

TYLER
REFRIGERATION



Carrier

A United Technologies Company

**A^{series}
Advantage**

Installation & Service Manual



N5D, N5DH, N5DL, N5DSC

NARROW MULTI-DECK DAIRY/DELI 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 Narrow Medium Temperature Dairy and Deli Merchandiser models are covered in this manual:

MODELS	DESCRIPTION
N5D	3', 4', 6' & 8' REMOTE MULTI-DECK DAIRY/DELI MERCHANDISER
N5DH	4', 6' & 8' REMOTE DEEP WELL MULTI-DECK DAIRY/DELI MERCHANDISER
N5DL	4', 6' & 8' REMOTE LOW FRONT MULTI-DECK DAIRY/DELI MERCHANDISER
N5DSC	4' & 6' SELF-CONTAINED MULTI-DECK DAIRY/DELI MERCHANDISER

SPECIFICATIONS

N5D/N5DH/N5DL Narrow Multi-Deck Dairy/Deli Merchandisers

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)	
N5D	4'6"/8'	MED TEMP	1,276*	1,367*	+15**	+13	35	300***	1.36****
N5DH	4'6"/8'	MED TEMP	1,299*	1,392*	+15**	+13	35	300***	1.36****
N5DL	4'6"/8'	MED TEMP	1,339*	1,435*	+15**	+13	35	300***	1.36****

* Capacity data listed for cases with 2 rows of T-8 canopy lights and 4 rows of optional T-8 lighted shelves. Adjustments must be made to this base rating for each option installed on this case. DEDUCT 23 BTUH/FT for each row of unlighted shelves. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.

** Evaporator temperature is based on 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.

**** This is an average refrigeration charge per foot based on R22 and R404A refrigerant usage.

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 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS (120V)	
			AMPS	WATTS	AMPS	WATTS	DISCHARGE AIR AMPS	WATTS
N5D(H/L)	4'	2	0.68	60.4	0.44	22.0	N/A	N/A
N5D(H/L)	6'	2	0.68	60.4	0.44	22.0	N/A	N/A
N5D(H/L)	8'	3	1.02	90.6	0.66	33.0	N/A	N/A

T-8 Lighting with Electronic Ballasts (120 Volt)

MODEL	CASE LENGTH	CANOPY LIGHTS* - PER ROW				SHELF LIGHTS - PER ROW								MAX. LIGHTING (5 or 6 ROWS)	
		AMPS		WATTS		AMPS				WATTS				AMPS	WATTS
		1	2	1	2	1	2	3	4	1	2	3	4		
N5D(H/L)	4'	0.35	0.50	42.0	60.0	0.45	0.60	0.80	0.95	54.0	72.0	96.0	114.0	1.86	232.2
N5D(H/L)	6'	0.40	0.75	48.0	90.0	0.60	0.90	1.20	1.50	72.0	108.0	144.0	180.0	2.48	297.6
N5D(H/L)	8'	0.50	0.95	60.0	114.0	0.90	1.20	1.60	1.90	108.0	144.0	192.0	228.0	2.97	356.4

* Standard lighting for this case is 2 rows of T-8 canopy lights.

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	4	24	- - -	37	49	1.2

* 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 klaxon for that defrost type.

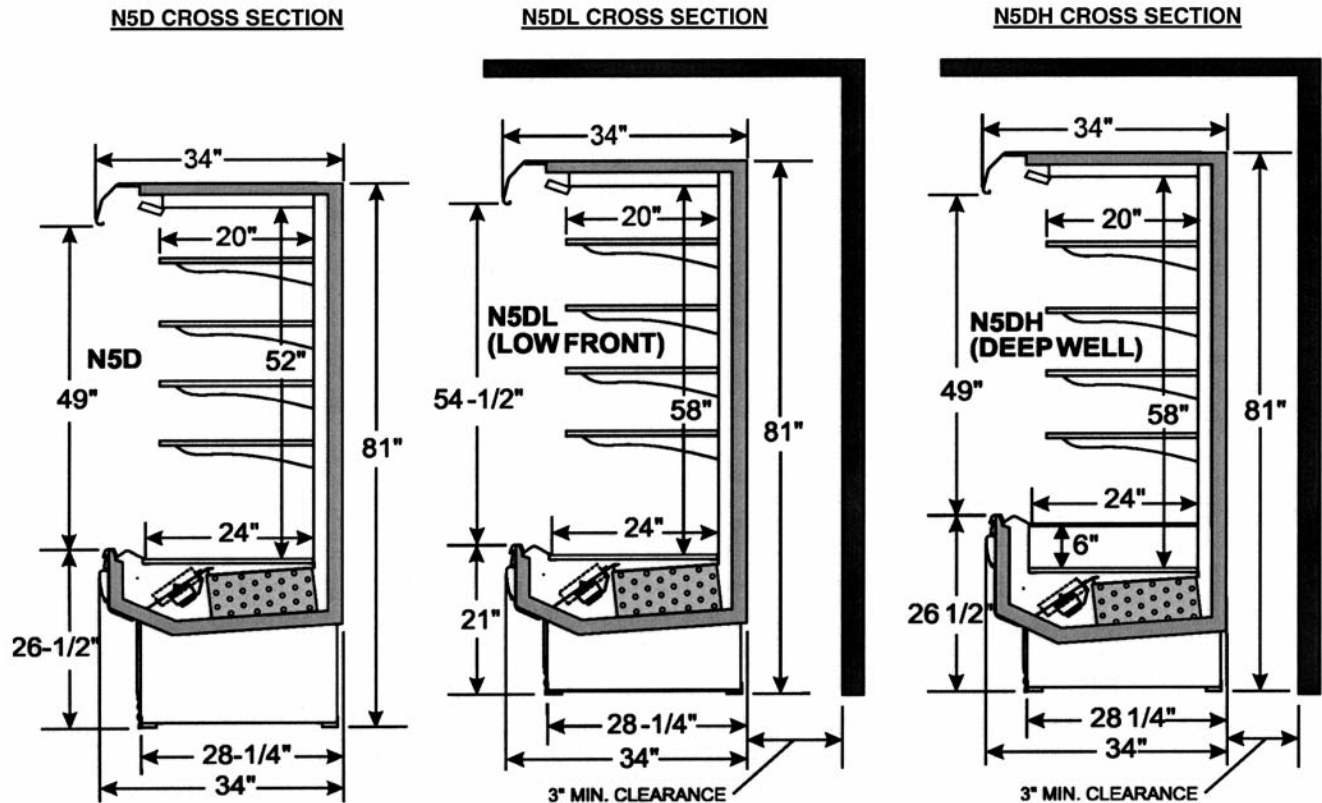
** Set EPR to give this pressure at the case.

SHELVING NOTES: You MUST USE all 20" deep shelves (3 rows minimum or 4 rows maximum). The top row MUST HAVE a rear gasket. TYLER recommends that this case be merchandised on straight shelves, not sloped downward.

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

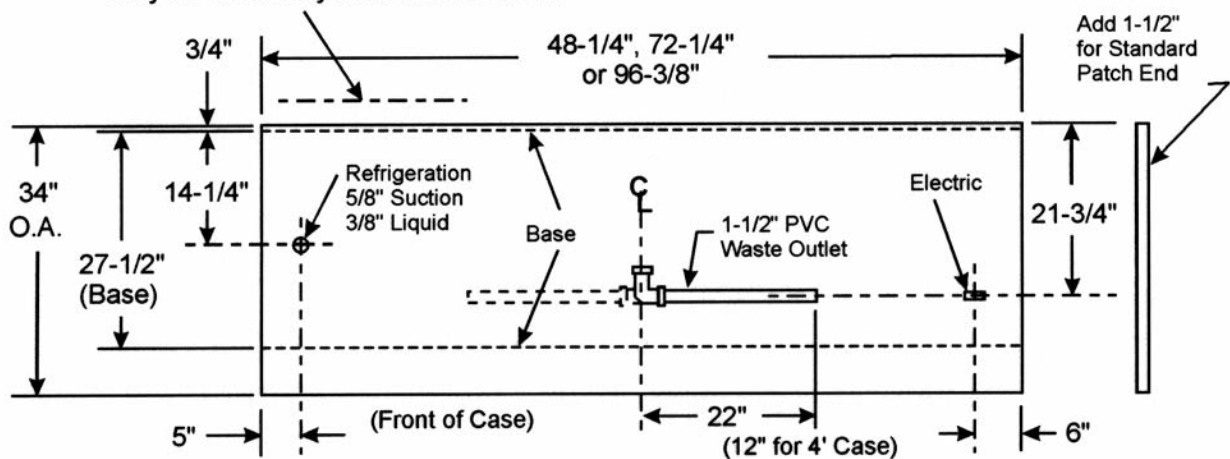
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of 75°F & 55RH.

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.



N5D(H/L) FLOOR PLAN

Allow a 3" SPACE between the back of this case and the store wall, other cases, or coolers to minimize possible condensation problems. FORCED VENTILATION may be necessary in some situations.



N5DSC Narrow Multi-Deck Dairy/Deli Merchandisers (Self-Contained)

Self-Contained Refrigeration & Defrost Data:

CASE USAGE	REFRIGERANT (R22) DESIGN PRESSURE		DISCHARGE AIR		DEFROSTS		THERMOSTAT SETTINGS		REFRIGERATION CHARGE (LBS / CASE) N5DSC4 N5DSC6	
	LOW SIDE (PSIG)	HIGH SIDE (PSIG)	TEMPERATURE (°F)	VELOCITY (FPM)	DEFROSTS PER DAY	DURATION TIME (MIN.)	CUT-IN (°F)	CUT-OUT (°F)		
MED TEMP	183	400	35	300	6	28	35	28	8.0	10.0

Electrical Data:

CASE ELECTRICAL CIRCUITS: One 208VAC Electrical Power Supply is required for Self-Contained cases.

This 208VAC Power Supply (3 wire plus ground) runs a 208VAC Circuit for Condensing Unit and Condensing Fan and a 120VAC Circuit supplies the Evaporator Fans and Lights.

Self-Contained Electrical Data (208 VAC)

MODEL	SELF-CONTAINED COMPRESSOR			M.C.A.***	M.O.P.****
	UNIT	R.L.A.*	L.R.A.**	AMPS	AMPS
N5DSC4	208VAC 60Hz 1 Ph, 1-1/4 HP	7.0	34.2	15.5	20.0
N5DSC6	208VAC 60Hz 1 Ph, 1-3/4 HP	10.36	48.2	22.0	30.0

* Run Load Amperage (includes the compressor).

** Locked Rotor Amperage.

*** Minimum Circuit Ampacity (includes all electrical components and options; condenser fans, evaporator fans, lights, compressor unit & drain pan heater)

**** Maximum Overcurrent Protection.

NOTE: M.C.A. and M.O.P. may vary due to specific condensing unit availability. Check data plate for the exact M.C.A. and M.O.P. on your specific model.

Self-Contained Evaporator Fans (120 VAC)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS	
			AMPS	WATTS	AMPS	WATTS
N5DSC4	4'	2	0.68	60.4	0.44	22.0
N5DSC6	6'	2	0.68	60.4	0.44	22.0

Self-Contained Lighting (120 Volt)

MODEL	CASE LENGTH	CANOPY LIGHTS* – PER ROW				SHELF LIGHTS – PER ROW								MAX. LIGHTING (5 ROWS)	
		AMPS		WATTS		AMPS				WATTS				AMPS	WATTS
		1	2	1	2	1	2	3	4	1	2	3	4		
N5DSC4	4'	0.35	0.50	42.0	60.0	0.45	0.60	0.80	0.95	54.0	72.0	96.0	114.0	1.86	232.2
N5DSC6	6'	0.40	0.75	48.0	90.0	0.60	0.90	1.20	1.50	72.0	108.0	144.0	180.0	2.48	297.6

* Standard lighting for this case is 2 rows of T-8 canopy lights.

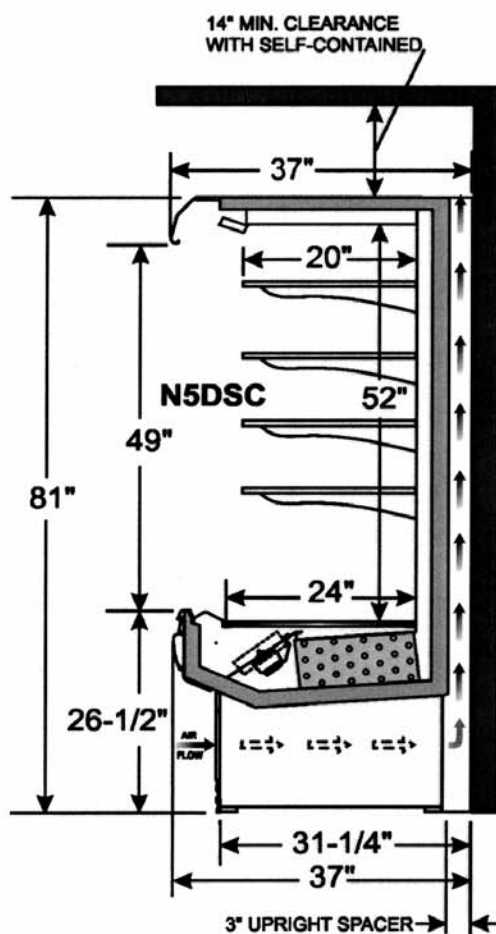
SHELVING NOTES: You MUST USE all 20" deep shelves (3 rows minimum or 4 rows maximum). The top row MUST HAVE a rear gasket. TYLER recommends that this case be merchandised on straight shelves, not sloped downward.

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

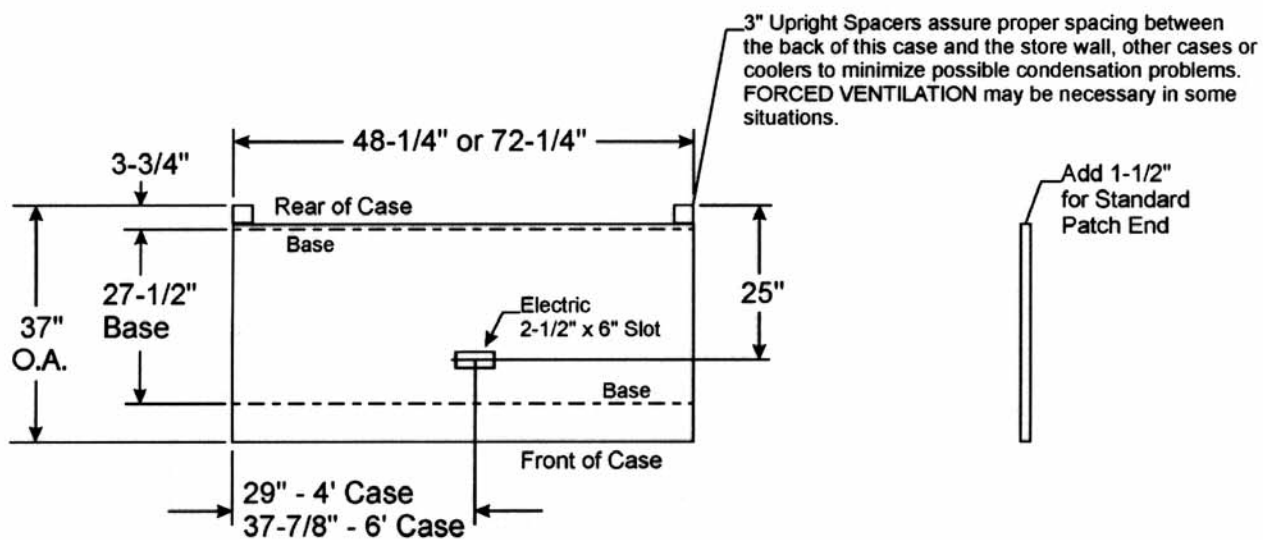
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH**.

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N5DSC CROSS SECTION



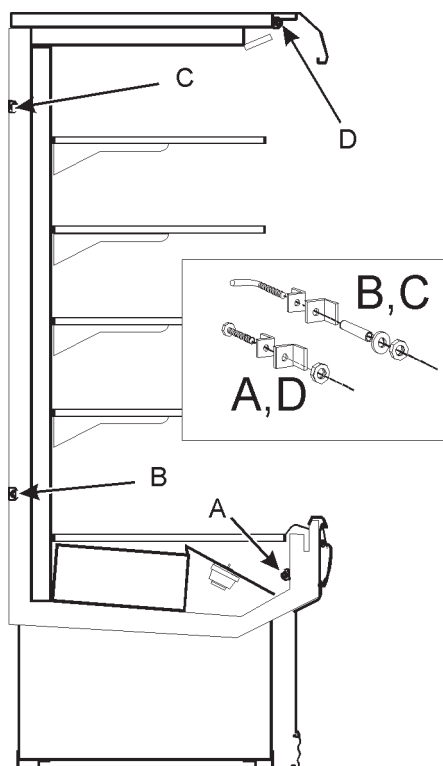
N5DSC FLOOR PLAN



INSTALLATION PROCEDURES

Carpentry Procedures

Case Pull-Up Locations



The N5D, N5DH, N5DL and N5DSC models have four pull-ups at each end of the case. Pull-ups A, B, C and D are located as shown and should be installed and tightened starting with A and finishing with D.

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.

NOTE

Since the lower front cladding is shipped loose, the wiring 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

N5D/N5DH/N5DL/N5DSC case lighting is supplied by energy-efficient T-8 horizontal lights. It is controlled by a light switch in each case. The standard lighting is 2-rows of T-8 canopy lights. N5D/N5DH/N5DL/N5DSC also offers up to 4 rows of T-8 shelf lights with remote electronic ballasts.

Self-Contained Circuit

N5DSC cases are self-contained units. Specific information on self-contained units, not listed on the specifications sheets on pages 6 and 7, should be obtained directly from TYLER Refrigeration.

Defrost Information

See “General-UL/NSF I&S Manual” for operational descriptions for Off Time defrost control.

Defrost Control Chart

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
N5D(H/L) Off Time	4	24	-----
N5DSC Off Time	6	28	-----

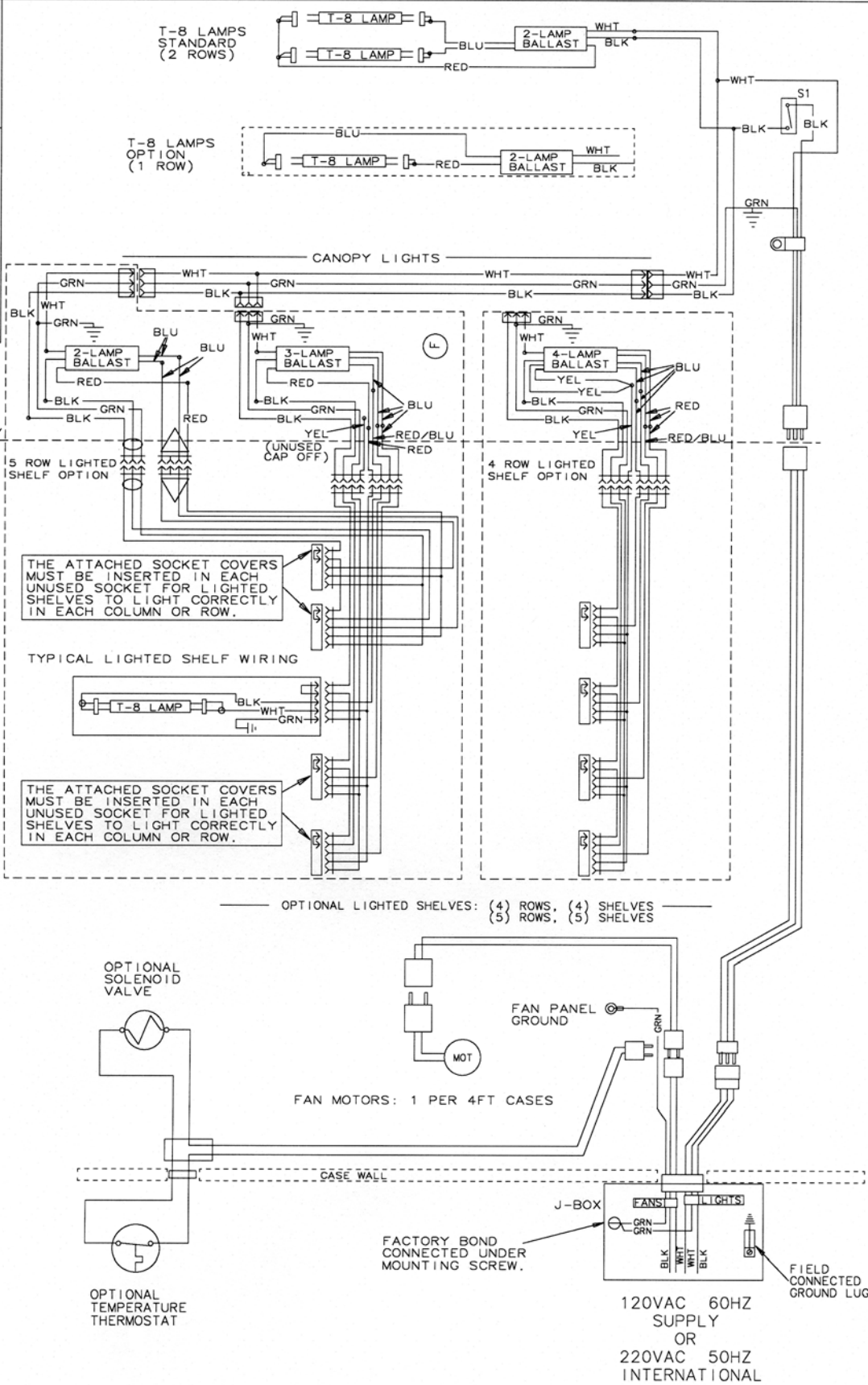
WIRING DIAGRAMS

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 14 will cover the N5D, N5DH, N5DL and N5DSC case circuits and the lighting circuits.

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4. DIMENSIONS APPLY TO FINISHED PART AFTER MANUFACTURING TOLERANCES.
5. NO MANUAL REVISIONS ALLOWED.



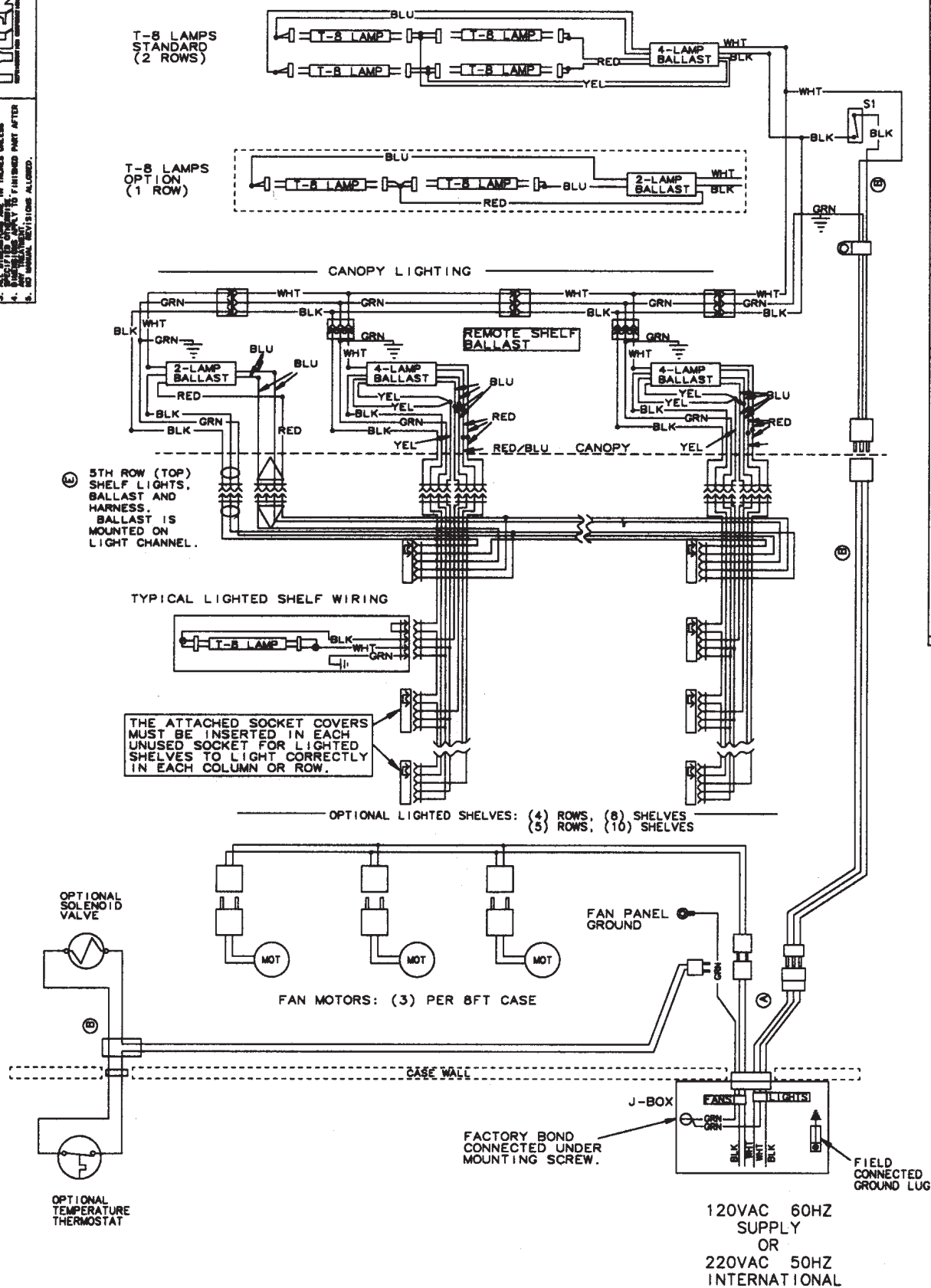
NOTE: ALL CASES MUSTED BE GROUNDED

REV	DATE	BY	CHK	APP	DESCRIPTION
1	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
2	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
3	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
4	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
5	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
6	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
7	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
8	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
9	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
10	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
11	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
12	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
13	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
14	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
15	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
16	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
17	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
18	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
19	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
20	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
21	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
22	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
23	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
24	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
25	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
26	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
27	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
28	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
29	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
30	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
31	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
32	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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36	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
37	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
38	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
39	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
40	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
41	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
42	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
43	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
44	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
45	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
46	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
47	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
48	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
49	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
50	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
51	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
52	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
53	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
54	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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56	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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58	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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63	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
64	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
65	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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67	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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69	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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71	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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73	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
74	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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76	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
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95	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
96	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
97	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
98	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
99	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION
100	15 DEC 10	138	138	138	CHANGED THE BALLAST ON THE FIFTH ROW SHELF LIGHT OPTION



DECIMALS +/-	.030	ANGLES +/-	1	DEG	NONE	NONE
CHANGED THE BORDER						
E AND ADDED THE FIFTH ROW						
S SHELF LIGHTS OPTION						
48141		25SEP07 GMM		23OCT96		
				LC		
				OK		
98-104		98-104		9026363		
DIAGRAM WRG		N5D(H,L)		6FT		

1. THE INFORMATION ON THIS CASE, CHASSIS, BORDERS, AND WIRING IS FOR THE USER'S INFORMATION ONLY. 2. THE USER MUST BE AWARE OF THE FACT THAT THE WIRING IS NOT A COMPLETE SYSTEM. 3. THE USER MUST BE AWARE OF THE FACT THAT THE WIRING IS NOT A COMPLETE SYSTEM. 4. THE USER MUST BE AWARE OF THE FACT THAT THE WIRING IS NOT A COMPLETE SYSTEM. 5. NO MANUAL REVISIONS ALLOWED.



NOTE: ALL CASES MUST BE GROUNDED

REVISIONS	DATE	BY	CHK	APP	DESCRIPTION
1	23OCT96	LC	CK		CHANGED THE BORDER AND ADDED THE FIFTH ROW SHELF LIGHTS OPTION
2	25SEP07	GMH			
3	48141				
4					
5					

DIAGRAM WRG
N5D(H,L) 8FT

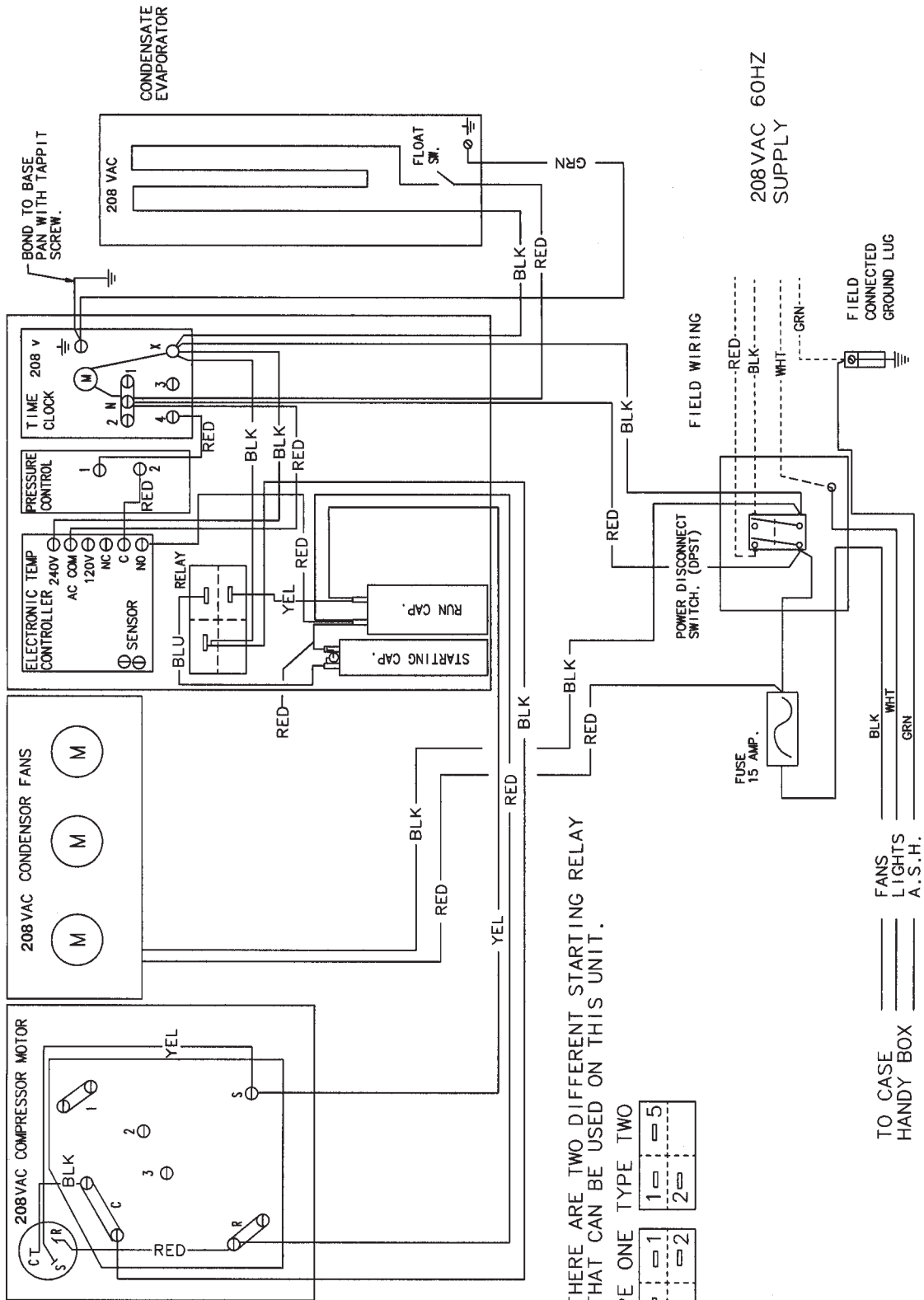
9028589

TYLER
CORPORATION

1. TYLER REVISIONS ARE SHOWN TO THE INFORMATION ON THIS DRAWING.
2. INFORMATION IS FOR ORDERING PURPOSES ONLY.
3. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
4. DIMENSIONS APPLY TO FINISHED PART AFTER ANY NECESSARY TOLERANCES.
5. NO MANUAL REVISIONS ALLOWED.

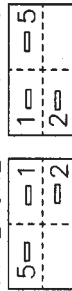
PART TYPE N T S
MODEL
FABRICATED X
PURCHASED
DEPT

CC W
REV B



NOTE: THERE ARE TWO DIFFERENT STARTING RELAY TYPES THAT CAN BE USED ON THIS UNIT.

TYPE ONE TYPE TWO

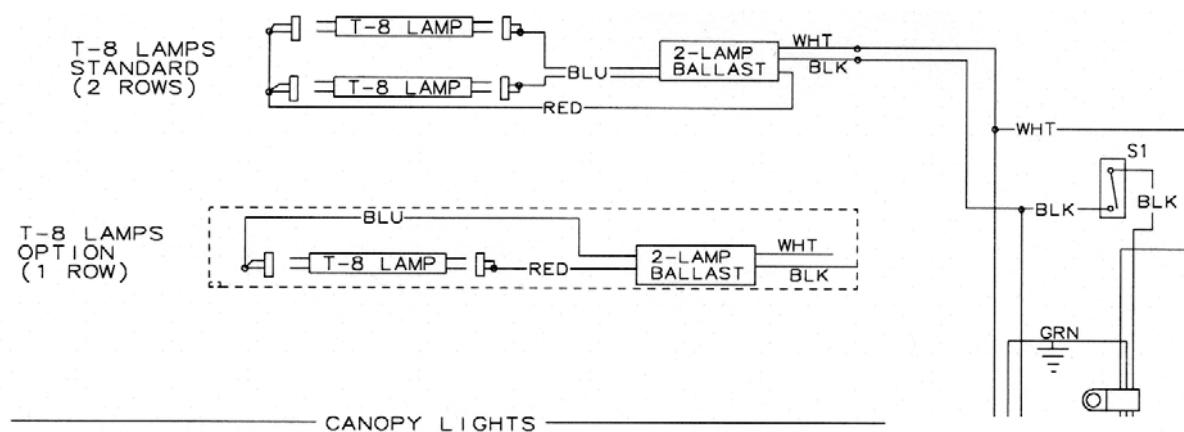


TO CASE HANDY BOX

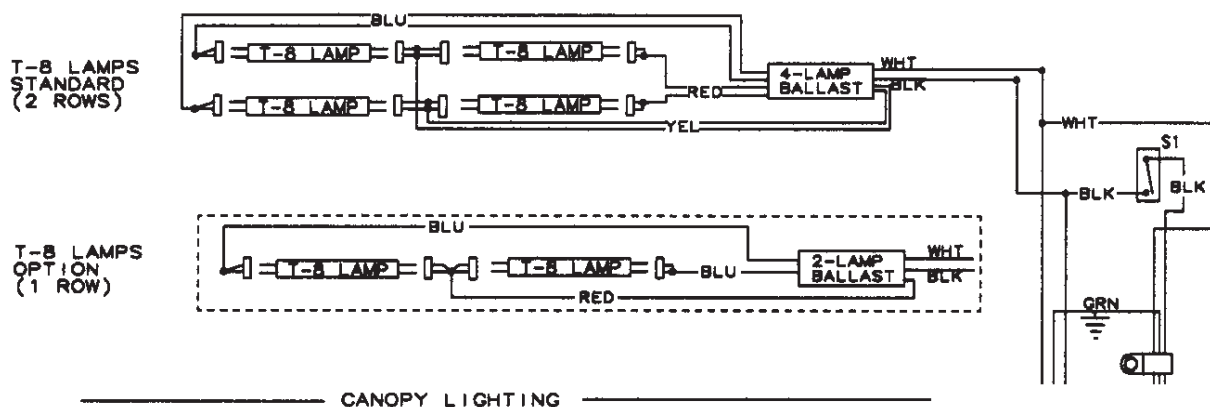
FANS
LIGHTS
A.S.H.

REV	DESCRIPTION	DATE	BY	CHK	REV	DATE	BY	CHK	REV	DATE	BY	CHK
C	REVISED DWG-NEW BORDER	40311	18MAY04	LC	AS	40311	18MAY04	LC	AS	40311	18MAY04	LC
DIAGRAM WRG SCNT N5DSC 4&6FT CASES										9603470		
										C		

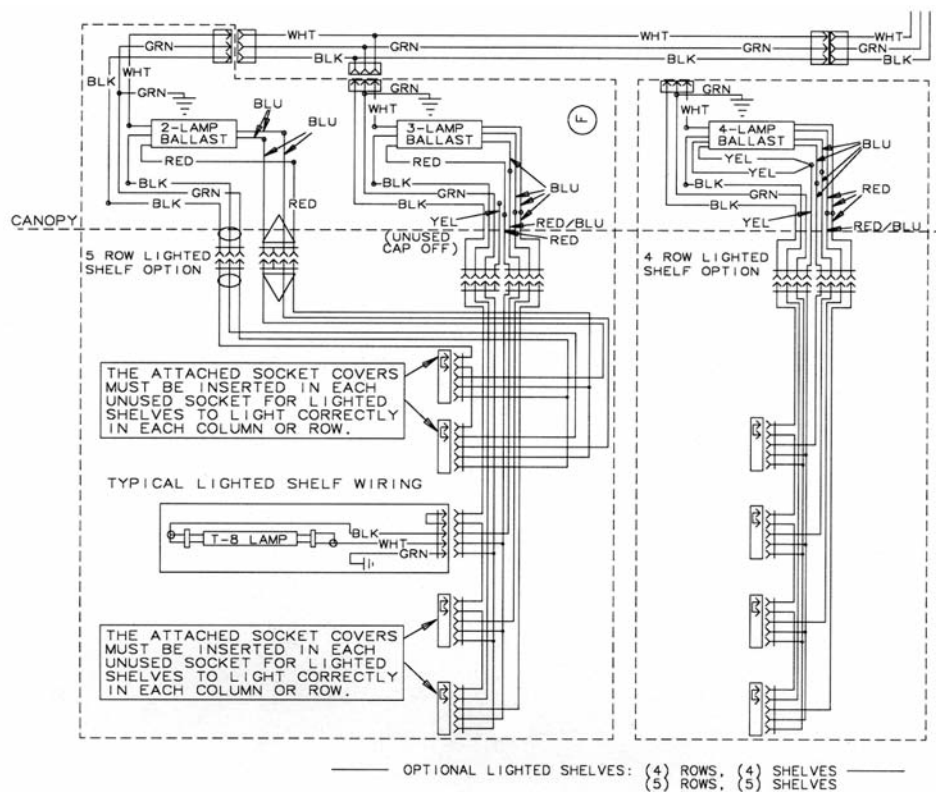
T-8 Canopy Lighting Circuits 4' Cases



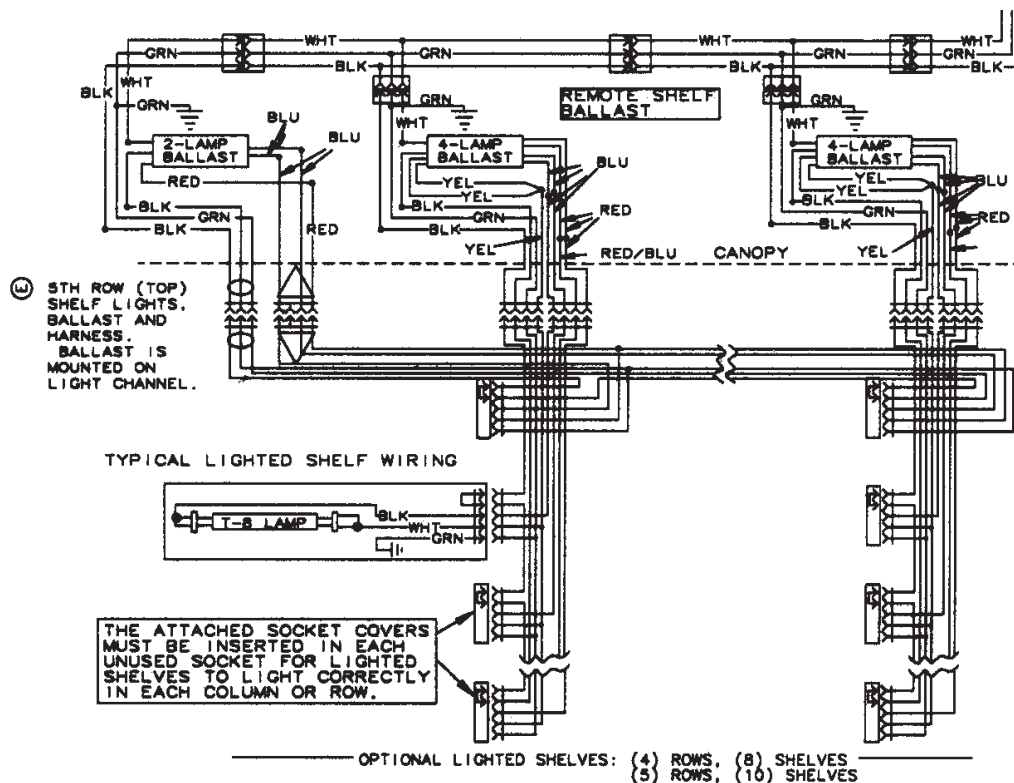
6' & 8' Cases



Optional Shelf Lighting Circuits 4' Cases



6' & 8' Cases



CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Mirrors

1. Remove mounting screws and end molding of mirror line-up.
2. Carefully grasp and lift mirror section until bottom edge clears the lower mirror track.
3. Carefully lower mirror out of upper mirror track and remove from case.
4. After cleaning, replace in reverse order.

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.

Bottom Trays

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

Front Air Ducts

1. Remove 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 shelves and 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 this page.
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.

Top Duct

1. Remove shelves and shelf brackets, see page 15.
2. Remove screws, rear retainer plate and honeycomb grid sections from top of case.
3. Remove screws and top duct from case.
4. After cleaning, replace top duct and remaining components in reverse order.

Lower Cladding

1. Remove front 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

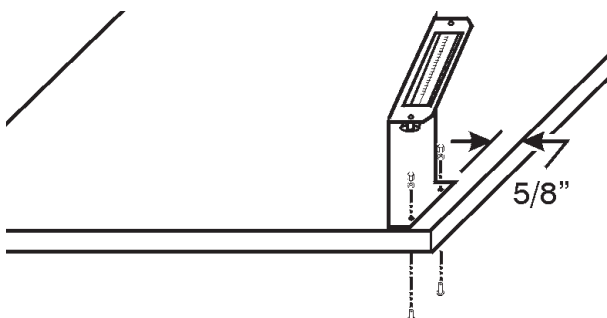
1. Remove lower cladding, see this page.
2. Remove color band, bumper and bumper retainer from the case. (See General-UL/NSF I&S Manual.)
3. Remove screws for top and bottom of upper cladding and remove upper cladding.
4. After cleaning, replace upper cladding and remaining front components in reverse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

GENERAL INFORMATION**NSF Product Thermometer Installation**

1. Unwrap the thermometer and bracket assembly shipped loose with the case.
2. Position bracket in front right corner of the right-most bottom tray. Making sure the bracket is 5/8" in from the right edge, use the bracket holes as a template for where to drill the holes.
3. Drill two .196" holes in the bottom tray.

NOTE

For ease of installation, position the washers and capnuts on the top side of the bracket and bottom tray.



4. Mount the bracket to the bottom tray with two screws, washers and capnuts.

SERVICE INSTRUCTIONS

Troubleshooting Self-Contained Units

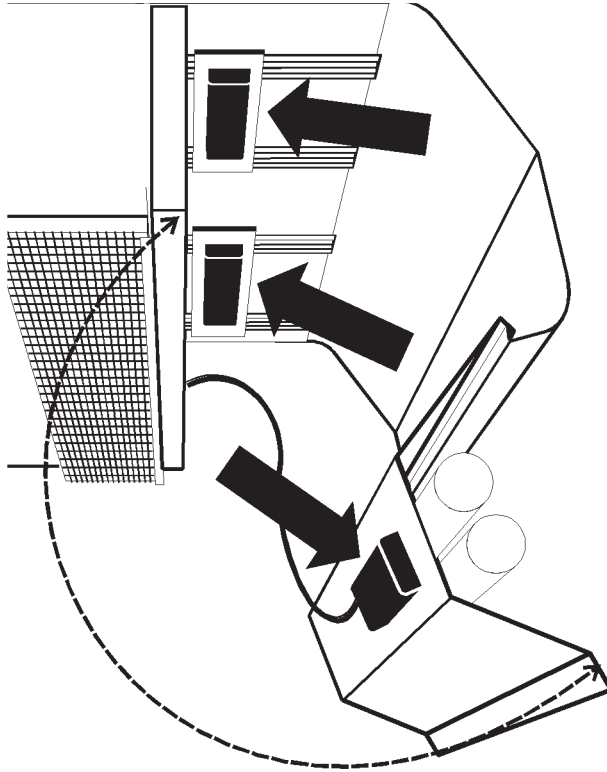
WARNING

Never work on electrically powered equipment while it is energized! Electrical shock could cause personal injury and/or death.

<u>TROUBLE</u>	<u>COMMON CAUSE</u>	<u>REMEDY</u>
1. Unit will not run	Blown fuse	Replace fuse.
	Low voltage	Check outlet with voltmeter. Voltage should be 115V or 220V ($\pm 10\%$).
	Inoperative motor or temperature control	Check connections.
2. Refrigerated section is too warm	Shelves overloaded; blocked air flow	Make sure items do not block the air flow.
	Thermostat set incorrectly	Check setting.
	Pressure control set incorrectly	Check setting.
	Case fans not operating	Check terminal block connections.
3. Refrigerated section too cold	Thermostat set incorrectly	Check setting.
	Pressure control set incorrectly	Check setting.
4. Unit runs all the time	Inadequate air circulation	Relocate cabinet or remove obstruction. Check installation requirements.
	Room temperature too warm	Ventilate room appropriately.
	Thermostat set incorrectly	Reset thermostat.
	Refrigerant charge low	Have unit serviced by a qualified service technician.
5. Noisy operation	Loose baffles	Tighten or brace baffles.
	Tubing contacting cabinet or other tubing	Move tubing.
	Cabinet not level	Level cabinet.
6. Frost or ice on evaporator coil	Defrost clock doesn't work	Check electrical connections. Have unit serviced by a qualified service technician.
7. Water dripping from case drain	Condensate drain clogged	Clear drain.
	Dissipator not functioning	Check electrical supply. Check float assembly.

Light Servicing

Ballast and Lighting Locations



All light ballasts are located under the canopy and mounted on the top of the canopy light channel. 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 channels under the front of each shelf section.

NOTE

See “General-UL/NSF I&S Manual” for 800MA and T-8 ballast and lamp, fan blade & motor and color band & bumper replacement instructions.

PARTS INFORMATION**Operational Parts List**

Case Usage	Domestic			Export		
Electrical Circuit	115 Volt 60 Hertz			220 Volt 50 Hertz		
Case Size	4'	6'	8'	4'	6'	8'
Fan Motors (N5D/N5DH/N5DL)	5125532 5 Watt	5125532 5 Watt	5125532 5 Watt	5126572 5 Watt	5126572 5 Watt	5126572 5 Watt
Fan Motors (N5DSC)	5125532 5 Watt	5125532 5 Watt	----	----	----	----
Fan Motor Brackets	5962269	5962269	5962269	5962269	5962269	5962269
Fan Bracket Plate	9041077	9041077	9041077	9041077	9041077	9041077
Fan Blades (7" 40° 5B)	5221604	5221604	5221604	5221604	5221604	5221604
Opt. ECM Fan Motors (N5D/N5DH/N5DL)	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt
Opt. ECM Fan Motors (N5DSC)	9025002 8 Watt	9025002 8 Watt	----	9025002 8 Watt	9025002 8 Watt	----
Opt. ECM Motor Brackets	9025005	9025005	9025005	9025005	9025005	9025005
Opt. ECM Fan Blades (7" 30° 5B)	5223370	5223370	5223370	5223370	5223370	5223370
T-8 Ballast (can. 2-row)	5966635	5966635	5966635	5232195	5232195	5232195
Opt. T-8 Ballast (can. 1-row)	5991029	5991029	5991029	9322286	9322286	9322286
(shelf)	5966635	5966635	5966635	9322288	9322288	9322288
T-8 Lampholder (canopy)	9041897	9041897	9041897	9041897	9041897	9041897
(shelf)	9041897	9041897	9041897	9041897	9041897	9041897
Self-Cont. Compressor (N5DSC)	5965977	5965978	----	----	----	----
Compressor Model No. (N5DSC)	REK3-0125-PFV	REY3-0175-PFV	----	----	----	----
Condensate Pan (N5DSC)	9601926	5966037	----	----	----	----
Condensate Pan Heater (2-8 VAC)(N5DSC)	9601906 1500 Watt	9601905 2000 Watt	----	----	----	----
NSF Product Thermometer	5967100	5967100	5967100	5967100	5967100	5967100

For information on operational parts not listed above and for 3' N5D operational parts, contact the TYLER Service Parts Department.

Cladding and Optional Trim Parts List

Item	Description	N5D/N5DH/N5DL			N5DSC	
		4'	6'	8'	4'	6'
1	Screw	5183536(3)	5183536(4)	5183536(6)	5183536(3)	5183536(4)
2	Close-off, Hood	9026366	9026367	9026368	9026366	9026367
3	Can. Hood Joint Trim, Ptd.	9029422	9029422	9029422	9029422	9029422
4	Canopy Hood, Ptd.	9025968	9025969	9025970	9025968	9025969
5	Screw	9025833	9025833	9025833	9025833	9025833
6	Bumper Retainer/Hand Rail	-----	-----	color by order	-----	-----
7	Hand Rail Backer, Ptd.	9025316	9025316	9025316	9025316	9025316
8	Color Band, Ptd.	9023791	9023796	9023799	9023791	9023796
9	Color Band Backer, Ptd.	9040223	9040223	9040223	9040223	9040223
10	Bumper	-----	-----	color by order	-----	-----
11	Bumper Backer	-----	-----	color by order	-----	-----
12	Bumper End Trim	-----	-----	color by order	-----	-----
13	Lwr. Frt. Cladding, Ptd. (N5D / N5DL)	9025459	9025460	9025461	-----	-----
	(N5DH)	9026305	9026306	9026307	-----	-----
	(N5DSC)	-----	-----	-----	9603773	9603774
14	Upr. Frt. Cladding, Ptd. (N5D / N5DL)	9025462	9025463	9025464	-----	-----
	(N5DH)	9026308	9026309	9026310	-----	-----
	(N5DSC)	-----	-----	-----	9025462	9025463
15	Screw	5183536(10)	5183536(12)	5183536(15)	5183536(10)	5183536(12)
16	Kickplate, Ptd.	9039267	9039268	9039269	9039267	9039268
	Kickplate Joint Trim, Ptd.	9039020	9039020	9039020	9039020	9039020
	Screw	9037551(4)	9037551(5)	9037551(6)	9037551(4)	9037551(5)
17	Screw	9029131(4)	9029131(6)	9029131(8)	9029131(4)	9029131(6)
18	Kickplate Support	9039022(2)	9039022(3)	9039022(4)	9039022(2)	9039022(3)
19	LH End Close-off, Ptd.	9022469	9022469	9022469	9022469	9022469
	RH End Close-off, Ptd.	9022471	9022471	9022471	9022471	9022471
20	Screw	5048626(2)	5048626(2)	5048626(2)	5048626(2)	5048626(2)

For information on 3' N5D cladding and optional trim parts, contact the TYLER Service Parts Department.

