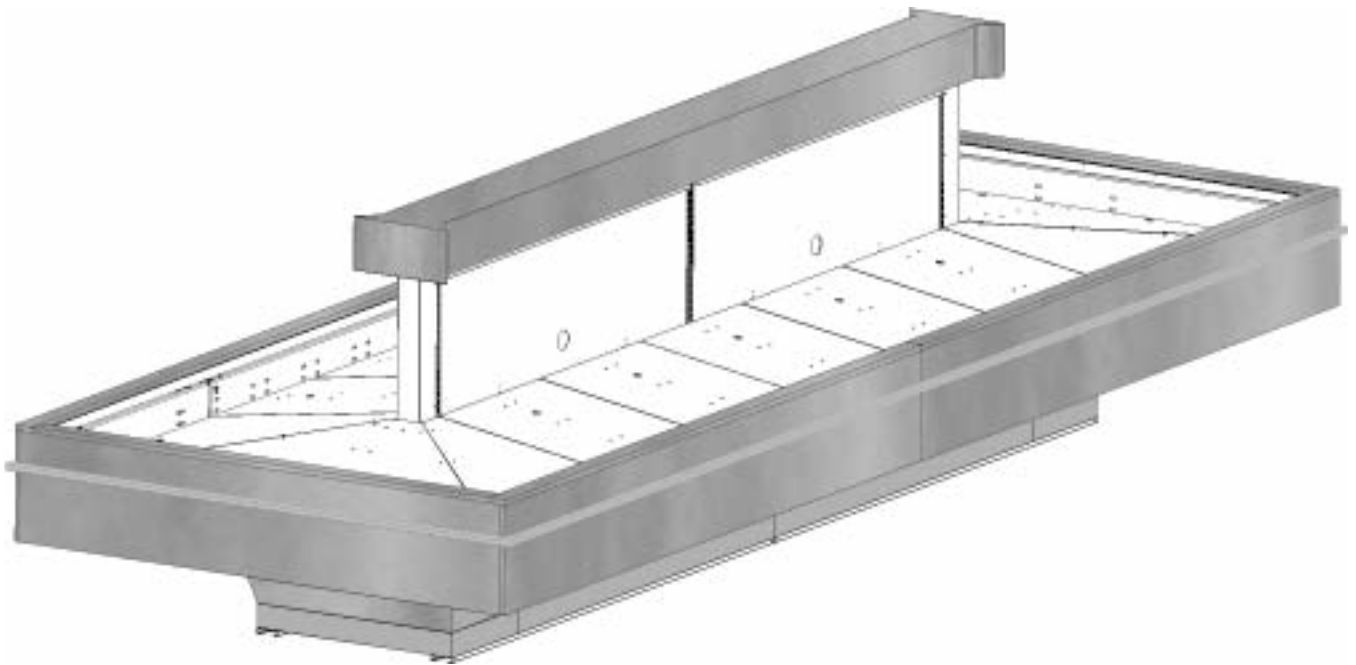




Allegro
S E R I E S™

Installation & Service Manual



LRPHEE16

HIGH PERFORMANCE PRODUCE ISLAND MERCHANDISER Medium Temperature Self-Serve Display Case

This manual has been designed to be used in conjunction with the
General (UL/NSF) Installation & Service Manual.

Save the Instructions in Both Manuals for Future Reference!!

This merchandiser conforms to the American National Standard Institute & NSF International Health and Sanitation standard ANSI/NSF 7 - 2003.

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The following High Performance Medium Temperature Produce Island Merchandiser model is covered in this manual:

MODEL	DESCRIPTION
LRPHPEE16	16' HIGH PERFORMANCE PRODUCE ISLAND MERCHANDISER WITH WOOD CLADDING & CENTER RISER TOP

SPECIFICATIONS

LRPHPEE16 High Performance Produce Island Merchandiser Specification Sheet

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / FT)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/FT)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
LRPHPEE16	16'	PRODUCE	1,600*	1,700*	+26**	+24	+39	150***	0.43

- * Capacity data listed for island cases without lighting. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.
- ** Evaporator temperature is defined as the saturated suction temperature leaving the case.
- *** Air velocity measured 1 hour after defrost at the center riser discharge air using an ALNOR JR. velometer with a scoop.

FOR SPECIFIC COMPRESSOR SIZING AND/OR LINE SIZING INFORMATION, REFER TO THE "GOLD" AND/OR "BUFF" SECTIONS IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans & Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL FOR STANDARD FANS		TOTAL FOR ECM FANS		TOTAL FOR ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
LRPHPEE16	16'	6	6	495.6	N/A	N/A	0.42	50

Defrost Data:

DEFROST TYPE*	DEFROSTS PER DAY	DURATION TIME (MIN)**	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ***		DEFROST WATER (LB / FT / DAY)
			USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	
TIME OFF	6	12	MED TEMP	35°F	33°F	50	64	TBD

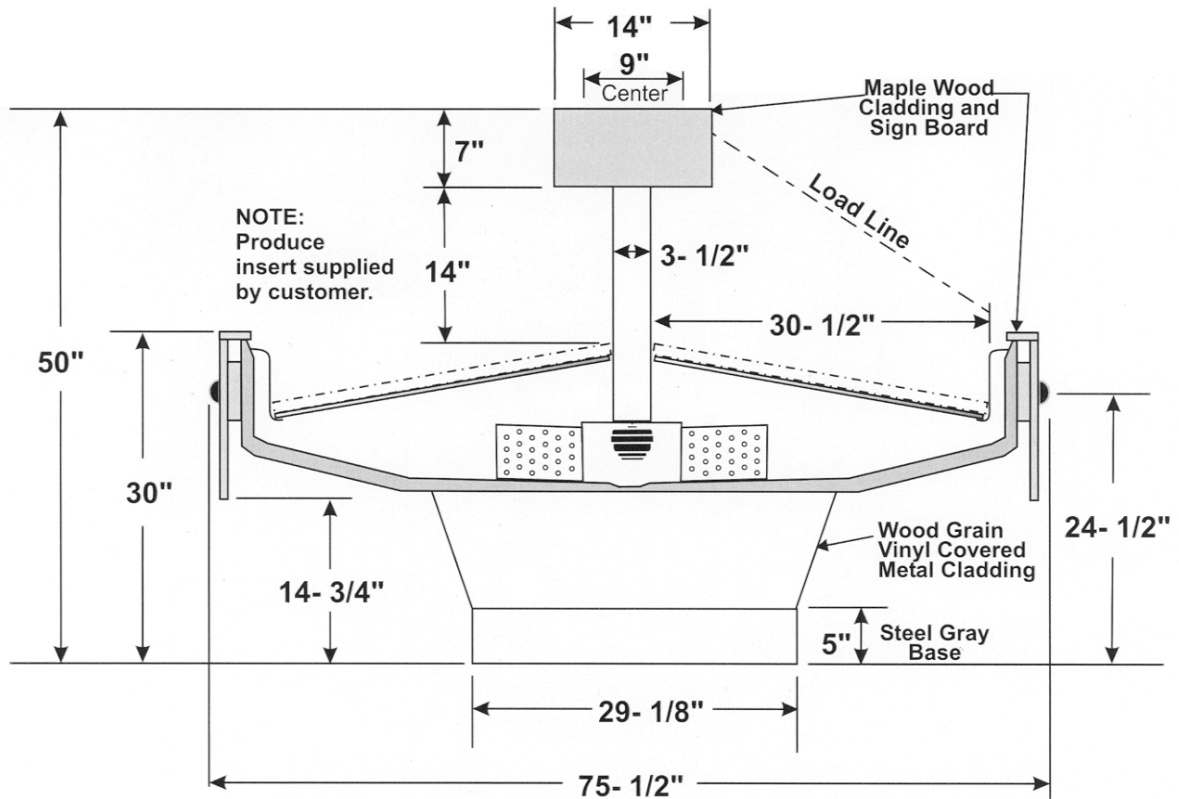
- * All high performance cases use OFF CYCLE defrost
- ** NOTE: 12 minutes is for EPR with suction stop for defrost isolation. Defrost times increases by four minutes (16 min. total) when defrost isolation is by pump down.
- *** Set EPR to give this pressure at the case. NOTE: The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the LRPHP cases must be on a separate suction stub with a separate EPR. ADD 0.5# to EPR setting for each 1000 foot rise in elevation.

CASE CIRCUITS: This case requires a separate 120V circuit for fans.

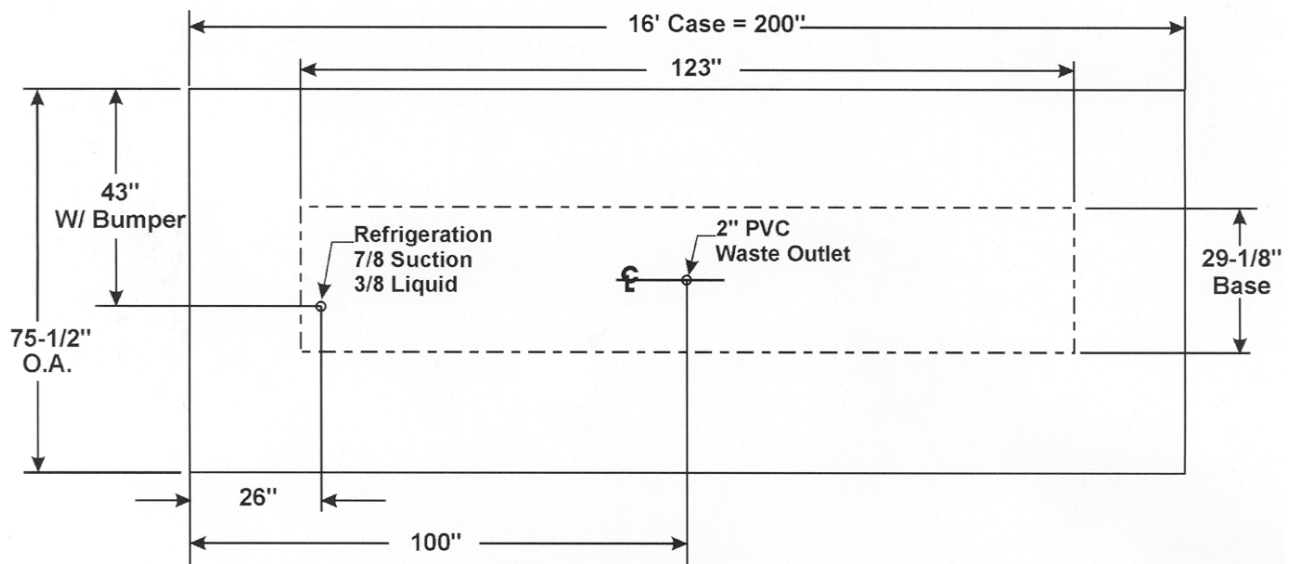
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of 75°F & 55RH

The information contained herein is based on technical data and tests that we believe are reliable, and is intended for use by persons having technical skill at their own discretion and risk. Since conditions of use are outside of Tyler's control, we cannot assume any liability for results obtained or damages incurred through the applications of the data presented. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

LRPHPEE16 CROSS SECTION



FLOOR PLAN



INSTALLATION PROCEDURES

Carpentry Procedures

The LRPHPPEE16 model does not require any specific carpentry procedures. This case is shipped as a complete island. Make sure the floor is level where the case is to be installed. Electrical, refrigeration and drain access should all be located under the case.

After the case is installed, install the bottom trays and the case screens.

Electrical Procedures

Electrical Considerations

CAUTION

Make sure all electrical connections at components and terminal blocks are tight. This prevents burning of electrical terminals and/or premature component failure.

Case Fan Circuit

This circuit is to be supplied by an uninterrupted, protected 120V circuit. The case fan circuit is not cycled.

Anti-Sweat Circuit

LRPHPEE16 case has an anti-sweat heater in the discharge air duct at the top of the center riser. The anti-sweat heater is wired directly to the main power supply so it can operate at all times.

Defrost Information

See “General-UL/NSF I&S Manual” for operational descriptions for each type of defrost control.

Defrost Control Chart

Defrost			
Defrost Type	Defrosts Per Day	Duration (Min)	Term. Temp.
Off Time	6	12	-----

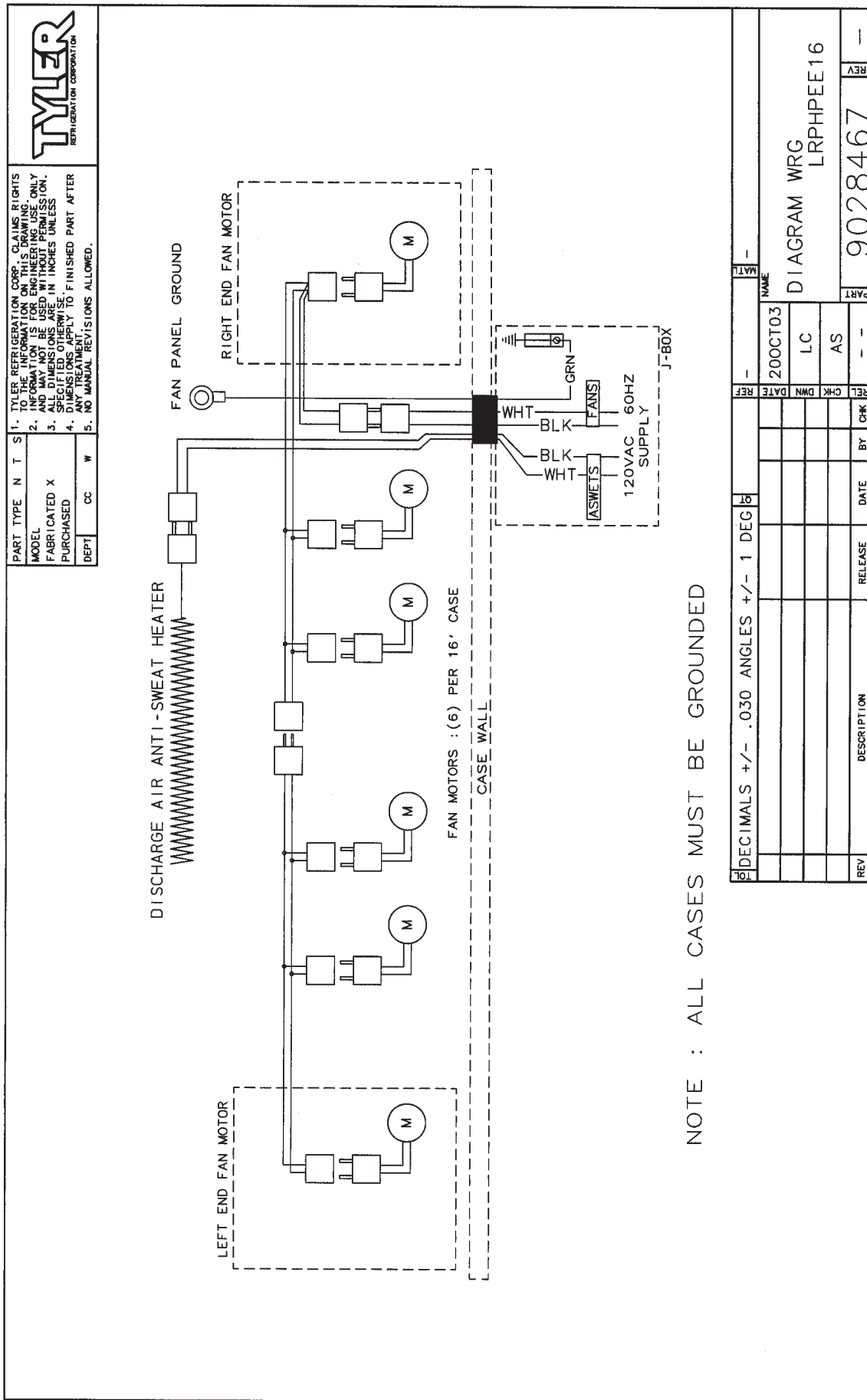
WIRING DIAGRAMS

ELECTRICIAN NOTE - OVERCURRENT PROTECTION

120V circuits should be protected by 15 or 20 Amp devices per the requirements noted on the cabinet nameplate or the National Electrical Code, Canadian Electrical Code - Part 1, Section 28. 208V defrost circuits employ No. 12 AWG field wire leads for field connections. On remote cases intended for end to end line-ups, bonding for ground may rely upon the pull-up bolts.

The following wiring diagram on page 7 covers all the LRPHPPEE16 case circuits.

LRPHP Domestic & Export (50Hz) Case Circuits (16' Island Case)



1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS TO THE INFORMATION ON THIS DRAWING.
2. INFORMATION IS FOR ENGINEERING USE ONLY. FABRICATED X
3. ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE.
4. DIMENSIONS APPLY TO FINISHED PART AFTER PAINTING.
5. NO MANUAL REVISIONS ALLOWED.

PART TYPE	N	T	S
MODEL			
PURCHASED			
DEPT	CC	W	



DECIMALS +/- .030 ANGLES +/- 1 DEG		DATE	200CT03	NAME	DIAGRAM WRG
REV		CHK	LC	DIAGRAM WRG	LRPHEE16
		BY	AS		
REV		RELEASE		PART	9028467
		DATE			
		CHK			

NOTE: ALL CASES MUST BE GROUNDED

CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Screens

1. Remove product from screens.
2. Push screens up until bottom screen tabs clear the holes in the front duct.
3. Remove screens from holes in rear duct panels and from case.
4. After cleaning, replace in reverse order.

Bottom Trays

1. Remove product and screens from case. See this page.
2. Grasp and lift out each of the bottom trays from the case interior.
3. After cleaning, replace in reverse order.

Perimeter Air Ducts

1. Remove screens and bottom trays, see this page.
2. Lift out perimeter air duct sections and carefully remove from case.
3. After cleaning, replace in reverse order.

NSF Product Thermometer

Remove two screws and product thermometer/bracket assembly from end left side perimeter air duct section. After cleaning, replace product thermometer/bracket assembly and secure with two screws.

NOTE

The product thermometer must always be located at the end on the left side of the case.

Center Riser Discharge Duct Panels

1. Remove product, screens and bottom trays, see this page.
2. Remove all mounting screws and center riser discharge duct panels from case.
3. After cleaning, replace in reverse order.

Wood Cladding

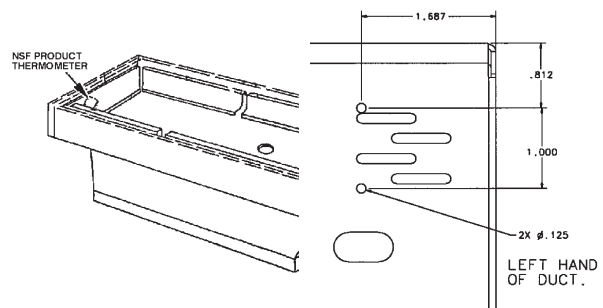
All wood cladding is made from natural hardwoods. The wood surfaces may be cleaned with a damp soapy cloth, then dried completely. If surface contains any hard to remove stains or marks, a hardwood floor cleaner may be used. Keeping moisture away from wood surfaces will help maintain the wood's finish for longer times.

Base Side and Base End Panels

1. Remove all mounting screws lower base joint trim from case.
2. Remove all mounting screws and base side panels from sides of case.
3. Remove all mounting screws and base end panels from case ends.
4. After cleaning, replace in reverse order.

GENERAL INFORMATION

NSF Product Thermometer Installation



1. Remove end perimeter air duct section from left side of case.
2. Measure and mark removed air duct section as shown.
3. Drill two .125" holes at marked locations.
4. Install product thermometer/bracket assembly on air duct section with two screws.

Water Spray Accessories

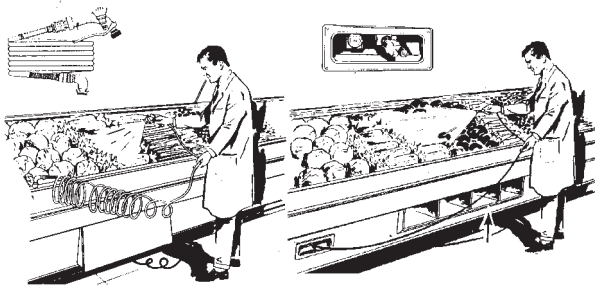
WARNING

When using water spray accessories it may be necessary to install approved anti-backflow devices in the water supply line. Local codes should be checked in this regards. Installation of this device is the responsibility of the end user and would be performed by plumbers.

CAUTION

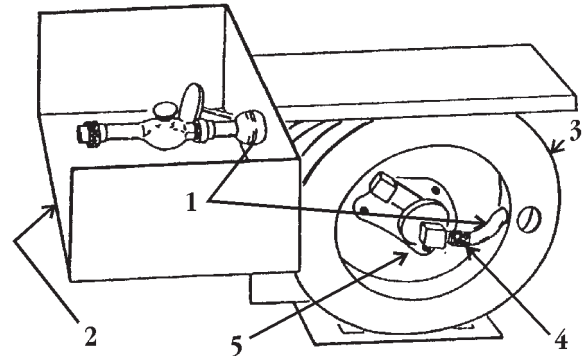
- Do not spray lighted shelves when using any water spray accessories. Moisture on light fixtures could cause an electrical short and/or damage the case operating system.
- Do not spray and/or leave water on wood cladding surfaces. Moisture left on wood surfaces will affect the good looks and/or the life of the wood finish.

The water supply pressure should not exceed 45 lb to assure proper operation. Water supply pressures above 45 lb should use a pressure reducing valve.



The spring coil spray hose or retractable spray hose are the two manual systems available for produce cases. To use the retractable spray hose, pull the nozzle and hose out smoothly to the desired length. When the reel ratchet sounds, let the hose back against the ratchet to hold it in place. To rewind, pull hose out slightly to release the reel ratchet, then guide the hose back into the front of the case. Do not allow hose to rewind by itself. Hose jamming and/or reel damage could result.

Retractable Hose Replacement



1. Pull hose (1) completely out of front of case (2) and engage reel ratchet.
2. Fasten locking pliers on the reel edge (3) to prevent the reel from accidentally rewinding. The reel spring is fully wound in this position.
3. Remove hose (1) from hose clamps on the reel (3) and disconnect hose end fitting (4) from swivel assembly (5). Remove hose (1) from reel (3) and front of case (2).

CAUTION

Do not allow the reel to unwind suddenly or attempt to turn reel clockwise. This will damage the spring motor in the reel.

NOTE

If reel spring is unwound, wind the reel 19 complete turns counterclockwise, engage the reel ratchet and install locking pliers on reel edge.

4. Insert hose (1) through the front of the case (2) and the hole in the reel (3).
5. Apply pipe dope to threads of hose end fitting (4). Install hose end fitting (4) in the swivel assembly (5).
6. Attach the hose (1) securely to the reel (3) with the hose clamps on the reel.
7. Retract the hose (1) onto the reel (3).

NOTE

If reel does not work properly after rewinding, replace the reel assembly.

Produce Handling Tips

Fresh fruits and vegetable are living things, even after they have been harvested. They continue the process of respiration and transpiration after harvesting. Respiration is the process of self feeding to provide energy for maintaining life. (EXAMPLE: Asparagus and sweet corn generate heat after they are picked.) Transpiration is the process of water loss through vapor from the plant tissues. Post-harvest life can be maintained by slowing the rate of water loss. Refrigeration lowers the rate of respiration and transpiration. Store most types of produce close to freezing prior to display. There are a number of explanations (ex. Cucumbers can be kept relatively cool by themselves, but could be damaged by temperatures below 40°F). See chart on following pages for specifics.

Non-refrigerated produce cases are called “Dry” cases. They are used to display potatoes, dry onions, bananas, avocados and

other products which don’t need refrigeration. These cases can also be used with a bed of cracked ice to display perishables.

Refrigerated produce cases displays produce products that require refrigeration. The refrigeration coil is below the display and fans are used to circulate air through the case display. This moving air will pick up moisture from unwrapped produce and carry it to the coil. It is necessary to replace this moisture by using a water spray several times during the day. At night the produce should be covered with a wet cloth. The alternate to sprinkling is to wrap the produce.

In order to maintain case air flow, the return air duct must not be blocked by product. An important aid to improve air circulation is to use air deflectors below the elevated screens in the case. These deflectors will direct the air flow into the display and prevent cool air from “short circuiting” the display. Deflectors are furnished with hump screen option. See illustration.

Produce Handling Chart

Produce	Ideal Storage Conditions			Display Rack Care		Special Notes
	Temperature (°F)	Relative Humidity (%)	Sell Quickly (1-2 days)	Refrigerate (40°F)	Sprinkle with Water	
Apples	30-32	85-95		Helpful	No advantage	Avoid bruising
Apricots	31-32	85-90	Yes	Helpful	No	
Asparagus	32-36	90-95	Yes	Profitable	No	Trim butts and stand in ice or shallow water
Avocados	40-55	85-90	Yes	No	No	Display on padded surface
Bananas, Ripe	56-58	85-90	Yes	No	No	Display on padded surface
For Ripening	58-68	90-95		No	No	Avoid bruising
Beans, Lima	32-40	85-90	Yes	Profitable	No	Shake up to aerate
Beans, Snap	40-45	90-95	Yes	Profitable	Yes	
Beets	32	85-95	Yes	Profitable	Yes	Moisten roots only
Berries	31-32	90-95	Yes	Helpful	No	Keep well ventilated
Broccoli	32-35	90-95	Yes	Profitable	Yes	Keep out of sun
Brussel Sprouts	32-35	90-95	Yes	Profitable	Yes	Remove yellow leaves
Cabbage	32	90-95		Helpful	Yes	
Carrots	32	90-95		Profitable	Yes	Moisten roots only of bunches
Cauliflower	32	90-95	Yes	Profitable	Yes	Sprinkle only if refrigerated
Celery	31-32	90-95	Yes	Profitable	Yes	

<u>Produce</u>	<u>Ideal Storage Conditions</u>		<u>Display Rack Care</u>			<u>Special Notes</u>
	<u>Temperature (°F)</u>	<u>Relative Humidity (%)</u>	<u>Sell Quickly (1-2 days)</u>	<u>Refrigerate (40°F)</u>	<u>Sprinkle with Water</u>	
Cherries	31-32	90-95	Yes	Helpful	No	Keep well ventilated
Corn, Sweet	31-32	90-95	Yes	Profitable	Yes	Keep cold to keep sweetness
Cucumbers	45-50	85-90	Yes	No	No advantage	
Eggplants	45-50	85-90	Yes	No	No advantage	Do not bruise, keep on ice
Grapefruit	50-60	85-90		Helpful	No advantage	Remove decayed fruit
Grapes	30-32	85-95	Yes	Helpful	No	Keep well ventilated
Honeydews	45-50	85-90		Helpful	No	Cover cut melons with transparent film
Lemons	38-40	85-90		Helpful	Yes	Sprinkling may be helpful
Lettuce	32	90-95	Yes	Profitable	Yes	Avoid soaking with water
Limes	48-50	85-90		Helpful	No advantage	
Mushrooms	32-35	80-90	Yes	Helpful	No	Handle carefully, keep dry
Muskmelons	32-35	85-90	Yes	Helpful	No	Cover cut melons with transparent film
Onions, Dry	32	65-70		No	No	Remove loose wrappers, keep dry
Onions, Green	32	90-95	Yes	Profitable	Yes	Keep well ventilated
Oranges	34-38	85-90		Helpful	No advantage	Remove decayed fruit
Parsnips	32	90-95		Helpful	Yes	Moisten roots only
Peaches, Ripe	31-32	90	Yes	Helpful	No	Ripen at room temperature before storage
Pears	29-31	90-95	Yes	Helpful	No	Display in single or double layer on pads
Peas, Green	32	90-95	Yes	Profitable	Yes	Shake up to aerate, keep cold
Peppers	45-50	90-95	Yes	Profitable	Yes	
Pineapples, Ripe	45-55	85-90	Yes	No	No	Remove decayed fruit
Plums	31-32	90-95	Yes	Helpful	No	Remove decayed fruit
Potatoes	40-50	85-90		No	No	Keep out of sun
Radishes	32	90-95	Yes	Profitable	Yes	Keep water off tops, avoid tight packing
Rhubarb	32	90-95	Yes	Profitable	No	Trim thin slice off stems and stand in cold water
Squash, Summer	40-50	85-95	Yes	Helpful	Yes	
Winter & Pmpkns	50-55	50-75		No	No	
Spinach	32	90-95	Yes	Profitable	Yes	Keep ventilated
Sweet Potatoes	55-60	85-90		No	No	Keep ventilated
Tangerines	32	85-90	Yes	Profitable	Yes	Remove decayed fruit
Tomatoes, Ripe	45-50	85-90	Yes	Helpful	No	Sell quickly, refrigerate to hold
Tomatoes, Green	55-70	85-90		No	No	Ripen in back room, sort frequently
Turnips	32	90-95		Profitable	Yes	Sprinkle roots only
Watermelons	40-45	80-85		Helpful	No	Cover cut melons with transparent film

The "Produce Handling Chart" is courtesy of Produce Marketing Association, Inc., Newark, Delaware 19711, from their 1973 Yearbook. This book is published as a service to the Fresh Produce Industry.

For additional information, consult:

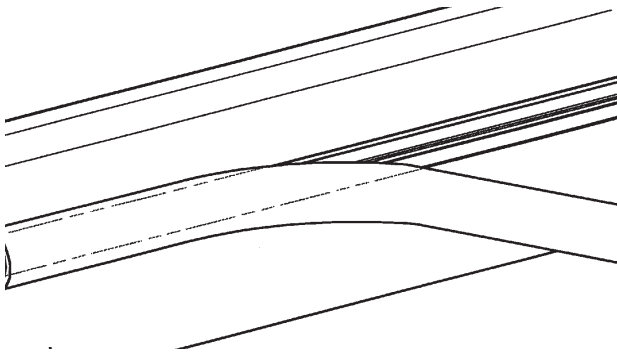
"The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks", USDA Handbook No. 66, 1968.

"The Shelf Life of Fresh Fruits and Vegetables - Retail Store Display Cases", USDA HT&S Office Report No. 247, October 1951.

"Fresh Fruits and Vegetables - Handling and Care", Corporate Extension Service, Michigan State University.

SERVICE INSTRUCTIONS

Bumper Replacement



1. Starting at one of the bumper seams, pry edge of bumper until it starts to release from the bumper retainer track. Pull out the bumper end to remove bumper from bumper retainer track.
2. Cut new bumper slightly longer (approx. 1/8") than the old bumper. Starting at either end of the case section being replaced, push bumper onto the bumper retainer track until it snaps in place. The additional 1/8" length will allow for normal shrinkage from case cooling.

NOTE

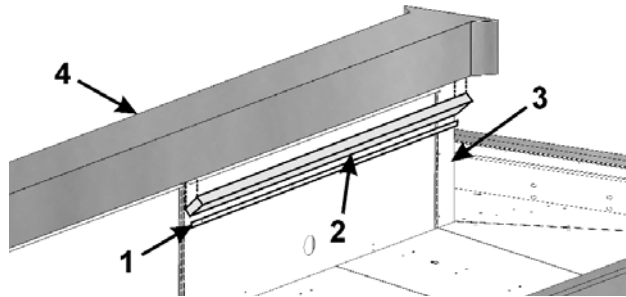
Bumper unevenness may be remedied by striking with a mallet and straight board along the length of the installation.

Anti-Sweat Replacement

WARNING

Shut off or disconnect power supply to case before changing an anti-sweat. Electrical power from wire ends could damage other components and/or cause personal injury or death.

Discharge Air Grid Anti-Sweat



1. Remove screws, bottom retainer strips (1) and discharge air grids (2) from top of center riser (3) under the wood top (4).
2. Remove screws under wood top (4) and lift off wood top (4) from the center riser (3).
3. Disconnect anti-sweat wires from case wires. Remove aluminum tape and defective anti-sweat wire from behind the discharge air grid area in the top of the center riser (3).
4. Install new anti-sweat wire in the top of the center riser and secure with aluminum tape. Reconnect anti-sweat wires to case wires.
5. Replace wood top (4) and secure with screws. Replace discharge air grids (2) and secure with bottom retainer strips (1) and screws.
6. Reconnect the power to the case.

Fan Blade and Motor Replacement

WARNING

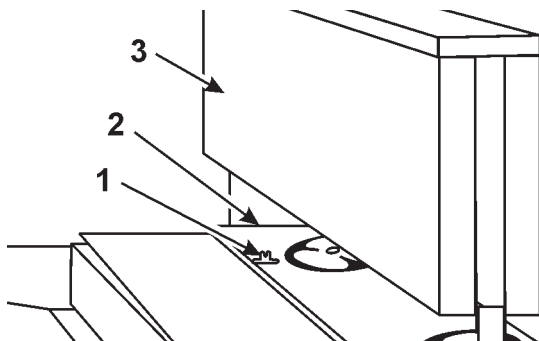
Shut off or disconnect power supply to case before servicing a fan. Automatic cycling of fan or electrical power to wire ends could cause personal injury and/or death.

Fan Blade Replacement

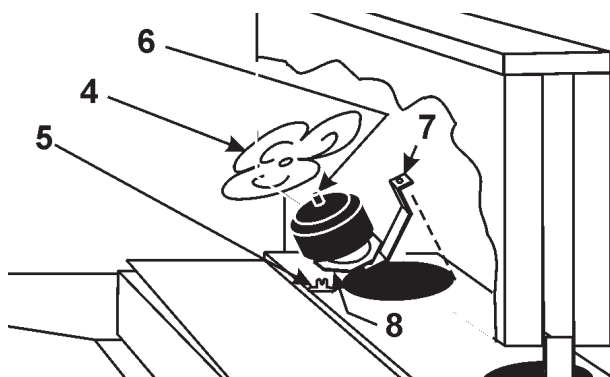
1. Remove bottom screens and bottom trays from case.

CAUTION

Electrical wiring to fan circuit is still connected. Careless removal could damage the wiring.



2. Turn thumbscrews (1) and carefully lift out the fan plenum (2) from under the center riser (3).



3. To replace fan blade (4), remove spring clip (5) and fan blade (4) from fan motor shaft (6). Discard spring clip.
4. Install new fan blade (4) on fan motor shaft (6) and secure with new spring clip (5).
5. Replace fan plenum, bottom trays and bottom screens in case.

Fan Motor Replacement

1. Remove bottom screens and bottom trays from case.

CAUTION

Electrical wiring to fan circuit is still connected. Careless removal could damage the wiring.

2. Turn thumbscrews (1) and carefully lift out the fan plenum (2) from under the center riser (3).
3. Remove three screws and mounting brackets (7) and fan plenum (2).
4. Carefully lift fan motor assembly and unplug wire connector.
5. Remove three screws, bracket mounting plate (8) and mounting brackets (7) from fan motor (6).

NOTE

If replacement blades and/or motor are not available, unplug motor and cover opening until the replacement parts are available.

6. Replace new fan motor assembly in reverse order.

PARTS INFORMATION

Operational Parts List

Case Usage	Domestic
Electrical Circuit	115 Volt 60 Hertz
Case Size	LRPHPEE16
Fan Motor	9458944 23 Watt
Fan Motor Brackets	5205112
Fan Bracket Plate	9041077
Fan Blades (8.75" 32° 3B)	9051078
Anti-Sweat, Discharge Air	9043428
NSF Product Thermometer	5967100

For information on operational parts not listed above contact the TYLER Service Parts Department.

Cladding and Optional Trim Parts Lists

Item Description	LRPHP 16'
1 Maple Cladding Top	9051044
2 2" Vinyl Bumper, Gray (50 ft.)	9051087
3 Bumper Corner Trim	9051079 (4)
Screw (per corner trim)	5183536 (4)
4 Bumper Retainer	9051088
5 Maple Cladding Sides Assembly	9051040
6 Lower Base Side Panel, Ptd.	5215910 (4)
7 48" Base Side Panel (simulated wood grain)	9051050 (4)
13" Base Side Panel (simulated wood grain)	9051049 (4)
Base Joint Trim (simulated wood grain)	9051585 (2)
8 Lower Base End Panel, Ptd.	5215402 (2)
9 Base End Panel (simulated wood grain)	9051046 (2)
RH Base End Panel (simulated wood grain)	9051047 (2)
LH Base End Panel (simulated wood grain)	9051048 (2)
10 Base End Closeoff, Ptd. (not shown)	5217200 (2)
11 Base Corner Trim, Ptd. (not shown)	5218220 (4)

