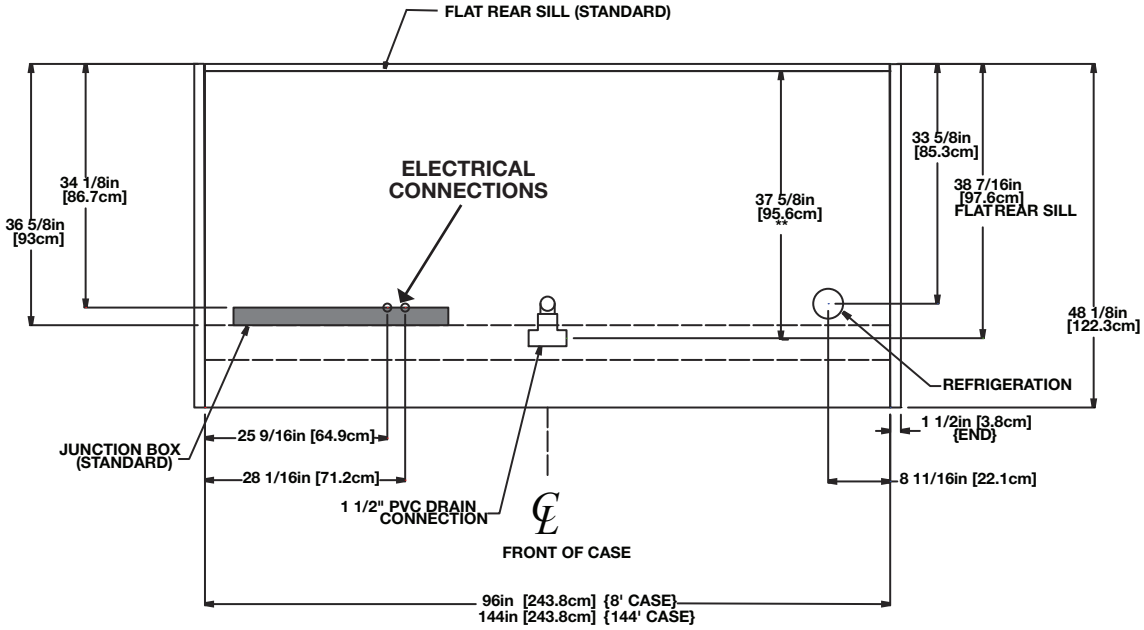


ELECTRICAL HOOKUP

Electrical hookups for the OWSA are made to a junction box located underneath the case on the bottom-left-front. The light ballast for the case is located in a sliding ballast tray on the bottom-left-front of the case (see below).

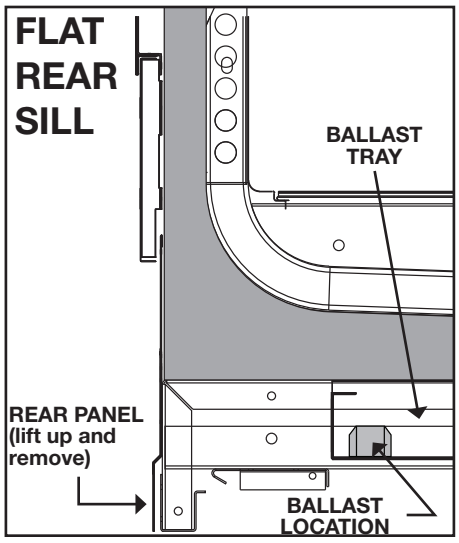
In order to access the sliding ballast tray, the rear panel must be removed. Simply lift up the back panel and then pull it out, see diagram below.

For case-to-case wiring, run “greenfield” - or other conduit - between junction boxes. When connecting to the junction box, field connections should be made on the right-hand side of the box to allow more room inside for wire connecting.



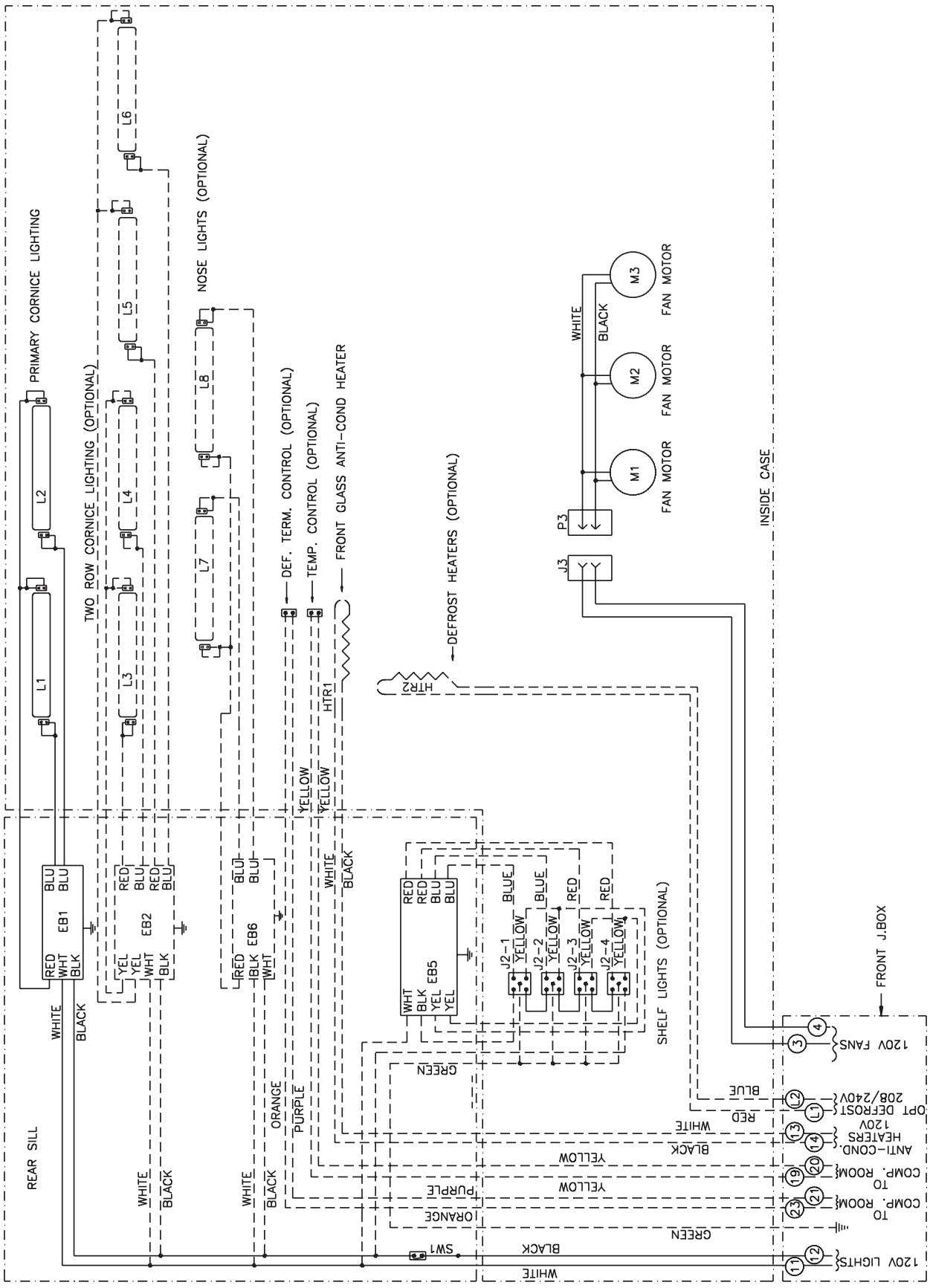
WIRING NUMBERS & COLORS

COMPONENT	WIRE NUMBER	COLOR CODING
EVAPORATOR FANS (120V)	3	WHITE
	4	BLACK
LIGHTS (120V)	11	WHITE
	12	BLACK
ANTI-CONDENSATE HEATERS (120V)	13	WHITE
	14	BLACK
TEMPERATURE CONTROL (120V)	19	YELLOW
	20	YELLOW
DEFROST TERMINATION CONTROL (120V)	21	PURPLE
	23	ORANGE
DEFROST HEATERS (208/240V)	L1	BLACK
	L2	RED
EQUIPMENT GROUNDING CONDUCTOR	-	GREEN

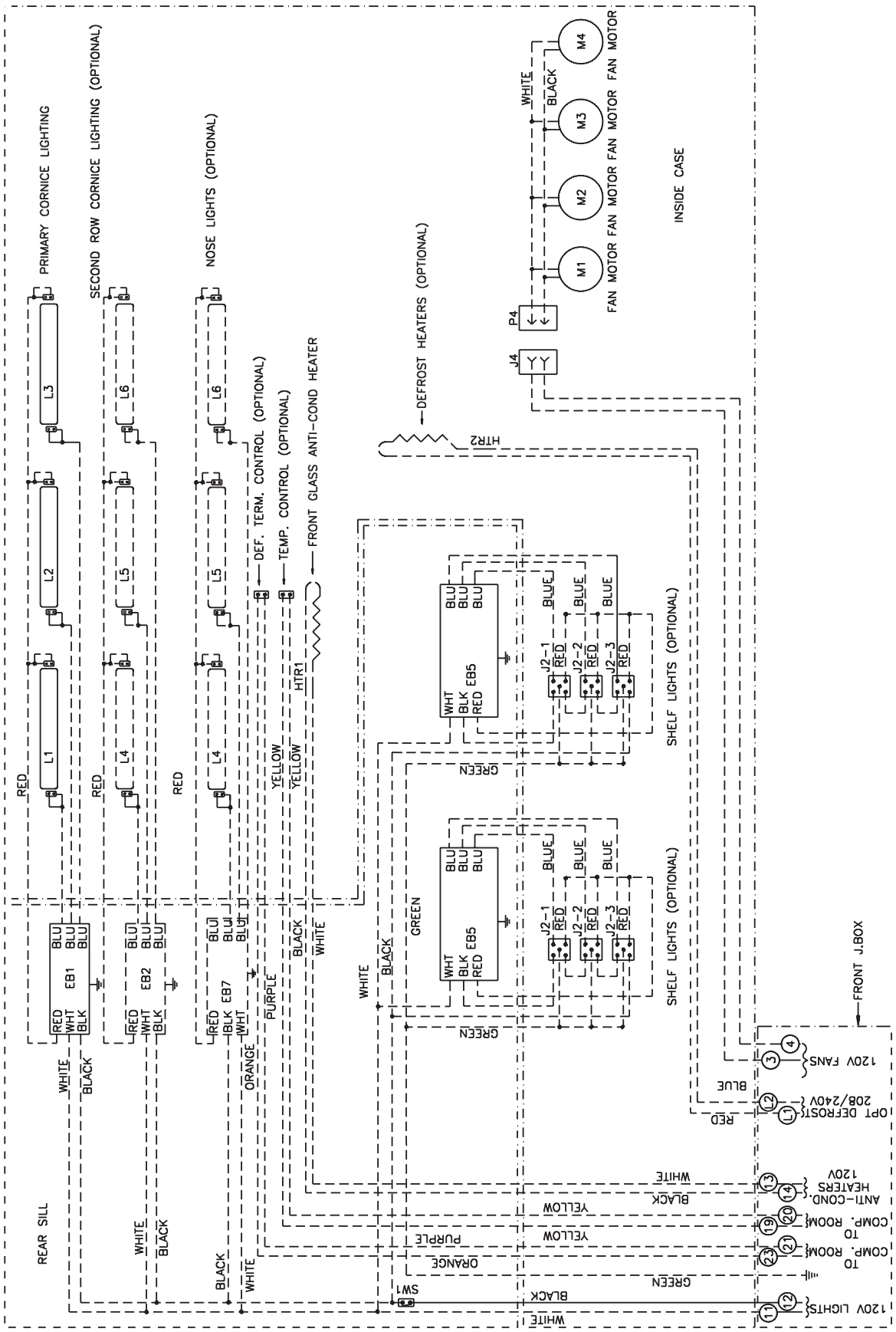


WIRING DIAGRAMS

MODEL
OWSA - 8'



MODEL
OWSA - 12'



DEFROST & TEMP CONTROL

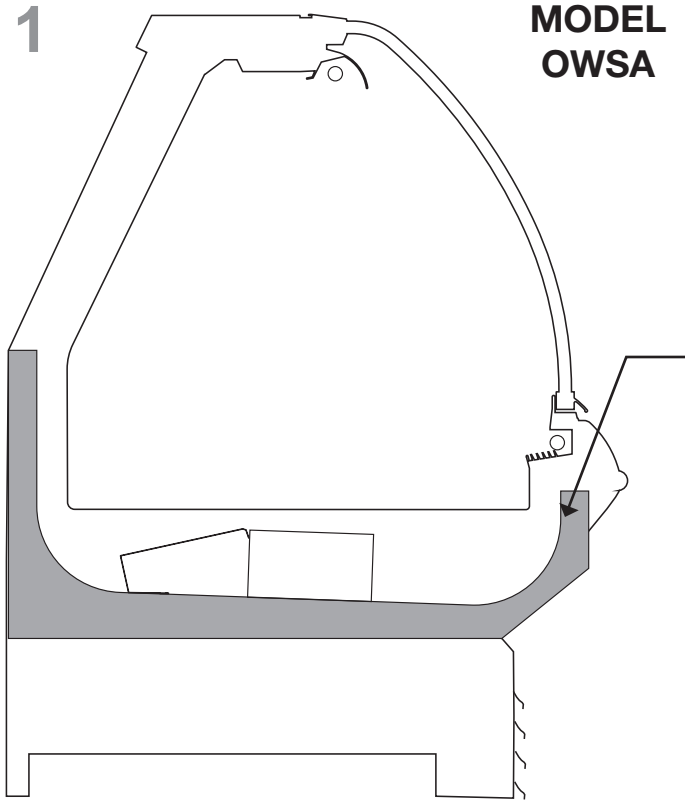
OWSA cases are equipped with either Electric Defrost or Timed-Off Defrost at the owner's option. The sensor bulb and probe for electric defrost termination and the sensor bulb for timed-off defrost termination are located behind the front baffle (see diagram 1). The sensor bulb for temperature control is also located behind the front baffle (see diagram 1), along with the discharge air probe.

The defrost termination control thermostat and the temperature control thermostat are located in the sliding ballast tray on the bottom-left-front of the case (see diagram 4). To access the thermostats on cases with a standard rear sill, simply lift off the ballast cover from under the rear sill. For cases with a flat rear sill, access to the thermostats requires that the rear panel be removed (see diagram 4).

It is important to consult the control setting guidelines shown on page 6 before setting defrost times. Further adjustment may be required depending on store conditions.

1

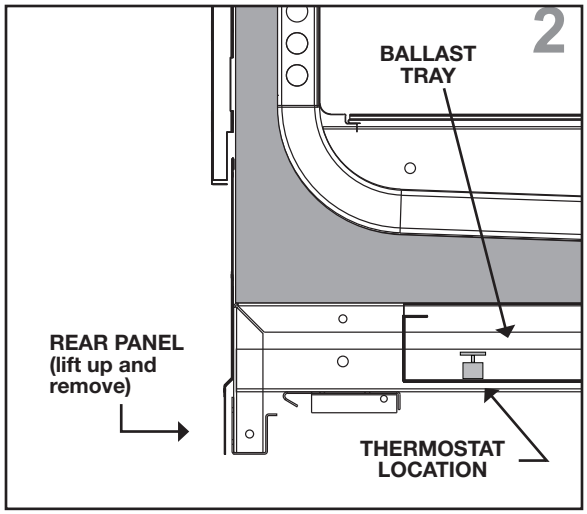
MODEL OWSA



- **Discharge air probe**
- **Electric defrost termination control sensor bulb**
- **Electric defrost termination probe**
- **Timed-off defrost termination control sensor bulb**
- **Temperature control sensor bulb**

THERMOSTAT ACCESS

2



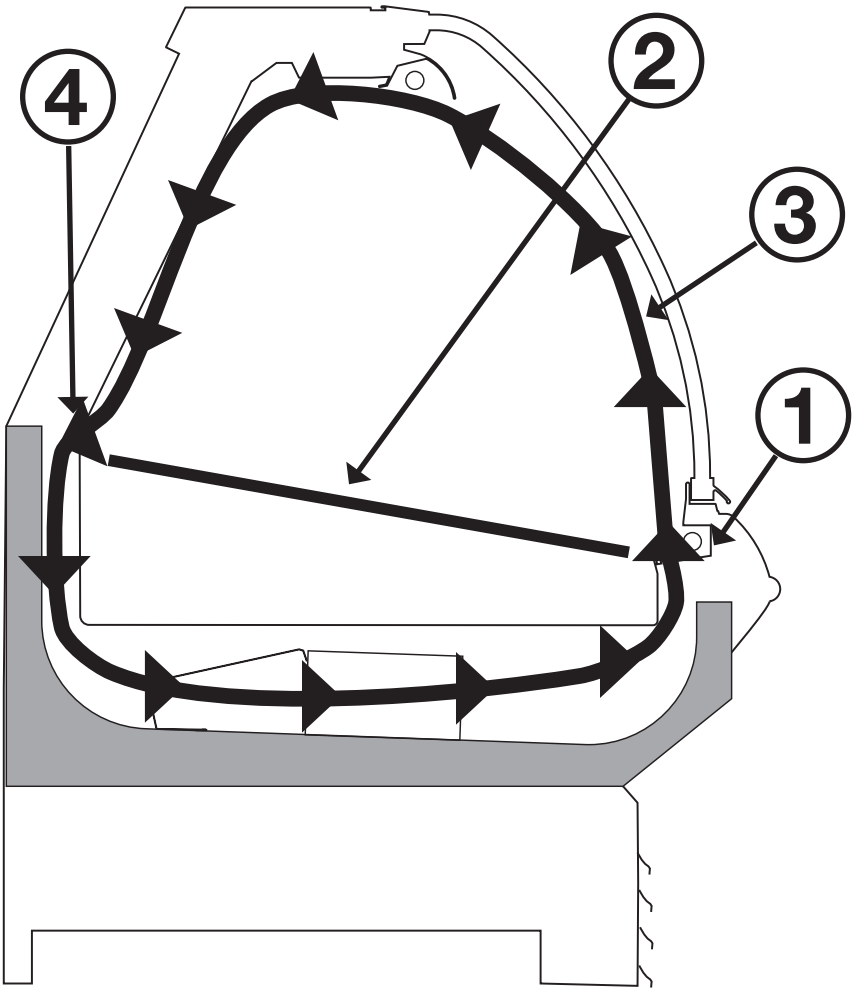
Air Flow & Product Loading

Cases have been designed to provide maximum product capacity within the refrigerated air envelope. It is important that you do not overload the food product display so that it impinges on the air flow pattern.

Overloading the case will result in malfunction and the loss of proper temperature levels, particularly when discharge and return air sections are covered.

Please keep products within the load-limit lines shown in the diagram.

MODEL
OWSA



DISCHARGE.....1

LOAD LIMIT.....2

AIR FLOW.....3

RETURN AIR GRILL....4

CAUTION

When lifting the front glass cover, be certain to lift from the center. Failure to do so may result in damage to the case.

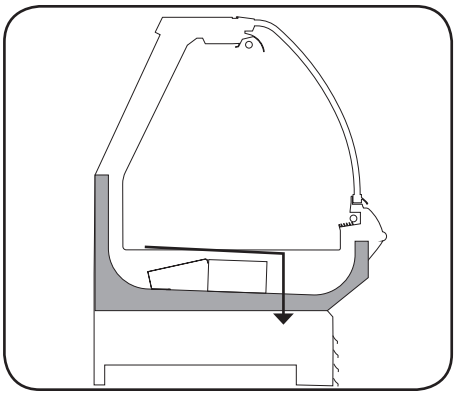
NOTE: Glass hardware is not designed to keep the glass in the middle position - only fully opened or closed.

USE & MAINTENANCE

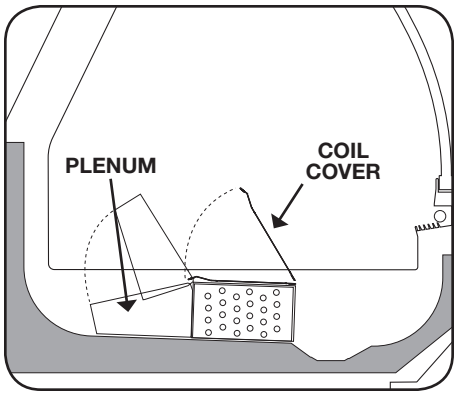
Cases are designed to facilitate cleaning. There is a wide radius formed on the front and back of the inside-bottom that helps accelerate liquid flow and eliminates difficult-to-clean sharp corners.

All surfaces pitch to a deep-drawn drain trough that angles toward the front-center of the case where the waste outlet is located for easy access. The coil is covered to keep food fluids from entering, but the cover lifts up easily when coil cleaning is desired. The fan plenum also lifts up for cleaning, exposing a large portion of the inside-bottom of the tank.

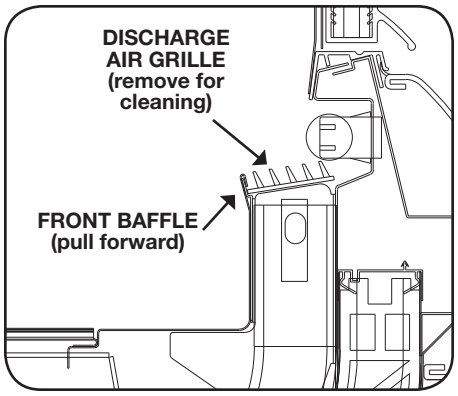
Make certain the coil cover is properly closed after cleaning to avoid air leaks. Front return air grills snap out for cleaning - no fasteners are used.



POSITIVE DRAIN OFF



COIL COVER & PLENUM LIFT UP



CLEANING THE DISCHARGE AIR GRILL

CLEANING PROCEDURES

- A periodic cleaning schedule should be established to maintain proper sanitation, insure maximum operating efficiency, and avoid the corrosive action of food fluids on metal parts that are left on for long periods of time. We recommend cleaning once a week.
- To avoid shock hazard, be sure all electrical power is turned off before cleaning. In some installations, more than one disconnect switch may have to be turned off to completely de-energize the case.
- Check waste outlet to insure it is not clogged before starting the cleaning process and avoid introducing water faster than the case drain can carry it away.
- Avoid spraying cleaning solutions directly on fans or electrical connections.
- Avoid using high pressure water to flush the tank. A hose without a nozzle should provide enough pressure for cleaning purposes. Always use cold water.
- Allow cases to be turned off long enough to clean any frost or ice from coil and flue areas.
- Remove and clean discharge honeycomb. You may need to use spray detergent and a soft, long bristle brush.
- Use mild detergent and warm water. When necessary, water and baking soda solution will help remove case odors. Avoid abrasive scouring powders or pads.
- Under no circumstances should abrasive cleaning solutions such as scouring powders or steel wool be used to clean non-glare glass.
- When cleaning rear door tracks be sure to remove the rear doors and clean from the outside channel to the inside channel using the wipe-out groove machined into the track.
- Remove front panels and clean underneath the case with a broom and a long handled mop. Instructions for removing the front panels can be found on page 13 of this manual.
- Use warm water and a disinfecting cleaning solution when cleaning underneath the cases.
- Note: Glass hardware is not designed to keep the glass in the middle position or any other position other than fully opened or closed.

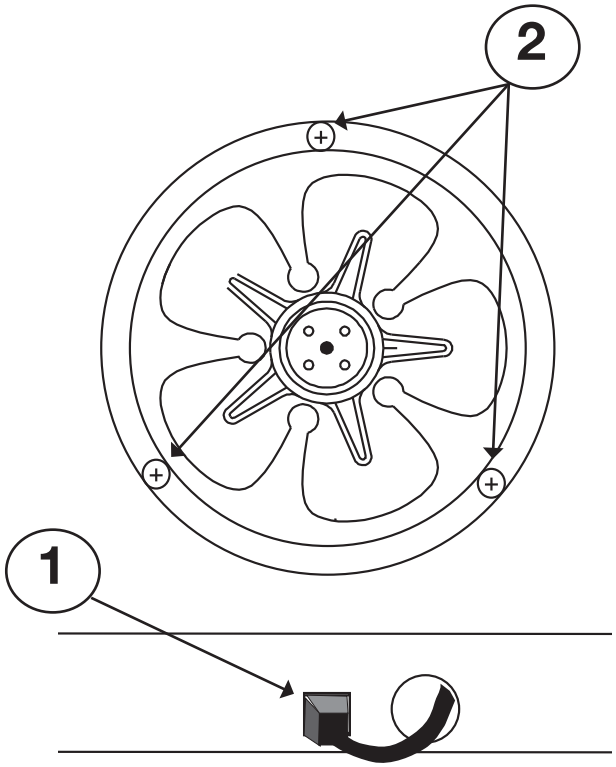
FANS

The evaporator fans are equipped with 5-watt fan motors (1550 RPMs). The motor has a counter-clockwise rotation when viewed from the shaft end.

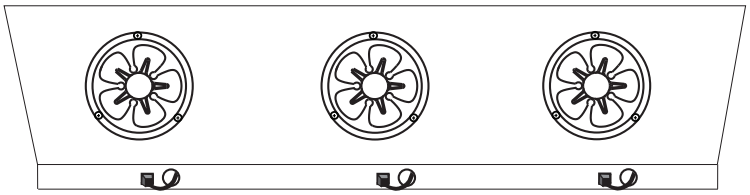
The fan blades are 6” in diameter and are pitched according to the charts below. It is important that the blade pitch be maintained as specified. Do not attempt a field modification by altering the blades.

Fan motors may be changed with an easy two-step process without lifting up the plenum, thus avoiding the necessity to unload the entire product display to make a change:

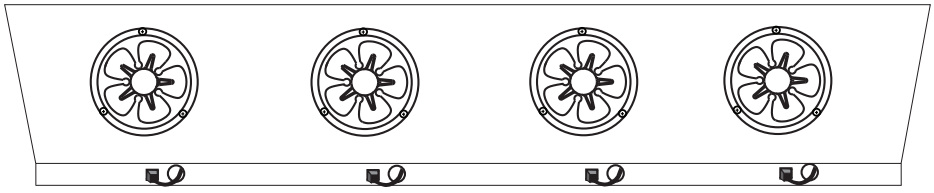
1. Unplug the fan motor, easily accessible outside the plenum
2. Remove three fasteners, then lift out the entire fan basket



	OWSA	
Model	**8'**	**12'**
# of Fans	**3**	**4**
Blade Pitch	**37**	**37**



MODEL OWSA - 8'



MODEL OWSA - 12'

GLASS CLEANING

SOVIS ULTRAVISION® tempered glass has specialized Anti-Reflective coatings on each surface of the glass. These coatings reduce the glare from lighting so that the products on display are more visible to your customers.

While the Anti-Reflective coatings are durable, they are susceptible to scratching if abrasive materials are used for cleaning. Once the glass surfaces are scratched, it is impossible to restore the original finish. Special care must be taken to prevent damage when cleaning the glass. SOVIS recommends the following products for routine cleaning of ULTRAVISION® Anti-Reflective glass:

Cleaning Cloths - two products are recommended:

- Scotch-Brite® High Performance Cloth - manufactured by 3M® and available in most grocery stores under the name Scotch-Brite® Microfiber Cleaning Cloth in a 12" x 14" size. This cloth is washable and may be reused as long as it remains clean.
-
- Spontex® Microfibre Cleaning Cloth - distributed by Spontex® and available in most grocery stores under the same name in a 15.75" x 12" size. This cloth is washable and may be reused as long as it remains clean.

Cleaning Fluid - for more difficult cleaning jobs, these products are recommendeD:
- Windex® - standard product only (extra-strength or specialty products may not be suitable)
- Glass-Plus® - standard product only (extra-strength or specialty products may not be suitable)
- Warm Water

Note: equivalent store-brand glass cleaning products are normally acceptable substitutes to the brand name products listed above.

The cleaning cloths named above will normally remove dust, grease, oil, and fingerprints without the need for cleaning fluids. A light spray of the cleaning fluids listed above will reduce the time required for cleaning. These materials have been tested and proven to clean ULTRAVISION® glass without scratching or damaging the Anti-Reflective coatings. If you need assistance with obtaining these materials, please contact your display case supplier.

Under no circumstances should the following types of materials be used for cleaning glass with ULTRAVISION® Anti-Reflective coatings.:

- Coarse Paper Towels
- Scouring Pads or Powders
- Steel Wool or Steel Fiber Materials
- Blades
- Acidic or highly Alkaline detergents
- Fluorine based detergents

(Glass Cleaning, cont'd)

RECOMMENDATIONS FOR CLEANING ULTRAVISION GLASS

ULTRAVISION glass is more sensitive to scratches than regular float glass. Therefore, it is important to carefully follow the recommendations listed below regarding the materials and chemicals that may be used:

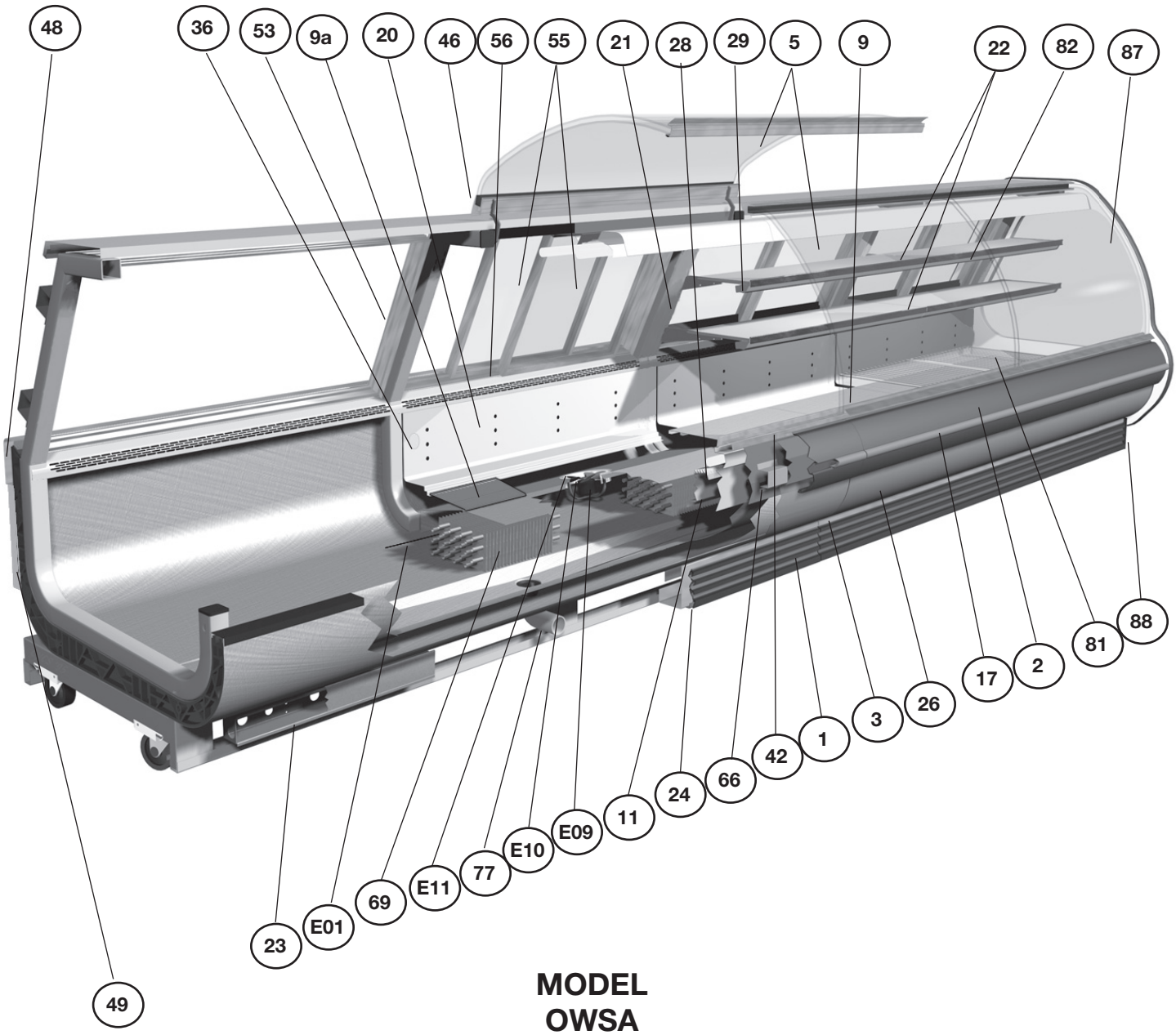
Regular Cleaning
- Soft rags with water and soft detergent
- Chamois leather with water and soft detergent
- Soft sponge with water and soft detergent
- Rubber wiper with water and soft detergent
- A neutral chemical can also be used (WINDEX, GLASS PLUS, etc.)

For More Difficult Cleaning
- Acetone
- Trichlorethylene
- Methlyated spirits
- Petroleum ether
- White spirit

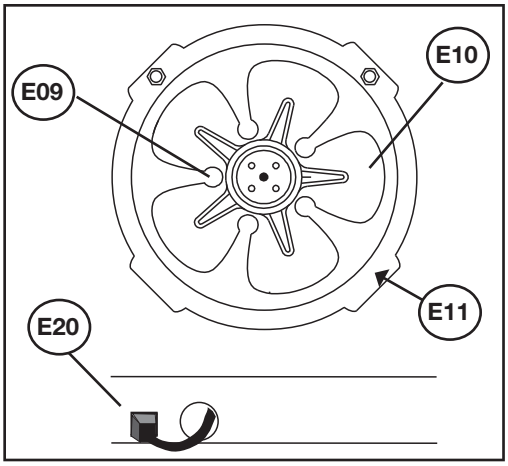
Never Use
- Acids
- High alkaline detergents
- Fluorine based detergents
- Scouring powders
- Scouring pads
- Blades
- Steel wool
- Steel fiber materials

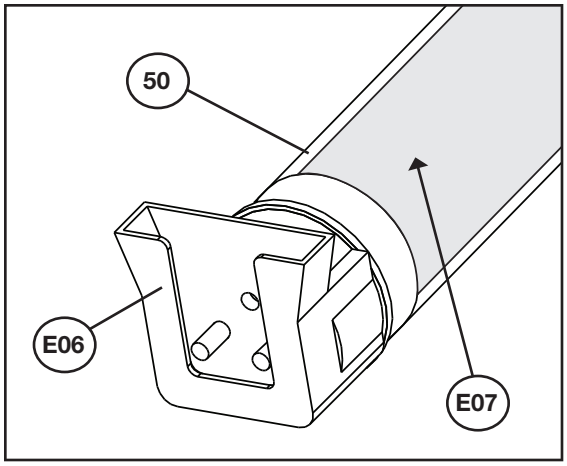
NOTE: the intrinsic structure of anti-glare coatings makes the surface roughness of ULTRAVISION glass rather high. However, after a few cleanings, the surface of the glass is smoother, and is therefore easier to clean.

PARTS ORDERING



MODEL
OWSA





Location Number	Part Descriptions
1	Kickplate, Storm Grey
2	Master Bumper, Featherstone, Smoke, White, French Vanilla, Black
3	Lower Front Panel, Painted or Stainless
5	Front Glass, Lift-Up Thermopane
9	Deck Pan, Painted, Unpainted, Stainless
9a	Plenum Cover
11	Front Baffle, Aluminum, Painted White, Custom Color, or Stainless
17	Nose Bumper, Custom Color
20	Lower Rear Baffle, Painted White, Custom Color, or Stainless
21	Shelf Standard, Specify standard or Vieler Shelving
22	Shelves, Lighted or Unlighted, Painted White, Custom Color or Stainless
23	Electrical Junction Box, or Sliding Ballast Tray
24	"J" Rail, for Kickplate
25	Top Flue Panel, Painted Custom Color or Stainless (Not Shown)
26	Front Panel, Painted Custom Color, or Stainless
28	Discharge Air Grill
29	Lightrod,
36	Plug Button
42	Glass Pressure Bar
46	Glass Clamp
48	Rear Sill, Stainless Steel
49	Rear Filler Panel
50	Lamp Shield
53	Mullion Cover, Stainless Steel
54	Inside Mullion Cover, (Not Shown)
55	Doors, Specify Outside or Inside when ordering
56	Door Frame
62	Light Rod Cover (Not Shown)
66	Front Extensions, Inside and Outside
69	Coil, Specify upper or lower coil
77	P-Trap
81	Wire Racks
82	Tag Moulding
83	Thermometer, and Bracket (Not Shown)
87	End Assembly, Solid, Full view, Custom Color Identify, Left or Right hand, Color of Panel, and color of PVC End Trim
88	End Kickplate, Storm Grey
E01	Defrost Heaters
E02	Anti-Condensate Heaters, (Not Shown)
E03	Thermostats, Temperature and Defrost Termination Control, (Not Shown)
E05	Light Switch, (Not Shown)
E06	Lamp Holder
E07	Bulb
E08	Ballast, Electronic, (Not Shown), (Identify by brand name and model number)
E09	Fan Motor - State High Efficiency or Standard
E10	Fan Blade 6"
E11	Fan Basket, 6"
E19	Receptacle, Recessed, Shelf Light Outlet, White (Not Shown)
E20	Fan Cord-Set - High Efficiency or Standard (Not Shown)

NOTE: Ballasts are located under the rear sill for cases equipped with a standard rear sill. Cases equipped with a flat rear sill have the ballasts located in a sliding ballast tray underneath the case.

ORDER PROCEDURE

1. Contact the Service Parts Department at 1-800-283-1109.

2. Provide the following information about the part you are ordering:
   - Model number and serial number of the case for which the part is intended.
   - Length of part, if applicable.
   - Color of part (if painted) or color of polymer part.
   - Whether part is for left- or right-hand application.
   - Whether or not shelves have lights.
   - Quantity

**Serial plate is located on the right-hand side of the back panel of the case (see cross-section diagram on page 6).*

3. If parts are to be returned for credit, ask the Parts Department to furnish you with a Return Material Authorization Number.

NOTES

NOTES

Hill PHOENIX
EXCELLENCE
A DOVER COMPANY

WARRANTY

HEREINAFTER REFERRED TO AS MANUFACTURER

FOURTEEN MONTH WARRANTY. MANUFACTURER'S PRODUCT IS WARRANTED TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND MAINTENANCE FOR A PERIOD OF FOURTEEN MONTHS FROM THE DATE OF ORIGINAL SHIPMENT. A NEW OR REBUILT PART TO REPLACE ANY DEFECTIVE PART WILL BE PROVIDED WITHOUT CHARGE, PROVIDED THE DEFECTIVE PART IS RETURNED TO MANUFACTURER. THE REPLACEMENT PART ASSUMES THE UNUSED PORTION OF THE WARRANTY.

This warranty does not include labor or other costs incurred for repairing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts.

The fourteen month warranty shall not apply:

1. To any unit or any part thereof which has been subject to accident, alteration, negligence, misuse or abuse, operation on improper voltage, or which has not been operated in accordance with the manufacturer's recommendation, or if the serial number of the unit has been altered, defaced, or removed.

2. When the unit, or any part thereof, is damaged by fire, flood, or other act of God.

3. Outside the continental United States.

4. To labor cost for replacement of parts, or for freight, shipping expenses, sales tax or upgrading.

5. When the operation is impaired due to improper installation.

6. When installation and startup forms are not properly complete or returned within two weeks after startup.

THIS PLAN DOES NOT COVER CONSEQUENTIAL DAMAGES. Manufacturer shall not be liable under any circumstances for any consequential damages, including loss of profit, additional labor cost, loss of refrigerant or food products, or injury to personnel or property caused by defective material or parts or for any delay in its performance hereunder due to causes beyond its control. The foregoing shall constitute the sole and exclusive remedy of any purchases and the sole and exclusive liability of Manufacturer in connection with this product.

The Warranties are Expressly in Lieu of All Other Warranties, Express of Implied and All Other Obligations or Liabilities on Our Part. The Obligation to Repair or Replace Parts or Components Judged to be Defective in Material or Workmanship States Our Entire Liability Whether Based on Tort, Contract or Warranty. We Neither Assume Nor Authorize Any Other Person to Assume for Us Any Other Liability in Connection with Our Product.

MAIL CLAIM TO:

Hill PHOENIX
Display Merchandisers
1925 Ruffin Mill Road
Colonial Heights, VA 23834
1-800-283-1109

Hill PHOENIX
Refrigeration Systems &
Electrical Distribution Products
709 Sigman Road
Conyers, GA 30013
770-285-3200

Warning
Maintenance & Case Care

When cleaning cases the following must be performed PRIOR to cleaning:

To avoid electrical shock, be sure all electric power is turned off before cleaning. In some installations, more than one switch may have to be turned off to completely de-energize the case.

Do not spray cleaning solution or water directly on fan motors or any electrical connections.

All lighting receptacles must be dried off prior to insertion and re-energizing the lighting circuit.

Please refer to the Use and Maintenance section of this installation manual.

Hill PHOENIX®
EXCELLENCE
A DOVER™ COMPANY

Tel: 1-800-283-1109

1925 Ruffin Mill Road, Colonial Heights, VA 23834