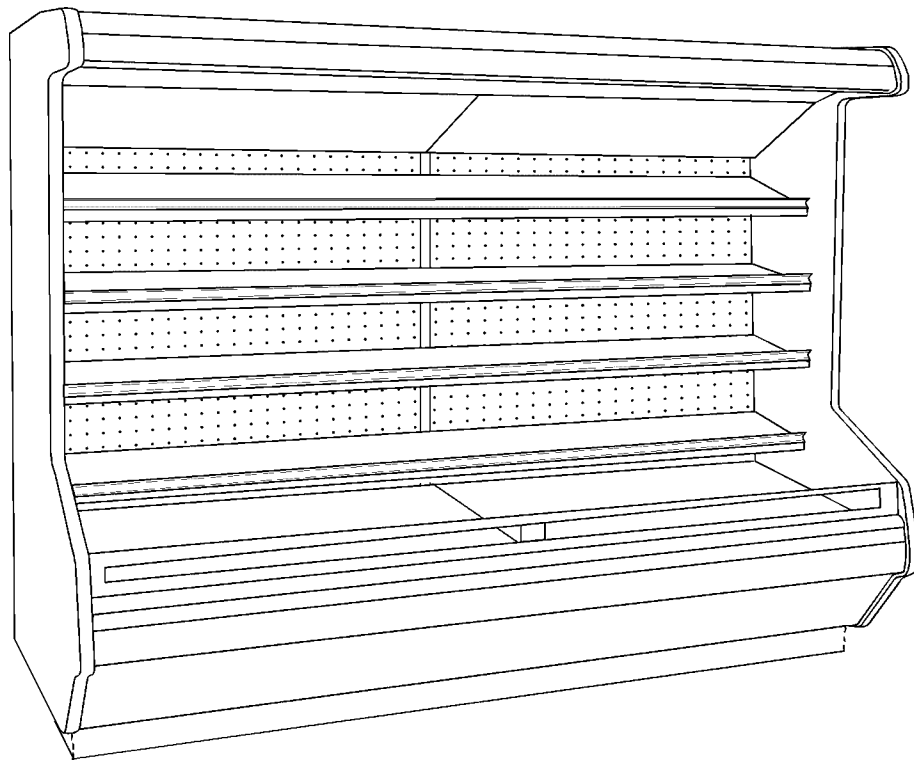


TYLER

series
Advantage



Installation & Service Manual



L5MG

MULTI-SHELF MEAT/DELI MERCHANDISERS
Medium Temperature Self Serve Display Cases

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

Save the Instructions in Both Manuals for Future Reference!!

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

PRINTED IN U.S.A.	Specifications subject to change without notice.	REPLACES EDITION	7/99	ISSUE DATE	8/99	PART NO.	9027532	REV.	C
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The following Medium Temperature Multi-Shelf Meat and Deli Merchandiser models are covered in this manual:

MODEL	DESCRIPTION
L5MG	8' & 12' GLASS FRONT MULTI-SHELF MEAT/DELI MERCHANDISER

SPECIFICATIONS

L5MG Multi-Shelf Meat/Deli Merchandiser Specification Sheets

MODEL	L5MG	L5MG
USAGE	DELI	MEAT
BTUH/FT	1703	1793
SUCTION°	+15F	+15F
ENTER AIR°	+29F	+27F

THE ABOVE RATINGS ARE FOR COMPRESSOR SELECTION ONLY. FOR ENERGY CALCULATION DATA REFER TO THE ENERGY SECTION.

NOTE: FOR COMPRESSOR SIZING INFORMATION REFER TO THE "GOLD" SECTION & FOR LINE SIZING INFORMATION REFER TO THE "BUFF" SECTION OF THE TYLER SPECIFICATION GUIDE.

208 VOLT DEFROST (AMPS)											
FT	8	12	16	20	24	28	32	36	40	44	48
DELI/ MEAT 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
DELI/ MEAT 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
CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING											
R22 DELI	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"
R22 MEAT	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"

DEFROST CONTROL				PRESSURE SETTINGS			EPR SETTINGS	
PER DAY	MODE	TIME	TERM.		CUT IN	CUT OUT	R22	R404A
4	ELECT	36 MIN.	50F	DELI	58-60# @ R22	32-35# @ R22	43#	---
4	TIME OFF	46 MIN.		MEAT	52-56# @ R22	26-29# @ R22	37#	---
4	HOT GAS	12-15 MIN.	55F	DELI	72-75# @ R404A	43-46# @ R404A	---	55#
				MEAT	66-70# @ R404A	35-39# @ R404A	---	48#

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

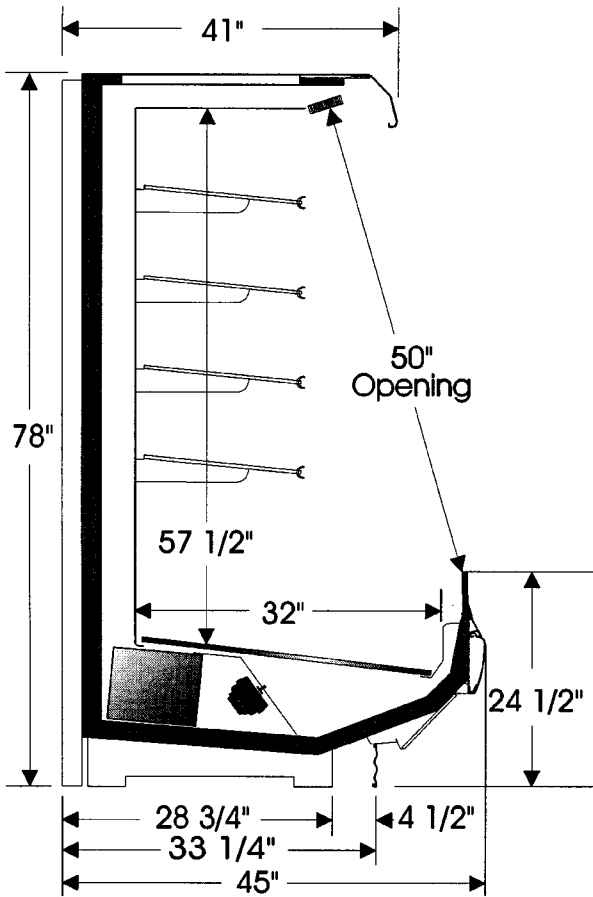
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering air temperature with absolute maximum operating ambient limits of **75F & 55RH**.

Screens are standard. Shelving must be ordered separately. Use either all 15" or 18" shelves (NO MIXING), shelves must also be aligned to prevent disruption of air flow. Lights on shelves are optional, but not recommended because the added heat shortens shelf life of meat and increases operating costs.

When mirrors are used, only 12" wide mirrors are allowed.

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

L5MG Multi-Shelf Meat/Deli Merchandisers

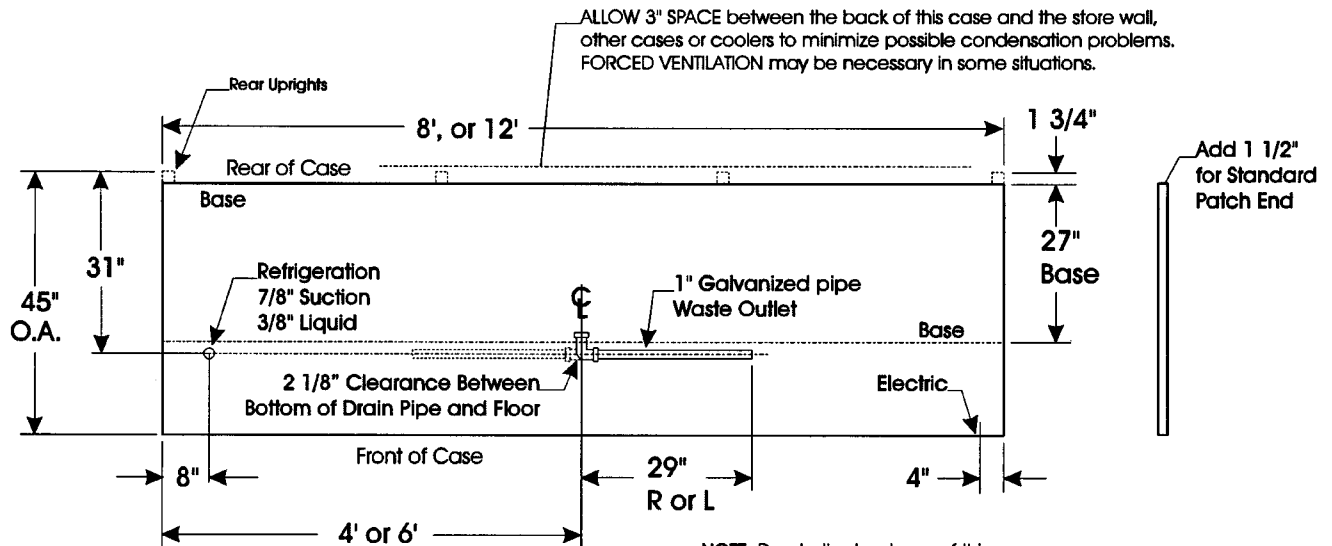


120 VOLT ELECTRICAL DATA (AMPS)			
FT	STD. FANS	ECM FANS	ANTI-SWT*
8	1.2	.6	.3
12	1.8	.9	.5

STANDARD 120 VOLT LIGHTING (AMPS) T-8/ ELECTRONIC BALLASTS (CANOPY)*	
FT	STANDARD LIGHTING 2 ROW
8	1.1
12	1.8

OPTIONAL 120VOLT LIGHTING (AMPS) T-8/ ELECTRONIC BALLASTS (SHELF)		
ROW	8'	12'
1	.9	1.3
2	1.4	2.1
3	1.9	2.9
4	2.2	3.3

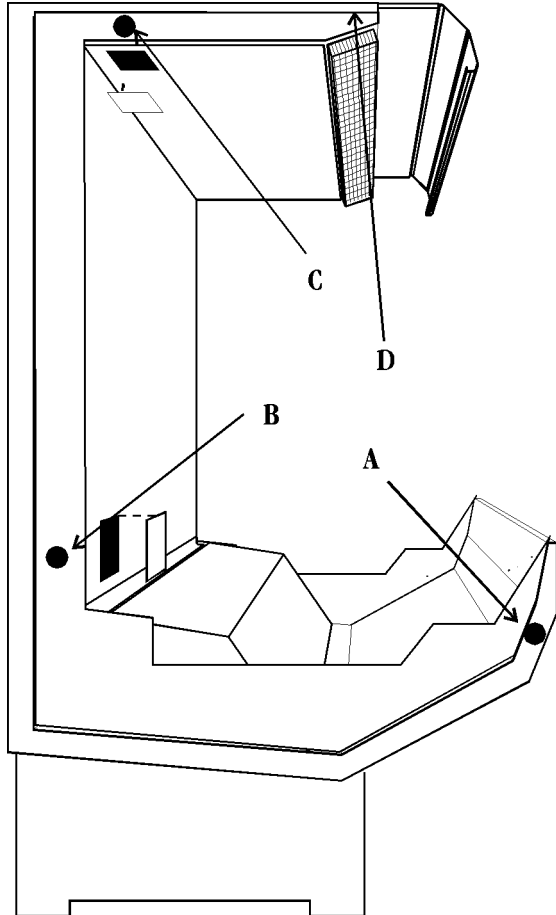
* Discharge air anti-sweat heater and canopy lighting on same circuit.



NOTE: Due to the low base of this case, the normal refrigeration entry point cannot be used. The case must be drilled out (3" max) in the kickplate area as indicated by the Refrigeration Stub-Up dimensions shown.

INSTALLATION PROCEDURES

Carpentry Procedures



Case Pull-Up Locations

The L5MG models have four pull-ups at each end of the case. Pull-ups A, B, C and D are located as shown and should be installed and tightend starting with A and finishing with D.

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

Electrical Procedures

Electrical Considerations

CAUTION

Make sure all electrical connections at components and terminal blocks are tight. This 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 50/30 klixon.

NOTE

With gas defrost, the fans will not start until the coil temperature reaches 30°F at the fan delay thermostat.

Fluorescent Lamp Circuit

L5MG case lighting is supplied by T-8 electronic ballast lights. It is controlled by a light switch in each case. The standard lighting is 2-row of T-8 canopy lights. Case lighting options include 1-row or 2-row of 800MA HO canopy lights and up to 4 rows of T-8 shelf lights.

Anti-Sweat Heater Circuit

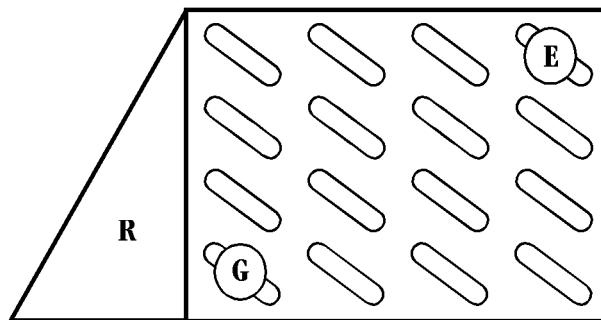
L5MG case has one anti-sweat heater in the discharge grid. The anti-sweat heater is wired to the hot side of the lighting power supply so it can operate at all times.

Defrost Information

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

Defrost Control Chart

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	4	46	50°F
Electric	4	36	50°F
Gas	4	12-15	55°F



E = Electric Defrost
 G = Gas Defrost (Fan Delay)

NOTE

The termination thermostat for gas defrost is located on the bypass check valve at the left end of the evaporator coil.

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.

CAUTION

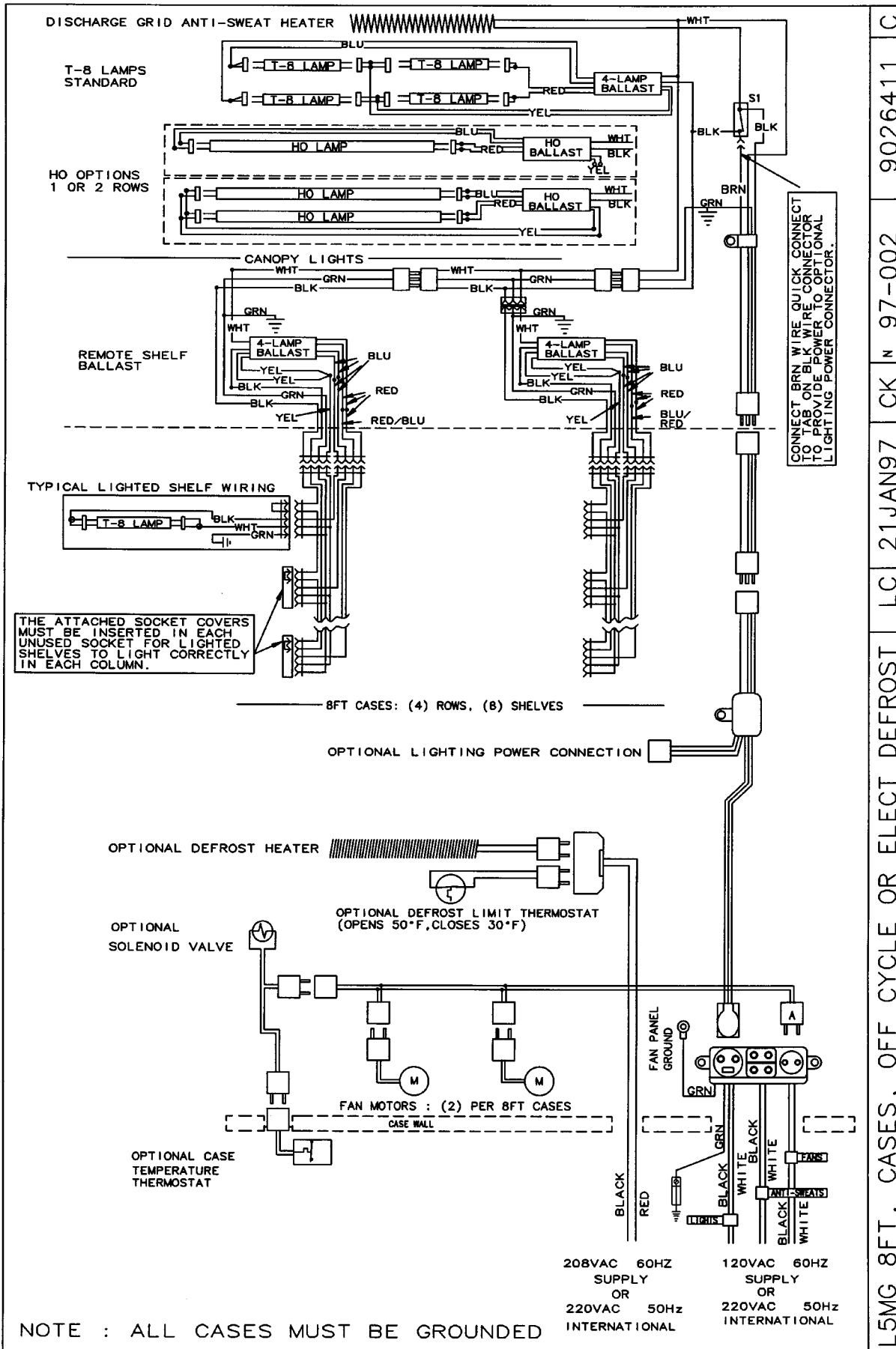
If electronic sensors are used in place of the klixons, the sensors must be located in the same location as the klixons for that defrost type. Any other locations will effect the refrigeration efficiency of the case.

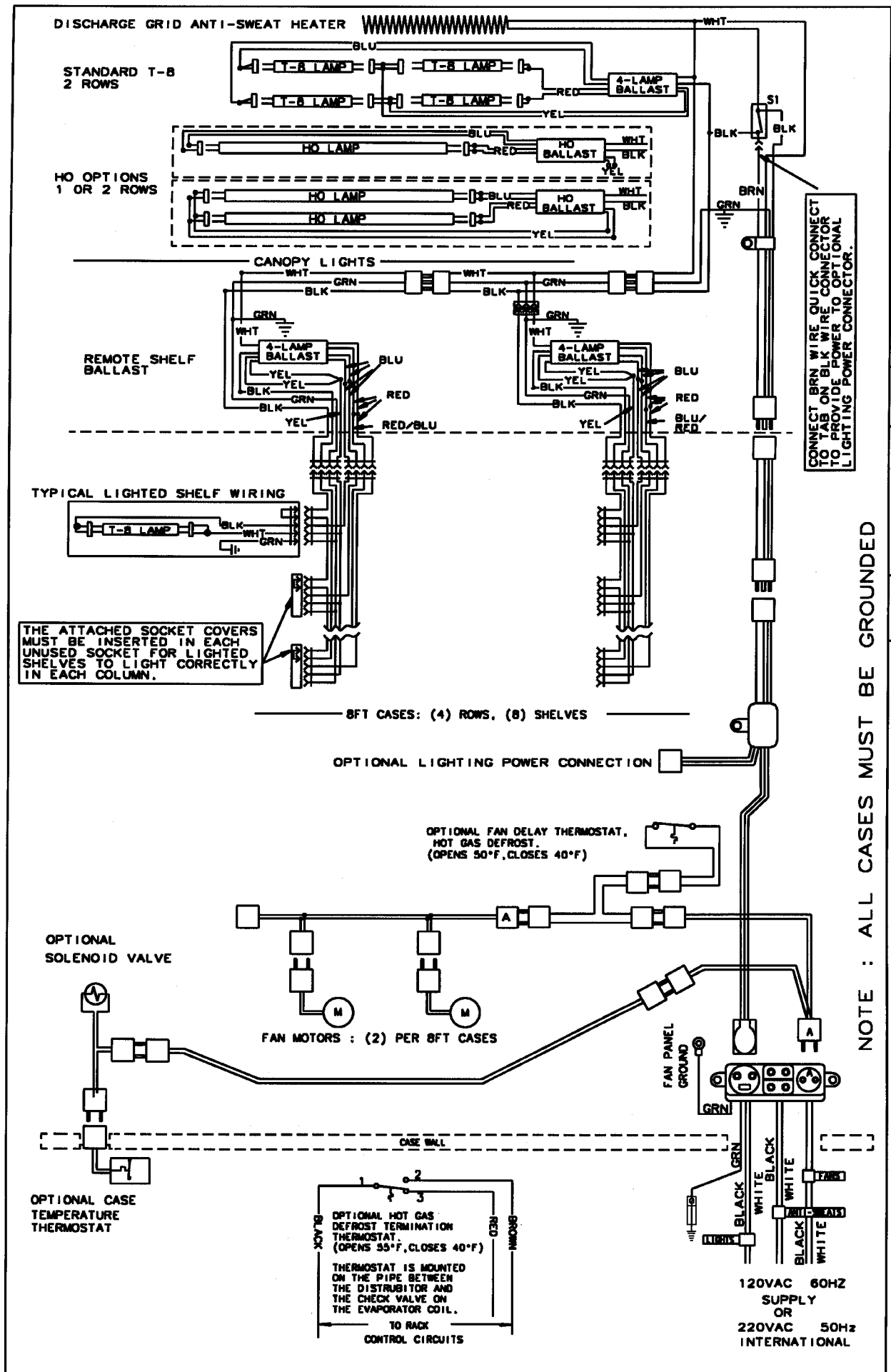
WIRING DIAGRAMS

ELECTRICIAN NOTE - OVERCURRENT PROTECTION

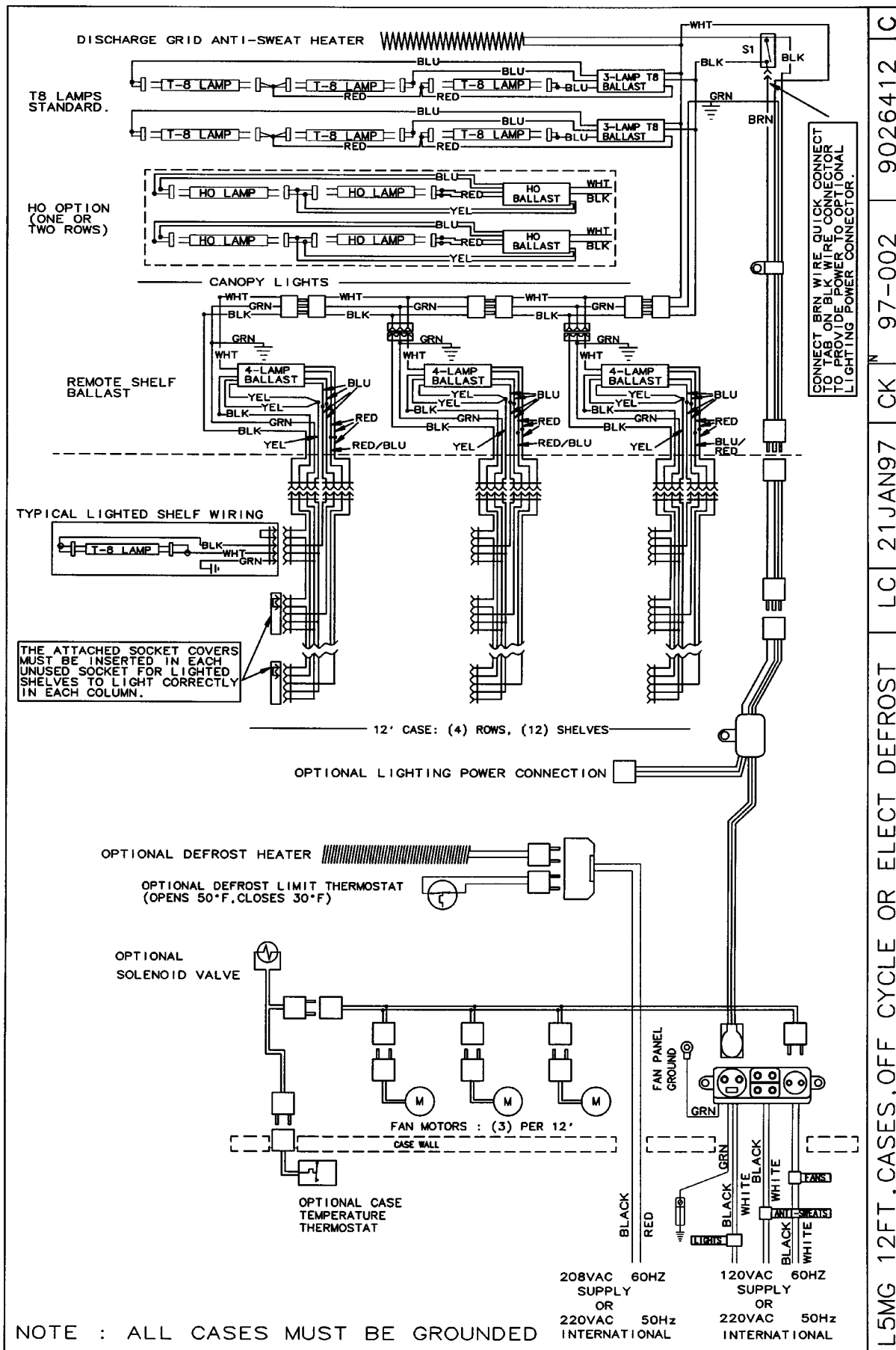
120V circuits should be protected by 15 or 20 Amp devices per the requirements noted on the cabinet nameplate or the National Electrical Code, Canadian Electrical Code - Part 1, Section 28. 208V defrost circuits employ No. 12 AWG field wire leads for field connections. On remote cases intended for end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

The following wiring diagrams on pages 8 thru 11 will cover the L5MG case circuits, electric and gas defrost circuits and the lighting wiring circuits.



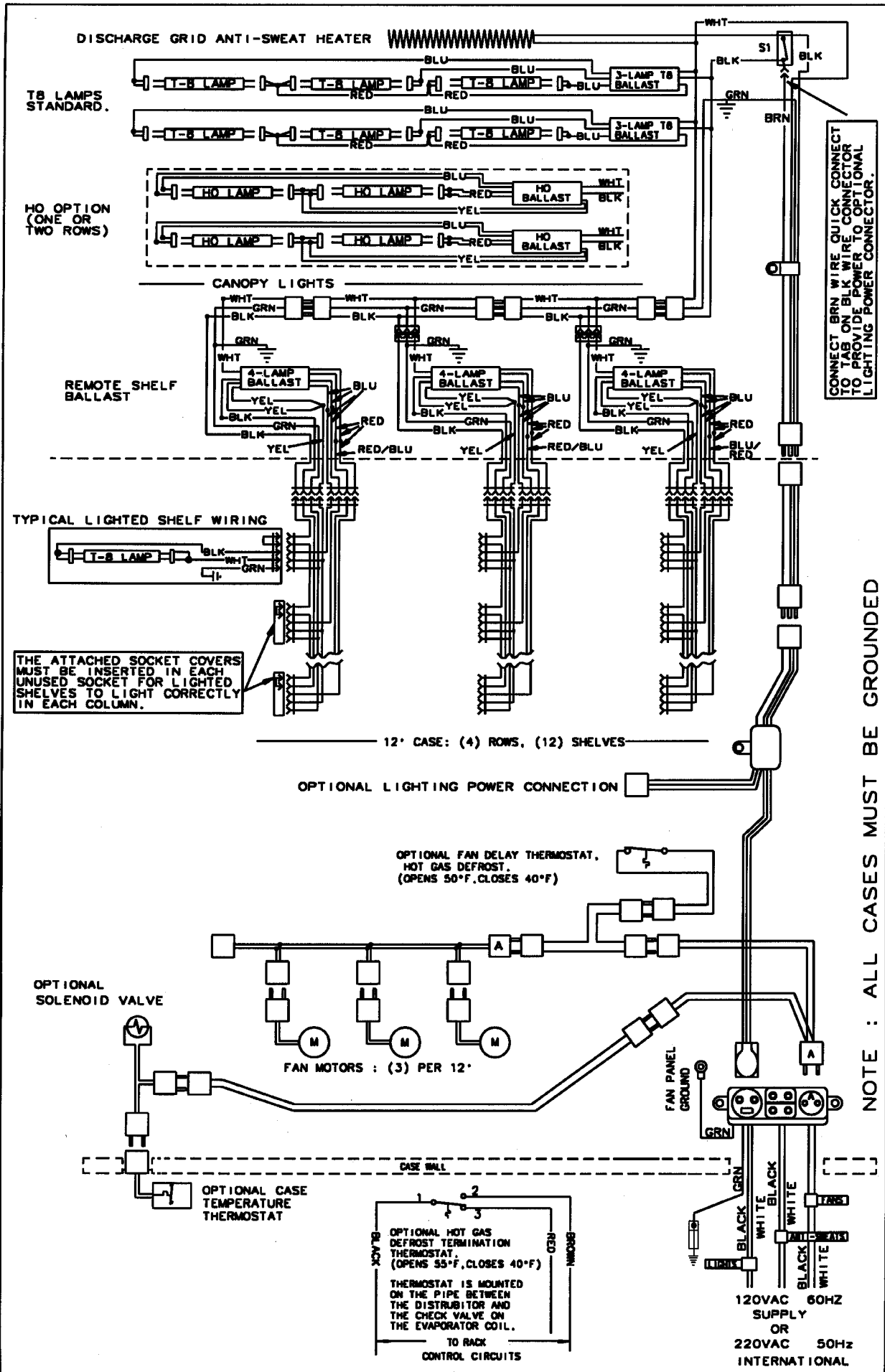


NOTE : ALL CASES MUST BE GROUNDED



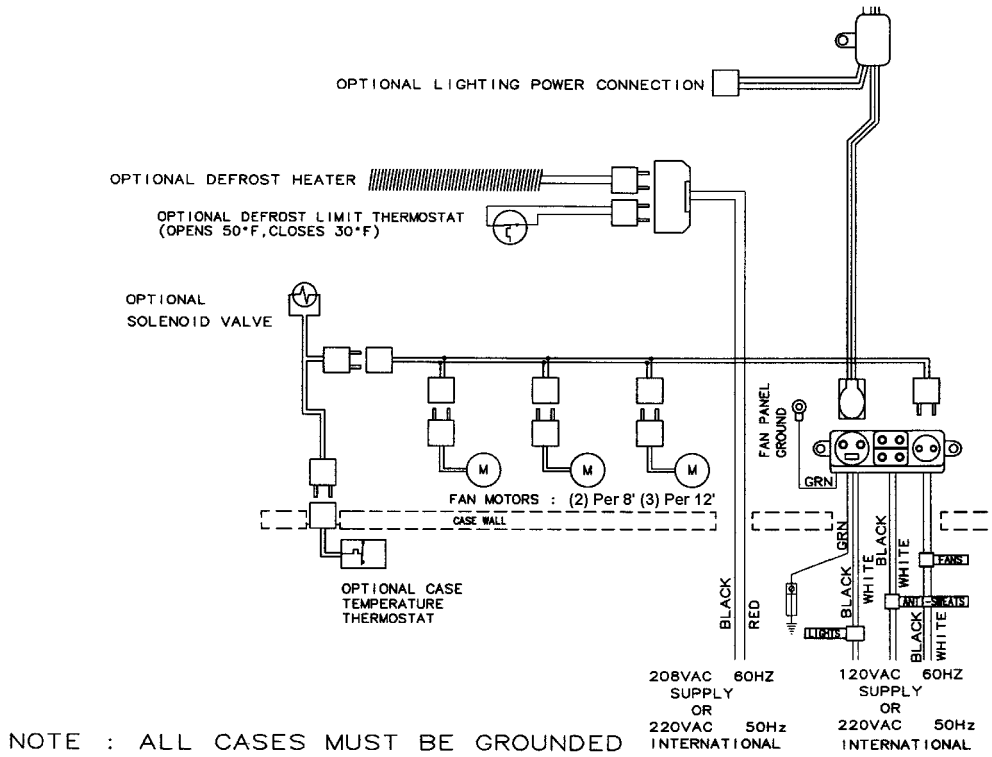
CONNECT BRN WIRE QUICK CONNECT TO BRN WIRE OR BRN WIRE CONNECTOR TO PROVIDE POWER TO OPTIONAL LIGHTING POWER CONNECTOR.

L5MG 12FT. CASES, OFF CYCLE OR ELECT DEFROST LC 21JAN97 CK N 97-002 9026412 C

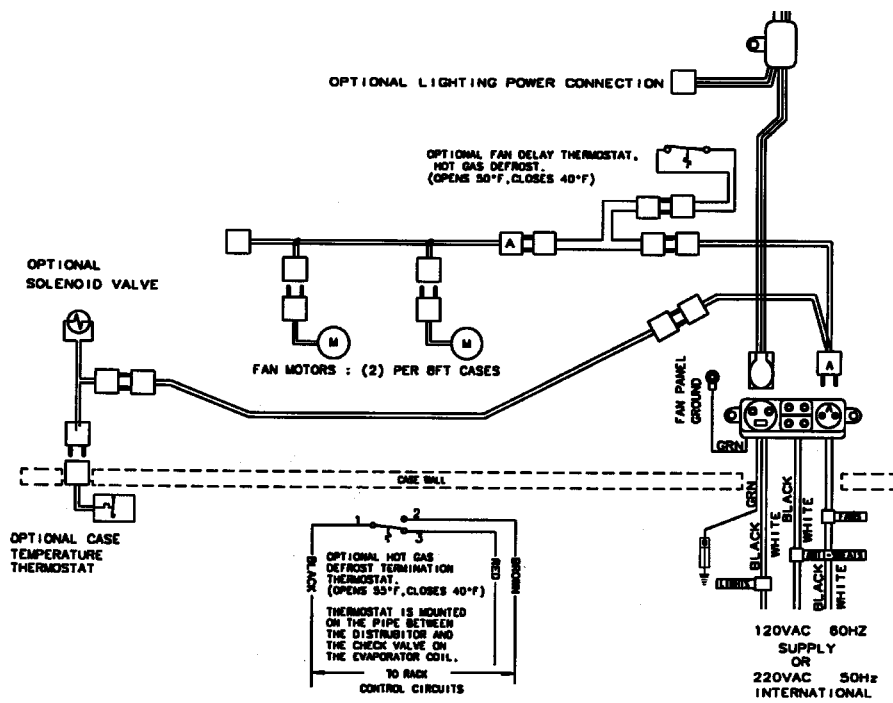


L5MG, 12 FT. CASES HOT GAS DEFROST LC 21JUL99 CK 23955 9028454 B

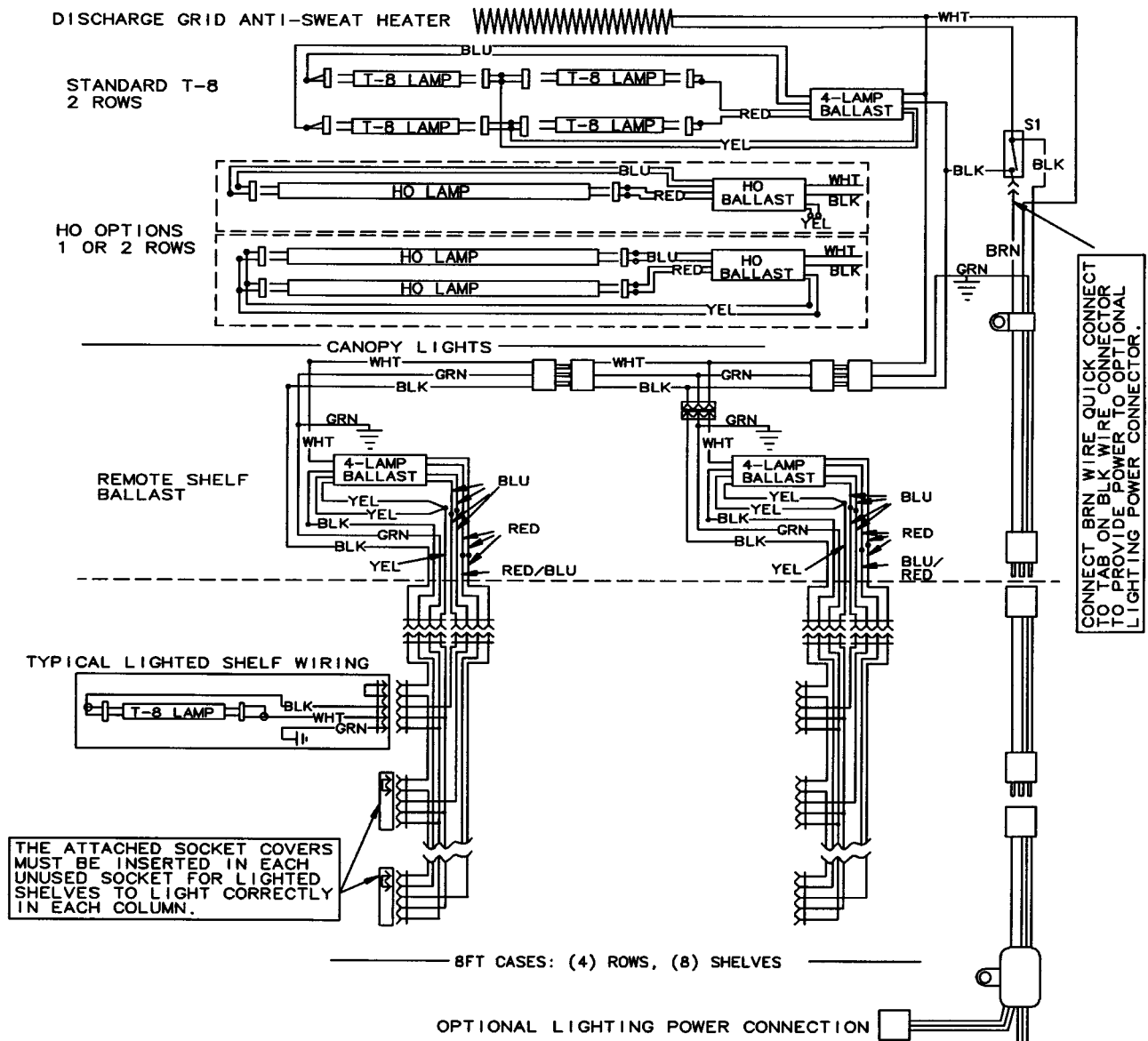
Electric Defrost Circuit



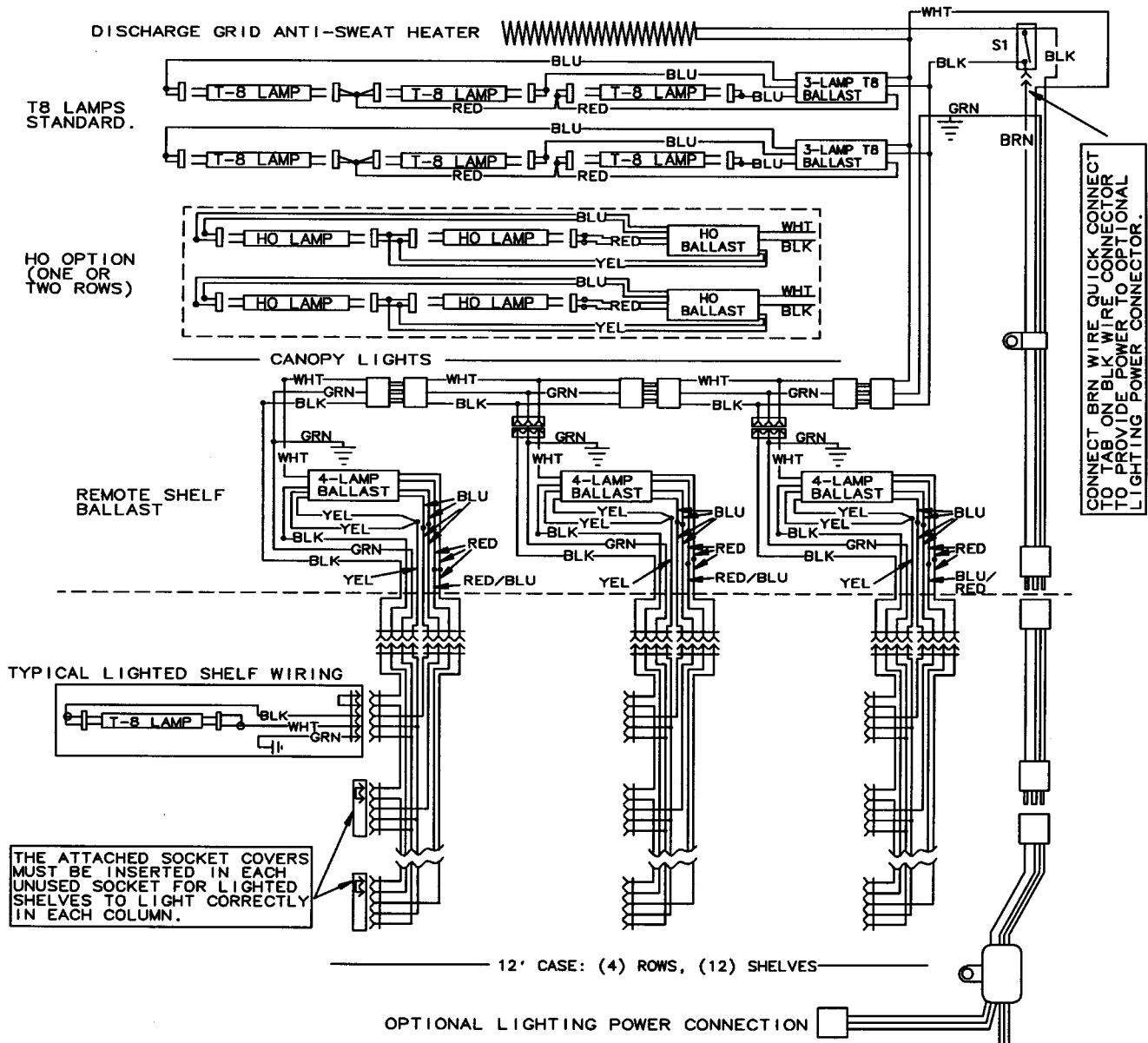
Optional Gas Defrost Circuit



Canopy and Shelf Lighting Circuits (8' Cases)



Canopy and Shelf Lighting Circuits (12' Cases)



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

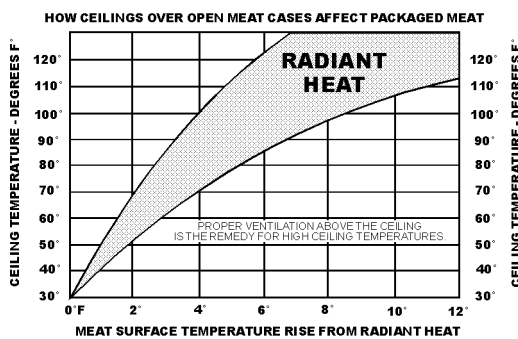
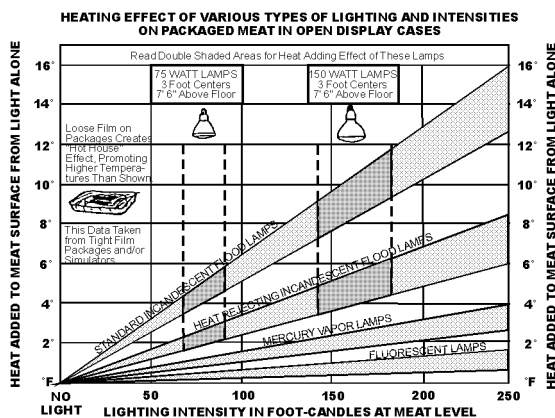
CONNECT BRN WIRE QUICK CONNECT TO TAB ON BLK WIRE CONNECTOR TO PROVIDE POWER TO OPTIONAL LIGHTING POWER CONNECTOR.

GENERAL INFORMATION

Mirror Installation

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 thermostat stuck into the

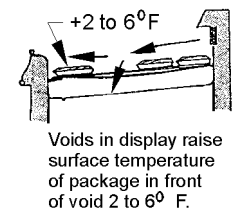
center of a piece of meat compared with one in the air stream quickly confirms this fact. Another fact is that the surface temperature of the meat will be higher than the center temperature due to radiant heat. TYLER's ongoing research identifies sources of radiant heat and accurately measures and records 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

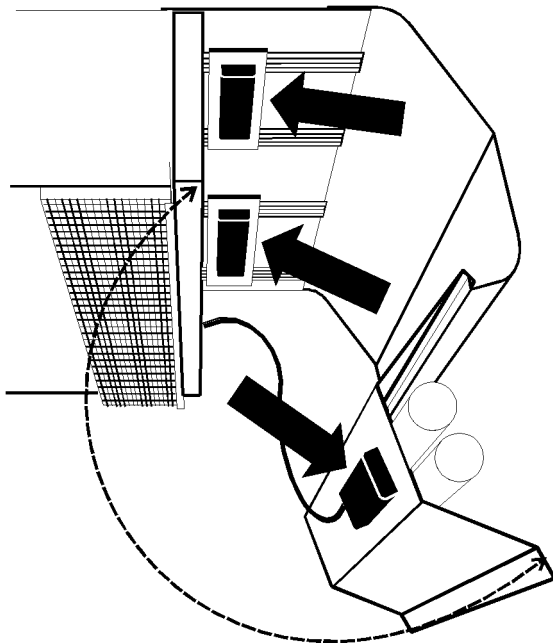
The quality damage done to meat products by high temperatures and/or contamination during delivery, cooler storage, cutting and wrapping cannot be repaired by placing the products into properly operating display cases.

SERVICE INSTRUCTIONS

Light Servicing

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

Ballast and Lighting Locations

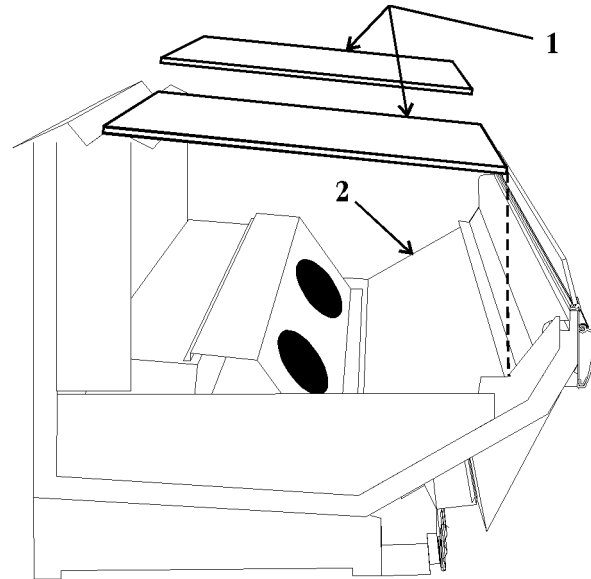


All light ballasts are located under the canopy and mounted on the top of the canopy light fixture. This includes remote ballasts for optional shelf lights. The canopy light(s) are under the canopy light fixture in the top of the case. The optional shelf lights are mounted in separate light fixtures under the front of each shelf section.

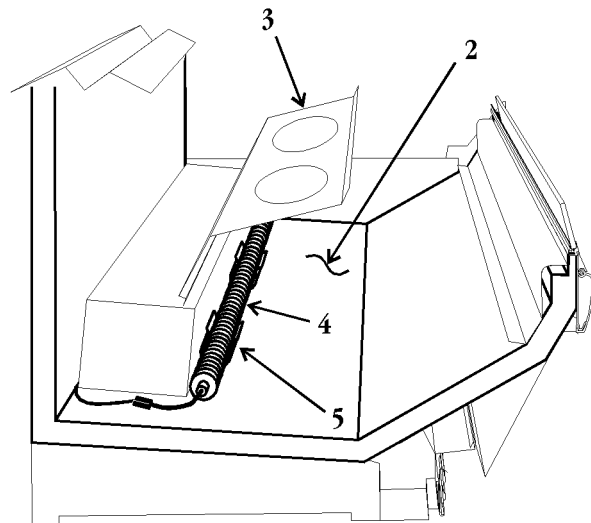
Defrost Heater Replacement

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).



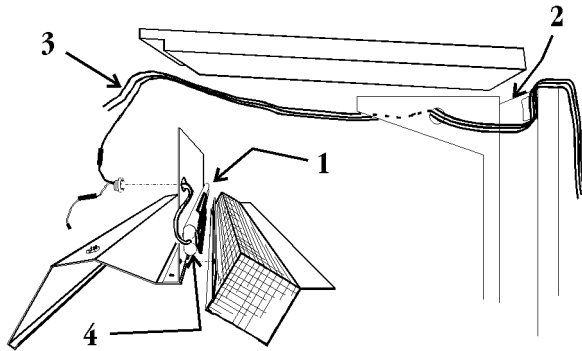
2. Unclip and lift up fan plenum (3).
3. Disconnect and remove defrost heater (4) from mounting clips (5) and case (2).
4. Install new defrost heater (4) in reverse order.
5. Restore electrical power to case.

Anti-Sweat Replacement

L5MG cases have one anti-sweat heater in the discharge air grid. 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.

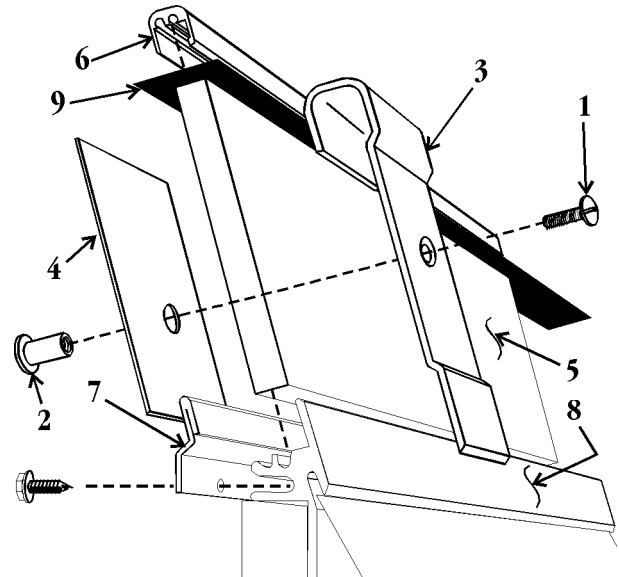
WARNING

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.

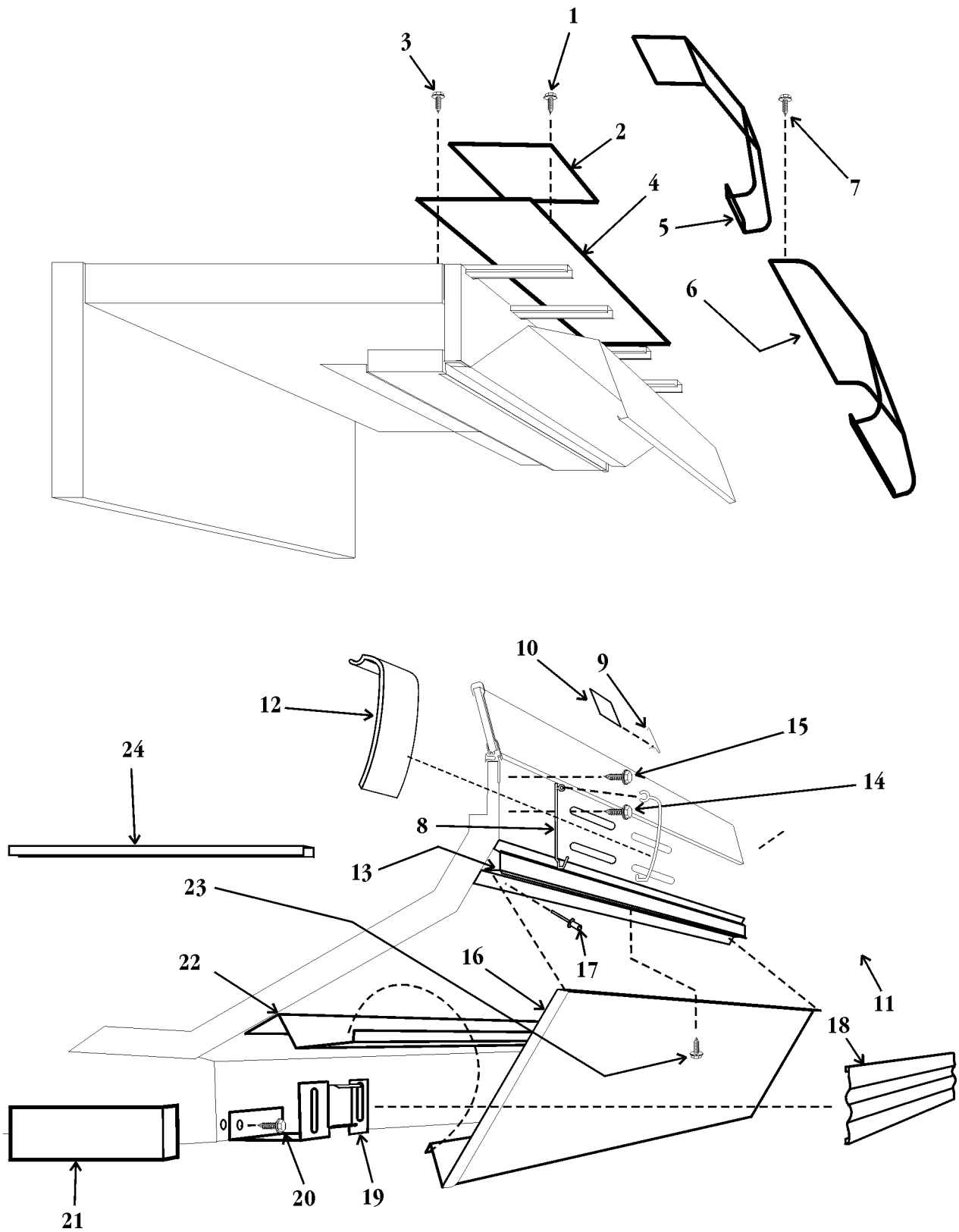
Front Glass Replacement



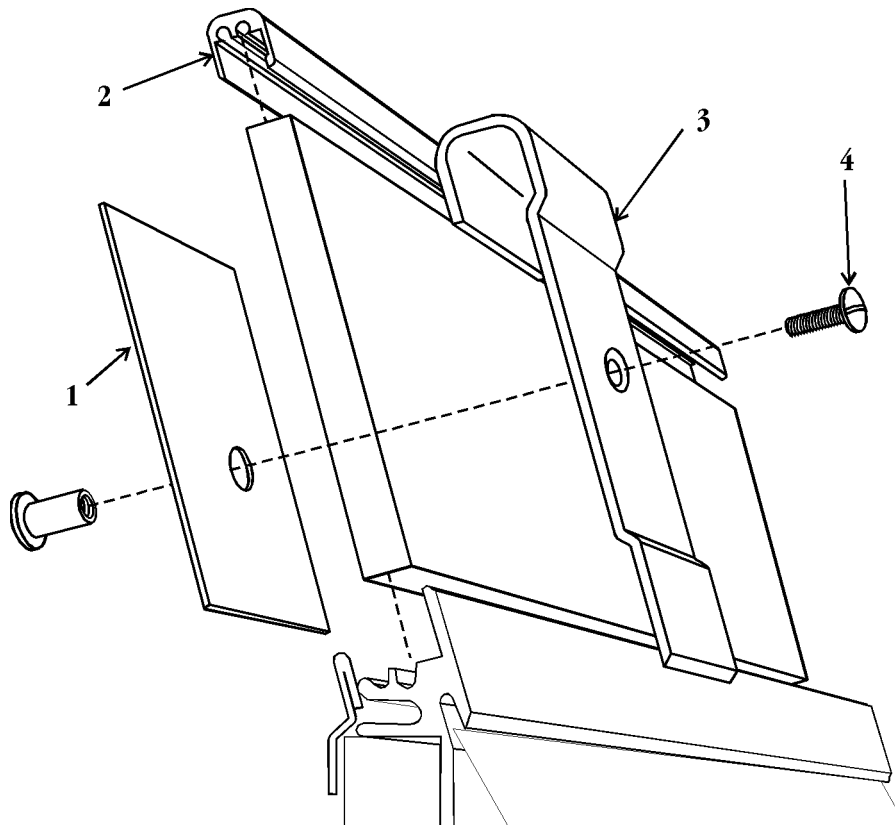
1. Remove screw (1), screw nut (2), glass joint trim (3) and glass joint backer (4) from both joints of the broken glass.
2. Remove glass trim rail (6) from top of glass (5).
3. Loosen rear retainer (7) and remove broken glass from glass retainer assembly (8).
4. Apply sealant tape (9) to top and bottom edge of new glass (5).
5. Position new glass (5) in glass retainer assembly (8) and secure by tightening rear retainer (7).
6. Install glass trim rail (6) over top edge of new glass (5).
7. Install glass joint backer (4), glass joint trim (3) with screw (1) and screw nut (2) over both joint areas of the glass (5).

PARTS INFORMATION**Cladding and Trim Parts List**

Item Description	L5MG	
	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 Canopy Backer, Painted	9025983	9025983
6 Canopy Hood, Painted	9025223	9025224
7 Screw	5183536(8)	5183536(10)
8 Bumper Retainer	9025058	9025061
9 Color Band, Painted	9020971	9020972
10 Color Band Backer, Painted	9025982	9025982
11 Bumper	color per order	
12 Bumper Backer	color per order	
Bumper End Trim (per patch end/not shown)	color per order	
13 Upr. Front Cladding Support	9026387	9026388
14 Shoulder Screw	9025833(14)	9025833(18)
15 Screw	5183536(10)	5183536(14)
16 Front Cladding, Painted	9026551	9026552
17 Rivet	5104702(6)	5104702(6)
18 Kickplate	color per order	
19 Kickplate Support Assy.	9042340(3)	9042340(4)
20 Shoulder Screw	9025833(8)	9025833(8)
21 LH End Close-off, Painted	9022459	9022459
RH End Close-off, Painted	9022466	9022466
Binding Screw	5222637(6)	5222637(6)
22 Raceway	9026101	9026102
23 Screw	5183536(5)	5183536(7)
24 Horizontal Joint Trim	9025959	9025959



Front Glass Trim Parts



Item Description	L5MG	
	8'	12'
1 Glass Joint Backer	9026404	9026404
2 Top Glass Trim Rail	9026561	9026562
3 Glass Joint Trim	9026907	9026907
4 Binder Screw	5222627	5222627

Operational Parts List

Case Usage	Domestic		Export	
	8'	12'	8'	12'
Electrical Circuit	115 Volt 60 Hertz		220 Volt 50 Hertz	
Case Size	8'	12'	8'	12'
Fan Motor	5235088 9 Watt	5235088 9 Watt	5223696 ESP	5223696 ESP
Fan Motor Brackets	5235087	5235087	5205112	5205112
Fan Blades (8.75" 25° 5B)	5984399	5984399	5984399	5984399
T-8 Ballast (canopy)	5966635	5991030	9028439	9028438
Opt. 800MA T-12 Ballast (can./1-row)	5049140	5049140	5024859	5024859
Opt. 800MA T-12 Ballast (can./2-row)	5204796	5049140	5024859	5024859
Opt. T-8 Ballast (shelf)	5966635	5966635	9028439	9028439
T-8 Lampholder (canopy)	5232279	5232279	5232279	5232279
T-8 Lampholder (shelf)	5092414	5092414	5092414	5092414
Opt. 800MA Lampholder (telescoping)	5614628	5614628	5614628	5614628
Opt. 800MA Lampholder (stationary)	5614629	5614629	5614629	5614629
Light Switch (SPST)	5193982	5193982	5193982	5193982
Anti-Sweat Heater Wire (canopy)	5124216	5124217	5081147	5081148
Opt. Elec. Def. Heater	5124521	5124522	5124521	5124522
Opt. Elec. Def. Limit Switch	5125211	5125211	5125211	5125211
Opt. Gas Def. Fan Delay Switch	9023503	9023503	9023503	9023503
Opt. Gas Def. Term. T'stat	9023508	9023508	9023508	9023508

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