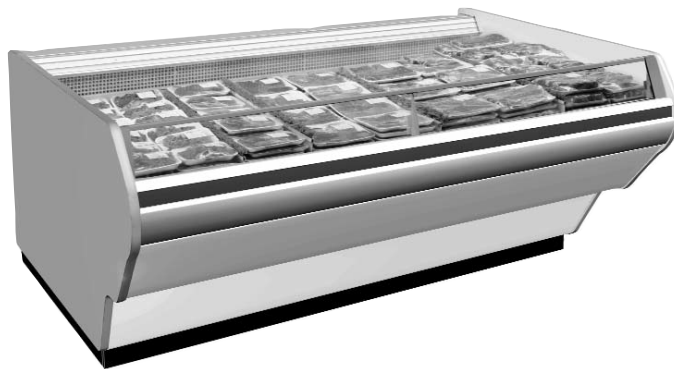


series  
**Advantage**

**Installation & Service  
Manual**



**NMG/NMGHPA Shown**



**N4M/N4MHP Shown**

**NM(G), NM(G)HPA, N4M(G), N4M(G)HP**

**TOP DISPLAY AND MULTI-SHELF MEAT/DELI/CRITICAL TEMP  
PRODUCE/HIGH PERFORMANCE MERCHANDISERS**

**Medium Temperature Self Serve 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!!**

These merchandisers conform to the American National Standard Institute & NSF International Health and Sanitation standard ANSI/NSF 7 - 2003.

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The following Medium Temperature, Top Display, Multi-Shelf or High Performance Merchandiser models are covered in this manual:

<b>MODEL</b>	<b>DESCRIPTION</b>
NM	6', 8' & 12' TOP DISPLAY MEDIUM TEMP MERCHANDISER
NMG	6', 8' & 12' GLASS FRONT TOP DISPLAY MEDIUM TEMP MERCHANDISER
NMHPA	6', 8' & 12' TOP DISPLAY HIGH PERFORMANCE MERCHANDISER
NMGHPA	6', 8' & 12' GLASS FRONT TOP DISPLAY HIGH PERFORMANCE MERCHANDISER
N4M	6', 8' & 12' MULTI-SHELF MEDIUM TEMP MERCHANDISER
N4MG	8' & 12' GLASS FRONT MULTI-SHELF MEDIUM TEMP MERCHANDISER
N4MHP	8' & 12' MULTI-SHELF HIGH PERFORMANCE MERCHANDISER
N4MGHP	8' & 12' GLASS FRONT MULTI-SHELF HIGH PERFORMANCE MERCHANDISER

**SPECIFICATIONS**

**NM & NMG Top Display Meat/Deli/Critical Temp Produce 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)	
NM	6'8'/12'	MED TEMP	432*	477*	+15**	+13	+28	215***	0.26
NMG	6'8'/12'	MED TEMP	387*	427*	+15**	+13	+28	215***	0.26

\* 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 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 208Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS (120V)				DEFROST HEATER (208V)	
			AMPS	WATTS	AMPS	WATTS	DISCHARGE AIR		FRONT GLASS		AMPS	WATTS
NM	6'	2	0.68	60.4	0.44	22.0	0.20	24.0	N/A	N/A	6.5	1,352
NM	8'	2	0.68	60.4	0.44	22.0	0.30	36.0	N/A	N/A	6.9	1,435
NM	12'	3	1.02	90.6	0.66	33.0	0.40	48.0	N/A	N/A	10.3	2,142
NMG	6'	2	0.68	60.4	0.44	22.0	0.20	24.0	0.07	8.4	6.5	1,352
NMG	8'	2	0.68	60.4	0.44	22.0	0.30	36.0	0.10	12.0	6.9	1,435
NMG	12'	3	1.02	90.6	0.66	33.0	0.40	48.0	0.14	16.8	10.3	2,142

Heaters (208 Volt)

208 VOLT DEFROST (AMPS)														
FT	6	8	12	16	20	24	28	32	36	40	44	48	52	56
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-40	34.3 TG-50	37.8 TG-50	41.2 TG-50	44.6 TG-50	N/A
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	33.0 TG-3-50

**Defrost Data:**

DEFROST TYPE*	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION (°F)	EPR SETTINGS **		DEFROST WATER (LB / FT / DAY)	
				R22 (PSIG)	R404A (PSIG)	NM	NMG
TIME OFF	4	34	---	38	49.5	2.1	2.0
ELECTRIC	4	19	50				
HOT GAS	4	12-15	55*				

\* 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 – OPTIONAL AIR DEFROST (use DF-AD defrost module) requires 3 control wires @ 208V per lineup.

AIR DEFROST is not available for NMG cases.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING														
MODEL	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'	52'	56'
NM(G) / R22	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"

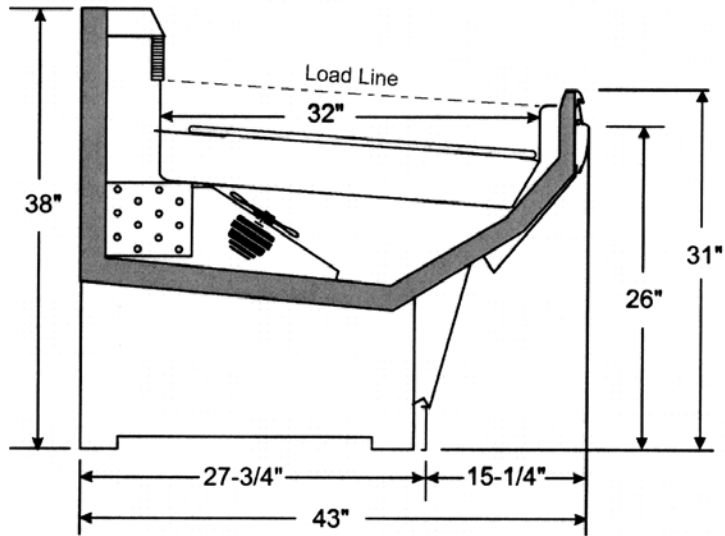
**CASE CIRCUITS:** This case requires a 120V circuit for fans and anti-sweat heaters.

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

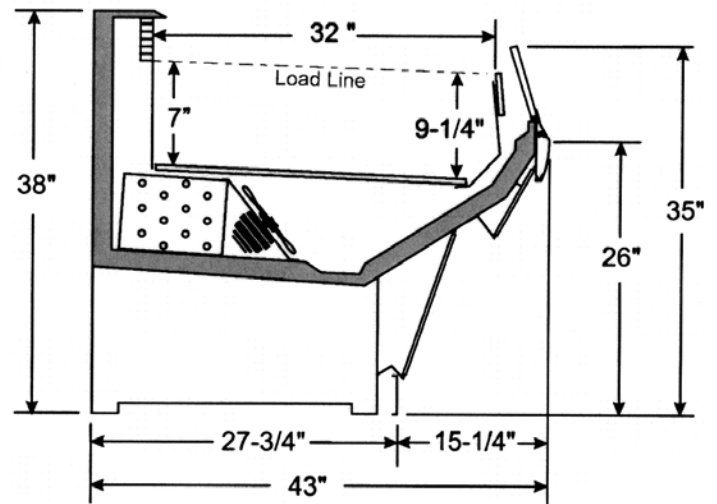
**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of 75°F & 55RH

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.

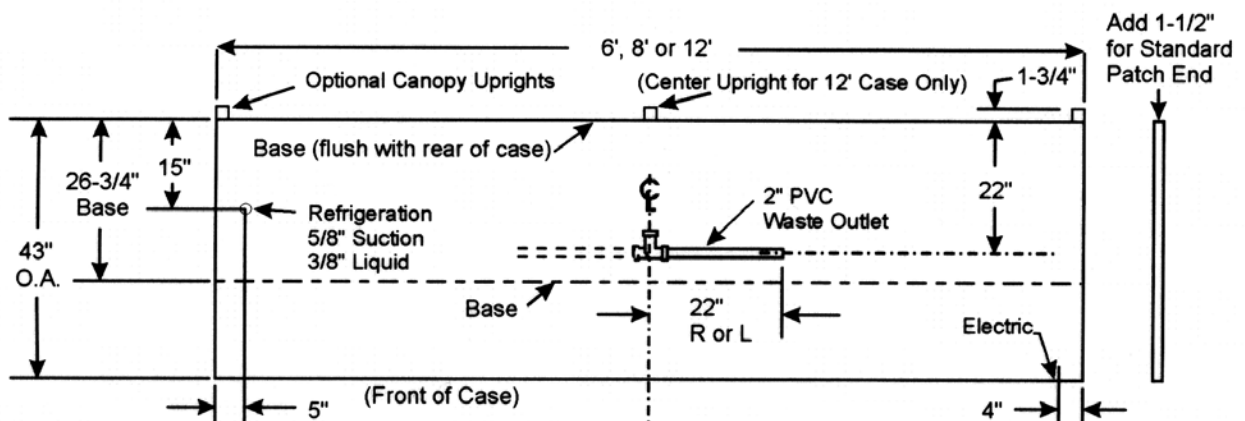
**NM CROSS SECTION**



**NMG CROSS SECTION**



**FLOOR PLAN**





**NMHPA & NMGHPA Top Display High Performance 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)	
NMHPA	6'/8'/12'	MED TEMP	375*	428*	+25**	+23	+27.5	279***	0.29
NMGHPA	6'/8'/12'	MED TEMP	302*	344*	+25**	+23	+27.5	279***	0.29

- \* 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 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 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS			
			AMPS	WATTS	AMPS	WATTS	DISCHARGE AIR		FRONT GLASS	
							AMPS	WATTS	AMPS	WATTS
NMHPA	6'	2	0.68	60.4	0.44	22.0	0.20	24.0	N/A	N/A
NMHPA	8'	2	0.68	60.4	0.44	22.0	0.30	36.0	N/A	N/A
NMHPA	12'	3	1.02	90.6	0.66	33.0	0.40	48.0	N/A	N/A
NMGHPA	6'	2	0.68	60.4	0.44	22.0	0.20	24.0	0.07	8.4
NMGHPA	8'	2	0.68	60.4	0.44	22.0	0.30	36.0	0.10	12.0
NMGHPA	12'	3	1.02	90.6	0.66	33.0	0.40	48.0	0.14	16.8

**Defrost Data:**

DEFROST TYPE*	DEFROSTS PER DAY	DURATION TIME (MIN)**	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ***		CONVENTIONAL COMPRESSOR SETTINGS****				DEFROST WATER (LB / FT / DAY)	
			USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG)		R404A (PSIG)		NMHP	NMGHP
								CUT-IN	CUT-OUT	CUT-IN	CUT-OUT		
TIME OFF	4	34	MED TEMP	28°F	26°F	49	62	47	36	60	47	1.8	1.5

- \* All high performance cases use OFF CYCLE defrost
- \*\* NOTE: 34 minutes is for EPR with suction stop for defrost isolation. Defrost times increases by eight minutes (42 min. total) when defrost isolation is by pump down.
- \*\*\* If EPR is utilized, use the settings shown in the chart. NOTE: The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the NM(G)HPA 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.
- \*\*\*\* Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING												
MODEL	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'
NMHPA / R22	3/8"	3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"
NMGHPA / R22	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"

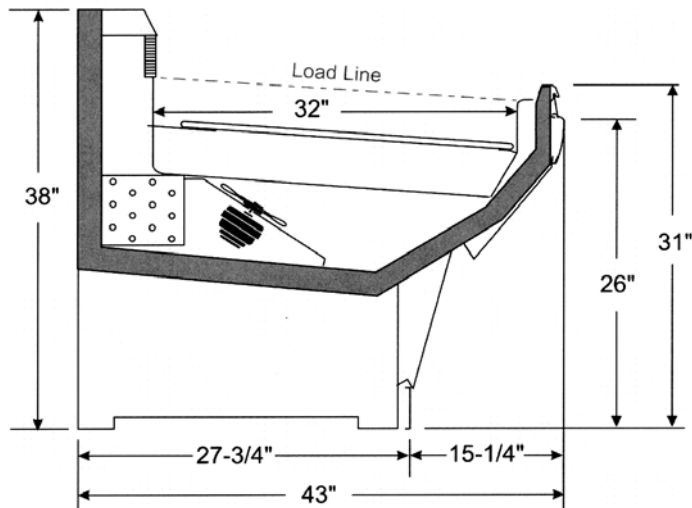
**CASE CIRCUITS:** This case requires a 120V circuit for fans and anti-sweat heaters.

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

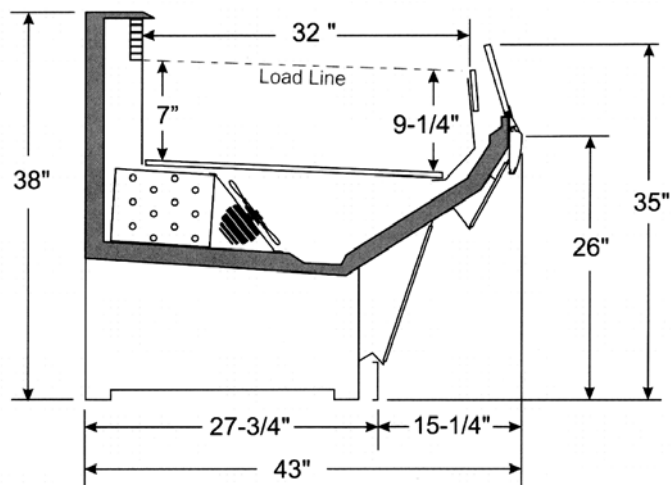
**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of 75°F & 55RH.

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.

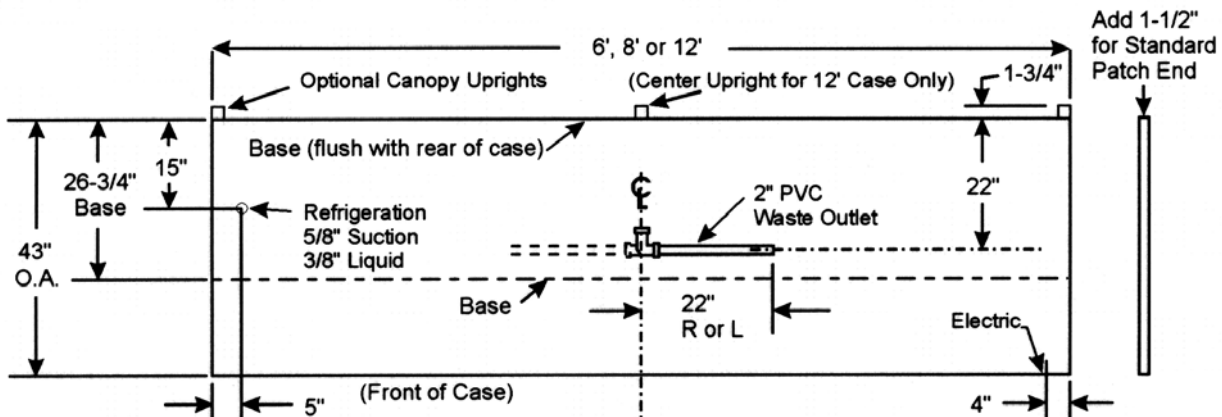
**NMHPA CROSS SECTION**



**NMGHPA CROSS SECTION**



**FLOOR PLAN**



**N4M & N4MG Multi-Shelf Meat/Deli/Critical Temp Produce 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)	
N4M	6'/8'/12'	MED TEMP	1,304*	1,490*	+18**	+16	+32	321***	0.84
N4MG	8'/12'	MED TEMP	1,194*	1,364*	+18**	+16	+32	321***	0.84

\* Capacity data listed for cases with 2 rows of T-8 canopy lights and 3 rows of optional 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 defined as the saturated suction temperature 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		TOTAL ANTI-SWEATS (120V)		208 VOLT DEFROST HEATER	
			AMPS	WATTS	AMPS	WATTS	DISCHARGE AIR AMPS	DISCHARGE AIR WATTS	AMPS	WATTS
N4M	6'/8'	2	1.06	96.0	0.64	34.0	0.30*	36.0	6.90	1,436
N4M	12'	3	1.59	144.0	0.96	51.0	0.50*	60.0	10.30	2,143
N4MG	8'	2	1.06	96.0	0.64	34.0	0.30*	36.0	6.90	1,436
N4MG	12'	3	1.59	144.0	0.96	51.0	0.50*	60.0	10.30	2,143

\* Discharge air anti-sweat heater will only be on when the canopy lights are off. Use highest amp draw of the two circuits to figure electrical case requirements..

Heaters (208 Volt)

208 VOLT DEFROST (AMPS)											
FT	8	12	16	20	24	28	32	36	40	44	48
1 PH	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-40	34.4 TG-50	37.8 TG-50	41.2 TG-50
3 PH	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

T-8 Lighting with Electronic Ballasts (120 Volt)

MODEL	CASE LENGTH	CANOPY LIGHTS – PER ROW*				SHELF LIGHTS – PER ROW						MAXIMUM LIGHTING (5 ROWS)	
		AMPS		WATTS		AMPS			WATTS			AMPS	WATTS
		1-ROW	2-ROWS	1-ROW	2-ROWS	1	2	3	1	2	3		
N4M	6'	0.40	0.75	42	85	0.38	0.75	1.13	42	85	127	1.88	212
N4M(G)	8'	0.50	0.95	60	114	0.70	1.10	1.40	84	132	168	2.35	282
N4M(G)	12'	0.70	1.40	84	168	1.05	1.65	2.10	126	198	252	3.50	420

**Defrost Data:**

DEFROST TYPE*	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION (°F)	EPR SETTINGS **		DEFROST WATER (LB / FT / DAY)	
				R22 (PSIG)	R404A (PSIG)	N4M	N4MG
TIME OFF	6	30	---	41	53	8.4	8.2
ELECTRIC	6	36	50				
HOT GAS	6	12-15	55*				
AIR DEFROST (N4M ONLY)	6	30	50				

\* 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.

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.

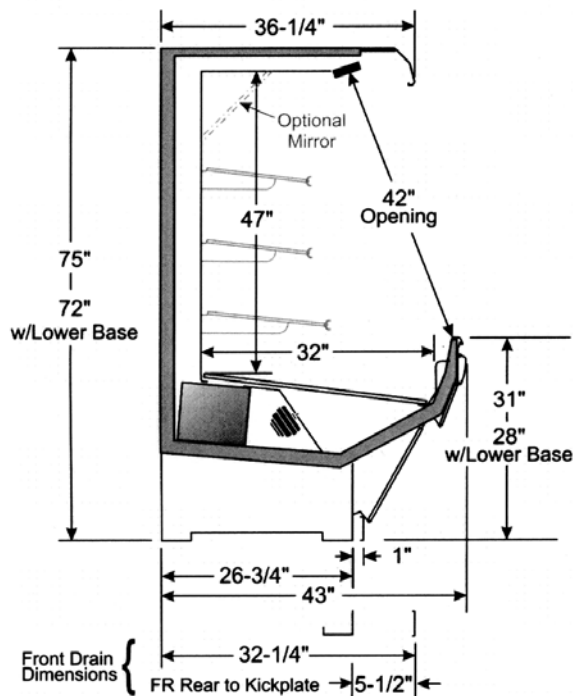


CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING												
MODEL	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'
N4M(G) / R22	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"

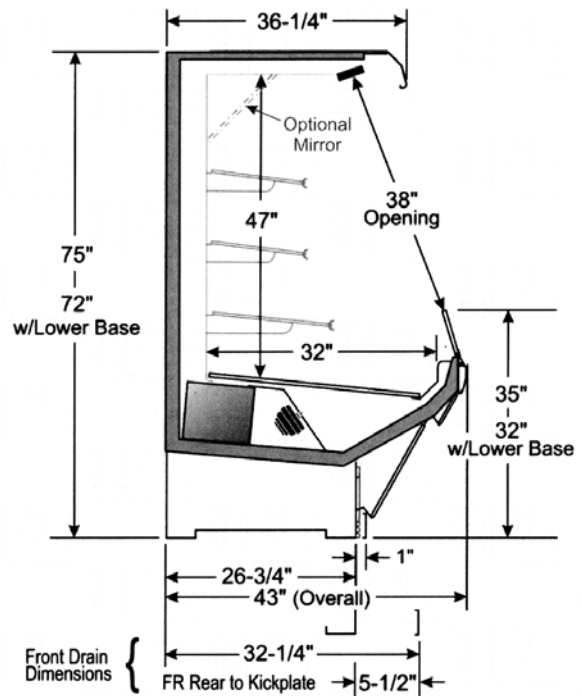
**CASE CIRCUITS:** This case requires a 120V circuit for fans, lights and anti-sweat heaters and a 208V circuit for Electric Defrost (if used). Screens are standard. Shelving with gaskets must be ordered separately. All rows of shelving require shelf gaskets. A two-shelf arrangement includes (1) 15" shelf on top and (1) 18" shelf on bottom. A three-shelf arrangement includes (1) 15" shelf on top, (1) 15" shelf in the middle and (1) 18" shelf on the bottom.

When mirrors are used, only 12" or 16" wide mirrors are allowed. **NOTE:** 1 or 2 discharge holes must be left open between the top shelf and bottom of mirror.

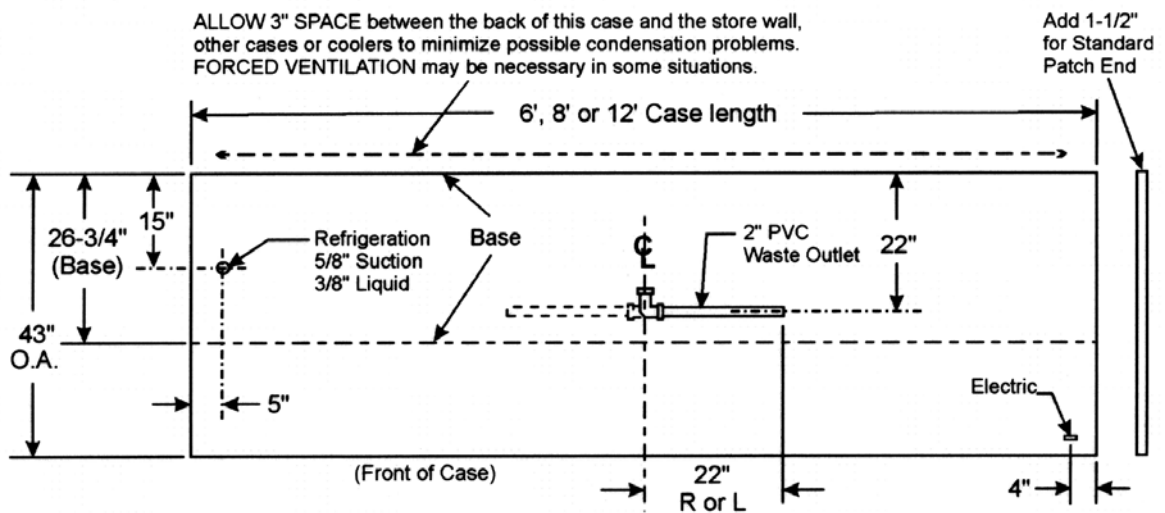
**N4M CROSS SECTION**



**N4MG CROSS SECTION**



**N4M(G) FLOOR PLAN**



**N4MHP & N4MGHP Multi-Shelf High Performance 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)	
N4MHP	ALL	MED TEMP	1,183*	1,339*	+25**	+23	+28.3	275***	0.67
N4MGHP	ALL	MED TEMP	1,084*	1,227*	+25**	+23	+28.3	275***	0.67

\* Capacity data listed for cases with 2 rows of T-8 canopy lights and 3 rows of optional lighted shelves. 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 defined as the saturated suction temperature leaving the case.

\*\*\* Air velocity measured 1 hour after defrost at the vertical part of the Rear Duct.

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*	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
			N4M(G)HP	8'	2	1.60	142.0	1.06
N4M(G)HP	12'	3	2.40	213.0	1.59	66.0	0.50	60.0

\* Discharge air anti-sweat heater will only be on when the canopy lights are off. Use highest amp draw of the two circuits to figure electrical case requirements.

**T-8 Lighting with Electronic Ballasts (120 Volt)**

MODEL	CASE LENGTH	CANOPY LIGHTS – PER ROW				SHELF LIGHTS – PER ROW						MAXIMUM LIGHTING*	
		AMPS		WATTS		AMPS			WATT			AMPS (5 ROWS)	WATTS (5-ROWS)
		1-ROW	2 ROWS	1-ROW	2 ROWS	1-ROW	2-ROWS	3-ROWS	1-ROW	2-ROWS	3-ROWS		
N4M(G)HP	8'	0.50	0.95	60.0	114.0	0.70	1.10	1.40	84.0	132.0	168.0	2.35	282.0
N4M(G)HP	12'	0.70	1.40	84.0	168.0	1.05	1.65	2.10	126.0	198.0	252.0	3.50	420.0

\* Discharge air anti-sweat heater will only be on when the canopy lights are off. Use highest amp draw of the two circuits to figure electrical case requirements.

**Defrost Data:**

DEFROST TYPE*	DEFROSTS PER DAY	DURATION TIME (MIN)**	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ***		CONVENTIONAL COMPRESSOR SETTINGS****				DEFROST WATER (LB / FT / DAY)	
			USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG)		R404A (PSIG)		N4MHP	N4MGHP
								CUT-IN	CUT-OUT	CUT-IN	CUT-OUT		
TIME OFF – N4M(G)HP	6	28	MED TEMP	28°F	26°F	49	62	47	36	60	47	7.3	6.6

\* All high performance cases use OFF CYCLE defrost.

\*\* NOTE: 28 minutes is for EPR with suction stop for defrost isolation. Defrost times increases by six minutes (34 min. total) when defrost isolation is by pump down.

\*\*\* If EPR is utilized, use the settings shown in the chart. NOTE: The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the N4M(G)HP 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.

\*\*\*\* Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING											
MODEL	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'
N4M(G)HP / R22	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 CIRCUITS:** This case requires a 120V circuit for fans, lights and anti-sweats.

Screens are standard. Shelving with shelf gaskets must be ordered separately. All rows of shelving require shelf gaskets. A two-shelf arrangement includes (1) 15" shelf on top and (1) 18" shelf on bottom. A three-shelf arrangement includes (1) 15" shelf on top, (1) 15" shelf in the middle and (1) 18" shelf on the bottom.

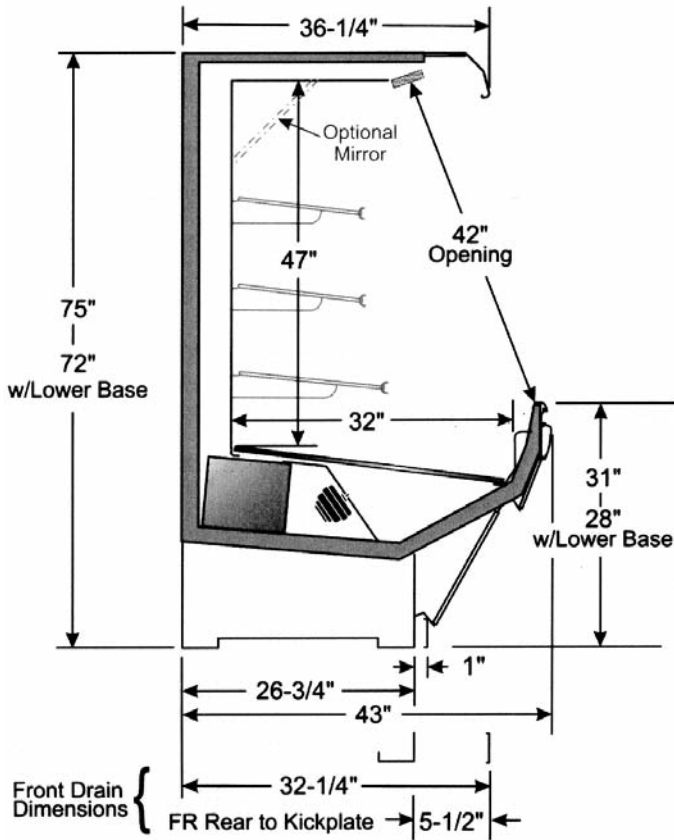
**NOTE:** When mirrors are used, 1 or 2 rows of discharge holes must be left open between the top shelf and bottom of mirror.

**UL SANITATION** approved in accordance with ANSI/NSF – 7.

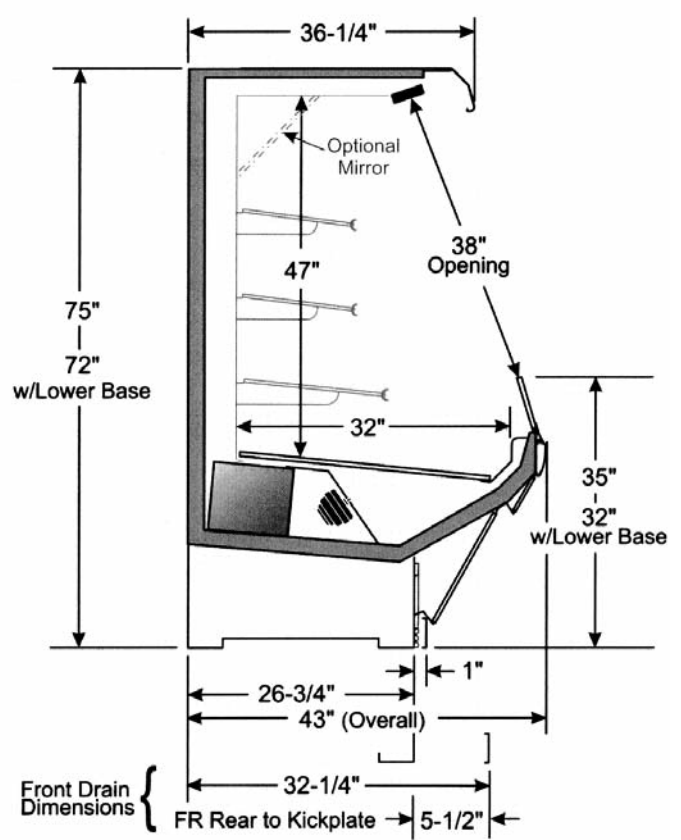
**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of 75°F & 55RH.

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.

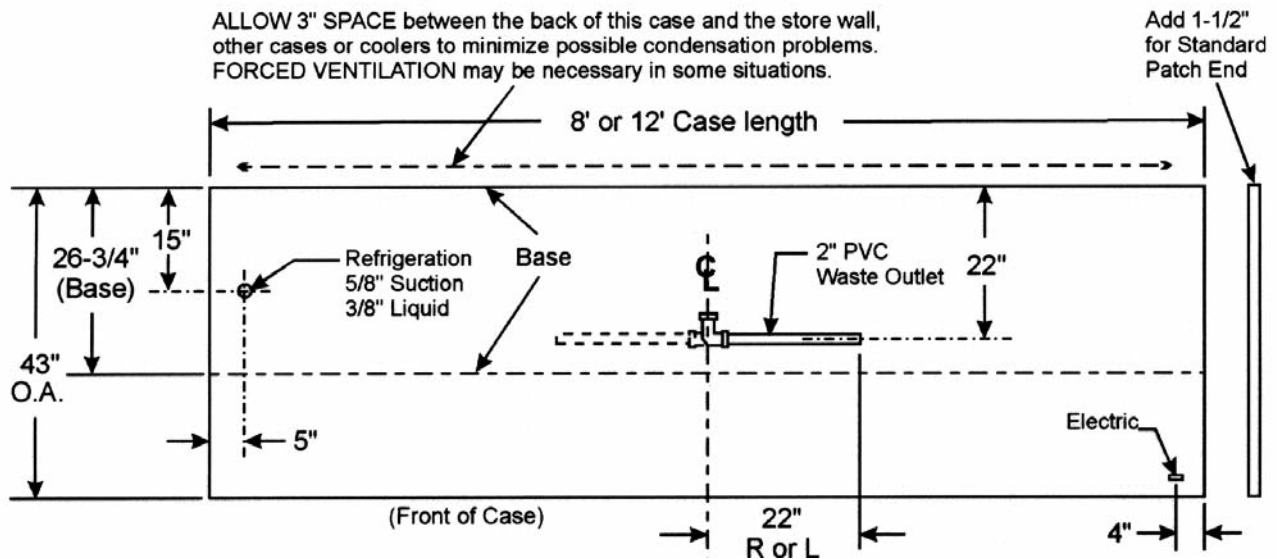
**N4MHP CROSS SECTION**



**N4MGHP CROSS SECTION**



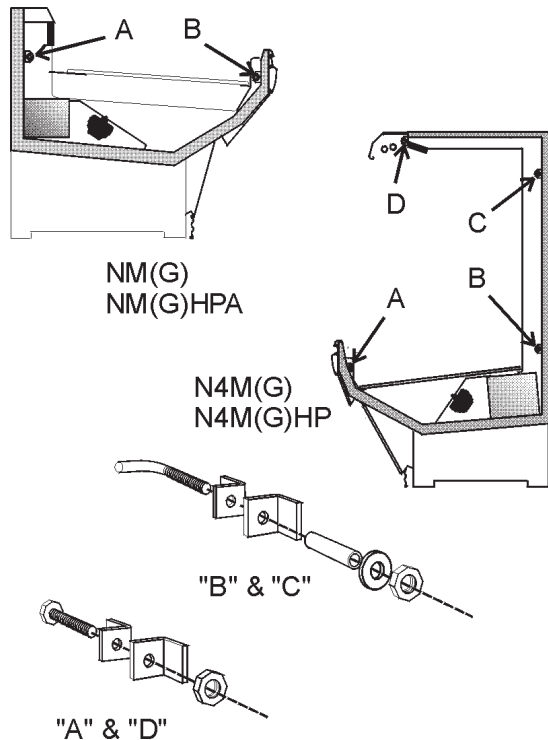
**FLOOR PLAN**



## INSTALLATION PROCEDURES

### Carpentry Procedures

#### Case Pull-Up Locations



The NM(G) and NM(G)HPA models have two pull-ups at each end of the case. The N4M(G) and N4M(G)HP models have four pull-ups at each end of the case. Pull-ups A and B or A, B, C and D are located as shown and should be installed and tightened starting with A and finishing with B or D.

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

#### NOTE

If a NM(HPA) or NMG(HPA) case requires a canopy that is not pre-installed, see "Superstructure Installation" section in this manual before joining the cases.

### Refrigeration Procedures

Refrigeration system and superheat instructions can be found in the "General-UL/NSF I&S Manual". Self-contained and case electronic temperature control information is listed below.

#### Self-Contained Case Information (NM(G) Only)

The pressure control is located in the control box next to the compressor in the base of the case. The pressure control is a regulating device for the compressor. It is factory set to cycle the compressor to achieve an entering air temperature of 23-25°F. The control may be adjusted by resetting the cut in and out pressures indicated on the scales of the pressure control. See specification sheets in this manual for pressure control settings.

Self-contained cases do not require any external defrost controls. A time clock will stop the condensing unit during the time defrost is required. See specification sheets in this manual for defrost settings.

The hermetic type compressor is located in the base of the case. It has the motor and compressor assembly sealed within a dome shaped housing. This unit should not require any field servicing. If it fails to operate properly, check the self-contained unit trouble-shooting chart in this manual or contact a qualified service technician.

The optional dissipator will be located in the base of the case near the compressor. This pan is used to evaporate water produced when defrosting the coil. It is not designed to handle any large amounts of water (Max. Cap.: 10 qt).

The condenser is a tube and fin type heat exchanger. It is used to condense the hot refrigerant gases back to liquid. This is accomplished by forcing air circulation through the condenser coil. The air is provided by a motor and fan located at the rear of the condenser. **Keep the condenser fins free from dust and dirt to ensure proper system operation.**

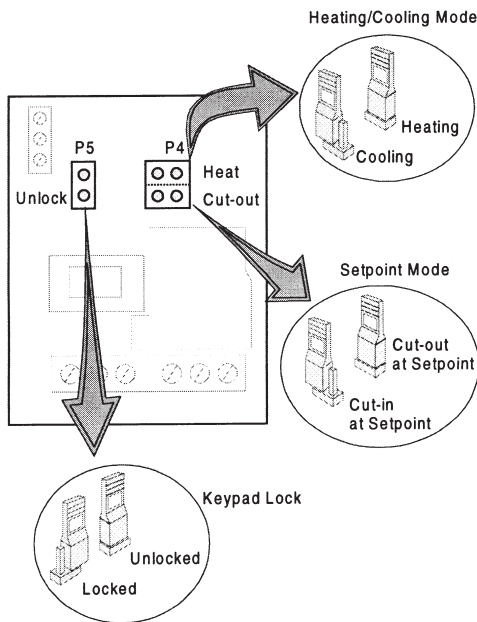


## Electronic Temperature Control (NM(G)HPA/N4M(G)HP Models)

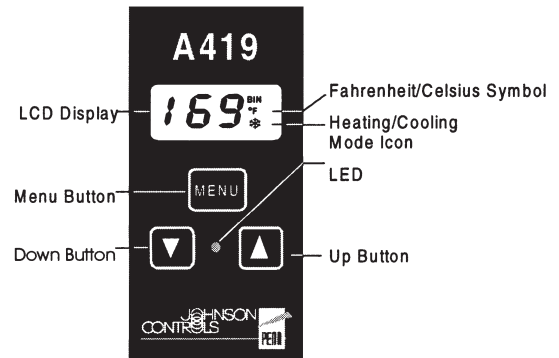
Whenever an NMHPA, NMGHPA, N4MHP or N4MGHP uses an electronic thermostat and solenoid valve for temperature control, use the following instructions to properly set-up the electronic thermostat.

### Setting the Electronic Thermostat

1. Remove the four screws and cover from the electronic thermostat.
2. Connect sensor wires to the common (COM) and sensor (SEN) terminals of the terminal strip located at the top left of the printed circuit board. The sensor leads are interchangeable.



3. Set the Heating/Cooling jumper blocks to the "COOL" position.
4. Set the Cut-in at Setpoint/Cut-out at Setpoint jumper blocks to the "Cut-out at Setpoint" position.
5. Set the keypad Locked/Unlocked jumper blocks to the "Unlocked" position.
6. Replace the electronic thermostat cover and secure with four screws.



7. To adjust the setpoint:
  - a. Push the Menu Button. "SP" will flash on the LCD display.
  - b. Push the Menu Button one more time and a setpoint temperature will be displayed.  
NM(G)HPA or N4M(G)HP = 28°F
  - c. Push the Up or Down Button until the desired setpoint is displayed.
  - d. Push the Menu Button.
8. To adjust the differential:
  - a. Push the Menu Button. "SP" will flash on the LCD display.
  - b. Push the Down Button until "DIF" is shown on the LCD display.
  - c. Push the Menu Button one more time and a differential number will be displayed.
  - d. Push the Up or Down Button until the desired differential setting is displayed. NM(G)HPA or N4M(G)HP (all applications) = 2°F
  - e. Push the Menu Button.

With the cooling mode selected, the differential is ABOVE the setpoint. The relay will energize and the LED indicator will illuminate when the temperature reaches the differential setting. When the temperature drops to the setpoint, the relay and LED indicator will de-energize and refrigeration will stop.

The settings above are specific to TYLER NMHPA, NMGHPA, N4MHP and N4MGHP cases. Other applications will require different setpoints and differentials.



## Bottom Trays

All bottom trays should be installed with the lips down. This assures proper case operation and sanitary practices.

## 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.**

#### **NOTE**

**The raceway houses the electrical wiring, components and terminal blocks for the case. Remove the lower front cladding to access the raceway.**

### Case Fan Circuit

This circuit is to be supplied by an uninterrupted, protected 120V circuit. The case fan circuit is not cycled, except when equipped for gas defrost. On gas defrost cases the fan circuit is controlled by a 50/40 klixon.

#### **NOTE**

**With gas defrost, the fans will not start until the coil temperature reaches 40°F at the fan delay thermostat.**

## Fluorescent Lamp Circuit

N4M(G) and N4M(G)HP case 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. Case lighting options include 2-row of horizontal canopy lights and up to 3 rows of shelf lights.

NM(G) and NM(G)HPA optional canopy lighting is supplied by a single row of T-8 electronic ballast lights. It is controlled by a light switch in each canopy light fixture.

### Anti-Sweat Circuit

All cases have at least one anti-sweat heater. NM and NMHPA cases have a rear riser anti-sweat heater. N4M(G) and N4M(G)HP cases have an anti-sweat heater in the discharge grid. NM(G) and NM(G)HPA cases have an additional anti-sweat heater for the front glass. N4M(G) and N4M(G)HP discharge grid anti-sweat heater is wired into the light circuit. All other anti-sweat heaters are wired directly to the main power supply so they can operate at all times.

### Self-Contained Circuit

NM(G) and NM(G)HPA cases are available in self-contained units. Information pertaining to self-contained units should be obtained directly from TYLER Refrigeration.

## Defrost Information

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

### Defrost Control Chart

#### NM(G) Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	4	34	-----
Electric	4	19	50°F
Gas	4	12-15	55°F

#### NM(G)HPA Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	4	34*	-----

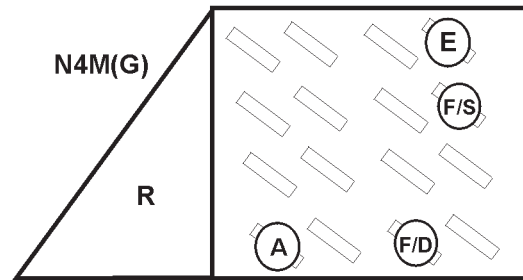
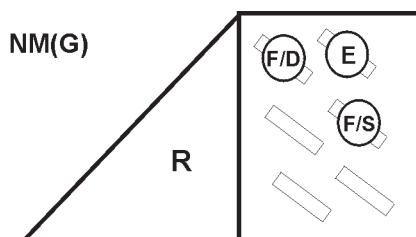
#### N4M(G) Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	6	30	-----
Electric	6	36	50°F
Gas	6	12-15	55°F
Air	6	30	50°F

#### N4M(G)HP Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	6	28*	-----

\* See specification pages in this manual for pump down adjustment variations.



E = Electric Defrost Termination  
 F/D = Gas Defrost (Fan Delay)  
 F/S = Electric Defrost Failsafe (Opt.)  
 A = Air Defrost Termination (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.

NM(G)HPA and N4M(G)HP cases do not have any klixons.

### NOTE

The termination thermostat for gas defrost is located on 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

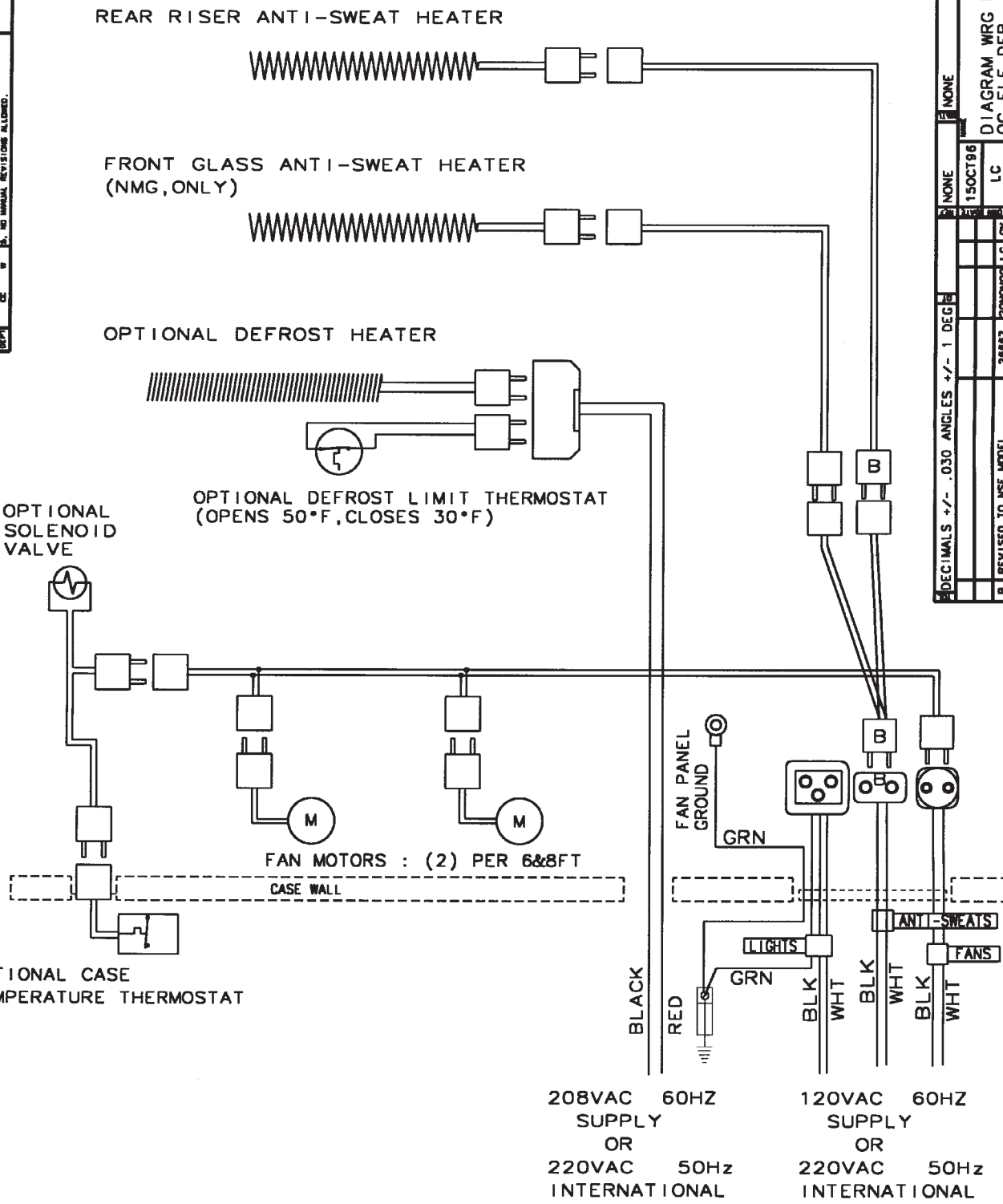
120V circuits should be protected by 15 or 20 Amp devices per the requirements noted on the cabinet nameplate or the National Electrical Code, Canadian Electrical Code - Part 1, Section 28. 208V defrost circuits employ No. 12 AWG field wire leads for field connections. On remote cases intended for end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

The following wiring diagrams on pages 16 thru 36 will cover the NM, NMG, NMHPA, NMGHPA, N4M, N4MG, N4MHP and N4MGHP case circuits, electric, gas and air defrost circuits, and the lighting circuits.

# NM(G) Domestic & Export (50 Hz) Case Circuits (6', 8' & 12' Cases)

**TYLER**  
 CORPORATION  
 11100 WILSON AVENUE  
 CHICAGO, ILLINOIS 60658

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
 2. DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.  
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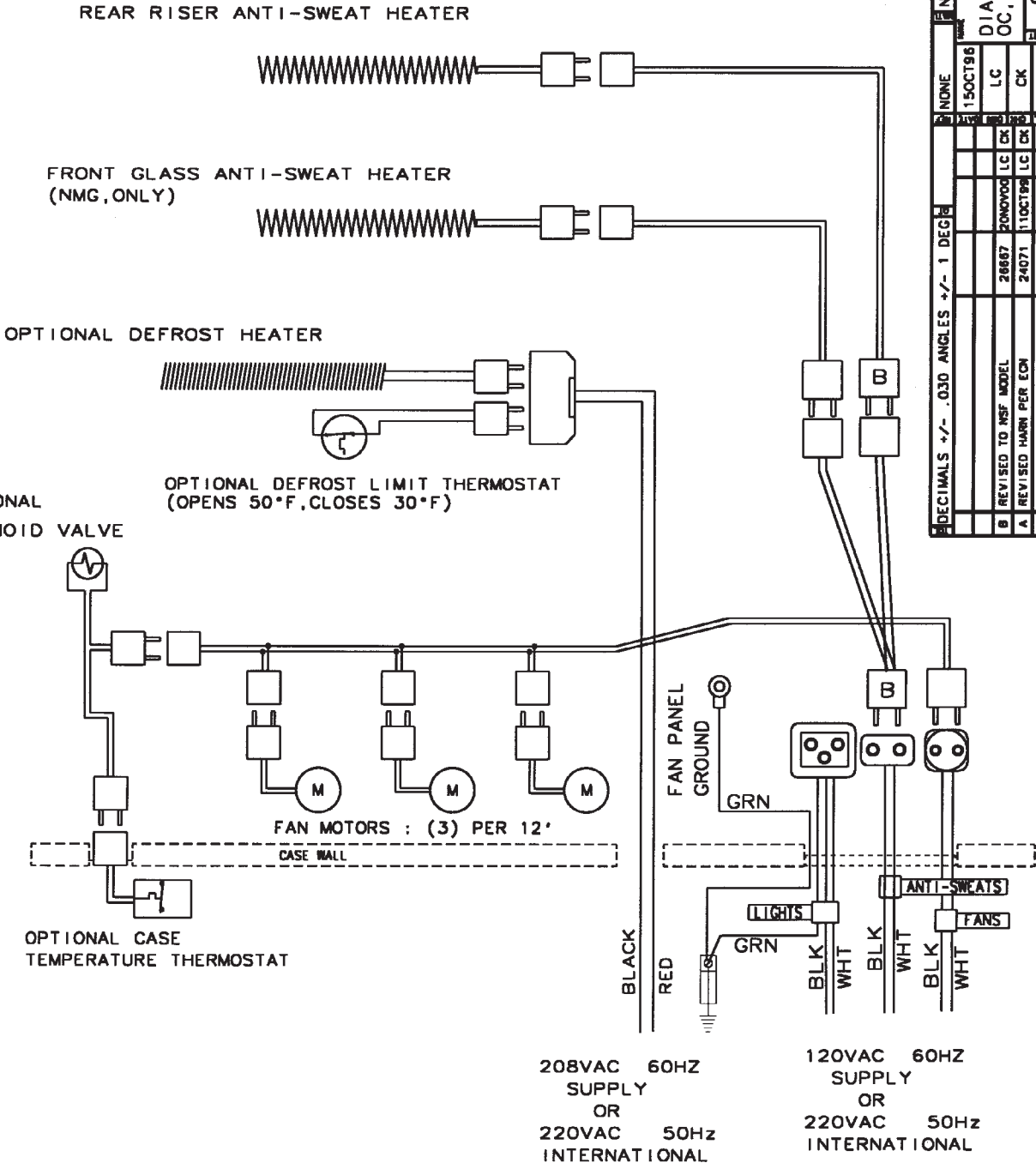


DECIMALS +/- .030 ANGLES +/- 1 DEGR	NONE	NONE
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REVISED MATH. PER ECN	24071	11OCT99 LC CK
DESCRIPTION	96-104	DATE BY DNE
DIAGRAM WRG NM(G) 6-B		
OC, ELE DFR		
9026122		
B		

NOTE : ALL CASES MUST BE GROUNDED

1. THIS INFORMATION IS FOR THE USER'S INFORMATION ONLY. IT IS NOT TO BE USED AS A BASIS FOR WARRANTY, SERVICE, OR REPAIR. THE USER SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF THE UNIT. THE USER SHALL BE RESPONSIBLE FOR THE PROPER USE OF THE UNIT. THE USER SHALL BE RESPONSIBLE FOR THE PROPER CARE AND MAINTENANCE OF THE UNIT. THE USER SHALL BE RESPONSIBLE FOR THE PROPER USE OF THE UNIT. THE USER SHALL BE RESPONSIBLE FOR THE PROPER CARE AND MAINTENANCE OF THE UNIT.

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3		REVISED HARN PER EON



NOTE : ALL CASES MUST BE GROUNDED

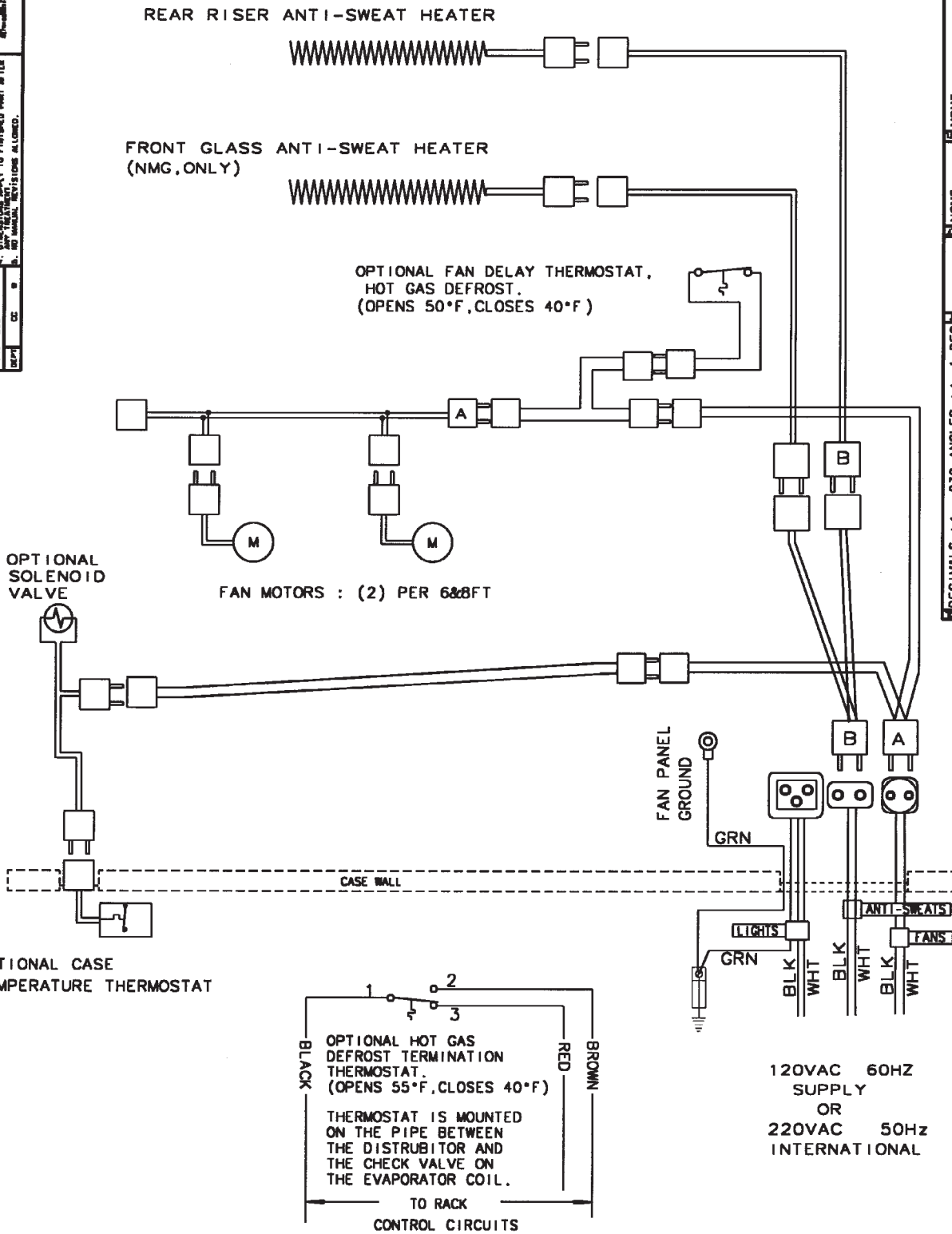
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1		INITIAL DESIGN
2		REVISED TO WSF MODEL
3		REVISED HARN PER EON

DECIMALS +/-	.030	ANGLES +/-	1 DEG
REV	DATE	DESCRIPTION	
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2	15OCT96	REVISED TO WSF MODEL	
3	26687	REVISED HARN PER EON	
4	24071	REVISED HARN PER EON	
5	11OCT98	REVISED HARN PER EON	
6	11OCT98	REVISED HARN PER EON	
7	11OCT98	REVISED HARN PER EON	
8	11OCT98	REVISED HARN PER EON	
9	11OCT98	REVISED HARN PER EON	
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18	11OCT98	REVISED HARN PER EON	
19	11OCT98	REVISED HARN PER EON	
20	11OCT98	REVISED HARN PER EON	

DIAGRAM WRG NM(G)12  
OC, ELE DFR  
9026123

1. THE INSTALLATION OF THIS UNIT MUST BE DONE BY A QUALIFIED PERSON.  
 2. THE UNIT IS TO BE INSTALLED IN A WELL VENTILATED AREA.  
 3. ALL WIRING MUST BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.  
 4. ALL ELECTRICAL CONNECTIONS MUST BE MADE TO THE TERMINALS PROVIDED.  
 5. THE UNIT IS TO BE INSTALLED IN A WELL VENTILATED AREA.  
 6. THE UNIT IS TO BE INSTALLED IN A WELL VENTILATED AREA.  
 7. THE UNIT IS TO BE INSTALLED IN A WELL VENTILATED AREA.  
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REV	DESCRIPTION	DATE	BY	CHK
1	98-104			
2	24071	11OCT99	LC	CK
3	26667	20NOV03	LC	CK
4	150CT96			
5	NONE			

DECIMALS +/- .030 ANGLES +/- 1 DEGR

DIAGRAM WRG NM(G) 6-B  
 HG DFR

9028843 B

NOTE : ALL CASES MUST BE GROUNDED





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REAR RISER ANTI-SWEAT HEATER



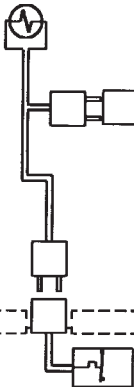
FRONT GLASS ANTI-SWEAT HEATER (NMG, ONLY)



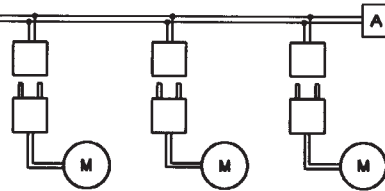
OPTIONAL FAN DELAY THERMOSTAT, HOT GAS DEFROST. (OPENS 50°F, CLOSES 40°F)



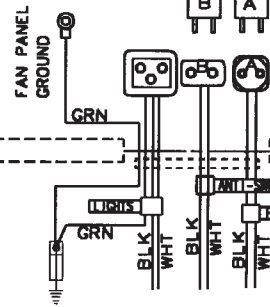
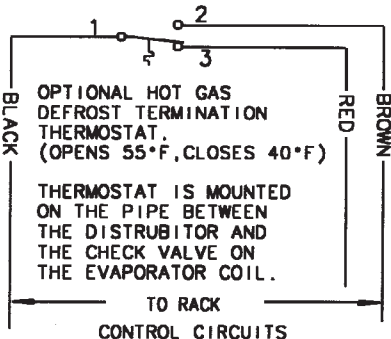
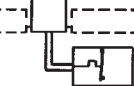
OPTIONAL SOLENOID VALVE



FAN MOTORS : (3) PER 12'



OPTIONAL CASE TEMPERATURE THERMOSTAT



120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL

NOTE : ALL CASES MUST BE GROUNDED

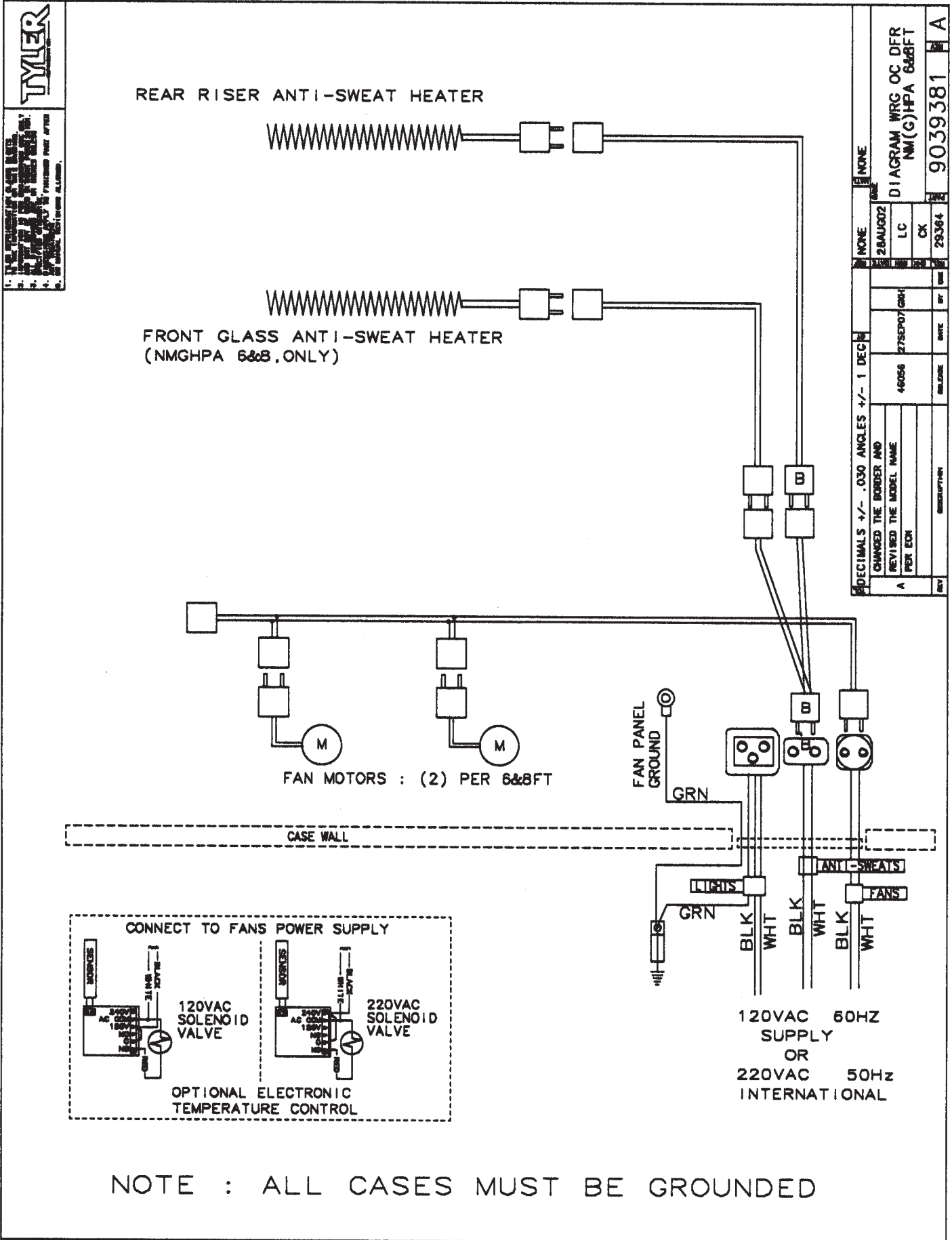
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B	REVISED TO NSF MODEL	26867	20NOV00	LC	CK
C	NONE	15OCT96			
D	NONE				
E	NONE				

DECIMALS +/- .030 ANGLES +/- 1 DEGR

DIAGRAM WRG NM(G)12  
HG DFR

9028842

# NM(G)HPA Domestic & Export (50 Hz) Case Circuits (6', 8' & 12' Cases)

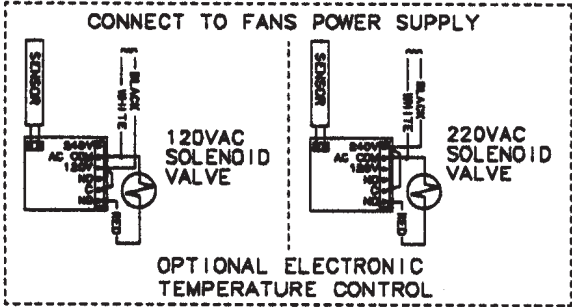
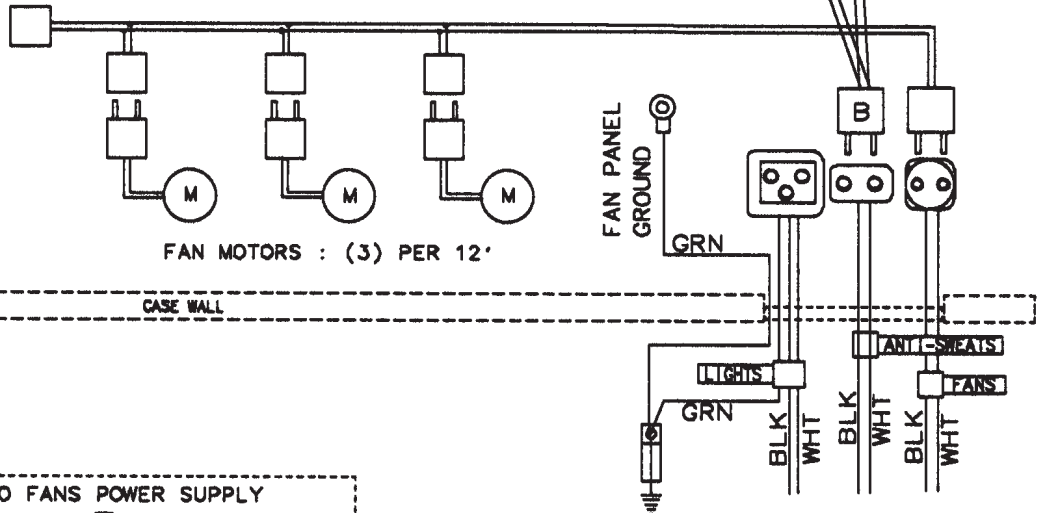


1. ALL WIRING MUST BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL CODES.  
 2. ALL WIRING MUST BE DONE BY A LICENSED ELECTRICIAN.  
 3. ALL WIRING MUST BE DONE IN ACCORDANCE WITH THE TYLER WIRING MANUAL.  
 4. ALL WIRING MUST BE DONE IN ACCORDANCE WITH THE TYLER WIRING MANUAL.  
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REAR RISER ANTI-SWEAT HEATER



FRONT GLASS ANTI-SWEAT HEATER  
 (NMGHP12A, ONLY)



120VAC 60HZ  
 SUPPLY  
 OR  
 220VAC 50Hz  
 INTERNATIONAL

NOTE : ALL CASES MUST BE GROUNDED

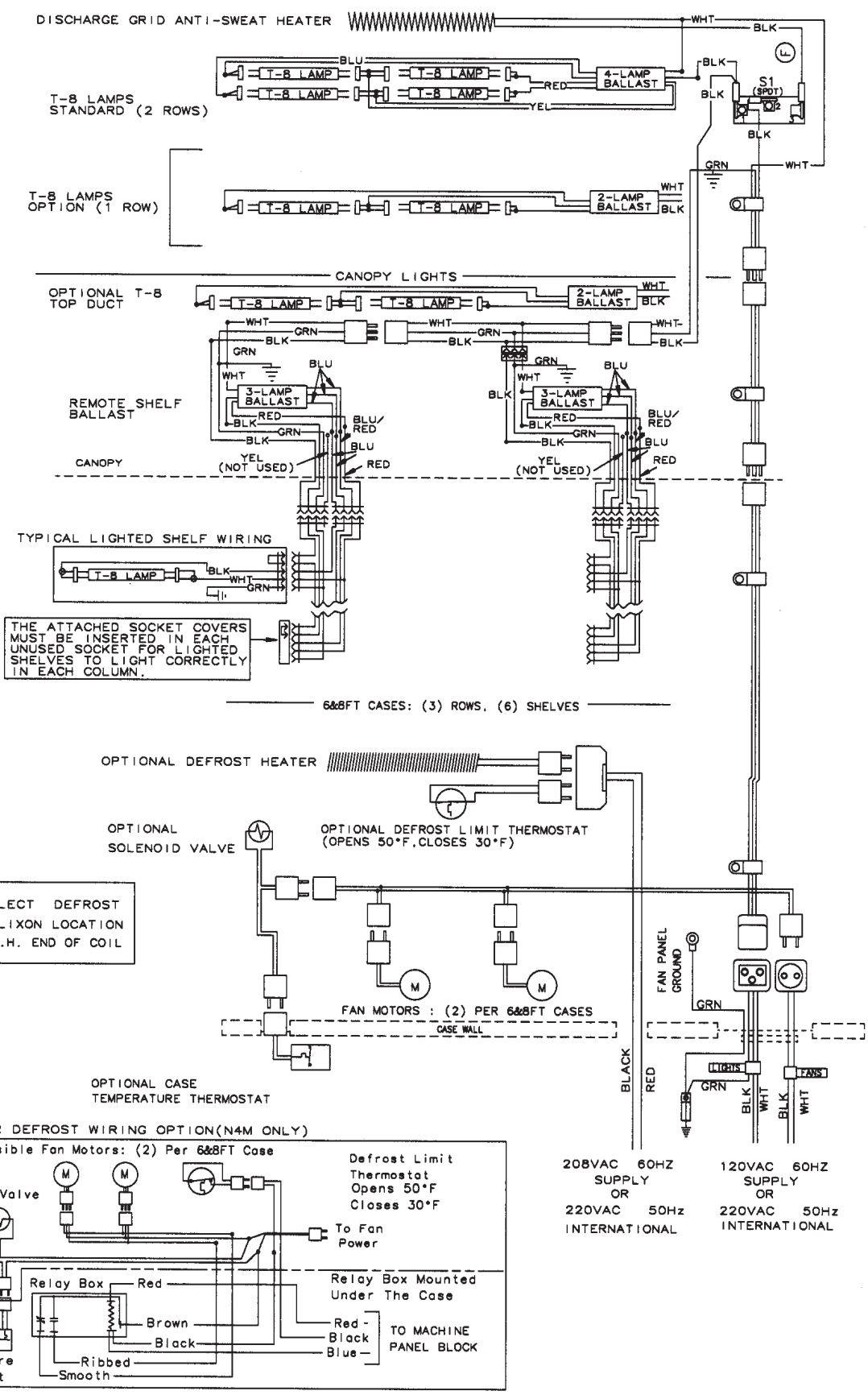
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	DECIMALS +/- .030 ANGLES +/- 1 DEG			
	NONE	28AUG02	LC	OK
	NONE			29364
DIAGRAM WRG OC DFR NM(G)/HPA 12FT				
9039382				
A				

# N4M Domestic & Export (50 Hz) Case Circuits (6', 8' & 12' Cases)

**TYLER**  
REFRIGERATION

PART TYPE N T S  
 MODEL  
 FABRICATED  
 PURCHASED  
 DEPT CC

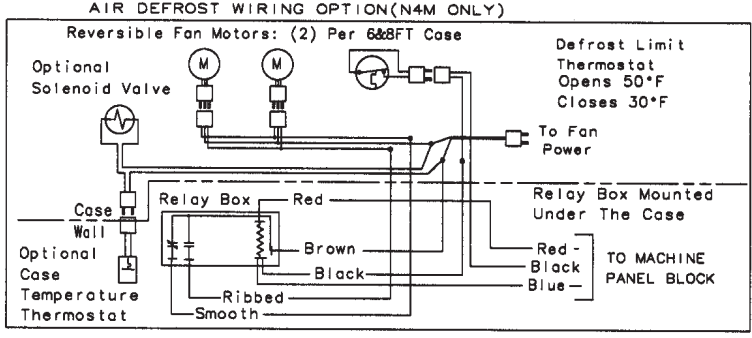
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 3. EXCLUDED DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED.  
 4. DIMENSIONS APPLY TO FINISHED PART AFTER ALL NECESSARY TOLERANCES AND UNUSUAL REVISIONS ALLOWED.



THE ATTACHED SOCKET COVERS MUST BE INSERTED IN EACH UNUSED SOCKET FOR LIGHTED SHELVES TO LIGHT CORRECTLY IN EACH COLUMN.

6&8FT CASES: (3) ROWS, (6) SHELVES

ELECT DEFROST KLIXON LOCATION R.H. END OF COIL



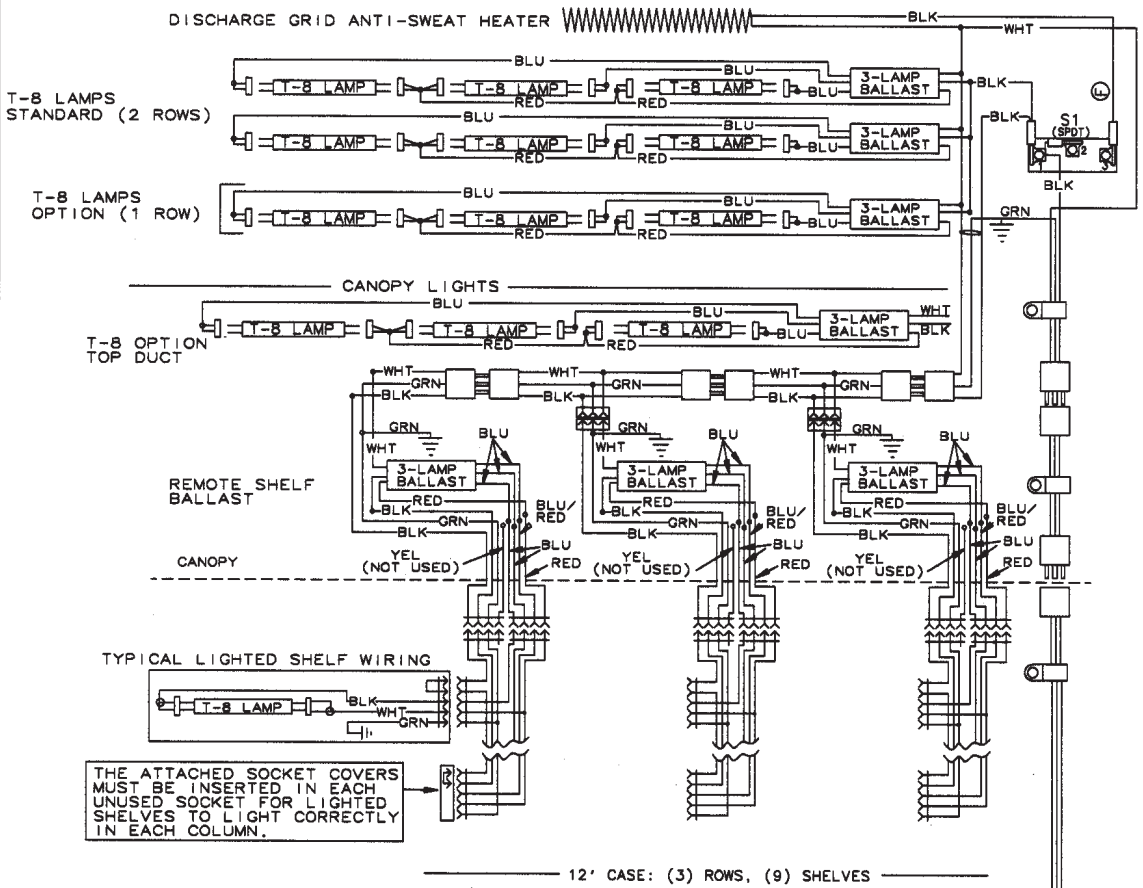
208VAC 60HZ SUPPLY OR 220VAC 50Hz INTERNATIONAL  
 120VAC 60HZ SUPPLY OR 220VAC 50Hz INTERNATIONAL

REV	9026096	H
DATE	97-002	CHK
BY	OK	DATE
DESCRIPTION	REMOVED HO LAMPS	DATE
REV	45407	28FEB07
DESCRIPTION	REMOVED HO LAMPS	DATE
REV	29364	30AUG02
DESCRIPTION	REVISED PWR SW SYMBOL	DATE
REV	43480	17JAN06
DESCRIPTION	ADDED 6FT MODEL	DATE
REV	NONE	NONE
DESCRIPTION	NONE	DATE
REV	20JAN97	DATE
DESCRIPTION	DIAGRAM WRG N4M 6&8 AIR, OC, ELEC DFR	DATE
REV	NONE	NONE
DESCRIPTION	NONE	DATE

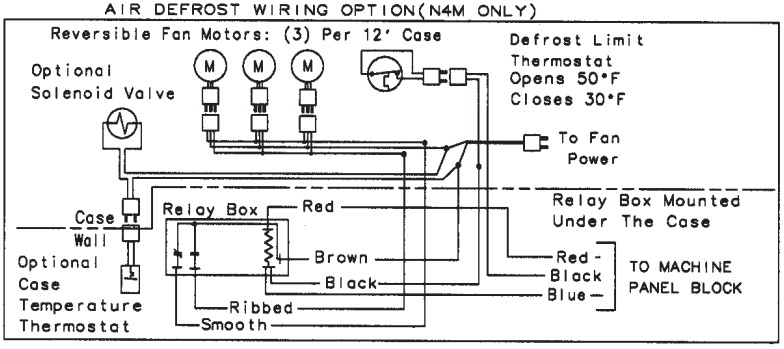
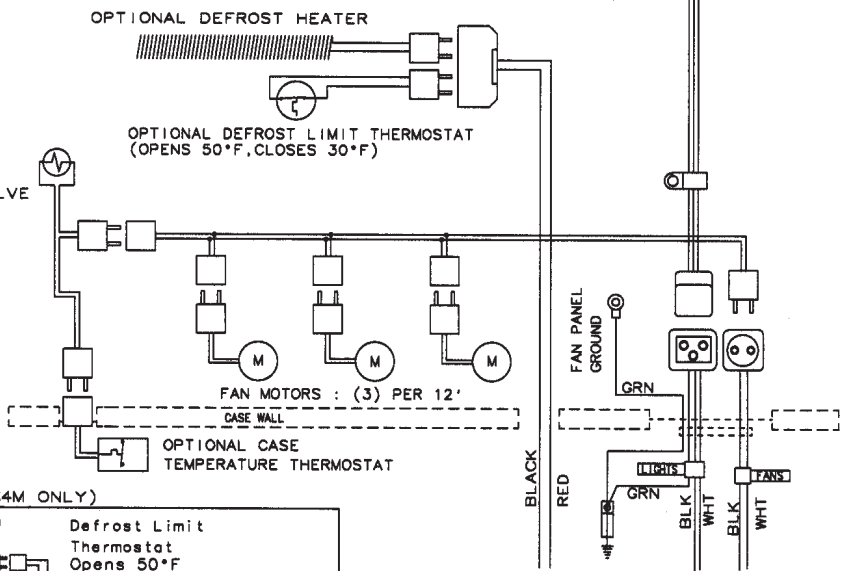
NOTE : ALL CASES MUST BE GROUNDED

PART TYPE N T S I  
 MODEL  
 PURCHASED  
 DEPT CC W

1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS  
 2. INFORMATION IS FOR ENGINEERING USE ONLY  
 3. ALL DIMENSIONS ARE IN INCHES UNLESS NOTED  
 4. SPECIFIED OTHERWISE TO FINISHED PART AFTER  
 5. ANY THEATRICAL REVISIONS ALLOWED.



ELECT DEFROST LIMIT KLIXON. R.H. END OF COIL



208VAC 60HZ SUPPLY OR 220VAC 50Hz INTERNATIONAL

120VAC 60HZ SUPPLY OR 220VAC 50Hz INTERNATIONAL

REV	DATE	BY	CHK	DESCRIPTION
G	45-07 28FEB07	GH	LC	REMOVED HO LAMPS
F	29364 30AUG02	LC	CK	REVISED PWR SWITCH SYMBOLS
E	26667 20NOV00	LC	CK	REVISED TO NSF MODEL
D	23954 24SEP99	LC	CK	REVISED AND REDRAWN PER ECN#
REV	RELEASE			

REV	DATE	BY	CHK	DESCRIPTION
1	97-002	CK	CK	9026095

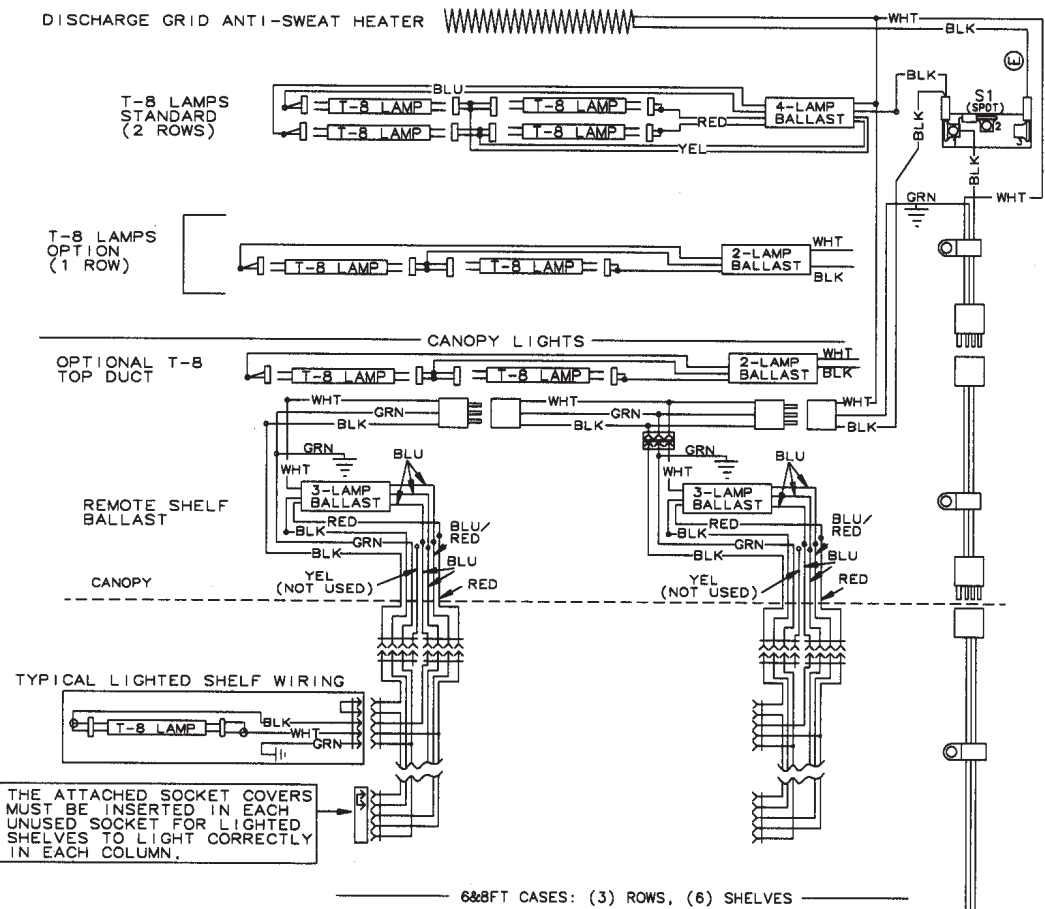
REV	DATE	BY	CHK	DESCRIPTION
1	20JAN97	LC	CK	DIAGRAM WRG N4M12 AIR, OC, ELE DFR

NOTE : ALL CASES MUST BE GROUNDED

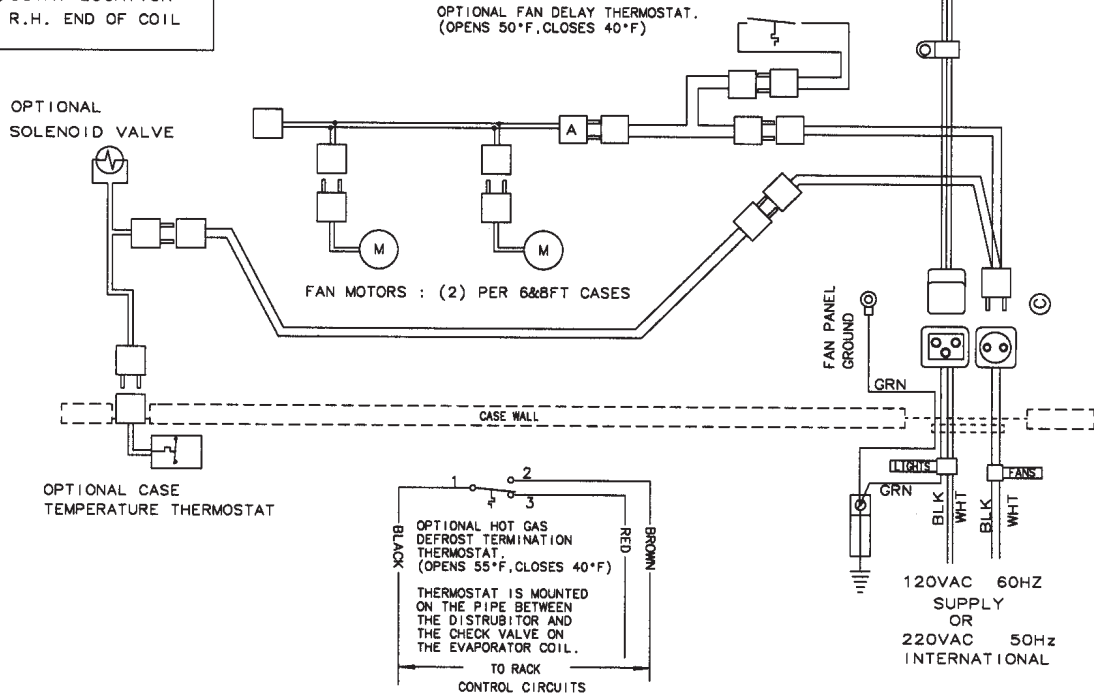
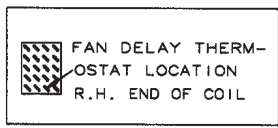


PART TYPE N I S  
 MODEL  
 PURCHASED  
 DEPT

1. TYLER REFERENCE CLAIMS RIGHTS TO THE INFORMATION ON THIS DRAWING.  
 2. AND MAY NOT BE USED WITHOUT PERMISSION.  
 3. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
 4. DIMENSIONS APPLY TO FINISHED PART AFTER MANUFACTURING TOLERANCES.  
 5. NO MANUAL REVISIONS ALLOWED.



THE ATTACHED SOCKET COVERS MUST BE INSERTED IN EACH UNUSED SOCKET FOR LIGHTED SHELVES TO LIGHT CORRECTLY IN EACH COLUMN.

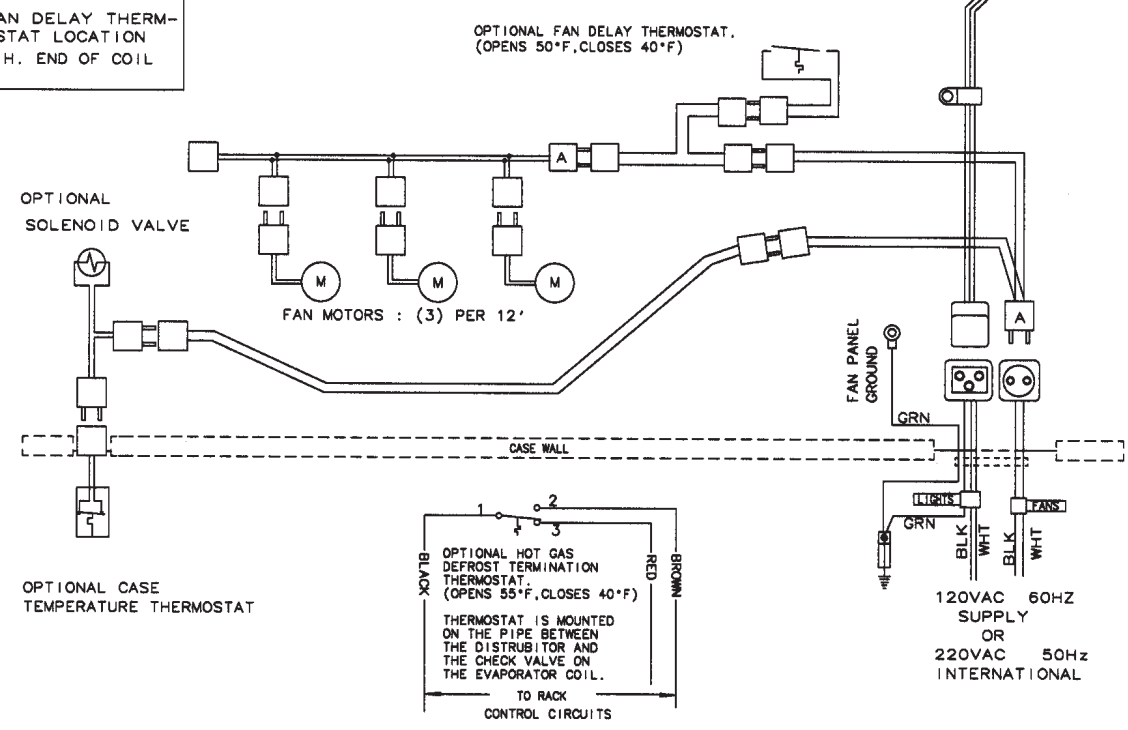
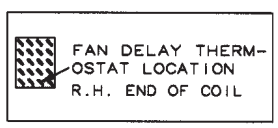
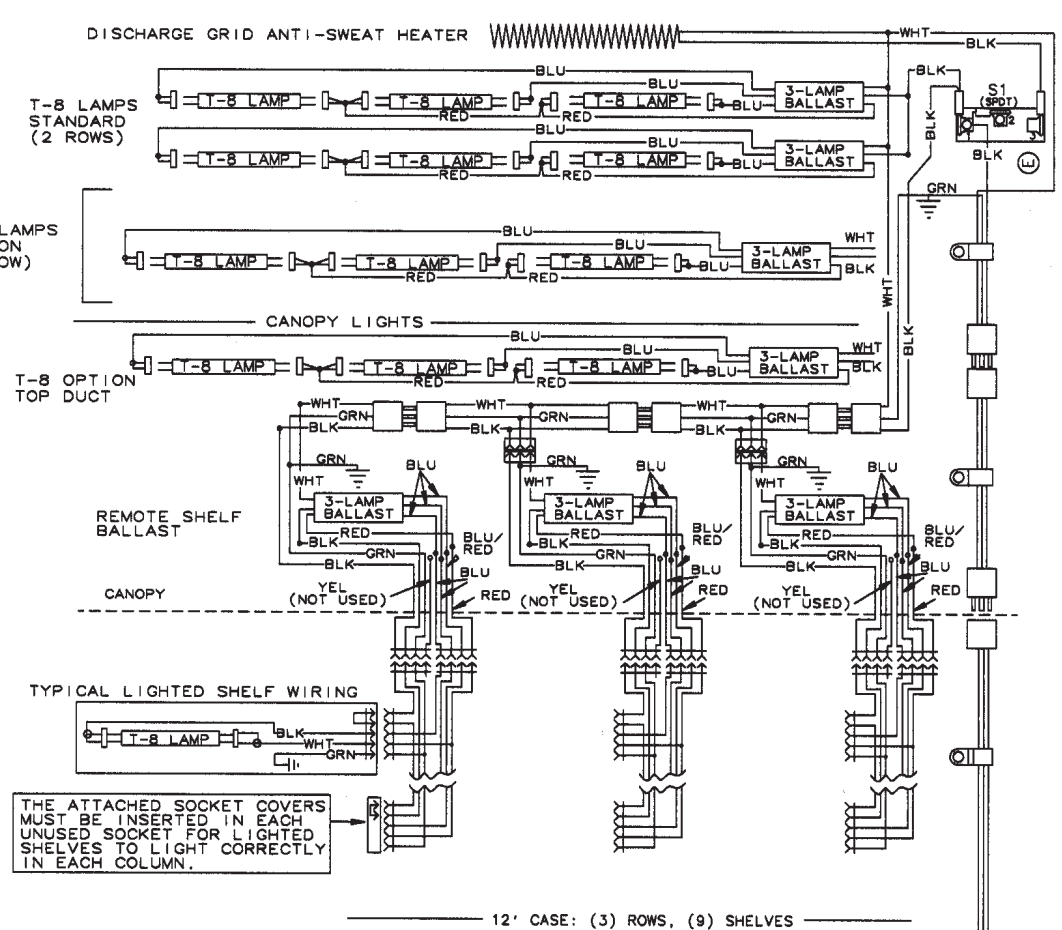


REV	DESCRIPTION	DATE	BY	CHK	REV	DESCRIPTION	DATE	BY	CHK
G	REMOVED HO. LAMPS	45407	28FEB07	GH	CK				
F	REVISED PWR SMT SYMBOL	29364	03SEP02	LC	CK				
E	ADDED 6FT MODEL	43480	17JAN06	JL	LC				
D	REVISED PWR SMT SYMBOL	29364	03SEP02	LC	CK				
C	ADDED 6FT MODEL	43480	17JAN06	JL	LC				
B	REVISED PWR SMT SYMBOL	29364	03SEP02	LC	CK				
A	NONE	NONE	NONE	NONE	NONE				

NONE  
 21 JUL 99  
 DIAGRAM WRG N4M 6&8  
 HG DFR  
 9028845  
 G



PART TYPE N T S  
 MODEL  
 PURCHASED X  
 DEPT CC W  
 1. TYLER REFRIGERATION CO. CLAIMS RIGHTS TO THE INFORMATION ON THIS DRAWING.  
 2. ANY PARTS NOT BE USED WITHOUT PERMISSION.  
 3. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
 4. DIMENSIONS APPLY TO FINISHED PART AFTER ALL MANUFACTURING TOLERANCES ALLOWED.  
 5. NO MANUAL REVISIONS ALLOWED.



REV	DESCRIPTION	DATE	BY	CHK	PART
F	REMOVED HO LAMPS	45407	28FEB07	GH	LC
E	REVISED PWR SW SYMBOL	29384	03SEP02	LC	CK
D	REVISED TO NSF MODEL	26667	20NOV00	LC	CK
C	REVISED AND REDRAWN	23954	24SEP99	LC	CK
REV	RELEASE	23954	24SEP99	LC	CK
DATE	TIME	DATE	TIME	DATE	TIME
21JUL99	NONE	21JUL99	NONE	21JUL99	NONE
DIAGRAM WRG N4M12	HC DFR				
9028844					

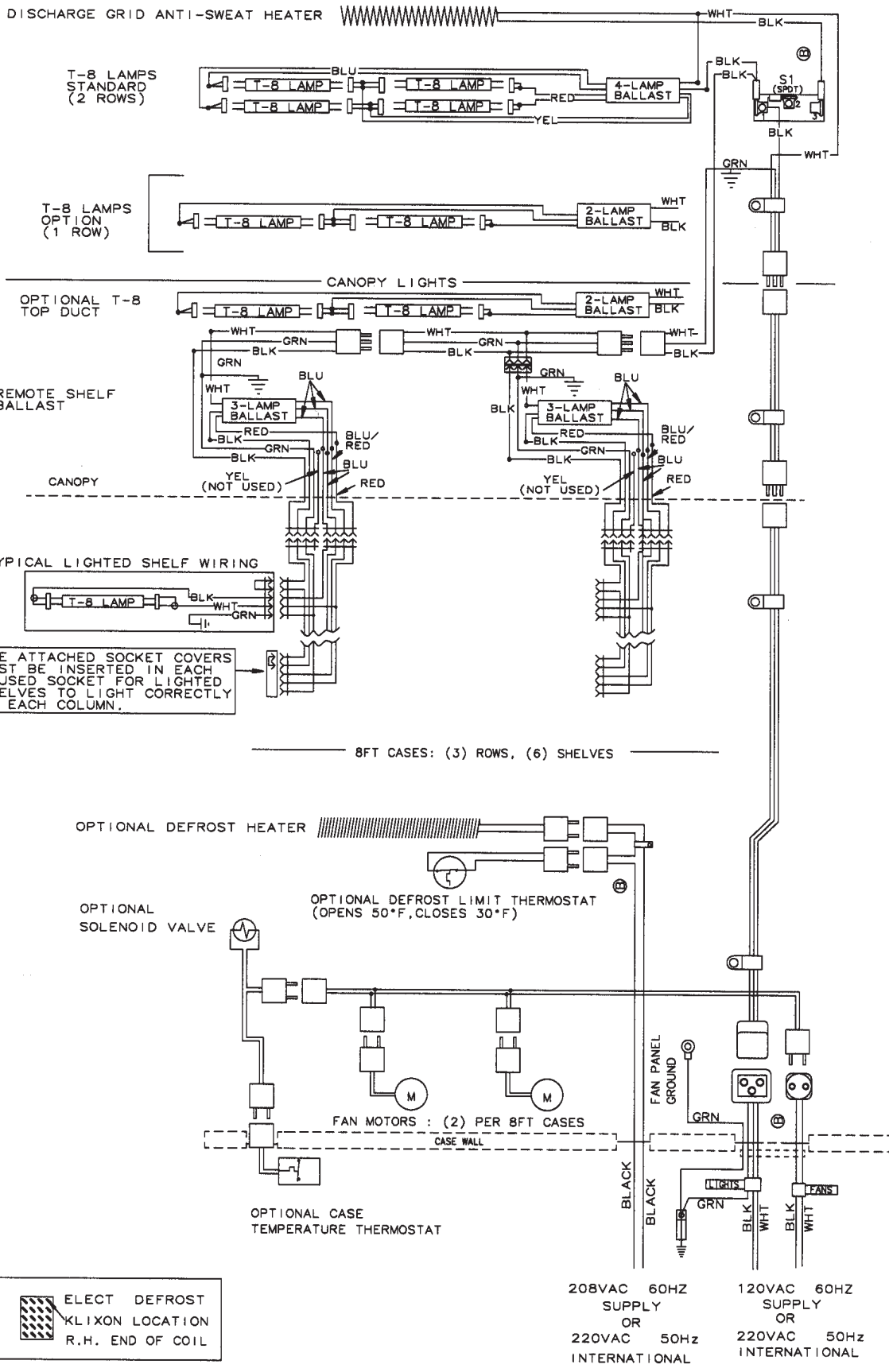
NOTE : ALL CASES MUST BE GROUNDED

# N4MG Domestic & Export (50 Hz) Case Circuits (8' & 12' Cases)

**TYLER**  
REFRIGERATION CORPORATION

PART TYPE N T S  
MODEL  
FABRICATED X  
PURCHASED  
DEPT

1. TYPICAL REFERENCE TO COMP. PLANS FOR LIGHTS TO THE INFORMATION ON THIS DRAWING.  
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. ALL MANUAL REVISIONS ALLOWED.

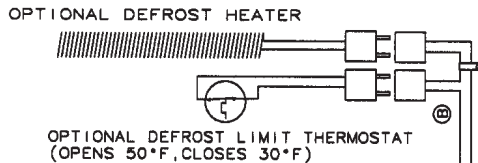
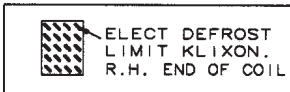
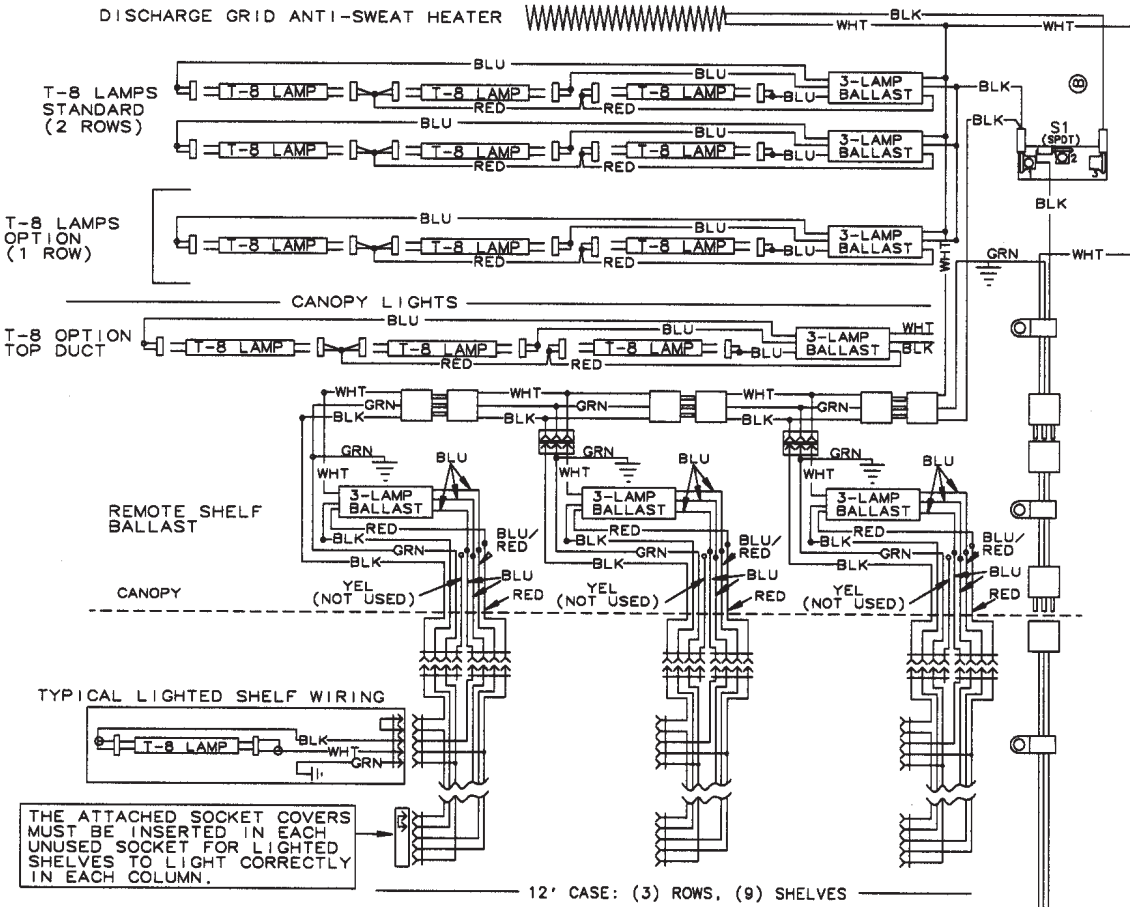


REV	DATE	BY	CHK	DESCRIPTION
C	23954			9036621
B	2000V00	LC	CK	OC, ELEC DFR
A	26687	LC	CK	REVISED TO NSF MODEL
	29364	LC	CK	REVISED PWR SW & 220V BLOCK
	45407	GH	LC	REMOVED HO LAMPS
	28FEB07			30ESP99
				NONE
				NONE
				NONE
				NONE

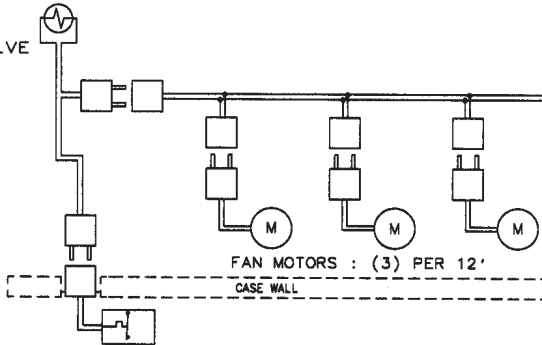
DECIMALS +/- .030 ANGLES +/- 1 DEG

NOTE: ALL CASES MUST BE GROUNDED

- PART TYPE N T S I  
 MODEL FABRICATED X  
 PURCHASED  
 DEPT CC IR
1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS  
 INFORMATION FOR ENGINEERING USE ONLY.  
 2. ALL DIMENSIONS ARE IN INCHES UNLESS  
 OTHERWISE SPECIFIED.  
 3. ALL DIMENSIONS ARE IN INCHES UNLESS  
 OTHERWISE SPECIFIED.  
 4. DIMENSIONS OTHER THAN FINISHED PART AFTER  
 ANY TREATMENT.  
 5. ANY TOLERANCES ALLOWED.



OPTIONAL SOLENOID VALVE



208VAC 60Hz SUPPLY  
 OR  
 220VAC 50Hz INTERNATIONAL

120VAC 60Hz SUPPLY  
 OR  
 220VAC 50Hz INTERNATIONAL

REV	DATE	BY	CHK	RELEASE	DESCRIPTION
C	29SEP99	GH	LC	LC	REMOVED HO LAMPS
B	28FEB07	GH	LC	LC	REVISED HO LAMPS
A	29384	03SEP02	LC	CK	REVISED PWR SW & 220V BLOCK
	26667	20NOV00	LC	CK	REVISED TO NSF MODEL

DECIMALS +/- .030 ANGLES +/- 1 DEG	NONE	NONE
	29SEP99	GH
	LC	LC
	CK	CK
	23954	4

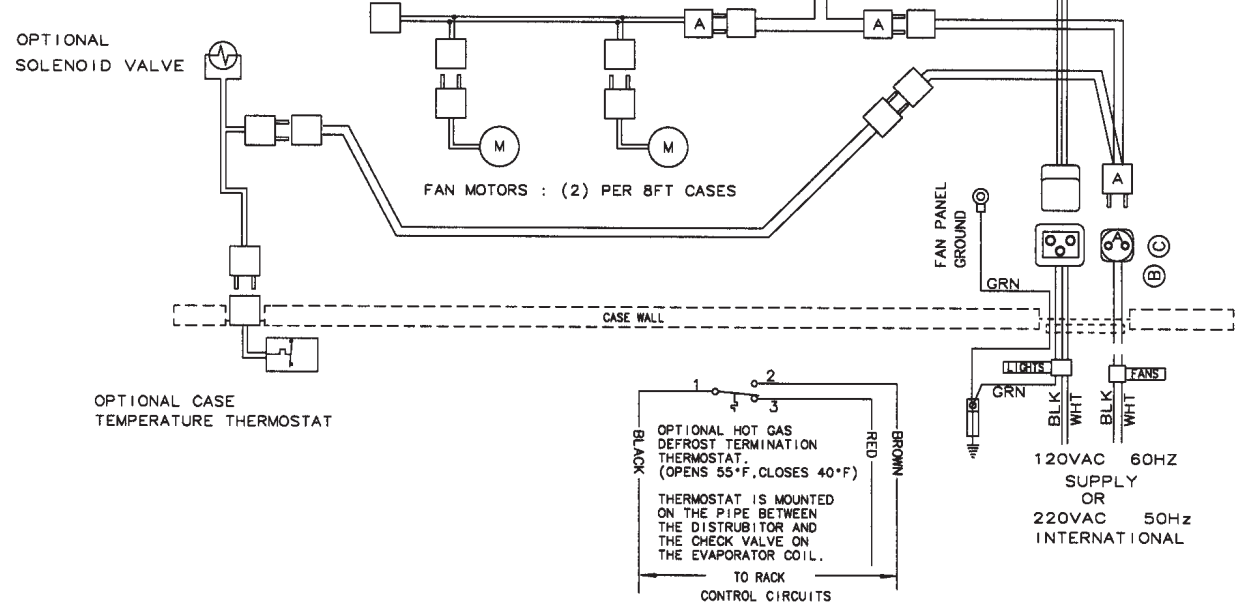
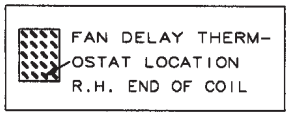
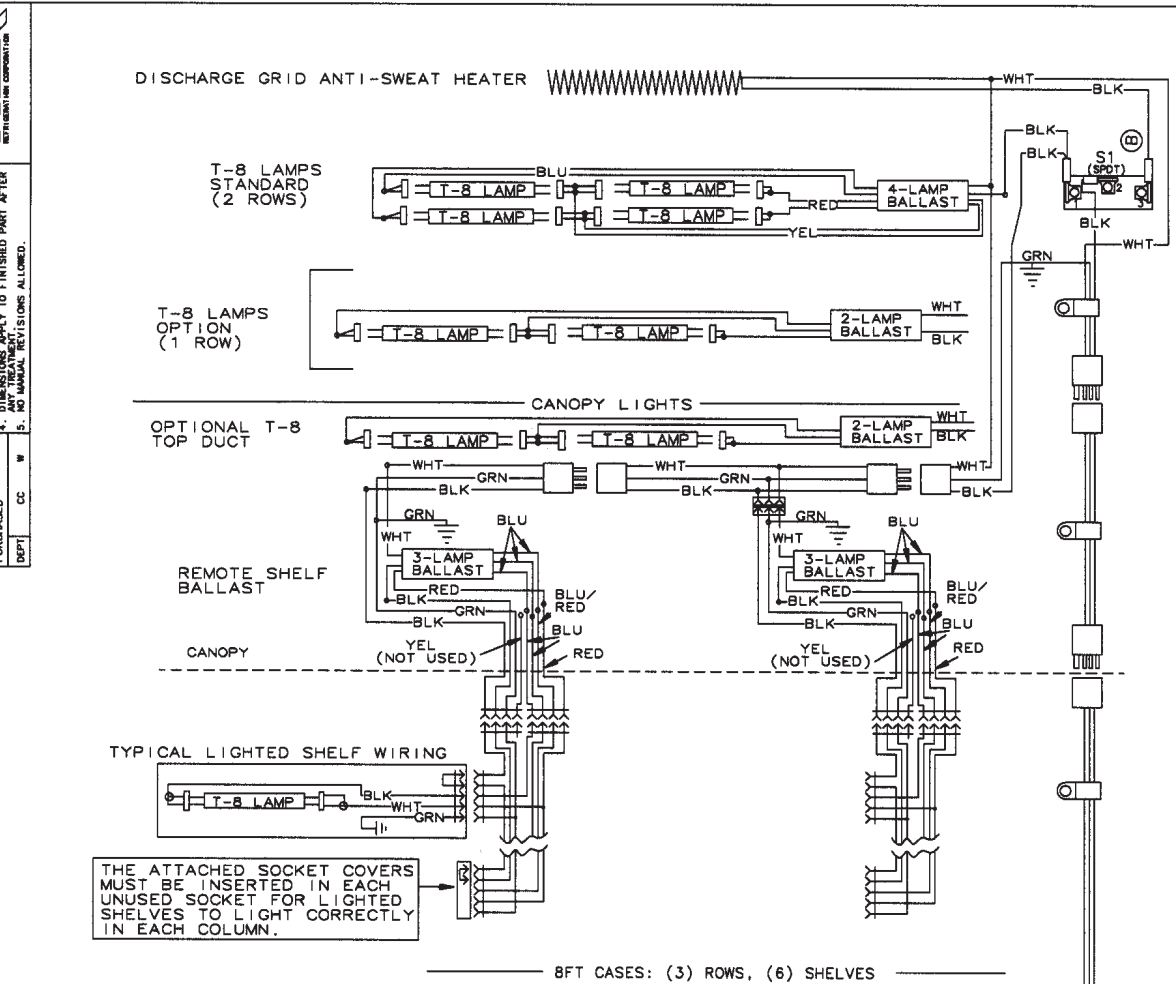
DIAGRAM WRG N4MG12  
 OC OR ELEC DFR

9036620

NOTE : ALL CASES MUST BE GROUNDED



PART TYPE N T S I  
 1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS TO THE INFORMATION ON THIS DRAWING ONLY.  
 2. THIS DRAWING IS TO BE USED ONLY FOR THE MODEL INDICATED.  
 3. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
 4. DIMENSIONS APPLY TO FINISHED PART AFTER MOUNTING.  
 5. NO MANUAL REVISIONS ALLOWED.



REV	DESCRIPTION	DATE	BY	CHK	
A	REVISED TO NSF MODEL	26667	20NOV00	LC	CK
B	REVISED PWR SW & 120V BLOCK	29364	03SEP02	LC	CK
C	REMOVED HO LAMPS	45407	28FEB07	GH	LC
REVISIONS		DATE	BY	CHK	
REV					
DATE	REV	DATE	BY	CHK	
24SEP99	2	24SEP99	LC	CK	
NONE	1	NONE	NONE	NONE	

DIAGRAM WRC N4MG8  
 HG DFR

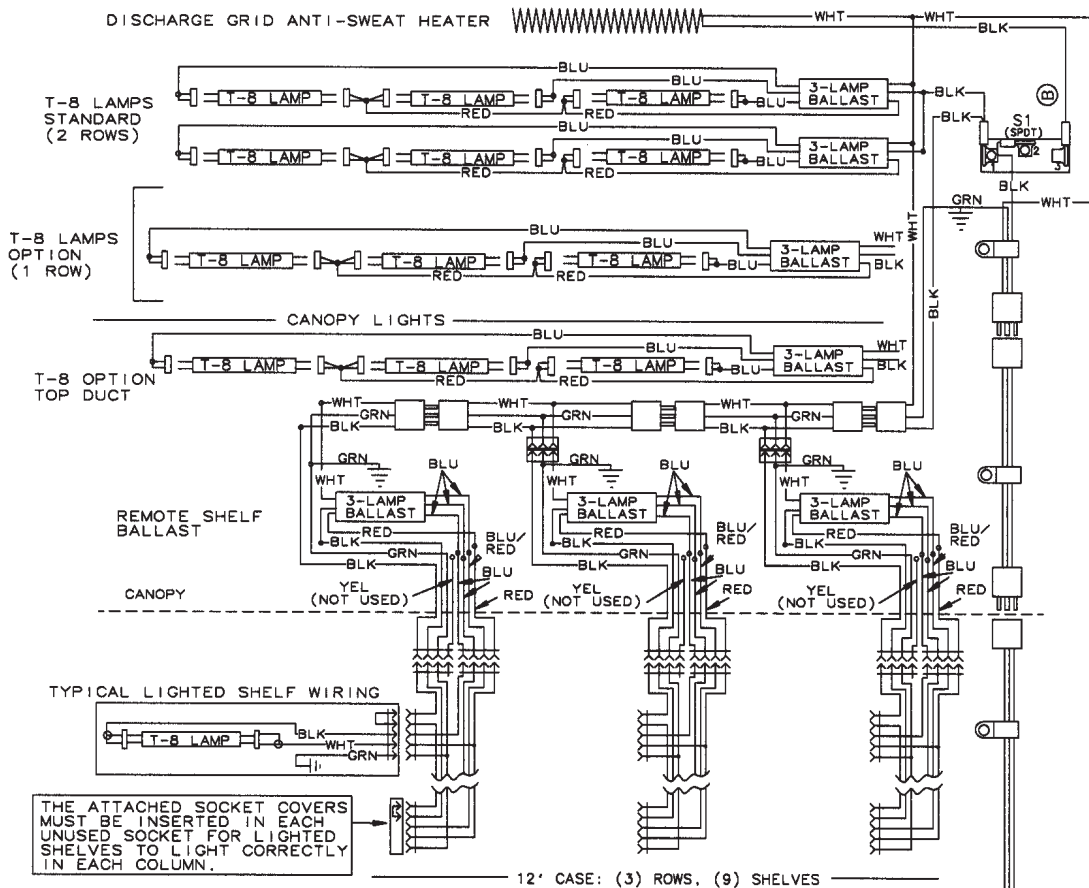
9036619 C

NOTE : ALL CASES MUST BE GROUNDED



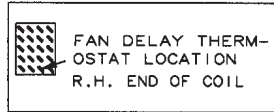
PART TYPE N T S I  
 MODEL  
 PURCHASED  
 DEPT CC #

1. TO BE REFRIGERATION ONLY. CLAIM RIGHTS  
 INFORMATION IS FOR ENGINEERING USE ONLY.  
 2. ALL DIMENSIONS ARE IN INCHES UNLESS  
 OTHERWISE SPECIFIED.  
 3. DIMENSIONS APPLY TO FINISHED PART AFTER  
 ANY TREATMENT.  
 4. DIMENSIONS UNLESS OTHERWISE SPECIFIED.  
 5. NO MARGINS, REVISIONS ALLOWED.

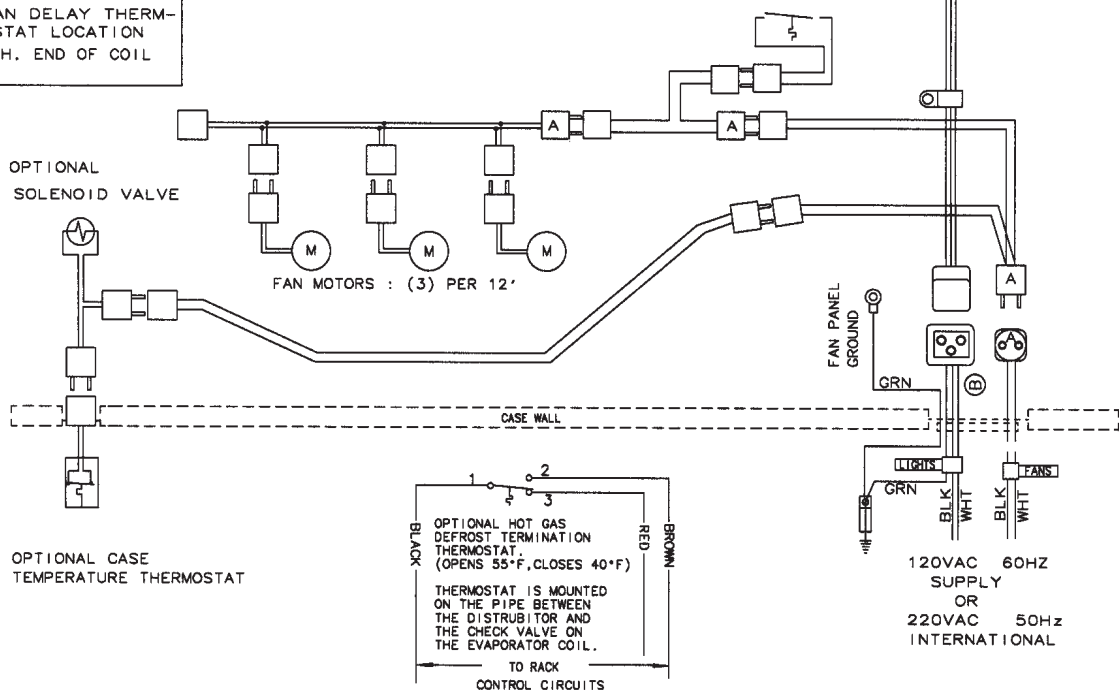


THE ATTACHED SOCKET COVERS  
 MUST BE INSERTED IN EACH  
 UNUSED SOCKET FOR LIGHTED  
 SHELVES TO LIGHT CORRECTLY  
 IN EACH COLUMN.

12' CASE: (3) ROWS, (9) SHELVES



OPTIONAL FAN DELAY THERMOSTAT.  
 (OPENS 50°F, CLOSES 40°F)



REV	DATE	DESCRIPTION	BY	CHK	REL	DATE	BY	CHK	REV
A	26667	REVISED TO NSF MODEL		CK					
B	29364	REVISED PWR SW & 120V BLOCK		LC					
C	45407	REMOVED HO LAMPS	28FEB07	GH	LC				

DECIMALS +/- .030 ANGLES +/- 1 DEG

NAME: NONE  
 DATE: 24SEP99  
 DATE: 28FEB07  
 DATE: 03SEP02  
 DATE: 200V00  
 NONE  
 NONE  
 NONE  
 NONE  
 NONE  
 NONE

DIAGRAM WRG N4MG12  
 HG DFR

23954

9036618

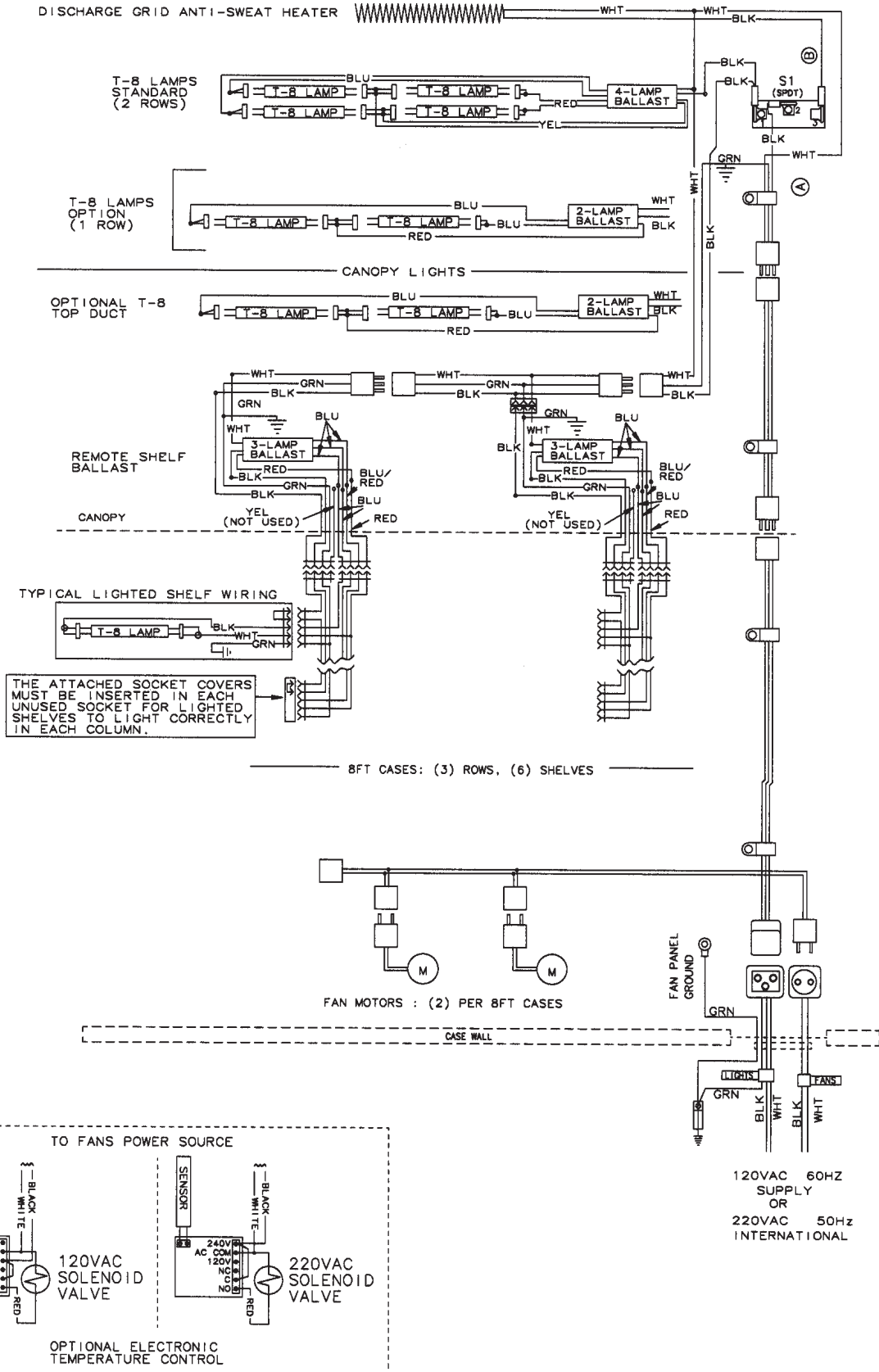
C

NOTE : ALL CASES MUST BE GROUNDED

# N4MHP Domestic & Export (50 Hz) Case Circuits (8' & 12' Cases)



PART TYPE N I S I TYLER REFERENCE OR CORP. CLAIMS RIGHTS  
 MODEL FABRICATED X INFORMATION ON THIS DRAWING  
 PURCHASED 3. AND MAY NOT BE USED WITHOUT PERMISSION.  
 DEPT CC W 4. DIMENSIONS ARE IN INCHES UNLESS  
 5. NO MANUAL REVISIONS ALLOWED.



REV	DESCRIPTION	DATE	BY	CHK
1	REMOVED HO LAMPS	45407	28FEB07	GH LC
2	REVISED PWR SWITCH SYMBOL	29364	09SEP02	LC CK
3	REVISED PER ECN	29244	08/13/02	AMC CK
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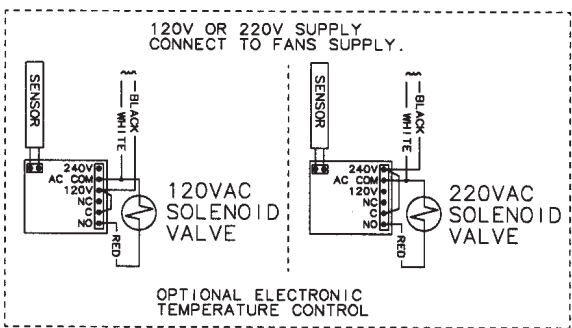
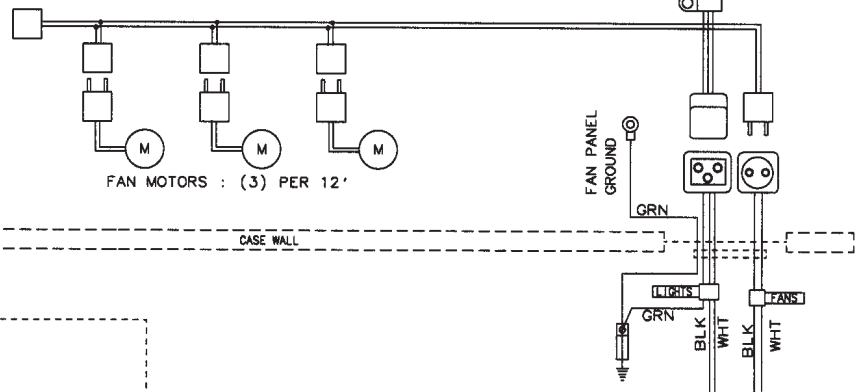
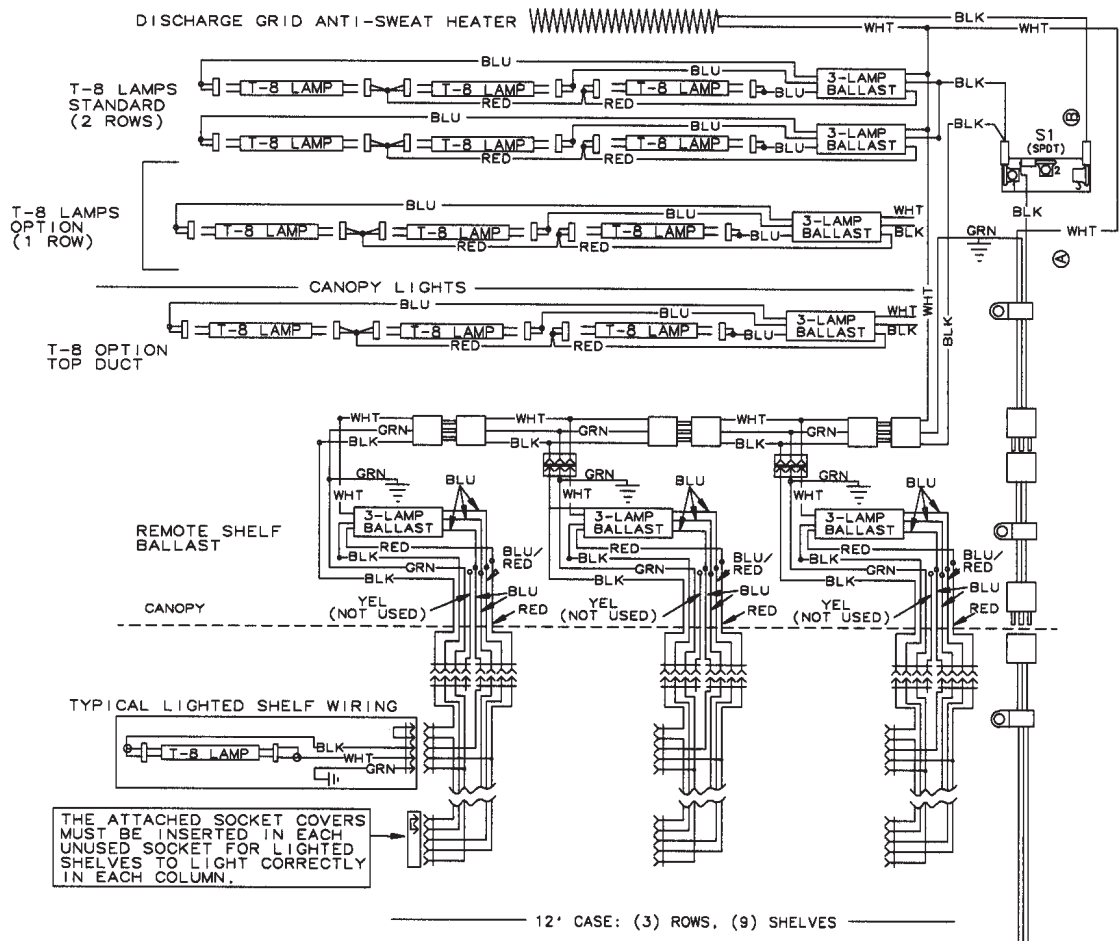
DIAGRAM WRG OC DFR N4MHP8

9038758 C

NOTE : ALL CASES MUST BE GROUNDED



PART TYPE N T S I  
 MODEL  
 PURCHASED X  
 DEPT CC W  
 1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS  
 2. INFORMATION IS FOR ENGINEERING USE ONLY.  
 3. ALL DIMENSIONS ARE IN INCHES UNLESS  
 SPECIFIED OTHERWISE.  
 4. ANY TREATMENT IS FINISHED PART AFTER  
 5. NO DIMENSIONAL REVISIONS ALLOWED.



120VAC 60Hz SUPPLY  
 OR  
 220VAC 50Hz INTERNATIONAL

REV	DATE	BY	CHK	RELEASE	DESCRIPTION
A	9-13-02	AMC	CK	289.38	
B	292.44				
B	293.64				
C	28 FEB 07	GH	LC		
C	01 JUN 02				

DIMENSIONALS +/- .030 ANGLES +/- 1 DEG  
 NAME: NONE  
 DATE: 01 JUN 02  
 LCM: LC  
 DATE: 04 SEP 02  
 LCM: LC  
 DATE: 293.64  
 LCM: LC  
 DATE: 292.44  
 LCM: LC  
 DATE: 289.38  
 LCM: LC

DIAGRAM WRG OC DFR  
 N4MHP12

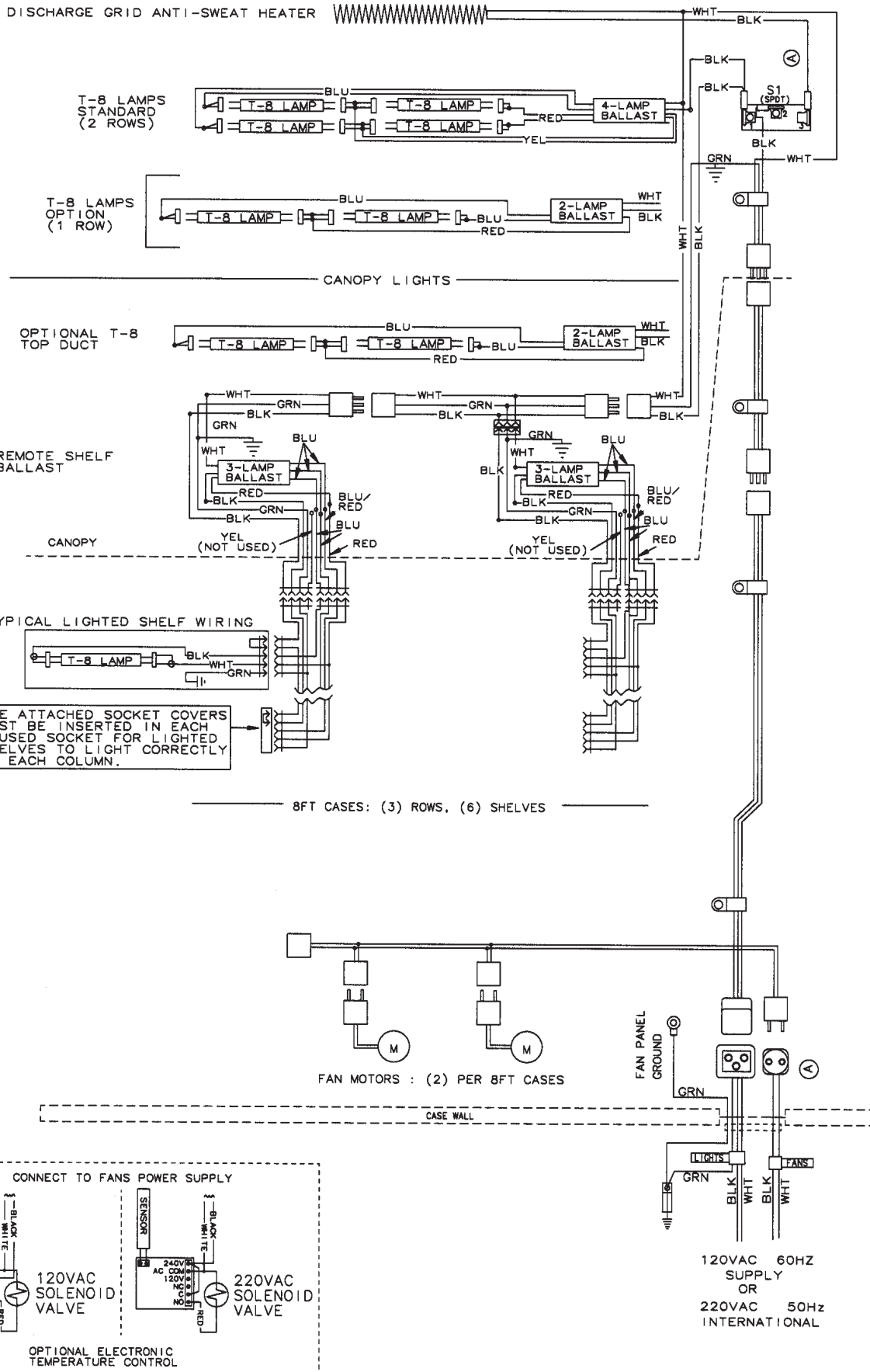
NOTE : ALL CASES MUST BE GROUNDED

9038757 C

# N4MGHP Domestic & Export (50 Hz) Case Circuits (8' & 12' Cases)

**TYLER**  
REFRIGERATION CORPORATION

PART TYPE N I S 1: TYLER REFRIGERATION CORP. CLAIMS RIGHTS TO THE INFORMATION ON THIS DRAWING.  
 2: AMPLIFIED X COPY MAY NOT BE USED WITHOUT PERMISSION. PURCHASED.  
 3: SPECIFIED DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.  
 4: DIMENSIONS APPLY TO FINISHED PART AFTER DEPT CC W  
 5: NO MANUAL REVISIONS ALLOWED.



THE ATTACHED SOCKET COVERS MUST BE INSERTED IN EACH UNUSED SOCKET FOR LIGHTED SHELVES TO LIGHT CORRECTLY IN EACH COLUMN.

8FT CASES: (3) ROWS, (6) SHELVES

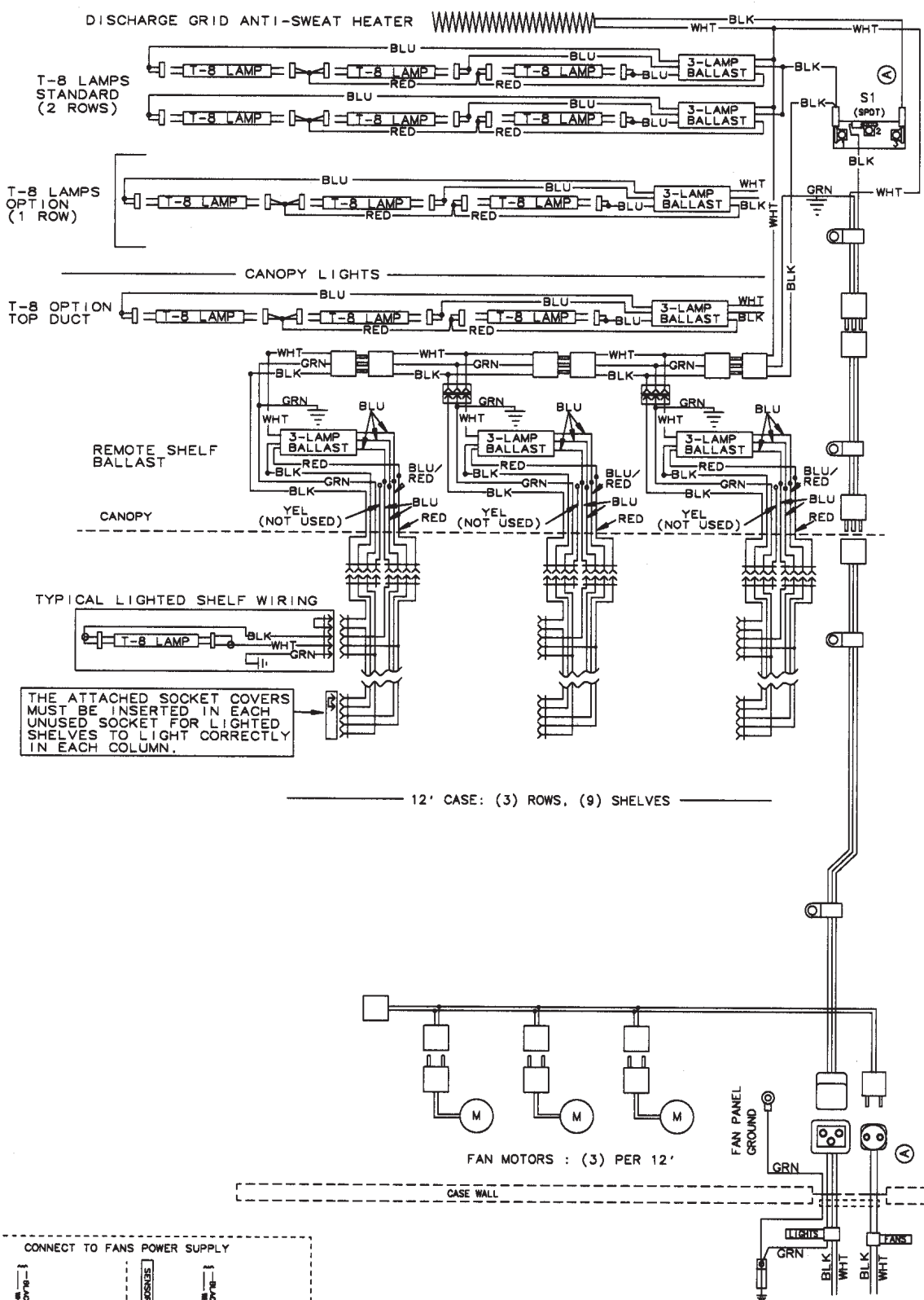
FAN MOTORS : (2) PER 8FT CASES

REV	REV	NONE			DATE	BY	CHK	DESCRIPTION
		NONE			01JUN02			DIAGRAM WRG OC DFR N4MGHP 8
A	REVISED PWR BLOCK & SW STM	29384	04SEP02	LC	CK			9039360
B	REMOVED HO LAMPS	45407	28FEB07	GH	LC			28938

NOTE : ALL CASES MUST BE GROUNDED

PART TYPE N T S I  
 MODEL  
 FABRICATED X  
 PURCHASED  
 DEPT CC #

1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS  
 INFORMATION IS FOR ENGINEERING USE ONLY.  
 2. ALL DIMENSIONS ARE IN INCHES UNLESS  
 OTHERWISE SPECIFIED.  
 3. SPECIFIED DIMENSIONS TO FINISHED PART AFTER  
 ANY TOLERANCE.  
 4. ANY TOLERANCE NOT SPECIFIED.  
 5. NO MANUAL REVISIONS ALLOWED.



REV	DESCRIPTION	DATE	BY	CHK	TR	DATE	NAME
B	REMOVED HO LAMPS	45407	28FEB07	GH	LC		
A	REVISED PWR BLOCK & SW SYM	29364	08SEP02	LC	CK		
						28938	

DECIMALS +/- .030 ANGLES +/- 1 DEG

DATE: 01 JUN 02

TIME: NONE

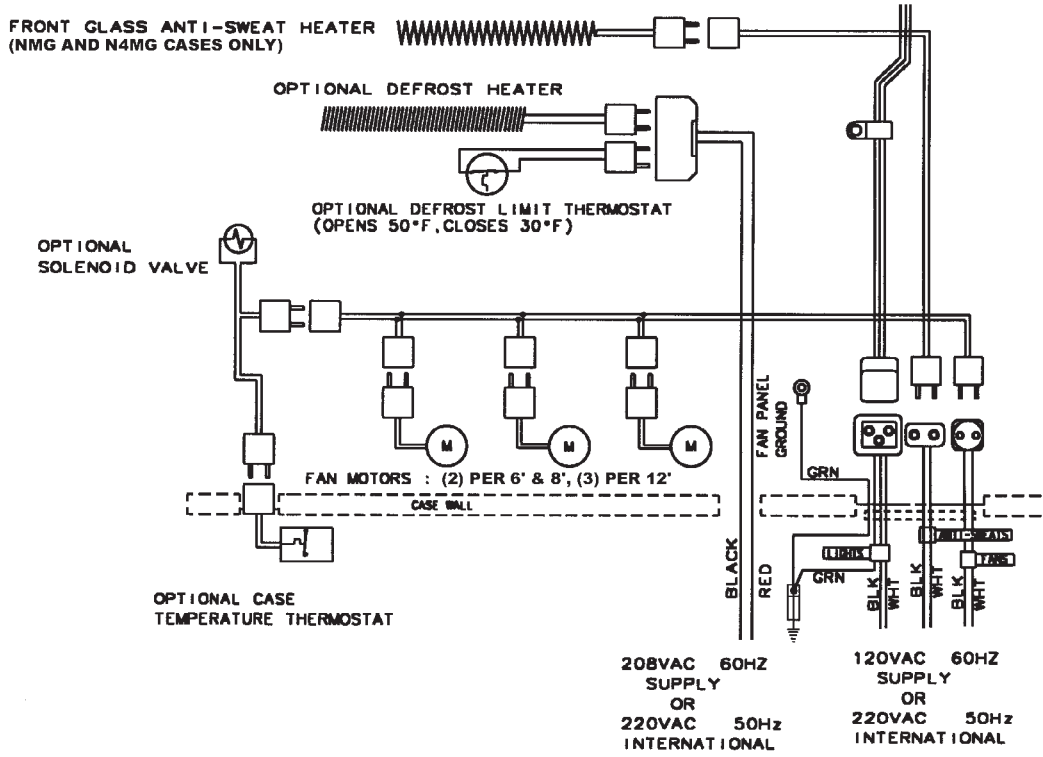
DIAGRAM WRG OC DFR N4MGHP12

9038759

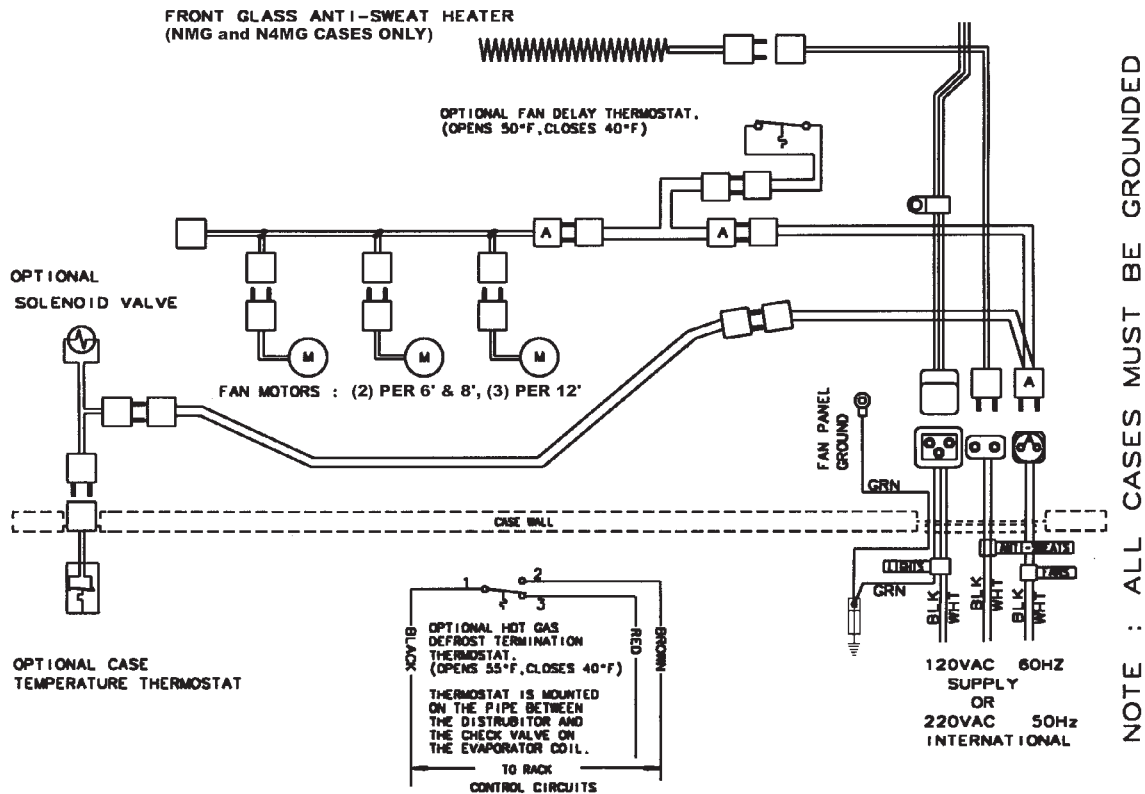
AW

NOTE : ALL CASES MUST BE GROUNDED

**Electric Defrost Circuit (NM(G)/N4M(G) Only)**

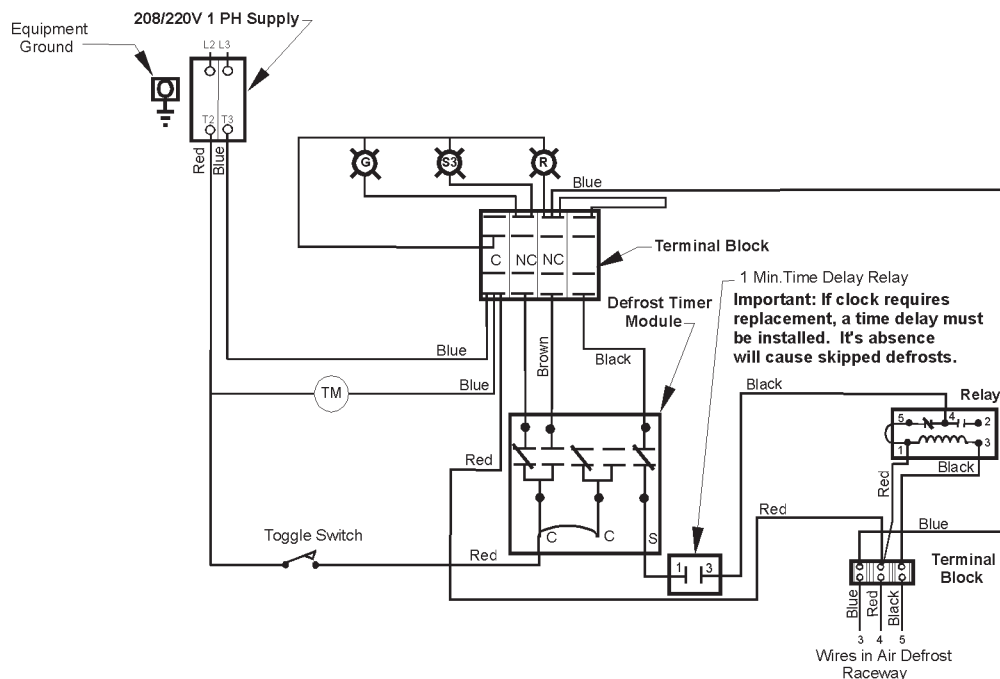
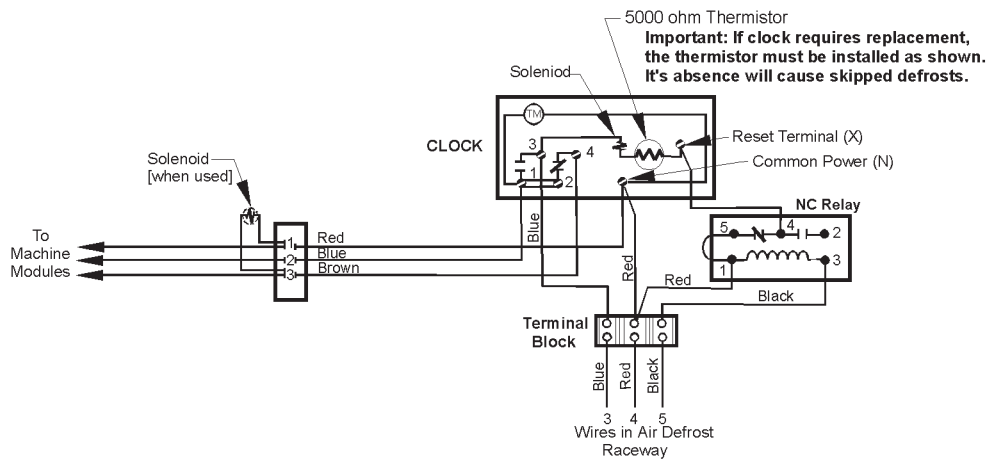
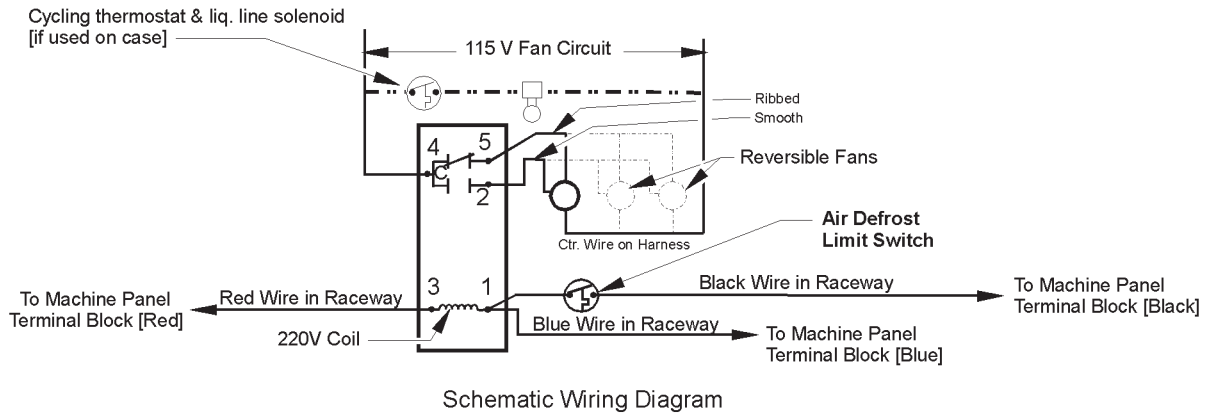


**Optional Gas Defrost Circuit (NM(G)/N4M(G) Only)**

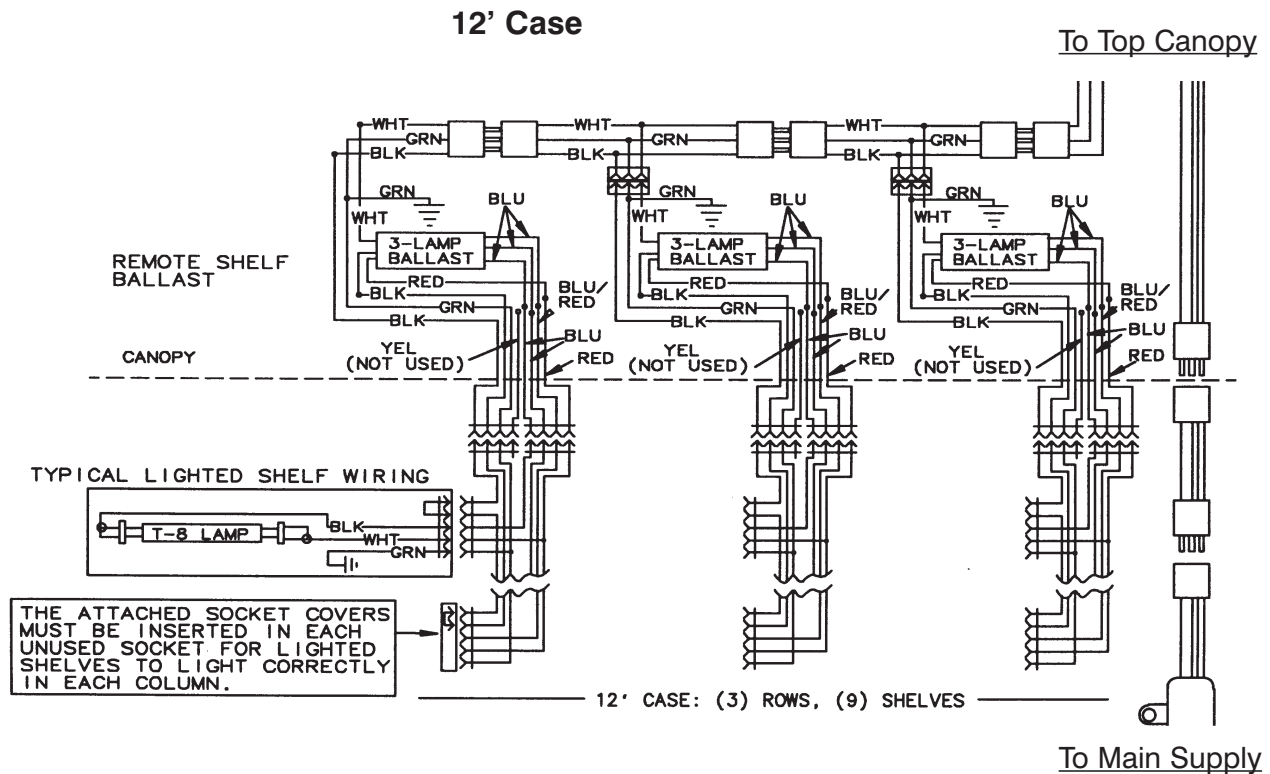
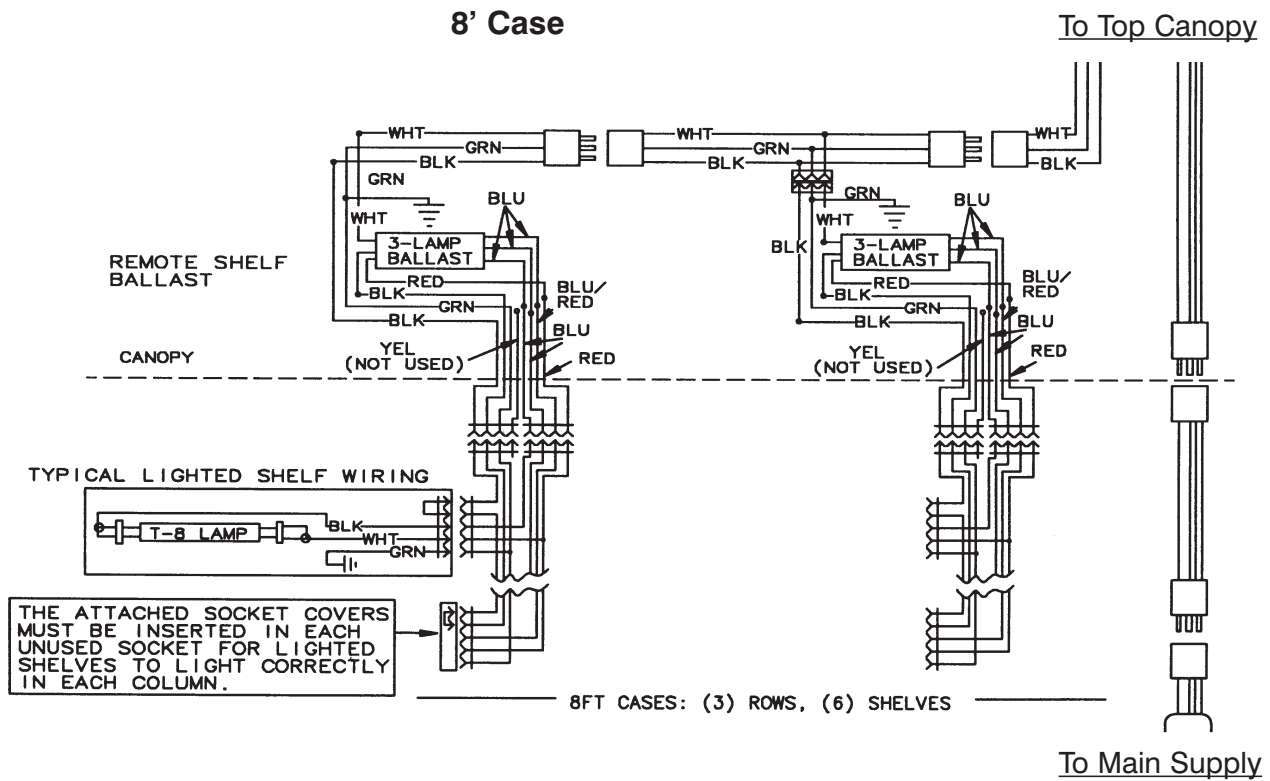




### Optional Air Defrost and Air Defrost Control Circuits (N4M Only)



**Optional Shelf Lighting Circuit (N4M(G)/N4M(G)HP Only)**



## CLEANING AND SANITATION

### Component Removal and Installation Instructions for Cleaning

#### Shelves and Shelf Brackets (N4M(G)/N4M(G)HP Only)

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.

#### Mirrors (N4M(G)/N4M(G)HP Only)

1. Remove screws and mirror end trim from case.
2. Carefully lift up and remove each mirror section from the top and bottom mirror supports.

#### NOTE

Position mirror sections together so all gaps are at the ends of the line-up.

3. 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 bottom trays with lips down 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) (N4M(G)/N4M(G)HP Only)

1. Remove 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.

6. After cleaning, reconnect the shelf harness connector and 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 (N4M(G)/N4M(G)HP Only)**

1. Remove shelves and shelf brackets, see above.
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 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.

**Cleaning Instructions**

**CAUTION**

- When cleaning this case, try not to introduce water into the case faster than it can be carried away by the waste outlet.
- Liquid chlorine bleach is corrosive to metals. The use of bleach or products containing bleach will damage metal surfaces and void the case warranty.
- Sanitize the case with Quaternary Ammonium Solutions (ex: KAYQUAT II, J-512 Sanitizer, SANIQUAT 512, etc...) approved per 21CFR 178.1010, followed by adequate draining and air drying. These solutions may be obtained from Kay Chemical Co., Johnson Wax Professional, Coastwide Laboratories, etc....
- Always use a soft cloth or sponge with mild detergent and water to clean any glass. Never use abrasives or scouring pads to clean glass. They can scratch and/or damage the glass.

**WARNING**

TYLER Refrigeration does not recommend the use of high pressure cleaning equipment on display cases!! High pressure cleaners can penetrate and/or damage joint seals. Damaged seals allow water leaks and/or air leaks that can cause poor case refrigeration.

See "General (UL/NSF) I&S Manual" for case cleaning instructions.

**Stainless Steel Cleaning Methods**

The cleaning data in the following stainless steel cleaning chart was supplied by AISI. The information was supplied by Prime Metals Division, Alumax Aluminum Corporation.

<b><u>TYPE OF CLEANING</u></b>	<b><u>CLEANING AGENT*</u></b>	<b><u>APPLICATION METHOD**</u></b>	<b><u>EFFECT ON FINISH</u></b>
<b>Routine cleaning</b>	Soap, ammonia or detergent and water.	Sponge with cloth, then rinse with clear water and wipe dry.	Satisfactory for use on all finishes.
<b>Smears and fingerprints</b>	Arcal 20, Lac-O-Nu, Lumin Wash O'Cedar Cream Polish, Stainless Shine	Rub with cloth as directed on the package.	Satisfactory for use on all finishes. Provides barrier film

# Installation & Service Manual

# NM(G), NM(G)HPA, N4M(G), N4M(G)HP

<b>TYPE OF CLEANING</b>	<b>CLEANING AGENT*</b>	<b>APPLICATION METHOD**</b>	<b>EFFECT ON FINISH</b>
<b>Stubborn spots and stains, baked-on splatter, and other light discolorations</b>	Allchem Concentrated Cleaner	Apply with damp sponge or cloth.	Satisfactory for use on all finishes.
	Samae, Twinkle, or Cameo Copper Cleaner	Rub with damp cloth.	Satisfactory for use on all finishes if rubbing is light.
	Grade FFF Italian pumice, whitening or talc	Rub with damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Liquid NuSteel	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Paste NuSteel or DuBois Temp	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Cooper's Stainless Steel Cleaner, Revere Stainless Steel Cleaner	Apply with damp sponge or cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Grade F Italian pumice, Steel Bright, Lumin Cleaner, Zud or Restoro	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
<b>Heat tint or heavy discoloration</b>	Penny-Brite or Copper-Brite	Rub with a dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Penny-Brite or Copper-Brite	Rub with a dry cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Paste NuSteel or DuBois Temp	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Revere Stainless Steel Cleaner	Apply with a damp sponge or cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
<b>Burnt-on foods and grease, fatty acids, milkstone (where swabbing or rubbing is not practical)</b>	Allen Polish, Steel Bright, Wyandotte or Zud	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Easy-Off, De-Grease-It, 4-6% hot solution of such agents as trisodium triphosphate, or 5-15% caustic soda solution	Apply generous coating. Allow to stand for 10-15 min. Repeated application may be necessary.	Excellent removal, satisfactory for use on all finishes.
<b>Tenacious deposits, rusty discolorations, industrial atmospheric stains</b>	Oakite No. 33, Dilac, Texo 12, Texo N.Y., Flash-Klenz, Caddy Cleaner, Turco Scale 4368 or Permag 57.	Swab and soak with clean cloth. Let stand 15 minutes or more according to directions on package. Rinse and dry.	Satisfactory for use on all finishes.

<u>TYPE OF CLEANING</u>	<u>CLEANING AGENT*</u>	<u>APPLICATION METHOD**</u>	<u>EFFECT ON FINISH</u>
Hard water spots and scale	Vinegar	Swab or wipe with a cloth. Rinse with water and dry.	Satisfactory for use on all finishes.
	5% oxalic acid, 5% sulamic acid, 5-10% phosphoric acid, or Dilac, Oakite No. 33, Texo 12 or Texo N.Y.	Swab or soak with a cloth. Let stand 10-15 minutes. Always follow with neutralizer rinse, and dry.	Satisfactory for use on all finishes. Effective on tenacious deposits or where scale has built up.
Grease and oil	Organic solvents such as carbon tetrachloride, trichlorethylene, acetone, kerosene, gasoline, benzene, alcohol and chlorethane n.u.	Rub with a cloth. Organic solvents may be flammable and/or toxic. <b>Observe all precautions against fire. Do not smoke while vapors are present. Be sure area is well ventilated.</b>	Satisfactory for use on all finishes.

\* Use of proprietary names is intended only to indicate a type of cleaner, and does not constitute an endorsement, nor is omission of any proprietary cleanser to imply its inadequacy. It should be emphasized that all products should be used in strict accordance with instructions on package.

\*\* In all applications a sponge or fibrous brush or pad are recommended. DO NOT use ordinary steel wool, steel brushes, chlorine bleach or products containing bleach for cleaning or sanitizing stainless steel.

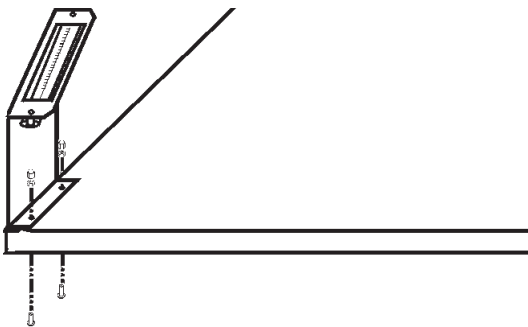
## GENERAL INFORMATION

### NSF Product Thermometer Installation

1. Unwrap the thermometer and bracket assembly shipped loose with the case.
2. Position bracket in front left corner of the left-most bottom tray. Making sure the bracket is flush with the left 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.



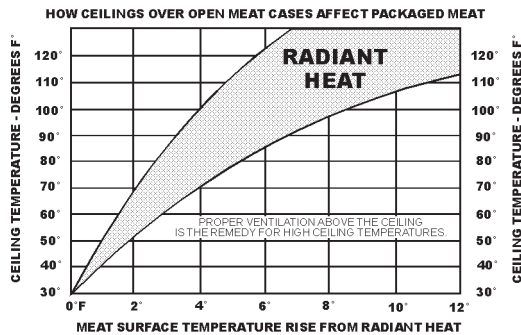
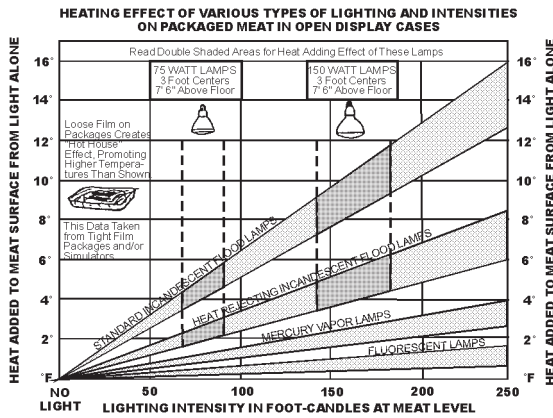
4. Mount the bracket to the bottom tray with two screws, washers and capnuts.

### Mirror Installation (N4M(G)/N4M(G)HP Only)

When installing mirrors you must be aware that on longer line-ups it is possible to end up with a gap at the end of the line-up. To help prevent this, leave a gap at the starting end that can be covered by the stainless steel trim. Additional mirror positioning adjustments may be required to make sure the gaps at each end of the line-up don't show when the stainless steel trim is in place. Also make sure all mirrors have a good tight seal between each mirror.



## Radiant Heat Information



A wide temperature range is shown for each type of lighting. This data does not show all situations. Many situations will have higher package warm-up figures than indicated.

It is generally known that the temperature of displayed meat in refrigerated cases will run higher than the circulated air temperature of the cases. A dial thermometer stuck into the center of a piece of meat compared with one in the air stream quickly confirms this fact. Another fact is that the surface temperature of the meat will be higher than the center temperature due to radiant heat. TYLER's ongoing research identifies sources of radiant heat and accurately measures and records it.

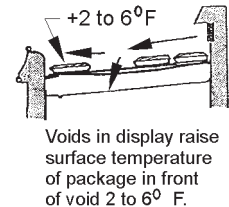
These charts were developed from the information gathered during this research. Two major sources of radiant heat are from display lights and ceiling surfaces. Additional heat sources come from bad display practices which either overload the case with product or allow voids in the product display. Poor display practices impair the efficiency of the refrigeration, adding to the surface temperature of the meat. Bacteria and molds grow when surface temperatures rise above 45°F. This prematurely discolors displayed meats and causes unnecessary meat department losses.

### Radiant Heat Measurement

Place two accurate dial thermometers side by side in a case. Cover one of the thermometer stems with black friction tape. The temperature difference is the approximate amount of radiant heat. A change in display lighting or a reduction of high ceiling temperatures (over 80°F) could reduce the radiant heat in the case.

### Display Practices

Encourage butchers to maintain all meat below the case load lines and to eliminate product voids. Case screens could be covered in some instances to keep the refrigerated air over the display.



### CAUTION

**The quality damage done to meat products by high temperatures and/or contamination during delivery, cooler storage, cutting and wrapping cannot be repaired by placing the products into properly operating display cases.**

## SERVICE INSTRUCTIONS

### Troubleshooting Self-Contained Units

#### **WARNING**

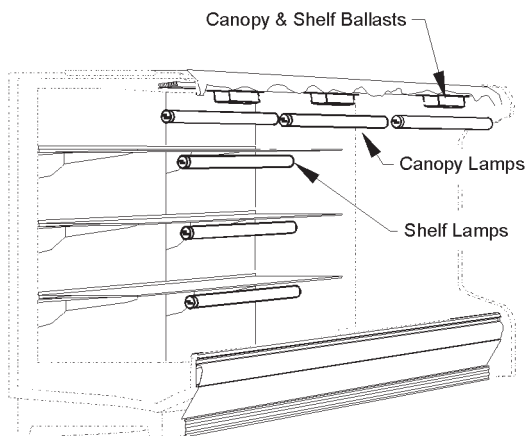
Never work on electrically powered equipment while it is energized! Electrical shock could cause personal injury and/or death.

<b><u>TROUBLE</u></b>	<b><u>COMMON CAUSE</u></b>	<b><u>REMEDY</u></b>
<b>1. Unit will not run</b>	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.
<b>2. Refrigerated section is too warm</b>	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.
<b>3. Refrigerated section too cold</b>	Case fans not operating	Check terminal block connections.
	Thermostat set incorrectly	Check setting.
	Pressure control set incorrectly	Check setting.
<b>4. Unit runs all the time</b>	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.
<b>5. Noisy operation</b>	Loose baffles	Tighten or brace baffles.
	Tubing contacting cabinet or other tubing	Move tubing.
	Cabinet not level	Level cabinet.
<b>6. Frost or ice on evaporator coil</b>	Defrost clock doesn't work	Check electrical connections. Have unit serviced by a qualified service technician.
<b>7. Water dripping from case drain</b>	Condensate drain clogged	Clear drain.
	Dissipator not functioning	Check electrical supply. Check float assembly.

## Light Servicing

See “General I&S Manual” for T-8 lamp and ballast (N4M(G)/N4M(G)HP), fan blade and motor, and color band and bumper replacement instructions.

### Ballast and Lighting Locations

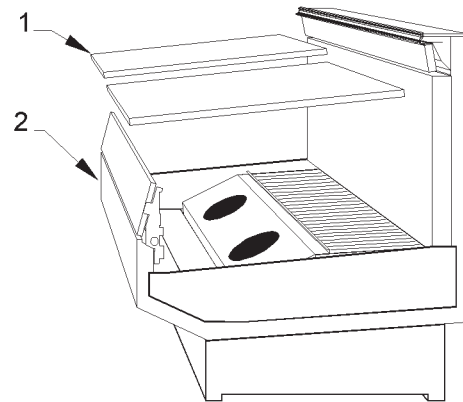


All light ballasts are located under the canopy and mounted on the top of the canopy light channel. This includes remote ballasts for optional shelf lights. The canopy light(s) are under the canopy light channel in the top of the case. The optional shelf lights are mounted under the top interior liner above each shelf section.

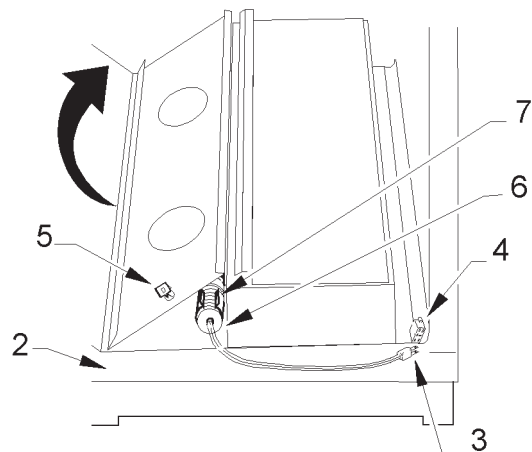
## Defrost Heater Replacement

### **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).



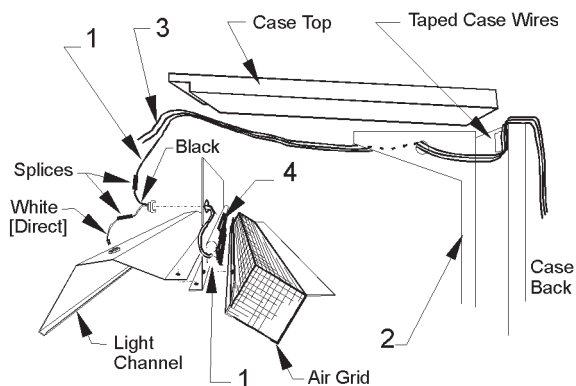
2. Disconnect defrost heater plug (3) from junction block (4).
3. Unclip and lift up fan plenum (5).
4. Remove defrost heater (6) from mounting clips (7) and case (2).
5. Install new defrost heater (6) in reverse order.
6. Restore electrical power to case.

## Anti-Sweat Replacement

All cases have at least one anti-sweat heater. NM and NMHPA cases have a rear riser anti-sweat heater. N4M(G) and N4M(G)HP cases have a discharge grid anti-sweat heater. NMG and NMGHPA cases have an additional anti-sweat heater for the front glass. All anti-sweat heaters are wires that run the length of the above mentioned components. Use the following instructions to replace an anti-sweat heater.

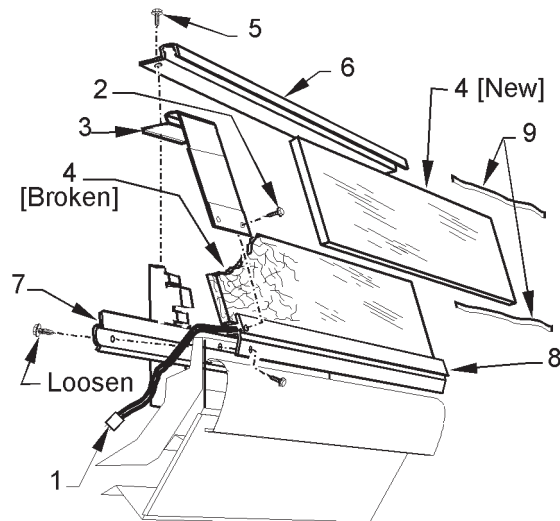
### **WARNING**

**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.**



1. Expose the full length of the defective anti-sweat wire (1) in the case (2).
2. Disconnect or cut the defective anti-sweat wire (1) from the case wires (3).
3. Remove the aluminum tape (4) and defective anti-sweat wire (1) from the case (2).
4. Position new anti-sweat wire (1) in case (2) and secure with new aluminum tape (4).
5. Connect or splice the new anti-sweat wire (1) to case wires (3).
6. Replace all components that were removed to expose the anti-sweat wire (1).
7. Restore electrical power to case.

## Front Glass Replacement (NMG/NMGHPA/N4MG/N4MGHP)



1. Unplug glass anti-sweat wire (1).
3. Remove two screw (2) and glass joint trim (3) from both joints of the broken glass (4).
2. Remove screws (5) and glass trim rail (6) from top of glass (4).
4. Loosen rear retainer (7) and remove broken glass (4) from glass retainer assembly (8).

### **NOTE**

**Inspect the anti-sweat wire in glass retainer assembly. If wire is damaged or broken, replace it before replacing the front glass.**

5. Apply sealant tape (9) to top and bottom edge of new glass (4).
6. Position new glass (4) in glass retainer assembly (8) and secure by tightening rear retainer (7).
7. Install glass trim rail (6) with screws (5) over top edge of new glass (4).
8. Install glass joint trim (3) with screw (2) over the joint areas of glass (4).
9. Reconnect the anti-sweat wire (1).

**PARTS INFORMATION**

**Operational Parts List**

Case Usage	Domestic			Export	
	115 Volt 60 Hertz			220 Volt 50 Hertz	
Case Size	6'	8'	12'	8'	12'
Electrical Circuit					
Fan Motor (NM(G)/NM(G)HPA)	5125532	5125532	5125532	5126572	5126572
	5 Watt	5 Watt	5 Watt	5 Watt	5 Watt
(N4M(G))	----	5243498	5243498	9458942	9458942
		9 Watt	9 Watt	18.3 Watt	18.3 Watt
(N4M(G)HP)	----	9458939	9458939	9458941	9458941
		16 Watt	16 Watt	16 Watt	16 Watt
Fan Motor Brackets (NM(G))	5213132	5213132	5213132	5213132	5213132
(NM(G)HPA)	5962268	5962268	5962268	----	----
(N4M(G))	----	5235087	5235087	5205112	5205112
(N4M(G)HP)	----	5205112	5205112	5205112	5205112
Fan Bracket Plate	9041077	9041077	9041077	9041077	9041077
Fan Blades (6" 21° 3B) (NM(G))	5105621	5105621	5105621	5105621	5105621
(7" 25° 5B) (NM(G)HPA)	5236974	5236974	5236974	----	----
(8.75" 25° 5B) (N4M(G))	----	5984399	5984399	5984399	5984399
(8.75" 30° 5B) (N4M(G)HP)	----	9407319	9407319	----	----
(8.75" 35° 5B) (N4M(G)HP)	----	----	----	5643563	9643563
Opt. ECM Fan Motors					
(NM(G)/NM(G)HPA)	9025002	9025002	9025002	----	----
	8 Watt	8 Watt	8 Watt		
(N4M(G))	----	9025000	9025000	----	----
		12 Watt	12 Watt		
(N4M(G)HP)	----	9025003	9025003	----	----
		16 Watt	16 Watt		
Opt. ECM Fan Motor Brackets					
(NM(G))	5205279	5205279	5205279	----	----
(NM(G)HPA)	----	9025005	9025005	----	----
(N4M(G)/N4M(G)HP)	----	5205112	5205112	----	----
Opt. ECM Fan Blades					
(6" 15° 3B) (NM(G))	9408191	9408191	9408191	----	----
(7" 20° 5B) (NM(G)HPA)	----	5960943	5960943	----	----
(8.75" 25° 5B) (N4M(G))	----	5984399	5984399	----	----
(8.75" 30° 5B) N4M(G)HP)	----	9407319	9407319	----	----
T-8 Ballast (canopy)	5991029	5991029	5991030	9322286	9322287
Opt. T-8 Ballast (4 shelf lamps)	5966635	5966635	5966635	9322288	9322288
(3 shelf lamps)	5991030	5991030	5991030	9322287	9322287
T-8 Lampholder (canopy)	9041897	9041897	9041897	9041897	9041897
T-8 Lampholder (shelf)	9041897	9041897	9041897	9041897	9041897

Case Usage	Domestic			Export	
	115 Volt 60 Hertz			220 Volt 50 Hertz	
Electrical Circuit					
Case Size	6'	8'	12'	8'	12'
Anti-Sweat Heater Wire (discharge)(all cases)	5227379	5124216	5124217	5081147	5081148
(glass)(NM(G)HPA)	9039375	9039374	9039373	----	----
Opt. Elec. Def. Heater	----	5124521	5124522	5124521	5124522
Opt. Elec. Def. Limit Klixon	5125211	5125211	5125211	5125211	5125211
Opt. Gas Def. Fan Delay Klixon	9023503	9023503	9023503	9023503	9023503
Opt. Gas Def. Term. Klixon	9023508	9023508	9023508	9023508	9023508
NSF Product Thermometer	5967100	5967100	5967100	5967100	5967100

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

**Cladding and Trim Parts List**

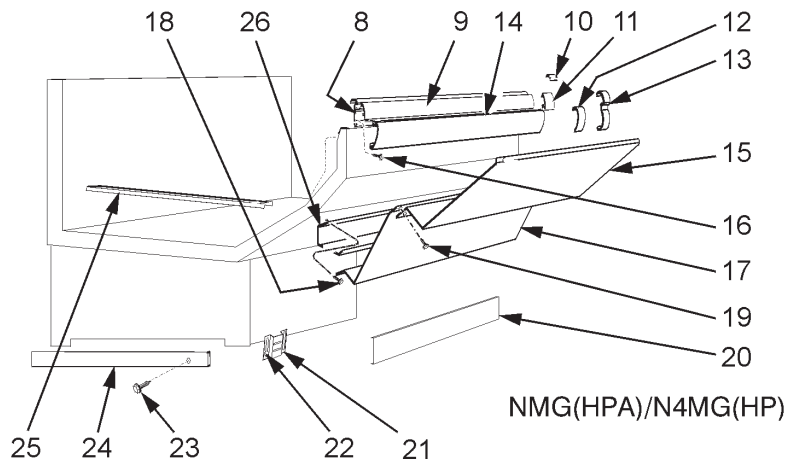
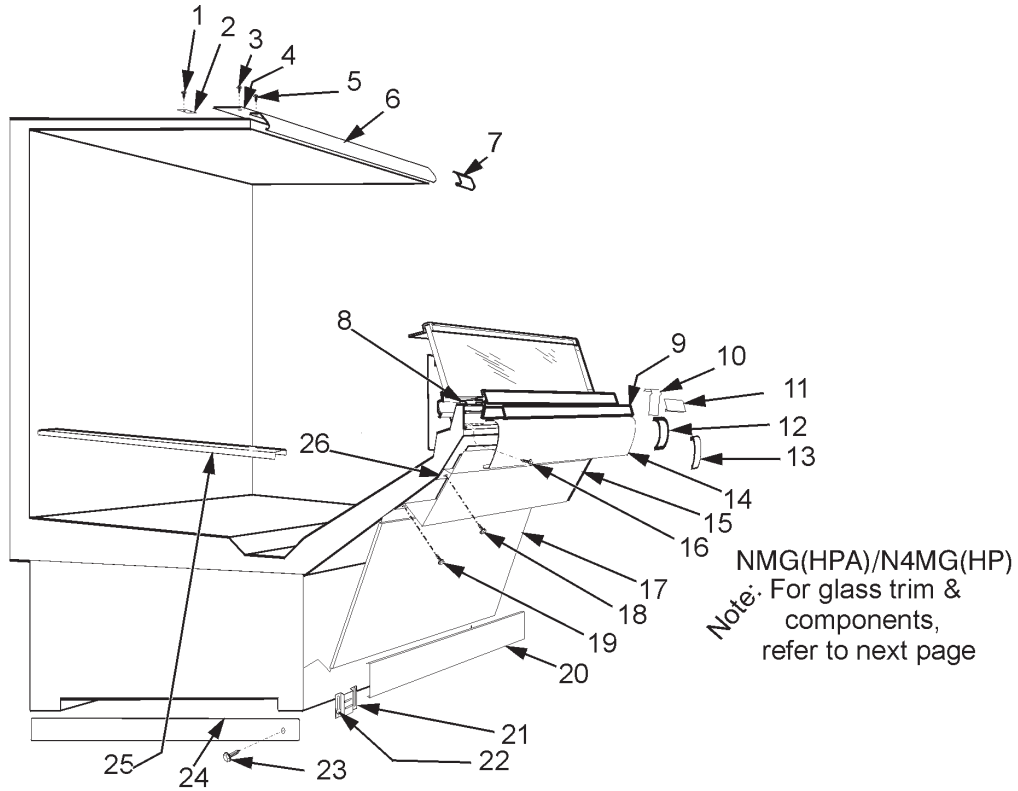
Item	Description	NM(G) and NM(G)HPA			N4M(G) and N4M(G)HP	
		6'	8'	12'	8'	12'
1	Screw (per cover)	----	----	----	5183536(4)	5183536(4)
2	End Cover (1 per side)	----	----	----	9026103	9026103
3	Screw	----	----	----	5183536(5)	5183536(7)
4	Close-off, Hood	----	----	----	9026069	9026070
5	Screw	----	----	----	5183536(8)	5183536(10)
6	Canopy Hood, Ptd.	----	----	----	9025223	9025224
7	Canopy Hood Joint Trim, Ptd.	----	----	----	9029422	9029422
8	Bumper Retainer (NM(HPA)/N4M(HP))	----- color by order			-----	
	(NMG(HPA)/N4MG(HP))	9025052	9025058	9025061	9025058	9025061
9	Top Band, Ptd. (NM(HPA)/N4M(HP))	9020978	9020981	9020982	9020981	9020982
	(NMG(HPA)/N4MG(HP))	9020968	9020971	9020972	9020971	9020972
10	Handrail Backer, Ptd. (NM(HPA)/N4M(HP))	9025316	9025316	9025316	9025316	9025316
11	Color Band Backer, Ptd. (NM(HPA)/N4M(HP))	9040223	9040223	9040223	9040223	9040223
	(NMG(HPA)/N4MG(HP))	9025982	9025982	9025982	9025982	9025982
12	Bumper Backer	----- color by order			-----	
13	Bumper End Trim	----- color by order			-----	
14	Bumper	----- color by order			-----	
15	Upr. Frt. Cladding, Ptd. (NM(HPA)/N4M(HP))	9025244	9025201	9025202	9025201	9025202
	(NMG(HPA)/N4MG(HP))	9025245	9025205	9025206	9025205	9025206
16	Screw, Shoulder (NM(HPA)/N4M(HP))	5183536(12)	5183536(16)	5183536(24)	5183536(16)	5183536(24)
	(NMG(HPA)/N4MG(HP))	9025833(12)	9025833(12)	9025833(12)	9025833(12)	9025833(12)
17	Lwr. Frt. Cladding, Ptd.	9025246	9025203	9025204	9025203	9025204
18	Screw	5183536(6)	5183536(8)	5183536(10)	5183536(8)	5183536(10)



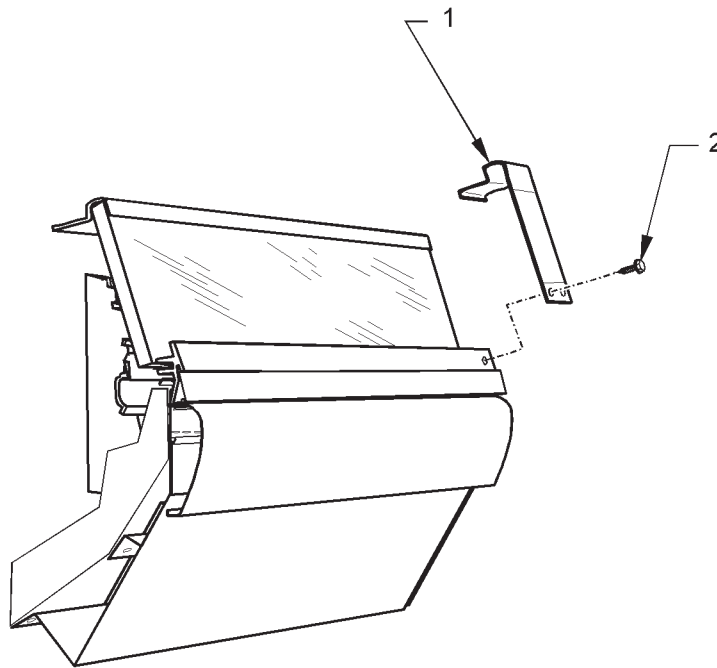
# Installation & Service Manual

# NM(G), NM(G)HPA, N4M(G), N4M(G)HP

Item	Description	NM(G) and NM(G)HPA			N4M(G) and N4M(G)HP	
		6'	8'	12'	8'	12'
19	Screw, Shoulder (NM(HPA)/N4M(HP))	5183536(10)	5183536(10)	5183536(10)	5183536(10)	5183536(10)
	(NMG(HPA)/N4MG(HP))	5183536(6)	5183536(6)	5183536(6)	5183536(6)	5183536(6)
20	Kickplate, Ptd.	9039015	9039016	9039017	9039016	9039017
	Kickplate Joint Trim, Ptd.	9039020	9039020	9039020	9039020	9039020
21	Kickplate Support	9039022(3)	9039022(3)	9039022(4)	9039022(3)	9039022(4)
22	Screw	5183536(6)	5183536(6)	5183536(8)	5183536(6)	5183536(8)
23	Screw	5222637(11)	5222637(11)	5222637(12)	5222637(11)	5222637(12)
24	LH End Close-off, Ptd.	9022459	9022459	9022459	9022459	9022459
	RH End Close-off, Ptd.	9022466	9022466	9022466	9022466	9022466
25	Horizontal Joint Trim	9025959	9025959	9025959	9025959	9025959
26	Raceway	9025126	9025127	9025128	9025127	9025128



**Front Glass Trim Parts (NMG/NMGHPA/N4MG/N4MGHP only)**



Item Description	NMG/NMGHPA			N4MG/N4MGHP	
	6'	8'	12'	8'	12'
1 Glass Joint Trim	9025959	9025959	9025959	9025959	9025959
2 Screw	5048626(2)	5048626(2)	5048626(2)	5048626(2)	5048626(2)