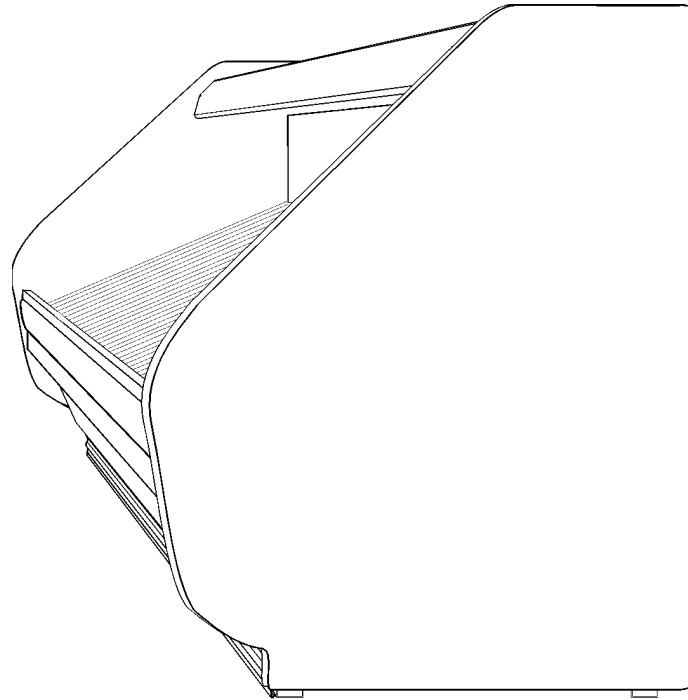


# TYLER



## Installation & Service Manual



### L2PA/L2PS

**PRODUCE MERCHANDISERS**  
**Medium Temperature Refrigerated Display Cases**

This manual has been designed to be used in conjunction with the General Installation & Service Manual.

**Save the Instructions in Both Manuals for Future Reference!!**

This merchandiser conforms to the Commercial Refrigeration Manufacturers Association Health and Sanitation standard CRS-S1-96.

PRINTED IN U.S.A.	Specifications subject to change without notice.	REPLACES EDITION	7/99	ISSUE DATE	10/99	PART NO.	9027538	REV. D
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The following Medium Temperature Produce Merchandiser models are covered in this manual:

<b>MODELS</b>	<b>DESCRIPTION</b>
L2PA	6', 8' & 12' TWO DECK PRODUCE MERCHANDISER WITH 18" LIGHTED TOP SHELF
L2PS	6', 8' & 12' TWO DECK PRODUCE MERCHANDISER WITH 6 5/8" NON-LIGHTED TOP SHELF

## SPECIFICATIONS

### L2PA/L2PS Produce Merchandiser

MODEL	L2PA	L2PA	L2PS
USAGE	PRODUCE (No Shelving)	PRODUCE (2 Tier Shelving)	PRODUCE
CAPACITY (BTUH/FT)*	784	768	1078
EVAPORATOR**	+25F	+25F	+25F
ENTER AIR	+35F	+35F	+35F

**NOTES:**

\* Capacity Data listed for cases with one row of T-8 Canopy Lighting and T-8 Shelf Lighting as noted. Adjustments must be made to the base rating by deducting 20 BTUH/FT per row of lighted shelves when not using lighted shelves.

\*\* Evaporator Temperature is defined as the saturated Suction Temperature leaving the case.

NOTE: COMPRESSOR SIZING SHOULD ALLOW FOR SUCTION LINE PRESSURE DROP.

THE ABOVE RATINGS ARE FOR COMPRESSOR SELECTION ONLY. FOR ENERGY CALCULATION DATA REFER TO THE ENERGY SECTION. FOR COMPRESSOR SIZING INFORMATION REFER TO THE "GOLD" SECTION & FOR LINE SIZING INFORMATION REFER TO THE "BUFF" SECTION OF THE TYLER SPECIFICATION GUIDE.

DEFROST CONTROL			BACKUP PRESSURE SETTINGS***		EPR SETTINGS****	
PER DAY	MODE	TIME	CUT IN	CUT OUT	R22	R404A
2	TIME OFF	40 MIN.	44# @ R22	34# @ R22	47#	--
			57# @ R404A	47# @ R404A	---	60#

\*\*\* Used with Thermostat or EPR Control.

\*\*\*\* Set EPR to give this pressure at the case.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING													
	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'	52'
R22	1/2"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"

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

The information contained herein is based on technical data and tests which we believe to be reliable and is intended for use by persons having technical skill, at their own discretion and risk. Since conditions of use are outside Tyler's control, we can assume no liability for results obtained or damages incurred through the applications of the data presented. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

**L2PA 3 Deck Deli/Meat Merchandiser**

<b>MODEL</b>	L2PA	L2PA
<b>USAGE</b>	MEAT/DELI (2 Shelf Rows)	MEAT/DELI (3 Shelf Rows)
<b>CAPACITY (BTUH/FT)*</b>	925	1035
<b>EVAPORATOR**</b>	+15F	+15F
<b>ENTER AIR</b>	+27F	+27F

**NOTES:**

\* Capacity Data listed for cases with one row of T-8 Canopy Lighting and T-8 Shelf Lighting as noted. Adjustments must be made to the base rating by deducting 20 BTUH/FT per row of lighted shelves when not using lighted shelves.

\*\* Evaporator Temperature is defined as the saturated Suction Temperature leaving the case.

NOTE: COMPRESSOR SIZING SHOULD ALLOW FOR SUCTION LINE PRESSURE DROP.

THE ABOVE RATINGS ARE FOR COMPRESSOR SELECTION ONLY. FOR ENERGY CALCULATION DATA REFER TO THE ENERGY SECTION. FOR COMPRESSOR SIZING INFORMATION REFER TO THE "GOLD" SECTION & FOR LINE SIZING INFORMATION REFER TO THE "BUFF" SECTION OF THE TYLER SPECIFICATION GUIDE.

208 VOLT DEFROST (AMPS)													
FT	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'	52'
1 PH	6.5 TG-30	6.9 TG-30	10.3 TG-30	13.8 TG-30	17.2 TG-30	20.6 TG-40	24.1 TG-40	27.5 TG-50	30.9 TG-50	34.4 TG-50	37.8 TG-50	41.2 TG-50	44.7 TG-50
3 PH	N/A	N/A	N/A	12.0 TG-3-30	15.0 TG-3-30	18.0 TG-3-30	15.0 TG-3-30	18.0 TG-3-30	18.0 TG-3-30	21.0 TG-3-40	25.0 TG-3-40	28.0 TG-3-40	30.0 TG-3-40
CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING													
	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'	52'
R22	1/2"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"

DEFROST CONTROL				BACKUP PRESSURE SETTINGS***		EPR SETTINGS****	
PER DAY	MODE	TIME	TERM.	CUT IN	CUT OUT	R22	R404A
4	TIME OFF	40 MIN.	55F	34# @ R22	24# @ R22	37#	---
4	ELECTRIC	36 MIN.	50F	45# @ R404A	35# @ R404A	---	48#
4	HOT GAS	12-15 MIN.	55F	57# @ R404A	47# @ R404A	---	48#

\*\*\* Used with Thermostat or EPR Control.

\*\*\*\* Set EPR to give this pressure at the case.

**DEFROST CIRCUITS:**

OFF CYCLE defrost is standard (use TC defrost module).

OPTIONAL ELECTRIC defrost uses a single or a 3 phase circuit.

OPTIONAL HOT GAS defrost uses 2 control wires @ 208V per lineup.

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

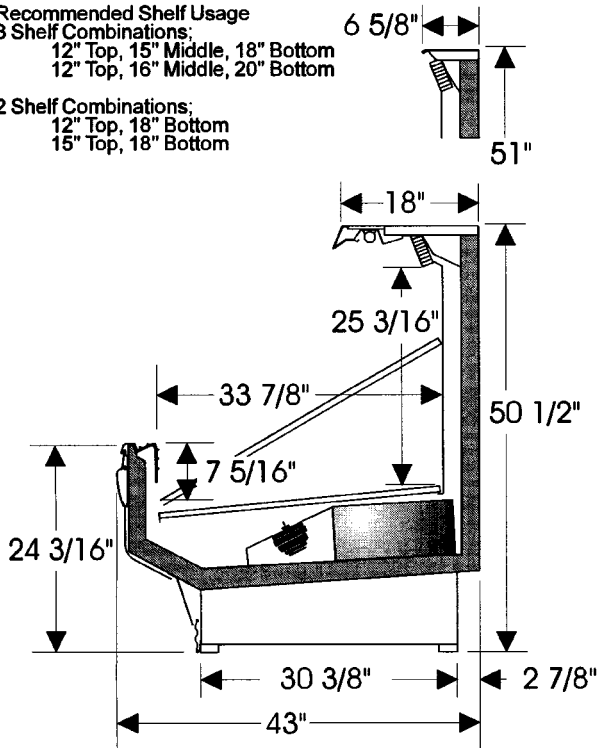
The information contained herein is based on technical data and tests which we believe to be reliable and is intended for use by persons having technical skill, at their own discretion and risk. Since conditions of use are outside Tyler's control, we can assume no liability for results obtained or damages incurred through the applications of the data presented. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

L2PA/L2PS Two Deck Produce, & Deli/Meat Merchandiser

Recommended Shelf Usage

3 Shelf Combinations:  
 12" Top, 15" Middle, 18" Bottom  
 12" Top, 16" Middle, 20" Bottom

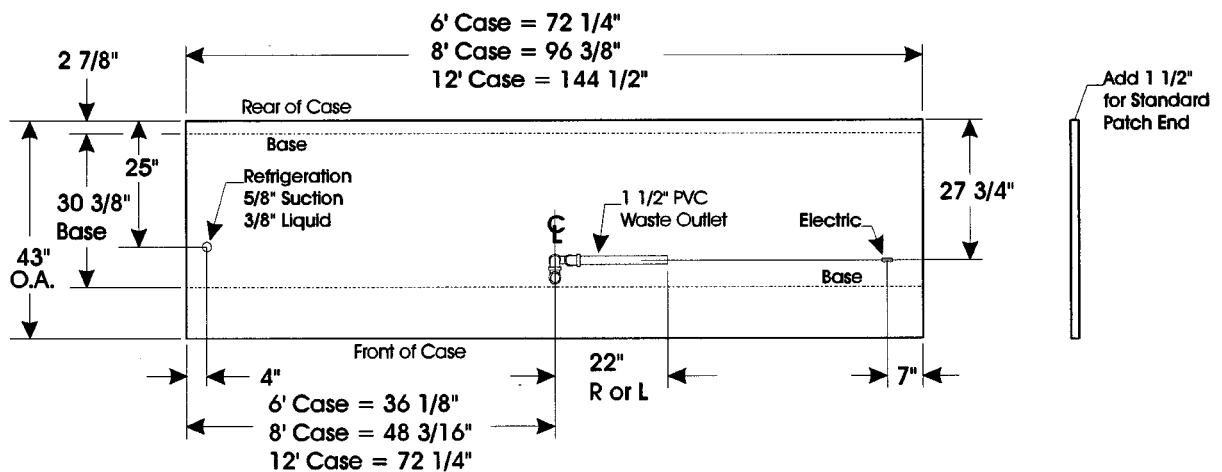
2 Shelf Combinations:  
 12" Top, 18" Bottom  
 15" Top, 18" Bottom



120 VOLT ELECTRICAL DATA (AMPS)			
LENGTH	STD. FANS	ECM FANS	ANTI-SWT
6'	1.0	.4	.3
8'	1.0	.4	.3
12'	1.5	.6	.5

STANDARD 120 VOLT LIGHTING (AMPS) T-8/ ELECTRONIC BALLASTS (CANOPY) (L2PA ONLY)			
ROWS	6'	8'	12'
1	.5	.6	.9

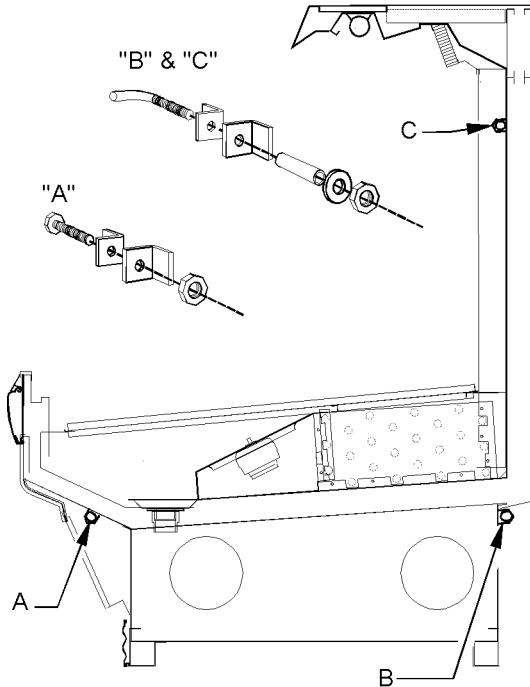
OPTIONAL 120 VOLT LIGHTING (AMPS) T-8/ ELECTRONIC BALLASTS (SHELVES) (L2PA ONLY)			
ROWS	6'	8'	12'
1	.5	.6	.9
2	1.0	1.2	1.8
3	1.5	1.8	2.7



## INSTALLATION PROCEDURES

### Carpentry Procedures

#### Case Pull-Up Locations



The L2PA and L2PS models have three pull-ups at each end of the case. Pull-ups A, B and C are located as shown and should be installed and tightened starting with A and finishing with C.

See "General I&S Manual" for line-up assembly instructions.

### Electrical Procedures

#### Electrical Considerations

#### CAUTION

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

#### NOTE

The raceway houses the electrical wiring, components and terminal blocks for the case. Since the lower front cladding is shipped loose, the raceway has immediate access.

#### Case Fan Circuit

This circuit is to be supplied by an uninterrupted, protected 120V circuit. The case fan circuit is not cycled during defrost on any of these models.

#### Fluorescent Lamp Circuit (L2PA Only)

L2PA cases lighting is supplied by T-8 electronic ballast lights. It is controlled by a light switch in each case. The standard lighting is 1-row of horizontal canopy lights. L2PA also offers up to 2 rows of optional T-8 shelf lights.

### Defrost Information

See "General I&S Manual" for operational descriptions for Off Time defrost control.

#### Defrost Control Chart

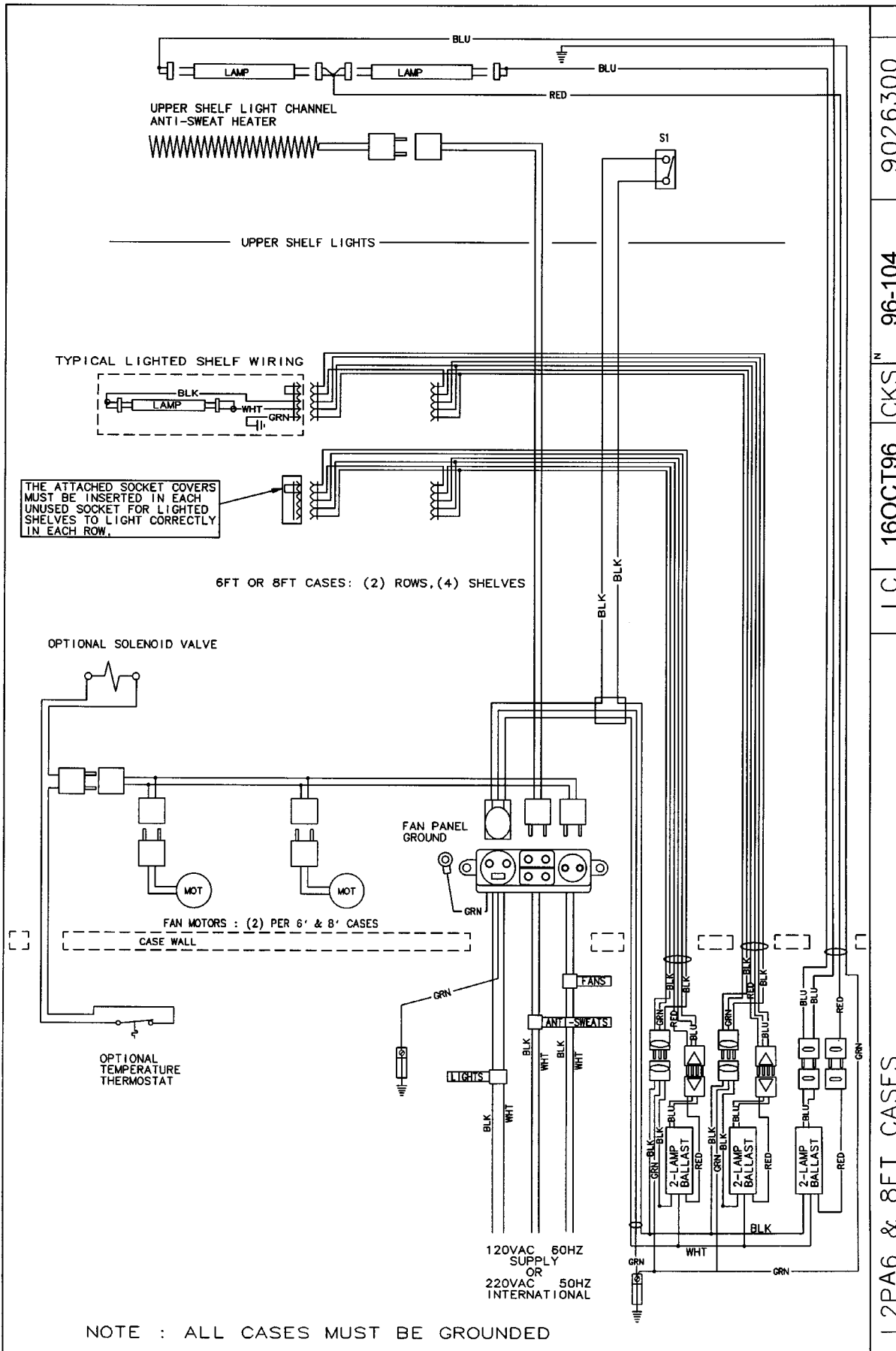
Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	3-4	40	-----

## 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 diagrams on pages 7, 8 and 9 will cover the L2PA and L2PS case circuits. The L2PA lighting circuits are shown in the case circuits.



9026300

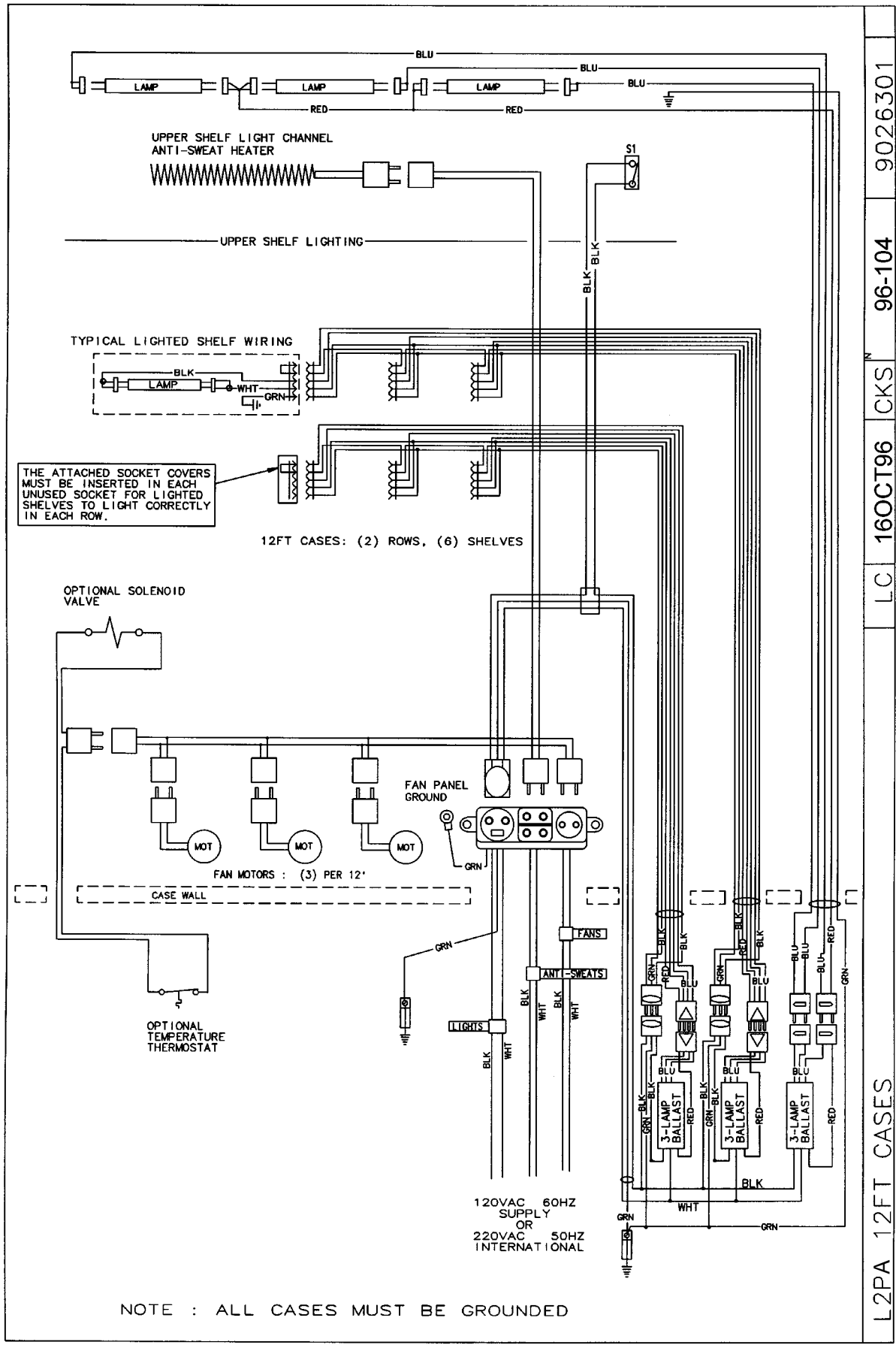
96-104

CKS<sup>N</sup>

16OCT96

LC

L2PA6 & 8FT CASES

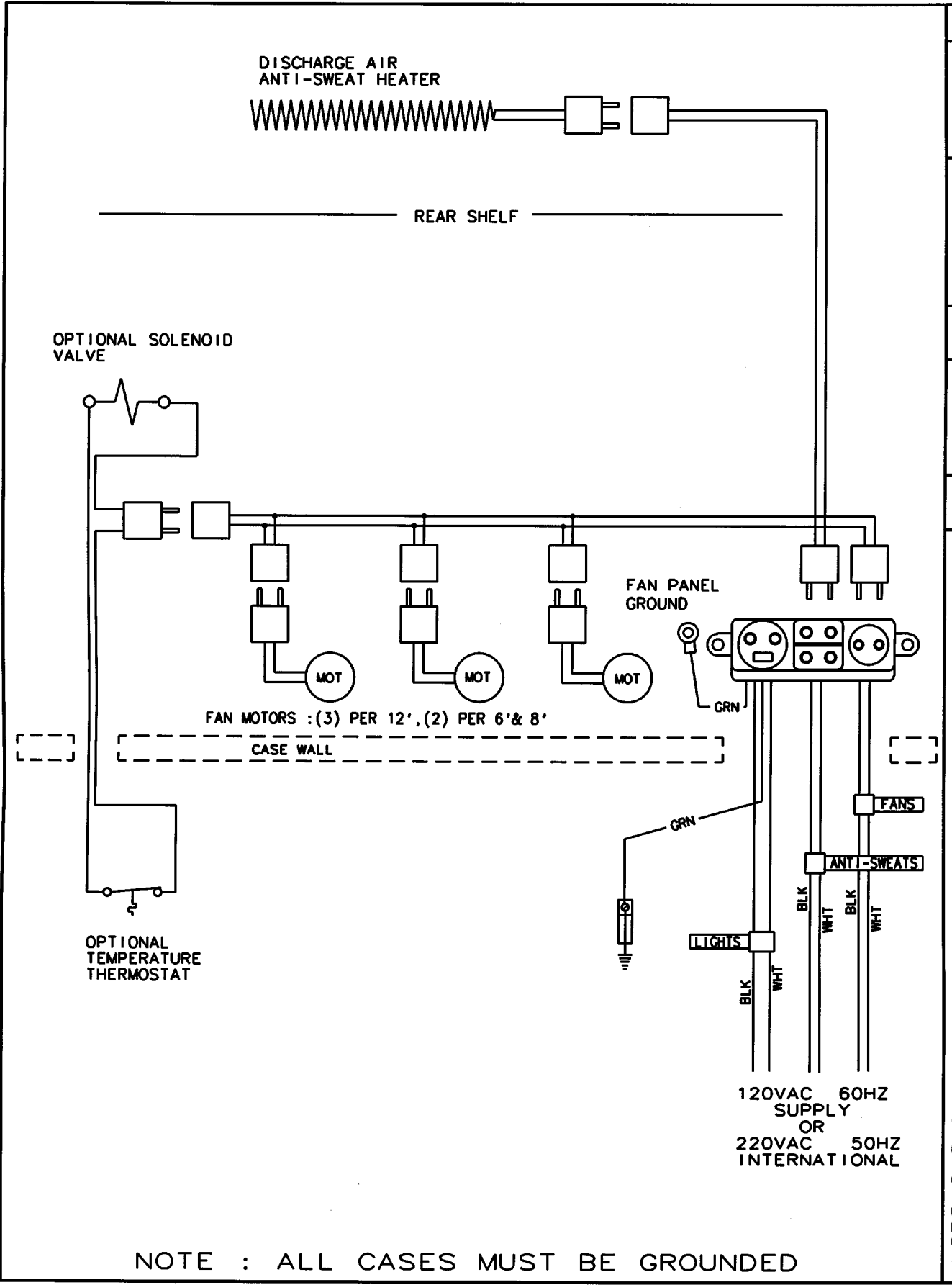


NOTE : ALL CASES MUST BE GROUNDED

L2PA 12FT CASES | LC 16OCT96 | CKS | 96-104 | 9026301



9034961  
97-093  
LC 26NOV97 CK  
L2PS 6, 8 & 12FT CASES



NOTE : ALL CASES MUST BE GROUNDED

## GENERAL INFORMATION

### Water Spray Accessories

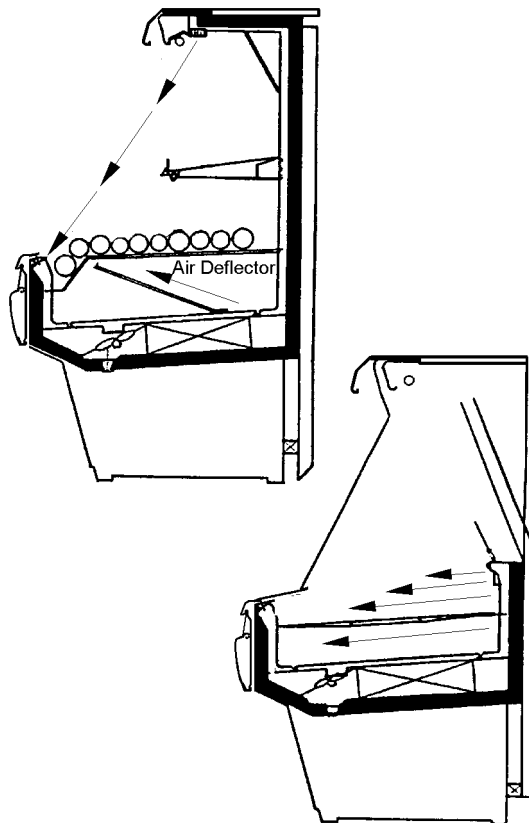
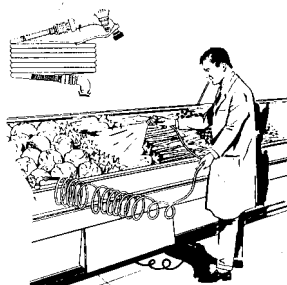
#### WARNING

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.

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.



### 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 on page 11.

**Produce Handling Chart**

<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>	
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	
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

<u>Produce</u>	<u>Ideal Storage Conditions</u>			<u>Display Rack Care</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>	<u>Special Notes</u>
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.

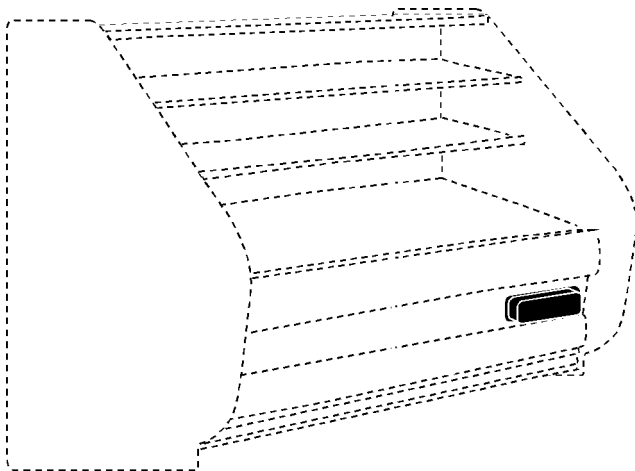
"The Shelf Life of Fresh Fruits and Vegetables - Retail Store Display Cases", USDA HT&S Office Report No. 247, October 1951.

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

## SERVICE INSTRUCTIONS

See "General I&S Manual" for T-8 lamp, and ballast, fan blade and motor, and color band and bumper replacement instructions.

### Ballast and Lighting Locations (L2PA Only)



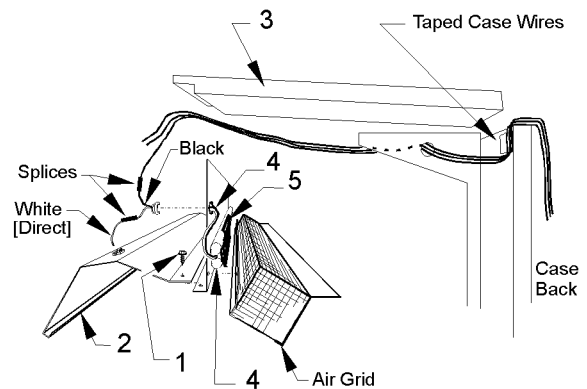
All light ballasts are located in the raceway behind the lower front cladding. This includes remote ballasts for optional shelf lights. The canopy light(s) are under the canopy light channel in the top of the case. The optional shelf lights are mounted in separate light fixtures under the front of each shelf section.

### Anti-Sweat Heater Replacement

#### WARNING

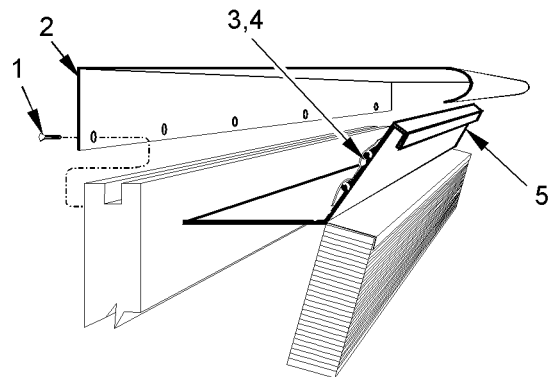
Shut off or disconnect power supply to case before changing an anti-sweat. Electrical power from wire ends could damage other components and/or cause personal injury or death.

### Model L2PA



1. Remove screws (1) and lower the top light channel assembly (2) from top of case (3).
2. Disconnect or cut the defective anti-sweat wires (4) from the case wires.
3. Remove and replace the aluminum tape (5) and defective anti-sweat wire (4) from the back of the top light channel assembly (2).
4. Reconnect the anti-sweat wires (4) to case wires and reinstall the top light channel assembly (2) with screws (1).
5. Restore electrical power to the case.

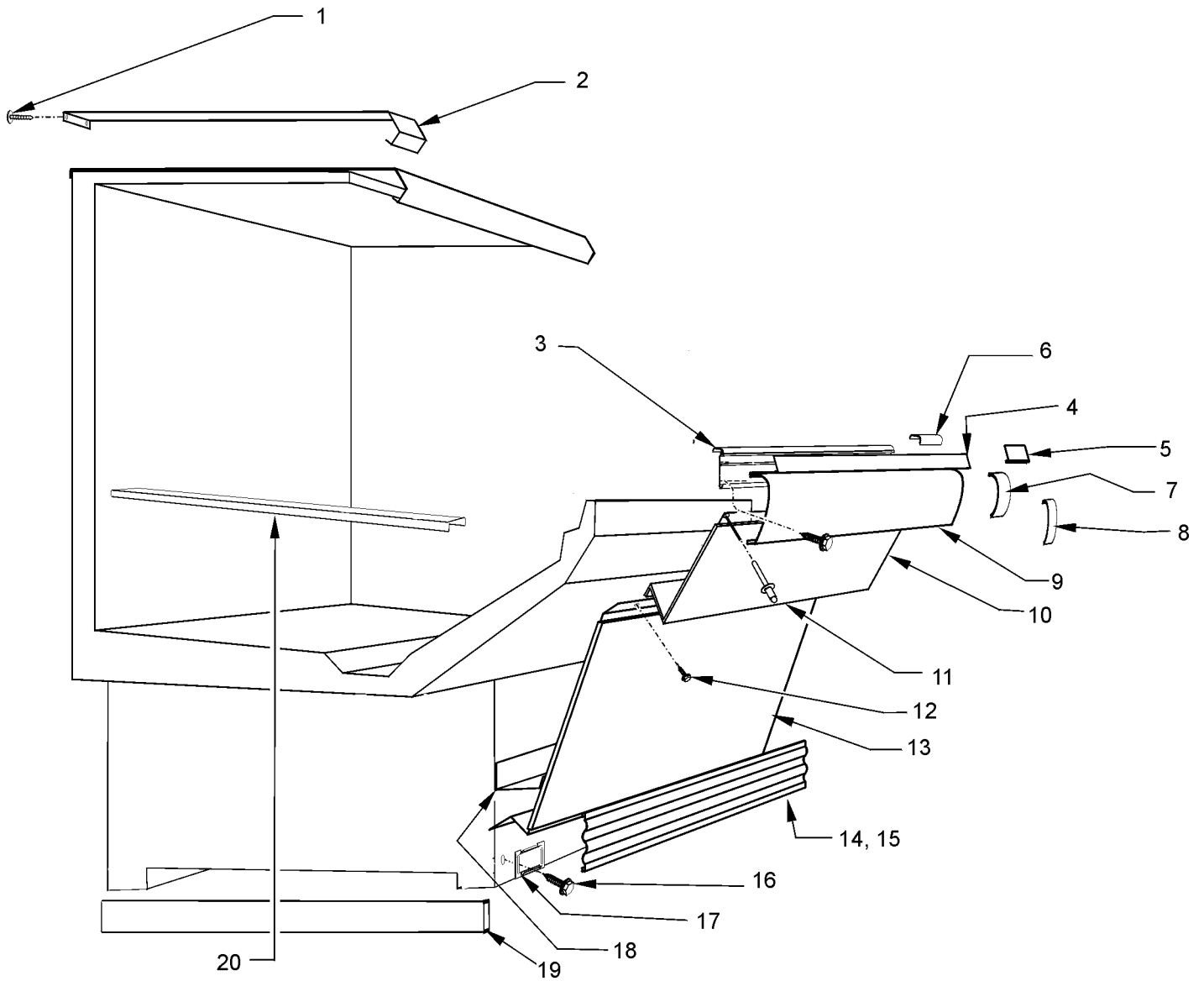
### Model L2PS



1. Remove screws (1) and upper rear riser trim (2) from top of case.
2. Disconnect or cut the defective anti-sweat wires (3) from the case wires.
3. Remove and replace the aluminum tape (4) and defective anti-sweat wire (3) from the back of rear riser support trim (5).
4. Reconnect the anti-sweat wires (3) to case wires and reinstall the rear riser trim (2) with screws (1).
5. Restore electrical power to the case.

**PARTS INFORMATION****Cladding and Optional Trim Parts List**

Item	Description	L2PA/L2PS		
		6'	8'	12'
1	Screw	5100217 (2)	5100217 (2)	5100217 (2)
2	Joint Trim, Rear Riser (L2PA)	9042767	9042767	9042767
	Joint Trim, Rear Riser (L2PS)	9601220	9601220	9601220
3	Bumper Retainer / Handrail	-----	color per order	-----
4	Color Band, Painted	9023796	9023799	9023801
5	Color Band Backer, Painted	9040223	9040223	9040223
6	Handrail Backer, Painted	9025316	9025316	9025316
7	Bumper Backer	-----	color per order	-----
8	Bumper End Trim	-----	color per order	-----
9	Bumper	-----	color per order	-----
10	Upr. Frt. Cladding, Painted	9025132	9025133	9025134
11	Rivet	5104702 (3)	5104702 (4)	5104702 (6)
12	Screw	5183536 (6)	5183536 (8)	5183536 (12)
13	Lwr. Frt. Cladding, Painted	9025446	9025447	9025448
14	Kickplate	-----	color per order	-----
15	Kickplate Backer	9041790	9041790	9041790
16	Screw	5183536 (6)	5183536 (8)	5183536 (8)
17	Kickplate Support	9041329 (3)	9041329 (3)	9041329 (4)
18	Raceway	5233273	5233274	5233275
19	LH End Close-off, Painted	9022460	9022460	9022460
	RH End Close-off, Painted	9022467	9022467	9022467
20	Horizontal Joint Trim	5964733	5964733	5964733



**Operational Parts List**

Case Usage	Domestic			Export		
	115 Volt 60 Hertz			220 Volt 50 Hertz		
Case Size	6'	8'	12'	6'	8'	12'
Fan Motor	5125532 5 Watt	5125532 5 Watt	5125532 5 Watt	5057657 7.5 Watt	5057657 7.5 Watt	5057657 7.5 Watt
Fan Motor Brackets	5962269	5962269	5962269	5962269	5962269	5962269
Fan Blades (7" 30° 5B) L2PA	5223370	5223370	5223370	----	----	----
Fan Blades (7" 25° 5B) L2PS	5236974	5236974	5236974	----	----	----
(7" 40° 5B) L2PS	----	----	----	5221604	5221604	5221604
T-8 Lamp Ballast (L2P only)						
(canopy/1-row)	5991029	5991029	5991030	9028437	9028437	9028438
(opt. shelf/1-row or 2-row)	5991029	5991029	5991030	9028437	9028437	9028438
T-8 Lampholder (canopy)(L2PA)	5232279	5232279	5232279	5232279	5232279	5232279
T-8 Lampholder (shelf)(L2PA)	5092414	5092414	5092414	5092414	5092414	5092414
Light Switch (SPST)(L2PA)	5100565	5100565	5100565	5100565	5100565	5100565
Anti-Sweat Heater						
(canopy light or rear riser)	5227379	5124216	5124217	----	----	----

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