

**TYLER**  
REFRIGERATION



**Carrier**

A United Technologies Company

**A** series  
**Advantage**

# Installation & Service Manual



## **NFWX, NCWX, NFWGX, NFWEX**

**WIDE ISLAND FROZEN FOOD & ICE CREAM MERCHANDISERS**  
**Low 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 & NSF International Health and Sanitation standard ANSI/NSF 7 - 2003.

PRINTED IN IN U.S.A.	Specifications subject to change without notice.	REPLACES EDITION	1/06	ISSUE DATE	11/07	PART NO.	9037140	REV.	B
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The following Low Temperature Wide Island and Wide Island End Frozen Food, Ice Cream and Medium Temperature Merchandiser models are covered in this manual:

<b>MODEL</b>	<b>DESCRIPTION</b>
<b>NFWX</b>	<b>8' &amp; 12' WIDE ISLAND FROZEN FOOD/MED TEMP MERCHANDISERS</b>
<b>NCWX</b>	<b>8' &amp; 12' WIDE ISLAND ICE CREAM MERCHANDISERS</b>
<b>NFWGX</b>	<b>8' &amp; 12' GLASS FRONT WIDE ISLAND FROZEN FOOD/MED TEMP MERCHANDISERS</b>
<b>NFWEX</b>	<b>WIDE ISLAND FROZEN FOOD/MED TEMP END MERCHANDISER</b>

**SPECIFICATIONS**

**NFW(G)X/NCWX/NFWEX Wide Island and End Frozen Food, Ice Cream & Medium Temp Merchandisers**

**Refrigeration Data:**

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / FT)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/FT)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
NFWX	8', 12'	FROZEN	392*	405*	-25***	-28	-15	270****	0.32†
NCWX	8', 12'	ICE CREAM	466*	481*	-35***	-38	-25	270****	0.32†
NFWX	8', 12'	MED TEMP	393*	403*	+15***	+13	+22	270****	0.32†
NFWGX	8', 12'	FROZEN	426*	440*	-25***	-28	-15	270****	0.32†
NFWGX	8', 12'	MED TEMP	420*	431*	+15***	+13	+22	270****	0.32†
NFWEX	54 1/2"	FROZEN	1,751**	1,827**	-25***	-28	-15	N/A****	0.27†
NFWEX	54 1/2"	MED TEMP	1,491**	1,529**	+15***	+13	+22	N/A****	0.27†

\* For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.

\*\* BTUH rating is for entire end case.

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

\*\*\*\* Air velocity is measured 60 minutes after defrost at the Discharge Air Ducts.

† This is an average refrigeration charge per foot based on R22 and R404A refrigerant usage.

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

**Electrical Data:**

Fans (120 Volt) and Optional T-8 Lighting with Electronic Ballasts and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL FOR STANDARD FANS		TOTAL FOR ECM FANS		T-8 LIGHTING FOR OPT. SUPERSTRUCTURE (PER ROW)		OPT. SUPERSTRUCTURE ANTI-SWEAT HEATERS (120V)	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
NFW(G)X/NCWX	8'	2	0.68	60.4	0.44	22.0	1.20	144.0	0.60	72.0
NFW(G)X/NCWX	12'	3	1.02	90.6	0.66	33.0	1.80	216.0	0.60	72.0
NFWEX	54 1/2"	1	0.34	30.2	0.22	11.0	0.30	36.0	0.40	48.0

Heaters (120 and 208 Volt)

MODEL	CASE LENGTH	ANTI-SWEAT HEATERS (120 V)						HEATED GLASS (120 V)		DEFROST HEATERS (208 V)		DRAIN PAN HEATER (120 V)	
		DISCHARGE AIR		RETURN AIR		GLASS RETAINER		AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
		AMPS	WATTS	AMPS	WATTS	AMPS	WATTS						
NFWX	8'	0.95	114.0	N/A	N/A	N/A	N/A	N/A	N/A	13.8	2,870	N/A	N/A
NCWX	8'	0.95	114.0	N/A	N/A	N/A	N/A	N/A	N/A	13.8	2,870	N/A	N/A
NFWGX	8'	0.95	114.0	N/A	N/A	0.94	113.0	0.66	79.2	13.8	2,870	N/A	N/A
NFWX	12'	1.26	152.0	N/A	N/A	N/A	N/A	N/A	N/A	20.6	4,285	N/A	N/A
NCWX	12'	1.26	152.0	N/A	N/A	N/A	N/A	N/A	N/A	20.6	4,285	N/A	N/A
NFWGX	12'	1.26	152.0	N/A	N/A	1.25	150.0	1.55	186.0	20.6	4,285	N/A	N/A
NFWEX	54 1/2"	0.25	30.0	0.37	45.0	N/A	N/A	N/A	N/A	6.9	1,435	0.3	36.0

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

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

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

The information contained herein is based on technical analysis and/or tests performed in a controlled lab environment that are consistent with industry practices, and is intended as a reference for system sizing and configuration purposes only and for use by persons having technical skill at their own discretion and risk. Conditions of use are outside of Tyler's control and we do not assume and hereby disclaim any liability for results obtained or damages incurred through application of or reliance on the data presented, including but not limited to specific energy consumption with any particular model or installed application. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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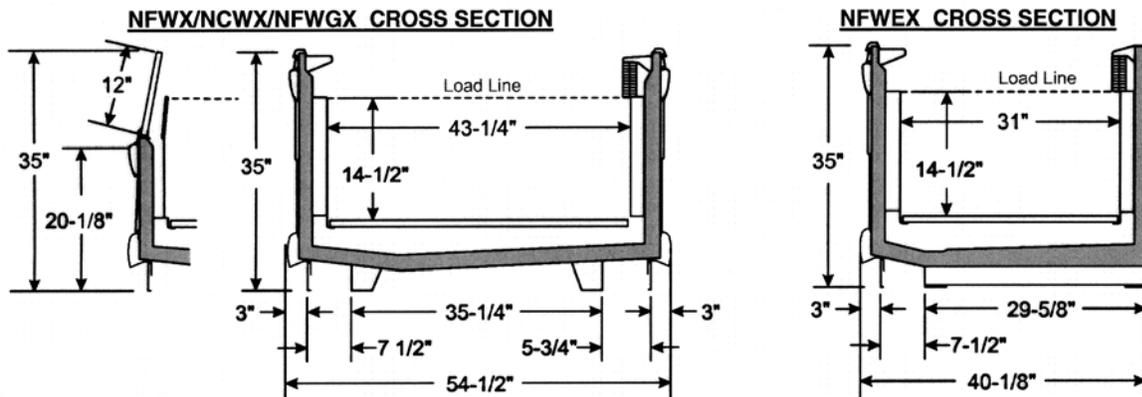
# NFWX, NCWX, NFWGX, NFWEX,

208 VOLT DEFOST (AMPS)														
FEET	8	12	16	20	24	28	32	36	40	44	48	52	56	60
1 PH	13.8 TG-30	20.6 TG-50	27.6 TG-40	34.4 TG-50	41.2 TG-50	(Separate circuit recommended due to high amp draw) N/A								
3 PH	N/A	N/A	24.0 TG-3-30	30.0 TG-3-40	36.0 TG-3-50	30.0 TG-3-40	36.0 TG-3-50	36.0 TG-3-50	43.0 TG-3-50	30/36 TG-3-50/50	36/36 TG-3-50/50	36/36 TG-3-50/50	36/36 TG-3-50/50	36/36 TG-3-50/50
CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING														
R404A FF	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"
R404A IC	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"	1 3/8"	1 5/8"	1 5/8"
R22 MED	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"

### Defrost Data:

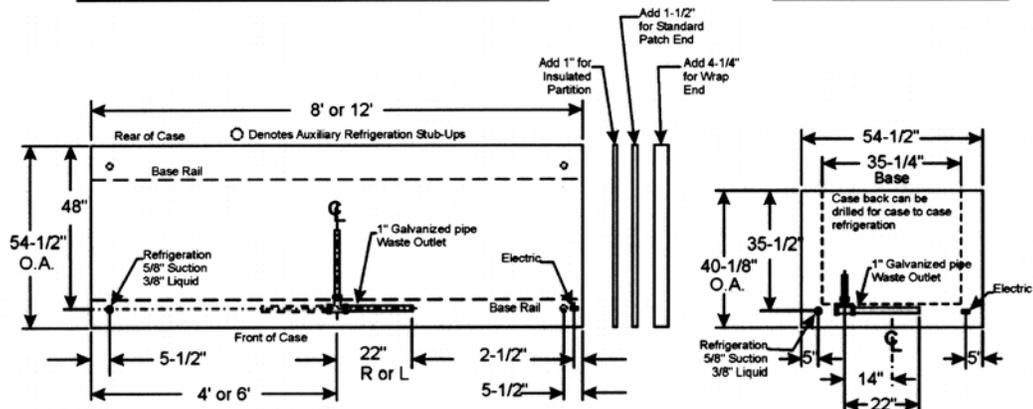
DEFOST TYPE	DEFOSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	EPR SETTINGS **		DEFOST WATER (LB / FT / DAY)
				R22 (PSIG)	R404A (PSIG)	
ELECTRIC / FF	1	46	50	7	14	N/A
ELECTRIC / IC	1	46	50	3	8	N/A
ELECTRIC / MED	1	36	50	38	50	N/A
HOT GAS / FF	2-3	20-25	55*	7	14	N/A
HOT GAS / IC	1	25-30	55*	3	8	N/A
HOT GAS / MED	2-3	16-20	55*	38	50	N/A

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



**NFWX/NCWX/NFWGX/NFWEX FLOOR PLAN**

**NFWEX FLOOR PLAN**

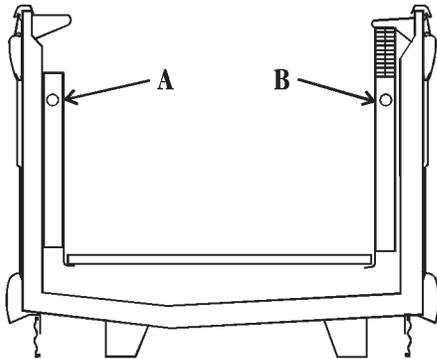


**STUB-UP NOTE:** One floor drain can serve up to two cases per drain. One electrical stub-up can serve a number of cases depending on the circuits required – utilizing the continuous wire raceway(s) on the front of the cases. One refrigeration stub-up can serve several or all cases on a line-up with case-to-case piping. Maximum 1 5/8" for case-to-case piping.

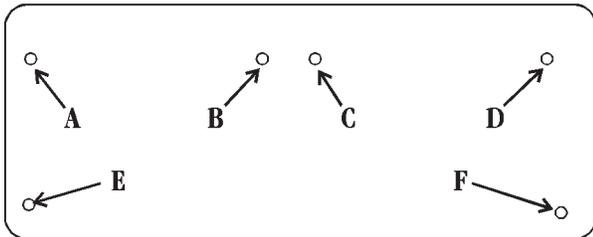
## INSTALLATION PROCEDURES

### Carpentry Procedures

#### Case Pull-Up Locations



The NFWX/NCWX/NFWGX models have two pull-ups at each end of the case. Pull-ups A and B are located as shown and used for joining all cases.



The NFWEX models have six pull-ups at the rear of the case. Pull-ups A, B, C, D, E and F are located as shown and used for joining end cases. All pull-ups should be installed and tightened starting with A and finishing with B or F.

### 1" Solid Partition

A 1" insulated partition is required between adjacent gas defrost cases that are on different refrigeration systems. 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.

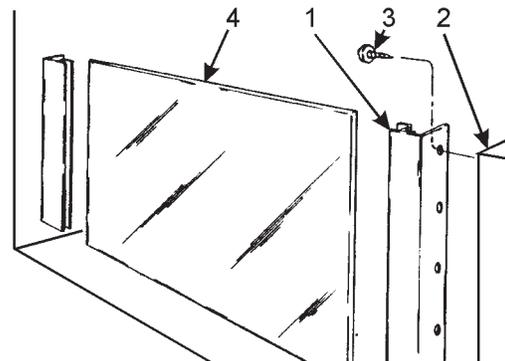
Apply sealant to outside surface of partition where the two surfaces of the adjoining case will contact the partition.

**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 refrigeration systems. 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).

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**Superstructure Installation**

**NFWX/NCWX/NFWGX Merchandising Shelf Superstructures**

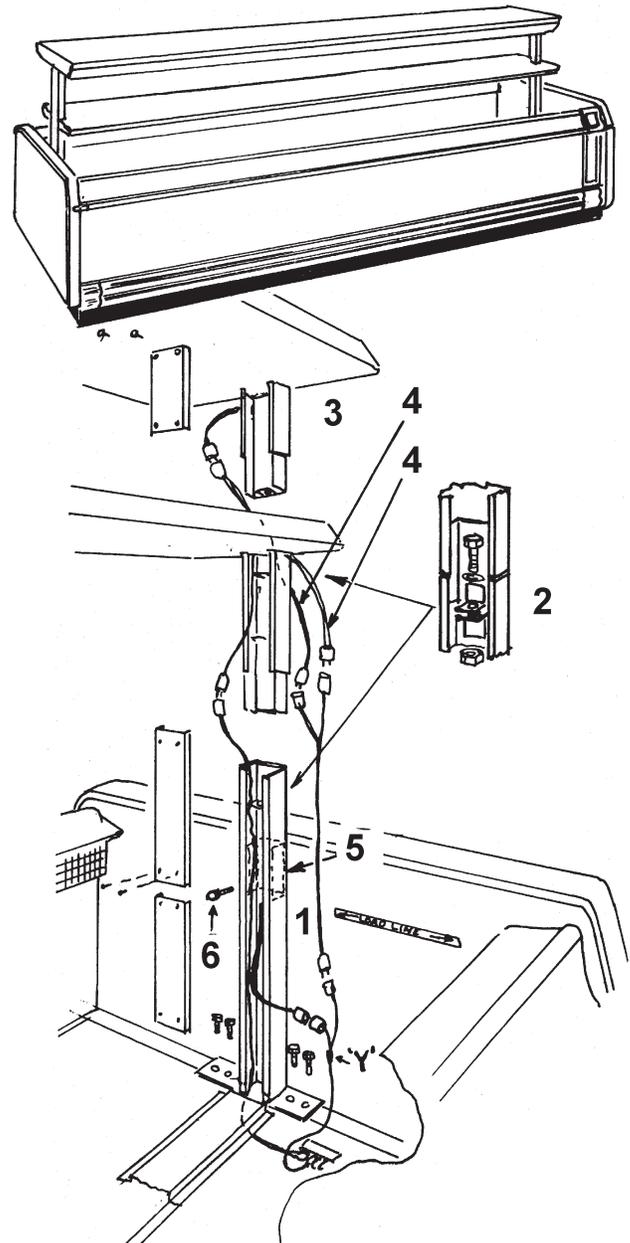
Model	Length	Depth	Lights	Display Area	Height off Floor
D8LFS	8'	12"	Std	8 sq ft	48"
D12LFS	12'	12"	Std	12 sq ft	48"
D8HFS	8'	18"	Std	12 sq ft	55"
D12HFS	12'	18"	Std	18 sq ft	55"
D82FSL	8'	1-12" & 1-18"	*	20 sq ft	58"
D122FSL	12'	1-12" & 1-18"	*	30 sq ft	58"

\*12" shelf standard with lights. 18" shelf lights are optional.

**IMPORTANT**

**Follow instructions in the numbered order.**

1. Install lower uprights (1) on end of case and secure with 3/8-16 x 1 1/4" bolts provided.
2. After uprights are installed and secured, install lower shelf (2) by inserting shelf uprights into lower upright sections (1) and securing with 3/8-16 x 1 1/2" screws, washers and nuts.
3. When furnished, the upper shelf (3) is installed and secured in the same manner as the lower shelf (2).
4. The internal wiring of the shelving and uprights is factory installed. It is necessary to connect the provided harnesses (4) to supply power to the shelves (2 & 3). Post heater pads (5) must be located even with the load lines of the case to provide a heat barrier to prevent sweating. Their pressure sensitive backs make installation easy.
5. The light and heater harness wires in the lower upright must be inserted underneath the tray support and plugged into the proper receptacles.
6. Secure the lower uprights (1) to the patch ends with 3/8-16 x 1" screws (6) for additional support. In a continuous line-up, the ends of the shelves can be bolted together.
7. Before inserting the wires into the upright posts, transfer drill 7/64 thru the covers and into the posts. This will prevent accidental drilling into the wires. Use #6 SMS to fasten the covers over the wires.

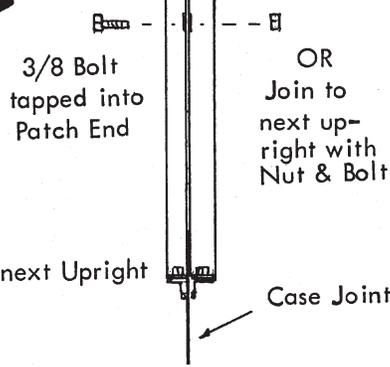
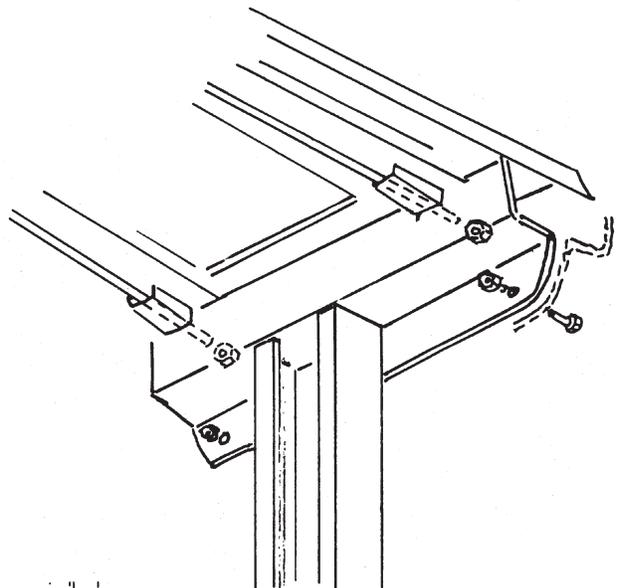
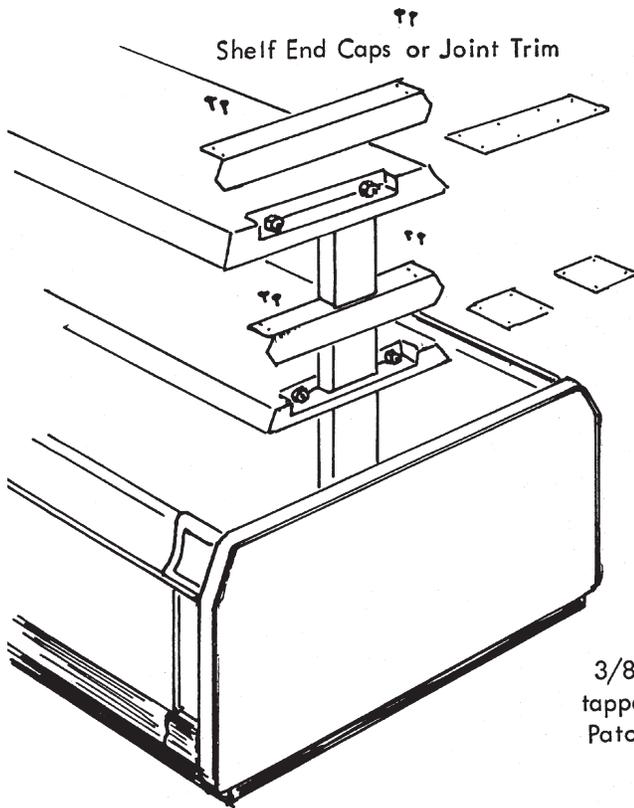
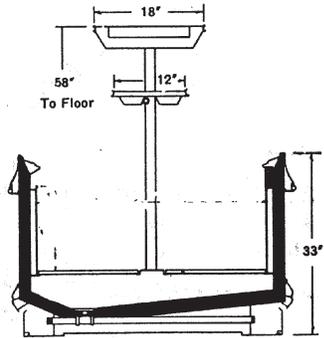


**Truss Rod Adjustment Instructions**

The 8' or 12' span of these shelves is made possible by the use of truss rod construction.



1. Remove joint trim or shelf end caps to obtain access to truss rod adjustments.
2. The truss rods on these shelves may require adjusting for maximum load conditions. For heavier loads, tighten the truss rod nuts. For lighter loads, loosen the truss rod nuts. This will prevent bowing and/or sagging in the shelving.



Bolt Uprights to Patch End or next Upright

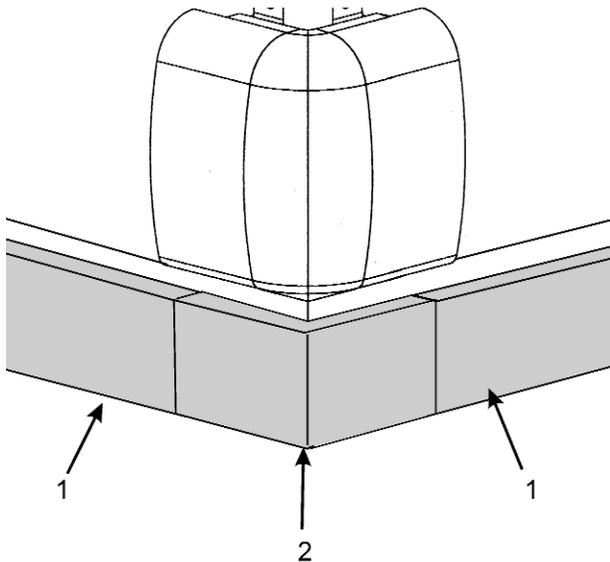
## **Installation & Service Manual**

### **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).

### **Refrigeration Procedures**

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

#### **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 the 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.

### **Electrical Procedures**

#### **Electrical Considerations**

##### **CAUTION**

**Make sure all electrical connections 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.**

**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 when used for medium temperatures.

**NOTE**

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

**Anti-Sweat Circuit**

All cases have at least one anti-sweat heater in each discharge air grid and return air grid. When cases are equipped with an optional superstructure, there is an anti-sweat heater on the superstructure. Cases with glass fronts have an additional anti-sweat heater under the glass retainer. Anti-sweat heaters are wired directly to the main power supply so they can operate at all times.

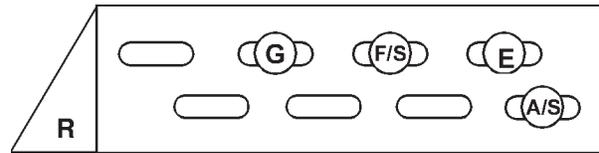
**Defrost Information**

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

**Defrost Control Chart**

**NFWX/NCWX/NFWGX/NFWEX**

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Electric/FF	1	46	50°F
Electric/IC	1	46	50°F
Electric/MED	1	36	50°F
Gas/FF	2-3	20-25	55°F
Gas/IC	2-3	25-30	55°F
Gas/MED	2-3	16-20	55°F



**NFWX/NCWX/NFWGX/NFWEX**

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

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

**NOTE**

**The defrost 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.**

**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 11 thru 14 will cover the NFWX/NCWX/NFWGX/NFWEX case circuits and dual temp circuits with electric and hot gas defrost options.

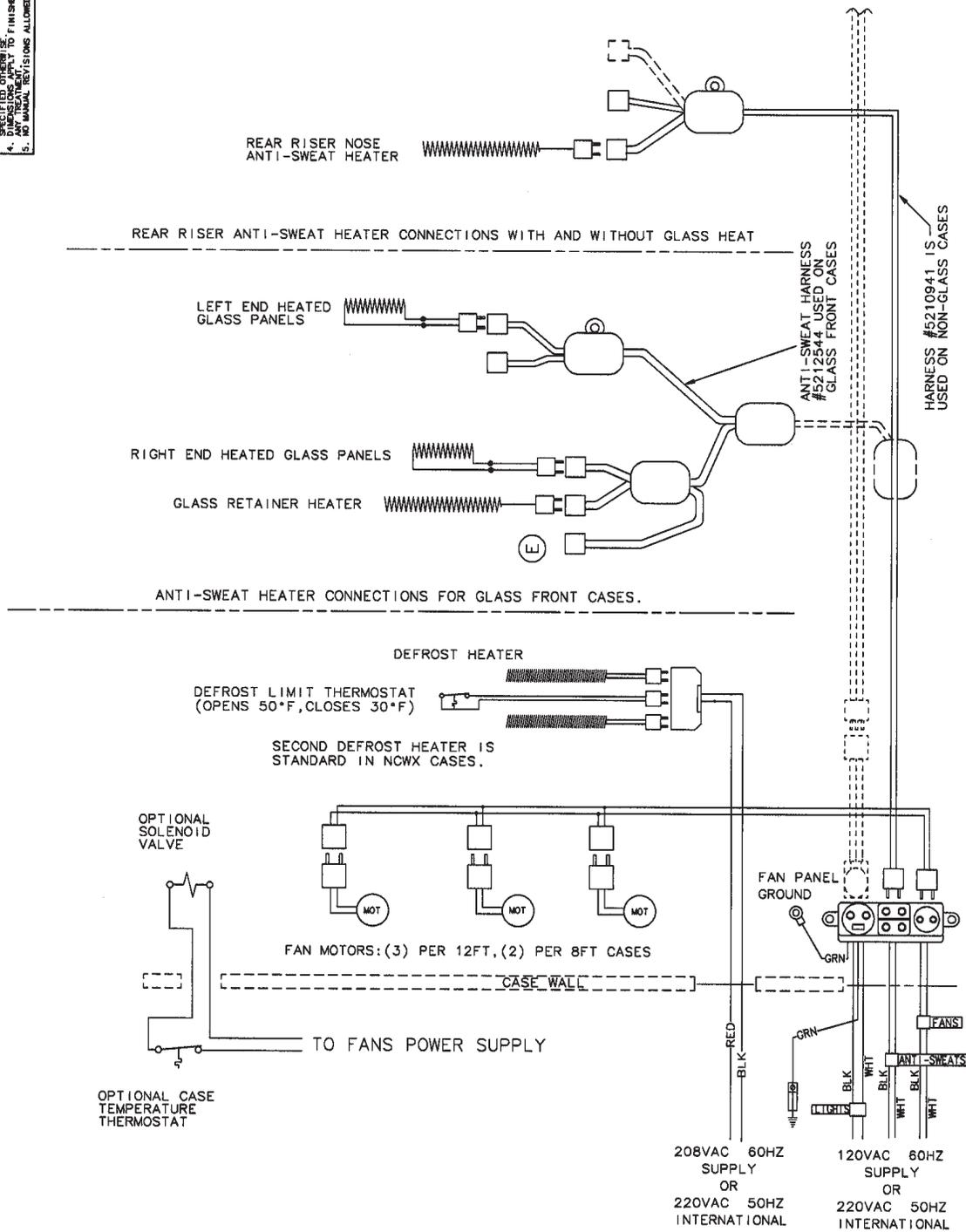
# NFWX/NCWX/NFWGX Domestic & Export (50 Hz) Case Circuits



1. TYLER REFRIGERATION CLAIMS RIGHTS.
2. INFORMATION IS FOR ENGINEERING USE ONLY.
3. ALL DIMENSIONS ARE IN INCHES UNLESS NOTED.
4. DIMENSIONS IN PARENTHESES ARE FINISHED PART AFTER ANNEALING.
5. NO MANUAL REVISIONS ALLOWED.

OPTIONAL SUPERSTRUCTURE LIGHTING POWER HARNESS CONNECTION. (SEE INSTALLATION MANUAL FOR SUPER STRUCTURE WIRING.)

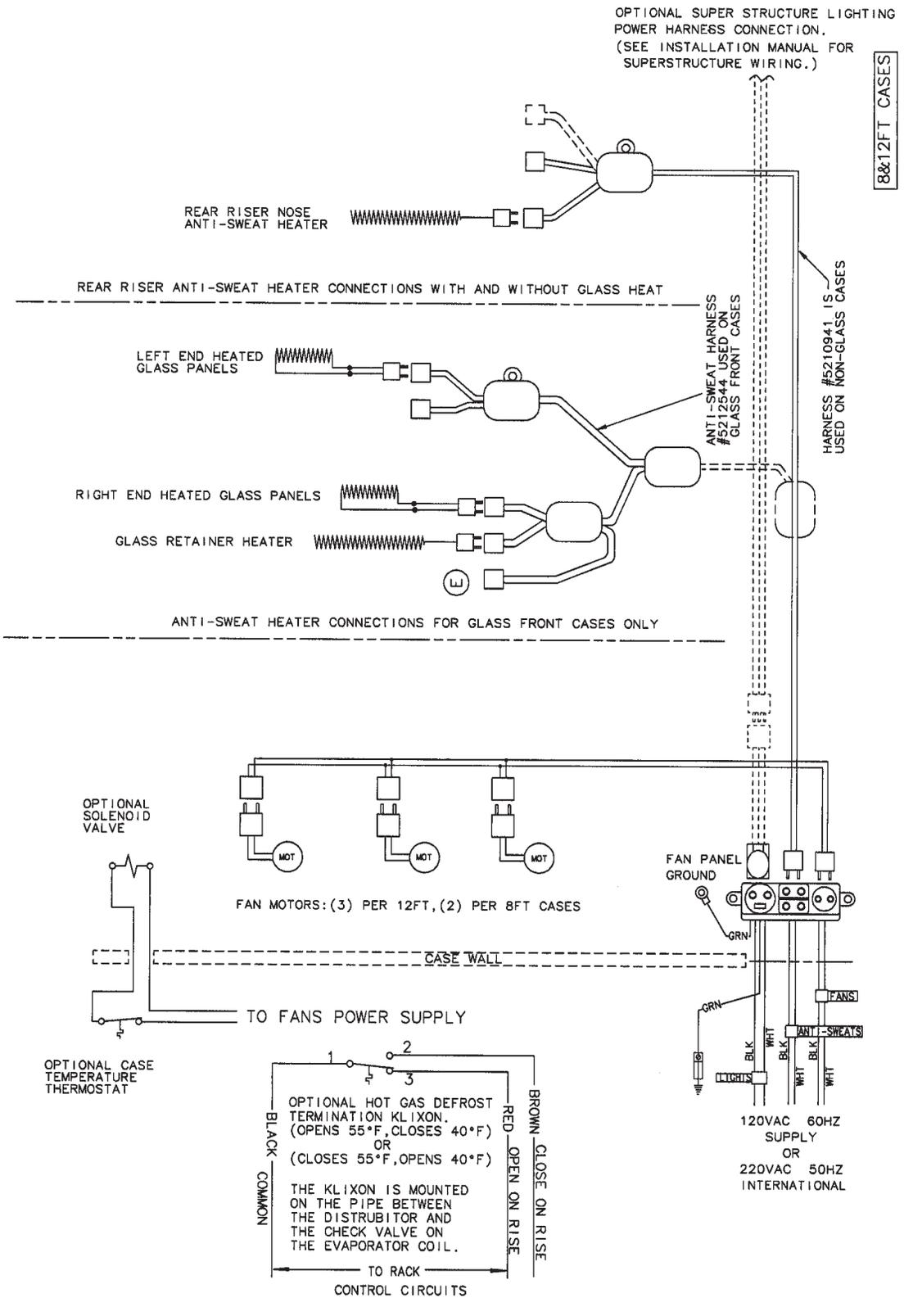
8&12FT CASES



REV	DESCRIPTION	DATE	BY	CHK
B	HEATER AND CHANGED THE BORDER	07OCT07 6XH	LC	CK
	REMOVED THE GLASS TRIM RAIL	21AUG01	NONE	NONE
	DECIMALS +/- .030 ANGLES +/- 1 DEG			
	DIAGRAM WRG ELEC DFR NFW(G)X NCWX			
	9037738			

NOTE: ALL CASES MUST BE GROUNDED

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2. INFORMATION IS FOR ENGINEERING USE ONLY.
3. ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE.
4. ANY TREATMENT TO FINISHED PART AFTER FABRICATION IS NOT ALLOWED.
5. NO MANUAL REVISIONS ALLOWED.



REV	DATE	BY	CHK	DATE	DESCRIPTION
B	22AUG01	LC	CK	27528	REMOVED THE GLASS RETAIN RAIL HEATER AND CHANGED THE BORDER
REV	DATE	BY	CHK	DATE	DESCRIPTION
B	22AUG01	LC	CK	27528	REMOVED THE GLASS RETAIN RAIL HEATER AND CHANGED THE BORDER
REV	DATE	BY	CHK	DATE	DESCRIPTION
B	22AUG01	LC	CK	27528	REMOVED THE GLASS RETAIN RAIL HEATER AND CHANGED THE BORDER

DIAGRAM WRG HG DFR NFW(G)X NCWX

9037739

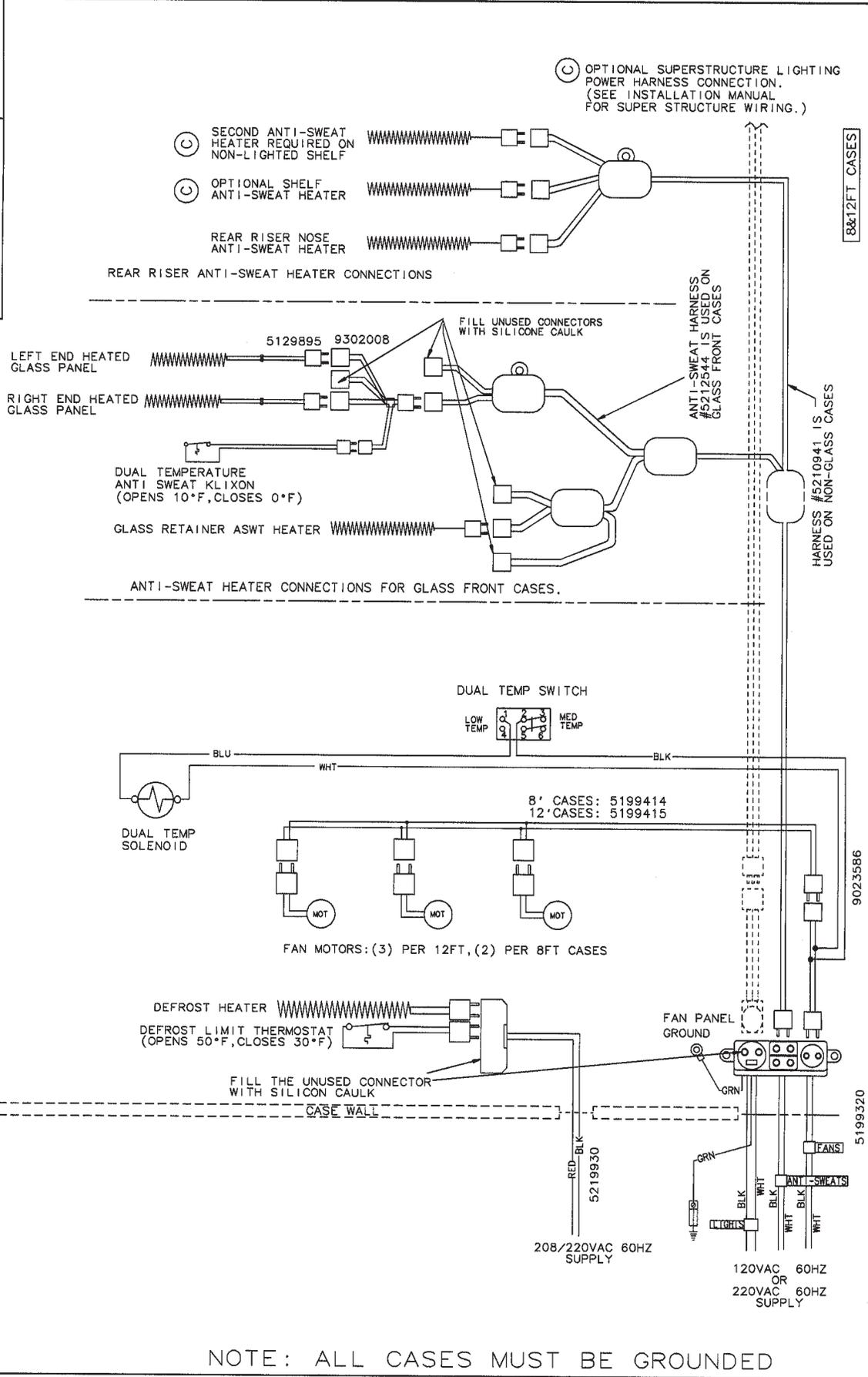
NOTE: ALL CASES MUST BE GROUNDED



# Dual Temperature Control Circuits - Electric Defrost

**TYLER**  
REFRIGERATION

1. TYLER REFRIGERATION OBTAINS RIGHTS TO ALL INFORMATION FOR ENGINEERING USE ONLY. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
2. DIMENSIONS ARE TO FINISHED PART AFTER ANY TREATMENT.  
3. ALL DIMENSIONS ARE TO FINISHED PART AFTER ANY TREATMENT.  
4. DIMENSIONS ARE TO FINISHED PART AFTER ANY TREATMENT.  
5. NO MANUAL REVISIONS ALLOWED.



(C) OPTIONAL SUPERSTRUCTURE LIGHTING POWER HARNESS CONNECTION. (SEE INSTALLATION MANUAL FOR SUPER STRUCTURE WIRING.)

(C) SECOND ANTI-SWEAT HEATER REQUIRED ON NON-LIGHTED SHELF

(C) OPTIONAL SHELF ANTI-SWEAT HEATER

REAR RISER NOSE ANTI-SWEAT HEATER

REAR RISER ANTI-SWEAT HEATER CONNECTIONS

LEFT END HEATED GLASS PANEL

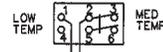
RIGHT END HEATED GLASS PANEL

DUAL TEMPERATURE ANTI SWEAT KLIXON (OPENS 10°F, CLOSES 0°F)

GLASS RETAINER ASWT HEATER

ANTI-SWEAT HEATER CONNECTIONS FOR GLASS FRONT CASES.

DUAL TEMP SWITCH



DUAL TEMP SOLENOID

8' CASES: 5199414  
12' CASES: 5199415

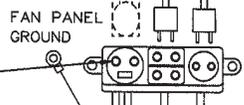
FAN MOTORS: (3) PER 12FT, (2) PER 8FT CASES

DEFROST HEATER

DEFROST LIMIT THERMOSTAT (OPENS 50°F, CLOSES 30°F)

FILL THE UNUSED CONNECTOR WITH SILICON CAULK

CASE WALL



208/220VAC 60HZ SUPPLY

120VAC OR 220VAC 60HZ SUPPLY

NOTE: ALL CASES MUST BE GROUNDED

REV	DESCRIPTION	DATE	BY	CHK	REV	DESCRIPTION	DATE	BY	CHK
C	UPDATED THE WIRING FOR THE THERMOMETER AND ADDED MODEL NAMES IN THE TITLEBLOCK	50004	090CT07	GKH	14DEC06	NONE	LC	WK	45151
REV	DESCRIPTION	DATE	BY	CHK	REV	DESCRIPTION	DATE	BY	CHK
C	DIAGRAM WRG ELEC DFR DT NFN(G)X NFW(G)X	9039740							

ALSO APPLIES TO 8&12FT: NFX NFN(G)X NFW(G)X NCS(G)X NFN(G)X NFW(G)X NCBX





## **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 Air Duct Panels**

1. Remove bottom trays and discharge air honeycomb, see this page.
2. Remove mounting screws from rear duct panel.
3. After cleaning, replace in reverse order.

#### **Front Air Duct Panels**

1. Remove bottom trays, 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 18 for corner trim removal instructions.
2. After cleaning trim and cladding components, replace front and rear cladding and corner trim components in reverse order using instructions below and on page 16.

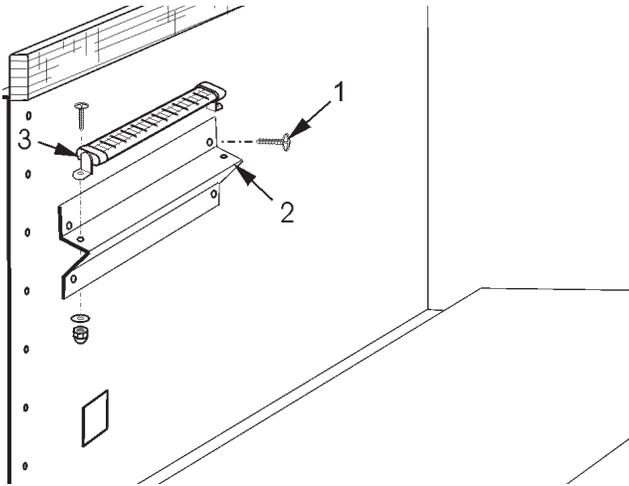
#### **Front & Rear Cladding**

1. Remove kickplates and raceway covers from front and rear of case.
2. Remove screws from bottom and top of front and rear cladding and pull cladding down to remove it from behind the bottom edge of the bumper retainer.
3. After cleaning, replace front and rear cladding and remaining 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.

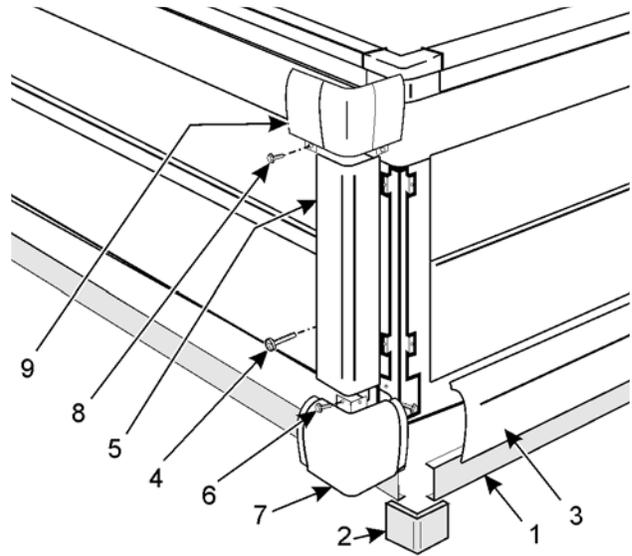
### NSF Product Thermometer Replacement



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 (NFWX/NCWX/NFWGX w/wrap ends) (NFWEX end cases)

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



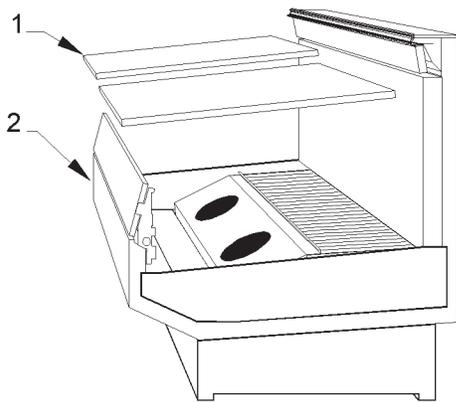
1. Remove kickplates (1) and kickplate corner trim (2).
2. Remove raceway covers (3) from both sides of the corner trim.
3. Remove four screws (4) and cladding corner trim (5).
4. Remove two top screws (6) from raceway corner trim (7), then lift and remove the raceway corner trim (7) from the retainers in the bottom slots.
5. Remove two bottom screws (8) and lift off the bumper corner trim (9).
6. Replace bumper corner trim, raceway corner trim, corner cladding trim, raceway covers and kickplates in reverse order.
5. Install new defrost heater (6) in reverse order.
6. Restore electrical power to case.

## Defrost Heater Replacement

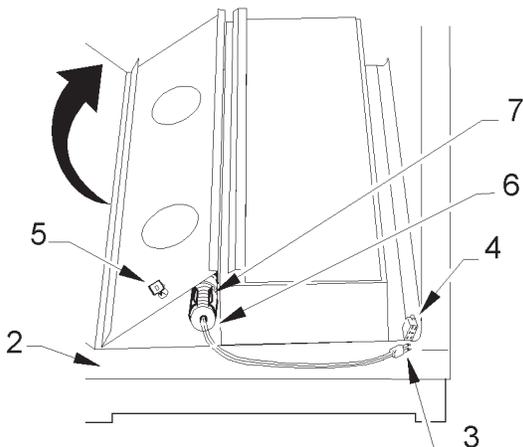
### **WARNING**

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.

Models NFWX/NCWX/NFWGX/NFWEX



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



2. Disconnect defrost heater plug (3) from junction block (4).
3. Unclip and lift up fan plenum (5).
4. Remove defrost heater (6) from mounting clips (7) and case (2).

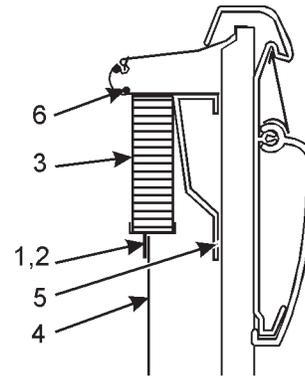
## Anti-Sweat Replacement

### **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.

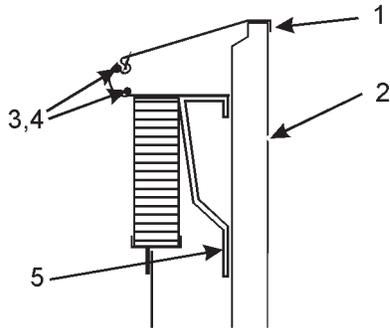
Discharge Air Grid Anti-Sweat (NFWX/NCWX)

1. Remove screws (1) retainer strip (2) and discharge air grid (3) from interior of the front case wall (4).



2. Remove mounting screws and support assembly (5) from air grid opening.
3. Disconnect or cut the defective anti-sweat wire (6) from the case wires.
4. Remove and replace the aluminum tape and defective anti-sweat wire (6) from top of support assembly (5).
5. Reconnect the anti-sweat wires and replace the support assembly, discharge air grid and mounting hardware.

**Discharge Air Grid Anti-Sweat  
(NFWEX only)**



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 rear guard trim (1) with screws.

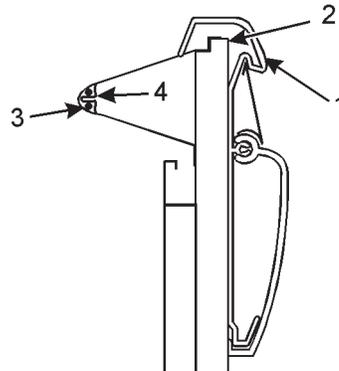
**Front Glass Retainer Anti-Sweat  
(NFWGX only)**

See “Front Glass Replacement” on page 21 for glass removal and glass retainer anti-sweat replacement instructions.

**Return Air Duct Anti-Sweat  
(NFWEX only)**

**NOTE**

Cladding corner trim, bumper corner trim, front bumper and front bumper retainer must be removed from the end case.

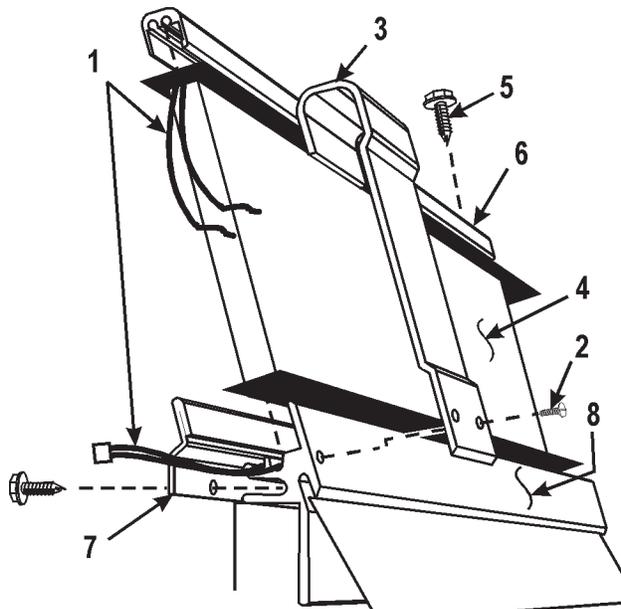


1. Remove screws and front trim assembly (1) from top of front case wall (2).
2. Disconnect or cut the defective anti-sweat wire (3) from the case wires.
3. Remove and replace the aluminum tape (4) and defective anti-sweat wire (3) from inside of front trim assembly (1).
4. Reconnect anti-sweat wires to case wires and reinstall front trim assembly with new rivets.
5. Install front bumper retainer, front bumper and all other removed corner trim on the end case.

## Front Glass Replacement (NFWGX only)

### NOTE

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



1. Unplug or disconnect heated glass panels and glass retainer 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 (4) from glass retainer assembly (8).

### NOTE

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

5. Apply sealant tape 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 (7) with screws (6) over top edge of new glass (4).
8. Install glass joint trim (3) with two screws (2) over the joint areas of glass (4).
9. Reconnect heated glass panels and glass retainer anti-sweat wires (1).

**PARTS INFORMATION**

**Operational Parts List**

**(Models NFWX/NCWX/NFWGX)**

Case Usage	Domestic		Export	
	115 Volt 60 Hertz		220 Volt 50 Hertz	
Case Size	8'	12'	8'	12'
Electrical Circuit				
Fan Motor	5125532 5 Watt	5125532 5 Watt	5126572 5 Watt	5126572 5 Watt
Fan Motor Brackets	5213132	5213132	5213132	5213132
Fan Bracket Plate	9041077	9041077	9041077	9041077
Fan Blades (6" 27° 3B)	5104294	5104294	5104294	5104294
Opt. ECM Fan Motor	9025002 8 Watt	9025002 8 Watt	-----	-----
Opt. ECM Fan Motor Brackets	5205279	5205279	-----	-----
Opt. ECM Fan Blades (6" 25-1/4° 3B)	9025138	9025138	-----	-----
Anti-Sweat Heater Wire (discharge air) (NFWX/NCWX)	5124818	5124819	5124216	5124217
(glass retainer) (NFWGX)	5218331	5218332	5081149	5081148
Electric Def. Heater	5124521	5124522	5124521	5124522
Electric Def. Term. Klixon	5125211	5125211	5125211	5125211
Opt. Gas Def. Fan Delay Klixon	9023503	9023503	9023503	9023503
Opt. Gas Def. Term. Klixon	9023508	9023508	9023508	9023508
NSF Product Thermometer	5967100	5967100	5967100	5967100

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

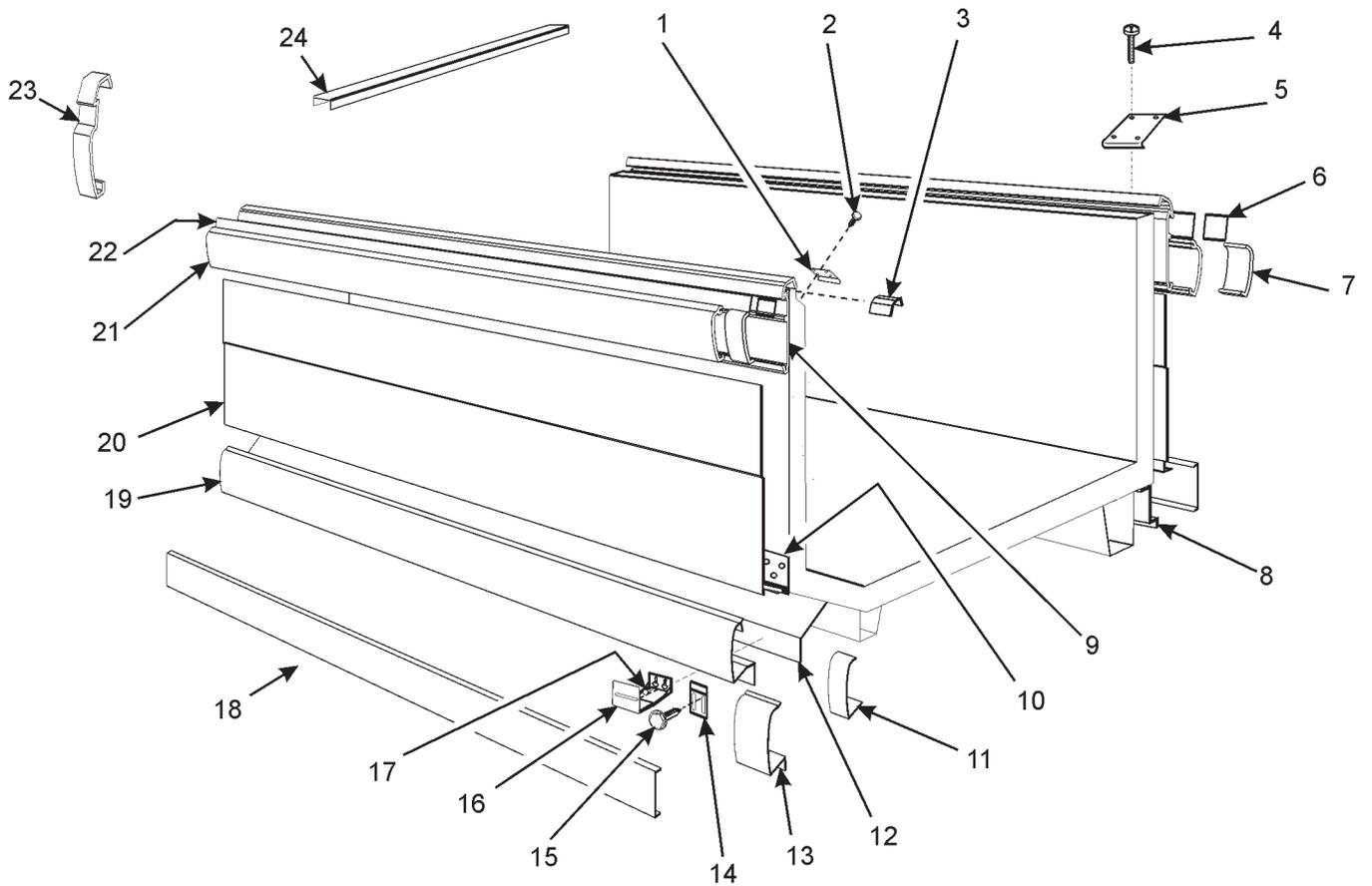
**(Model NFWEX)**

<b>Case Usage</b>	<b>Domestic</b>	<b>Export</b>
Electrical Circuit	115 Volt 60 Hertz	220 Volt 50 Hertz
Case Size	End Case	End Case
Fan Motor	5125532 5 Watt	5202538 5 Watt
Fan Motor Brackets	5213132	5213132
Fan Bracket Plate	9041077	9041077
Fan Blades (6" 27° 3B)	5104294	5104294
Opt. ECM Fan Motor	9025002 8 Watt	-----
Opt ECM Fan Motor Brackets	5205279	-----
Opt. ECM Fan Blades (6" 25-1/4° 3B)	9025138	-----
Anti-Sweat Heater Wire (discharge air)	5225810	5639012
(return air)	5225805	5639011
Electric Def. Heater	5225840	5225840
Electric Def. Term. Klixon	5125211	5125211
Opt. Gas Def. Fan Delay Klixon	9023503	9023503
Opt. Gas Def. Term. Klixon	9023508	9023508
NSF Product Thermometer	5967100	5967100

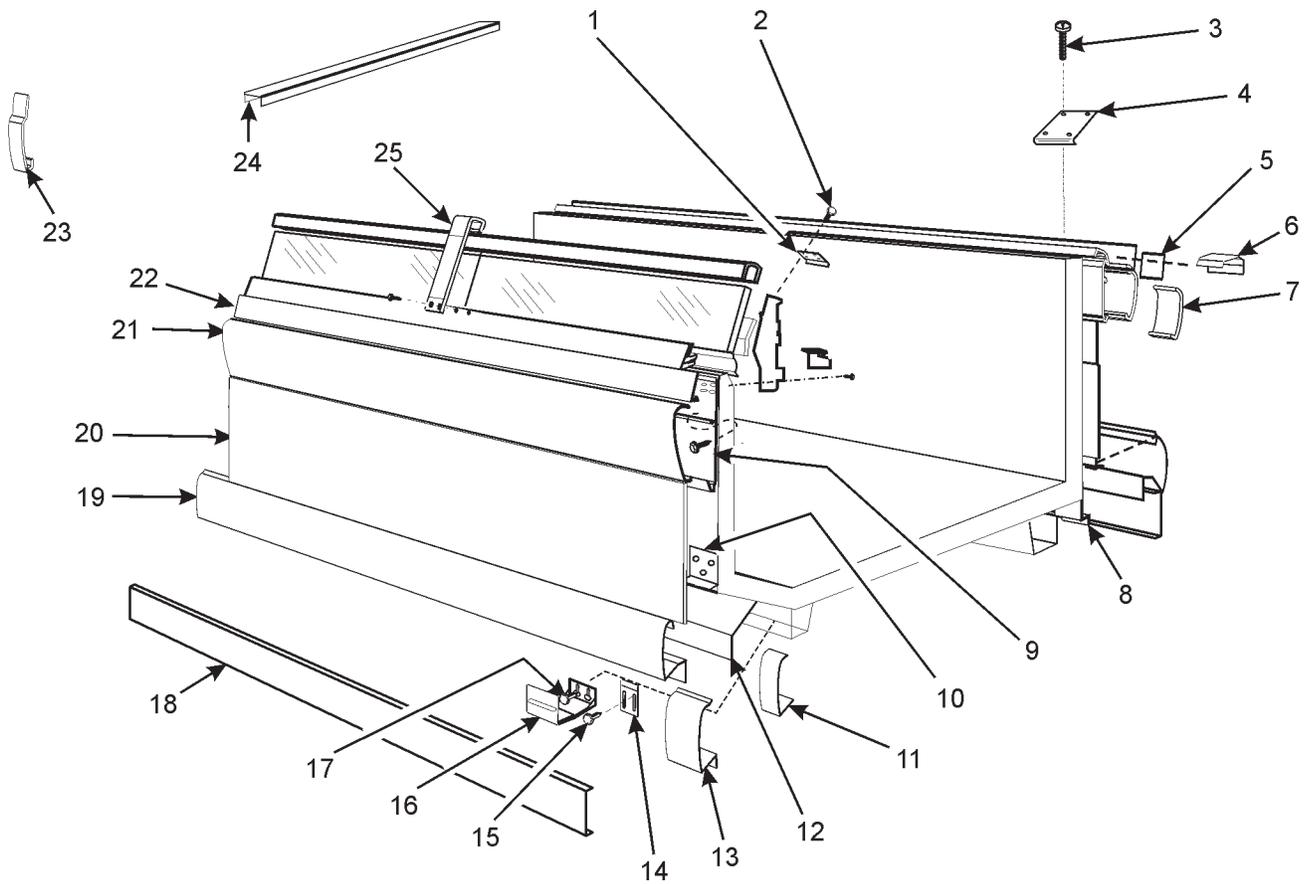
**For information on operational parts not listed above contact the TYLER Service Parts Department.**

**Cladding and Optional Trim Parts List**

Item	Description	NFWX, NCWX	
		8'	12'
1	Return Air Duct Trim	5207491	5207491
2	Screw	5145037 (4)	5145037 (4)
3	Handrail Backer	9025316 (2)	9025316 (2)
4	Screw	5145037 (4)	5145037 (4)
5	Top Rear Riser Joint Trim	5203016	5203016
6	Color Band Backer, Ptd.	9040223 (2)	9040223 (2)
7	Bumper Backer	---- color per order ----	---- color per order ----
8	Rear Raceway Cover Support	9041327 (4)	9041327 (4)
	Front Raceway Cover Support	9041324 (4)	9041324 (4)
	Screw (per support)	5183536 (8)	5183536 (8)
9	Bumper Retainer/Handrail	---- color per order ----	---- color per order ----
	Shoulder Screw	9025833 (36)	9025833 (52)
10	Cladding Retainer	9300197 (4)	9300197 (4)
11	Raceway Cover Backer	---- color per order ----	---- color per order ----
12	Raceway	9300218	9300219
13	Raceway Cover End Trim (per patch end)	---- color per order ----	---- color per order ----
14	Raceway Cover Retainer	9023841 (4)	9023841 (6)
15	Screw	5183536 (8)	5183536 (12)
16	Front Kickplate Support Assy.	9043402 (3)	9043402 (4)
	Rear Kickplate Support Assy.	9043401 (3)	9043401 (4)
17	Shoulder Screw	9025833 (6)	9025833 (8)
18	Metal Kickplate, Ptd.	9324399 (2)	9324406 (2)
	Kickplate Joint Trim, Ptd.	9324550 (2)	9324550 (2)
	Screw, Blk.	9324612 (10)	9324612 (12)
19	Raceway Cover	---- color per order ----	---- color per order ----
20	Front & Rear Cladding, Ptd.	9301351 (2)	9301352 (2)
21	Bumper	---- color per order ----	---- color per order ----
22	Front & Rear Color Band, Ptd.	9020971 (2)	9020972 (2)
23	Bumper End Trim (per patch end)	---- color per order ----	---- color per order ----
24	Horizontal End Trim	5128700	5128700



Item Description	NFWGX	
	8'	12'
1 Return Air Duct Trim	5207491	5207491
2 Screw	5145037 (4)	5145037 (4)
3 Screw	5145037 (4)	5145037 (4)
4 Top Rear Riser Joint Trim	5203016	5203016
5 Rear Color Band Backer, Ptd.	9040223	9040223
Front Color Band Backer, Ptd.	9025982	9025982
6 Rear Handrail Backer	9025316	9025316
7 Bumper Backer	---- color per order ----	----
8 Rear Raceway Cover Support	9041327 (4)	9041327 (4)
Front Raceway Cover Support	9041324 (4)	9041324 (4)
Screw (per support)	5183536 (8)	5183536 (8)
9 Front Bumper Retainer	9025058	9025061
Rear Bumper Retainer/Handrail	---- color per order ----	----
Shoulder Screw	9025833 (36)	9025833 (52)
10 Cladding Retainer	9300197 (4)	9300197 (4)
11 Raceway Cover Backer	---- color per order ----	----
12 Raceway	9300218	9300219
13 Raceway Cover End Trim (per patch end)	---- color per order ----	----
14 Raceway Cover Retainer	9023841 (4)	9023841 (6)
15 Screw	5183536 (8)	5183536 (12)
16 Front Kickplate Support Assy.	9343402 (3)	9343402 (4)
Rear Kickplate Support Assy.	9343401 (3)	9343401 (4)
17 Shoulder Screw	9025833 (8)	9025833 (8)
18 Metal Kickplate, Ptd.	9324399 (2)	9324406 (2)
Kickplate Joint Trim, Ptd	9324550 (2)	9324550 (2)
Screw, Blk.	9324612 (10)	9324612 (12)
19 Raceway Cover	---- color per order ----	----
20 Front Cladding, Ptd.	9301351	9301352
Rear Cladding, Ptd.	9025637	9025638
21 Bumper	---- color per order ----	----
22 Front Color Band, Ptd.	9020971	9020972
Rear Color Band, Ptd.	9023798	9023800
23 Bumper End Trim (per patch end)	---- color per order ----	----
24 Horizontal End Trim	5128700	5128700
25 Glass Joint Trim Assembly	9031808	9031808
Screw (per joint trim)	5048626 (2)	5048626 (2)



		NFWEX	
Item Description	Front	Side	
1	Screw (per trim)	----	5183536 (2)
2	LH Joint Riser Trim	----	5216949
	RH Joint Riser Trim	----	5216948
3	Side Bumper Retainer/Handrail	----	color per order
4	Side Color Band, Ptd.	----	9025640 (2)
5	Side Bumper	----	color per order
6	Side Cladding, Ptd.	----	9025640 (2)
7	Side Raceway Cover	----	color per order
8	Shoulder Screw (per side)	----	9025833 (8)
9	Bumper Backer (per end case)	----	color per order
10	Side Metal Kickplate, Ptd.	----	9324384 (2)
	Screw, Blk.	----	9324612 (4)
11	Shoulder Screw (per kickplate support)	9.25833 (2)	9025833 (2)
12	Kickplate Support Assembly	9042341 (2)	9042341 (4)
13	Raceway Cover Support	----	9041327 (4)
	Screw (per support)	----	5183536 (2)
14	Raceway Cover Backer	-----color per order	-----
15	Cladding Retainer	9300197 (4)	9300197 (4)
15	Front Raceway	9301365	----
	RH Side Raceway	----	9300267
	LH Side Raceway	----	9300268
17	Raceway Cover Support	9041324 (4)	----
18	Raceway Cover Retainer	9023841 (2)	9023841 (4)
	Screw	5183536 (4)	5183536 (8)
19	Shoulder Screw	9025833 (21)	----
20	Front Color Band, Ptd.	9023791	----
21	Front Raceway Cover	color per order	----
22	Front Cladding, Ptd.	9025641	----
23	Front Bumper	color per order	----
24	Front Metal Kickplate, Ptd.	9324386	----
25	Kickplate Corner Trim, Ptd.	9324546 (2)	----
	Screw, Blk.	9324612 (6)	----
26	Corner "L" Bracket	9300456 (2)	----
	Screw (per bracket)	5183536 (2)	----
27	Raceway Corner Trim	color per order	----
	Screw (per trim)	5183536 (2)	----
	Washer (per trim)	5100982 (2)	----
28	Screw (per corner cladding)	5183536 (4)	----
29	Corner Cladding, Ptd.	9026182 (2)	----

**Installation & Service Manual**

Item	Description	Front	Side
30	Bumper Corner Trim	color per order	----
	Screw (per corner trim)	5183536 (2)	----
	Washer (per corner trim)	5100982 (2)	----
31	Front Bumper Retainer/Handrail	color per order	----

