

Installation & Service Manual



P5FG, P5NG, P5FGN and P5NGN

GLASS DOOR PLATFORM MERCHANDISERS

Low Temp & Medium Temp Cases With Reversible Doors

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 Frozen Food, Ice Cream and Medium Temperature Glass Door Platform Merchandiser models are covered in this manual:

MODEL	DESCRIPTION
P5FG2/P5NG2	2-DR, GLASS DOOR PLATFORM MERCHANDISERS (61-5/16")
P5FG3/P5NG3	3-DR, GLASS DOOR PLATFORM MERCHANDISERS (92")
P5FG4/P5NG4	4-DR, GLASS DOOR PLATFORM MERCHANDISERS (122-5/8")
P5FG5/P5NG5	5-DR, GLASS DOOR PLATFORM MERCHANDISERS (153-5/16")
P5FGN2/P5NGN2	2-DR, NARROW GLASS DOOR PLATFORM MERCHANDISERS (61-5/16")
P5FGN3/P5NGN3	3-DR, NARROW GLASS DOOR PLATFORM MERCHANDISERS (92")
P5FGN4/P5NGN4	4-DR, NARROW GLASS DOOR PLATFORM MERCHANDISERS (122-5/8")
P5FGN5/P5NGN5	5-DR, NARROW GLASS DOOR PLATFORM MERCHANDISERS (153-5/16")

SPECIFICATIONS

P5FG Glass Door Frozen Food & Ice Cream Platform Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	DOOR TYPE	CAPACITY (BTUH / DR)*		EVAPORATOR (°F)**	UNIT SIZING (°F)	DISCHARGE AIR (°F)	AVG. REF. CHARGE (LBS/DR)
				PARALLEL	CONVENTIONAL				
P5FG	ALL	FROZEN	ANTHONY 101	1,400	1,446	-8	-11	1***	0.92****
P5FG	ALL	FROZEN	ANTHONY ELM.	1,231	1,272	-7	-10	1***	0.92****
P5FG	ALL	ICE CREAM	ANTHONY 101	1,510	1,560	-18	-21	-8***	0.92****
P5FG	ALL	ICE CREAM	ANTHONY ELM.	1,338	1,382	-17	-20	-8***	0.92****

NOTES: * Capacity data listed is for cases with ECM fan motors and T-8 electronic vertical lighting (Prism). Prism lights should remain on at all times (24 hours) for best operation.

See Capacity Adjustments below:

ADD 90 Btuh/Dr for cases using standard fan motors.

ADD 500 Btuh per glass end for frozen food or ice cream cases.

For LED lighting that is ON 24 hours a day, DEDUCT 198 Btuh/Dr for Anthony 101 doors or DEDUCT 123 Btuh/Dr for Anthony Eliminator doors.

** Evaporator temperature is based on the saturated pressure leaving the case.

*** DEDUCT 4°F for cases using LED lighting in frozen food applications or 3°F for LED cases in ice cream applications.

**** This is an average refrigeration charge 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 T-8 Lighting with Electronic Ballasts or LED Lighting with Electronic Drivers (120 Volt) (ANTHONY)

MODEL	NO. OF DOORS	FANS / CASE	TOTAL FOR STANDARD FANS*		TOTAL FOR ECM FANS*		VERTICAL T-8 (58-WATT)		LED LIGHTING			
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	OPTIMAX		GELCORE	
									AMPS	WATTS	AMPS	WATTS
P5FG	2	2	1.06	96.0	0.64	34.0	1.45	174.0	0.58	70.0	0.70	82.0
P5FG	3	3	1.59	144.0	0.96	51.0	1.94	233.0	0.77	92.0	1.05	123.0
P5FG	4	4	2.12	192.0	1.28	68.0	2.42	290.0	0.96	115.0	1.40	164.0
P5FG	5	5	2.65	240.0	1.60	85.0	2.91	349.0	1.15	138.0	1.75	205.0

* The fan circuit for Electric and Gas Defrost includes the drain pan heater, which is only ON when the fans cycle OFF. Fan circuit wire sizing should always be sized using the drain pan heater amps.

Heaters (120 and 208 Volt) (ANTHONY)

MODEL	NO. OF DOORS	ANTI-SWEAT HEATERS (120 V)										DEFROST HEATERS (208 V)**		DRAIN PAN HEATER (120 V)	
		T-8 MAIN FRAME***		LED MAIN FRAME		ANTHONY 101*		ANTHONY ELIMINAATOR*		ANTHONY 2100 SERIES*		AMPS	WATTS	AMPS	WATTS
		AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS				
P5FG	2	1.31	157	1.14	138	1.45	174	0.51	62	1.80	216	5.77	1,200	1.14	137
P5FG	3	2.02	242	1.79	216	2.18	262	0.77	92	2.70	324	9.50	1,975	1.88	226
P5FG	4	2.76	331	2.29	275	2.91	349	1.03	123	3.60	432	13.10	2,725	2.60	311
P5FG	5	3.47	416	2.87	345	3.64	437	1.28	154	4.50	540	16.83	3,500	3.33	400

* Only door anti-sweat heaters are cyclable. ** The drain pan heater cycles OFF when the fans cycle ON.

*** If fans and main frame anti-sweats share the same power supply, make sure to add the electrical usages when sizing the electrical circuits.

Please note this is not a recommended practice.

208 VOLT DEFROST (AMPS)													
DRS	2 - 5	6	7	8	9	10	11	12	13	14	15	16	17
FF/IC 1 PH	(See Def. Heaters in chart above.)	19.0	22.6	26.3	29.9	33.7	35.8	39.4	(Separate circuit recommended due to high amp draw.)				
FF/IC 3 PH	N/A	16.5	19.6	22.8	25.9	29.2	22.8	25.9	29.2	29.2	29.2	31.0	34.2
		TG-3-30	TG-3-30	TG-3-30	TG-3-30	TG-3-40	TG-3-40	TG-3-40	TG-3-40	TG-3-40	TG-3-40	TG-3-40	TG-3-50
CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING													
R404A FF	5/8"	7/8"	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"	1-3/8"
R404A IC	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"	1-3/8"	1-3/8"

CASE CIRCUITS: This case requires a separate 120V circuit for fans, lights, anti-sweats, drain pan heater, and a 208V circuit for Electric Defrost Heaters. The fan circuit for Electric and Gas Defrost includes the drain pan heater, which is on only when the fans are off. The anti-sweat circuit feeds power to both the cyclable and non-cyclable heaters.

The temperature control mode should prevent excessively low discharge air temperatures, which irritates product frosting.

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.

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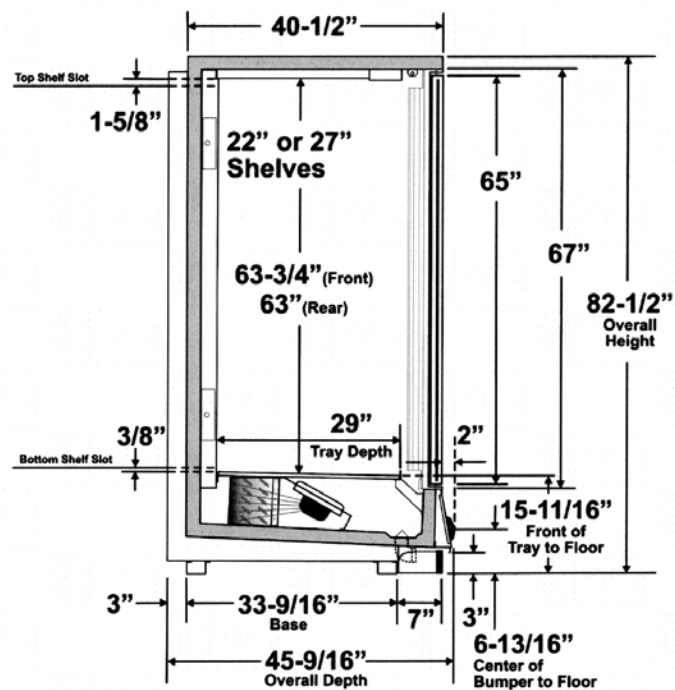
Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	EPR SETTINGS **		DEFROST WATER (LB / DR / DAY)
				R22 (PSIG)	R404A (PSIG)	
ELECTRIC / FF (101)	1	46	60	17.9	26.3	0.8
ELECTRIC / IC (101)	1	46	60	18.6	27.2	0.8
ELECTRIC / FF (ELIMINAATOR)	1	46	60	17.2	25.5	0.8
ELECTRIC / IC (ELIMINAATOR)	1	46	60	11.9	19.3	0.8
HOT GAS / FF (101)	1	18-20	55*	17.9	26.3	0.8
HOT GAS / IC (101)	1	20-25	55*	18.6	27.2	0.8
HOT GAS / FF (ELIMINAATOR)	1	18-20	55*	17.2	25.5	0.8
HOT GAS / IC (ELIMINAATOR)	1	20-25	55*	11.9	19.3	0.8

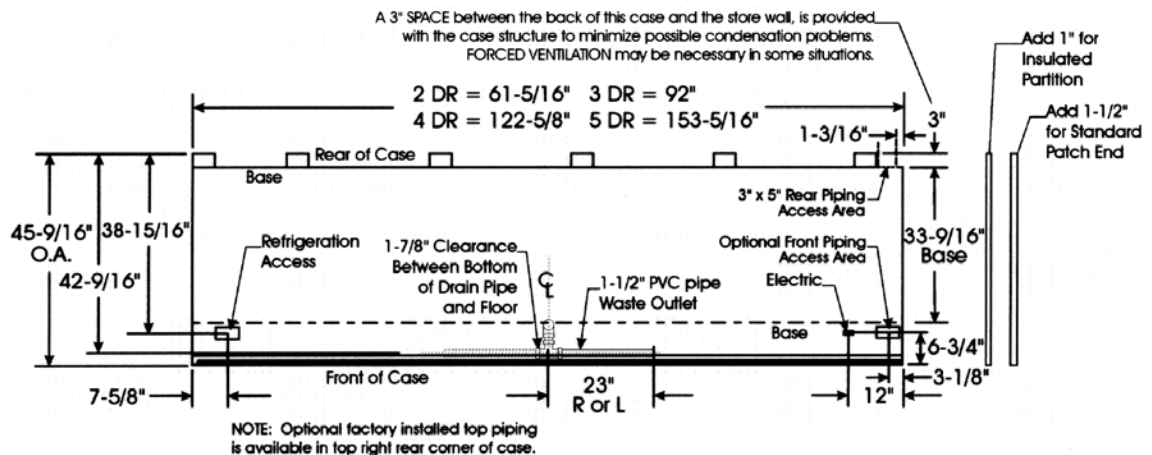
* If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature.

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

P5FG CROSS SECTION



FLOOR PLAN



P5NG Glass Door Medium Temp Platform Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	DOOR TYPE	CAPACITY (BTUH / DR)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/DR)
				PARALLEL	CONVENTIONAL			TEMP (°F)	VELOCITY (FPM)	
P5NG	ALL	MED TEMP	ANTHONY 101	864*	885*	+27**	+25	+34	290	0.92***

NOTES: * Capacity data listed is for cases with ECM fan motors and T-8 electronic vertical lighting (Prism). Lights remain on during defrost.

See Capacity Adjustments below:

ADD 90 Btuh/Dr for cases using standard fan motors.

ADD 500 Btuh per glass end for medium temperature cases.

DEDUCT 215 Btuh/Dr for cases using LED lighting that is ON 24 hours a day.

** Evaporator temperature is based on the saturated pressure leaving the case.

*** This is an average refrigeration charge per door based on R-22 and R-404A 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 T-8 Lighting with Electronic Ballasts or LED Lighting with Electronic Drivers (120 Volt) (ANTHONY)

MODEL	NO. OF DOORS	FANS / CASE	TOTAL FOR STANDARD FANS		TOTAL FOR ECM FANS		VERTICAL T-8 (58-WATT)		LED LIGHTING			
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	OPTIMAX		GELCORE	
P5NG	2	2	1.06	96.0	0.64	34.0	1.45	174.0	0.58	70.0	0.70	82.0
P5NG	3	3	1.59	144.0	0.96	51.0	1.94	233.0	0.77	92.0	1.05	123.0
P5NG	4	4	2.12	192.0	1.28	68.0	2.42	290.0	0.96	115.0	1.40	164.0
P5NG	5	5	2.65	240.0	1.60	85.0	2.91	349.0	1.15	138.0	1.75	205.0

Heaters (120 Volt) (ANTHONY)

MODEL	NO. OF DOORS	ANTI-SWEAT HEATERS (120 V)					
		T-8 MAIN FRAME**		LED MAIN FRAME		ANTHONY 101*	
		AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
P5NG	2	0.23	28.0	0.28	34.0	0.15	18.0
P5NG	3	0.37	44.0	0.42	50.0	0.22	26.0
P5NG	4	0.47	56.0	0.57	68.0	0.29	35.0
P5NG	5	0.59	70.0	0.71	85.0	0.37	44.0

* Only door anti-sweat heaters are cyclable.

** If fans and main frame anti-sweats share the same power supply, make sure to add the electrical usages when sizing the electrical circuits.

Please note this is not a recommended practice.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING														
DRS	2	3	4	5	6	7	8	9	10	11	12	13	14	15
R-22	1/2"	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"

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	EPR SETTINGS *		DEFROST WATER (LB / DR / DAY)
				R22 (PSIG)	R404A (PSIG)	
TIME OFF	1	34	-----	51.2	65.1	0.55

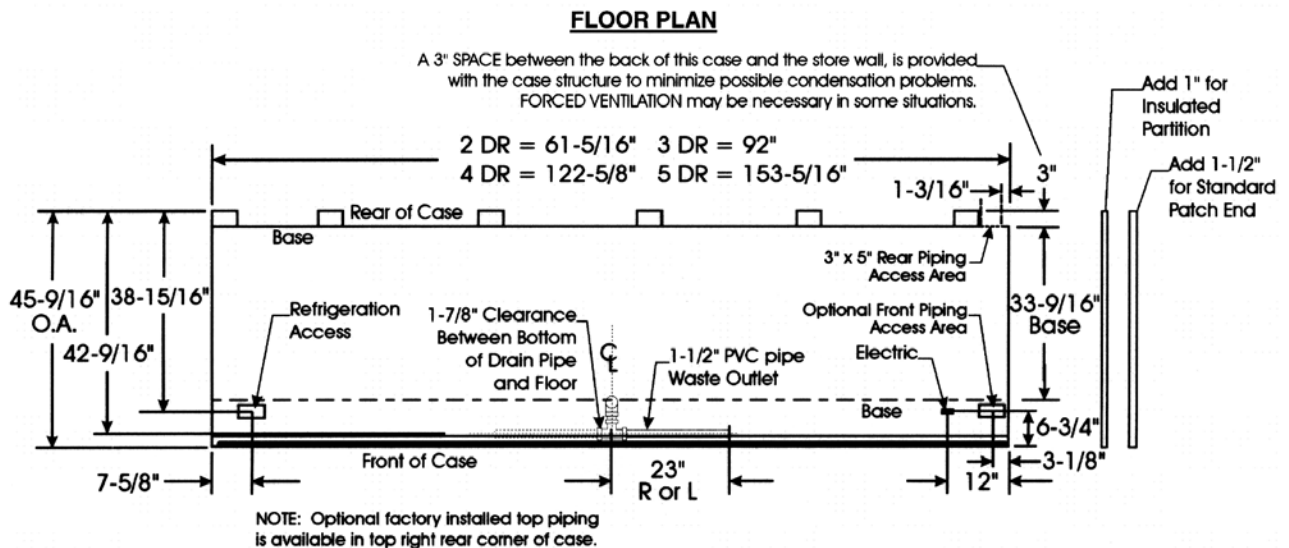
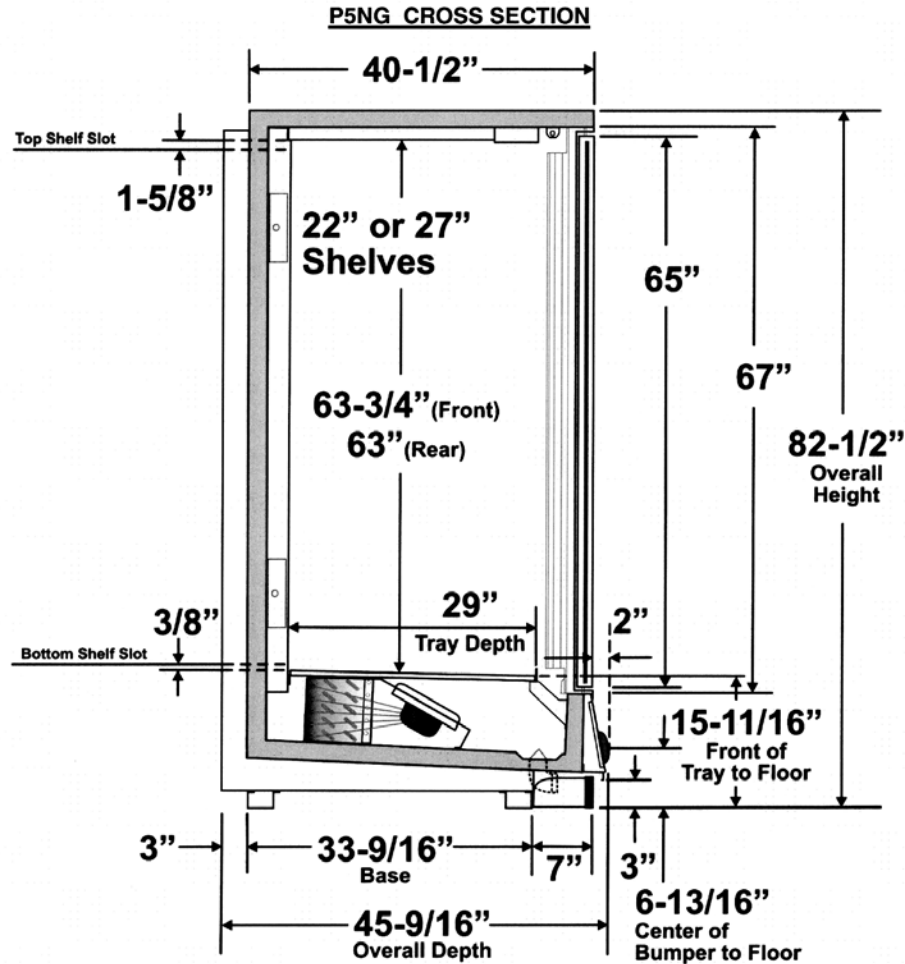
* Set EPR to give this pressure at the case.

CASE CIRCUITS: This case requires a separate 120V circuit for fans, lights and anti-sweats. The anti-sweat circuit feeds power to both the cyclable and non-cyclable 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.



P5FGN Narrow Glass Door FF & IC Platform Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	DOOR TYPE	CAPACITY (BTUH / DR)*		EVAPORATOR (°F)**	UNIT SIZING (°F)	DISCHARGE AIR (°F)	AVG. REF. CHARGE (LBS/DR)
				PARALLEL	CONVENTIONAL				
P5FGN	ALL	FROZEN	ANTHONY 101	1,400	1,446	-8	-11	1***	0.92****
P5FGN	ALL	FROZEN	ANTHONY ELM.	1,231	1,272	-7	-10	1***	0.92****
P5FGN	ALL	ICE CREAM	ANTHONY 101	1,510	1,560	-18	-21	-8***	0.92****
P5FGN	ALL	ICE CREAM	ANTHONY ELM.	1,338	1,382	-17	-20	-8***	0.92****

NOTES: * Capacity data listed is for cases with ECM fan motors and T-8 electronic vertical lighting (Prism). Prism lights should remain on at all times (24 hours) for best operation.

See Capacity Adjustments below:

ADD 90 Btuh/Dr for cases using standard fan motors.

ADD 500 Btuh per glass end for frozen food or ice cream cases.

For LED lighting that is ON 24 hours a day, DEDUCT 198 Btuh/Dr for Anthony 101 doors or DEDUCT 123 Btuh/Dr for Anthony Eliminaator doors.

** Evaporator temperature is based on the saturated pressure leaving the case.

*** DEDUCT 4 °F for cases using LED lighting in frozen food applications or 3°F for LED cases in ice cream applications.

**** This is an average refrigeration charge per door 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 T-8 Lighting with Electronic Ballasts or LED Lighting with Electronic Drivers (120 Volt) (ANTHONY)

MODEL	NO. OF DOORS	FANS / CASE	TOTAL FOR STANDARD FANS*		TOTAL FOR ECM FANS*		VERTICAL T-8 (58-WATT)		LED LIGHTING			
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	OPTIMAX		GELCORE	
									AMPS	WATTS	AMPS	WATTS
P5FGN	2	2	1.06	96.0	0.64	34.0	1.45	174.0	0.58	70.0	0.70	82.0
P5FGN	3	3	1.59	144.0	0.96	51.0	1.94	233.0	0.77	92.0	1.05	123.0
P5FGN	4	4	2.12	192.0	1.28	68.0	2.42	290.0	0.96	115.0	1.40	164.0
P5FGN	5	5	2.65	240.0	1.60	85.0	2.91	349.0	1.15	138.0	1.75	205.0

* The fan circuit for Electric and Gas Defrost includes the drain pan heater, which is only ON when the fans cycle OFF.

Fan circuit wire sizing should always be sized using the drain pan heater amps.

Heaters (120 and 208 Volt) (ANTHONY)

MODEL	NO. OF DOORS	ANTI-SWEAT HEATERS (120 V)										DEFROST HEATERS (208 V)**		DRAIN PAN HEATER (120 V)	
		T-8 MAIN FRAME		LED MAIN FRAME		ANTHONY 101*		ANTHONY ELIMINAATOR*		ANTHONY 2100 SERIES*		AMPS	WATTS	AMPS	WATTS
		AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS				
P5FGN	2	1.31	157	1.14	138	1.45	174	0.51	62	1.80	216	5.77	1,200	1.14	137
P5FGN	3	2.02	242	1.79	216	2.18	262	0.77	92	2.70	324	9.50	1,975	1.88	226
P5FGN	4	2.76	331	2.29	275	2.91	349	1.03	123	3.60	432	13.10	2,725	2.60	311
P5FGN	5	3.47	416	2.87	345	3.64	437	1.28	154	4.50	540	16.83	3,500	3.33	400

* Only door anti-sweat heaters are cyclable. ** The drain pan heater cycles OFF when the fans cycle ON.

*** If fans and main frame anti-sweats share the same power supply, make sure to add the electrical usages when sizing the electrical circuits.

Please note this is not a recommended practice.

208 VOLT DEFROST (AMPS)														
DRS	2-5	6	7	8	9	10	11	12	13	14	15	16	17	
FF/IC 1 PH	(See Def. Heaters in chart above.)	19.0 TG-30	22.6 TG-30	26.3 TG-40	29.9 TG-40	33.7 TG-50	35.8 TG-50	39.4 TG-50	(Separate circuit recommended due to high amp draw.)					
FF/IC 3 PH	N/A	16.5 TG-3-30	19.6 TG-3-30	22.8 TG-3-30	25.9 TG-3-40	29.2 TG-3-40	22.8 TG-3-30	25.9 TG-3-40	29.2 TG-3-40	29.2 TG-3-40	29.2 TG-3-40	31.0 TG-3-40	34.2 TG-3-50	
CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING														
R404A FF	5/8"	7/8"	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"	1-3/8"	
R404A IC	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"	1-1/8"	1-3/8"	

CASE CIRCUITS: This case requires a separate 120V circuit for fans, lights, anti-sweats, drain pan heater, and a 208V circuit for Electric Defrost Heaters. The fan circuit for Electric and Gas Defrost includes the drain pan heater, which is on only when the fans are off. The anti-sweat circuit feeds power to both the cyclable and non-cyclable heaters.

The temperature control mode should prevent excessively low discharge air temperatures, which irritates product frosting.

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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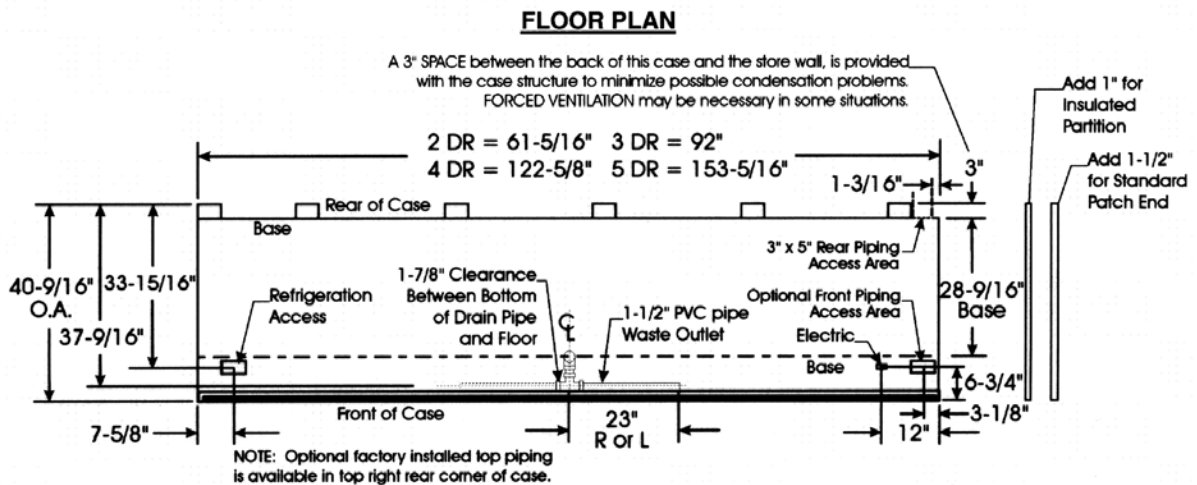
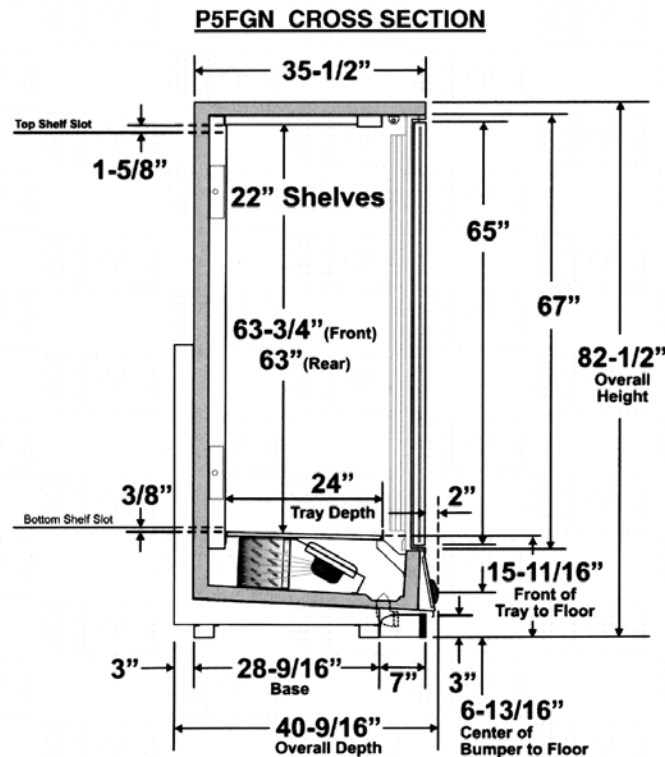
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Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	EPR SETTINGS **		DEFROST WATER (LB / DR / DAY)
				R22 (PSIG)	R404A (PSIG)	
ELECTRIC / FF (101)	1	46	60	17.9	26.3	0.8
ELECTRIC / IC (101)	1	46	60	18.6	27.2	0.8
ELECTRIC / FF (ELMINAATOR)	1	46	60	17.2	25.5	0.8
ELECTRIC / IC (ELMINAATOR)	1	46	60	11.9	19.3	0.8
HOT GAS / FF (101)	1	18-20	55*	17.9	26.3	0.8
HOT GAS / IC (101)	1	20-25	55*	18.6	27.2	0.8
HOT GAS / FF (ELMINAATOR)	1	18-20	55*	17.2	25.5	0.8
HOT GAS / IC (ELMINAATOR)	1	20-25	55*	11.9	19.3	0.8

* If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature.
 ** Set EPR to give this pressure at the case.



P5NGN Narrow Glass Door Medium Temp Platform Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	DOOR TYPE	CAPACITY (BTUH / DR)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/DR)
				PARALLEL	CONVENTIONAL			TEMP (°F)	VELOCITY (FPM)	
P5NGN	ALL	MED TEMP	ANTHONY 101	864*	885*	+27**	+25	+34	290	0.92***

NOTES: * Capacity data listed is for cases with ECM fan motors and T-8 electronic vertical lighting (Prism). Lights remain on during defrost.

See Capacity Adjustments below:

ADD 90 Btuh/Dr for cases using standard fan motors.

ADD 500 Btuh per glass end for medium temperature cases.

DEDUCT 215 Btuh/Dr for cases using LED lighting that is ON 24 hours a day.

** Evaporator temperature is based on the saturated pressure leaving the case.

*** This is an average refrigeration charge per door based on R-22 and R-404A 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 T-8 Lighting with Electronic Ballasts or LED Lighting with Electronic Drivers (120 Volt) (ANTHONY)

MODEL	NO. OF DOORS	FANS / CASE	TOTAL FOR STANDARD FANS		TOTAL FOR ECM FANS		VERTICAL T-8 (58-WATT)		LED LIGHTING			
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	OPTIMAX		GELCORE	
									AMPS	WATTS	AMPS	WATTS
P5NGN	2	2	1.06	96.0	0.64	34.0	1.45	174.0	0.58	70.0	0.70	82.0
P5NGN	3	3	1.59	144.0	0.96	51.0	1.94	233.0	0.77	92.0	1.05	123.0
P5NGN	4	4	2.12	192.0	1.28	68.0	2.42	290.0	0.96	115.0	1.40	164.0
P5NGN	5	5	2.65	240.0	1.60	85.0	2.91	349.0	1.15	138.0	1.75	205.0

Heaters (120 Volt) (ANTHONY)

MODEL	NO. OF DOORS	ANTI-SWEAT HEATERS (120 V)					
		T-8 MAIN FRAME**		LED MAIN FRAME		ANTHONY 101*	
		AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
P5NGN	2	0.23	28.0	0.28	34.0	0.15	18.0
P5NGN	3	0.37	44.0	0.42	50.0	0.22	26.0
P5NGN	4	0.47	56.0	0.57	68.0	0.29	35.0
P5NGN	5	0.59	70.0	0.71	85.0	0.37	44.0

* Only door anti-sweat heaters are cyclable.

** If fans and main frame anti-sweats share the same power supply, make sure to add the electrical usages when sizing the electrical circuits.

Please note this is not a recommended practice.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING

DRS	2	3	4	5	6	7	8	9	10	11	12	13	14	15
R-22	1/2"	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"

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	EPR SETTINGS *		DEFROST WATER (LB / DR / DAY)
				R22 (PSIG)	R404A (PSIG)	
TIME OFF	1	34	----	51.2	65.1	0.55

* Set EPR to give this pressure at the case.

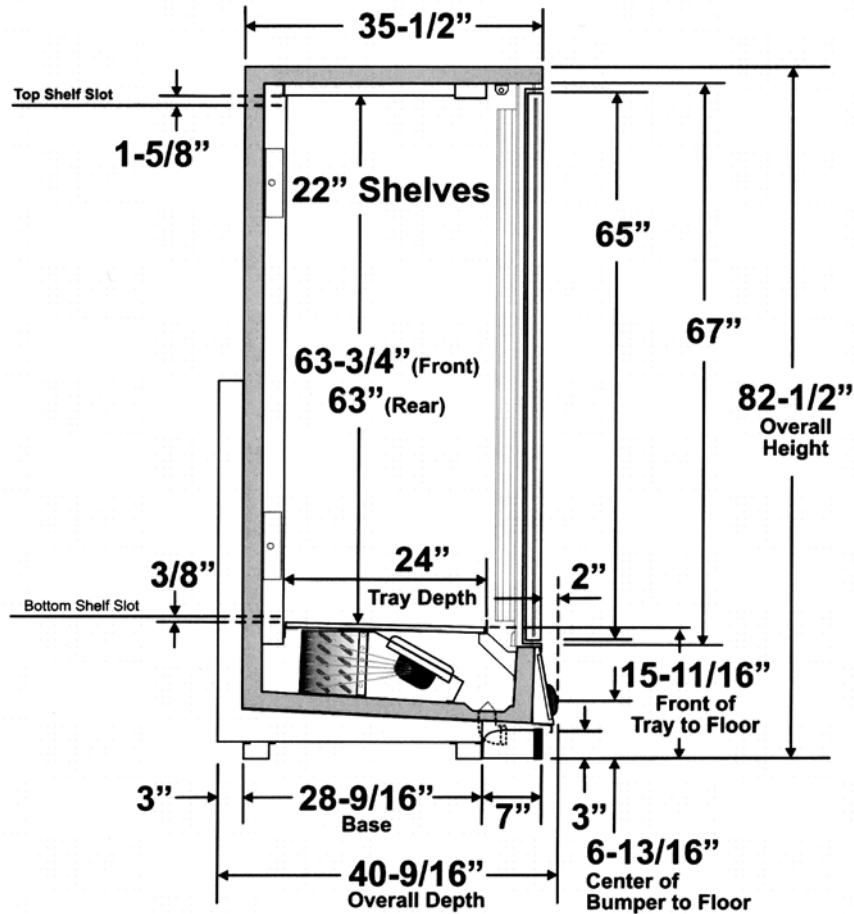
CASE CIRCUITS: This case requires a separate 120V circuit for fans, lights and anti-sweats. The anti-sweat circuit feeds power to both the cyclable and non-cyclable heaters.

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

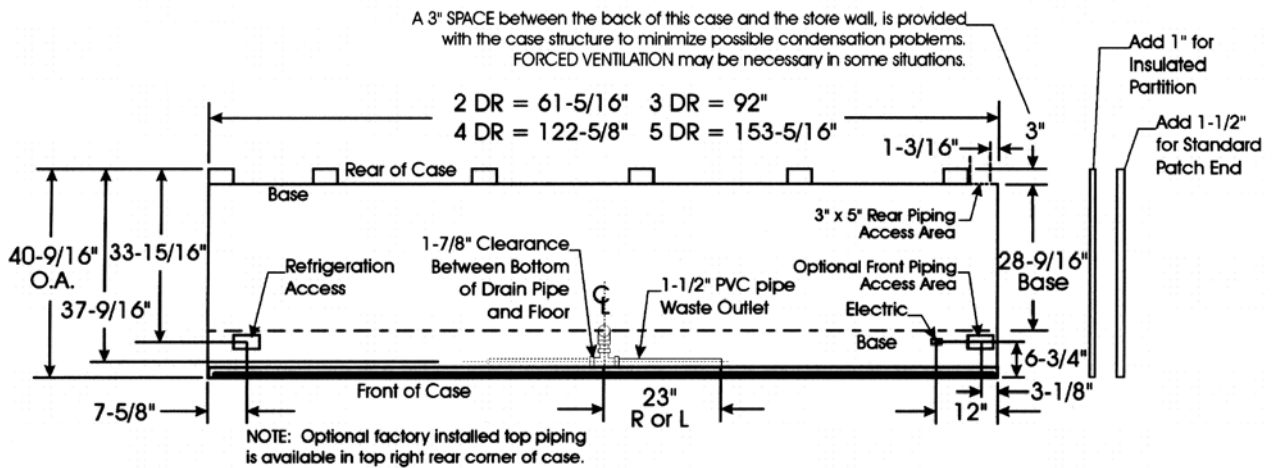
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH**.

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.

P5NGN CROSS SECTION



FLOOR PLAN



INSTALLATION PROCEDURES

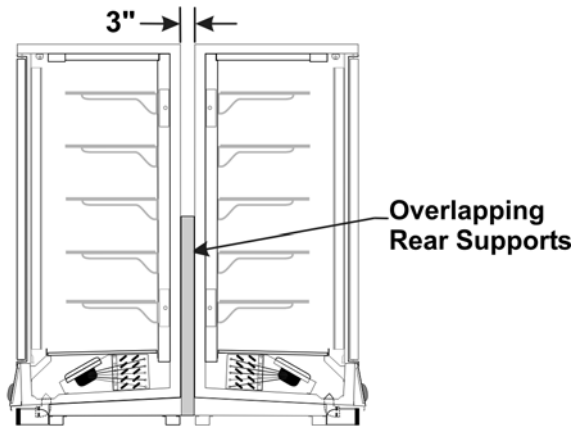
Carpentry Procedures

Case Line-Up

Before starting the case line-up, review the store layout floorplans and survey the areas where case line-ups are going to be installed.

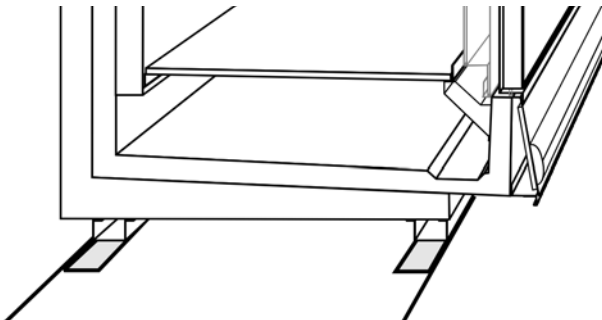
WARNING

These cases are very heavy and require two or more people to move and/or position them. Improper handling of these cases could result in personal injury.



NOTE

The rear structure design of these cases automatically provides a 3" minimum air space between the back of these cases and store walls or other cases. This air space minimizes possible condensation problems. Forced ventilation might be necessary in some situations.



1. Snap chalk lines where the front and rear base rails of the cases are to be located for the entire line-up.

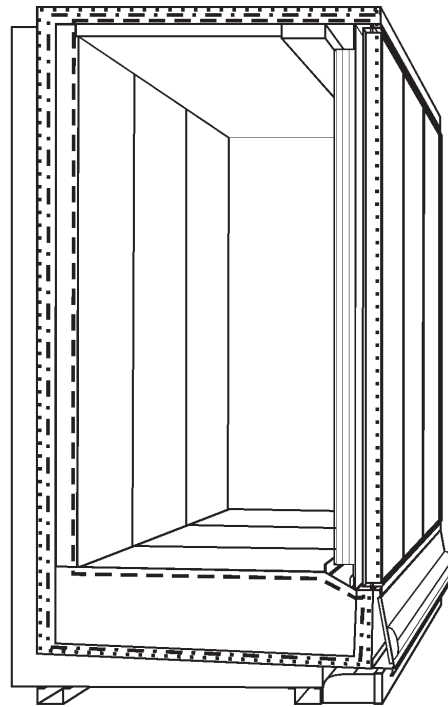
NOTE

Front and rear edges of base rails should always be used to line-up cases. 6" shims allow adjoining ends of cases to be shimmed together.

2. Locate highest point on chalk lines as a reference for determining the number of shims to be placed under the case base rails. Position first case at highest point on the chalk lines and shim case supports as required. Check leveling at hand rails and top of case and back of case.

CAUTION

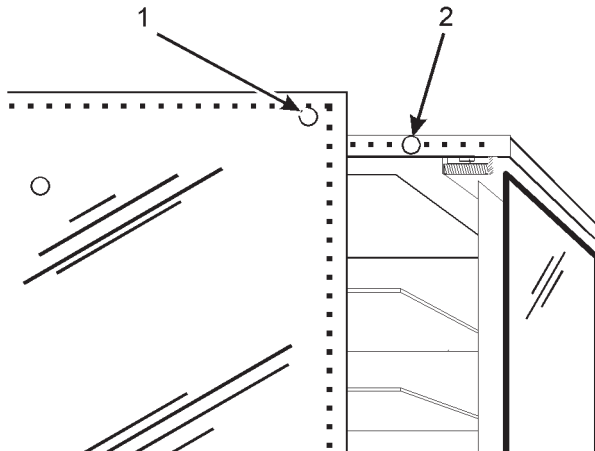
Shipping braces should only be removed from case ends that are to be joined. This protects the cases from possible damage during the line-up procedure.



3. Apply double-sided tape and 7/8" x 3/4" foam gasket to the end of the case at the (- • -) line. Apply two heavy beads of caulking compound to the end of case at dotted (• • •) and dashed (- - -) lines. All sealing components are in the Filler Kit shipped with the case. Proper sealing provides good case refrigeration and sanitation.

4. If the case requires a plexiglas system divider or 1" partition, install as follows:

Plexiglas System Divider Installation



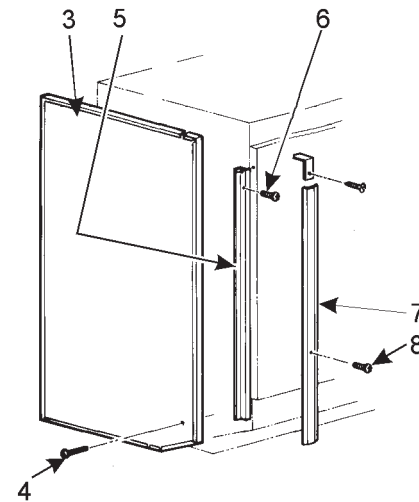
NOTE

The holes in the divider will only line-up one way.

- a. Line-up the four holes in the divider (1) with the four holes for the case pull-ups (2). Position divider on sealant on case end.
- b. Apply sealant to outside surface of divider (1) in same position as the case sealant application.

1" Partition Installation

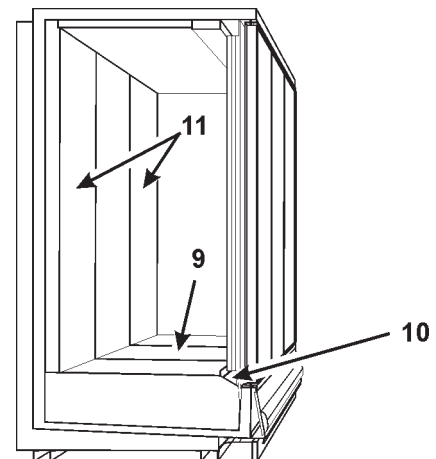
1" partitions are shipped installed as specified in the case order. Make sure the partitioned case is being installed in the proper location in the case line-up. This assures proper refrigeration to all parts of the case line-up.



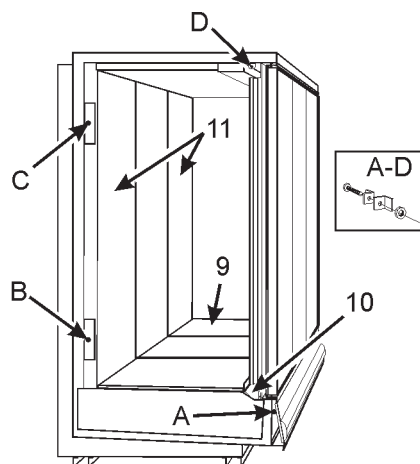
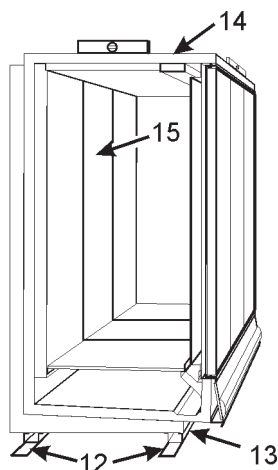
- a. Apply sealant to outside surface of partition (3) where the two surfaces of the adjoining case will contact the partition (3). Drill 3/16" holes through partition and secure to one of the cases with four screws (4).

After cases are joined, install the partition trim:

- b. Install vertical trim support (5) on front edge of partition (3) with four screws (6).
- c. Install vertical joint trim (7) to vertical trim support (5) with four screws (8).



5. Remove bottom trays (9), front duct (10) and RH or LH rear duct panels (11) from adjoining ends of both cases. This provides access to the case pull-ups.



6. Push cases tightly together making sure the pull-ups are aligned.
7. Add shims (12), as required, under the adjoining case base rails (13). Check leveling at top of case (14), and back of case (15).

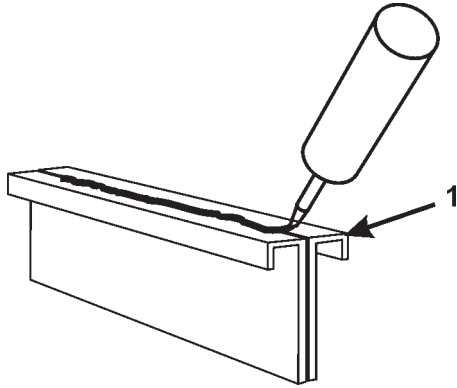
CAUTION

Do not drill or use other holes through the case end for pull-ups. This may deform the case end and could cause joint leaks and/or poor refrigeration.

8. Position all pull-up bolts and mounting hardware (16) at pull-up locations A, B, C, and D. Do not tighten any pull-up hardware until all of it has been installed. Tighten all pull-up hardware equally starting at point A and finishing at point D. **Do not overtighten.**
9. Install RH or LH rear duct panel (11), front duct (10), and bottom tray (9).

Trim Installation/Alignment

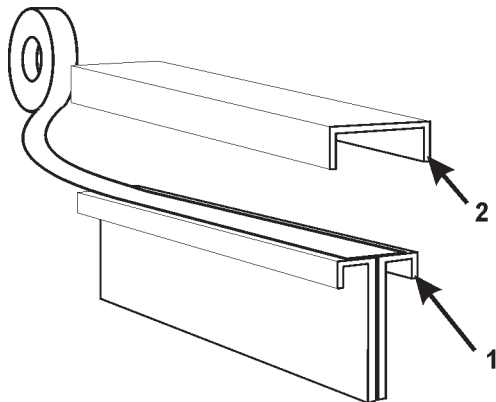
Horizontal & Vertical Joint Trim Installation



1. Apply bead of caulking compound from the Filler Kit to the top of each horizontal joint (1).

NOTE

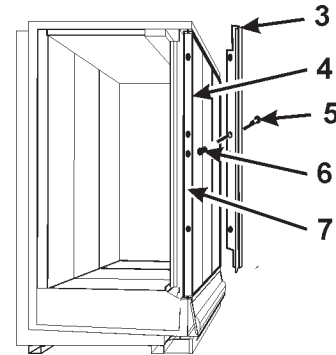
If additional sealing is preferred, 2" wide duct tape can be applied to the top of the internal bottom joint between cases. The tape will be covered by the horizontal joint trim. Duct tape is not furnished.



2. Apply sealer to horizontal joint trim (2) and install joint trim (2) on the top of the horizontal joint (1).

NOTE

The following information is for joining cases without 1" partitions. For cases with 1" partition between them, see page 13.



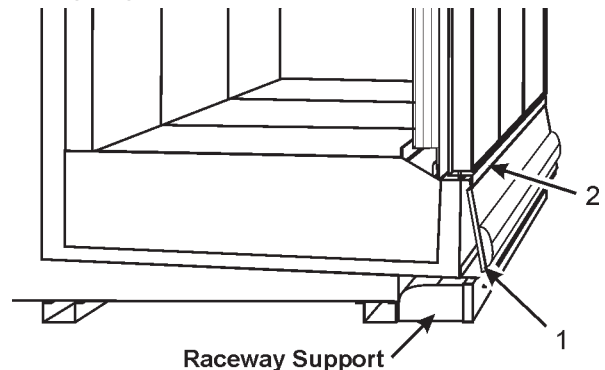
3. Position vertical joint trim (3) in front case line-up joint (4) and secure with four screws (5) and screw nuts (6) through adjoining case door frames (7).

Front Cladding Installation

NOTE

Front cladding is shipped loose. It should not be installed until all case piping and electrical hook-ups are out of the way and secured.

There is a front cladding supplied for each case. Each front cladding comes with a bumper preinstalled on it.



1. Position top of front cladding (1) under bottom lip of the lower door frame assembly (2).
2. Rotate front cladding (1) down and secure with screws through holes in the bottom edge of the front cladding (1).

NOTE

- Kickplate supports are factory installed.
- See "General-UL/NSF I&S Manual" for kickplate and end closeoff installation instructions.

Refrigeration Procedures

NOTE

See “General-UL/NSF I&S Manual” for all other refrigeration procedure information.

P5FG/P5FGN/ Application Requirements

Temperature Control Strategy

- A suction stop EPR valve is the preferred method for maintaining temperature control on parallel compressor system applications.
- When using a thermostat and liquid line solenoid for temperature control, the maximum line-up length that may be controlled is 10 doors.
- The discharge air temperature shall be maintained between 1°F to -1°F for frozen food applications and between -7°F to -9°F for ice cream applications.

Temperature Sensor Locations

- The sensor used for temperature control shall be located in the discharge air.
- If a case controller is used, the sensor used for defrost termination MUST be insulated and located where the standard defrost termination klixon is located. If a case controller is used and the case is defrosted using electric heaters, the defrost termination klixon must be replaced with a 70°F fail safe klixon. This meets the safety requirements.

Defrost Control Strategy

- High door openings loads associated with high food product sales may require two defrost periods per 24 hour period.
- Pumping down the refrigeration circuit at the beginning of the defrost period is not recommended.

Electrical Procedures

Electrical Considerations

Case Fan Circuit

This circuit is to be supplied by an uninterrupt-

ed, protected 120V circuit. See “Optional Electric Defrost” or “Optional Gas Defrost” sections on page 18 of this manual for more complete fan circuit operation information.

Fluorescent or LED Lamp Circuit

The standard case lighting system is T-8 Electronic Vertical (Prism) lamps. The standard lighting is 3 to 6 rows of vertical T-8 lighting located on each side of all doors. LED case lighting with electronic power supplies is available as an option.

ATTENTION: INSTALLER

- **Do not turn on the lights inside the case unless operating temperature has been reached. Ballast or power supply failure may occur when the lights are operating without refrigeration in the case.**
- **Do not leave power on to the door and frame heaters unless operating temperature inside the case has been reached. Failure to follow this instruction could cause damage to the door frame.**
- **The light switch should be left off if refrigeration is turned off for periods longer than normal defrosting times. This prevents possible distortion and/or damage to non-metal parts from lighting heat.**

NOTE

Lights will remain on during defrost cycle.

ESM/ESS Anti-Sweat Control System

When a line-up of cases are ordered with the optional ESM/ESS control system, up to 10 cases can be controlled by one master unit (ESM). The ESM should be mounted on the top right hand end of one of the cases in the line-up. By pulling the two required wires from the ESM to the first slave unit (ESS) in the line-up, you can daisy chain all the ESS together at their individual terminal blocks. The ESS terminal blocks are located in the lower raceway of each case (see ESM/ ESS wiring diagram in this manual).

The TYLER ESM/ESS control system is designed to effect energy savings in the operation of P5FG and P5FGN glass door merchandisers. This is accomplished by cycling the anti-sweat heat in the door frames and door glass. Anthony 101 doors use 87 watts of heat (.73 amps) per door that can be cycled on and off based on the dewpoint. Anthony Eliminaator doors use 31 watts of heat (.25 amps) per door that can be cycled on and off based on the dewpoint. Less energy is used as the dewpoint lowers. The ESM draws its very small requirements of 3 watts @ 120 volts (0.03A) from the case.

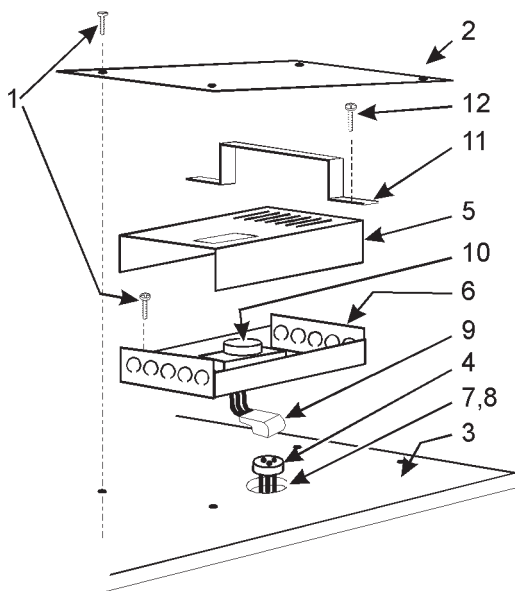
Installation of the ESM Controller

WARNING

Make sure all power supplies to the case are disconnected to avoid possible product damage and/or personal injury.

NOTES

- ESM dewpoint controller should be installed by an authorized service person.
- The ESM controller must only be connected to the case it was shipped with.



1. Remove four screws (1) and metal cover (2) from top of case (3). Do not discard the screws. This will expose the female receptacle (4).

2. Remove ESM cover (5) from ESM controller (6), then remove knock out (7) nearest the wiring leads. Install 7/8" plastic bushing (8) in the knock out hole (7).
3. Position the ESM controller (6) over the female receptacle (4).
4. Connect controller plug (9) to female receptacle (4).
5. Set selector (10) on "C" setting.
6. Secure ESM controller (6) to top of case (3) with four screws (1). Install the ESM cover (5).
7. Position metal bracket (11) over the grill area on the ESM cover (5) and secure to top of case (3) with two screws (12).

Defrost Information

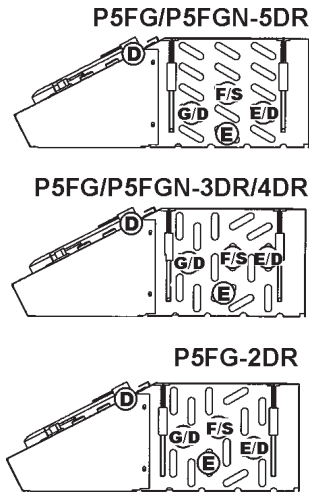
See "General-UL/NSF I&S Manual" for operational descriptions for each type of defrost control.

Defrost Control Charts

Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
P5FG/P5FGN			
Electric (FF)	1	46	60°F
Electric (IC)	1	46	60°F
Gas (FF)	1	18-20	55°F
Gas (IC)	1	20-25	55°F
P5NG/P5NGN			
Off Time	1	34	-----

Most klixons are located on the right end of the evaporator coil. The diagrams on the next page show the location for each klixon.



- E = Electric Defrost Termination (60/30)**
- E/D = Electric Defrost Fan Delay (40/20)**
- G/D = Gas Defrost Fan Delay (25/10)**
- D = Gas Defrost Drain Pan Heater (70/40)**
- F/S = Electric Defrost Failsafe (Opt.)**

NOTE

- The defrost termination klixon for gas defrost is located at the bypass check valve.
- The drain pan heater klixon for electric defrost is located on the return air grill.

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.

Optional Electric Defrost

At case start-up, the fans will not come on until the fan delay thermostat on the coil senses 20°F. After the case has been running, the fan operation is interrupted by the fan control relay whenever the defrost cycle is initiated. After defrost, the defrost and drain heaters will shut off and refrigeration will resume.

NOTE

The fans will not restart until the coil temperature reaches 20°F at the fan delay thermostat.

Optional Gas Defrost

The area over the drain trough is heated by an electric drain pan heater. The drain pan is also heated by two passes of suction line which acts as a drain pan heater during gas defrosting.

At the initiation of a defrost cycle, a reversing valve introduces hot gas into the suction line as normal flow is reversed. When the fan/heater delay klixon senses 25°F, it turns off the fans and activates the drain pan heater. The defrost continues until the coil and drain pan are completely clear. A gas defrost termination klixon senses the gas leaving the coil. When termination temperature is reached, a contact closure signals the rack to close a hot gas valve and terminate defrosting. (See BUFF section in Spec Guide.) This valve should be allowed to cycle, if needed, until fail safe time is reached.

When fail safe time elapses, the refrigeration cycle resumes. Case fans will not run until the coil temperature is brought down to 10°F.

- The fan circuit for Gas Defrost includes the drain pan heater which is on only when the fans are off. Since the heater draws more current than the fans, the entire circuit is marked to show the highest load rating.
- The fan/heater delay klixon shuts off the fans at 25°F, and turns the heater on.
- The drain pan heater will shut off if the drain pan heater klixon exceeds 70°F, but stays on below 40°F.
- The fan resume running when coil temperature pulls down to 10°F.

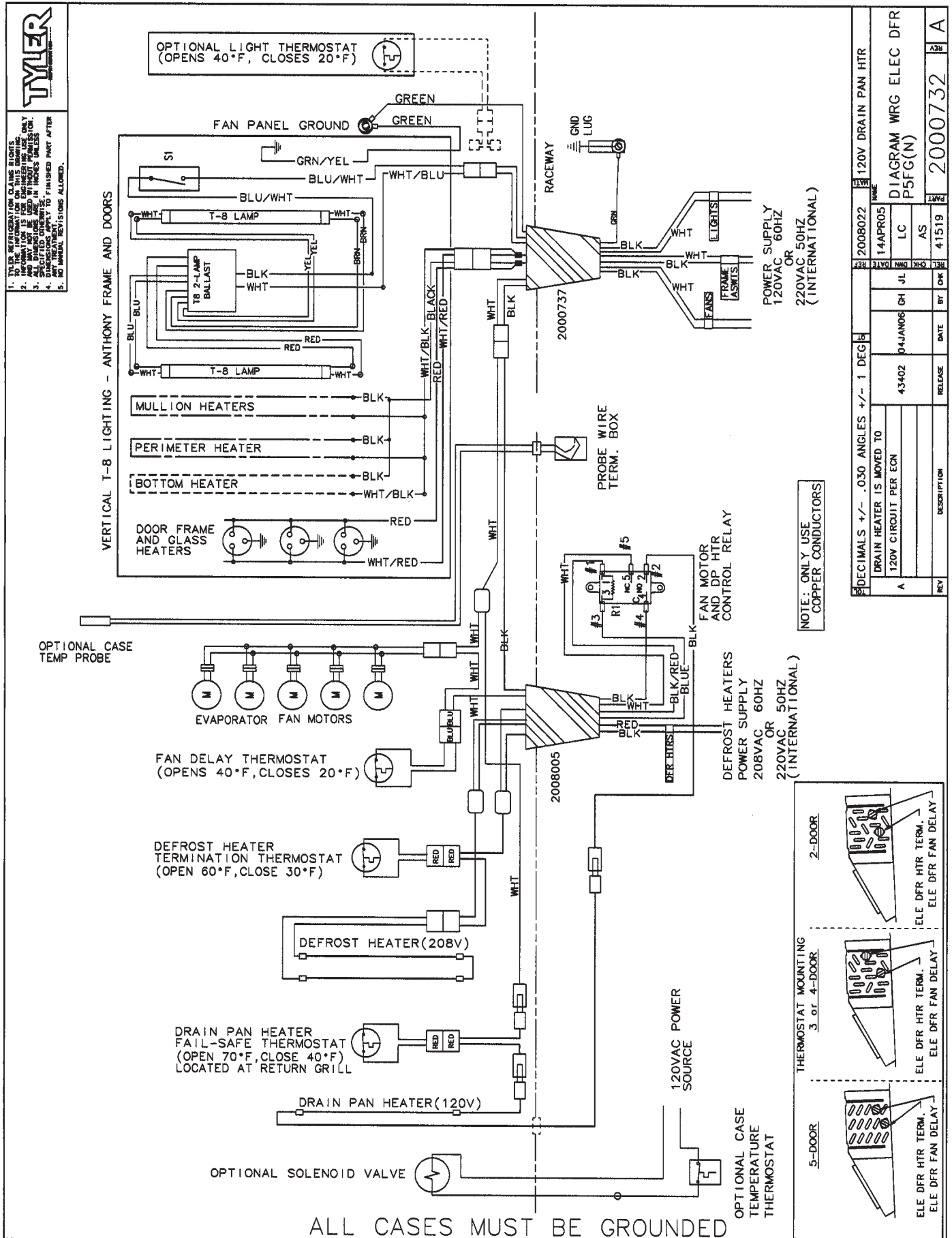
WIRING DIAGRAMS

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 wiring diagrams on pages 19 thru 32 will cover the most frequently used P5FG, P5FGN, P5NG and P5NGN case circuits.

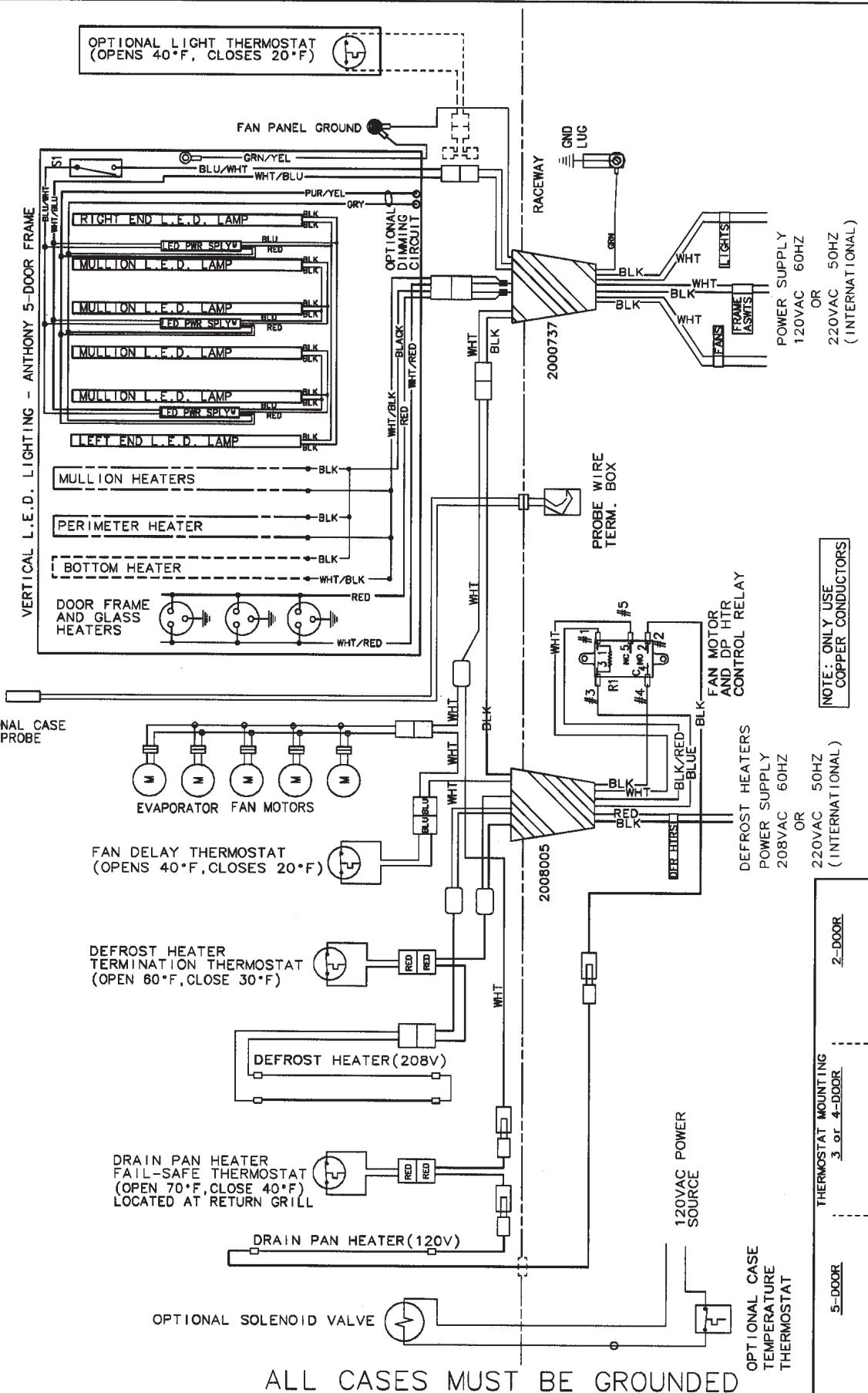
P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Electric Defrost)



P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Electric Defrost with LED Lighting)



1. THIS REPLICATION OF THIS DRAWING IS TO BE USED FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION OR REPAIR WORK WITHOUT PERMISSION FROM TYLER.
2. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
3. DIMENSIONS APPLY TO FINISHED PART AFTER FINISHING.
4. NO MANUAL REVISIONS ALLOWED.



REV	DESCRIPTION	DATE	BY	CHK	PART
1	120V DRAIN PAN HTR	2000732			
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REV	DESCRIPTION	DATE	BY	CHK	PART
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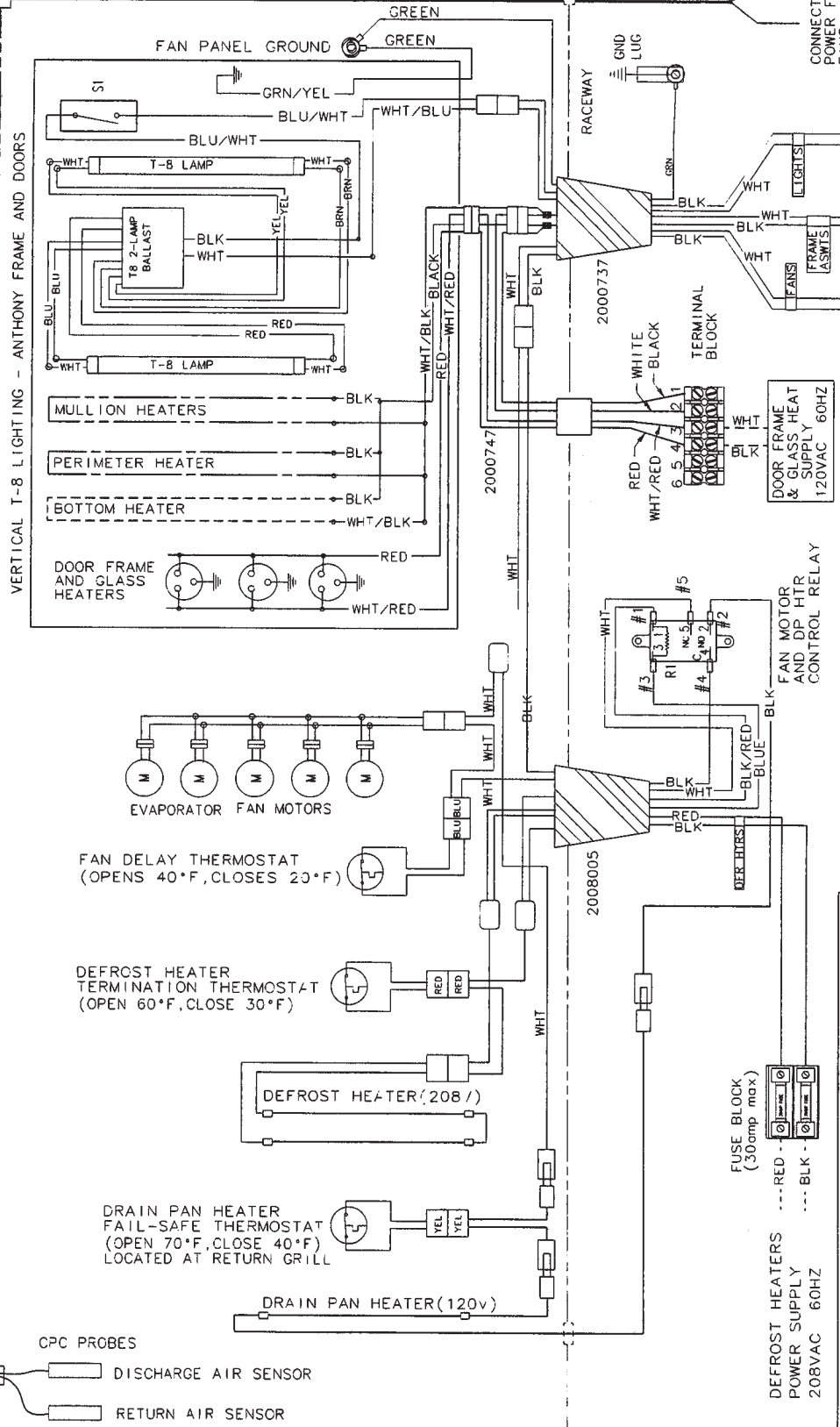
ALL CASES MUST BE GROUNDED

P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Electric Defrost for Target)

TYLER
REFRIGERATION

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3. SPECIFIED DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
4. DIMENSIONS APPLY TO FINISHED PART AFTER POLISHING.
5. NO MANUAL REVISIONS ALLOWED.

120V POWER SOCKET FOR VENT FANS.



* THIS WIRING DIAGRAM REPRESENTS A *NON-COMMON* PRACTICE FOR WIRING THE MULLION HEATERS AND FAN PANELS AS REQUESTED BY TARGET CORPORATION. TYLER REFRIGERATION REQUIRES THAT THE LOAD NOT EXCEED 15 AMPS ON A SINGLE 20 AMP CIRCUIT WITH NOMINAL 120VAC POWER SUPPLY.

NOTE: ONLY USE COPPER CONDUCTORS.

DEFROST HEATERS POWER SUPPLY 208VAC 60HZ

FUSE BLOCK (30amp max)
 --- RED ---
 --- BLK ---

DEFROST HEATERS
 5-DOOR
 2-DOOR

TERMOSTAT MOUNTING
 3- or 4-DOOR

CONNECT *FRAME ASWTS* AND *FANS* LEADS TOGETHER POWER SUPPLY 120VAC 60HZ

CONNECT TO FANS POWER FOR VENT FANS

REV	DATE	BY	CHK	DESCRIPTION
1	4/3/02	JL		THE FRAME HEATER CIRCUIT WITH FAN CIRCUIT
2	28AUG07	CXH		ADDED A NOTE FOR TYING THE FRAME HEATER CIRCUIT WITH FAN CIRCUIT

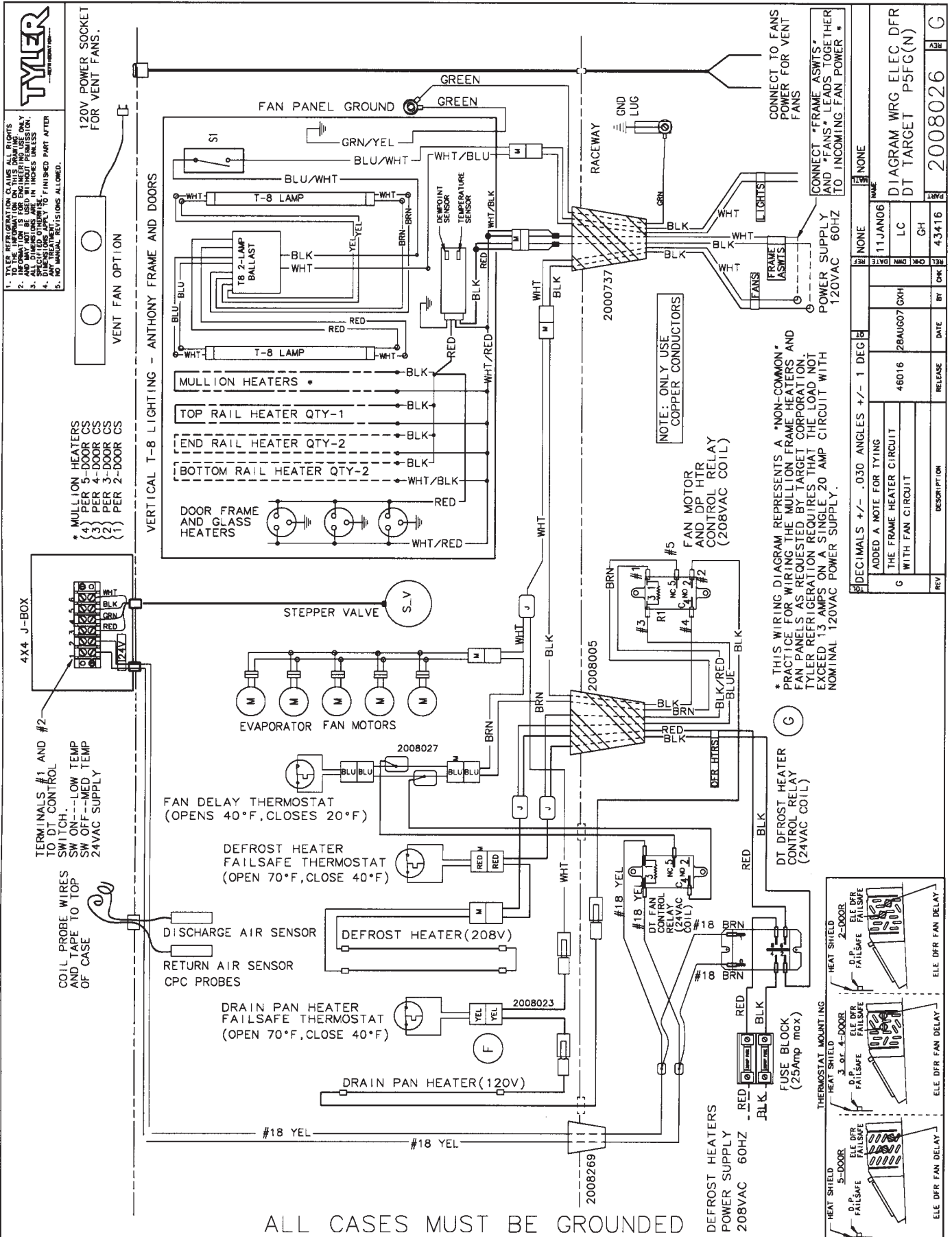
2008003
 NONE

2008003
 OZDECO05

DIAGRAM WRG ELEC DFR TARGET P5FG(N)

2008022

P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Dual Temp Electric Defrost with Front Power Input for Target)

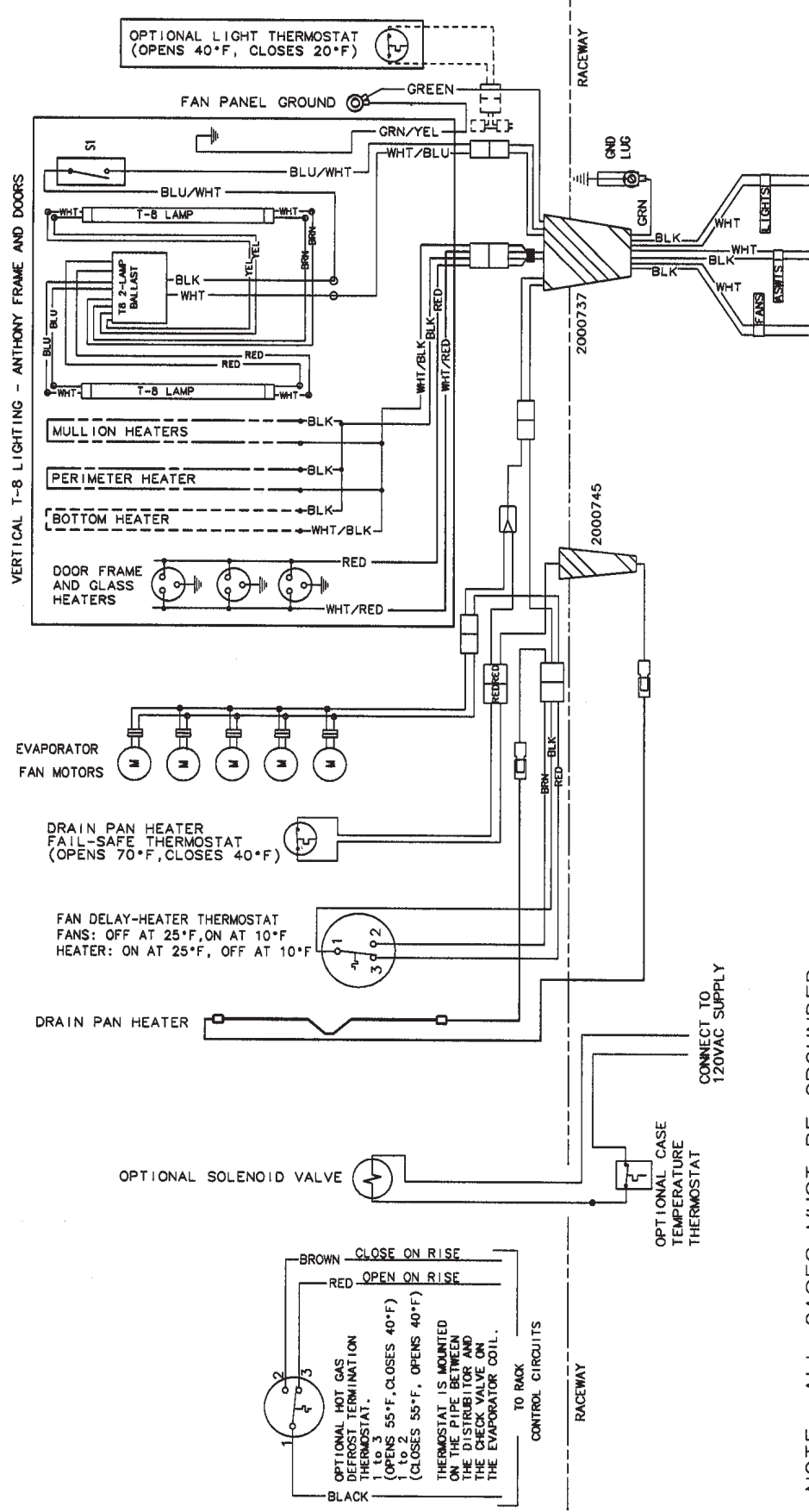


ALL CASES MUST BE GROUNDED

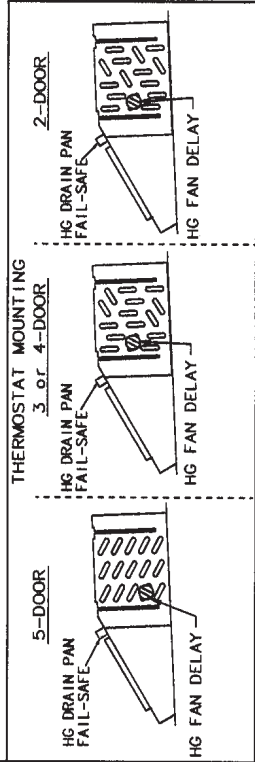
P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Gas Defrost)

TYLER
INDUSTRIAL CORPORATION

1. THIS MANUAL IS TO BE USED IN CONJUNCTION WITH THE INFORMATION ON THIS UNIT.
2. THIS UNIT IS TO BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE INSTRUCTIONS ON THIS UNIT.
3. ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
4. DIMENSIONS APPLY TO FINISHED PART AFTER MOUNTING.
5. NO MANUAL REVISIONS ALLOWED.



NOTE: ALL CASES MUST BE GROUNDED

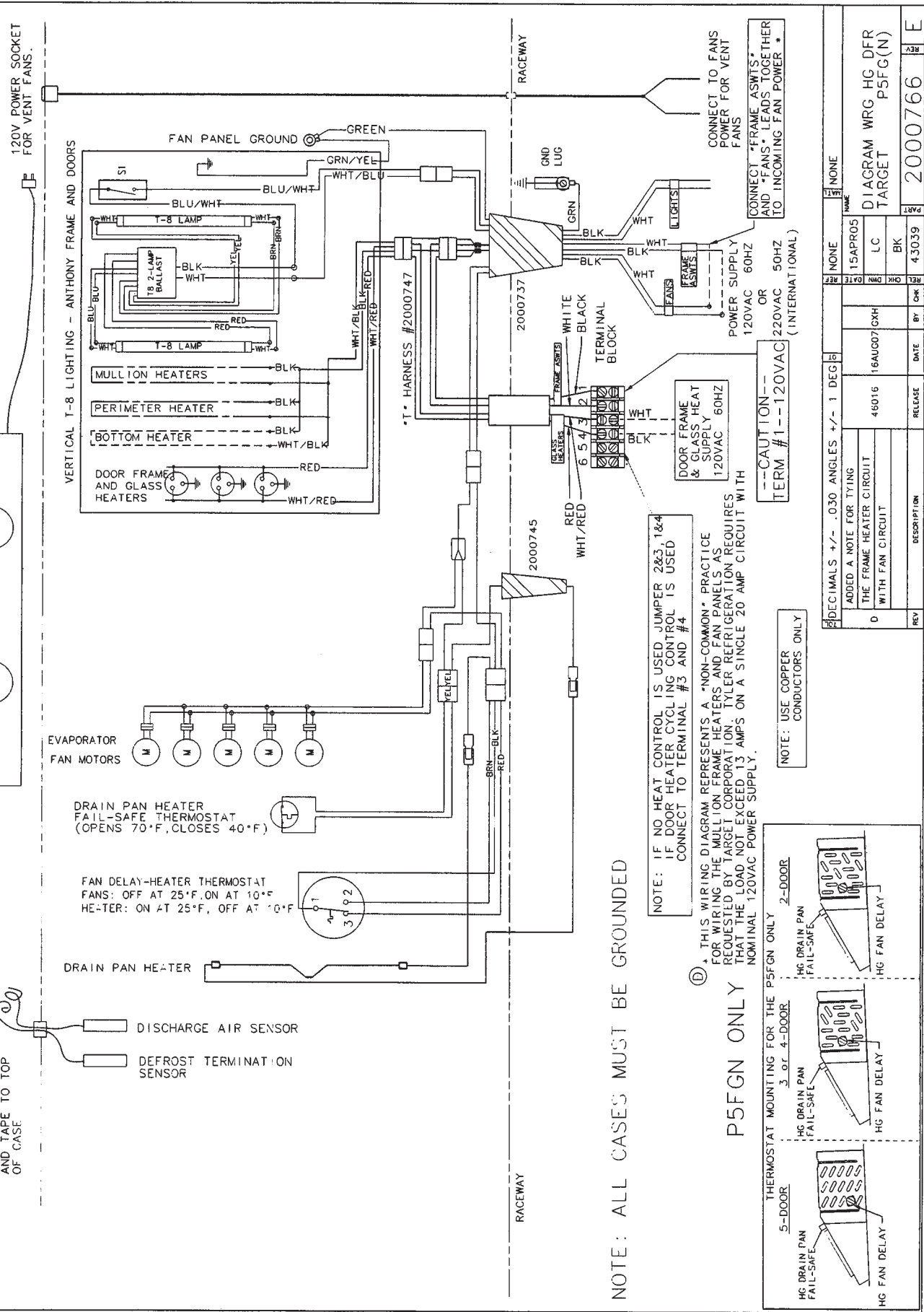


REV	DATE	BY	CHK	DESCRIPTION
A	4/15/19	AS	JL	EXCLUDE ELEC DEFROST
REV	DATE	BY	CHK	DESCRIPTION
1	01/APRO/15	LC	AS	DESCRIPTION FOR THERMOSTAT IS UPDATED TO EXCLUDE ELEC DEFROST
2	12/15/19	AS	JL	DECIMALS +/- .030 ANGLES +/- 1 DEG
DIAGRAM WRG HG DFR P5FG(N)				
2000730				

P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Gas Defrost for Target)



1. THIS WIRING DIAGRAM IS A GENERAL GUIDE ONLY. TO THE INFORMATION ON THIS DRAWING.
2. IMPORTANT: ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
4. DIMENSIONS APPLY TO FINISHED PART AFTER ANY NECESSARY REVISIONS.
5. NO MANUAL REVISIONS ALLOWED.



VENT FAN OPTION

VERTICAL T-8 LIGHTING - ANTHONY FRAME AND DOORS

MULLION HEATERS
PERIMETER HEATER
BOTTOM HEATER

DOOR FRAME AND GLASS HEATERS

EVAPORATOR FAN MOTORS

DRAIN PAN HEATER FAIL-SAFE THERMOSTAT (OPENS 70°F, CLOSSES 40°F)

FAN DELAY-HEATER THERMOSTAT
FANS: OFF AT 25°F, ON AT 10°F
HEATER: ON AT 25°F, OFF AT 10°F

DRAIN PAN HEATER

DISCHARGE AIR SENSOR
DEFROST TERMINATION SENSOR

COIL PROBE WIRES AND TAPE TO TOP OF CASE

FAN PANEL GROUND

T-8 LAMP
T-8 LAMP

MULLION HEATERS
PERIMETER HEATER
BOTTOM HEATER

DOOR FRAME AND GLASS HEATERS

EVAPORATOR FAN MOTORS

DRAIN PAN HEATER FAIL-SAFE THERMOSTAT (OPENS 70°F, CLOSSES 40°F)

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MULLION HEATERS
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DISCHARGE AIR SENSOR
DEFROST TERMINATION SENSOR

COIL PROBE WIRES AND TAPE TO TOP OF CASE

FAN PANEL GROUND

T-8 LAMP
T-8 LAMP

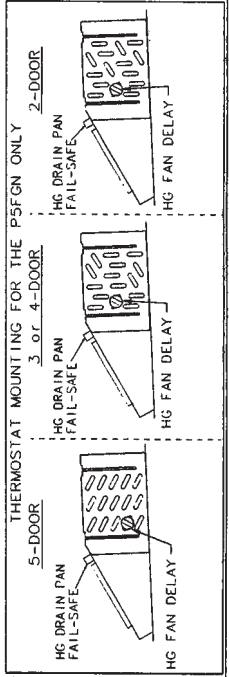
NOTE: ALL CASES MUST BE GROUNDED

NOTE: IF NO HEAT CONTROL IS USED JUMPER 2&3, 1&4 IF DOOR HEATER CYCLING CONTROL IS USED CONNECT TO TERMINAL #3 AND #4

NOTE: THIS WIRING DIAGRAM REPRESENTS A 'NON-COMMON' PRACTICE FOR WIRING THE MULLION, FRAME HEATERS AND FAN PANELS AS REQUESTED BY TARGET CORPORATION. TYLER REFRIGERATION REQUIRES THAT THE LOAD NOT EXCEED 13 AMPS ON A SINGLE 20 AMP CIRCUIT WITH NOMINAL 120VAC POWER SUPPLY.

NOTE: USE COPPER CONDUCTORS ONLY

P5FGN ONLY



CONNECT TO FANS POWER FOR VENT FANS

CONNECT *FRAME ASWTS* AND FANS LEADS TOGETHER TO INCOMING FAN POWER *

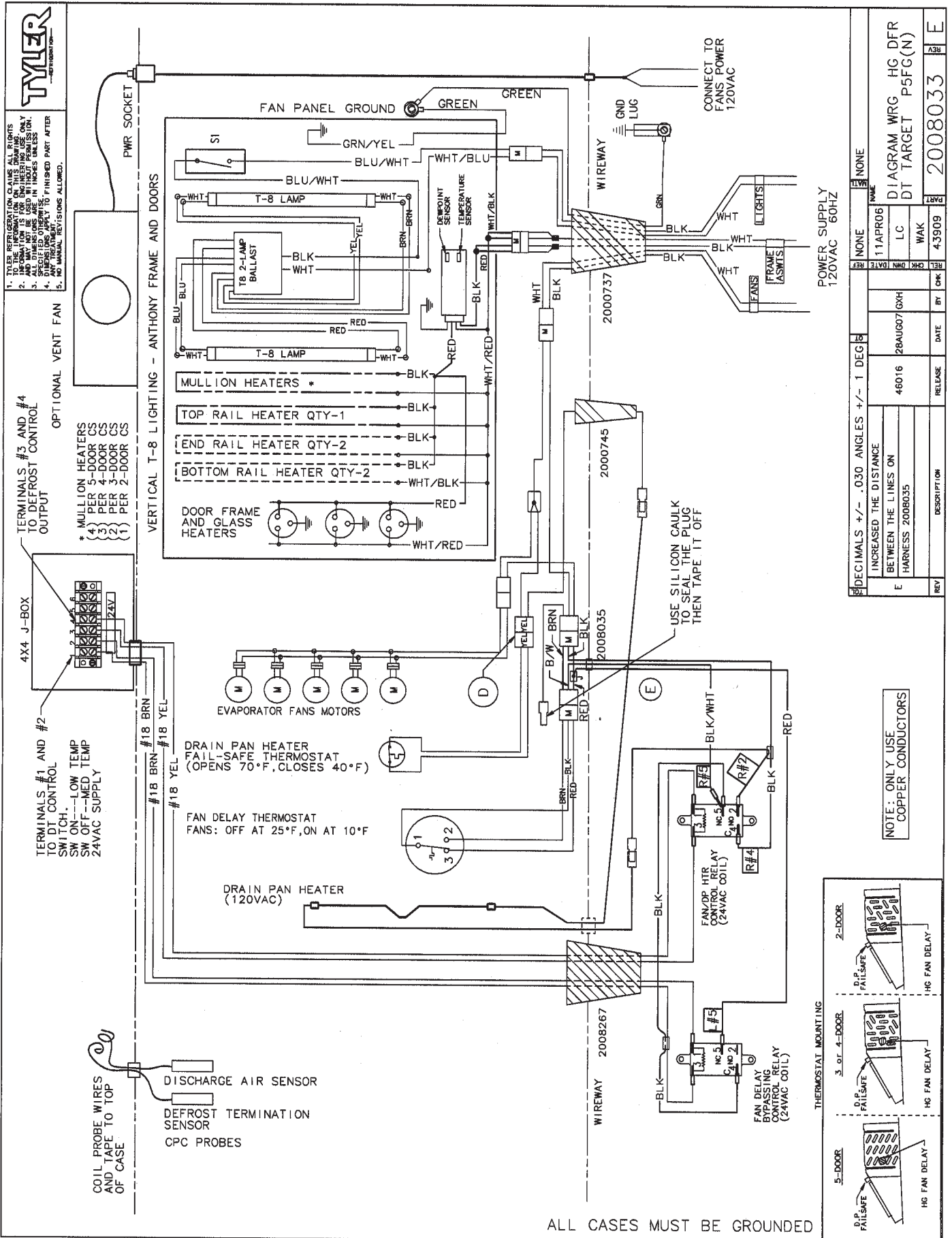
POWER SUPPLY 120VAC 60HZ OR 220VAC 50HZ (INTERNATIONAL)

DOOR FRAME & GLASS HEAT & SUPPLY 120VAC 60HZ

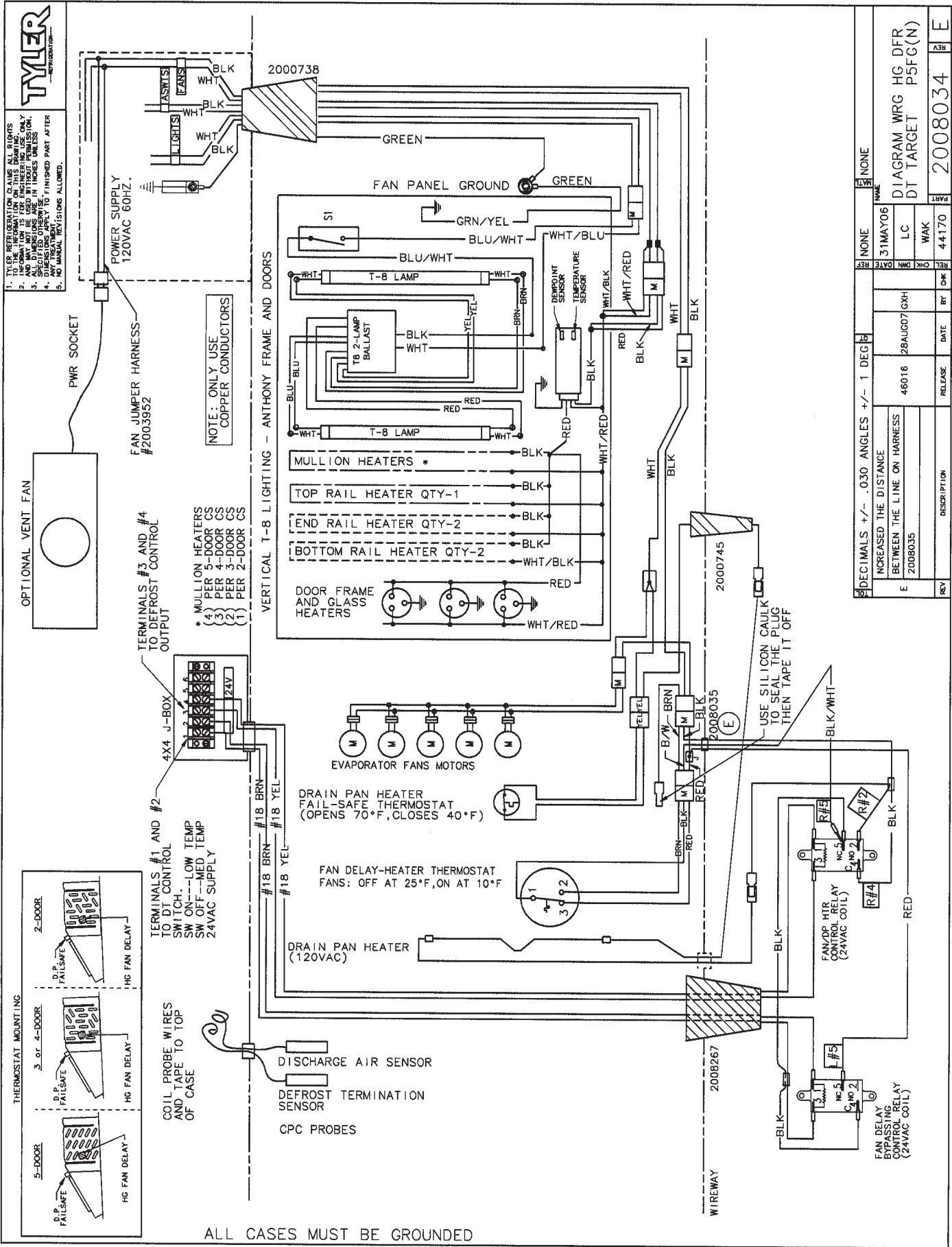
---CAUTION--- TERM #1--120VAC

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<p>REVISIONS</p> <p>1. 16AUG07 (GXH) 48016</p> <p>2. THE FRAME HEATER CIRCUIT WITH FAN CIRCUIT</p> <p>3. DECIMALS +/- .030 ANGLES +/- 1 DEG</p>							
<p>DESCRIPTION</p> <p>DIAGRAM WRG HG DFR TARGET P5FGN</p>							

P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Dual Temp Gas Defrost with Front Power Input for Target)



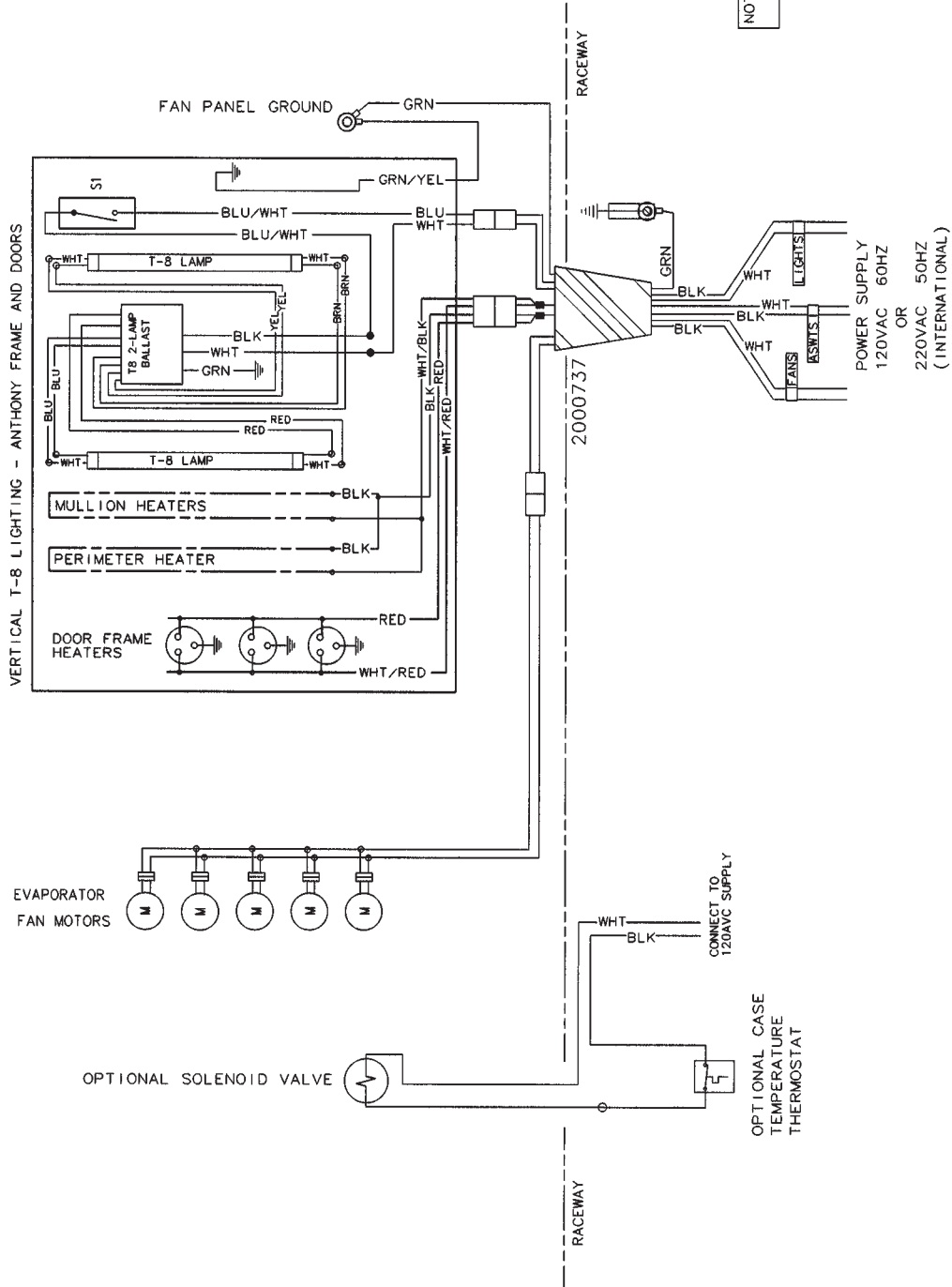
P5FG/P5FGN Domestic & Export (50 Hz) Case Circuits (Dual Temp Gas Defrost with Top Power Input for Target)



P5NG/P5NGN Domestic & Export (50 Hz) Case Circuits (Off Time Defrost)



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



NOTE: USE COPPER CONDUCTORS ONLY

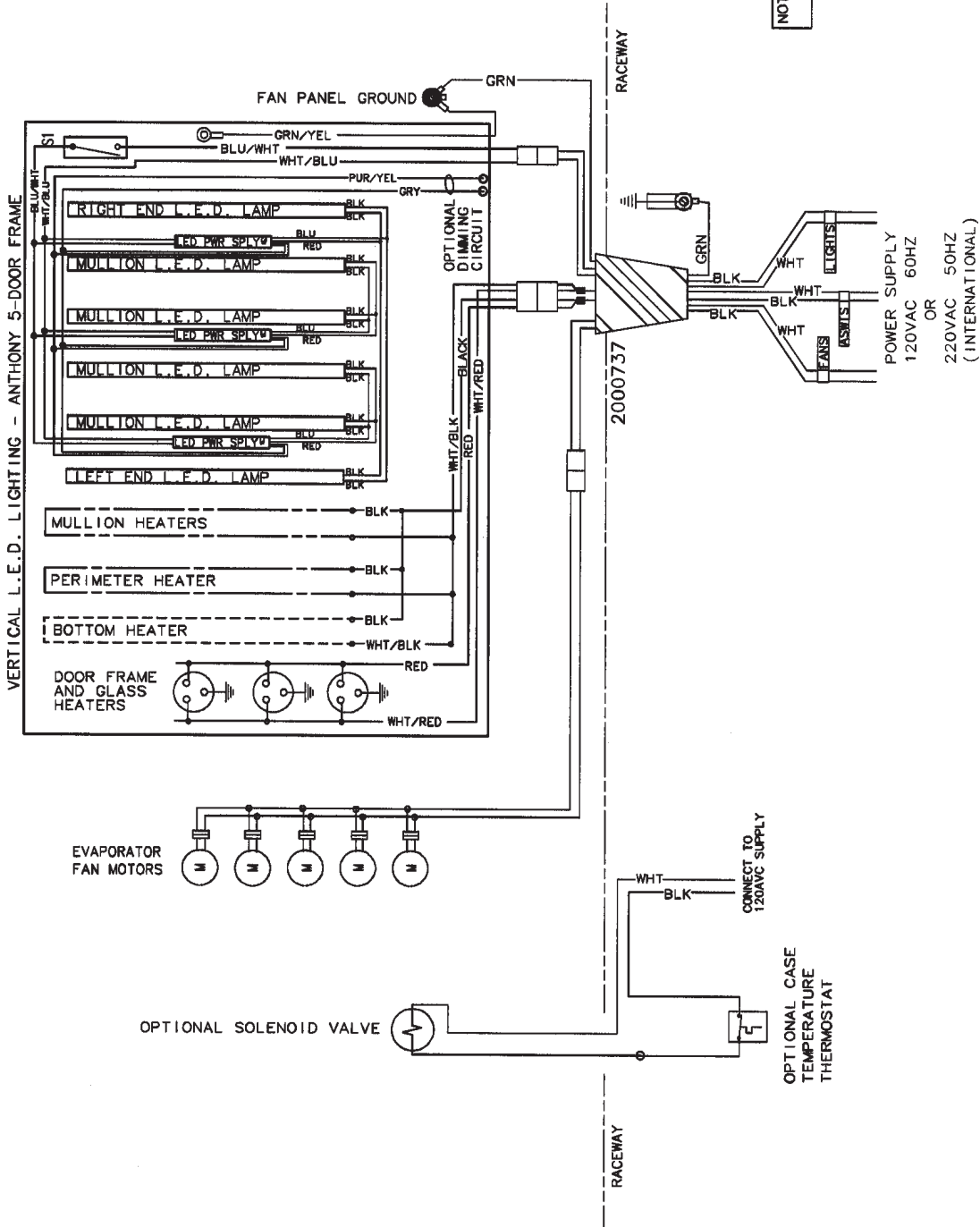
REV	REV	DATE	BY	DESCRIPTION
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3	LC			
2	AS			
1	AS			
DECIMALS +/- .030 ANGLES +/- 1 DEG				
REF: 9038745 9040686				
NAME: 01APROS				
PART: 2000729				
DIAGRAM WRC NORMAL P5NG(N) TEMP				

NOTE: ALL CASES MUST BE GROUNDED

P5NG/P5NGN Domestic & Export (50 Hz) Case Circuits (Off Time Defrost with LED Lighting)



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- 3. ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE.
- 4. ANY DIMENSIONS NOT SPECIFIED SHALL BE AS PER THE FINISHED PART AFTER TYPING AND REVISIONS.
- 5. NO MANUAL REVISIONS ALLOWED.



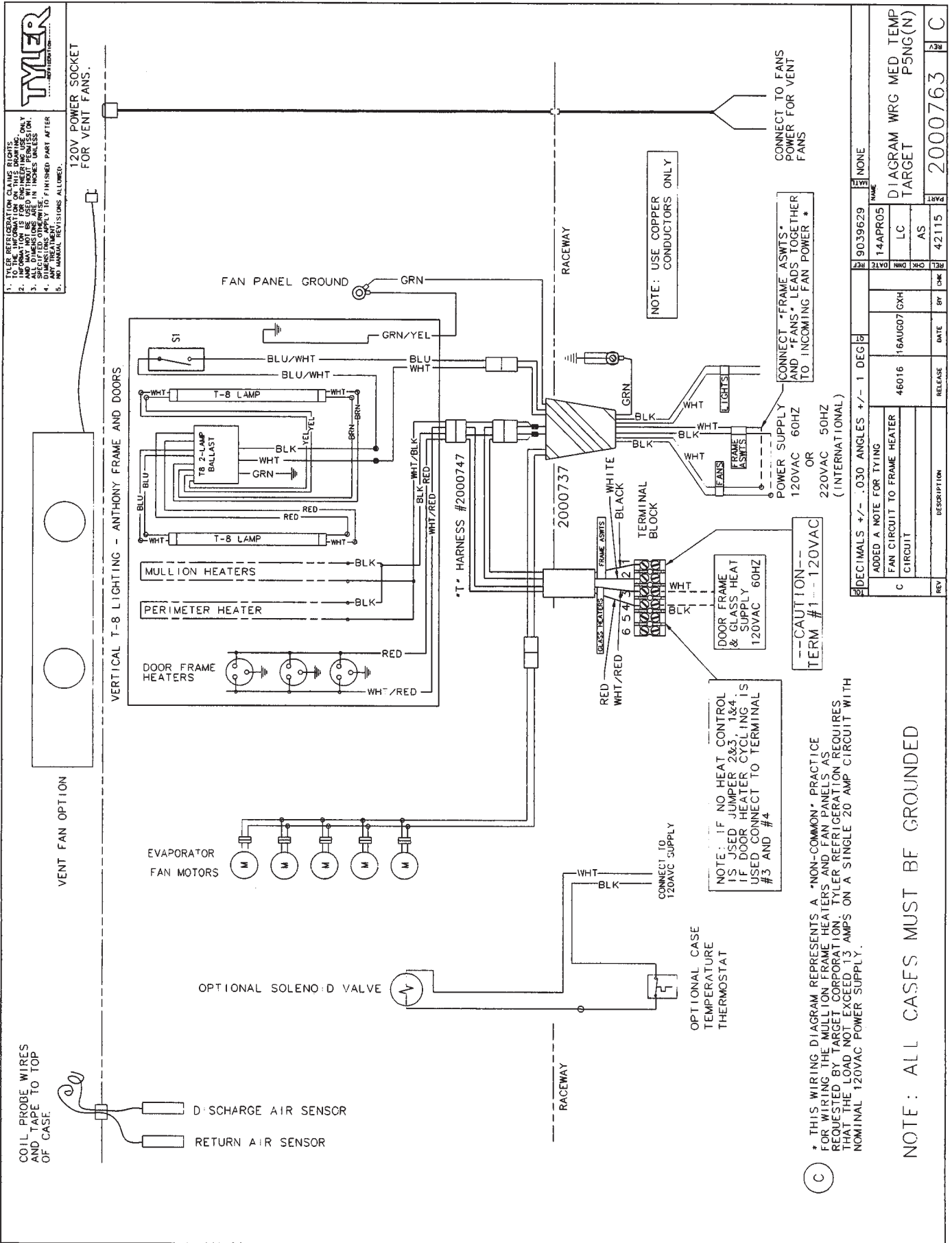
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REV	DESCRIPTION	DATE	BY	CHK	DATE	REV	DATE	REF

REV	DESCRIPTION	DATE	BY	CHK	DATE	REV	DATE	REF

NOTE: ALL CASES MUST BE GROUNDED

P5NG/P5NGN Domestic & Export (50 Hz) Case Circuits (Off Time Defrost for Target)



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2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
3. DIMENSIONS APPLY TO FINISHED PART AFTER MOUNTING AND MINOR REVISIONS ALLOWED.
4. DIMENSIONS APPLY TO FINISHED PART AFTER MOUNTING AND MINOR REVISIONS ALLOWED.
5. AND MINOR REVISIONS ALLOWED.



REV	DATE	BY	CHK	DESCRIPTION
1	42115	AS	LC	DIAGRAM WRC MED TEMP P5NG(N)
2	46016	16AUG07	GXH	FAN CIRCUIT TO FRAME HEATER CIRCUIT
3	1 DEC 08			ADDED A NOTE FOR TYING
4				
5				

(C)

NOTE: ALL CASES MUST BE GROUNDED

* THIS WIRING DIAGRAM REPRESENTS A "NON-COMMON" PRACTICE FOR WIRING THE MULLION FRAME HEATERS AND FAN PANELS AS REQUESTED BY TARGET CORPORATION. TYLER REFRIGERATION REQUIRES THAT THE LOAD NOT EXCEED 13 AMPS ON A SINGLE 20 AMP CIRCUIT WITH NOMINAL 120VAC POWER SUPPLY.

NOTE: IF NO HEAT CONTROL IS USED JUMPER 2&3, 1&4. IF DOOR HEATER CYCLING IS USED CONNECT TO TERMINAL #3 AND #4

DOOR FRAME & GLASS HEAT SUPPLY 120VAC 60HZ

CONNECT *FRAME ASWTS* AND *FANS* LEADS TOGETHER TO INCOMING FAN POWER *

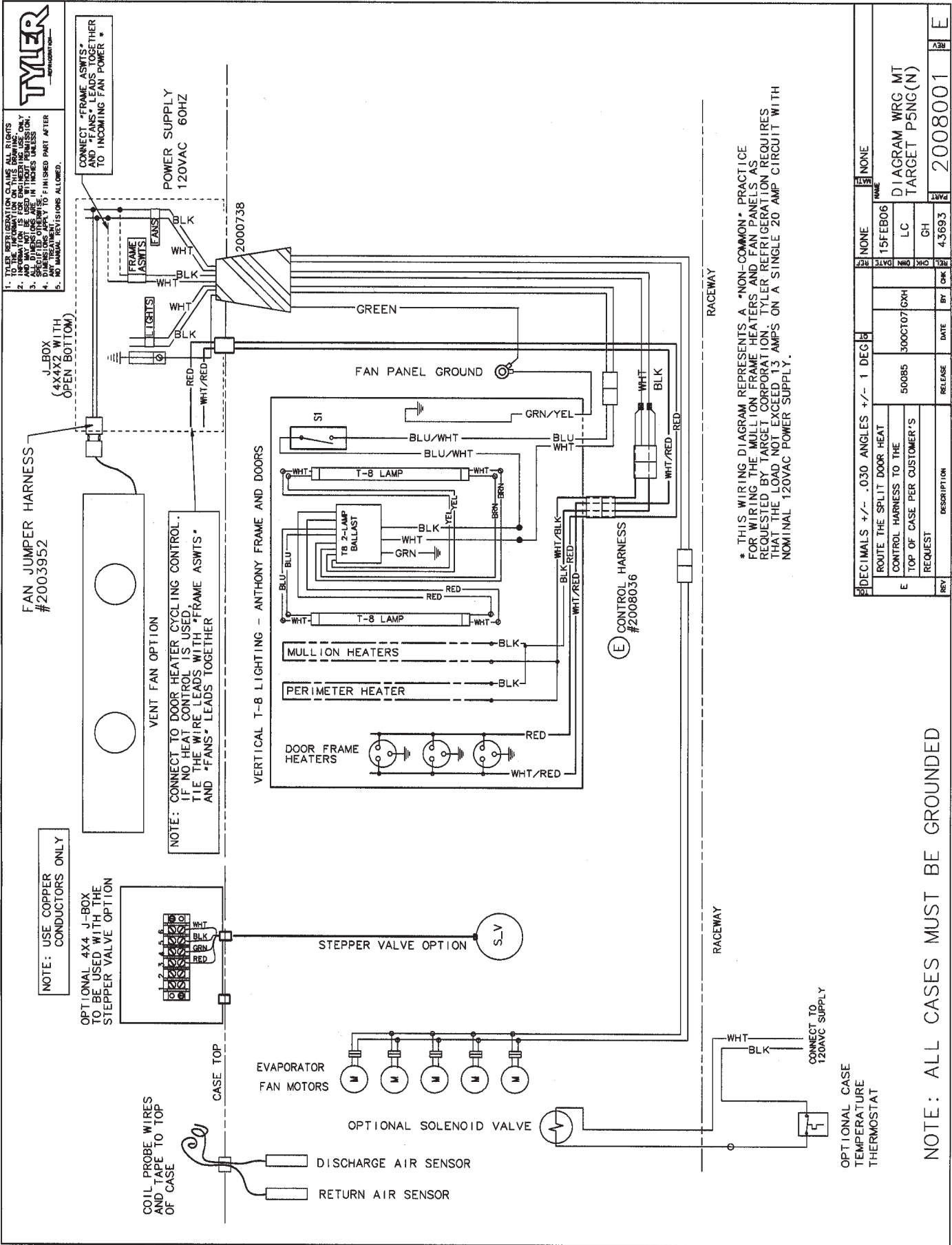
NOTE: USE COPPER CONDUCTORS ONLY

REV	DATE	BY	CHK	DESCRIPTION
1	42115	AS	LC	DIAGRAM WRC MED TEMP P5NG(N)
2	46016	16AUG07	GXH	FAN CIRCUIT TO FRAME HEATER CIRCUIT
3	1 DEC 08			ADDED A NOTE FOR TYING
4				
5				

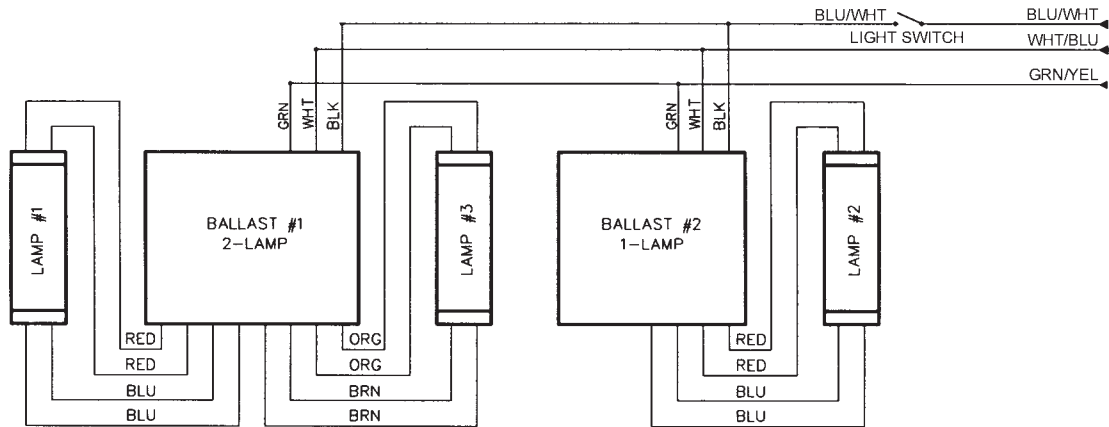
9039629 NONE
14APR05

2000763

P5NG/P5NGN Domestic & Export (50 Hz) Case Circuits (Off Time Defrost with Top Power Input for Target)

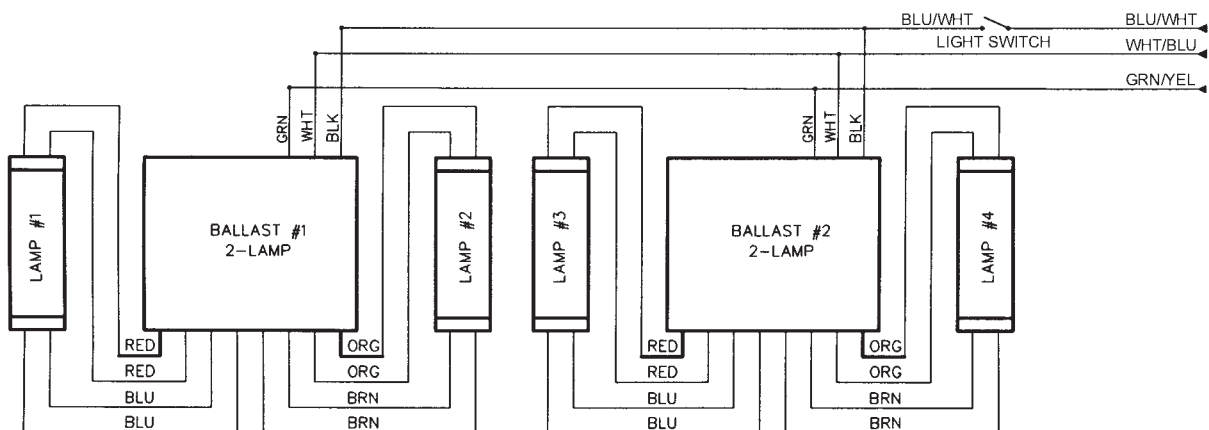


T-8 Prism Lighting Circuits with Anthony Connexion™ System 2-Door Electronic Ballast Circuit



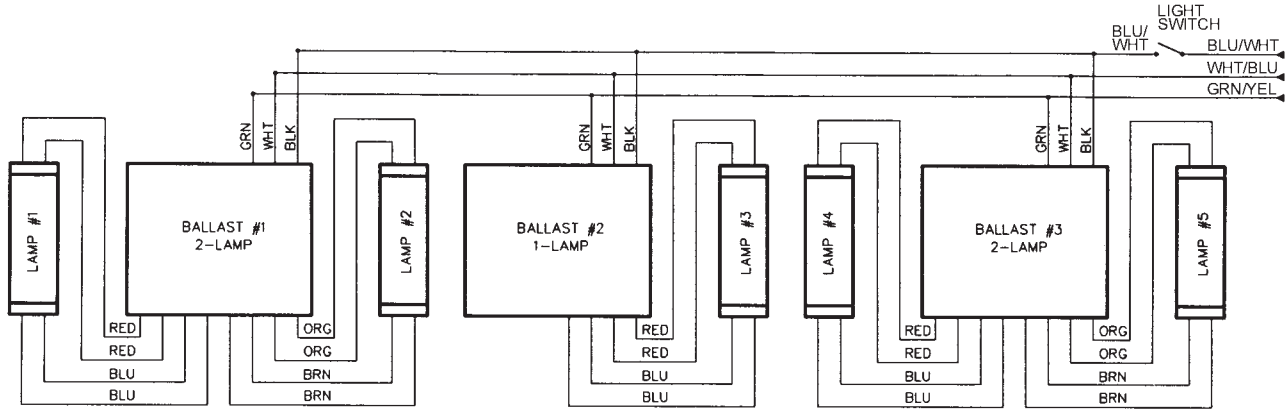
- NOTES:
1. BALLAST 1 IS MOUNTED IN CENTER MULLION
2. BALLAST 2 IN MOUNTED IN CENTER MULLION

3-Door Electronic Ballast Circuit



- NOTES:
1. BALLAST 1 IS MOUNTED IN LEFT MULLION
2. BALLAST 2 IS MOUNTED IN RIGHT MULLION

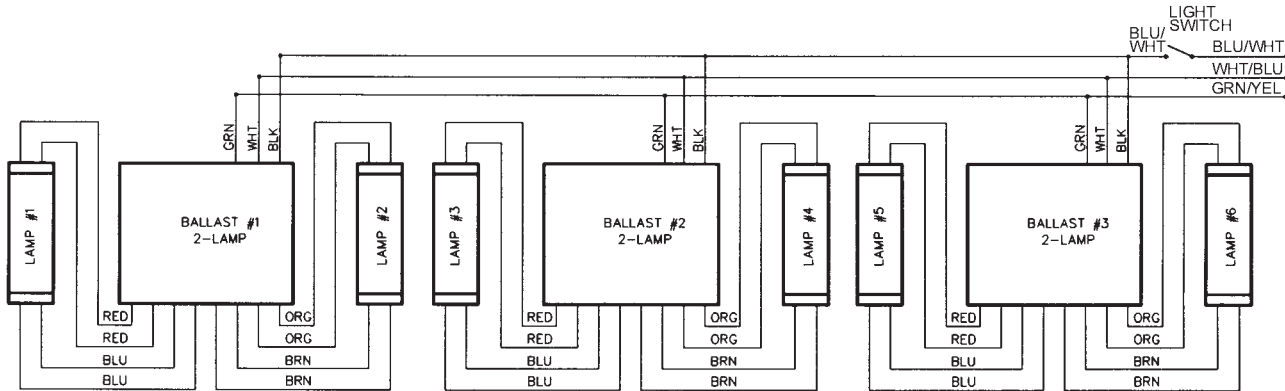
4-Door Electronic Ballast Circuit



NOTES:

1. BALLAST 1 IS MOUNTED IN LEFT MULLION
2. BALLAST 2 IS MOUNTED IN CENTER MULLION
3. BALLAST 3 IS MOUNTED IN RIGHT MULLION

5-Door Electronic Ballast Circuit



NOTES:

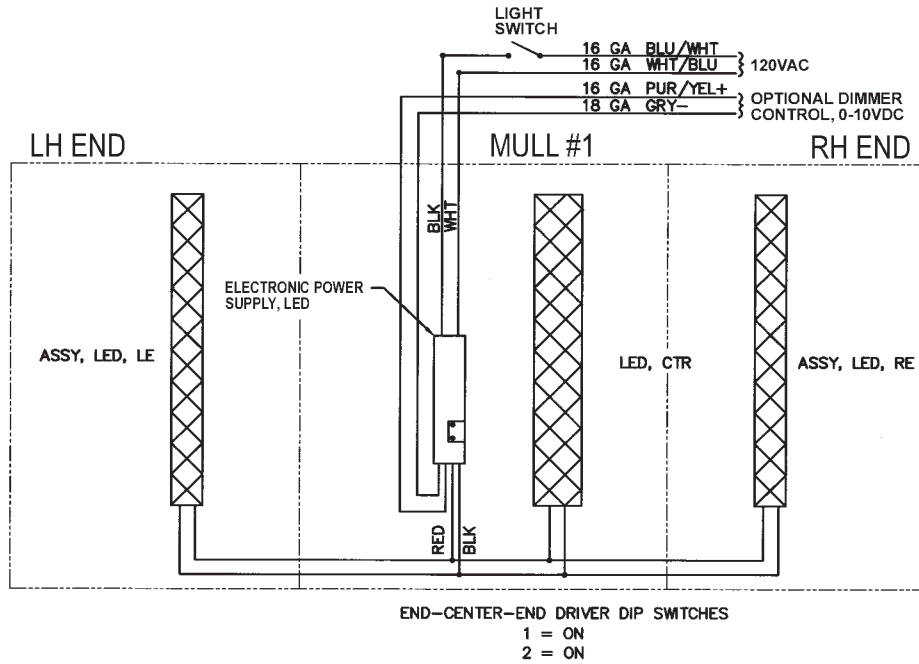
1. BALLAST 1 IS MOUNTED IN LEFT MULLION
2. BALLAST 2 IS MOUNTED IN SECOND MULLION FROM LEFT
3. BALLAST 3 IS MOUNTED IN RIGHT MULLION

P5FG, P5NG, P5FGN, P5NGN

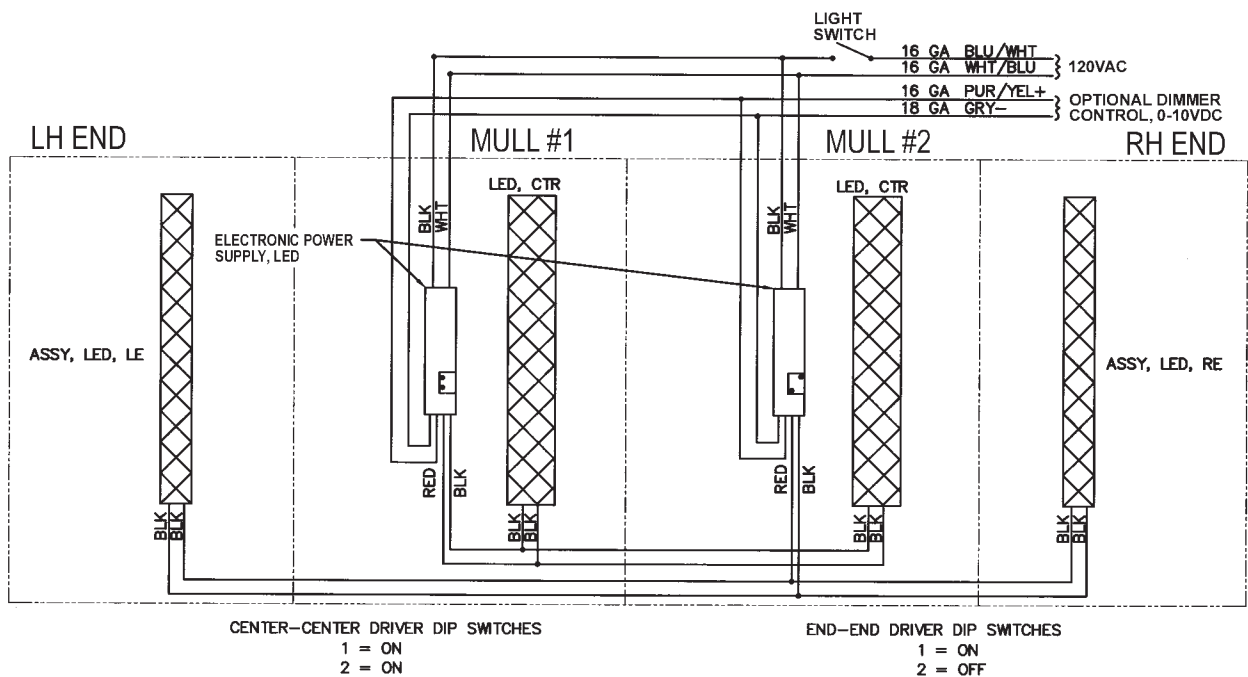
Installation & Service Manual

Gelcore LED Lighting with Electronic Power Supply Circuits

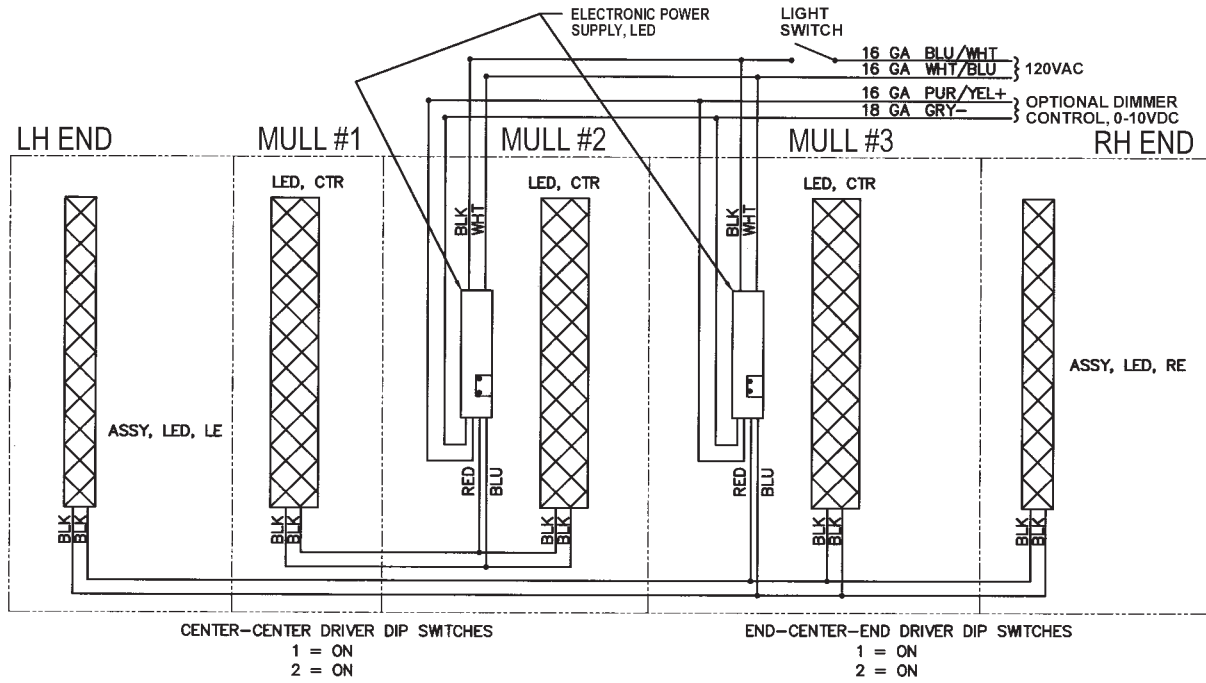
2-Door LED with Electronic Power Supply Circuit



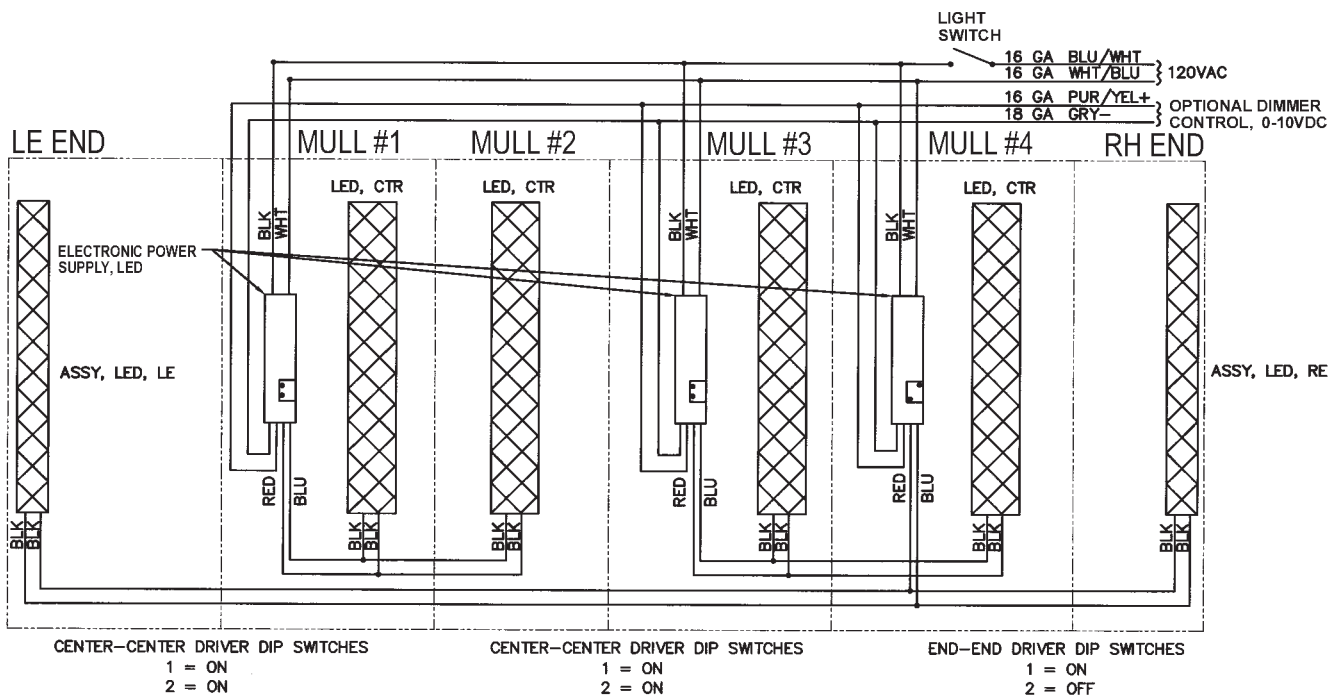
3-Door LED with Electronic Power Supply Circuit



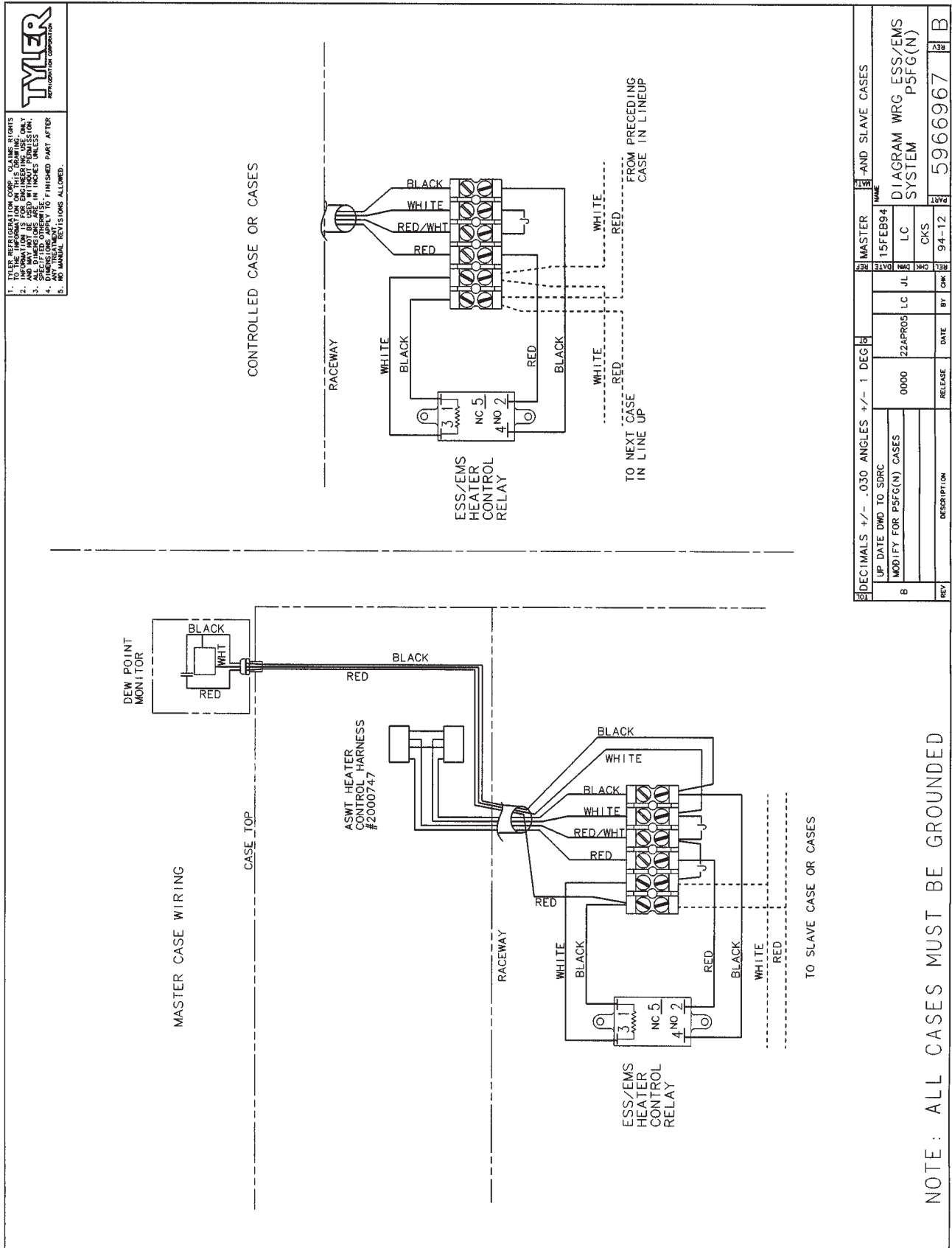
4-Door LED with Electronic Power Supply Circuit



5-Door LED with Electronic Power Supply Circuit



ESM/ESS Anti-Sweat Circuit



CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Shelves with Captive Brackets

1. Open door and remove product from shelves.
2. Lift up and out to remove each shelf/ bracket assembly from slots in rear uprights. Carefully remove each shelf/ bracket assembly through the door openings.
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 and carefully remove through the door openings
3. After cleaning, replace in reverse order.

Front Air Ducts

NOTE

Cases with electric defrost have the drain pan heater klixon located on the front air duct. Carefully remove klixon before removing the front air duct to avoid possible damage to the klixon or it's wiring.

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

Rear Duct Panels

1. Remove shelf assemblies and bottom trays, see above.
2. Lift up and pull out to remove rear duct panels. Carefully remove them through the door openings.
3. After cleaning, replace 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.

NSF Product Thermometer

Remove two screws and product thermometer from left top location in the case. After cleaning, replace product thermometer and secure with two screws.

Top Duct

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

Front Cladding

1. Remove screws from bottom of front cladding and pull down to remove it from behind the bottom of the door frame assembly.
2. After cleaning, replace front cladding and remaining front components in reverse order.

GENERAL INFORMATION

Preferred Line-up Combinations*

TYLER - Glass Door Merchandiser

DRS	2	3	4	5	TTL. LGTH. W/O ENDS
2	1	0	0	0	5' 1-5/16"
3	0	1	0	0	7' 8"
4	0	0	1	0	10' 2-5/8"
5	0	0	0	1	12' 9-5/16"
6	0	2	0	0	15' 4"
7	0	1	1	0	17' 10-5/8"
8	0	1	0	1	20' 5-5/16"
9	0	0	1	1	22' 11-15/16"
10	0	0	0	2	25' 6-5/8"
11	0	2	0	1	28' 1-5/16"
12	0	1	1	1	30' 7-15/16"
13	0	1	0	2	33' 2-5/8"
14	0	0	1	2	35' 9-1/4"
15	0	0	0	3	38' 3-15/16"
16	0	2	0	2	40' 10-5/16"
17	0	1	1	2	43' 5-1/4"
18	0	1	0	3	45' 11-15/16"
19	0	0	1	3	48' 6-9/16"
20	0	0	0	4	51' 1-1/4"
21	0	2	0	3	53' 7-15/16"
22	0	1	1	3	56' 2-9/16"
23	0	1	0	4	58' 9-1/4"
24	0	0	1	4	61' 3-7/8"
25	0	0	0	5	63' 10-9/16"
26	0	2	0	4	66' 5-1/4"
27	0	1	1	4	68' 11-7/8"
28	0	1	0	5	71' 6-9/16"
29	0	0	1	5	74' 1-3/16"
30	0	0	0	6	76' 7-7/8"
31	0	2	0	5	79' 2-9/16"
32	0	1	1	5	81' 9-3/16"

DRS	2	3	4	5	TTL. LGTH. W/O ENDS
33	0	1	0	6	84' 3-7/8"
34	0	0	1	6	86' 10-1/2"
35	0	0	0	7	89' 5-3/16"
36	0	2	0	6	91' 11-7/8"
37	0	1	1	6	94' 6-1/2"
38	0	1	0	7	97' 1-3/16"
39	0	0	1	7	99' 7-13/16"
40	0	0	0	8	102' - 2 1/2"
					Add 1 1/2" Per End

*Based on cost effectiveness.

Ice Cream Recommendations

Use the following recommendations for merchandising ice cream products in P5FG and P5FGN cases.

1. Use solid shelves for all rows of shelving.
2. Never position top shelf more than 12" from the top of the case.
3. Proper termination of defrost is an absolute must to prevent overdefrosting and build up of frost on product. Set the thermostat termination as described in this manual.
4. Ice cream products should be placed in the case at the desired temperature. The product should be properly rotated to avoid frost accumulation on the packaging.

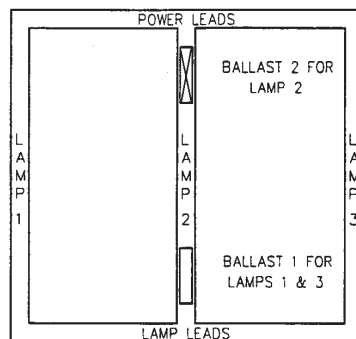
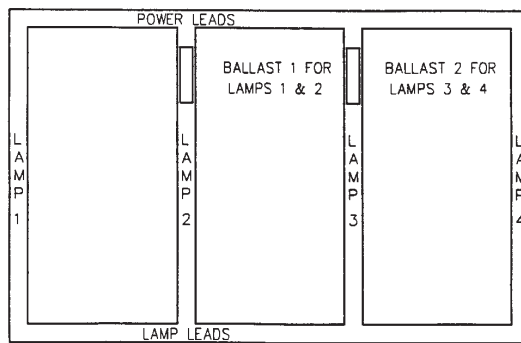
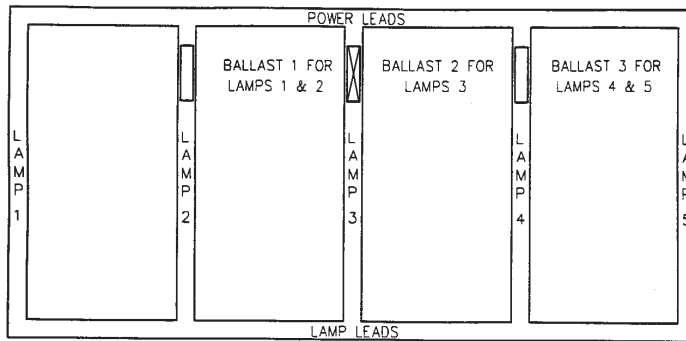
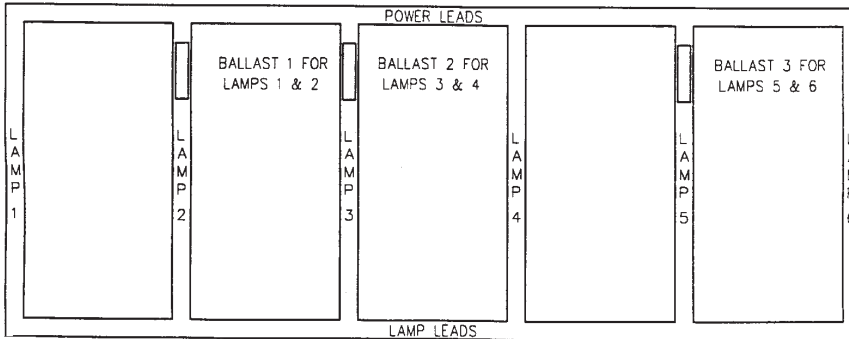
SERVICE INSTRUCTIONS



See "General-UL/NSF I&S Manual" for fan blade and motor replacement. Remove screws from bottom edge of front cladding and rotate cladding up while pulling it down to remove from the case and to access the electrical raceway.

Light Servicing

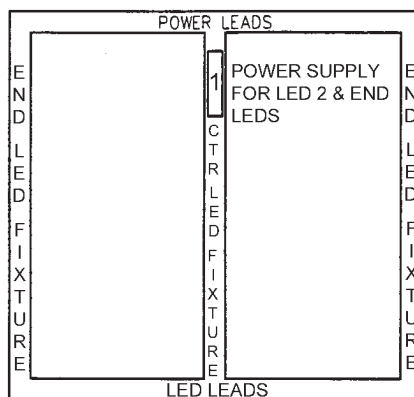
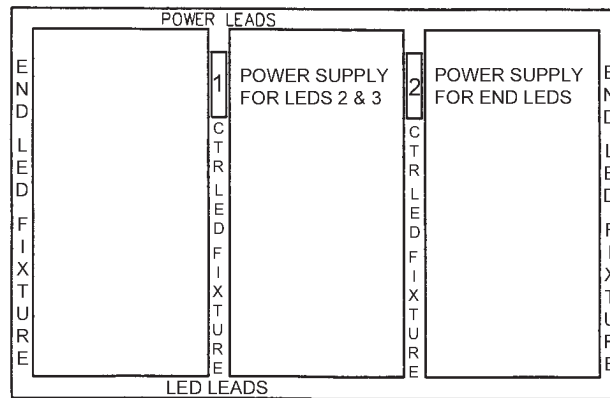
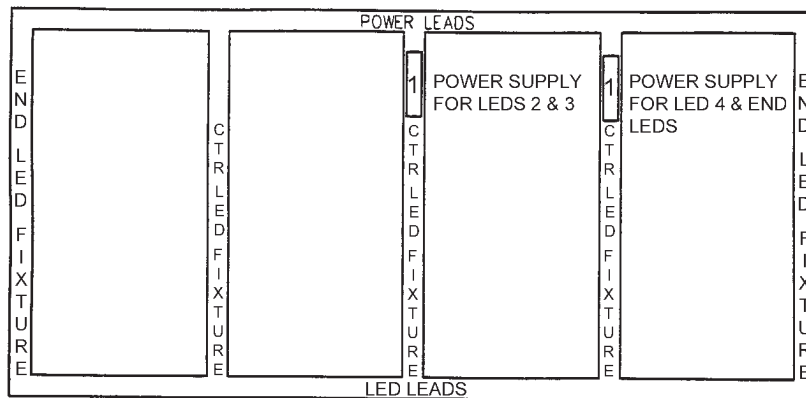
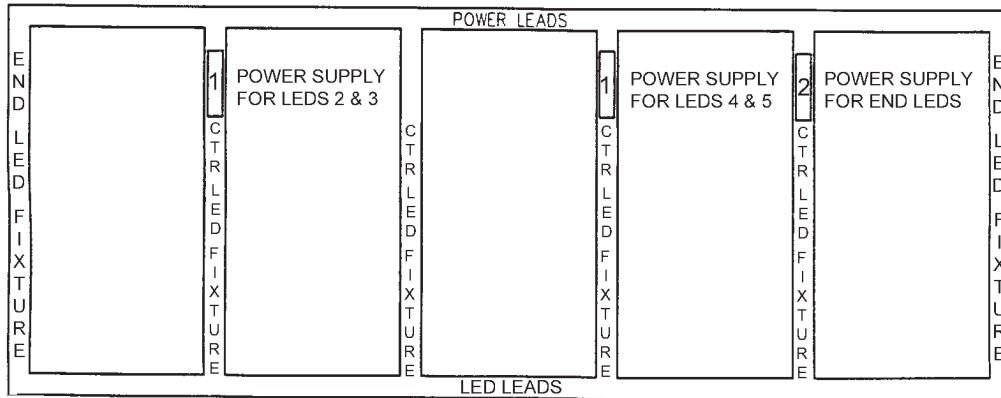
Ballast and Lighting Locations

Vertical T-8 Electronic Lighting for Anthony *Connexion*™ System



-  1 LAMP BALLAST
-  2 LAMP BALLAST
- ALL LAMPS ARE T-8 60" BULBS

Electronic Power Supply and LED Light Fixture Locations



POWER SUPPLY DIP SWITCH SETTINGS

- | | |
|---|---------|
| 1 | 1 = ON |
| 2 | 2 = ON |
| 1 | 1 = ON |
| 2 | 2 = OFF |

**ALL LED'S ARE
60" FIXTURES**

T-8 Lamp Replacement

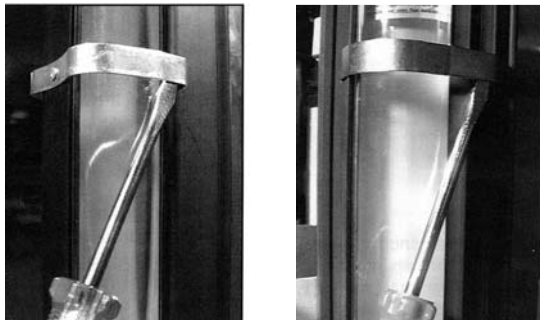
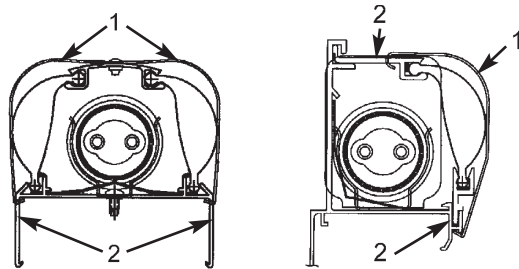
CAUTION

Shut off light switch or disconnect power supply before changing a lamp. Lighting system power and/or ballast surges can burn out adjacent lamps if power is left on.

T-8 Electronic Vertical Lamp (Prism) for Anthony Connexion™ Systems

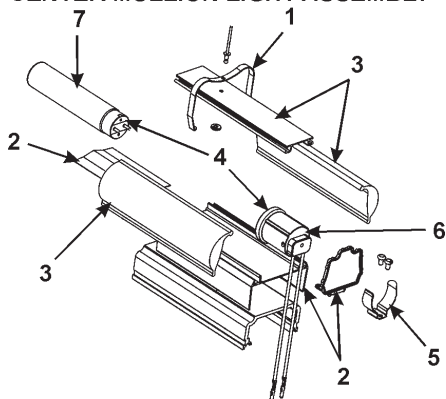
NOTE

Center mullion spring clips are secured to the light cover assembly. End mullion spring clips are separate parts that remove completely.



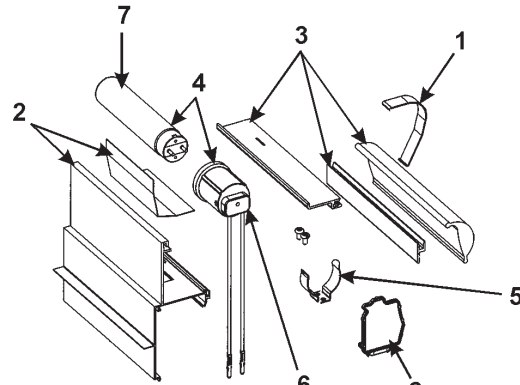
- Using a small flathead screwdriver, release or remove the three spring steel clips (1) from both sides of the light fixture assembly (2).

CENTER MULLION LIGHT ASSEMBLY



* Foam Insulators must be replaced if they have been damaged or are missing.

END MULLION LIGHT ASSEMBLY



* Foam Insulators must be replaced if they have been damaged or are missing.

NOTE

Light cover assemblies do not require disassembly for removal.

- Starting at top, remove light cover assembly (3) from light fixture assembly (2). For center mullion lights, pull light cover assembly straight out. For end mullion lights, rotate front of light cover assembly back until rear side of assembly can be pulled from light fixture.

NOTE

For Connexion systems with mylar warning covers on the lamp/socket assemblies, remove the mylar warning covers from the lamp/socket assemblies.

- Carefully remove lamp/socket assembly (4) by pulling from top and bottom retaining clips (5).

NOTE

- Some Connexion systems have foam insulators on the ends of the lamp/socket assemblies. Move the foam insulators away from ends of the lamp/socket assemblies.
- The latest lamp/socket assemblies have wires that are hard wired into the back of the lamp/socket assemblies.
- If the lamp/socket wires are connected to the lamp/socket assemblies with electrical connectors, disconnect top and bottom electrical connectors by depressing locking tab and pulling away from lamp/socket.

4. Remove both sockets (6) from lamp (7) by carefully grasping lamp and pulling both sockets one at a time.

CAUTION

Sockets and foam insulators (when used) must be properly installed. Improper installation of these components could decrease lamp efficiency and/or product life.

NOTE

Make sure the text printed on both sockets is facing the same way.

5. Align holes in bottom of socket (6) with pins on lamp ends (7). Carefully grasp new lamp close to one of the ends and slide on the socket until it is seated (approx. 1 5/16") (Fig 13). Repeat for other end.
7. Position lamp (7) with sockets (6) so text on sockets faces away from the light fixture assembly (2) and the socket marked "Top" is up.

NOTES

- On older Connexion systems, the wire connectors need to be snapped into place on the ends of the sockets.
- Position foam insulators on ends of ends of sockets (where applicable).

WARNING

Make sure that wires are not routed between the clips and the sockets. Improper routing of the wires could result in product damage and/or personal injury.

Carefully secure the lamp/socket assembly (4) in the top and bottom retaining clips (5).

NOTES

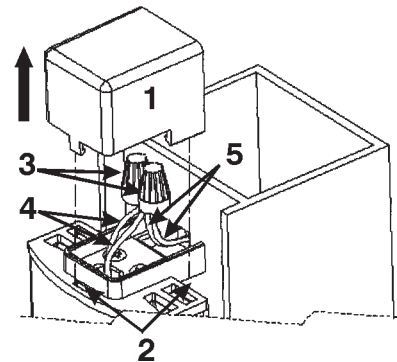
- For Connexion systems with mylar warning covers on the lamp/socket assemblies, replace the mylar warning covers on the lamp/socket assemblies.
 - Make sure light cover assembly is securely assembled before installing.
8. Install light cover assembly (3) in light fixture assembly (2). Secure by snapping both sides of three steel spring clips (1) in light fixture slots or over light fixture lip.

9. Turn on the light switch or reconnect the power to the lights.

LED Light Fixture Replacement

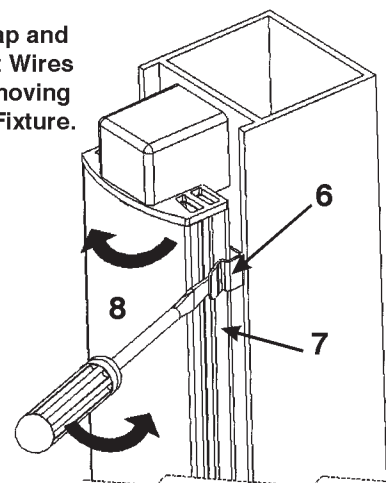
CAUTION

Shut off light switch or disconnect power supply before changing a LED light fixture. Lighting system power and/or power supply surges can burn out adjacent LED light fixtures if power is left ON.



1. To remove low profile cover (1) on top of the fixture, pull up or twist low profile cover (1) until tabs release from the slots in the end cap (2).
2. Remove wire connectors (3) and disconnect LED light fixture lead (4) from power supply leads (5).

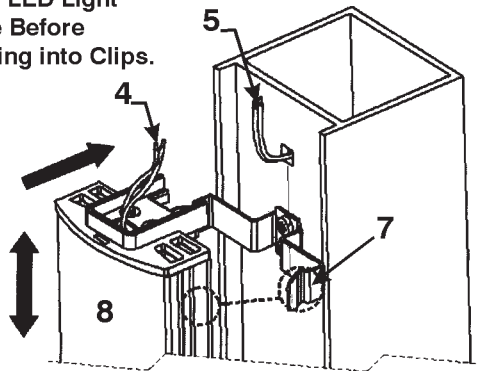
Remove Cap and Disconnect Wires Before Removing LED Light Fixture.



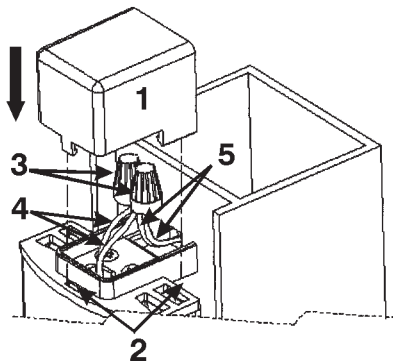
3. Using a flat blade screwdriver, insert the flat end between the LED light fixture heat sink (6) and the mounting clip (7).

4. While holding the LED light fixture (8), pry out the mounting clip (7) and twist the fixture in the opposite direction until it pops free from the clip. Repeat steps 3 and 4 on the remaining mounting clips (7) until the LED light fixture (8) can be removed.
5. Discard the old LED light fixture (8).

Center LED Light Fixture Before Snapping into Clips.



6. Center the new LED light fixture (8) between the top and bottom mounting clips (7), then push the LED light fixture (8) until the clips snap into place.



7. Connect LED light fixture leads (4) to power supply leads (5). Install wire connectors (3) on wire connections.
8. Install low profile cover (1) over wire connections and snap it into place in the slots in the top end cap (2).
9. Reconnect the power supply or turn ON the power switch.

12. Turn on the light switch or reconnect the power to the lights.

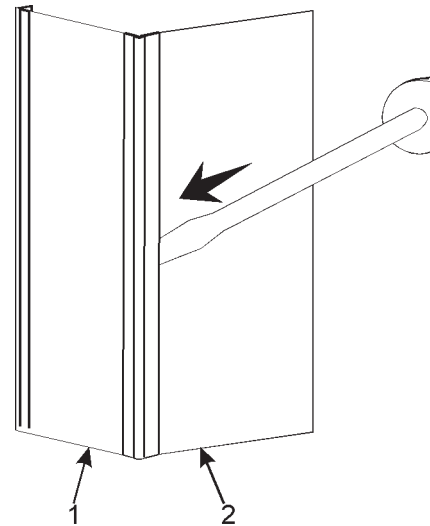
**Electronic Ballast Replacement
(Prism T-8 Lighting)**

WARNING

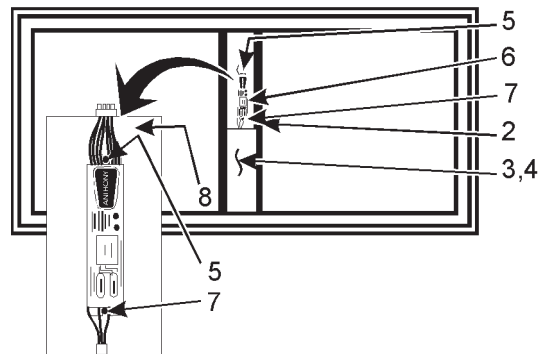
Before replacing a ballast, make sure all power is off to the case. Electrical servicing should always be done by a qualified electrician. Improper servicing could result in product damage and/or personal injury.

NOTE

Refer to T-8 ballast location page and wiring diagrams in this manual for specific model information.



1. Remove door following the door removal instructions in this manual.
2. Using a flat-headed screwdriver under the



back edge of the contact plate retainer (1), gently pull up to unsnap both sides of retainer (1) from mullion (2).

3. Remove contact plate (3) and heat barrier (4) from mullion (2).
4. Remove screw (5) on top end of ballast (6). Slide ballast (6) up and out of punched tabs (7) in mullion (2).
5. Disconnect all wire leads (8) at connectors to ballast (6).
6. Insert bottom of new ballast (6) in bottom tabs (7) on mullion (2) and secure with screw (5) in top end of ballast (6).
7. Reconnect wire leads (8) at connectors to new ballast (6) following the wiring diagram on the new ballast (6).
8. Position heat barrier (4) in the mullion (3).
9. Position contact plate (3) flat on the mullion (2). While holding contact plate (3), insert retainer (1) into front edge of mullion (3), then snap retainer (1) into back edge of mullion (3). Repeat process to install retainer (1) on opposite side.

Electronic Power Supply Replacement (LED Light Fixtures)

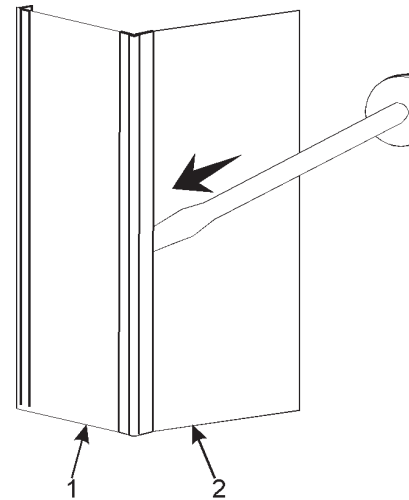
WARNING

Before replacing a power supply, make sure all power is off to the case. Electrical servicing should always be done by a qualified electrician. Improper servicing could result in product damage and/or personal injury.

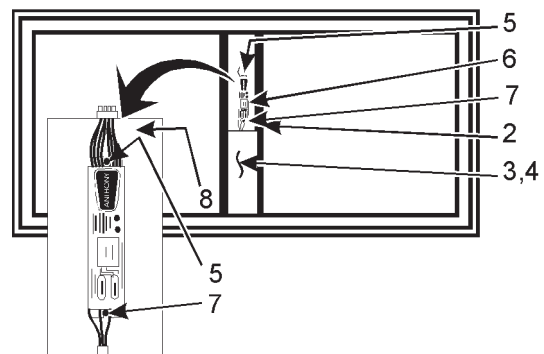
NOTE

Refer to Electronic Power Supply and LED Light Fixture Location page and wiring diagrams in this manual for specific model information.

1. Remove door following the door removal instructions in this manual.

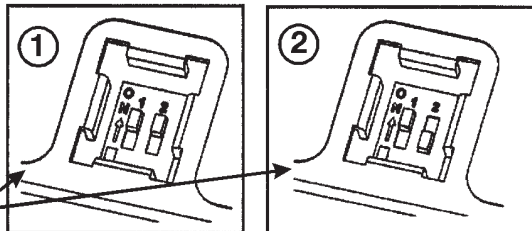


2. Using a flat-headed screwdriver under the back edge of the contact plate retainer (1), gently pull up to unsnap both sides of retainer (1) from mullion (2).



3. Remove contact plate (3) and heat barrier (4) from mullion (2).

4. Remove screw (5) on top end of LED power supply (6). Slide LED power supply (6) up and out of punched tabs (7) in mullion (2).
5. Disconnect all wire leads (8) at connectors to LED power supply (6).
6. Insert bottom of new LED power supply (6) in bottom tabs (7) on mullion (2) and secure with screw (5) in top end of LED power supply (6).
7. Using the appropriate schematics on pages 34 and 35, connect the LED power supply outlet leads to the previous LED light fixture leads using wire connectors approved for low temperature usage.
8. The remaining gray and purple wires from the output side of the LED power supply (6) are used to control the optional dimming feature. These wires need to be connected to the case controller or must be individually capped off if not used.



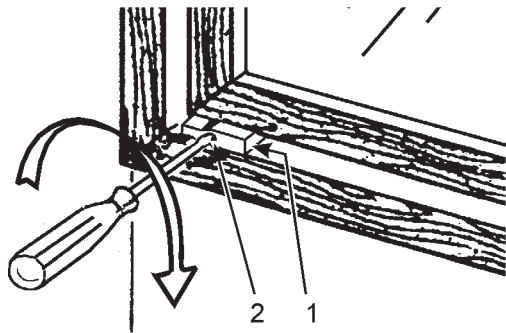
9. Set dip switches (9) on LED power supply (6) for the appropriate usage as shown on page 34 and 35 in this manual.
10. Position heat barrier (4) in the mullion (3).
11. Position contact plate (3) flat on the mullion (2). While holding contact plate (3), insert retainer (1) into front edge of mullion (3), then snap retainer (1) into back edge of mullion (3). Repeat process to install retainer (1) on opposite side.
12. Replace door following the door installation instructions in this manual.
13. Reconnect power to the case.

Door Servicing

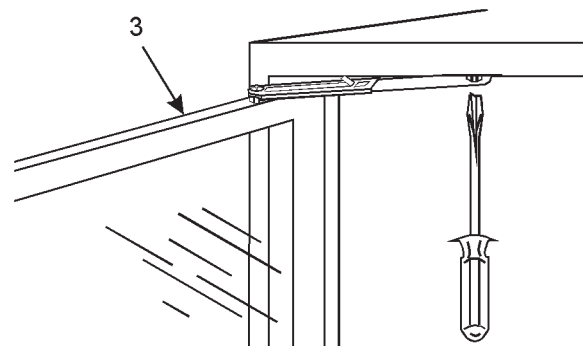
Door Removal

CAUTION

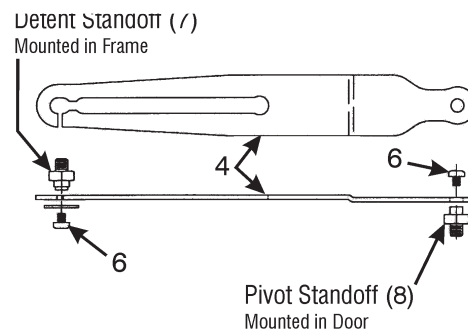
Before removing door, decrease torque tension clockwise to prevent possible damage to the door.



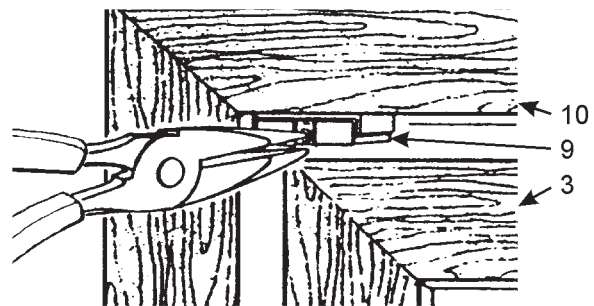
10. Replace door following the door installation instructions in this manual.



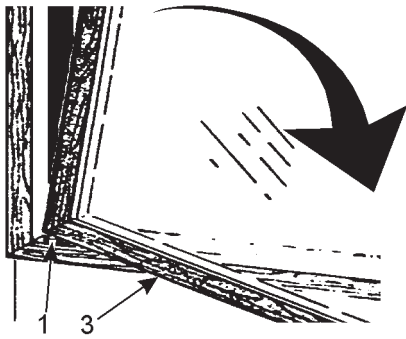
11. Reconnect power to the case.



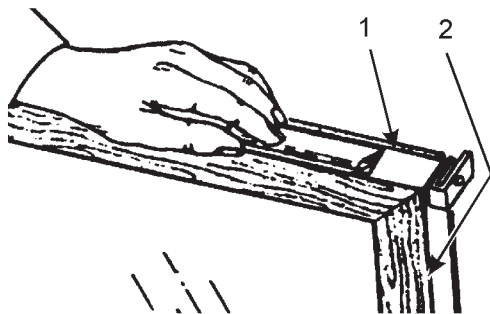
1. Release tension on Torquemaster™ (1) by turning screw (2) clockwise.



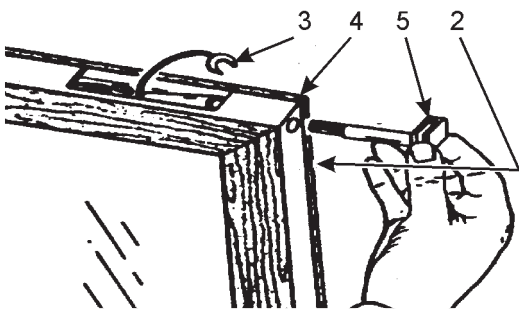
2. Open door (3) and lock into the hold-open position.



3. Remove two screws (6) and hold-open (4) from frame and door standoffs (7 & 8).
4. Compress and pull hinge pin plug (9) with needle nose pliers to release top of door

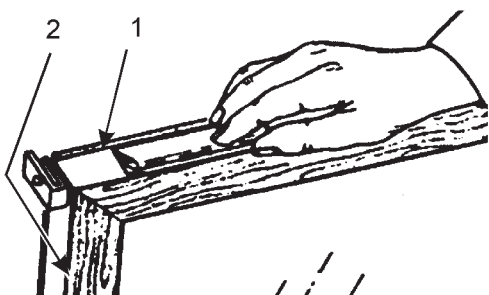


(3) from frame (10).



5. Lift door (3) out of Torquemaster™ (1) and remove from case. Place door (3) on its side and lean against a stable surface.

Reversing Door Hardware

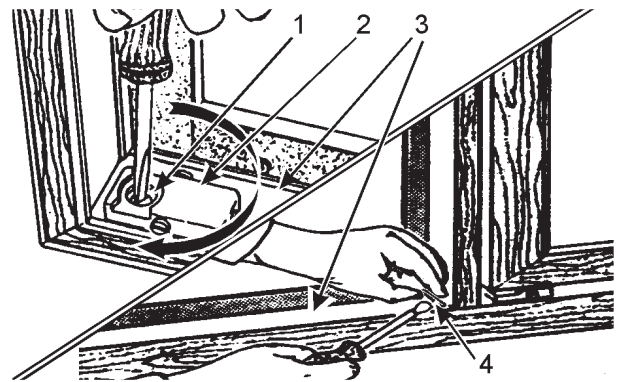


1. Remove hinge pin plug access covers (1) from both side of door (2).
2. Unplug connectors (3) to door and/or glass heater (4) and remove hinge pin

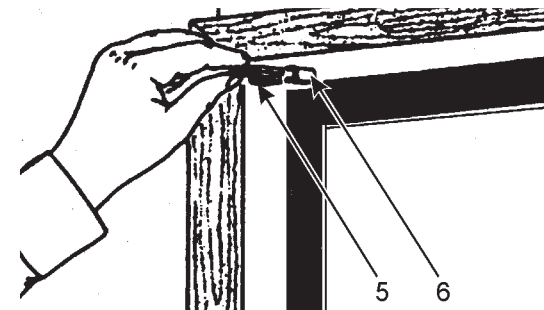


plug (5) through top of door (2).

3. Reroute lead wires (6) to new hinge pin location in opposite end of door (2).

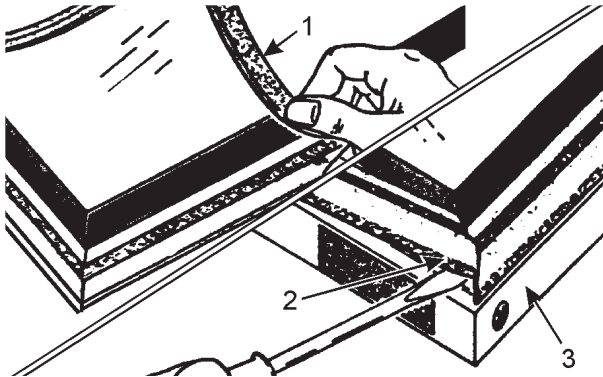


4. Install hinge pin plug (5) and attach connectors (3) to lead wires (6).
5. Carefully replace hinge pin plug access covers (1).
6. Slide out torque rod (7) from bottom of door (2) and insert back into opposite end of door (2).



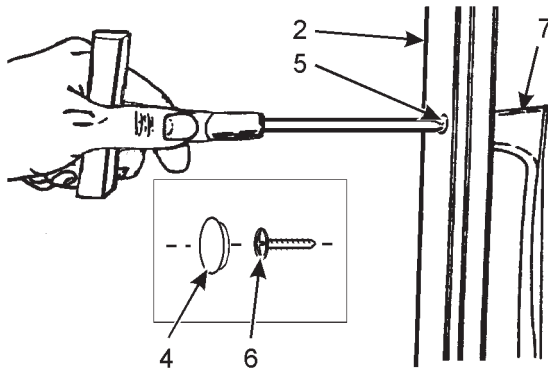
Reversing Frame Hardware

1. Turn center screw (1) counter-clockwise



and remove Torquemaster™ (2) from bottom door frame (3).

2. Pry out cover plate (4) from opposite end of bottom door frame (3).



3. Reverse positions and install Torquemaster™ (2) and cover plate (4) in bottom door frame (3).
4. Insert dummy plug (5) into old top hinge pin receptacle (6).

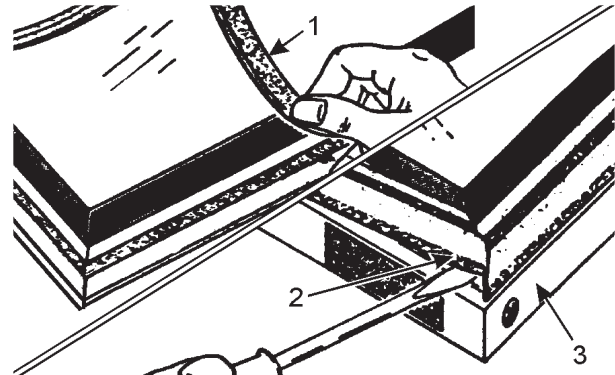
Door Handle Replacement

1. Starting at a corner, remove the gasket (1) from retainer strip (2) on handle side of the door (3).
2. Starting at corner, remove retainer strip (2) from handle side of door (3).
3. Remove plastic hole plugs (4) from handle access holes (5).
4. Using a 5/32" allen wrench, remove two screws (6) and handle (7) from door (2).

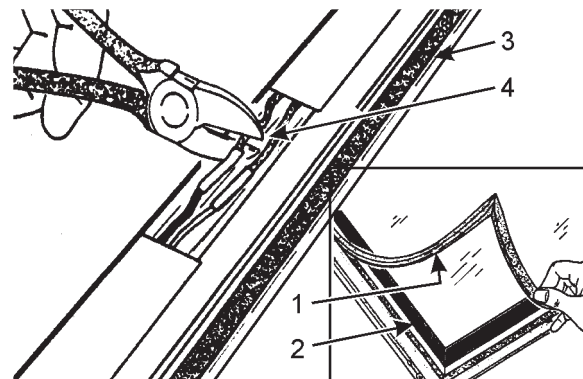
5. Install new handle (7) in reverse order.

Door and Mullion Heater Replacement

All glass door cases use the same door and mullion heaters. Medium and low temperature cases run different wattages through them. Low temperature cases also use elec-



trically heated door glass. Mullion heaters are located in four different locations. Door frame heater is a full length wire in each door frame. Perimeter heater is a full length wire around

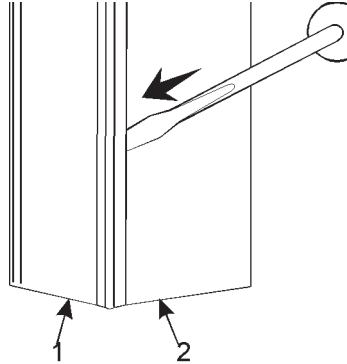


the entire case frame. Threshold heater is a additional wire across the lower part of the case frame. Vertical heater has a separate heater and wire in each vertical mullion between the doors.

Door Heater

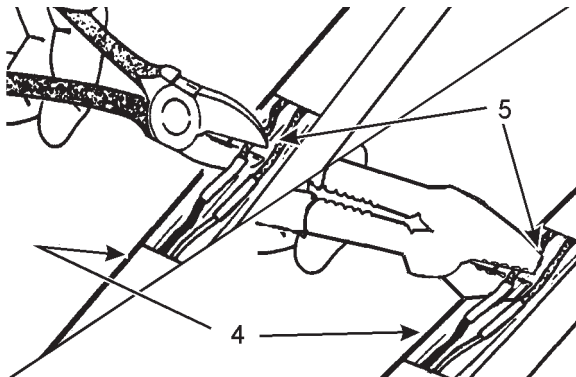
1. Remove door from case following the door removal instruction in this manual.

2. Starting at corner, remove gasket (1) from retainer strip (2).
3. Starting at a corner, remove all retainer



strips (2) from the door (3).

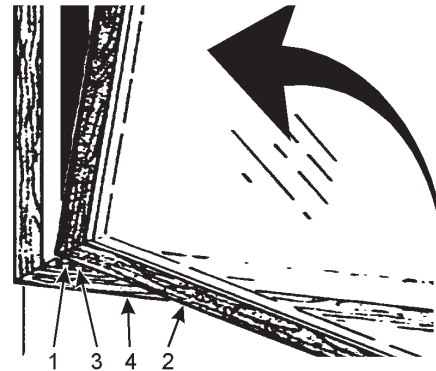
4. Disconnect or cut solid heater lead wire (4) and remove from door (3). Insert and connect new solid lead wire (4) in door (3).
5. Replace retainer strips (2) and gasket (1) on the door (3).
6. Replace door on case following the door installation instructions in this manual.



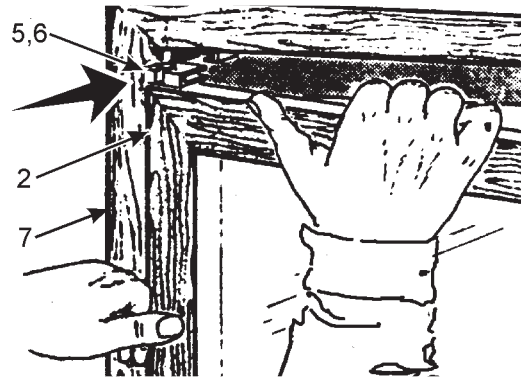
Mullion Heater

1. Remove necessary door(s) following the door removal instructions in this manual.
2. Using a screwdriver, remove necessary contact plate retainers (1) and contact plates (2) and heat barriers (3), where applicable, from mullions (4) to expose heater wire(s). Vertical wire requires removal of vertical contact plate and two

adjacent top contact plates. Threshold

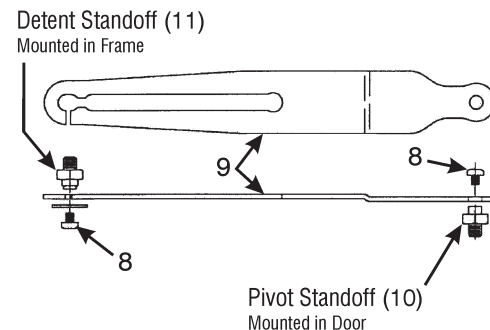


wire requires removal of bottom and end contact plates. Perimeter wire requires



removal of all contact plate (top, bottom, end, and center).

3. Disconnect or cut defective heater wire (5) and remove from mullion (4).

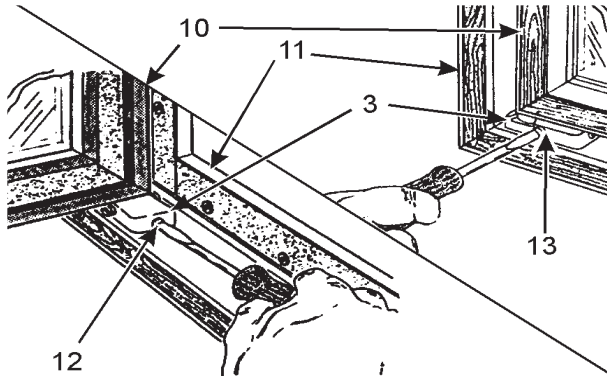


4. Connect and install new heater wire (5) in mullion (4).
5. Replace heat barriers (3), where applicable, and contact plates (2) and contact-plate retainers (1) on mullions (4)

- Replace door(s) following the door installation instructions in this manual.

Door Installation

- Insert door torque rod (1) on bottom of door (2) into Torquemaster™ (3) at base of door frame (4).

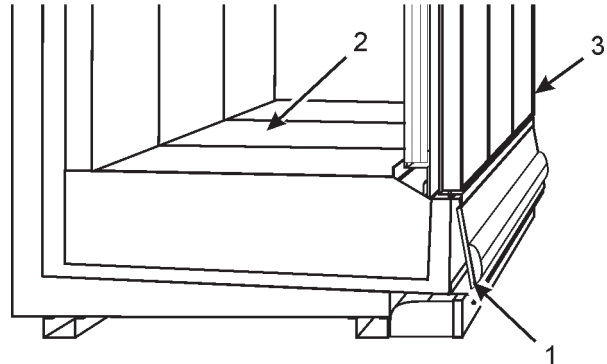


- Insert hinge pin plug (5) on top of door (2) into hinge pin plug receptacle (6) at top of door frame (7). Push in top of door (2) until hinge pin plug (5) snaps into place.
- Apply loctite to threads of two screws (8).
- Install hold-open (9) on door and frame standoffs (10 & 11) and secure with two screws (8). **Do not overtighten the screws.**

NOTE

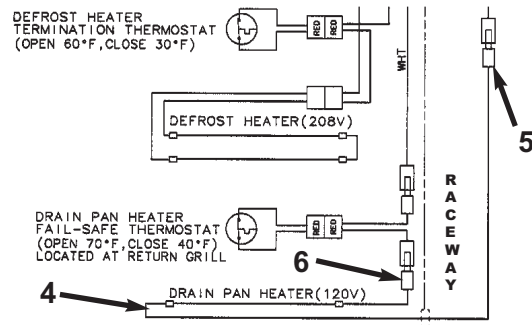
- Do not use power tools to adjust the Torquemaster™.

- When Torquemaster™ is properly adjusted, the door will securely close

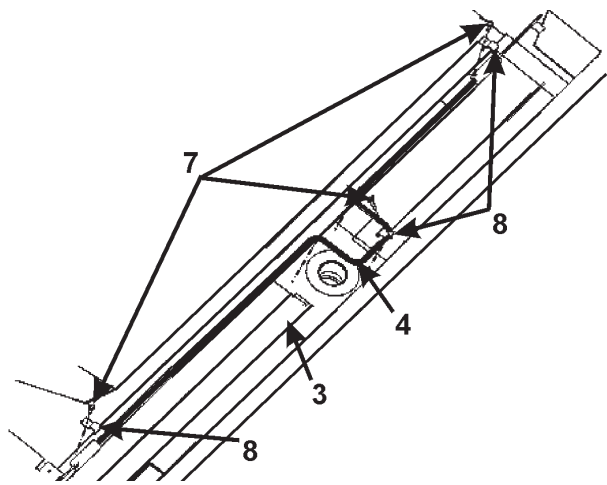


without slamming. Over adjusting will cause the door to slam during closing.

- Align door (10) in frame (11) by adjusting screw (12) on side of Torquemaster™ (3).



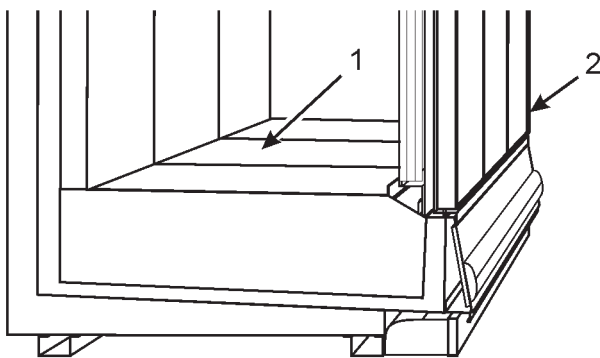
- Adjust closing force by turning the screw (13) on the front of the Torquemaster™ (3). Turn screw (13) counter-clockwise to increase, or clockwise to decrease the



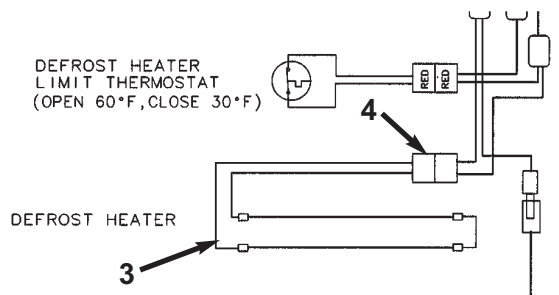
closing force.

5. Install new heater (4) and secure with clips (8) and screws (7) in bottom of the case (3).
6. Connect the heater wire (4) at the connectors (5 & 6), one in the raceway and one in the bottom right-hand side of the case (3).
7. Install bottom trays (2) in case (3).
8. Install raceway cover (1) following raceway cover installation instructions in this manual.
9. Reconnect power to the case.

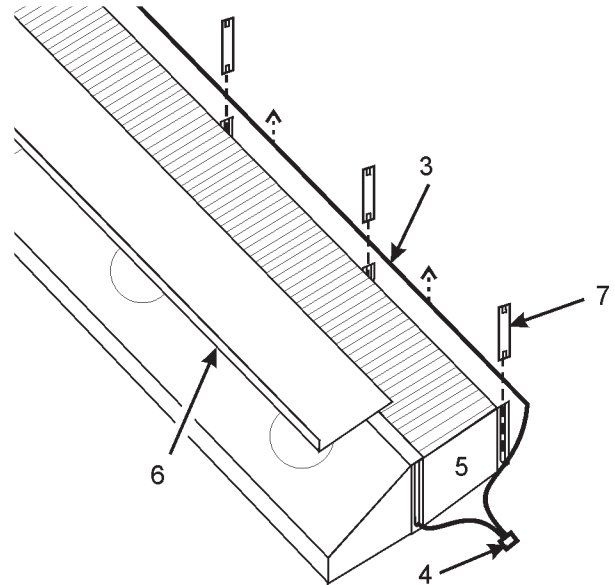
Electric Defrost Heater Replacement (P5FG & P5FGN)



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



2. Disconnect the defective defrost heater (3) at the connector (4) on the right-hand side of the coil assembly (5).

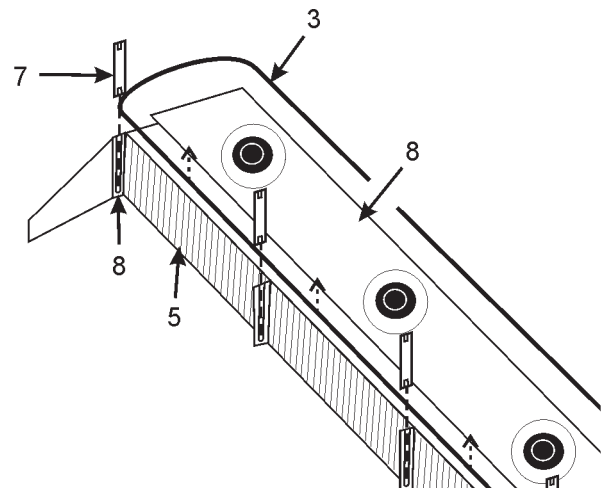


3. Remove mounting screws and top coil closeoff (6) from coil assembly (5).

NOTE:

Defrost heater wire run completely around the coil assembly with the connector lead on the right side of the coil. Note routing of wires before removing the defrost heater, so new heater can be installed the same way.

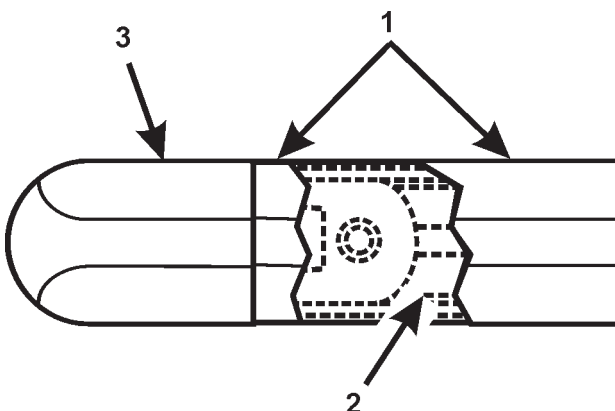
4. Remove heater retainer clips (7) from slots in rear of coil assembly (5).



5. Remove mounting screws and carefully lift and place fan panel (8) on top of coil assembly (5).
6. Remove heater retainer clips (7) from slots in front of coil assembly (5).

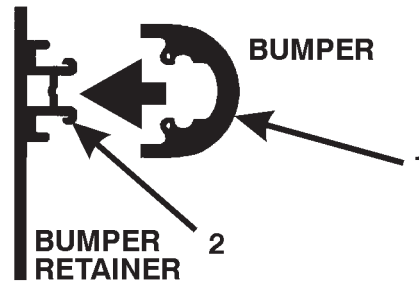
7. Lift and remove defective heater (3) from slots in front and rear of coil assembly (5) and remove from case (2).
8. Carefully position new defrost heater (3) over the fan panel (8) and coil assembly (5) and insert the heater wire (3) in the slots in the front and rear of the coil assembly (5).
9. Secure the new heater wire (3) in the bottom of the front slots of coil assembly (5) with the heater retainer clips (7).
10. Carefully reposition fan panel (8) and secure with mounting screws.
11. Secure the new heater wire (3) in the bottom of the rear slots of coil assembly (5) with the heater retainer clips (7).
12. Install top coil closeoff (6) on top of coil assembly (5) and secure with mounting screws.
13. Connect the new defrost heater (3) at the connector (4) on the right-hand side of the coil assembly (5).
14. Install bottom trays (1) in case (2).
15. Reconnect power to the case.

Bumper Replacement



1. Starting at one of the end joints, pry one end of the bumper (1) until it starts to release from the bumper retainer (2).
2. Grasp the loose end of the bumper (1) and pull firmly to peel bumper (1) off the bumper retainer (2).

3. If bumper end cap (3) is damaged, remove screws and slid off bumper end cap (3). Replace with new end cap (3) and secure with screws.
4. Use old bumper as a guide to cut new bumper to the proper length. If old bumper is not available, cut bumper 1/4" longer than the measured distance between the installed end cap.

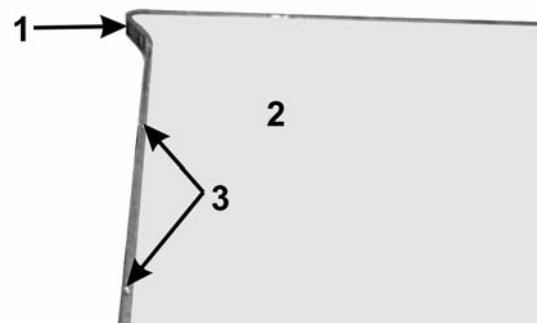


5. Starting at one end, snap the new bumper (1) onto the bumper retainer (2).

NOTE

- The use of a wooden block and a hammer may be helpful to snap hard to install bumpers in place.
- Bumpers will shrink when the cases are at operating temperature.

Patch End Edge Trim and Overlay Installation



1. Remove loose or damaged edge trim (1) from patch end (2). Discard old edge trim.
2. If installing patch end overlay, position overlay on outer surface of patch end (2) and secure with screws in pre-drilled holes.
3. Position new edge trim (1) over exposed edge of patch end (2) and/or overlay. Secure the new edge trim (1) with screw (3) through pre-drilled holes in edge trim.

Defrost & Drain Pan Heater Replacement**WARNING**

Before replacing defrost or drain pan heater, shut off electrical power to the case to avoid personal injury and/or death.

**Drain Pan Heater Replacement
(P5FG & P5FGN)**

1. Remove screws from bottom edge of front cladding (1). Rotate bottom edge up and pull front cladding (1) down to remove it from the case (3).
2. Remove bottom trays (2) from case (3).
3. Disconnect the defective drain pan heater (4) at the connectors (5 & 6), one in the raceway and one in the bottom right-hand side of the case (3).
4. Remove screws (7), clips (8) and drain pan heater (4) from bottom of case (3).

PARTS INFORMATION**Operational Parts List**

<u>Desc. (Domestic & Export)</u>	<u>2DR</u>	<u>3DR</u>	<u>4DR</u>	<u>5DR</u>
Fan Motors (domestic) (115 V/ 1 PH/ 50-60 HZ)	5243498 9 Watt	5243498 9 Watt	5243498 9 Watt	5243498 9 Watt
Fan Motors (export) (230 V/ 1 PH/ 50-60 HZ)	9458943 9 Watt	9458943 9 Watt	9458943 9 Watt	9458943 9 Watt
Fan Blades (8.75" 30° 5B)	5187551	5187551	5187551	5187551
Fan Motor Brackets	5235087	5235087	5235087	5235087
Fan Bracket Plate	9041077	9041077	9041077	9041077
Opt. ECM Fan Motors (115 V/ 1 PH/ 50-60 HZ)	9025000 12 Watt	9025000 12 Watt	9025000 12 Watt	9025000 12 Watt
Opt. ECM Fan Blades (8.75" 20° 5B)	5231809	5231809	5231809	5231809
Opt. ECM Fan Motor Brackets	5205112	5205112	5205112	5205112
T8 Vert. Ballast (1 lamp)	5875110		5875110	
T8 Vert. Ballast (2 lamp)	5875111	5875111**	5875111**	5875111†
Opt. LED Power Supply (GE Part No.)	5875000 (60-16189-0001)	5875000 (60-16189-0001)	5875000 (60-16189-0001)	5875000 (60-16189-0001)
T8 Vert. Flrscent. Lamp F040/841	5093932	5093932	5093932	5093932
Opt. LED Light Fixture, LH End (GE Part No.)	5875001 (60-16194-0001)	5875001 (60-16194-0001)	5875001 (60-16194-0001)	5875001 (60-16194-0001)
Opt. LED Light Fixture, RH End (GE Part No.)	5875002 (60-16193-0001)	5875002 (60-16193-0001)	5875002 (60-16193-0001)	5875002 (60-16193-0001)
Opt. LED Light Fixture, CTR (GE Part No.)	5875003 (60-16195-0001)	5875003 (60-16195-0001)	5875003 (60-16195-0001)	5875003 (60-16195-0001)
Electric Defrost Heater (P5FG/P5FGN)	2003435 1200W/208V	2003436 1975W/208V	2003437 2725W/208V	2003438 3500W/208V
Elec. or Hot Gas Drain Pan Heater (Domestic)(P5FG/P5FGN)	2008013 137W/120V	2008014 226W/120V	2008015 311W/120V	2008016 400W/120V
Opt. Elec. or Hot Gas Drain Pan	2008017	2008018	2008019	2008020

Cladding and Trim Parts List

Item	Description	2DR	3DR	4DR	5DR
1	Door Joint Trim (Satin Aluminum)	2000347	2000347	2000347	2000347
	(Black Anod. Aluminum)	2000348	2000348	2000348	2000348
	(Anodized Aluminum)	2000349	2000349	2000349	2000349
2	Binding Screw	5076411 (6)	5076411 (6)	5076411 (6)	5076411 (6)
3	Front Cladding, Ptd.	2000110	2000111	2000112	2000113
	Screw	5183536 (3)	5183536 (4)	5183536 (6)	5183536 (6)
4	Bumper, 3"	----- color per order -----			
	Bumper Retainer, Blk.	2000263	2000264	2000265	2000266
	Bumper End Cap	----- color per order -----			
5	Metal Kickplate, Ptd.	2000197	2000196	2000195	2000194
	Kickplate Joint Trim, Ptd.	2000209	2000209	2000209	2000209
	Screw	5183536 (9)	5183536 (12)	5183536 (15)	5183536 (18)
6	Kickplate Support Assy.	2000240	2000240	2000240	2000240
	Shoulder Screw	9025833 (6)	9025833 (8)	9025833 (8)	9025833 (8)
7	Raceway Assembly	2000117	2000118	2000119	2000120
8	LH or RH End Close-off, Ptd.				
	(P5FG/P5NG)	2000400	2000400	2000400	2000400
	(P5FGN/N5NGN)	2000401	2000401	2000401	2000401
	End Close-off Bracket	2000402	2000402	2000402	2000402
9	Horizontal Joint Trim				
	(P5FG/N5NG)	2000207	2000207	2000207	2000207
	(P5FGN/P5NGN)	2000206	2000206	2000206	2000206

