

TYLER
REFRIGERATION



Carrier

A United Technologies Company

A series
Advantage

Installation & Service Manual



N2P/N2PS/N2PSE

BULK PRODUCE MERCHANDISERS Medium Temperature Refrigerated Display Cases

**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 Medium Temperature Produce Merchandiser and Crown End Merchandiser models are covered in this manual:

MODELS	DESCRIPTION
N2P	6', 8' & 12' TWO DECK PRODUCE MERCHANDISERS WITH 18" LIGHTED TOP SHELF
N2PS	6', 8' & 12' TWO DECK PRODUCE MERCHANDISERS WITH 7 5/8" NON-LIGHTED TOP SHELF
N2PSE	SOLID FRONT CROWN END MERCHANDISER

SPECIFICATIONS

N2P/N2PS Bulk and Critical Temp Produce Merchandisers N2PSE Solid Front Bulk and Critical Temp Prod Crown End Merchandiser

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)	
N2P	6'8'/12'	BULK PRODUCE	738*	835*	+20**	+18	+33	180***	0.47
N2PS	6'8'/12'	BULK PRODUCE	641*	726*	+20**	+18	+28	250***	0.47
N2PSE	93"	BULK PRODUCE	5,484	6,208	+20**	+18	+24	142***	0.57
N2P	6'8'/12'	MEAT/DELI/ CRIT TEMP PROD (2 Shelf Rows)	925*	1,047*	+15**	+13	+30	180***	0.47
N2P	6'8'/12'	MEAT/DELI/ CRIT TEMP PROD (3 Shelf Rows)	842*	953*	+15**	+13	+30	180***	0.47
N2PS	6'8'/12'	MEAT/DELI/ CRIT TEMP PROD (No Shelving)	657*	744*	+15**	+13	+28	250***	0.47
N2PSE	93"	MEAT/DELI/ CRIT TEMP PROD (No Shelving)	5,621	6,363	+15	+13	+24	142***	0.57

* Capacity data listed for cases with one row of T-8 canopy lighting (N2P only) and unlighted shelving. ADD 23 BTUH/FT for each row of lighted shelves. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.

** Evaporator temperature is defined as the saturated pressure leaving the case.

*** Air velocity measured 1 hour after defrost at the top discharge air duct using an ALNOR JR. velometer with a scoop.

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 and 208 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		DISCHARGE AIR ANTI-SWEAT (120 VOLT)				208 VOLT DEFROST HEATER	
			AMPS	WATTS	AMPS	WATTS	AMPS		WATTS		AMPS	WATTS
							N2P	N2PS(E)	N2P	N2PS(E)		
N2P/N2PS	6'	2	1.06	96.0	0.44	22.0	0.10	0.26	11.3	31.0	6.50	1,352
N2P/N2PS	8'	2	1.06	96.0	0.44	22.0	0.13	0.34	15.6	40.7	6.90	1,436
N2P/N2PS	12'	3	1.59	144.0	0.66	33.0	0.20	0.50	24.5	58.4	10.30	2,143
N2PSE	93"	2	0.68	60.4	0.44	22.0	---	0.70	---	8.2	4.88	1015

Heaters (208 Volt)

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-30	24.1 TG-40	27.5 TG-40	30.9 TG-30	34.4 TG-50	37.8 TG-30	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-3-30	25.0 TG-3-40	28.0 TG-3-40	30.0 TG-3-40	

T-8 Lighting with Electronic Ballasts (120 Volt)

MODEL	CASE LENGTH	CANOPY LIGHTS - ONE ROW*		SHELF LIGHTS - PER ROW						MAXIMUM LIGHTING (2 OR 4 ROWS)	
		AMPS	WATTS	AMPS			WATTS			AMPS	WATTS
				1	2	3	1	2	3		
N2P	6'	0.40	48.0	0.50	0.80	1.10	60.0	96.0	132.0	1.50	180.0
N2P	8'	0.50	60.0	0.70	1.10	1.40	84.0	132.0	168.0	1.90	228.0
N2P	12'	0.70	84.0	1.05	1.65	2.10	126.0	198.0	252.0	2.80	336.0
N2PS	6'	N/A	N/A	0.50	0.80	N/A	60.0	96.0	N/A	0.80	96.0
N2PS	8'	N/A	N/A	0.70	1.10	N/A	84.0	132.0	N/A	1.10	132.0
N2PS	12'	N/A	N/A	1.05	1.65	N/A	126.0	198.0	N/A	1.65	198.0
N2PSE	93"	N/A	N/A	1.06	2.12	N/A	127.0	255.0	N/A	2.12	255.0

* Standard lighting for this N2P cases is 1 row of canopy lights. N2PS and N2PSE cases do not come with any standard lighting.

Maximum optional lighting for the N2PS and N2PSE cases is two rows of lighted shelves.

UL SANITATION approved in accordance with ANSI/NSF - 7.

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 analysis and/or tests performed in a controlled lab environment that are consistent with industry practices, and is intended as a reference for system sizing and configuration purposes only and for use by persons having technical skill at their own discretion and risk. Conditions of use are outside of Tyler's control and we do not assume and hereby disclaim any liability for results obtained or damages incurred through application of or reliance on the data presented, including but not limited to specific energy consumption with any particular model or installed application. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION (°F)	EPR SETTINGS **		DEFROST WATER (LB / FT / DAY)
				R22 (PSIG)	R404A (PSIG)	
TIME OFF - BULK	6	28	---	43	56	N/A
TIME OFF - MEAT / DELI / CRIT TEMP PROD	6	28	---	38	49	N/A
ELECTRIC - MEAT / DELI / CRIT TEMP PROD	6	36	50			N/A
HOT GAS - MEAT / DELI / CRIT TEMP PROD	6	12-15	55*			N/A

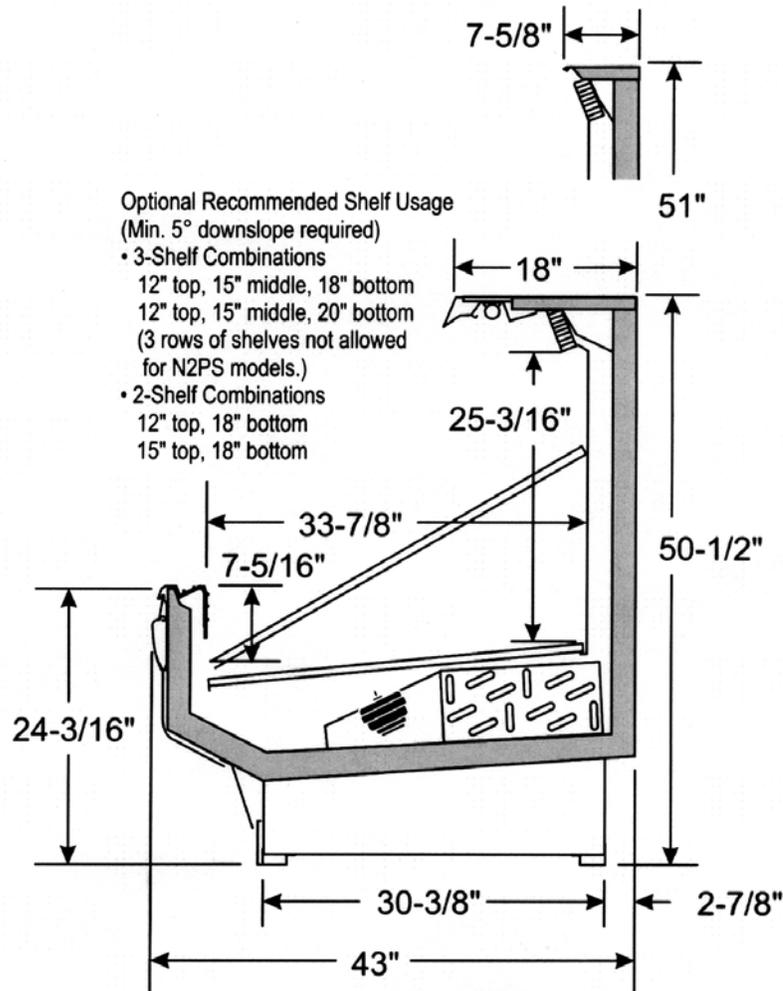
* If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klixon for that defrost type.

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

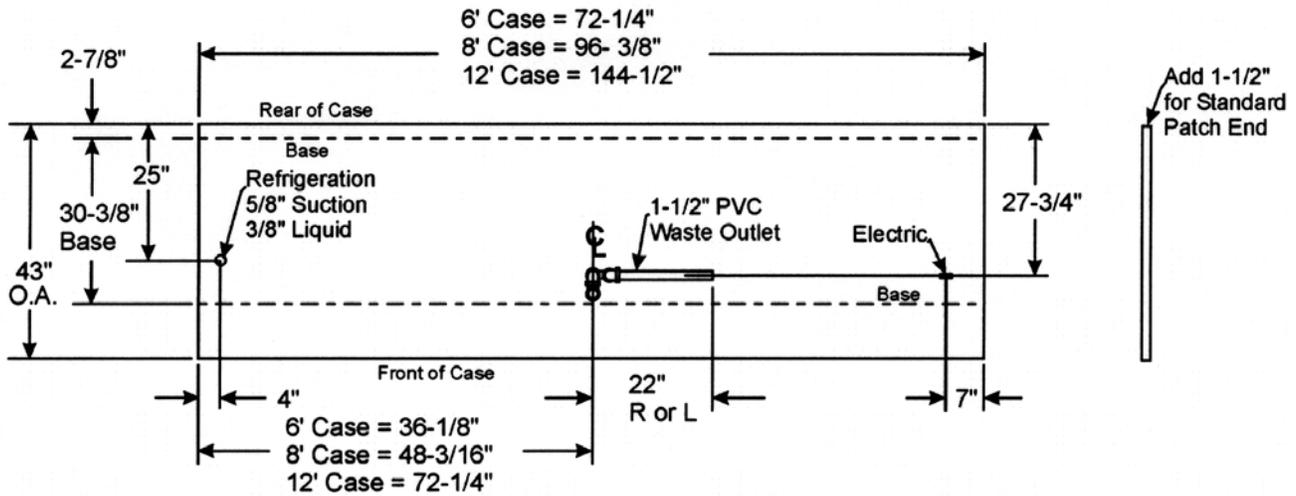
DEFROST CIRCUITS: OFF CYCLE defrost is standard (use TC defrost module) – OPTIONAL ELECTRIC defrost uses a single or 3 phase circuit – OPTIONAL HOT GAS defrost uses 2 control wires @ 208V per lineup.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING														
MODEL	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'	52'	
N2P/N2PS 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"	

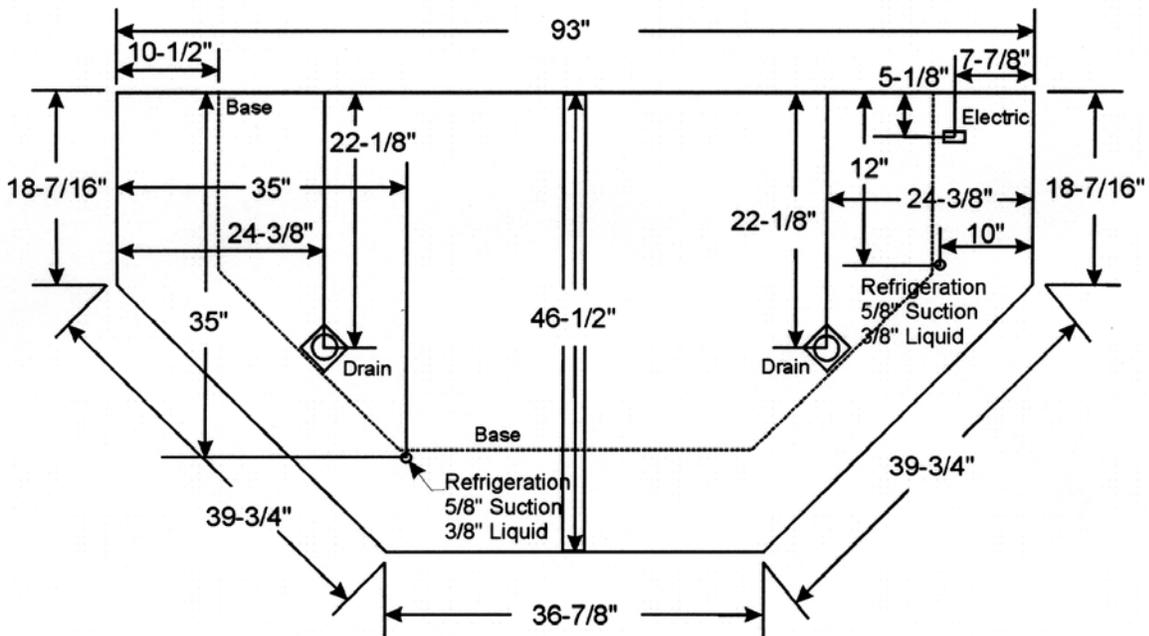
N2P/N2PS CROSS SECTION



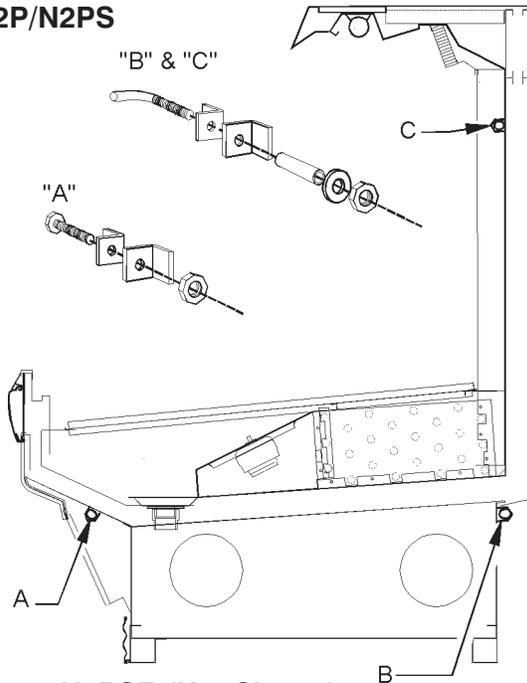
N2P/N2PS FLOOR PLAN



N2PSE FLOOR PLAN



NOTE: There are four separate Suction & Liquid Refrigeration Line connection points in this case. All Refrigeration Lines can connect to either side of the adjoining case-to-case lineup. The access holes in the back of the N2PSE case line up with the access holes in the ends of the N2PS case.

INSTALLATION PROCEDURES**Carpentry Procedures****Case Pull-Up Locations****N2P/N2PS****N2PSE (Not Shown)**

The N2P and N2PS 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. The N2PSE crown end model has six pull-ups on the rear of the case. These pull-ups will line up with the pull-ups on the corresponding back-to-back cases.

See "General-UL/NSF 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 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 (N2P Only)

N2P 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. N2P also offers up to 2 rows of optional T-8 shelf lights.

Anti-Sweat Heater Circuit

N2P, N2PS and N2PSE cases have one anti-sweat heater in the top light channel or under the top rear duct cladding. The anti-sweat heaters are wired directly to the main power supply so they can operate at all times.

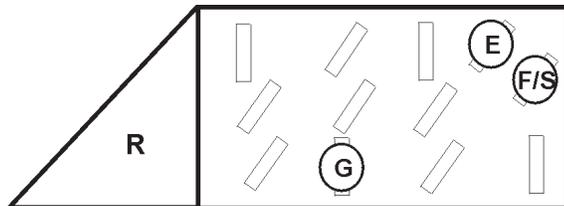
Defrost Information

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

Defrost Control Chart

N2P/N2PS/N2PSE Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	6	28	----
Electric	6	36	50°F
Gas	6	12-15	55°F



E = Electric Defrost Termination

G = Gas Defrost (Fan Delay)

F/S = Electric Defrost Failsafe (Opt.)

All klixons are located on the right end of the evaporator coil. The diagram shows the location for each defrost type that uses a klixon.

NOTE

The termination klixon for gas defrost is located at the bypass check valve.

CAUTION

If electronic sensors are used in place of the klixons, the sensors must be located in the same location as the klixons for that defrost type. Any other locations will effect the refrigeration efficiency of the case.

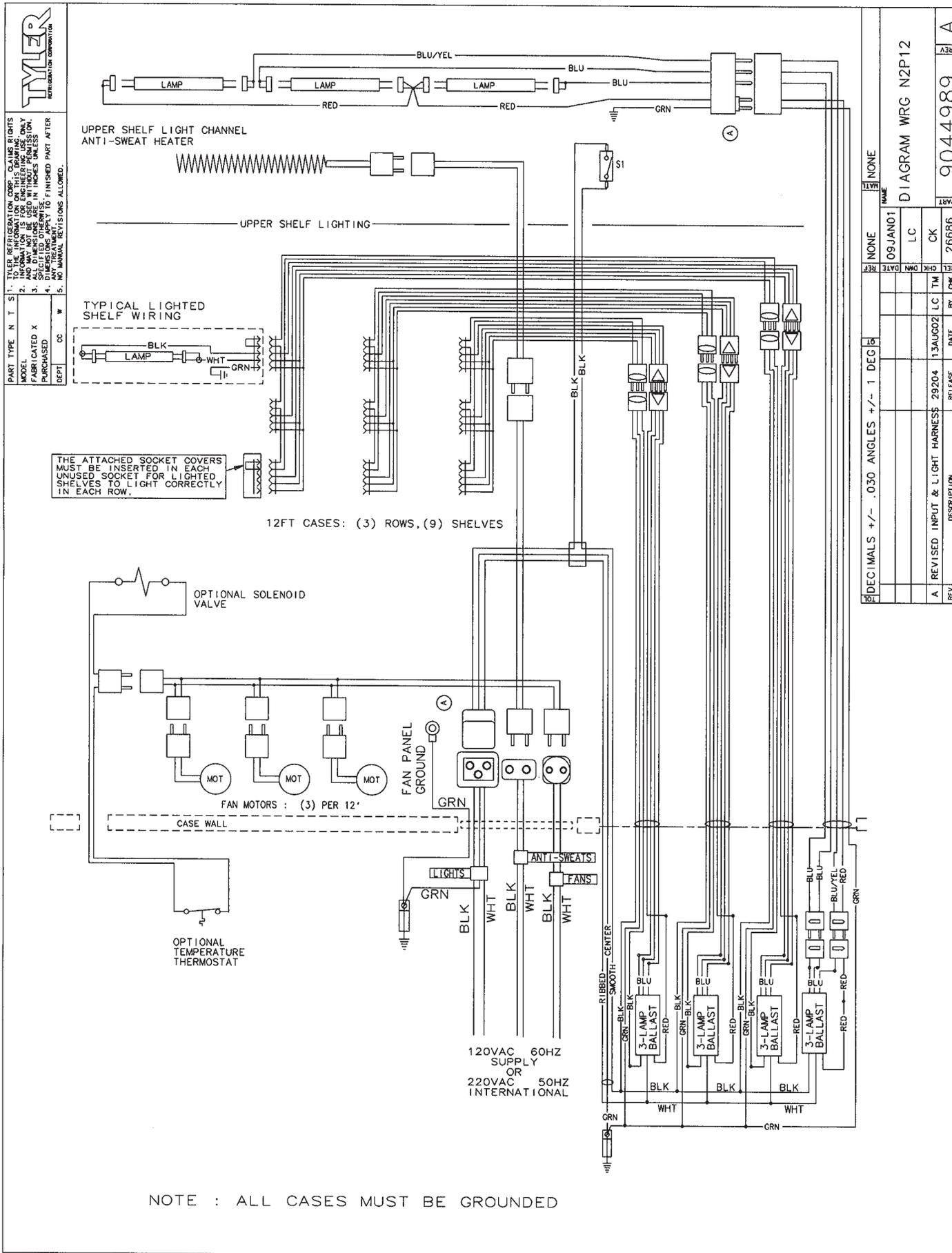
WIRING DIAGRAMS

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 9 thru 12 will cover the N2P, N2PS and N2PSE case circuits including all defrost, lighting and anti-sweat circuits.

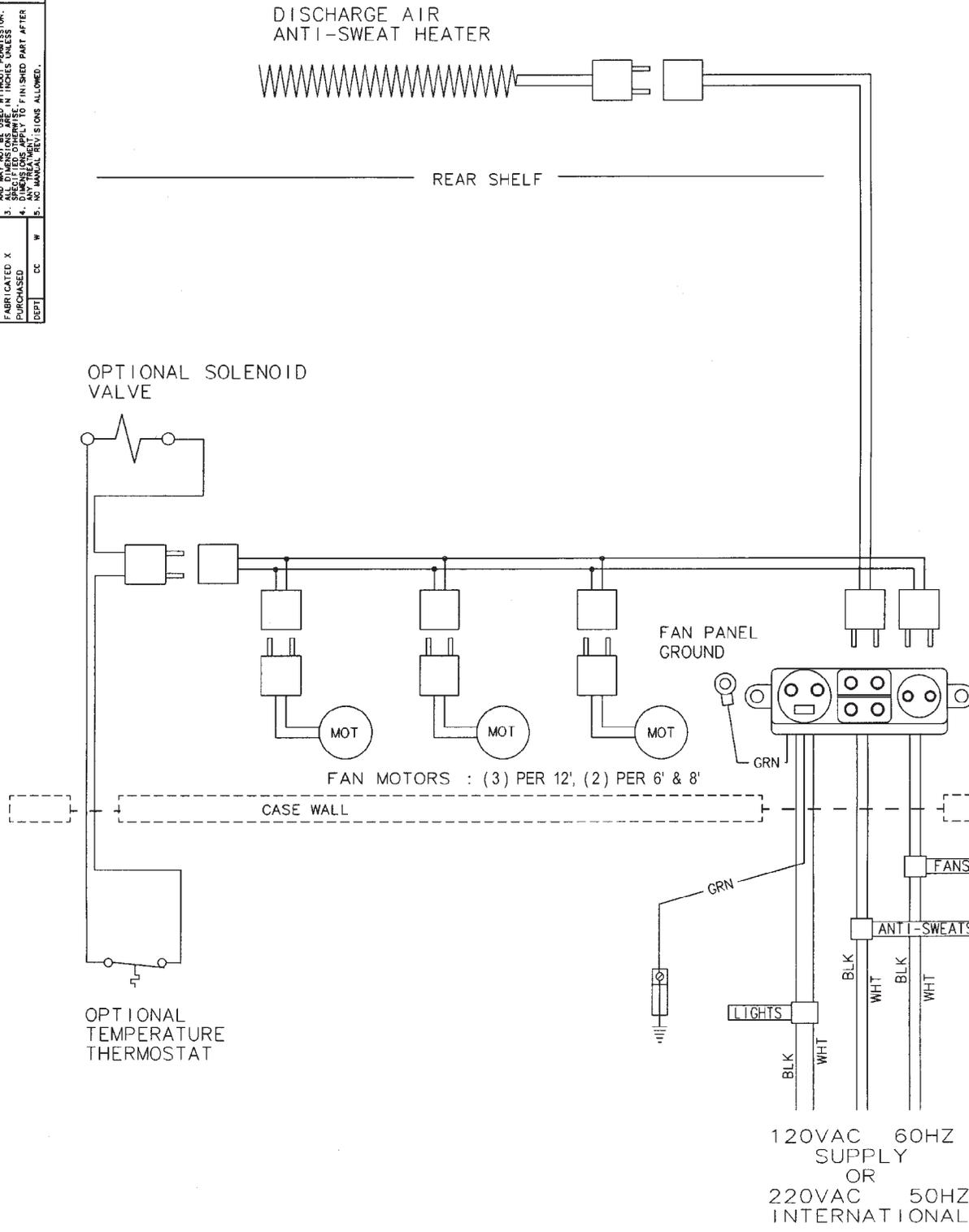
N2P Domestic & Export (50 Hz) Case Circuits (12' Cases)



N2PS Domestic & Export (50 Hz) Case Circuits (6', 8' & 12' Cases)



PART TYPE N T S I
 MODEL
 FABRICATED X
 PURCHASED
 DEPT CC W
 1. THIS INFORMATION IS FOR YOUR INFORMATION ONLY.
 2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 4. DIMENSIONS APPLY TO FINISHED PART AFTER POLISHING.
 5. NO MANUAL REVISIONS ALLOWED.



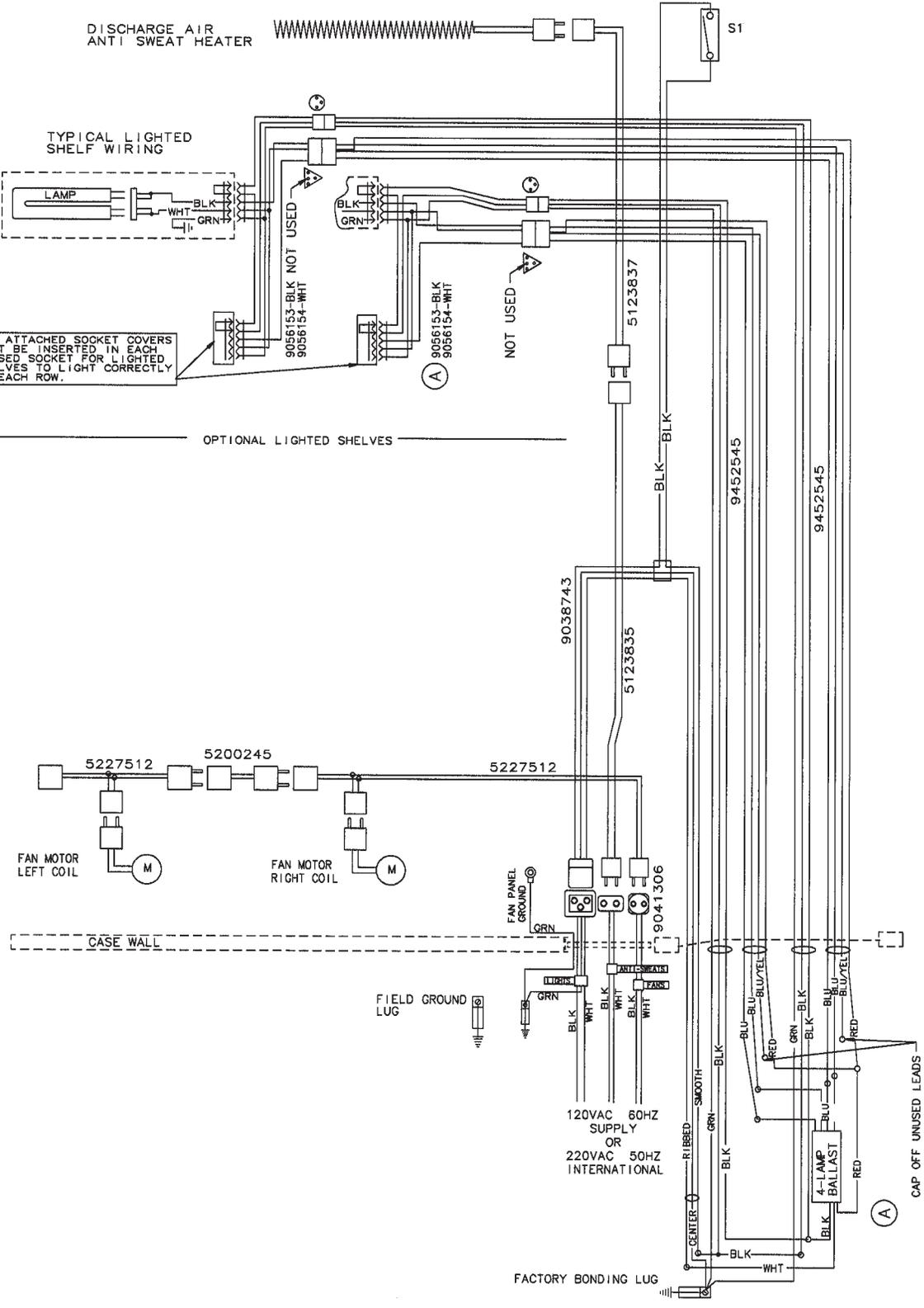
NOTE : ALL CASES MUST BE GROUNDED

REV	DATE	BY	CHK	DATE	REF	DESCRIPTION
1	27/474	CK	LC	09/FEB/01	NONE	DIAGRAM WRG N2PS
2						
3						
4						
5						

N2PSE Domestic & Export (50 Hz) Crown End Case Circuits



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2. ANY MAY NOT BE USED WITHOUT PERMISSION.
3. SHEETED OTHERWISE.
4. DIMENSIONS APPLY TO FINISHED PART AFTER
5. NO MANUAL REVISIONS ALLOWED.



REV	DESCRIPTION	RELEASE	DATE	BY	CHK	REL	CHK	DATE	REF	NAME	QTY
A	CHANGED THE BALLAST AND THE HARNESSES FOR SHELF LIGHTS	50110	12NOV07	GXH		16SEP04		16SEP04	NONE	NONE	1
						LC				DIAGRAM WRC COR CS	
						JL				OC DFR	
						40349				N2PSE	
											9039617
											A

NOTE : ALL CASES MUST BE GROUNDED

CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Optional Shelves and Shelf Brackets

1. Remove product from shelves.
2. If shelf has a light, unplug the light cord from the socket in the rear duct panel. Completely insert socket cover in the light socket to protect the receptacle.
3. Push shelves back and then lift up and out to remove them from the shelf brackets.
4. Remove shelf brackets from slots in rear uprights.
5. After cleaning, replace in reverse order.

Screens and Bottom Trays

1. Remove product from screens or bottom of case.
2. To remove screen, push up until bottom tabs clear holes in front duct, then remove screen from case.

To remove bottom tray, grasp and lift out each of the bottom trays from the case interior.
3. After cleaning, replace bottom trays and or screens in reverse order.

Front Air Ducts

1. Remove screens and lower trays, see this page.
2. Lift out front air duct sections.
3. After cleaning, replace in reverse order.

Rear Duct Panels (w/o Shelf Light Sockets)

1. Remove mirrors, shelves and/or bottom trays, see above.
2. Remove mounting screws and rear duct panels from case.
3. After cleaning, replace and secure rear duct panels in reverse order.

(with Shelf Light Sockets)

1. Remove mirrors, shelves and bottom trays, see above.
2. Remove mounting screws from rear duct panel.
3. Slowly lift out rear duct panel until the shelf harness connector near the top of the panel can be accessed.
4. Disconnect shelf harness connector and complete removing the rear duct panel.

WARNING

Rear duct panels with electrical receptacles can be cleaned without removing the electrical receptacles. Do not get moisture on electrical wires when cleaning under this cover. Moisture on wires could cause premature product failure and/or personal injury or death from electrical shock.

5. After cleaning, reconnect the shelf harness connector: install the top socket assembly: replace and secure rear duct panels in reverse order.

Discharge Air Honeycomb

1. Loosen screws securing rear retainer plate.

NOTE

Note position of the honeycomb grid during removal so it can be reinstalled the same way.

2. Slide rear retainer plate back until the honeycomb grid sections can be removed from the top duct.

CAUTION

Improper installation of the honeycomb grid section could result in improper air flow and/or poor refrigeration.

3. After cleaning, replace honeycomb grid sections as they were removed and secure with the rear retainer plate and screws.

Lower Cladding

1. Remove kickplate from kickplate supports. (See General-UL/NSF I&S Manual.)
2. Remove mounting screws from top and bottom of lower cladding and remove lower cladding.
3. After cleaning, replace in reverse order.

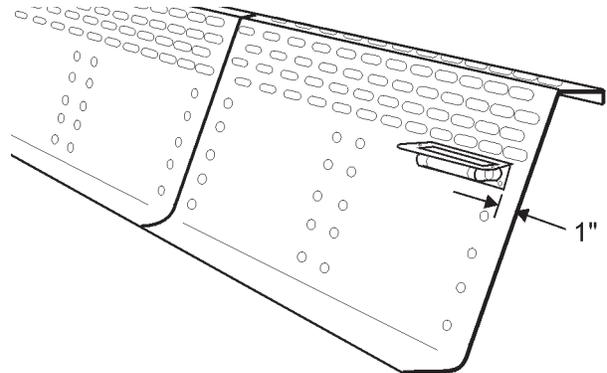
Upper Cladding

1. Remove lower cladding, see above.
2. Remove color band, bumper and bumper retainer from case. (See General-UL/NSF I&S Manual.)
2. Remove mounting screws from top and bottom of upper cladding and remove upper cladding.
3. After cleaning, replace upper cladding and remaining components in reverse order.

GENERAL INFORMATION

NSF Product Thermometer Installation

1. Unwrap the thermometer and bracket assembly shipped loose with the case.
2. Remove left front return air duct.



3. Position bracket 1" in from left edge and just under the bottom return air duct holes.
4. Mount the bracket to the return air duct with two self-tapping screws.
5. Replace the front return air duct.

Water Spray Accessories

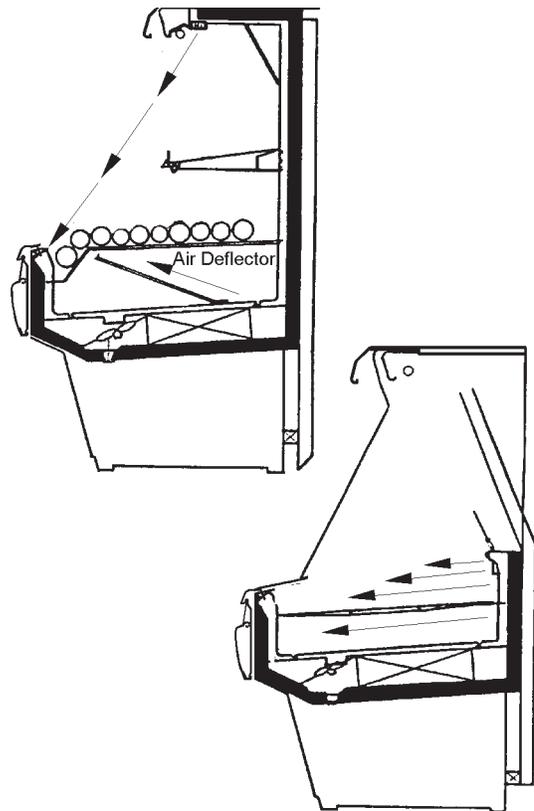
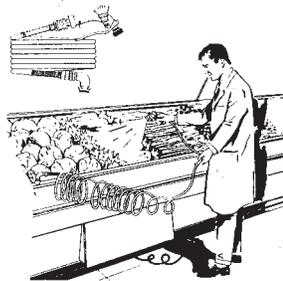
WARNING

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 above.

Produce Handling Chart

Produce	Ideal Storage Conditions		Sell Quickly (1-2 days)	Display Rack Care		Special Notes
	Temperature (°F)	Relative Humidity (%)		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	
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

Produce	Ideal Storage Conditions			Display Rack Care		Special Notes
	Temperature (°F)	Relative Humidity (%)	Sell Quickly (1-2 days)	Refrigerate (40°F)	Sprinkle with Water	
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.

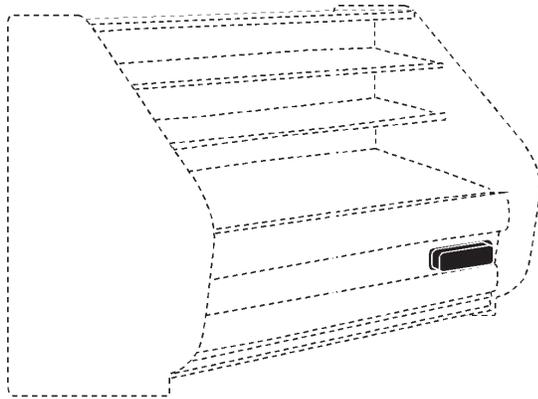
“The Shelf Life of Fresh Fruits and Vegetables - Retail Store Display Cases”, USDA HT&S Office Report No. 247, October 1951.

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

SERVICE INSTRUCTIONS

See “General-UL/NSF I&S Manual” for T-8 lamp, and ballast, fan blade and motor, and color band and bumper replacement instructions.

Ballast and Lighting Locations (N2P 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.

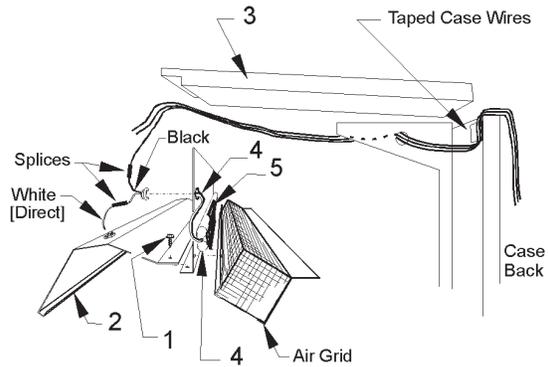
In order to retain safety approval with Underwriters Laboratory and the Canadian Standards Association, the mounting of electrical components and interconnecting wires must not deviate from the following instructions. Only qualified personnel are authorized to install the accessory items. TYLER Refrigeration recommends you order all component parts from its Service Parts Department.

Anti-Sweat Heater Replacement

WARNING

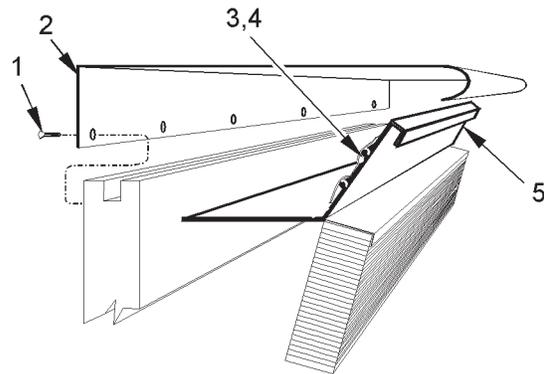
Shut off or disconnect power supply to case before changing an anti-sweat. Electrical power from wire ends could damage other components and/or cause personal injury or death.

Model N2P



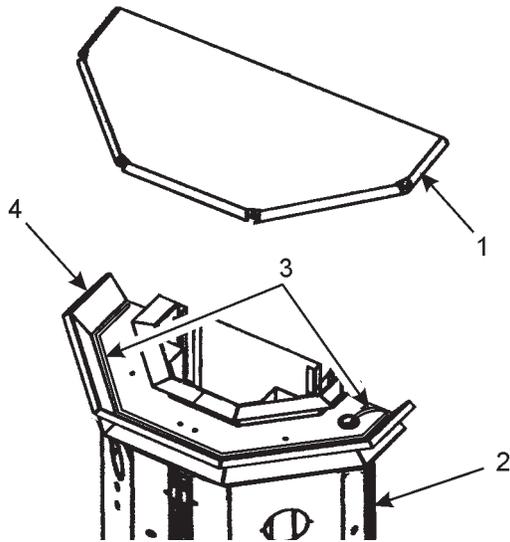
1. Remove screws (1) and lower the top light channel assembly (2) from top of case (3).
2. Disconnect or cut the defective anti-sweat wires (4) from the case wires.
3. Remove and replace the aluminum tape (5) and defective anti-sweat wire (4) from the back of the top light channel assembly (2).
4. Reconnect 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 N2PS



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.

Model N2PSE

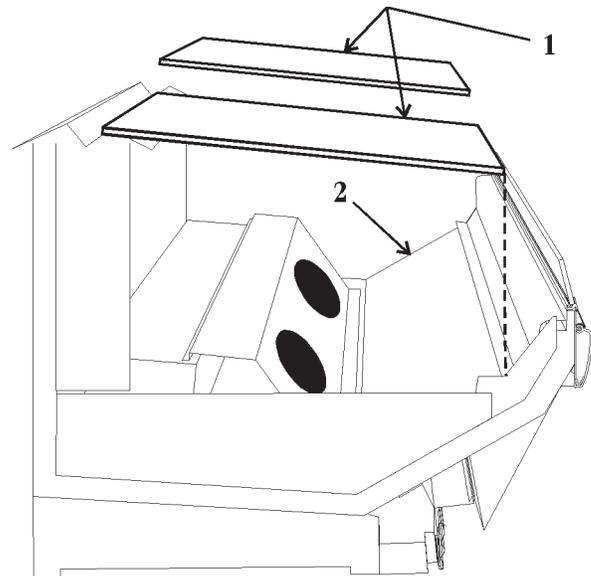


1. Remove screws and top cladding (1) from the rear riser (2) on the case.
2. Disconnect or cut the defective anti-sweat wires (3) from the case wires.
3. Remove and replace the aluminum tape and defective anti-sweat wire (3) from the interior surface of the top closeoff (4) on the rear riser (2).
4. Reconnect the anti-sweat wires (3) to case wires and reinstall the top cladding (1) on the rear riser (2) and secure with screws.
5. Restore electrical power to the case.

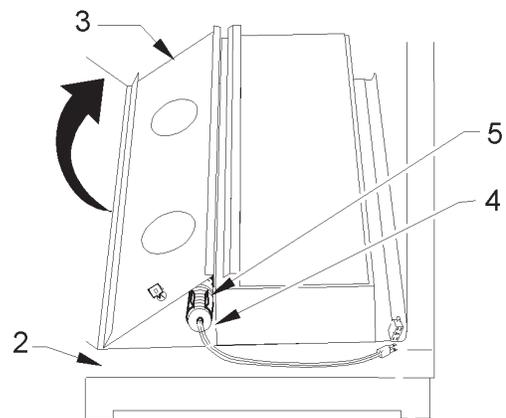
Optional Electric Defrost Heater Replacement (N2P/N2PS)

WARNING

Always shut off electricity to case before replacing a defrost heater. Automatic cycling of fans or electrical power to wire ends could cause personal injury and/or death.



1. Remove bottom trays (1) from case (2).

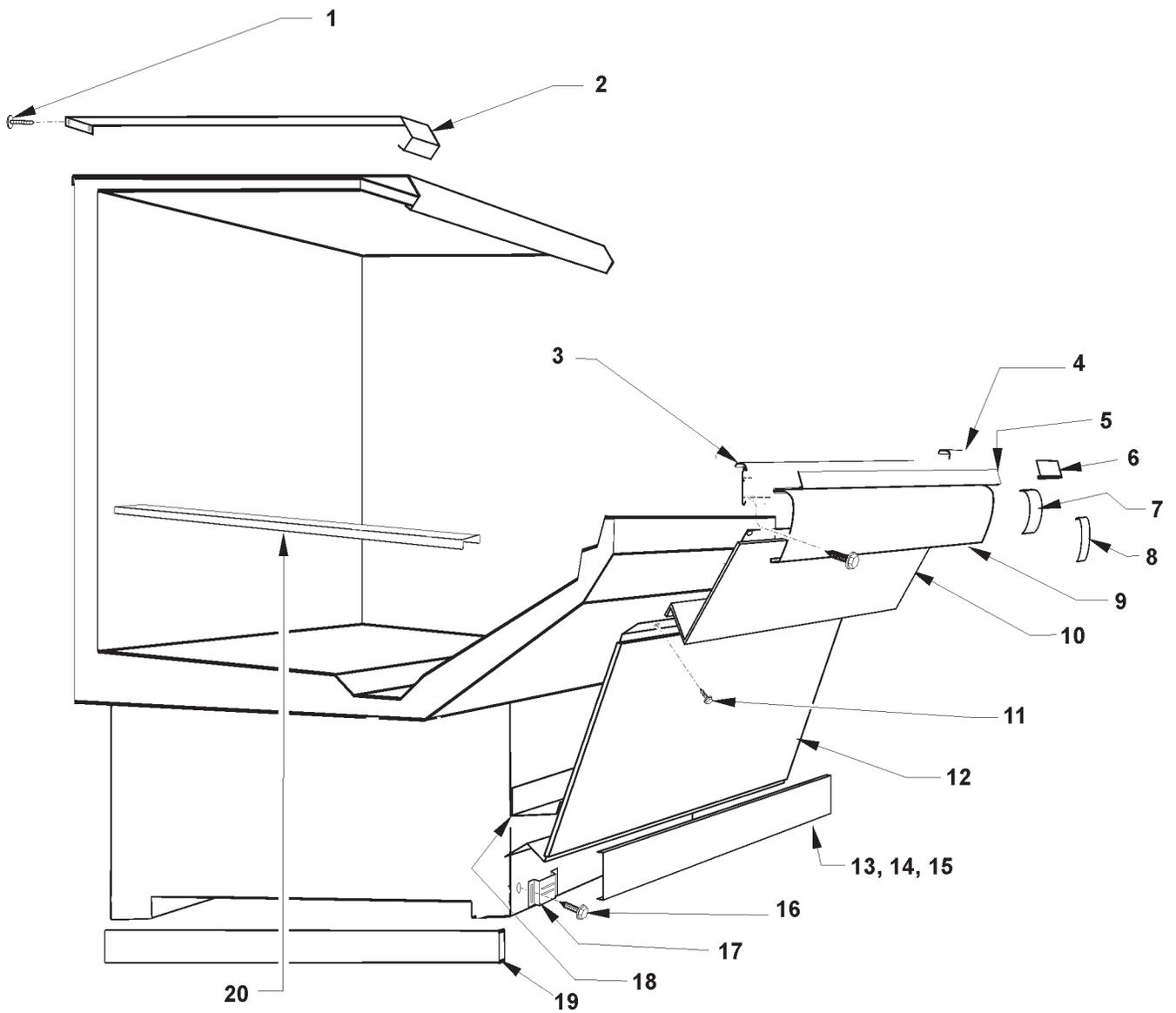


2. Remove screws and lift up fan plenum (3).
3. Disconnect and remove defrost heater (4) from mounting clips (5) and case (2).
4. Install new defrost heater (4) in reverse order.
5. Restore electrical power to case.

PARTS INFORMATION

Cladding and Optional Trim Parts List

Item Description	N2P/N2PS		
	6'	8'	12'
1 Screw	5100217 (2)	5100217 (2)	5100217 (2)
2 Joint Trim, Rear Riser (N2P)	9042767	9042767	9042767
Joint Trim, Rear Riser (N2PS)	9601220	9601220	9601220
3 Bumper Retainer / Handrail	-----	color per order	-----
4 Handrail Backer, Ptd.	9025316	9025316	9025316
5 Color Band, Ptd.	9023796	9023799	9023801
6 Color Band Backer, Ptd.	9040223	9040223	9040223
7 Bumper Backer	-----	color per order	-----
8 Bumper End Trim	-----	color per order	-----
9 Bumper	-----	color per order	-----
10 Upr. Frt. Cladding, Ptd.	9025132	9025133	9025134
11 Screw	5183536 (9)	5183536 (12)	5183536 (18)
12 Lwr. Frt. Cladding, Ptd.	9025446	9025447	9025448
13 Metal Kickplate, Ptd.	9039268	9039269	9039270
14 Kickplate Joint Trim, Ptd.	9039020	9039020	9039020
15 Screw, Blk.	9037551 (5)	9037551 (6)	9037551 (6)
16 Screw	5183536 (6)	5183536 (8)	5183536 (8)
17 Kickplate Support	9039022 (3)	9039022 (4)	9039022 (4)
18 Raceway	5233273	5233274	5233275
19 LH End Close-off, Ptd.	9022460	9022460	9022460
RH End Close-off, Ptd.	9022467	9022467	9022467
20 Horizontal Joint Trim	5964733	5964733	5964733



Item Description	N2PSE CROWN END
1 Top Cladding, GALVNL	9800435
2 Color Band, Ptd. (pre-cut sections)	9453473
17.250" Side Section	9810623 (2)
37.500" Center Section	9810621 (2)
34.437" Front Section	9810619
3 Color Band Backer, Ptd	9040232 (2)
4 Bumper (pre-cut sections)	color per order
5 Bumper Retainer (pre-cut sections)	color per order
2 - 17.250" Side Sections	
2 - 37.500" Center Sections	
1 - 34.437" Front Section	
6 Bumper Corner Trim, Ptd.	9036704 (4)
7 RH Upr. Ext. Side Cladding, Ptd.	9800453
LH Upr. Ext. Side Cladding, Ptd.	9800451
8 Upr. Ext. Center Cladding	9800455 (2)
9 Upr. Ext. Front Cladding, Ptd.	9800457
10 Lower Front Cladding, Ptd.	9800459 (2)
11 Kickplate Joint Trim Kit, Ptd.	9411799
12 Metal Kickplate Assembly	9806082
Metal Kickplate, Ptd. (Incl. w/ assy.)	9801017

Operational Parts List

Case Usage	Domestic			
	115 Volt 60 Hertz			
Case Size	6'	8'	12'	Crown End
Fan Motor (N2P/N2PS)	5243498 9 Watt	5243498 9 Watt	5243498 9 Watt	----
(N2PSE)	----	----	----	5125532 5 Watt
Fan Motor Brackets (N2P/N2PS)	5962268	5962268	5962268	----
(N2PSE)	----	----	----	5213132
Fan Bracket Plate	9041077	9041077	9041077	9041077
Fan Blades (7" 40° 5B)(N2P/N2PS)	5221604	5221604	5221604	----
(6" 30° 5B)(N2PSE)	----	----	----	9023766
Opt. ECM Fan Motor (All Models)	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt
Opt. ECM Fan Motor Brackets (N2P/N2PS)	9025005	9025005	9025005	----
(N2PSE)	----	----	----	5205279
Opt. ECM Fan Blades (7" 35° 5B)(N2P/N2PS)	9044934	9044934	9044934	----
(6" 30° 5B)(N2PSE)	----	----	----	9023766
T-8 Lamp Ballast (N2P only) (canopy/1-row)	5991029	5991029	5991030	----
(opt. shelf/1-row or 2-row)	5991029	5991029	5991030	----
T-8 Lampholder (canopy)(N2P)	9041897	9041897	9041897	----
T-8 Lampholder (shelf)(N2P)	9041897	9041897	9041897	----
Anti-Sweat Heater (canopy light or rear riser)	9043426	9043427	9043428	9044848
Opt. Elec. Def. Heater (N2P/N2PS)	5125153	5124521	5124522	----
(N2PSE)	----	----	----	9405782
Opt. Elec. Def. Limit Klixon	5125211	5125211	5125211	5125211
Opt. Gas Def. Fan Delay Klixon	9023503	9023503	9023503	9023503
Opt. Gas Def. Termination Klixon	9023508	9023508	9023508	9023508
NSF Product Thermometer	5967100	5967100	5967100	5967100

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