TYLER REFRIGERATION

Carrier
A United Technologies Company

Allegro SERIES™

Installation & Service Manual

TLSSD

OPEN FRONT SELF-SERVE DELI MERCHANDISERS
Medium Temperature Self-Service Display Cases

This manual has been designed to be used in conjunction with the General (UL/NSF) Installation & Service Manual.
Save the Instructions in Both Manuals for Future Reference!

This merchandiser conforms to the American National Standard Institute & NSF International Health and Sanitation standard ANSI/NSF - 7 2003.

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The following Medium Temperature Open Front Self-Serve Deli Merchandiser models are covered in this manual:

MODEL	DESCRIPTION
TLSSD	8’ & 12’ OPEN FRONT FORCED AIR COIL DELI MERCHANDISERS

SPECIFICATIONS

TLSSD Open Front Medium Temp Self-Serve Deli Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / FT)*	EVAPORATOR (°F)**	UNIT SIZING (°F)	DISCHARGE AIR (°F)
TLSSD	8'/12'	Deli	964	15	13	27

* Capacity data listed for cases with 1 row of T-8 Canopy Lights and 2 rows of optional lighted shelves.
If case has unlighted shelves, **DEDUCT** 20 BTUH/FT per row of unlighted shelves on the case.

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

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 (120 Volt)

			TOTAL STANDARD FANS		TOTAL ECM FANS	
MODEL	CASE LENGTH	FANS / CASE	AMPS	WATTS	AMPS	WATTS
TLSSD	8'	2	1.2	76.0	----	----
TLSSD	12'	3	1.8	114.0	----	----

T8 Lighting with Electronic Ballasts (120 Volt)

		CANOPY LIGHTS 1-ROW		SHELF LIGHTS PER ROW				MAXIMUM LIGHTING*	
				AMPS – (ROWS OF SHELVES)		WATTS – (ROWS OF SHELVES)			
MODEL	CASE LENGTH	AMPS	WATTS	1	2	1	2	AMPS	WATTS
TLSSD	8'	0.50	60.0	0.50	1.00	60.0	120.0	1.50	180.0
TLSSD	12'	0.70	84.0	0.70	1.40	84.0	168.0	2.10	252.0

* For cases with 1 row of canopy lights and 2 rows of shelf lights.

Defrost Data:

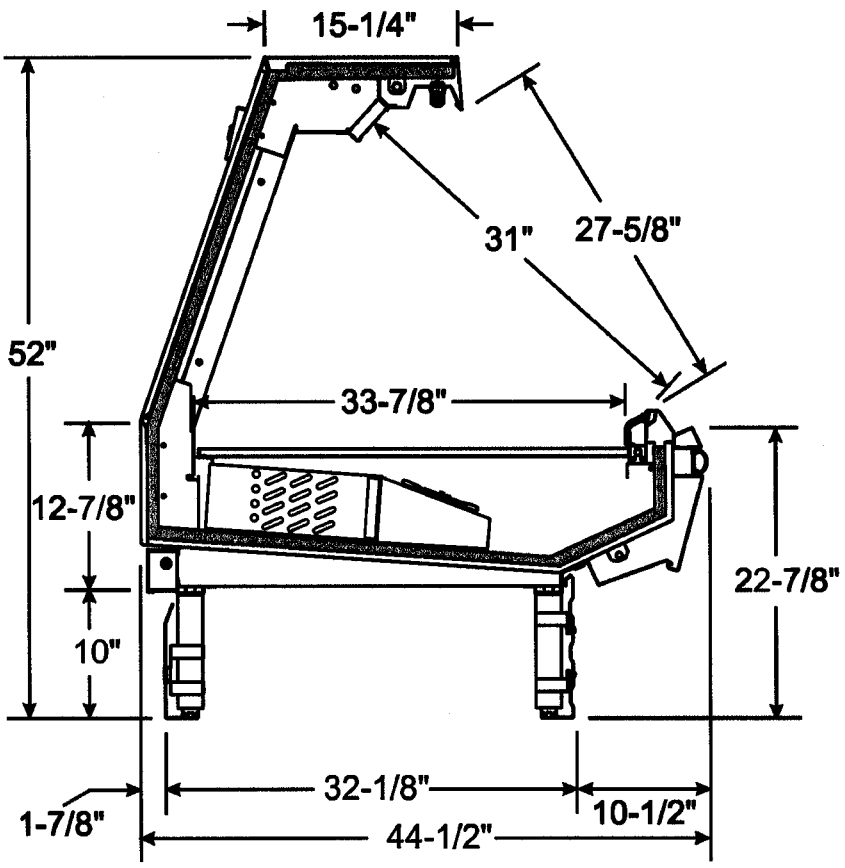
				EPR SETTINGS *	
DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	R22 (PSIG)	R404A (PSIG)
TIME OFF	6	28	N/A	38	56

* Set EPR to give this pressure at the case.

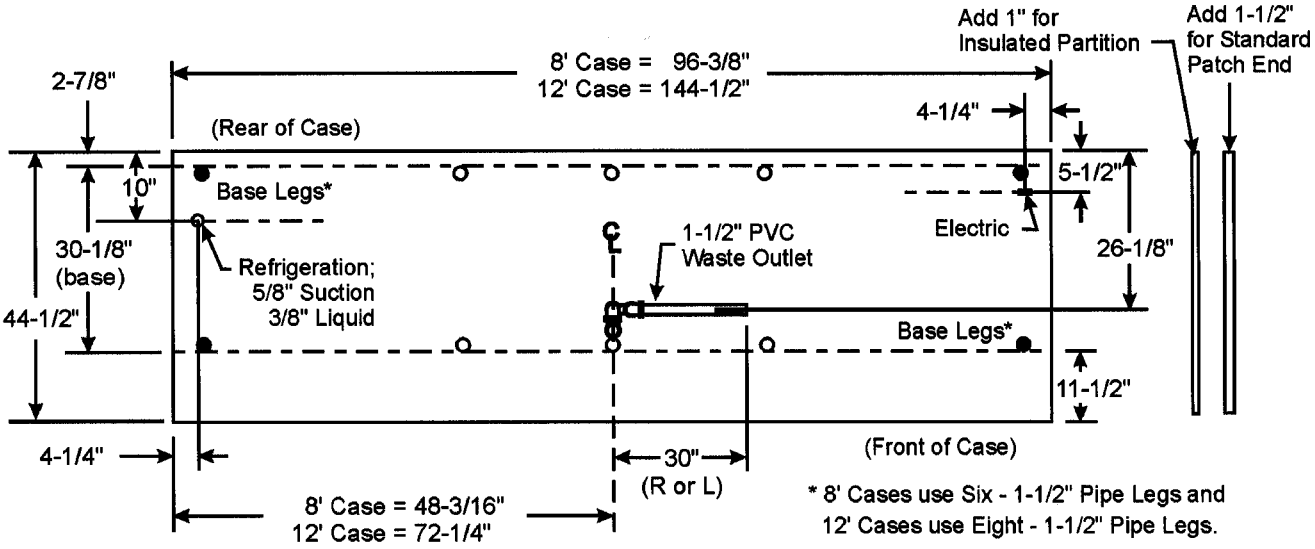
CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING												
MODEL	8'	12'	16'	20'	24	28'	32'	36'	40'	44'	48'	52'
TLSSD	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8

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

TLSSD CROSS SECTION



FLOOR PLAN



Pre-Installation Check List

WARNING

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

NOTE:

Cases are shipped to stores on skids under the base frame. Cases should be unloaded and moved by one of the conventional methods

1. Check for hidden damage while unloading and unpacking of the case.
2. Check the “shipped loose” parts for any items; such as legs, shelves, nuts and bolts, caulking, etc.
3. Check the equipment - remove the screws used to hold down the deck pans during shipping. Remove the pans and check the following, if applicable:
4. Remove all packing material.
5. Check all flare nut connections for tightness.
6. Check all fan bracket bolts for tightness.
7. Check all electrical plug-in connections for positive seal.
8. Make sure the expansion valve feeler bulb is securely attached to the suction line.
9. All field wiring and plumbing MUST conform to national, state, and local codes.
10. Do not remove plugs (from flare nuts) or caps (from threaded connections) until the unit is ready for final hook-up. All coils are pressurized and have a Schrader Valve access fitting. If pressure has been lost, check for leaks.

INSTALLATION PROCEDURES

Carpentry Procedures

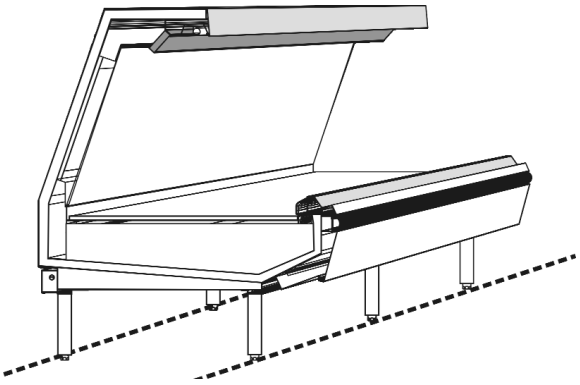
Case Line-Up

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, position and/or install them.**
- **Do not walk on the tops of these cases. Tops of cases are not designed to support the weight of a human being.**

Improper handling of these cases could result in personal injury.



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

NOTE

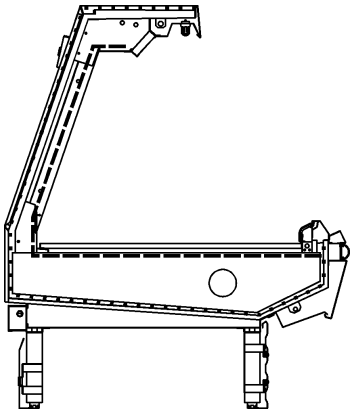
Front and rear edges of legs should always be used to line-up cases. Cases with legs have built-in leveling adjustment capabilities.

2. Cases are shipped on skids. Using a proper lifting devise, lift case off skid and position case where it is to be installed. While the case is properly supported, install legs into threaded holes in base. Make sure all legs are completely threaded into the base to properly secure them. Carefully lower case until it is supported by the legs. Thread out bottom leg insert, up to 1 1/2”, to level the case.

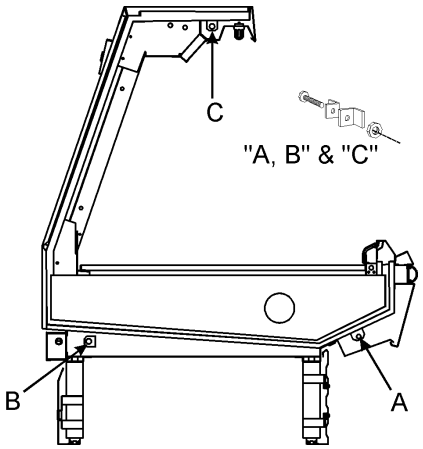
   Check leveling across the top of the case and on top of the front cladding.

NOTE

A foam gasket is factory installed on one end of the case. This gasket fits into a groove on the adjoining case when cases are pulled together. Do not depend on the foam gasket alone to make a good seal!



3. Apply two heavy beads of caulking compound from the Filler Kit to the end of case at dotted (. . .) and dashed (- - -) lines. Proper caulking provides good case refrigeration and sanitation.



4. Push cases tightly together making sure the pull-ups are aligned.

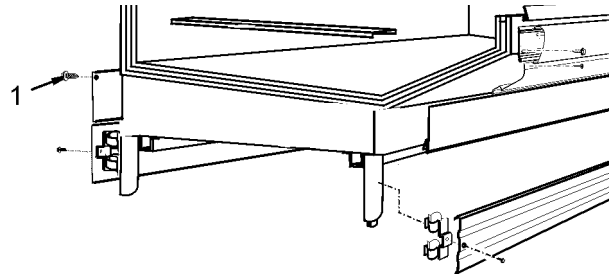
5. Adjust legs as required. Check leveling at top of the case and on top of the front cladding.

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.

6. Position pull-up bolts and mounting hardware at pull-up locations (A, B and C). 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 C. **Do not overtighten.**

Rear Rail Cover & Close-off Installation



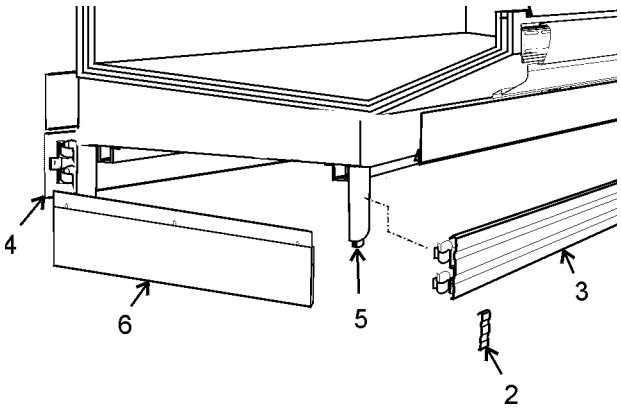
Position rear rail cover (1) over rear raceway opening and secure with screws in every hole.

Bottom and End Close-off Installation

Kickplate, optional rear bottom and end close-offs have spring clips on their back sides that secure to the pipe legs.

NOTE

Optional rear bottom close-offs do not require joint trim.



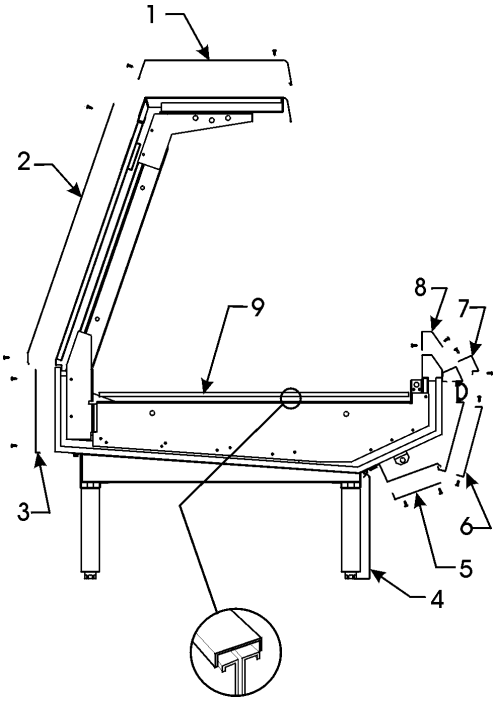
1. Before installing kickplates on a multiple case lineup, snap a joint trim (2) over the top and bottom of one of each kickplate (3).

2. Lineup each kickplate (3) and/or optional rear bottom close-off (4) and push to secure the spring clips to the legs (5).

3. Slide joint rrims (2) over the case-to-case joints.

4. Position end close-offs (6) over the end of the kickplate (3) and/or optional rear bottom close-off (4) and push until the spring clips secure to the legs.

Trim Installation



The joint trim and mounting hardware are shipped loose. Trim includes top joint trim (1), rear upper joint trim (2), rear lower joint trim (3), front kickplate joint trim (4), front lower cladding joint trim (5) and front upper cladding joint trim (6), color band backer (7), hand rail joint trim (8) and horizontal joint trim (9).

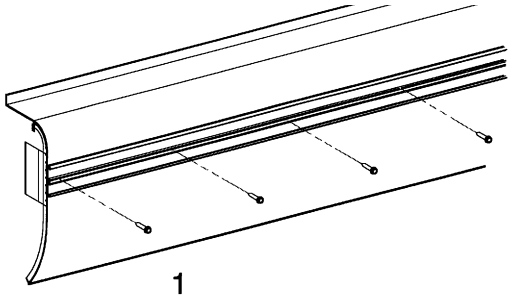
Horizontal joint trim covers gaps between the cases. The trim is glued onto the shipping cardboard. If trim has a notched side, apply trim with notched side towards front of case, after running beads of caulking on the edges of the cases. Sheet metal screws can be used for additional securing.

Patch end trim is shipped factory installed. If field installation is required, be sure the patch end is pulled up enough to fit snuggly against the sealing tubing on the inside of the case. The patch end must seal tightly against the lift glass wiper to ensure proper operating temperatures.

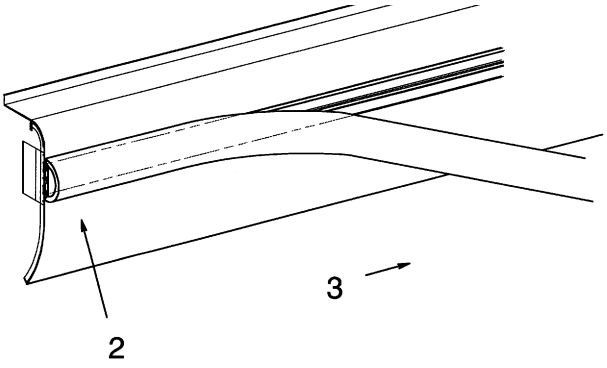
Bumper and Color Band Adjustment

See "General (UL/NSF) I&S Manual" for standard bumper and color band installation and alignment.

Optional 2" Bumper Installation



1. Install bumper retaining track on cladding with screws, if required, using same alignment as old bumper track.



2. Cut vinyl bumper slightly longer than overall length of case line-up. Starting at either end of the case, snap end of bumper onto the bumper retainer track.

3. Curve the bumper back as illustrated. This will open the bumper and allow it to snap onto the retainer track. Working in one direction, "roll" the bumper onto the retainer track. Just before reaching the opposite end, final cut the bumper (approx. 1/8") longer than the bumper retainer. The additional 1/8" length will allow for normal shrinkage from case cooling.

NOTE

Bumper unevenness may be remedied by striking with a mallet and straight board along the length of the installation.

Plumbing Procedures

See "General (UL/NSF) I&S Manual" for Plumbing Procedures.

Refrigeration Procedures

Refrigeration system and superheat instructions can be found in the "General (UL/NSF) I&S Manual".

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 ballast box is located at the lower left rear corner of the case. It houses ballasts and terminal blocks.

Case Fan Circuit

This circuit is to be supplied by an uninterrupted, protected 120V circuit. The case fan circuit is not cycled on this case.

Fluorescent Lamp Circuit

TL case lighting is supplied by T-8 electronic ballast lights. It is controlled by a light switch in each case. The standard lighting is 1-row of horizontal canopy lights.

Defrost Information

See "General (UL/NSF) I&S Manual" for operational descriptions for each type of defrosy control.

Defrost Control Chart

TLSSD Defrost Option Settings

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

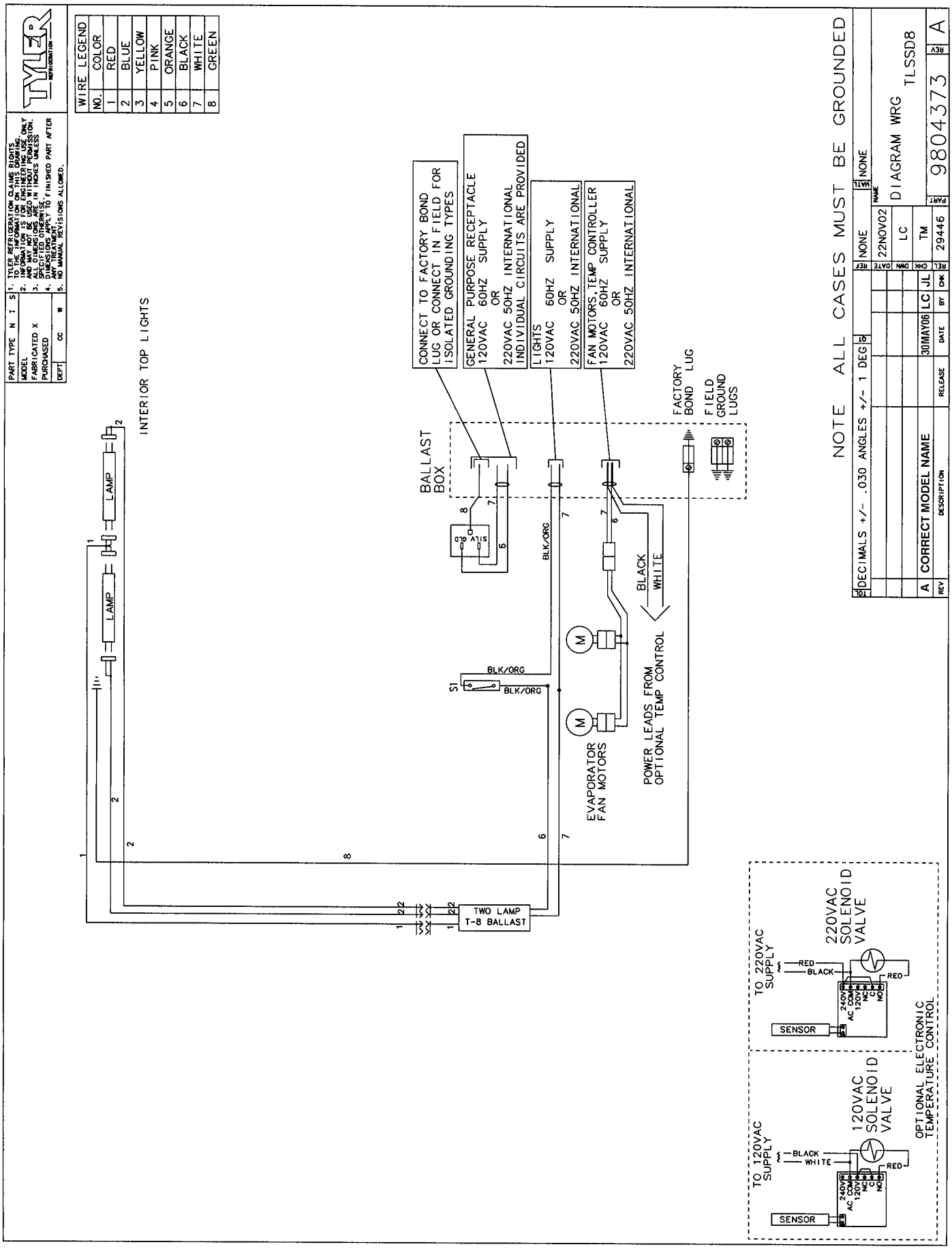
WIRING DIAGRAMS

ELECTRICIAN NOTE - OVERCURRENT PROTECTION

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

The wiring diagrams on pages 10 and 11 will cover all the TLSSD case circuits.

TLSSD Domestic & Export (50 Hz) Case Circuits (8' and 12' Cases)



PART TYPE	N	T	S
MODEL			
FABRICATED	X		
PURCHASED			
DEPT	CC		W

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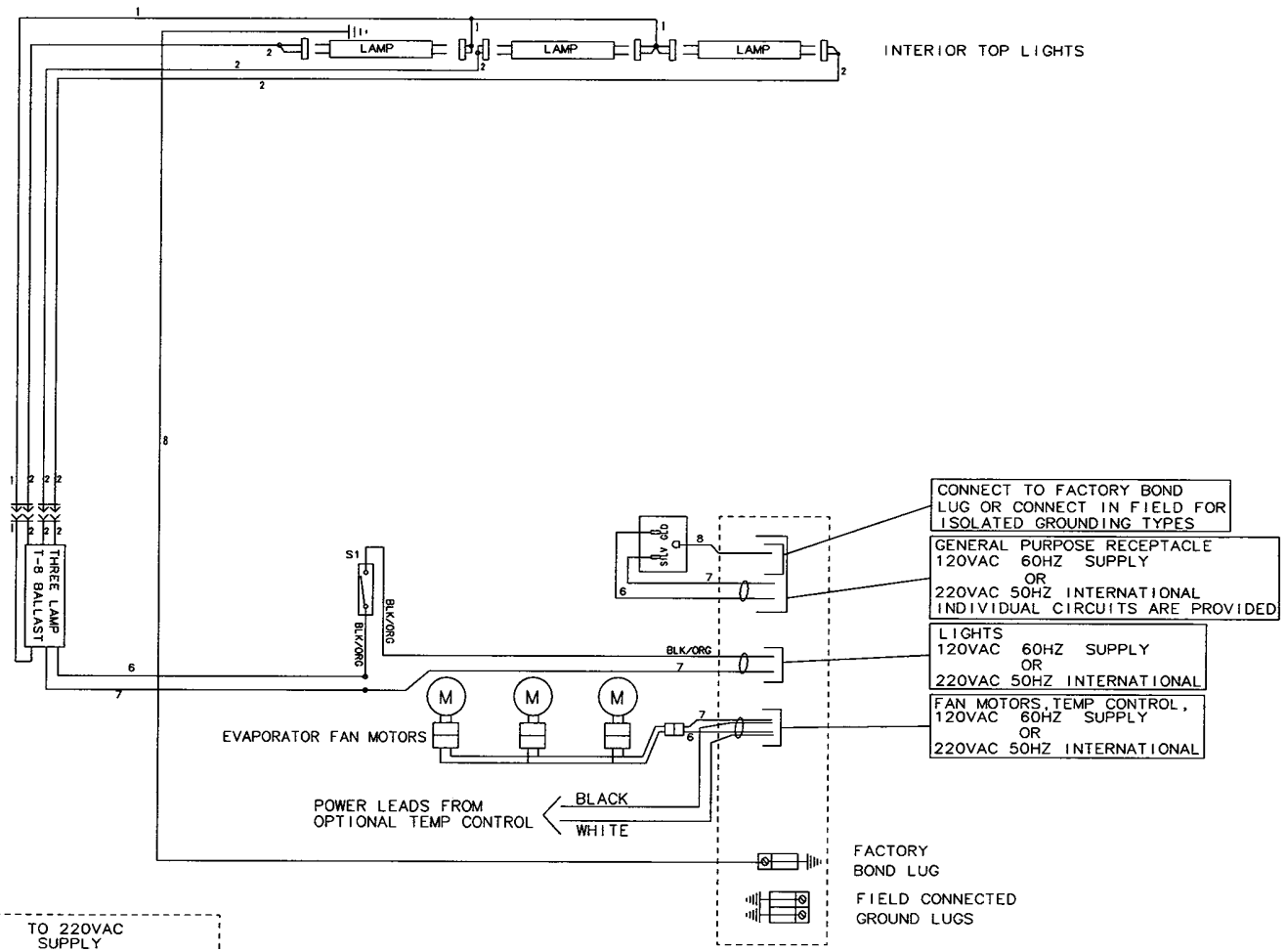
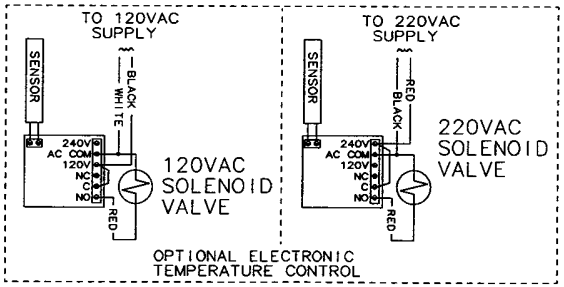
2. INFORMATION IS FOR ENGINEERING USE ONLY AND MAY NOT BE USED WITHOUT PERMISSION.
3. ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE.
4. DIMENSIONS APPLY TO FINISHED PART AFTER ANY TREATMENT.
5. NO MANUAL REVISIONS ALLOWED.

TYLER REFRIGERATION

WIRE LEGEND	
NO.	COLOR
1	RED
2	BLUE
3	YELLOW
4	PINK
5	ORANGE
6	BLACK
7	WHITE
8	GREEN





NOTE: ALL CASES MUST BE GROUNDED

TOL	DECIMALS +/- .030 ANGLES +/- 1 DEG	QT			REF	-	MATL	-
					DATE	22NOV02	NAME	DIAGRAM WRG TLSSD12
					DWN	LC		
A	CORRECT MODEL NAME		30MAY06	LC JL	CHK	TM		
REV	DESCRIPTION	RELEASE	DATE	BY CHK	REL	29446	PART	9804374 REV A

CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Mezzanine Shelves

1. Remove product from the shelves.
2. Grasp and lift mezzanine shelf with captive bracket to release brackets from upright slots and remove shelf assembly from case.
3. After cleaning, replace in reverse order.

Bottom Trays

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

Front Air Ducts

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

Rear Air Ducts

1. Remove bottom trays, see this page.
2. Remove mounting screws from rear air duct.
3. Lift out rear air duct sections.
4. After cleaning, replace in reverse order.

Mullion Covers

1. Remove mounting screws from each mullion cover.

WARNING

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

2. Carefully remove each mullion cover from the rear uprights.
3. After cleaning, replace and secure mullion covers in reverse order.

Discharge Air Honeycomb

NOTE

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

1. Remove screws, bottom retainer plate and honeycombgrid sections from top duct.

CAUTION

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

2. After cleaning, replace honeycomb grid sections as they were removed and secure with bottom retainer plate and screws.

Front Lower Cladding

1. Remove front kickplate.
2. Lift and pull out front lower cladding until rear tabs clear holes in front of frame assembly. After rear tabs are clear, pull down on cladding to clear upper tabs from slots in bottom of upper front cladding and remove cladding from case.
3. After cleaning, replace front lower cladding by inserting top tabs, then rear tabs. Make sure all tabs are securely fit in each slot. Replace front kickplate.

Front Upper Cladding

1. Remove color band, bumper and bumper retainer from the case. See page 17.
2. Remove front kickplate.
3. Remove screws and front lower cladding. See this page.
4. Remove screws from top and bottom of front upper cladding and remove front upper cladding.
5. After cleaning, replace front upper cladding and remaining front components in the reverse order.

Cleaning Instructions

WARNING

TYLER Refrigeration does not recommend the use of high pressure cleaning equipment on service style cases!! The sealing of front glass and end joints is critical in these cases and high pressure cleaners can penetrate and/or damage these seals. Damaged seals allow water leaks and/or air leaks that can cause poor case refrigeration.

CAUTION

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

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

Stainless Steel Cleaning Methods

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

TYPE OF CLEANING	CLEANING AGENT*	APPLICATION METHOD**	EFFECT ON FINISH
Routine cleaning	Soap, ammonia or detergent and water.	Sponge with cloth, then rinse with clear water and wipe dry.	Satisfactory for use on all finishes.
Smears and fingerprints	Arcal 20, Lac-O-Nu, Lumin Wash O'Cedar Cream Polish, Stainless Shine	Rub with cloth as directed on the package.	Satisfactory for use on all finishes. Provides barrier film
Stubborn spots and stains, baked-on splatter, and other light discolorations	Allchem Concentrated Cleaner	Apply with damp sponge or cloth.	Satisfactory for use on all finishes.
	Samae, Twinkle, or Cameo Copper Cleaner	Rub with damp cloth.	Satisfactory for use on all finishes if rubbing is light.
	Grade FFF Italian pumice, whiting or talc	Rub with damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Liquid NuSteel	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Paste NuSteel or DuBois Temp	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Cooper's Stainless Steel Cleaner, Revere Stainless Steel Cleaner	Apply with damp sponge or. cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.

TYPE OF CLEANING	CLEANING AGENT*	APPLICATION METHOD**	EFFECT ON FINISH
	Grade F Italian pumice, Steel Bright, Lumin Cleaner, Zud or Restoro	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Penny-Brite or Copper-Brite	Rub with a dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
Heat tint or heavy discoloration	Penny-Brite or Copper-Brite	Rub with a dry cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Paste NuSteel or DuBois Temp	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Revere Stainless Steel Cleaner	Apply with a damp sponge or cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Allen Polish, Steel Bright, Wyandotte, Bab-O or Zud	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
Burnt-on foods and grease, fatty acids, milkstone (where swabbing or rubbing is not practical)	Easy-Off, De-Grease-It, 4-6% hot solution of such agents as trisodium tripolyphospate, or 5-15% caustic soda solution	Apply generous coating. Allow to stand for 10-15 min. Repeated application may be necessary.	Excellent removal, satisfactory for use on all finishes.
Tenacious deposits, rusty discolorations, industrial atmospheric stains	Oakite No. 33, Dilac, Texo 12, Texo N.Y., Flash-Klenz, Caddy Cleaner, Turco Scale 4368 or Permag 57.	Swab and soak with clean cloth. Let stand 15 minutes or more according to directions on package. Rinse and dry.	Satisfactory for use on all finishes.
Hard water spots and scale	Vinegar	Swab or wipe with a cloth. Rinse with water and dry.	Satisfactory for use on all finishes.
	5% oxalic acid, 5% sulamic acid, 5-10% phospheric acid, or Dilac, Oakite No. 33, Texo 12 or Texo N.Y.	Swab or soak with a cloth. Let stand 10-15 minutes. Always follow with neutralizer rinse, and dry.	Satisfactory for use on all finshes. Effective on tenacious deposites or where scale has built up.
Grease and oil	Organic solvents such as carbon tetrachloride, trichlorethylene, acetone, kerosene, gasoline, benzene, alcohol and chlorethane n.u.	Rub with a cloth. Organic solvents may be flammable and/or toxic. **Observe all precautions against fire. Do not smoke while vapors are present. Be sure area is well ventilated.**	Satisfactory for use on all finishes.

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

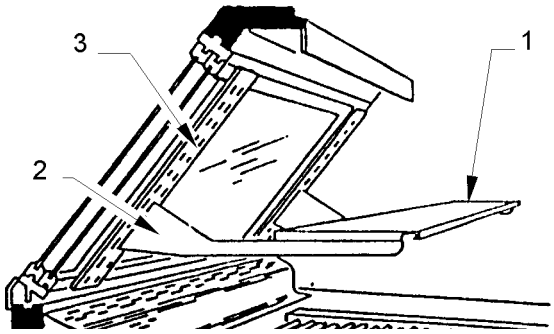
**** In all applications a sponge or fibrous brush or pad are recommended. DO NOT use ordinary steel wool, steel brushes, chlorine bleach or products containing bleach forcleaning or sanitizing stainless steel.**

GENERAL INFORMATION

Mezzanine Shelving

Mezzanine shelves are available in 10” or 12” widths. Two levels of shelving is available for TLSSD cases. The shelves can be moved forward from the mullions in two inch increments and can be locked into three positions.

Price tag moldings will be attached to the front of each mezzanine shelf with screws. To clean the price tag molding, remove screws and molding from shelves. After cleaning, reattach molding to shelves with screws.



To install mezzanine shelving, position and insert the mezzanine shelf (1) and captive shelf brackets (2) into slots in the uprights (3).

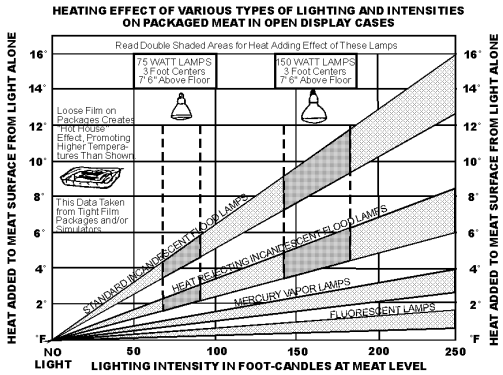
NOTE

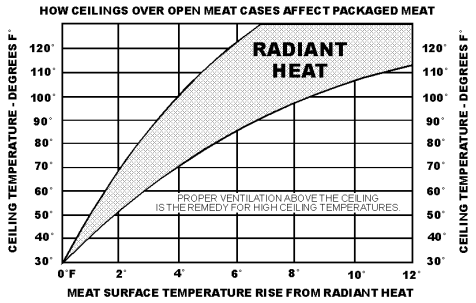
The brackets can be moved vertically at 1” increments in the uprights.

Lighted Shelves

Lights are optional on the 10” and 12” mezzanine shelves. Wiring harnesses for all shelf locations are factory installed. Ballasts are optionally supplied for all shelf light sockets. The ballasts are located in the rear raceway channel behind the rear rail cover.

Radiant Heat Information





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

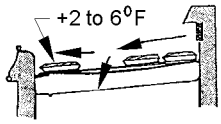
It is generally known that the temperature of displayed meat in refrigerated cases will run higher than the circulated air temperature of the cases. A dial thermometer stuck into the center of a piece of meat compared with one in the air stream quickly confirms this fact. Another fact is that the surface temperature of the meat will be higher than the center temperature due to radiant heat. TYLER’s ongoing research identifies sources of radiant heat and accurately measures and records it. These charts were developed from the information gathered during this research. Two major sources of radiant heat are from display lights and ceiling surfaces. Additional heat sources come from bad display practices which either overload the case with product or allow voids in the product display. Poor display practices impair the efficiency of the refrigeration, adding to the surface temperature of the meat. Bacteria and molds grow when surface

temperatures rise above 45°F. This prematurely discolors displayed meats and causes unnecessary meat department losses.

Radiant Heat Measurement

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

Display Practices



Voids in display raise surface temperature of package in front of void 2 to 6⁰ F.

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

Connecting the Refrigeration Piping and Components

WARNING

Be sure to position a flame and heat-resistent shield over the bottom of the case liner. Heat from brazing could damage the liner and/or cause personal injury or death from fire.

1. Remove screws and refrigeration piping cover from the left bottom of the case.
2. Position loose refrigeration piping and/or optional valves between the open lines in the bottom and upright of the case.

NOTE

- **Make sure all sensor and thermostat wires are clear of areas being heated.**
- **Mount all refrigeration lines off the floor to allow for cleaning access.**

3. Apply flux to all joint ends. Starting at one end, thoroughly heat each new pipe joint and braze it together. Repeat this process until all new pipe joints have been brazed.
4. After piping has cooled, route and connect thermostat and sensor wires through openings in the bottom of the case.

Light Servicing

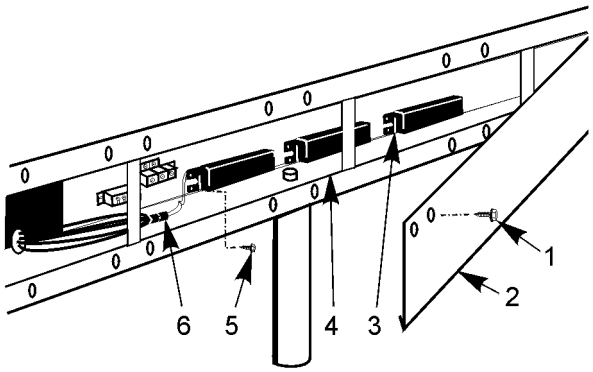
See "General (UL/NSF) I&S Manual" for preventive maintenance, T-8 lamp, fan blade and fan motor replacement instructions replacement.

Ballast and Lighting Locations

All light ballasts are located in the rear raceway channel behind the rear cover.

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

Ballast Replacement



1. Remove screws (1) and rear rail cover (2) from rear of case.

NOTE

If tappit screws are not available, a starwasher should be used between the ballast and the heads of the screws.

2. Install required number of ballasts (3) in rear electrical raceway (4) with two screws (5) each.
3. Identify and connect required wiring harnesses (upper, lower, etc...) to the ballast connectors (6).
4. Replace rear rail cover (2) and secure with screws (1).

Color Band, Bumper and Bumper Retainer Replacement

NOTE

Color band, bumper and bumper retainer must be removed to access the upper screws in the front upper cladding.

1. Remove screws, color band and color band backers from hand rail assembly.
2. Push in on center of bumper while pulling out on bottom of bumper. This will start to separate bumper from bumper retainer.
3. Make sure the bottom of the bumper is released from the bumper retainer for the full length of the case.
4. After bottom is released, firmly pull out top of bumper to snap it free from bumper retainer.
5. Remove bumper backers from both ends of the bumper
6. Mark position of the bumper retainer on front of case.
7. Remove mounting screws and bumper retainer from front of case.

NOTE

Bumper backer and color band backer must be installed in same position as removed to assure proper fit and alignment during installation.

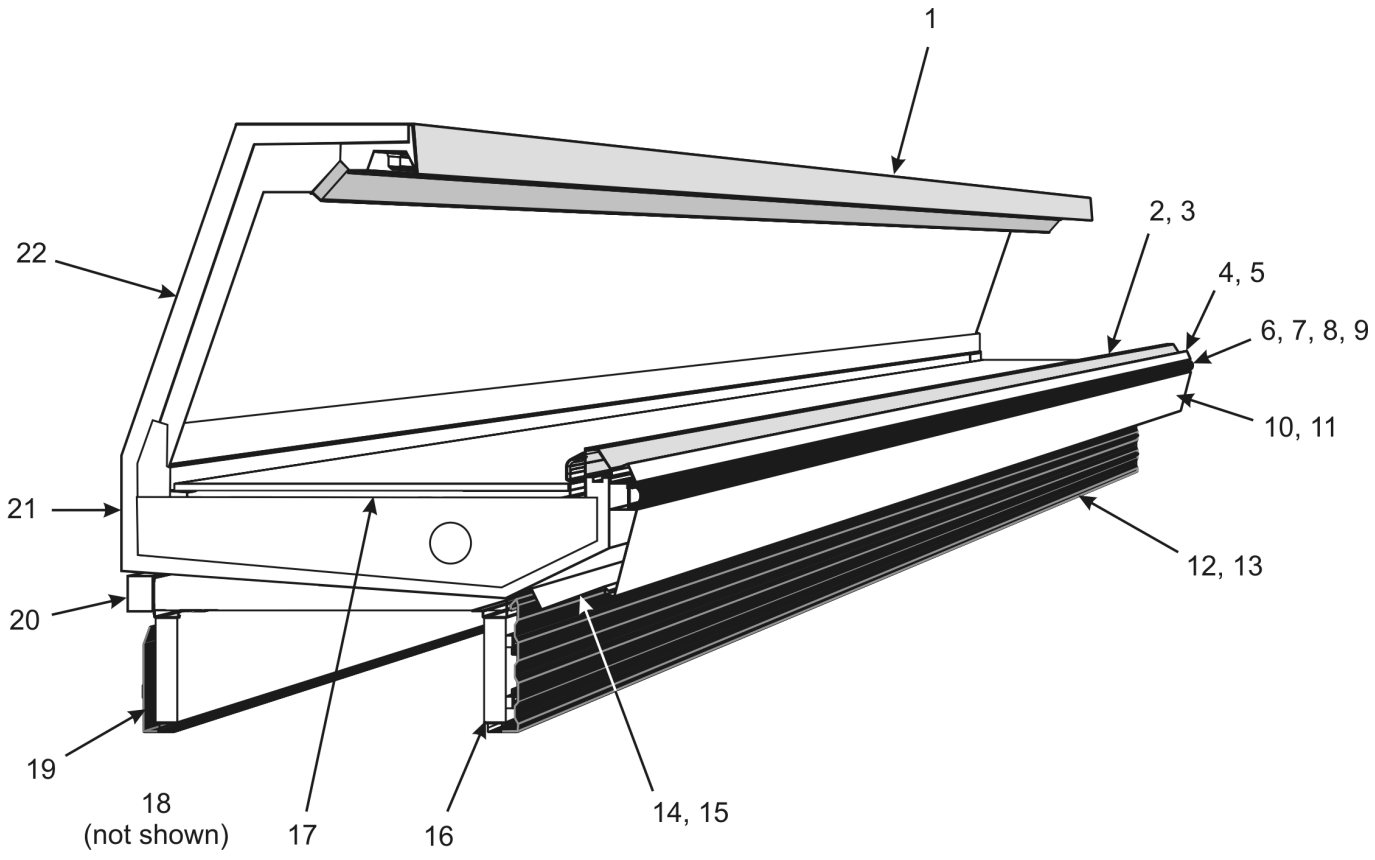
8. Install bumper retainer on front of case with mounting screws in same position as removed.
9. Position bumper backers in ends of bumper sections still installed, so half of the bumper backers are still exposed.
10. Replace the bumper on the bumper retainer.
11. Position color band backers under ends of color bands still installed, so half if the color band backer is still exposed.
12. Replace color band on hand rail assembly and secure with screws.

PARTS INFORMATION

Cladding and Trim Parts List

Item	Description	8'	12'
1	Rear Top Cladding, MB/SS	9804308	9804310
2	Hand Rail, MB/SS	9804371	9804372
3	Hand Rail Joint Trim, MB/SS	9801774	9801774
4	Color Band, Ptd.	9804280	9804284
5	Color Band Joint Trim, Ptd.	9801776	9801776
6	Bumper Retainer, Std.	9801302	9801610
	Bumper Retainer, Opt. Adv.	9025058	9025061
7	Screw	5183536(16)	5183536(24)
8	Bumper, Std. 2"	9801303	9801609
	Bumper, Opt. Adv.	--- color per order ---	
9	Bumper Backer, Opt. Adv.	--- color per order ---	
10	Upr. Frt. Cladding, Ptd. Std.	9800726	9801604
	Upr. Frt. Cladding, Opt. Adv.	9802965	9802969
	Screw	5183536(9)	5183536(11)
11	Upr. Frt. Clad. Joint Trim Std.	9801780	9801780
	Upr. Frt. Clad. Joint Trim, Opt.	9802990	9802990
	Screw	9024814(4)	9024814(4)
12	Frt. Kickplate Assembly, Std.	9801630	9801631
	Frt. Kickplate Assembly, Opt.	9803566	9803567
13	Kickplate Joint Trim, Std	9801770	9801770
	Screw	5619204(4)	5619204(4)
14	Lwr. Frt. Cladding, Std. Ptd.	9804288	9804292
	Lwr. Frt. Cladding, Opt. Ptd.	9803257	9803561
15	Lwr. Frt. Cladding Joint Trim	9801784	9801784
	Opt. Frt. Cladding Joint Trim	9803249	9803249
	Screw	9024814(4)	9024814(4)
16	Pipe Leg, Std. (2" X 9.75")	9024894(6)	9024894(8)
	Pipe Leg, Opt. (2" X 6.00")	9024893(6)	9024893(8)
17	Horizontal End Trim	9037279	9037279
18	Base End Close-off, Ptd. (per patch end)(not shown)	9801852	9801852
	Opt. Base End Close-off, Ptd. (per patch end)(not shown)	9803177	9803177
19	Opt. Rear Closeoff Assy., Std.	9024935	9024936
	Opt. Rr. Kickplate Assy., Opt.	9024964	9024965

Item	Description	8’	12’
20	Raceway Cover, Ptd.	9801263(2)	9801263(3)
	Screw	9043080(10)	9043080(15)
21	Lwr. Rear Joint Trim, Ptd.	9801802	9801802
	Screw	9024814(4)	9024814(4)
	Opt.Lwr. Rr. Joint Trim, BRT SST	9802645	9802645
	Screw	5199134(4)	5199134(4)
22	Upr. Rear Joint Trim, Ptd.	9801806	9801806
	Screw	9024814(4)	9024814(4)



Operational Parts List

Case Usage	Domestic	
Electrical Circuit	115 Volt 60 Hertz	
Case Size	8’	12’
Fan Motor	5243498 9 Watt	5243498 9 Watt
Fan Motor Brackets	5962268	5962268
Fan Bracket Plate	9041077	9041077
Fan Blades (7” 35° 5B)	9044934	9044934
Opt. ECM Fan Motor	9025002 8 Watt	9025002 8 Watt
Opt. ECM Fan Motor Brackets	9025005	9025005
Opt. ECM Fan Blades (7” 30° 5B)	9045855	9045855
Rocker Switch	5961377	5961377
Rectangular Outlet	5236335	5236335
T-8 Lamp Ballast (canopy)(1-row)	5991029	5991030
(opt. shelf)(per row)	5991029	5991030
T-8 Lampholder (canopy)	9041897	9041897
T-8 Shelf Harness	9027906	9027906
Suction Solenoid Valve	5191445	5191445
Electronic Thermostat	9043552	9043552

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