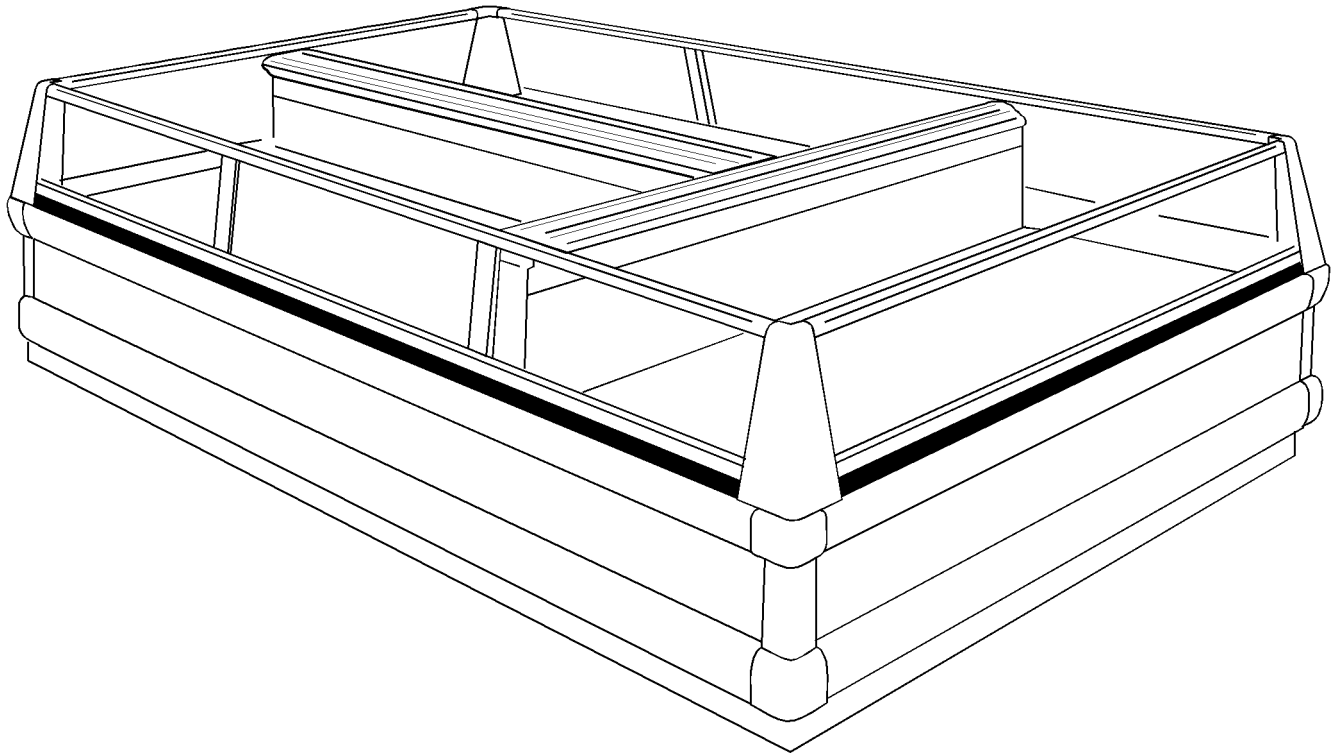


# TYLER

# 1series Advantage

## Installation & Service Manual



**NFJG, NCJG, NTJG, NFMJG, NFJGE, NCJGE**

**GLASS FRONT JUMBO ISLAND MERCHANDISERS  
Low and Split Temperature Self Serve Display Cases**

**This manual has been designed to be used in conjunction with the General  
(UL/NSF) Installation & Service Manual.**

**Save the Instructions in Both Manuals for Future Reference!!**

This merchandiser conforms to the American National Standard Institute & NEF International Health and Sanitation standard ANSI/NSF 7 - 1999.

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The following Low and Split Temperature Frozen Food and Ice Cream Merchandiser models are covered in this manual:

MODEL	DESCRIPTION
NFJG	8' & 12' GLASS FRONT JUMBO ISLAND FROZEN FOOD MERCHANDISER
NCJG	8' & 12' GLASS FRONT JUMBO ISLAND ICE CREAM MERCHANDISER
NTJG	8' & 12' GLASS FRONT JUMBO ISLAND SPLIT TEMP MERCHANDISER
NFMJG	8' & 12' GLASS FRONT JUMBO ISLAND SPLIT TEMP MERCHANDISER
NFJGE	GLASS FRONT JUMBO ISLAND FROZEN FOOD END MERCHANDISER
NCJGE	GLASS FRONT JUMBO ISLAND ICE CREAM END MERCHANDISER

**SPECIFICATIONS**

NFJG/NCJG/NTJG/NFMJG Glass Frt Jumbo Island FF & IC Merchandiser  
NFJGE/NCJGE Glass Front Jumbo Island FF & IC End Merchandiser

MODEL	NFJG	NCJG	NFJG	NFJG/NFMJG	NTJG
USAGE	FF	IC	MED TEMP	DUAL (FF/MED)	TWIN (FF/IC)
CAPACITY (BTUH/FT)	738	895	594	369 / 297	369 / 448
EVAPORATOR**	-25F	-35F	+15F	-25F / +15F	-25F / -35F
ENTER AIR°	-15F	-25F	+22F	-15F / +22F	-15F / -25F

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

NOTE: COMPRESSOR SIZING SHOULD ALLOW FOR SUCTION LINE PRESSURE DROP.

THE ABOVE RATINGS ARE FOR COMPRESSOR SELECTION ONLY. FOR ENERGY CALCULATION DATA REFER TO THE ENERGY SECTION. 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
FF/MED 1 PH	13.8 TG-30	20.6 TG-30	27.6 TG-40	34.4 TG-50	41.2 TG-50	N/A	N/A	N/A	N/A	N/A	N/A
FF/MED 3 PH	12.0 TG-3-30	18.0 TG-3-30	18.0 TG-3-30	21.0 TG-3-40	27.0 TG-3-50	30.0 TG-3-40	33.0 TG-3-50	36.0 TG-3-50	42.0 TG-3-50	24/24 TG-3-40-40	27/27 TG-3-40-40
IC 1 PH	27.6 TG-40	41.2 TG-50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IC 3 PH	24.0 TG-3-30	36.0 TG-3-50	36.0 TG-3-50	42.0 TG-3-50	36/36 TG-3-50-50	30/30 TG-3-40-40	36/36 TG-3-50-50	36/36 TG-3-50-50	42/42 TG-3-50-50	N/A	N/A
CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING											
R404A FF	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"	1 5/8"
R404A IC	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"
R22 MED	1/2"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"

DEFROST CONTROL				BACKUP PRESSURE SETTINGS**			EPR SETTINGS***	
PER DAY	MODE	TIME	TERM.		CUT IN	CUT OUT	R22	R404A
1	ELECT / FF	60 MIN.	50F	FF	12# @ R404A	2# @ R404A	---	14#
1	ELECT / IC	36 MIN.	50F	IC	6# @ R404A	1# @ R404A	---	8#
1	ELECT / MED	36 MIN.	50F	MED	34# @ R22	24# @ R22	37#	---
2-3	HOT GAS / FF	20-25 MIN.	55F*	FF	12# @ R404A	2# @ R404A	---	14#
1	HOT GAS / IC	25-30 MIN.	55F*	IC	6# @ R404A	1# @ R404A	---	8#
2-3	HOT GAS / MED	20-25 MIN.	55F*	MED	12# @ R22	24# @ R22	37#	---

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

\*\* Used with Electronic Thermostat and EPR Control. \*\*\* Set EPR to give this pressure at the case.

**CASE CIRCUITS:** In addition to the 208V defrost circuit, there is the 120V case fan circuit plus the 120V case anti-sweat heater circuit. Shelf or canopy lights require a separate 120V circuit which can be switched at the back room for convenience in controlling the lights.

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

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.

**NFJG/NCJG/NTJG/NFMJG Glass Frt Jumbo Island FF & IC Merchandiser**  
**NFJGE/NCJGE Glass Frt Jumbo Island FF & IC End Merchandiser**

120 VOLT ELECTRICAL DATA (AMPS)					
FT	STD. FANS	ECM FANS	ANTI-SWT	ANTI-SWT W/SUPER STRUCTR	HEATED GLASS
8	2.0	.8	3.8	4.9	1.3
12	3.0	1.2	5.0	6.6	2.0

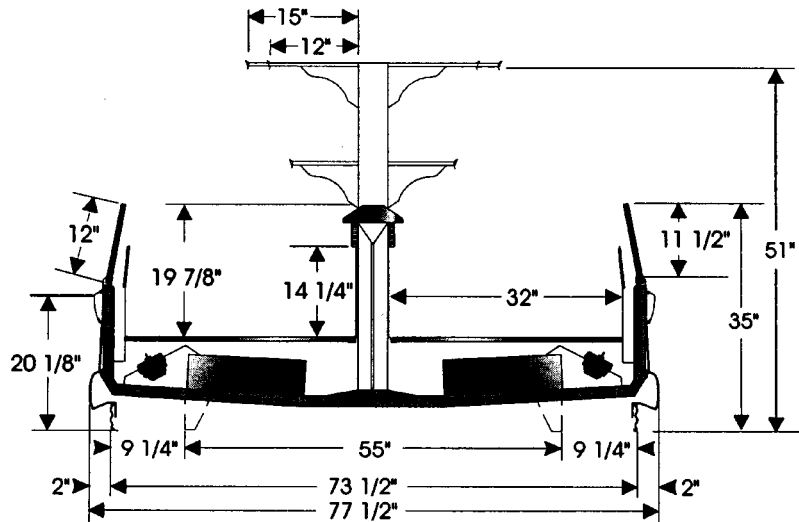
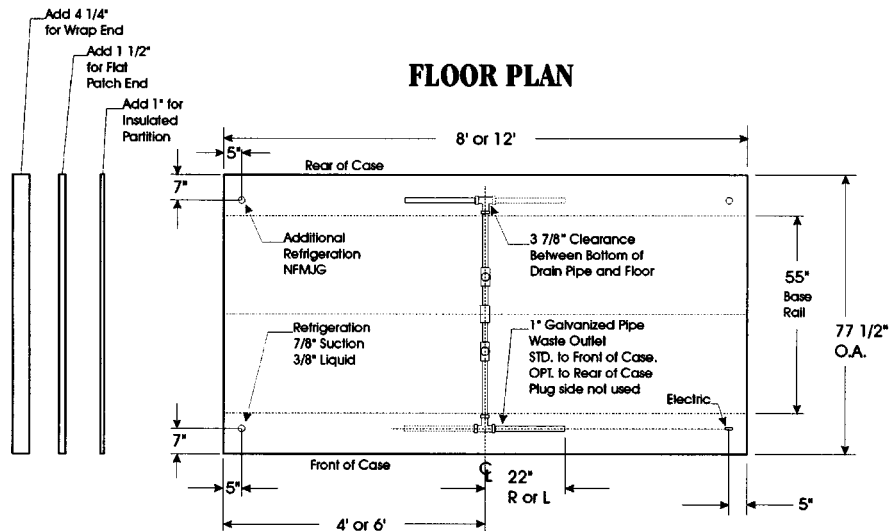
120 VOLT LIGHTING DATA	
FT	OPTIONAL SHELF LIGHTS PER ROW (AMPS)
8	2.0
12	3.0

NOTES FOR NFJG, NFMJG OR NTJG SPLIT TEMP OPERATIONS	
<b>FF/IC TEMP;</b>	1 side frozen food/ 1 side ice cream (must use synchronized defrost)
<b>(NTJG)</b>	(Frozen food 369 BTUH/FT @ -25F Evap. & Ice cream 448 BTUH/FT @ -35F Evap.)
<b>FF/MED TEMP;</b>	1 side frozen food/ 1 side medium temp. (must use synchronized defrost)
<b>(NFJG/NFMJG)</b>	(Frozen food 369 BTUH/FT @ -25F Evap. & Medium temp. 297 BTUH/FT @ +22F Evap.)
<i>These values are based on one foot of case, with each side of the case considered separately. Add the totals from both sides to calculate the load for the entire case.</i>	
<b>DEFROST WIRING:</b>	There are two heater circuits in each case. The heater wiring stubs out in the 208V raceway as two pairs of wires. Defrost circuits can therefore be wired as a single phase load or they can be wired as an unbalanced 3-phase load. The 3-phase defrost information is based on dividing the heater loads as evenly as possible across the phases.
<b>NOTE:</b>	Optional shelving superstructures with lights have the same electrical requirements per row of lights as the amps shown. A separate electrical supply for the superstructure lights must be provided since there is no plug in from the superstructure to the case.
<b>TWIN-TEMP NOTES:</b>	The NTJG & NFMJG both have split refrigeration coils with dual refrigeration stub-ups. The NTJG model has two electric defrost heaters per side and can be used for twin temp by using separate refrigeration systems on each coil. The NFMJG has one electric defrost heater per side and can be used for medium temp on one side and frozen food on the other.
	Disconnect the heated glass when using this case at medium temp operation. Cases with dual temp controls will do this automatically.

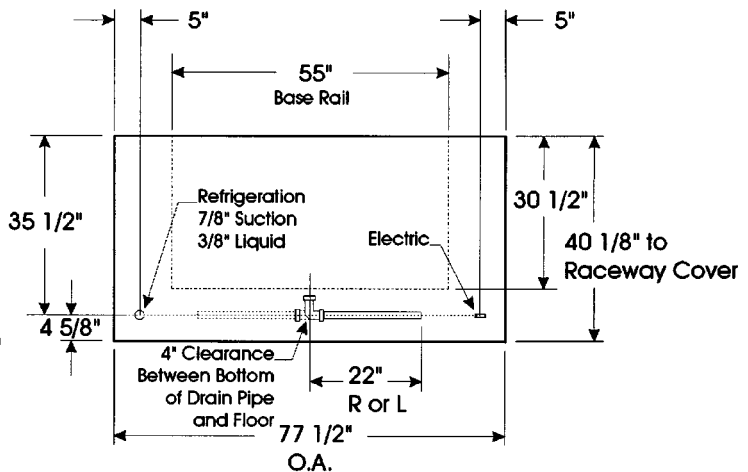
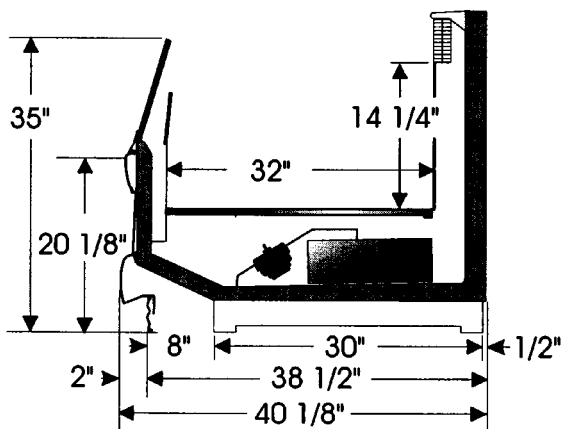
END CASE ELECTRICAL AND REFRIGERATION DATA							
MODEL	USE	BTUH REQUIRED	120V FANS (AMPS)		120V ANTI-SWEAT (AMPS)	208V DEFROST (AMPS)	120V DRN HTR (AMPS)
			STD	ECM			
NFJGE	FF	3120 @ -25F	1.0	.4	2.9	8.6	.1
NCJGE	IC	4080 @ -35F	1.0	.4	2.9	8.6	.1
NFJGE	MED	2600 @ +15F	1.0	.4	2.9	8.6	.1

**ADD 0.4 amps to the adjacent case for the End Case Superstructure Anti-Sweats. If the End Case Superstructure has lights, ADD an additional 0.3 amps to the adjacent case.**

NFJG/NCJG/NTJG/NFMJG Glass Frt Jumbo Island FF & IC Merchandiser  
NFJGE/NCJGE Glass Frt Jumbo Island FF & IC End Merchandiser



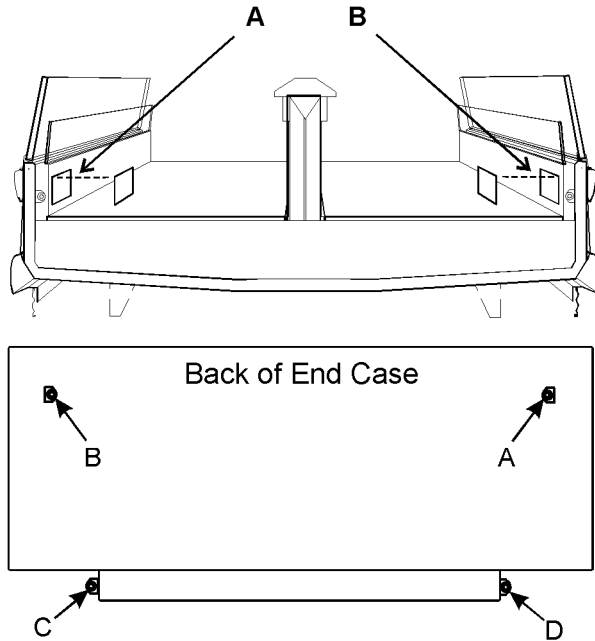
END CASE FLOOR PLAN



## INSTALLATION PROCEDURES

### Carpentry Procedures

#### Case Pull-Up Locations



The NFJG/NCJG/NTJG/NFMJG models have four pull-ups at each end of the case. Top two for adjoining main cases or bottom two for adjoining end cases. The NFJGE and NCJGE models have four pull-ups at the rear of the case. Pull-ups A and B or A, B, C and D are located as shown and should be installed and tightened starting with A and finishing with B or D.

#### 1" Solid Partition

A 1" insulated partitions is required between adjacent gas defrost cases that are on different defrost schedules. 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.

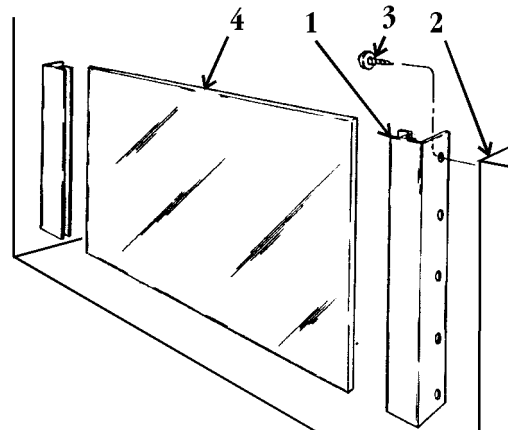
Apply sealant to outside surface of partition where the two surfaces of the adjoining case will contact the partition.

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

After all case pull-ups have been secured, all interior wall joint seams should be sealed with duct tape.

#### Plexiglas Partition

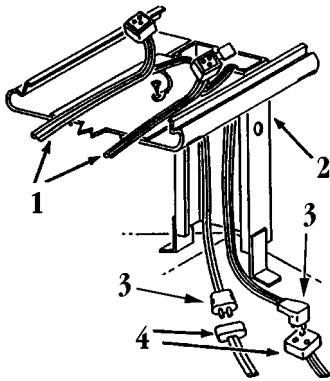
A plexiglas plug partition is required on adjacent electric defrost cases that are on different defrost schedules. These partitions can be installed after the cases have been joined.



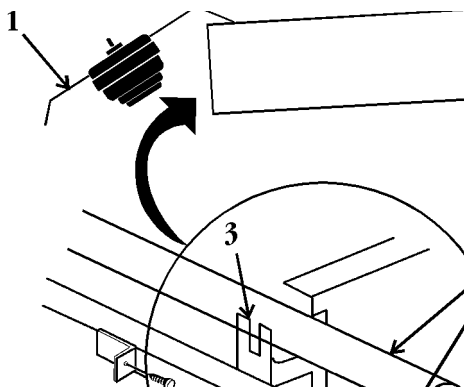
1. Install partition brackets (1) at case joint on front, center and/or rear case wall (2) with screws (3)
2. Slide plexiglas partitions (4) into partition brackets (1).

**Superstructure Installation**

Make sure top riser caps and discharge grids are removed. Clear insulation on top of the center partition from the superstructure end sockets and the upright support angles.



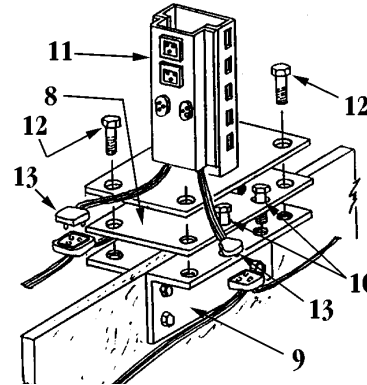
1. If the wiring harness has not been factory installed, remove insulation from top of center riser and lay wire harnesses (1) on top of the center partition (2). The 8' harness has three female plugs and one male plug. The 12' harness has four female plugs and one male plug. There is one harness for shelf anti-sweat heaters and one for the shelf lights. The sockets are not interchangeable. The anti-sweat harness male plug connects at the RH post socket. The light harness male plug goes down the RH post socket (3) and plugs into the matching receptacle in the 115V case wiring block (4). Replace insulation.



2. Position the RH end post (5) in the RH superstructure hole in the center riser (3). Install the two plugs (6) and push them into the insulation. Push down the RH end post (5) until it seats into the center riser (3) and secure with four bolts (7).

**NOTE**

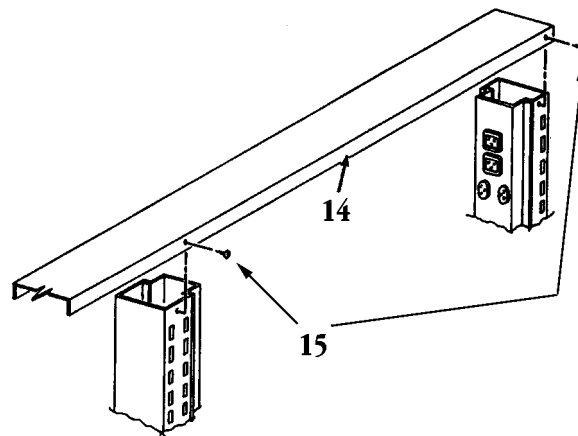
On 12' cases, the electrical outlets on the center posts must face the end posts.



3. Install the base plate (8) to the angle brackets (9) with four bolts (10). Install and align the center upright (11) to base plate (8) and angle brackets (9) with four adjustment bolts (12). The center uprights may face in either direction. Connect upright wire plugs (13) to harness. Route wires and harness around the uprights in the insulation.
4. Install LH end post as described in step 2.

**NOTE**

Notches on upright alignment channel will help position the channels properly.

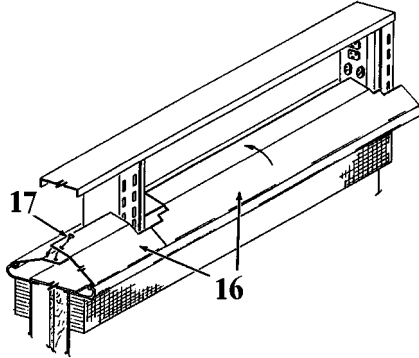


5. Position the upright alignment channel (14) on top of the upright posts. Using the holes in the upright alignment channel as a guide, drill 1/8" pilot holes in the upright posts and secure with screws (15).

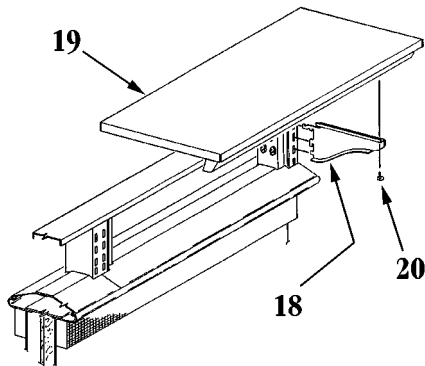


**NOTE**

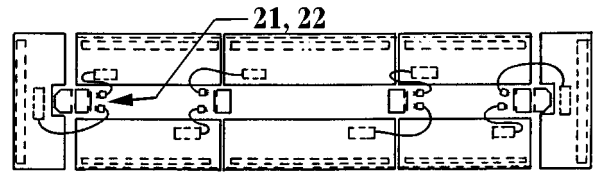
Notches on top riser caps will help position the caps properly.



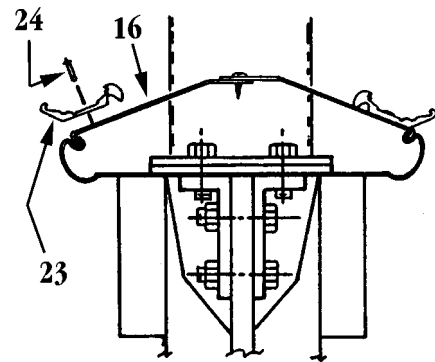
6. Install top riser caps (16) on top of the center partition. Drill pilot holes in the top center of the two riser caps and secure with screws (17).



7. Install each pair of shelf brackets (18) in slots in upright posts. Use one RH and one LH bracket per shelf. Superstructures with end shelves have angled brackets on the end shelf uprights.
8. Position shelves (19) on shelf brackets (18) and install front alignment screws (20).
9. Install shelving close-offs in space between shelves. The close-offs are supported by the shelf brackets. If end close-offs are supplied, they are also secured to the shelf brackets.



10. Plug in the shelf anti-sweat heaters (21) and shelf lights (22)



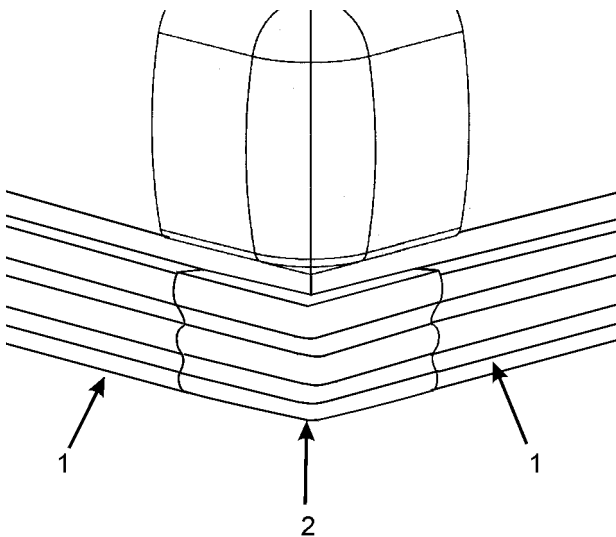
11. Position card moldings (23) as shown and drill 1/8" pilot holes in riser caps (16). Secure card moldings (23) to riser caps (16) with screw (24).

**Trim Installation/Alignment**

See "General-UL/NSF I&S Manual" for bumper, color band, raceway and kickplate installation.

**Corner Trim Installation**

Most corner trim on these cases comes factory installed. The kickplate corner trim requires field installation.

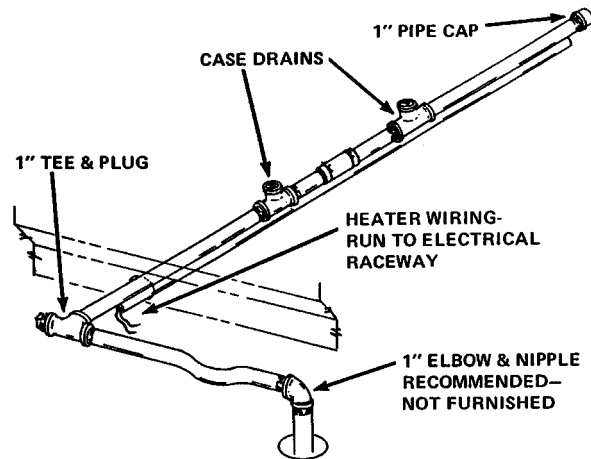


After kickplates (1) have been installed, slide kickplate corner trim (2) into both ends of the kickplates (1)

**Plumbing Procedures**

See "General-UL/NSF I&S Manual" for recommended drain practices.

**Waste Outlet Heater**



These cases require a waste outlet heater. A 16 Watt heater is located inside a pipe just below the 1" waste pipe and runs from one side to the other. The heater wires run into the case raceway and are to be connected to the fan circuit leads when wiring the cases.

**Refrigeration Procedures**

See "General-UL/NSF I&S Manual" for general system, control and superheat information.

There are four standard versions of the 8' and 12' cases.

NFJG is for frozen food or medium temp. usage and is equipped with one electric defrost heater on each side. The entire case, or each individual well, is run from a single refrigeration system. The NFJG will operate at low or medium temperatures.

NCJG is for ice cream usage and is equipped with two electric defrost heaters on each side. The entire case runs from a single refrigeration system.

NTJG is a split temp. version for ice cream on one side and frozen food on the other. NTJG is equipped with two electric defrost heaters on each side and can be run from separate refrigeration systems.

NFMJG is a split temp. version for frozen food on both sides. NFMJG is equipped with one electric defrost heater on each side and can be run from separate refrigeration systems.

The NFJG and NFMJG cases can also be set up to display frozen food on one side and medium temp. on the other. Either side can be optionally set up with a dual temperature control to allow one side to be switched between low temp. and medium temp. operation.

NFJG or NFMJG cases set up for electric defrost medium temp. applications utilize the standard defrost heaters. Gas defrost medium temp. applications incorporate a fan delay klixon.

**Optional Dual Temperature Control**

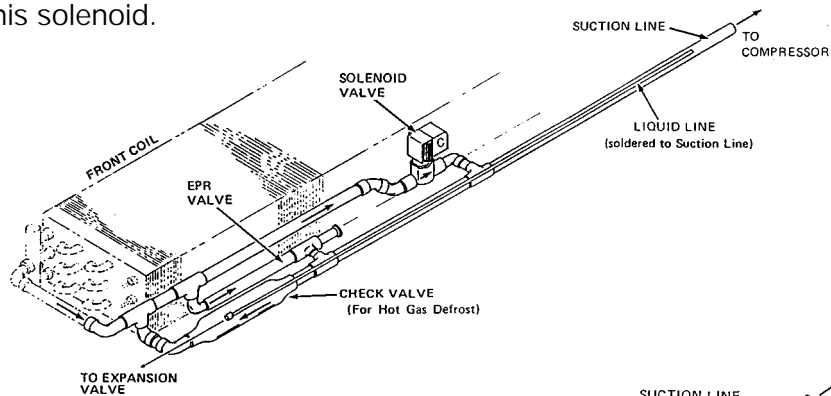
The dual temperature control unit is a factory installed option. This control allows the user to easily switch from medium to low temperature operation by flipping a switch. The dual temperature control consists of an EPR valve in the suction line coming off the evaporator. The EPR valve can be bypassed with a solenoid controlled bypass line around it. The toggle switch opens or closes this solenoid.

When the solenoid is open, the evaporator is connected directly to the compressor suction that allows for low temperature operation. When the solenoid is closed, the evaporator must operate through the EPR valve which has been preset to the desired medium temperature.

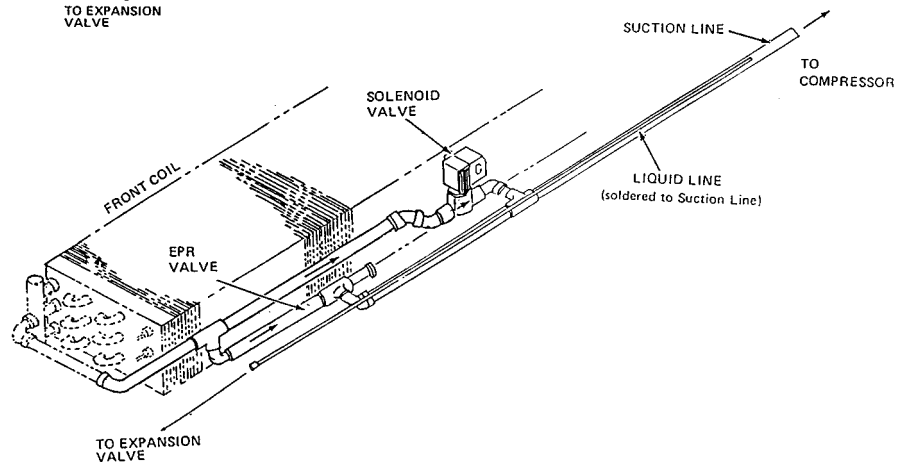
**EXAMPLE: R-404A system with 12 psig of suction pressure.** With the suction line solenoid open, the coil pressure operates at 12 psig with a temperature of -29°F. When toggle switch is flipped, the solenoid closes directing the flow through the EPR valve. If the EPR valve is set for 48 psig, the evaporator will see a coil temperature of 12°F and will operate at a discharge air temperature of about 22°F.

When gas defrost is used, an additional check valve is mounted around the EPR valve to allow reverse flow for the defrosting gas. A fan delay is also connected with gas defrost to cycle the fans off, but only during the medium temperature mode.

**Gas Defrost Dual Temperature Controls with EPR Valve**



**Electric Defrost Dual Temperature Controls with EPR Valve**



## 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 and components for the case. All raceway covers will be shipped loose.
- The NFJG or NFMJG do not require the heated perimeter glass when used for medium temp. operation. The glass heater should be disconnected from the terminal block.
- Cases equipped with optional dual temperature control will de-energize the perimeter glass with klixon when switched to medium temp. operation.

### Case Fan Circuit

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

#### NOTE

With gas defrost, the fans will not start until the coil temperature reaches 40°F at the fan delay thermostat. This only applies in the medium temp. mode.

### Anti-Sweat Circuit

NFJG/NCJG/NTJG/NFMJG cases have one anti-sweat heater in the top of the center riser and one under the perimeter glass retainer. When cases are equipped with an optional superstructure, there is an anti-sweat heater on the superstructure. NFJGE/NCJGE end cases have one anti-sweat heater in the discharge air grid and under the perimeter glass retainer. The perimeter glass is also heated

on all models. Anti-sweat heaters are wired directly to the main power supply so it can operate at all times.

### Superstructure Shelf Lamp Circuit

Optional superstructures are equipped with one row of 430MA T-12 shelf lights.

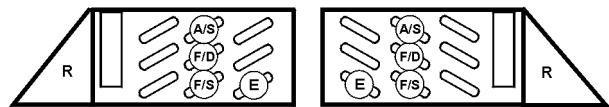
## Defrost Information

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

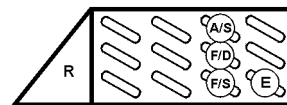
### Defrost Control Chart

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Electric/FF	1	60	50°F
Electric/IC	1	36	50°F
Electric/MED	1	36	50°F
Gas/FF	2	20-25	55°F
Gas/IC	2	25-30	55°F
Gas/MED	2	20-25	55°F

### NFJG-NCJG-NTJG-NFMJG



### NFJGE-NCJGE



**E = Electric Defrost Termination**  
**F/S = Electric Defrost Failsafe (Opt.)**  
**F/D = Gas Defrost (Fan Delay)**  
**A/S = Glass Anti-Sweat (Dual Temp.)**

Most klixons are located on the right end of the evaporator coil. The diagram shows the location for each defrost type that uses a klixon.

#### NOTE

The termination klixon for gas defrost is located at the bypass check valve.

**CAUTION**

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

**Defrost Schedules**

For satisfactory performance, both sides of the case should be scheduled to defrost at the same time. This holds true even when both sides run from different machines.

**Two Single Machines** Use the defrost clock which controls one of the machines and run a relay to control the other machine. Defrost load is spread across clock contacts and extra contactors (as required).

**Parallel with Electric Defrost and Dual Temp or Split Temp Operation** Use one station of the multi-circuit time clock to control the defrost circuit breakers for the cases defrost heaters. This ensures both sides defrost at the same time.

**Parallel with Gas Defrost (NTJG or NFMJG only)** Make sure that only 25% of the combined load (frozen food & ice cream or frozen food & medium temp.) is on one circuit. Use one station of the multi-circuit time clock to control the booster circuit and that portion of the frozen food cases opposite the ice cream side.

Gas defrosting is only available as an option on cases operated from a parallel system. About 25% of the cases can be defrosted at one time. This allows the refrigeration heat being removed from the cases to be used to defrost the others.

**NOTE**

**Insulated partitions must be used between case line-ups that have gas defrost!**

Single Temp. cases (NFJG/NCJG/NFJGE/NCJGE) have individual coil piping that needs to be joined at installation when both sides and/or ends are on the same system. Split Coil cases (NTJG/NFMJG) with gas defrost should be piped to their respective systems and defrosts should be scheduled at the same time. Each coil requires a separate defrost termination klixon at the check valve.

**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.

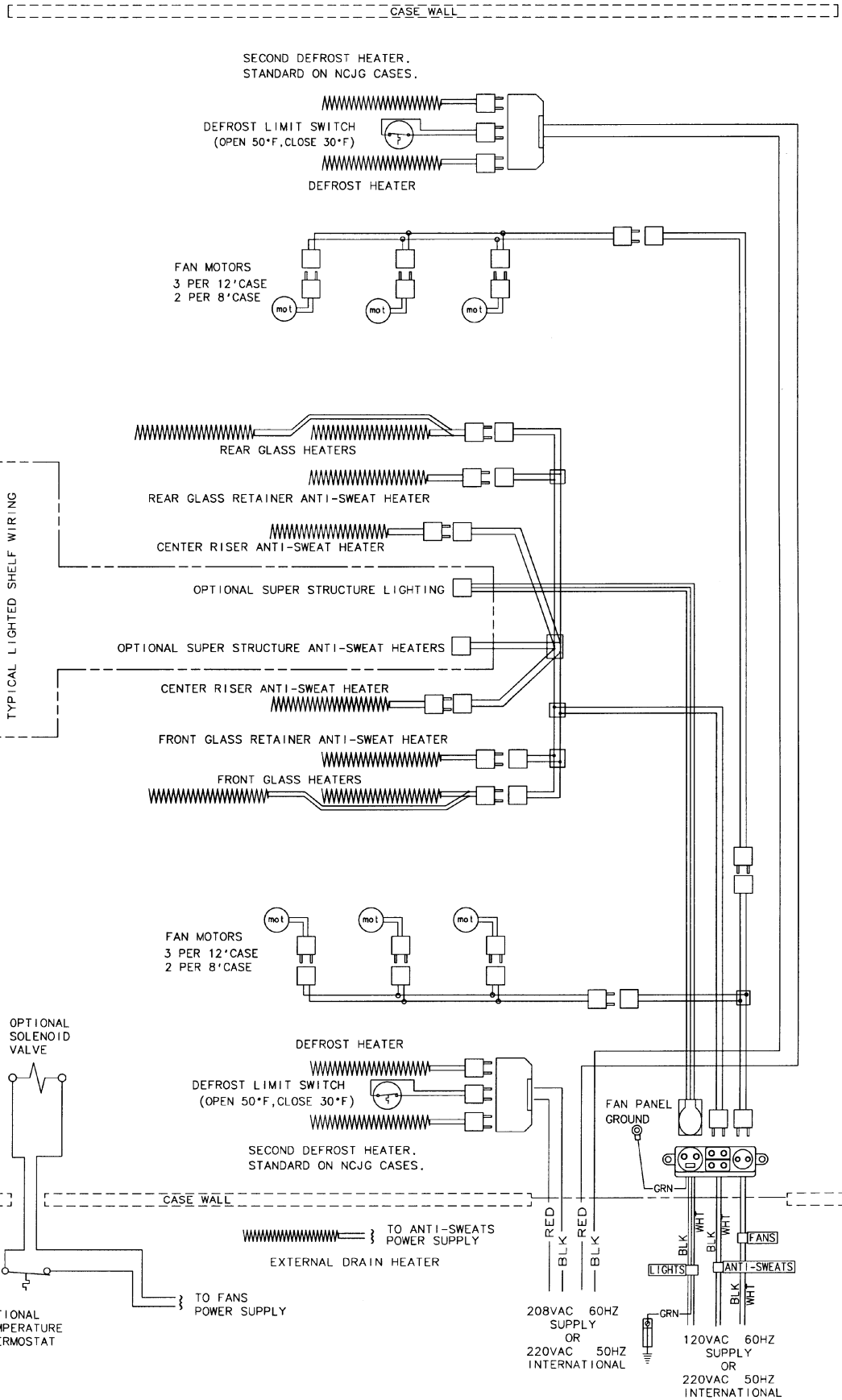
The following wiring diagrams on pages 14 thru 19 will cover the NFJG/NCJG/NTJG/NFMJG/NFJGE/NCJGE case circuits, electric defrost circuit, gas defrost circuit, dual temperature control circuits and the superstructure wiring circuit.

# NFJG/NCJG Domestic & Export (50Hz) Case Circuits

**TYLER**  
REFRIGERATION CORPORATION

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

1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS TO THE INFORMATION ON THIS DRAWING.  
 2. THIS DRAWING IS THE PROPERTY OF TYLER REFRIGERATION CORPORATION AND MAY NOT BE USED WITHOUT PERMISSION.  
 3. SPECIFIED DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.  
 4. DIMENSIONS APPLY TO FINISHED PART AFTER POLISHING.  
 5. NO MANUAL REVISIONS ALLOWED.



NOTE: ALL CASES MUST BE GROUND

REV	DESCRIPTION	DATE	BY	CHK	REV	DATE	BY	CHK	
B	DIAGRAM WRG, ELEC DFR NFJG, NCJG 8&12FT	17NOV98	LC	DIP	1	28AUG96	NONE	NONE	
A	REVISED PER ECN 22943	22943	LC	CK	1	07FEB01	LC	CK	
B	REVISED MODEL NO.	27528	LC	CK	1				
DECIMALS +/- .030 ANGLES +/- 1 DEG									
PART NAME		NONE		NONE		NONE		NONE	
PART NO.		95-080A		9028461		B		B	





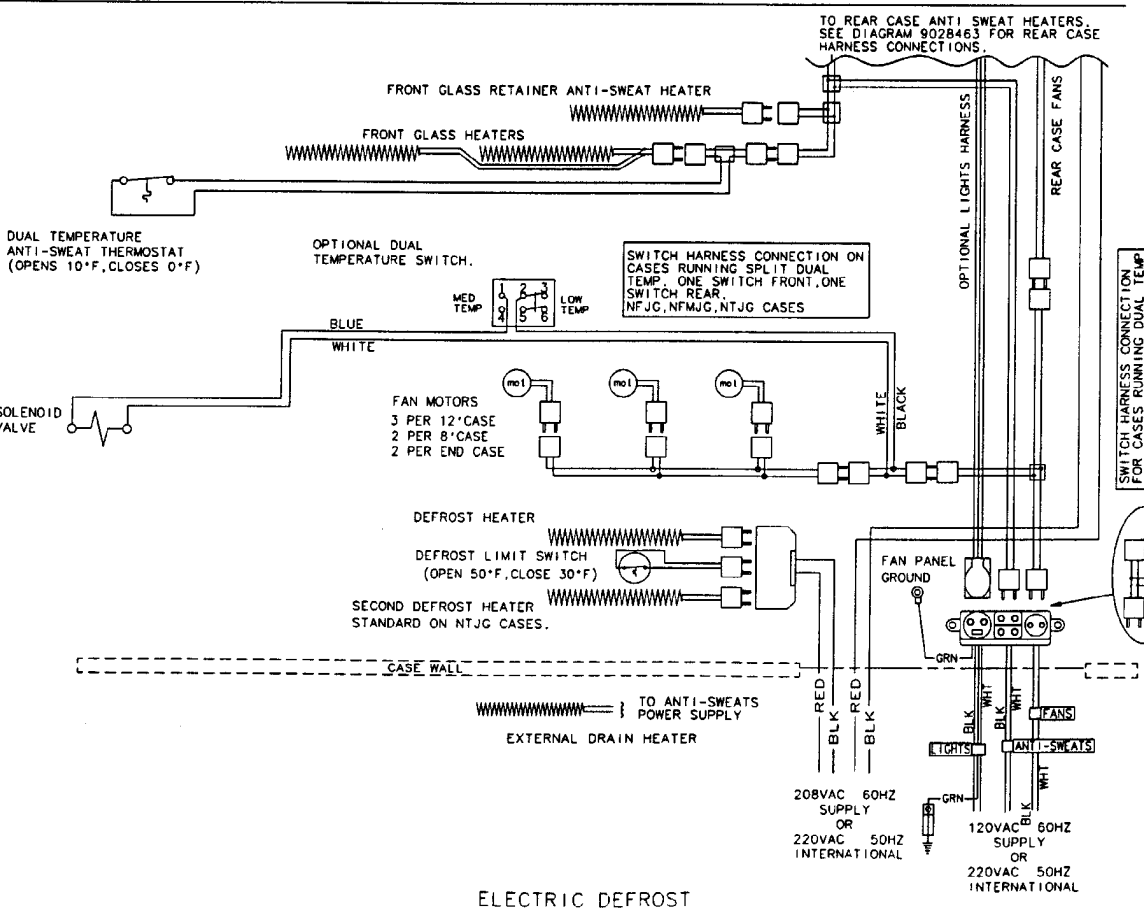
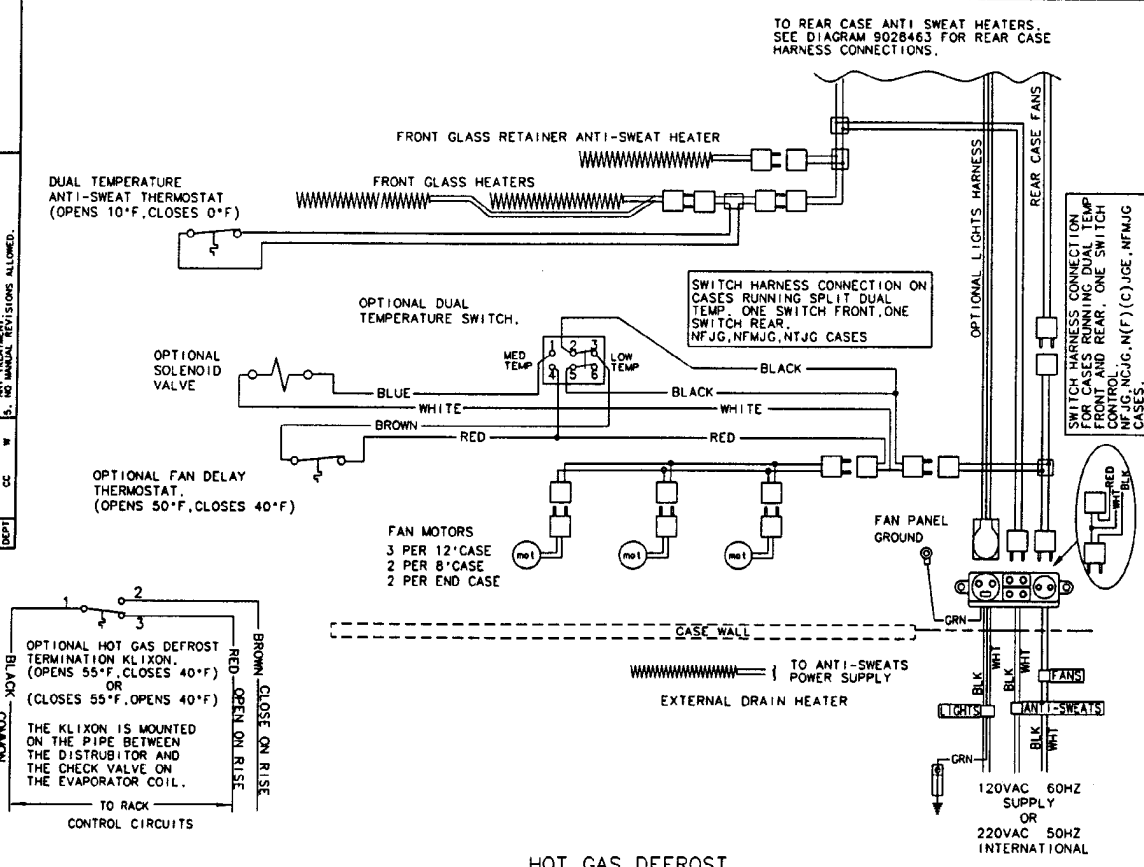




# NTJG/NFMJG/NFJG Dual Temperature Control Circuits



PART TYPE N T S I  
 MODEL X W  
 DEPT CC W  
 1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS  
 2. INFORMATION FOR CHILLER PRINTING ONLY  
 3. AND MAY NOT BE USED WITHOUT PERMIT  
 4. SPECIFIED OTHERWISE IN TYPICALS UNLESS  
 5. ANY TREATMENT TO FINISHED PART AFTER  
 6. NO MANUAL REVISIONS ALLOWED.



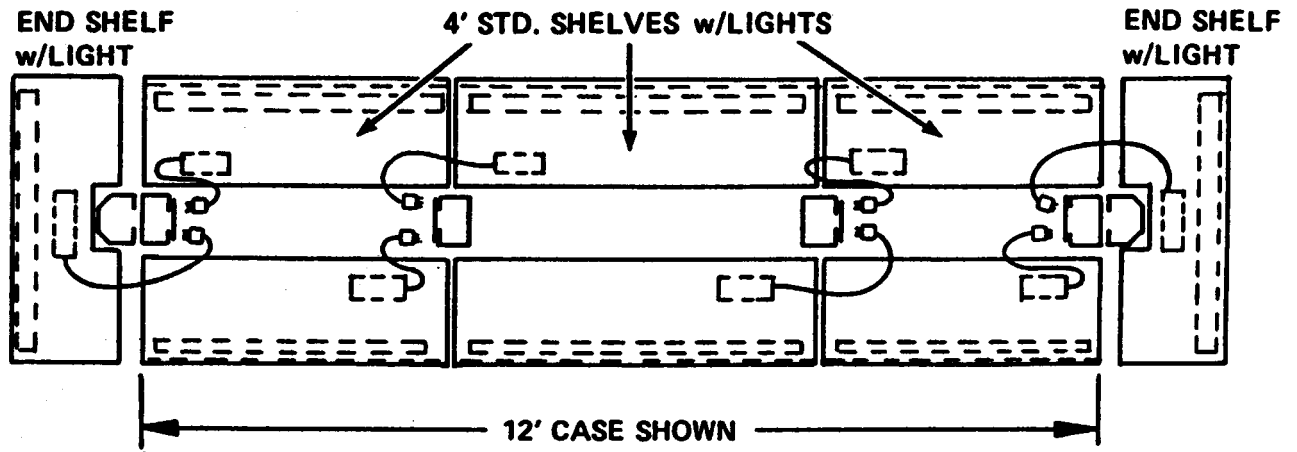
REV	DATE	BY	CHK	DESCRIPTION
1	28AUG96			NONE
2	07FEB01	LC	OK	REVISED SWITCHES AND MOD NAME
3	27528	LC	OK	REMOVE T-STATS-ADD KLIXONS
4	98-003F	LC	OK	
5	20JUL98	LC	OK	
6	95-080A	LC	OK	

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

DIAGRAM WRG DT (NFM)(NTJG NFJG(E))

9028464

Optional Superstructure Wiring Circuit



## CLEANING AND SANITATION

### Component Removal and Installation Instructions for Cleaning

#### 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.

#### NSF Product Thermometer

Remove four screws and product thermometer bracket assembly from right rear location in the case. After cleaning, replace product thermometer bracket assembly and secure with four screws.

#### Discharge Air Honeycomb

1. Remove screws and bottom retainer strip from front or rear interior of case.

#### NOTE

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

2. Remove honeycomb grid sections from the front or rear 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 bottom retainer strip and screws.

#### Rear Duct Panels

1. Remove bottom trays and discharge air honeycomb (NFJE/NCJE), see above.
2. Remove mounting screws from rear duct panel.
3. After cleaning, replace in reverse order.

#### Front Air Duct Panels

1. Remove bottom trays and discharge air honeycomb (NFJ//NCJNTJ), see this page.
2. Remove screws and front air duct panels from case.
3. After cleaning, replace in reverse order.

#### Corner Trim

1. See page 21 for corner trim removal instructions.
2. After cleaning trim and cladding components, replace front cladding and corner trim components in reverse order using instructions below and on page 21.

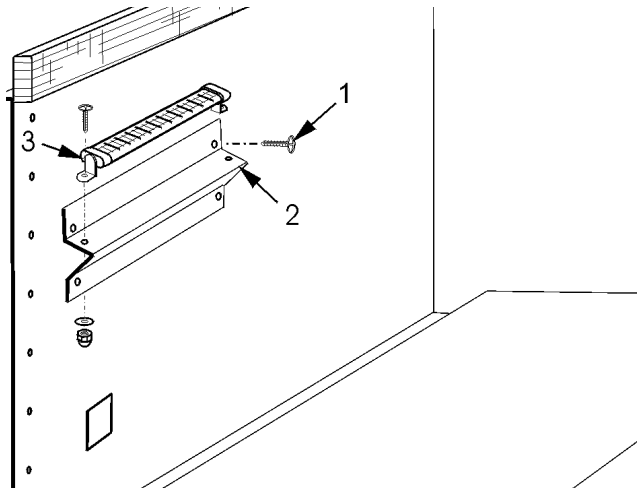
#### Front Cladding

1. Remove front kickplate and raceway cover.
2. Remove screws from bottom and top of front cladding and pull cladding down to remove it from behind the bottom edge of the bumper retainer.
3. After cleaning, replace front cladding and remaining front components in reverse order.

## SERVICE INSTRUCTIONS

See "General-UL/NSF I&S Manual" for fan blade and motor replacement, color band and bumper replacement and raceway cover removal instructions.

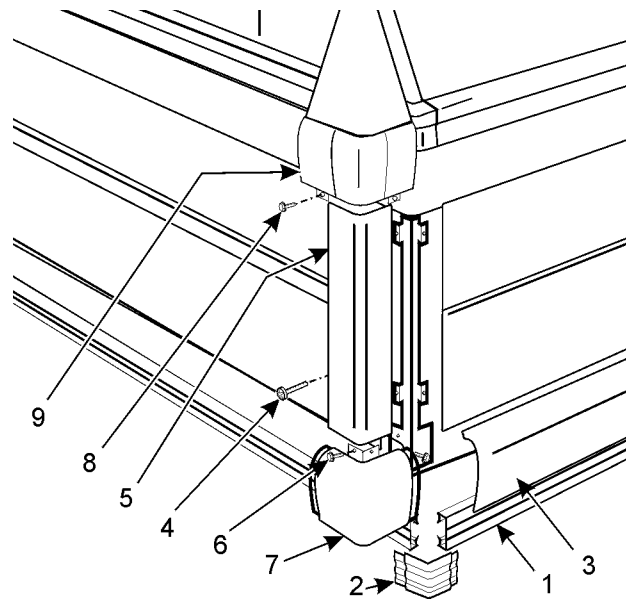
### NSF Product Thermometer Replacement



1. Remove four screws (1) and thermometer bracket (2) from rear of case.
2. Remove two screws, nuts, washers and the product thermometer (3) from the thermometer bracket (2).
3. Install and secure a new product thermometer (3) on the thermometer bracket (2) with two screws, washers and nuts.
4. Install thermometer bracket (2) on rear of case with four screws (1).

### Corner Trim Replacement

Since some of the corner trim fasteners are hidden, remove the trim and hardware in the following sequence.

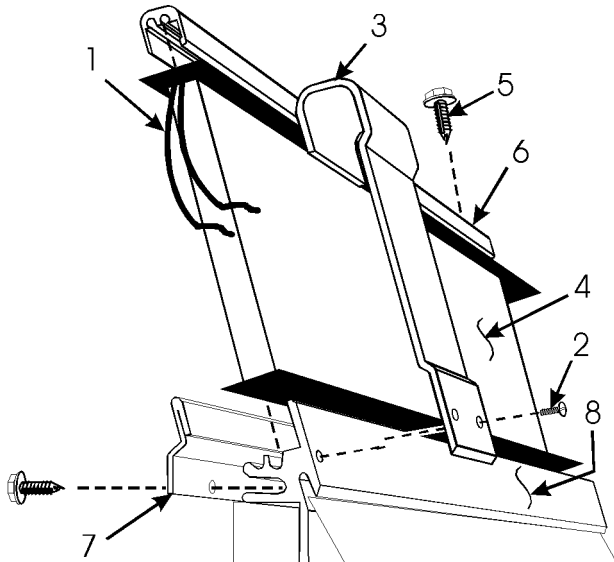


1. Remove kickplates (1) and kickplate corner trim (2) from both sides of the corner trim.
2. Remove raceway covers (3) from both sides of the corner trim.
3. Remove two screws (4) and corner cladding trim (5).
4. Remove two top screws (6) from the raceway corner trim (7), then lift and remove the raceway corner trim from the retainers in the bottom slots.
5. Remove two bottom screws (8) and lift off the bumper corner/glass trim (9).
6. Replace corner/glass trim, raceway corner trim, corner cladding trim, raceway covers and kickplates in reverse order.

## Perimeter Glass Replacement

### NOTE

End cases require corner trim removal before replacing the glass. See "Corner Trim Replacement" in this manual.



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

### NOTE

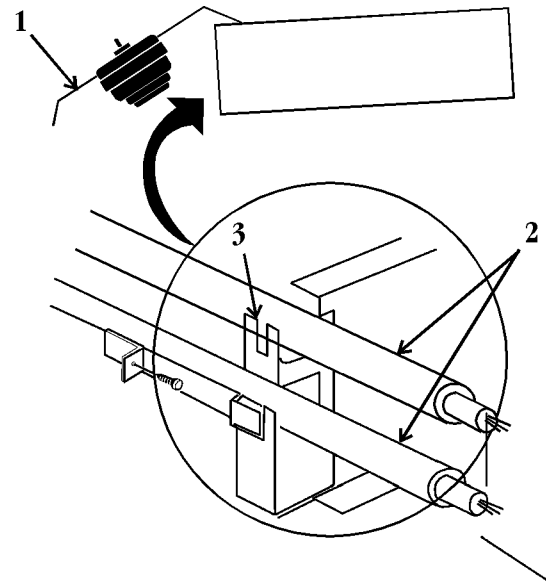
**Inspect the anti-sweat wire in glass retainer assembly. If wire is damaged or broken, replace it before replacing the front glass.**

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

## 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 from case.
2. Unclip and lift up fan plenum (1).
3. Disconnect defective defrost heater (2) and remove from mounting clips (3) and case.
4. Install new defrost heater (3) in reverse order.
5. Restore electrical power to case.

**Anti-Sweat Heater Replacement**

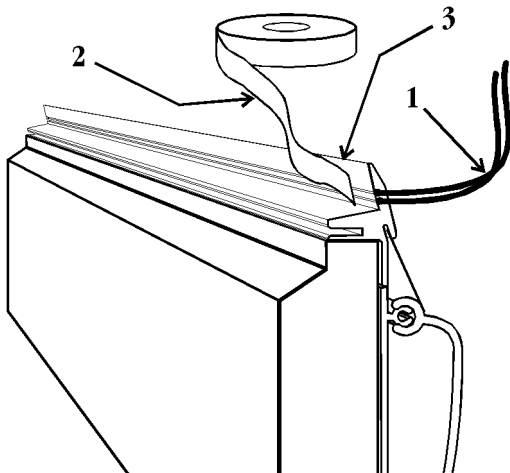
**WARNING**

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.

**Glass Retainer Anti-Sweat (All Models)**

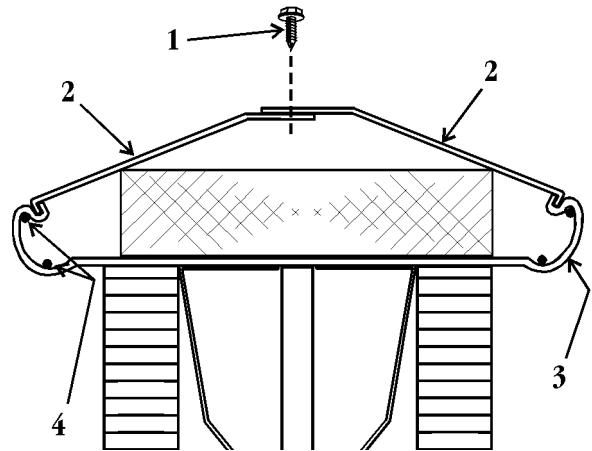
**NOTE**

- Perimeter glass must be removed from glass retainer. See "Perimeter Glass Replacement" in this manual.
- Corner cases require removal of all raceway covers, cladding, corner trim, bumpers and bumper retainers.



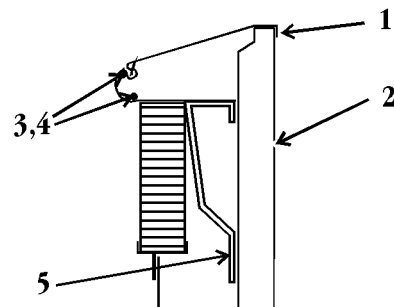
1. Disconnect or cut the defective anti-sweat wires (1) from the case wires.
2. Remove and replace the aluminum tape (2) and defective anti-sweat wire (1) from the bottom of the front glass retainer (3).
3. Reconnect the anti-sweat wires to case wires .
4. Replace the perimeter glass and any other trim or cladding that was removed.

**Center Riser Anti-Sweat (NFJG/NCJG/NTJG/NFMJG)**



1. Remove screws (1) and top riser caps (2) and insulation from top of center riser (3).
2. Disconnect or cut the defective anti-sweat wires (4) from the case wires.
3. Remove and replace the aluminum tape and defective anti-sweat wire (4) from the bottom of the top riser cap (2).
4. Reconnect the anti-sweat wires to case wires and reinstall the insulation, top riser caps and screws.

**Discharge Air Grid Anti-Sweat (NFJGE/NCJGE)**



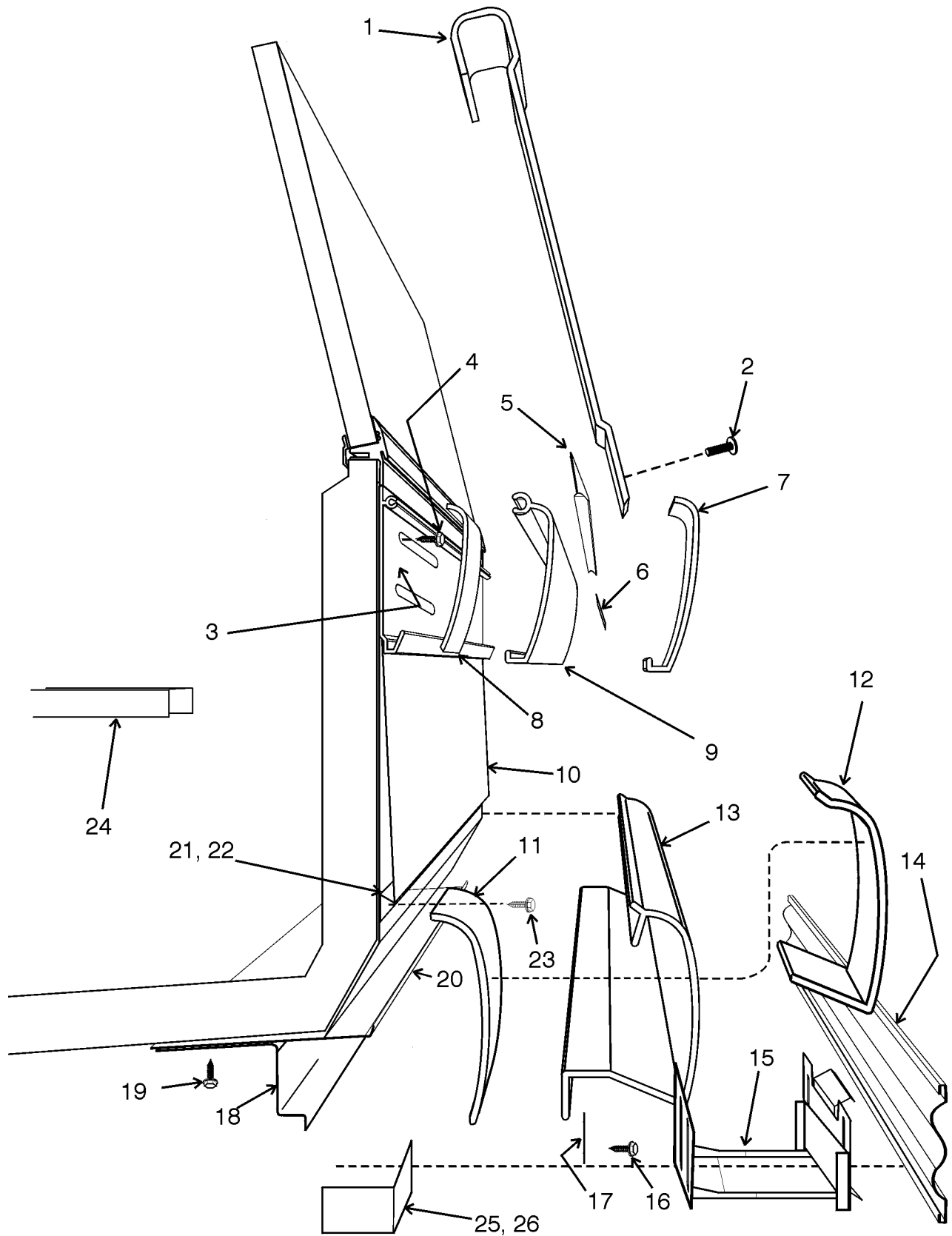
1. Remove screws and rear guard trim (1) from top of rear case wall (2).
2. Disconnect or cut the defective anti-sweat wire (3) from the case wires.
3. Remove and replace the aluminum tape (4) and defective anti-sweat wire (3) from top of rail and wire trim assembly (5).
4. Reconnect anti-sweat wires to case wires and reinstall the rear guard trim with screws.

## PARTS INFORMATION

### Cladding and Trim Parts Lists

Item Description	NFJG/NCJG/NTJG/NFMJG	
	8'	12'
1 Glass Joint Trim	9301808(2)	9301808(2)
2 Screw	5120206	5120206
3 Bumper Retainer	9025058	9025061
4 Shoulder Screw	9025833(20)	9025833(24)
5 Color Band, Painted	9020971	9020972
6 Color Band Backer, Painted	9025982	9025982
7 Bumper End Trim	color per order	
8 Bumper Backer	color per order	
9 Bumper	color per order	
10 Front Cladding, Painted	9025209	9025210
11 Raceway Cover Backer	color per order	
12 Raceway Cover End Trim	color per order	
13 Raceway Cover	color per order	
14 Kickplate	color per order	
Kickplate Backer	9023569	9023569
15 Kickplate Support Assy. (per side)	9042415(3)	9042415(4)
Shoulder Screw	9025833 (8)	9025833 (8)
16 Screw (per retainer)	5183536(2)	5183536(2)
17 Raceway Cover Retainer (per side)	9023841(4)	9023841(6)
18 Raceway Support (per side)	9041465(4)	9041465(4)
19 Screw (per support)	5183536	5183536
20 Raceway	9300218	9300219
21 Cladding Retainer (per side)	9300197(4)	9300197(4)
22 Screw (per retainer)	5183536	5183536
23 Shoulder Screw (per side)	9025833(8)	9025833(10)
24 Horizontal Joint Trim	5196166	5196166
25 Binding Screw	5222637(6)	5222637(6)
26 LH End Close-off, Painted	9027925	9027925
RH End Close-off, Painted	9027926	9027926



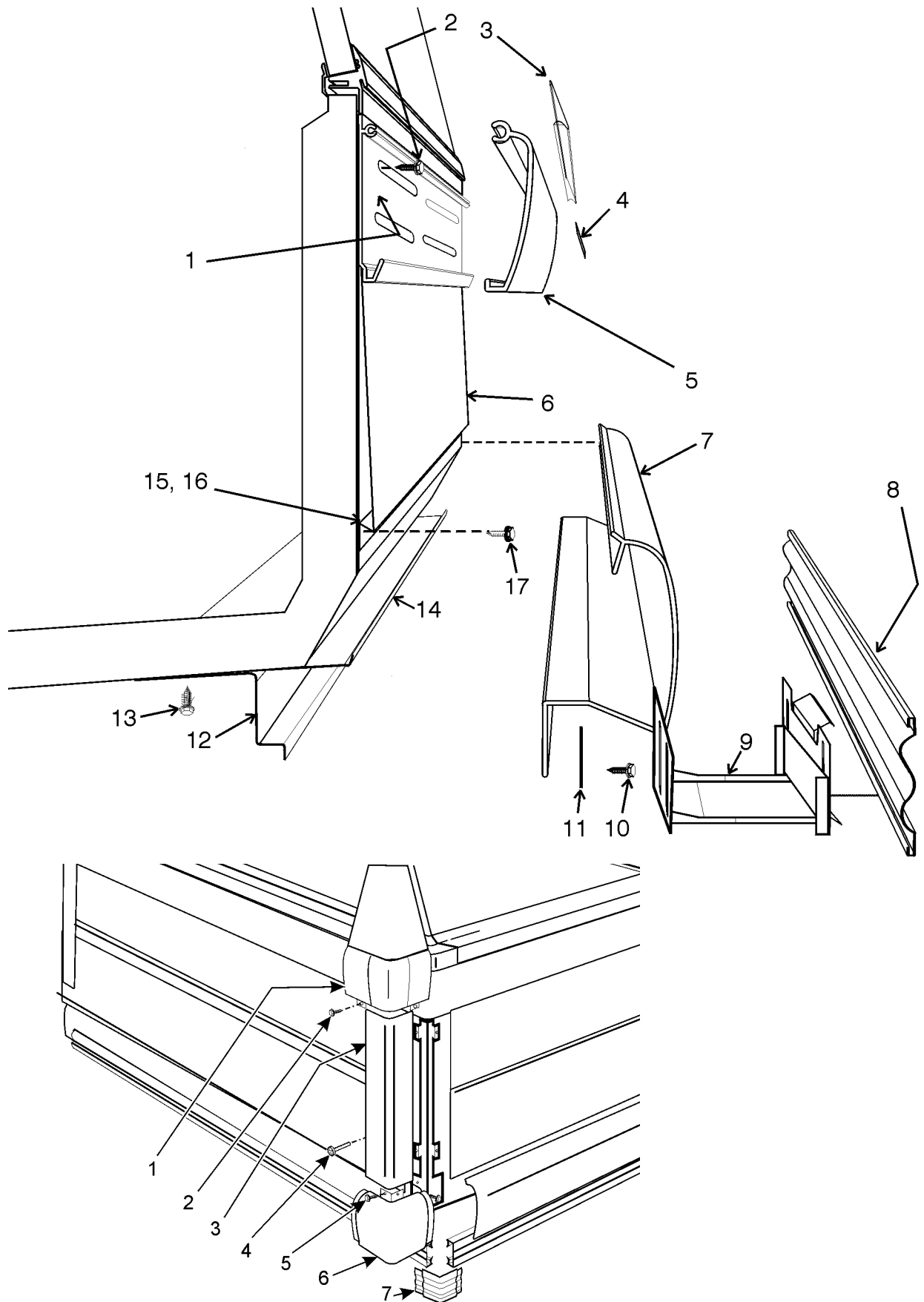


**Cladding and Trim Parts Lists**

Item	Description	NFJGE/NCJGE	
		Front	Side
1	Bumper Retainer	9025867	9025866(2)
2	Shoulder Screw (per side)	9025833(6)	9025833(3)
3	Color Band, Painted	9020965	9020969
4	Color Band Backer, Painted	9025982	9025982
5	Bumper	color per order	
6	Front Cladding, Painted	9025769	9025768
7	Raceway Cover	color per order	
8	Kickplate	color per order	
9	Kickplate Support Assy.(per side)	9042415(4)	9042415(2)
	Screw	9025833(8)	9025833(4)
10	Screw (per retainer)	5183536(2)	5183536(2)
11	Raceway Cover Retainer (per side)	9023841(3)	9023841(2)
12	Raceway Support (per side)	9041465(4)	9041465(2)
13	Screw (per support)	5183536	5183536
14	Raceway	9300266(2)	9300267(RH) 9300268(LH)
15	Cladding Retainer (per side)	9300197(3)	9300197(2)
16	Screw (per retainer)	5183536(2)	5183536(2)
17	Shoulder Screw (per side)	9025833(3)	9025833(2)

**Corner Trim Parts List**

Item	Description	Per Corner
1	Bumper Corner/Glass Trim	color per order
2	Screw	9025833(2)
3	Corner Cladding Trim	9041335
4	Screw	5048626(2)
5	Screw	9025833(2)
6	Raceway Corner Trim	color per order
7	Kickplate Corner Trim, Painted	color per order(2)



**Operational Parts List**

Case Usage	Domestic			Export		
	115 Volt 60 Hertz			220 Volt 50 Hertz		
Case Size	8'	12'	End Case	8'	12'	End Case
Electrical Circuit						
Fan Motor	5644521 5 Watt	5644521 5 Watt	5644521 5 Watt	5126572 5 Watt	5126572 5 Watt	5126572 5 Watt
Fan Motor Brackets	5213132	5213132	5213132	5213132	5213132	5213132
Fan Bracket Plate	9041077	9041077	9041077	9041077	9041077	9041077
Fan Blades (6" 21° 3B)	5105621	5105621	5105621	----	----	----
(6" 27° 3B)	----	----	----	5104294	5104294	5104294
Opt. ECM Fan Motor	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt	----	----	----
Opt. ECM Fan Motor Brackets	5205279	5205279	5205279	----	----	----
Opt. ECM Fan Blades (6" 25 1/4° 3B)	9025138	9025138	9025138	----	----	----
Anti-Sweat Heater Wire (glass retainer) (NFJG/NCJG/NTJG/NFMJG)	5218331	5218332	----	5081149	5081150	----
(center riser) (NFJG/NCJG/NTJG/NFMJG)	5124818	5124819	----	5081149	5081150	----
(discharge air) (NFJGE/NCJGE)	----	----	5028893	----	----	5081271
(front glass retainer) (NFJGE/NCJGE)	----	----	5233734	----	----	5081201
(side glass retainer) (NFJGE/NCJGE)	----	----	5225475(2)	----	----	5229188(2)
Opt. Elec. Def. Heater	5088278	5088279	5195710	5088278	5088279	----
Opt. Elec. Def. Term. Klixon	5125211	5125211	5125211	5125211	5125211	----
Opt. Gas Def. Fan Delay Klixon (Medium or Dual Temp. only)	9023503	9023503	9023503	9023503	9023503	----
Opt. Gas Def. Term. Klixon	9023508	9023508	9023508	9023508	9023508	----
Opt. Glass Anti-Sweat Klixon (Dual Temp only)	9310711	9310711	9310711	9310711	9310711	----
Waste Pipe Heater	5215068	5215068	5963471	5216300	5216300	5963472
Opt. Superstructure Lighting						
430MA Ballast (20W/1 lamp)	----	----	5102019	----	----	5102019
430MA Ballast (40W/1 lamp)	5627909	5627909	----	5627909	5627909	----
T-12 Lampholder	5217544	5217544	5217544	5217544	5217544	5217544
NSF Product Thermometer	5967100	5967100	5967100	5967100	5967100	5967100

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