



Carrier

A United Technologies Company

series
Advantage

Installation & Service Manual



**NFJGCX, NCJGCX, NTJGCX, NFMJGCX,
NFJGECX, NCJGECX**

**GLASS FRONT JUMBO ISLAND FROZEN FOOD/ICE CREAM/
MEDIUM TEMP MERCHANDISERS**

Low, Medium and Dual 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 - 2003.

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The following Frozen Food, Ice Cream, Medium Temperature and Dual Temperature Split Coil Merchandiser models are covered in this manual:

MODEL	DESCRIPTION
NFJGCX	8' & 12' GLASS FRONT JUMBO ISLAND FROZEN FOOD OR MEDIUM TEMPERATURE MERCHANDISERS
NCJGCX	8' & 12' GLASS FRONT JUMBO ISLAND ICE CREAM MERCHANDISERS
NTJGCX	8' & 12' GLASS FRONT JUMBO ISLAND LOW AND MEDIUM TEMPERATURE DUAL TEMP SPLIT COIL MERCHANDISERS
NFMJGCX	8' & 12' GLASS FRONT JUMBO ISLAND LOW AND MEDIUM TEMPERATURE DUAL TEMP SPLIT COIL MERCHANDISERS
NFJGECX	GLASS FRONT JUMBO ISLAND FROZEN FOOD OR MEDIUM TEMPERATURE END MERCHANDISER
NCJGECX	GLASS FRONT JUMBO ISLAND ICE CREAM END MERCHANDISER

SPECIFICATIONS

NFJGCX/NCJGCX/NTJGCX/NFMJGCX/NFJGECX/NCJGECX Glass Front Jumbo Island and End Frozen Food/Ice Cream/Med 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)	
NFJGCX	8', 12'	FROZEN	643	671	-25**	-28	-15	246***	0.85
NCJGCX	8', 12'	ICE CREAM	759	778	-35**	-38	-25	246***	0.85
NFJGCX	8', 12'	MED TEMP	552	566	+15**	+13	+22	246***	0.85
NFJGCX/ NFMJGCX	8', 12'	FROZ / MED TEMP	322 / 276	336 / 283	-25 / +15**	-28 / +13	-15 / +22	246***	0.43 / 0.43
NTJGCX	8', 12'	FROZ / ICE CRM	322 / 379	336 / 389	-25 / -35**	-28 / -38	-15 / -25	246***	0.43 / 0.43
NFJGECX	77 1/2"	FROZEN	1,929****	2,013****	-25**	-28	-15	242***	0.35
NCJGECX	77 1/2"	ICE CREAM	2,276****	2,334****	-35**	-38	-25	242***	0.35
NFJGECX	77 1/2"	MED TEMP	1,656****	1,698****	+15**	+13	+22	242***	0.35

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

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

*** Air velocity is measured 1 hour after defrost at the Discharge Air Ducts.

**** BTUH rating is for entire end case. Stand alone end cases require higher capacity loads. ADD 40.9% to frozen NFJGECX loads;

ADD 52% to ice cream NCJGEC loads; ADD 45.8% to medium temp NFJGECX loads.

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 (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL FOR STANDARD FANS		TOTAL FOR ECM FANS		T-8 LIGHTING FOR OPT. SUPERSTRUCTURE	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
N(F/C/T/FM)JGCX	8'	4	1.36	120.8	0.48	13.6	2.00	240.0
N(F/C/T/FM)JGCX	12'	6	2.04	181.2	0.72	20.4	3.00	360.0
NFJGECX	77 1/2"	2	0.68	60.4	0.24	6.8	0.30	36.0

Heaters (120 and 208 Volt)

MODEL	CASE LENGTH	ANTI-SWEAT HEATERS (120 V)						HEATED GLASS (120V)*		DEFROST HEATERS (208 V)		DRAIN PAN HEATER (120V) HG	
		DISCHARGE AIR		GLASS RETAINER		OPT. SUPERSTRUCTURE		AMPS	WATTS	COIL		DRAIN PAN (208V) Elec	
		AMPS	WATTS	AMPS	WATTS	AMPS	WATTS			AMPS	WATTS	AMPS	WATTS
NFJGCX/NFMJGCX	8'	1.92	230.4	1.88	226.2	3.80	456.0	1.32	158.0	13.80	2,860	2.24	466
NCJGCX/NTJGCX	8'	1.92	230.4	1.88	226.2	3.80	456.0	1.32	158.0	21.64	4,500	2.88	600
NFJGCX/NFMJGCX	12'	2.54	304.8	2.50	300.0	5.20	324.0	1.98	238.0	20.60	4,290	3.36	700
NCJGCX/NTJGCX	12'	2.54	304.8	2.50	300.0	5.20	324.0	1.98	238.0	34.62	7,200	4.33	900
NFJGECX/NCJGECX	77 1/2"	0.39	47.0	1.16	138.0	1.30	156.0	0.93	111.6	7.81	1,624	N/A	N/A

* Heated glass should be disconnected in case or case sections during medium temperature operation.

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

208 VOLT DEFROST (AMPS)														
FEET	8	12	16	20	24	28	32	36	40	44	48	52		
FF/MED 1 PH	16.0 TG-30	24.0 TG-30	32.0 TG-40	40.0 TG-50	(Separate circuit recommended due to high amp draw) N/A									
FF/MED 3 PH	12.1 TG-3-30	20.7 TG-3-30	18.6 TG-3-30	18.2 TG-3-30	31.1 TG-3-40	32.8 TG-3-40	37.0 TG-3-50	15.6/15.6 TG-3-30-30	15.6/24.2 TG-3-30-30	26.8/26.8 TG-3-40-40	31.0/31.0 TG-3-40-40	32.0/32.0 TG-3-40-40		
IC 1 PH	24.5 TG-30	38.9 TG-50	(Separate circuit recommended due to high amp draw) N/A											
IC 3 PH	21.0 TG-3-30	34.0 TG-3-50	32.0 TG-3-40	38.0 TG-3-50	34/34 TG-3-40-40	28/28 TG-3-40-40	34/34 TG-3-40-40	34/34 TG-3-40-40	38/38 TG-3-50-50	34/34/34 TG-3-40-40-40	34/34/34 TG-3-40-40-40	38/38/38 TG-3-50-50-50		

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.

Installation & Service Manual

NFJGCX, NCJGCX, NTJGCX, NFMJGCX, N(F/C)JGECX

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING											
FEET	8	12	16	20	24	28	32	36	40	44	48
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 Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	EPR SETTINGS **		DEFROST WATER (LB / FT / DAY)
				R22 (PSIG)	R404A (PSIG)	
ELECTRIC / FF	1	60	50	7	14	0.68
ELECTRIC / IC	1	36	50	3	8	0.58
ELECTRIC / MED	1	36	50	37	50	0.45
HOT GAS / FF	2-3	20-25	55*	7	14	0.68
HOT GAS / IC	2-3	25-30	55*	3	8	0.58
HOT GAS / MED	2-3	16-20	55*	37	50	0.45

* If an Electronic Sensor is used for termination, it should be set at 65°F termination temperature.

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

NFJGCX / NCJGCX / NFMJGCX / NTJGCX APPLICATIONS:

The NFJGCX, NCJGCX, NFMJGCX and NTJGCX cases can be used in a wide variety of applications as described below:

- NFJGCX/NCJGCX:** These models have front and rear coils piped together and both wells are run off one compressor system. Always pipe the compressor system that will supply the coldest application usage.
1. Frozen food on both sides.
 2. Ice cream on both sides. (NCJGCX only)
 3. Medium temp on both sides. No dual temp control is needed, but you must specify the proper expansion valve and size the compressor system accordingly. **NOTE:** Disconnect the heated glass when using this case at medium temp.
 4. Frozen food on one side and ice cream on the other side. (NCJGCX only)
 5. Frozen food on one side and medium temp on the other side. **NOTE:** Disconnect the heated glass on the medium temp side.
 6. Frozen food on one side and dual temp on the other side. **NOTE:** Dual temp refers to frozen food or medium temp operation by use of a dual temp control. Dual temp also requires an expansion valve sized for the coldest dual temp operation. The dual temp control will automatically disconnect the heated glass during medium temp operation.
 7. Dual temp on both sides. **NOTE:** This requires either one or two dual temp controls. Use one dual temp control when both wells are controlled together. Use two separate dual temp controls when you want to control the front and rear wells separately on one compressor.
- NTJGCX/NFMJGCX:** These models have the front and rear coils piped separately. This case is designed to run off separate compressor systems and operate in dual temp applications. In addition, this version has an insulated center partition to aid in maintaining the temperature differences between the two sides. Both sides must defrost at the same time.

TYPICAL USAGES:

1. Frozen food on one side and ice cream on the other side. (NTJGCX only)
2. Frozen food on one side and medium temp on the other side. (NFMJGCX only) **NOTE:** Disconnect the heated glass on the medium temp side.
3. Frozen food on one side and dual temp on the other side. **NOTE:** Dual temp refers to frozen food or medium temp operation by use of a dual temp control. Dual temp also requires an expansion valve sized for the coldest dual temp operation. The dual temp control will automatically disconnect the heated glass during medium temp operation.
4. Dual temp on both sides. **NOTE:** This requires two dual temp controls to control both the front and rear wells on their respective compressor systems.

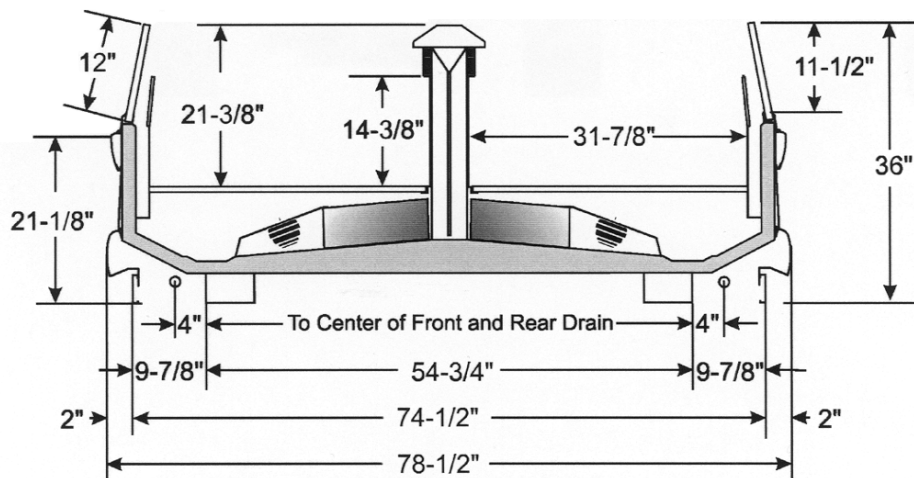
NON-TYPICAL USAGES:

5. Frozen food on both sides.
6. Ice cream on both sides. (NTJGCX only)
7. Medium temp on both sides. No dual temp control is needed, but you must specify the proper expansion valve and size each compressor system accordingly. (NFMJGCX only) **NOTE:** Disconnect the heated glass when using this case at medium temp.

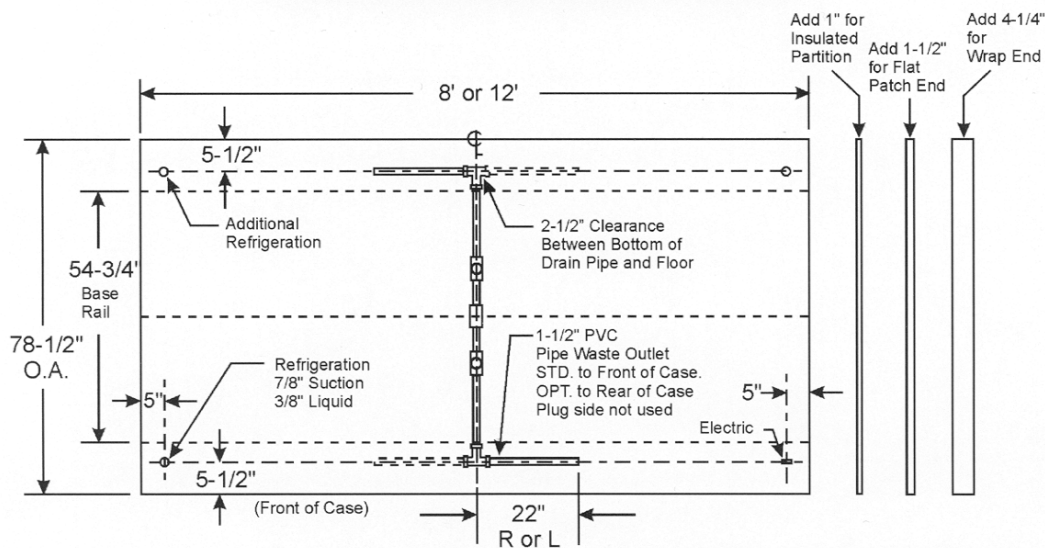
DEFROST WIRING: There are two heaters circuits in each case. The heater wiring stubs out in the 208V raceway as two pairs of wires. Defrost circuits can therefore be wired as a single phase load or they can be wired as an unbalanced 3-phase load. The 3-phase defrost information is based on dividing the heater loads as evenly as possible across the phases.

NOTE: Optional shelving superstructures with lights have the same electrical requirements per row of lights as the amps shown.

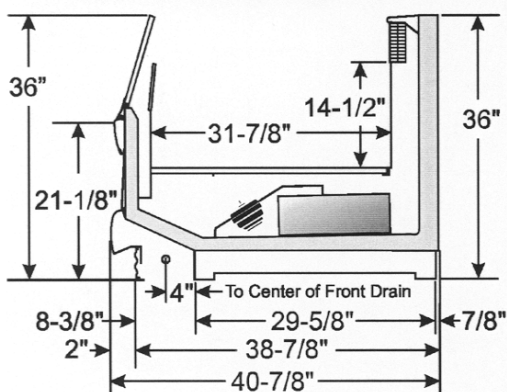
NFJGCX/NCJGCX/NTJGCX/NFMJGCX CROSS SECTION



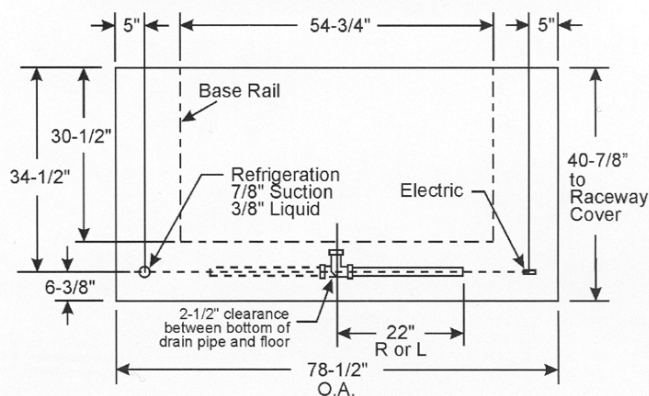
NFJGCX/NCJGCX/NTJGCX/NFMJGCX FLOOR PLAN



NFJGECX/NCJGECX END CASE CROSS SECTION



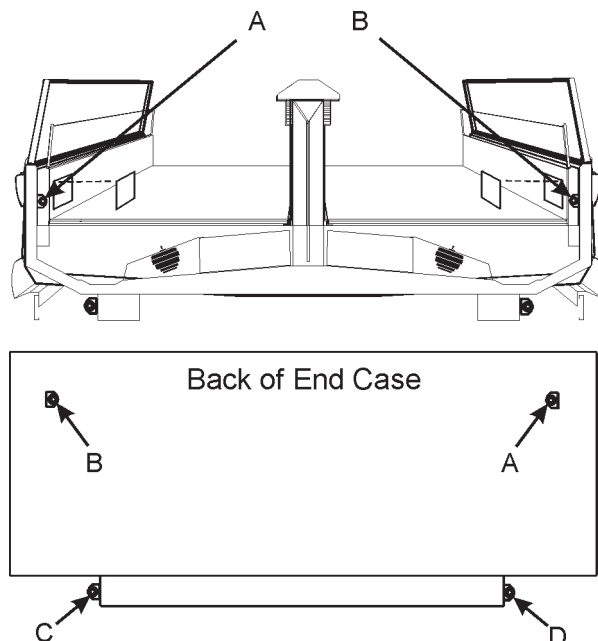
NFJGECX/NCJGECX END CASE FLOOR PLAN



INSTALLATION PROCEDURES

Carpentry Procedures

Case Pull-Up Locations



The NFJGCX/NCJGCX/NTJGCX/NFMJGCX 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 NFJGECX and NCJGECX models have four pull-ups at the rear of the case. Pull-ups A, B, C and D are located as shown and used for joining end cases. Pull-ups C and D are shipped loose. All pull-ups 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.

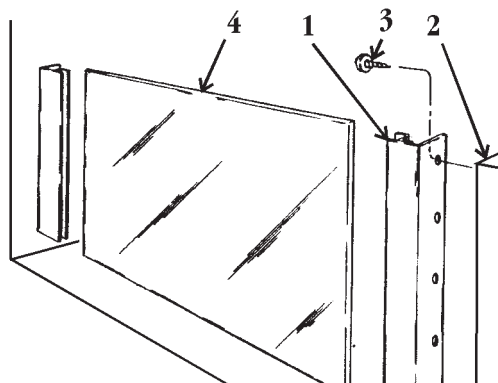
Apply sealant to outside surface of partition where the two surfaces of the adjoining case will contact the partition.

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

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

Plexiglas Partition

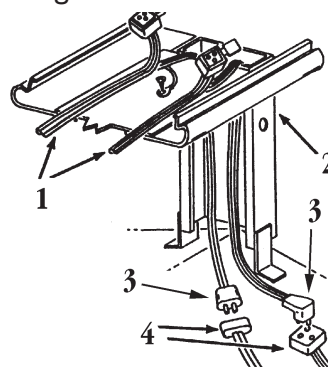
A plexiglas plug partition is required on adjacent electric defrost cases that are on different defrost schedules. These partitions can be installed after the cases have been joined.



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).

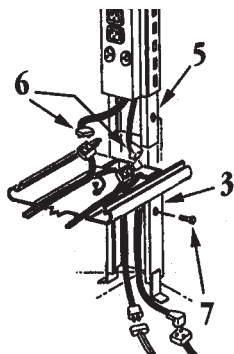
Superstructure Installation

Make sure discharge air grids are removed. Remove top riser cap knockouts and 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

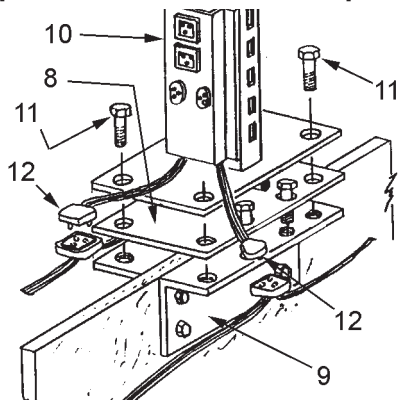
post socket. The light harness male plug goes down the RH post socket (3) and plugs into the matching receptacle in the 115V case wiring block (4). Replace insulation.



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

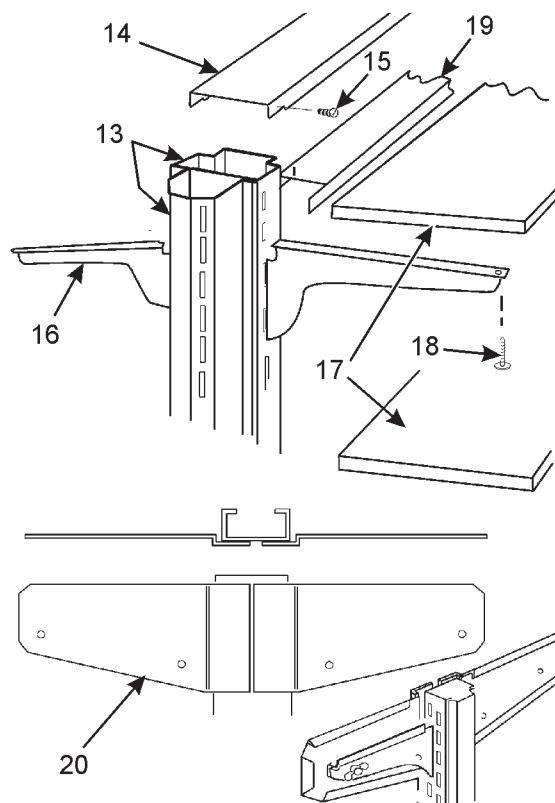
On 12' cases, the electrical outlets on the center posts must face the end posts.



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

NOTE

Items 8 and 9 will be shipped loose on superstructures ordered through TYLER Service Parts Department. Separate installation instructions will be provided with the superstructures.

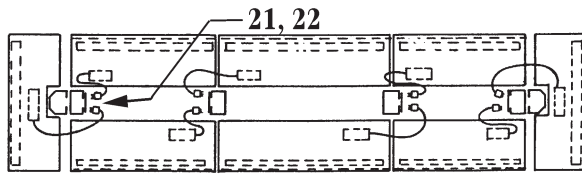


4. Install the LH end post (13) as described in step 2.

NOTE

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

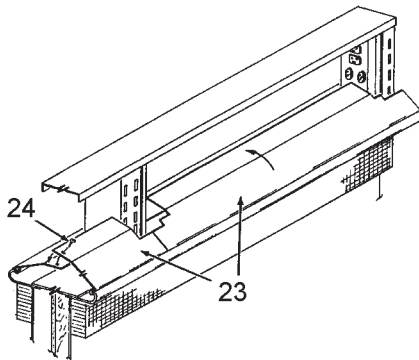
5. Position the upright alignment channel (14) on top of the upright posts (13). Using the holes in the upright alignment channel as a guide, drill 1/8" pilot holes in the upright posts (13) and secure with screws (15).
6. Install each pair of shelf brackets (16) in slots in upright posts (13). Use one RH and one LH bracket per shelf. Superstructures with end shelves have angled brackets on the end shelf uprights (13).
7. Position shelves (17) on shelf brackets (16) and install front alignment screws (18).
8. Install shelving close-offs (19) in space between shelves. The close-offs are supported by the shelf brackets (16). If end close-offs (20) are supplied, they are also secured to the shelf brackets (16).



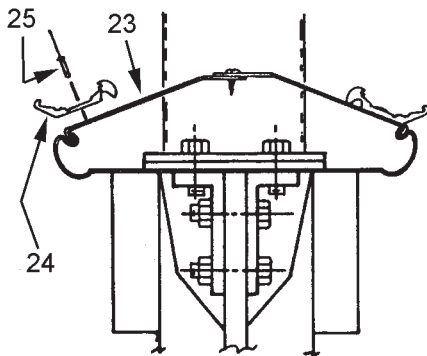
9. Plug in the shelf anti-sweat heaters (21) and shelf lights (22).

NOTE

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



10. Install top riser caps (23) on top of the center partition. Drill pilot holes in the top center of the two riser caps and secure with screws (24).



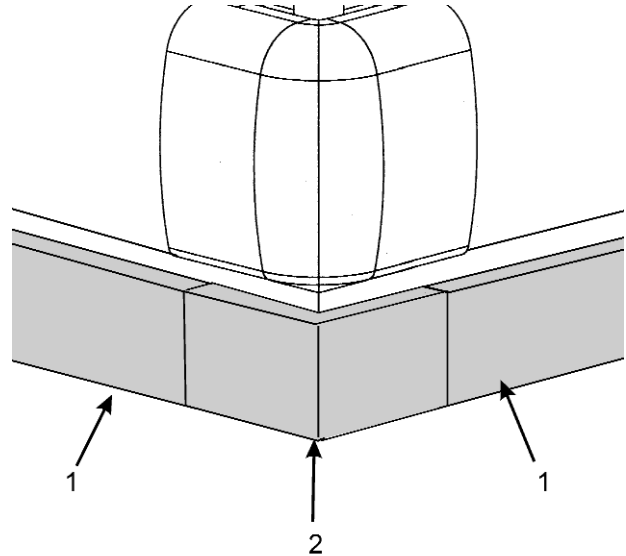
11. Position card moulding (25) as shown and drill 1/8" pilot holes in riser caps (23). Secure card mouldings (25) to riser caps (23) with screws (26).

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, position kickplate corner trim (2) over both ends of the kickplates (1) and secure with screws.

Bottom Trays

CAUTION

Placing product directly on bottom trays could break a bottom tray and/or cause damage to the case.

The bottom trays are made from polypropylene. They are designed to be non-weight bearing. After the bottom trays have been installed, be sure to install the bottom screens before stocking the case with product.

Plumbing Procedures

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

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.

NFJGCX is for frozen food or medium temp usage and is equipped with one electric defrost heater on each side. The entire case, both sides, will operate at low or medium temperatures.

NCJGCX is for ice cream usage and is equipped with one electric defrost heater on each side. The entire case, both sides, runs from a single refrigeration system.

NTJGCX and NFMJGCX are dual temp split coil cases. The NTJGCX version is for ice cream on one side and frozen food on the other. The NFMJGCX version is for frozen food on both sides. Both versions are equipped with one electric defrost heater on each side. These cases also have an insulated center partition to aid in maintaining the temperature difference in the two side. This allows either side of the case to run from separate refrigeration systems.

The NTJGCX or NFMJGCX 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 operations. The evaporator coils are piped individually so there are two refrigeration stub-ups.

The NFJGCX case can also be set up for dual temperature operations, but the evaporator coils are piped together so there is only one refrigeration stub-up. This case requires extra refrigeration components to allow it to perform dual temperature operations.

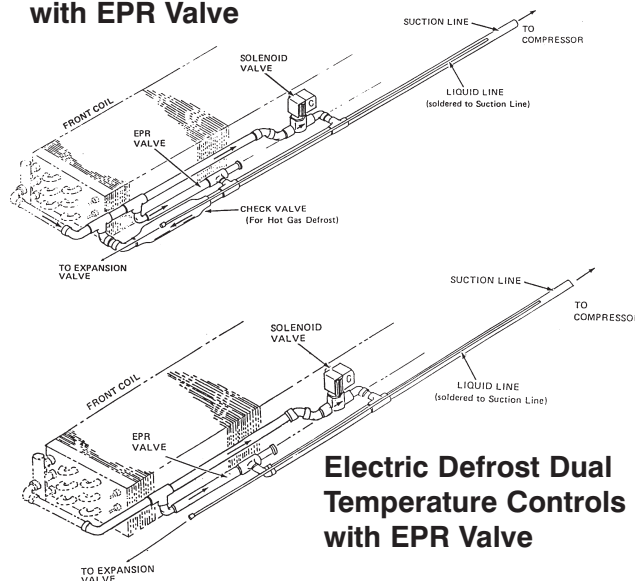
NFJGCX or NFMJGCX cases set up for electric defrost medium temp applications utilize the standard defrost heaters. Gas defrost medium temp applications incorporate a fan delay klixon.

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.

Gas Defrost Dual Temperature Controls with EPR Valve



Electric Defrost Dual Temperature Controls with EPR Valve

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 14 psig of suction pressure. With the suction line solenoid open, the coil pressure operates at 14 psig with a temperature of -25°F. When toggle switch is flipped, the solenoid closes directing the flow through the EPR valve. If the EPR valve is set for 49.5 psig, the evaporator will see a coil temperature of 15°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 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 NFJGCX or NFMJGCX case does 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. Cases being used for Low Temp applications with electric or gas defrost, keep fans on all the time. Cases being used for Medium Temp applications with electric defrost, also keep fans on all the time. Cases being used for Medium Temp applications with gas defrost cycle fans with a 50/40 klixon.

Anti-Sweat Circuit

NFJGCX/NCJGCX/NTJGCX/NFMJGCX cases have one anti-sweat heater on each side of the top of the center riser (discharge air) and one under each perimeter glass retainer. When cases are equipped with an optional superstructure, there is an anti-sweat heater on the superstructure. NFJGECX and NCJGECX end cases have one anti-sweat heater in the discharge air grid and one under each 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 can be equipped with one row of 430MA T-12 or 265MA T-8 shelf lights.

Defrost Information

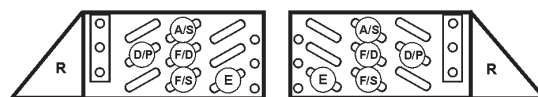
See "General-UL/NSF I&S Manual" for operational descriptions for each type of defrost control.

Defrost Control Chart

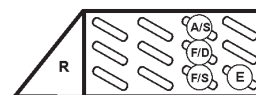
Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Electric/FF	1	60	50°F
Electric/IC	1	36	50°F
Electric/MED	1	36	50°F
Gas/FF	2-3	20-25	55°F
Gas/IC	2-3	25-30	55°F
Gas/MED	2-3	16-20	55°F

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.

NFJGCX-NCJGCX-NTJGCX-NFMJGCX



NFJGECX-NCJGECX



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

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 Dual Temp Split Coil 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 (NTJGCX or NFMJGCX 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 (NFJGCX/NCJGCX/NFJGECX/NCJGECX) have individual coil piping that needs to be joined at installation when both sides and/or ends are on the same system. Dual Temp Split Coil cases (NTJGCX/NFMJGCX) 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

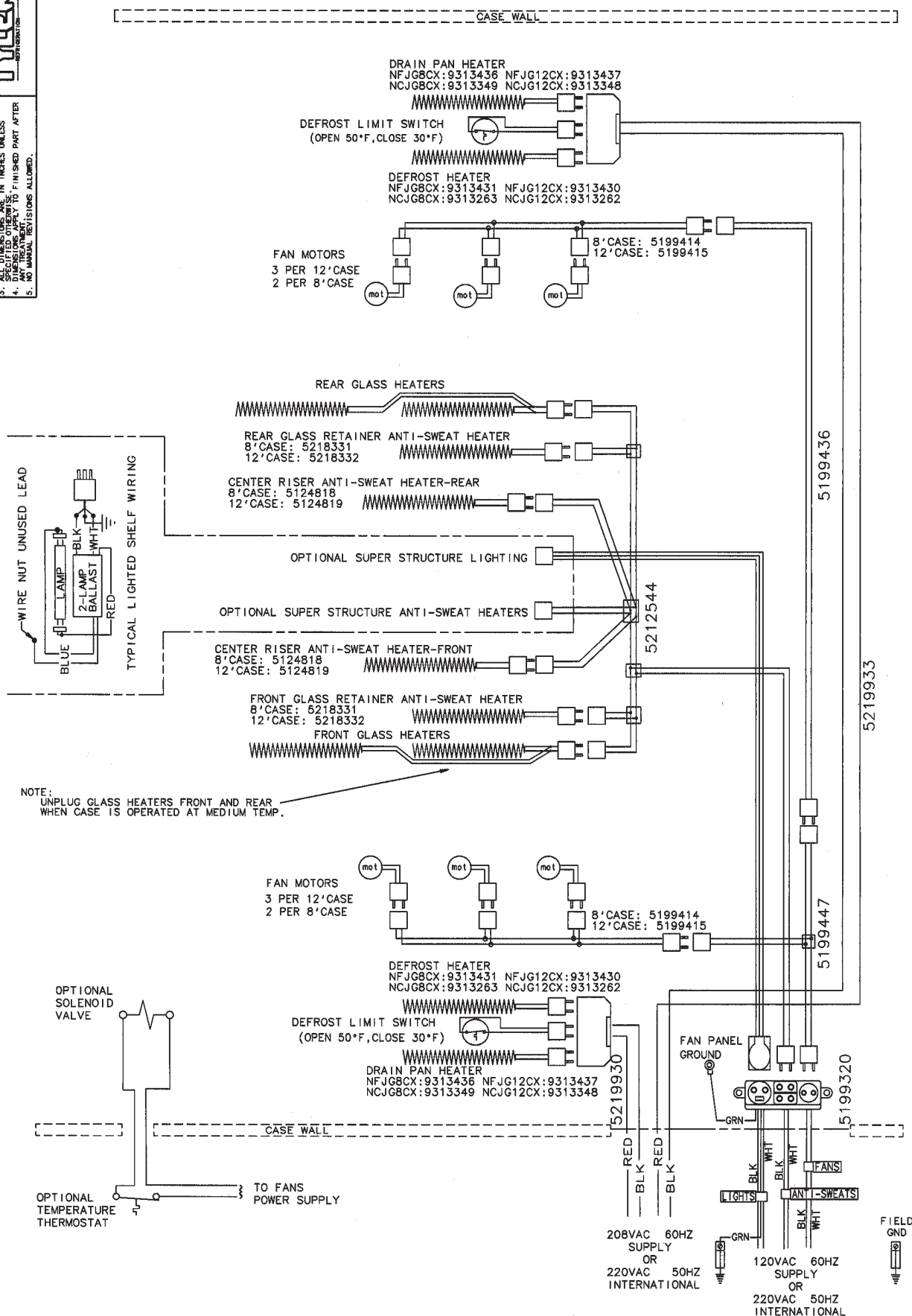
ELECTRICIAN NOTE - OVERCURRENT PROTECTION

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 13 thru 23 will cover the NFJGCX/NCJGCX/NTJGCX/NFMJGCX/NFJGECX/NCJGECX case circuits, electric defrost circuit, gas defrost circuit, dual temperature control circuits and the superstructure wiring circuit.

TYLER
—SELECTION—

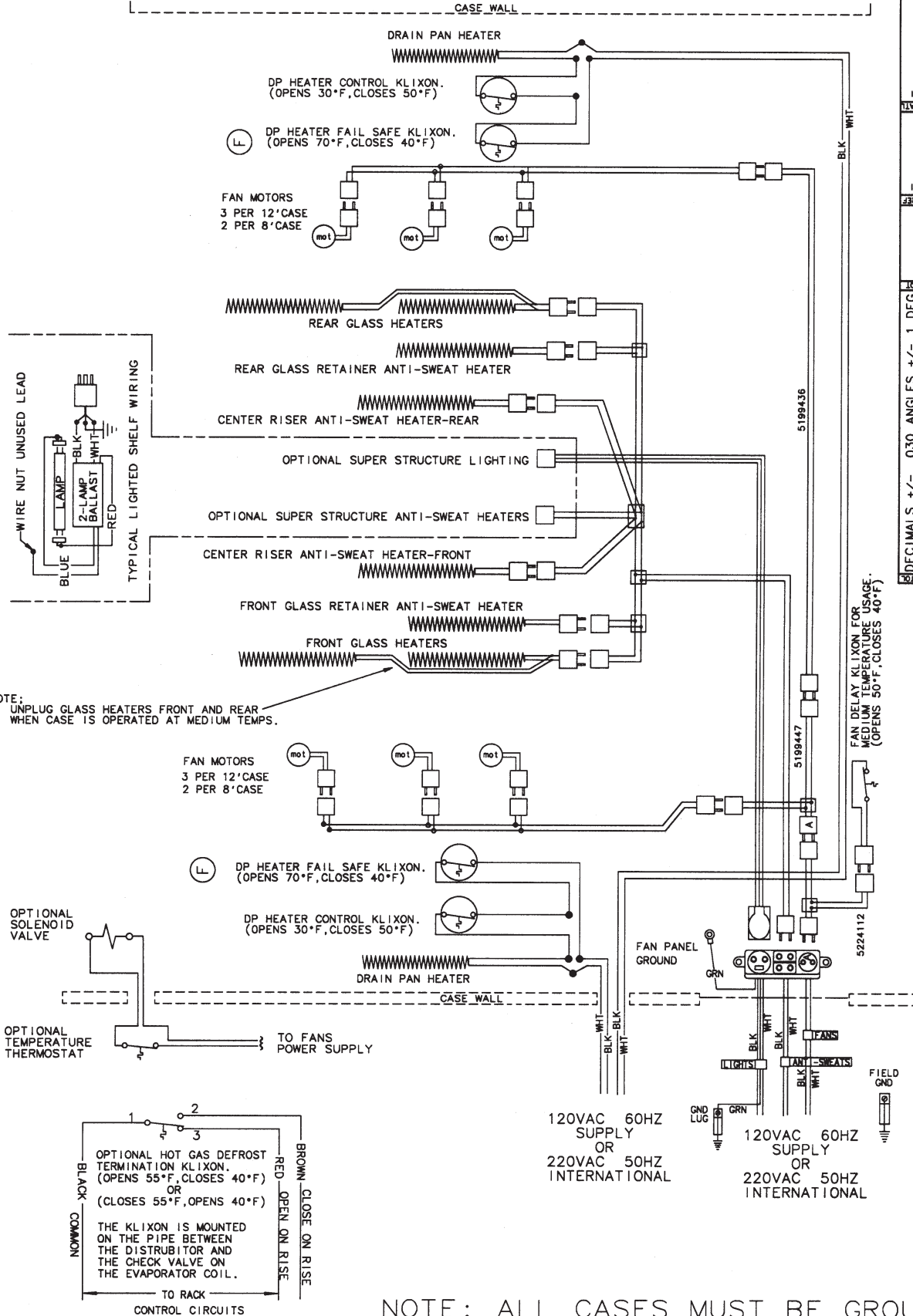
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NOTE: ALL CASES MUST BE GROUNDED

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REV	DATE	BY	CHK	REL	DATE	DESCRIPTION
1	18DEC03	LC	SA, AS	32045		
2	08FEB08	GKH				
3	50285					
4						
5						

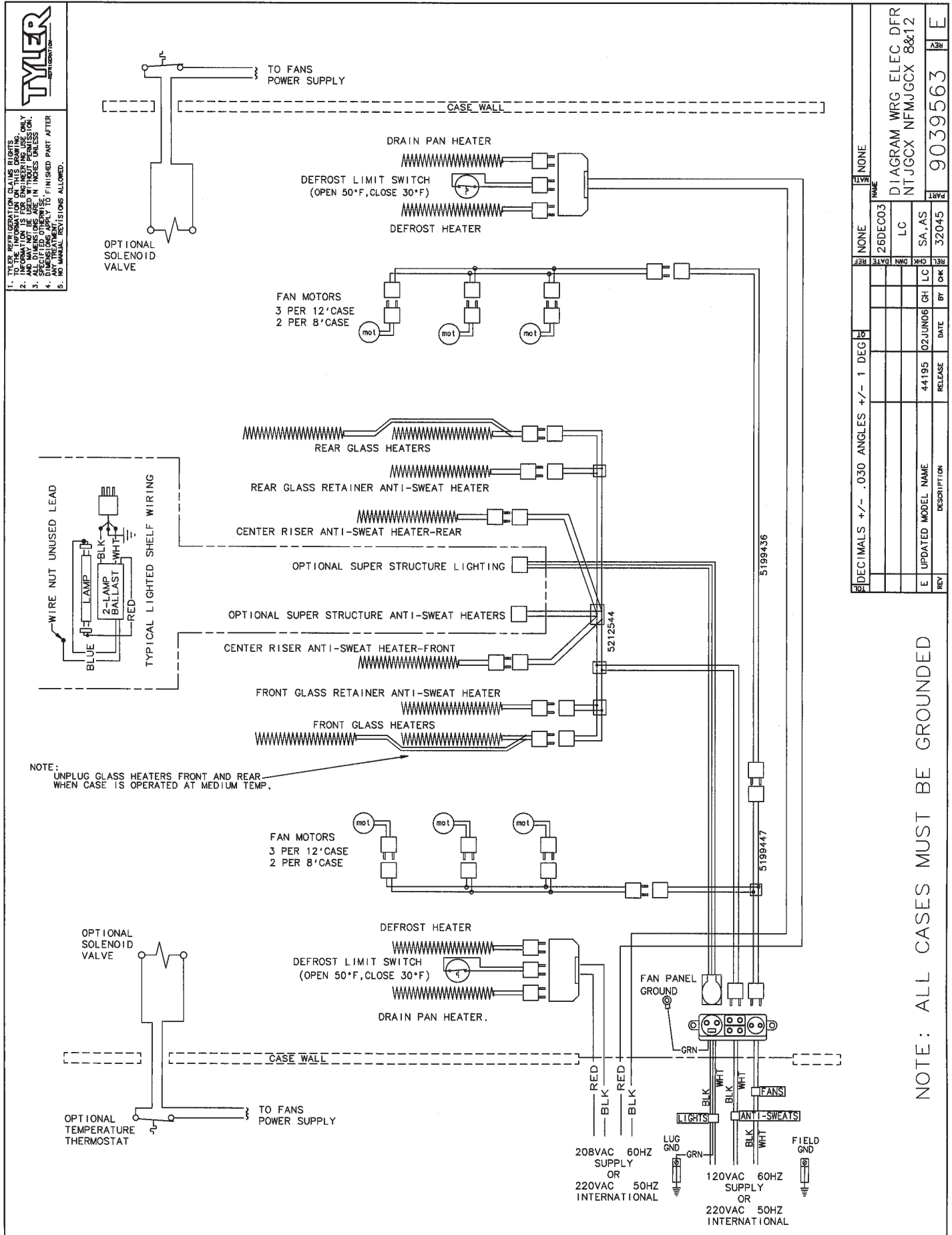
DECIMALS +/- .030 ANGLES +/- 1 DEG

ADDED A 70/40 FAIL SAFE KLIXON FOR THE DRAIN PAN HEATER

DIAGRAM WRG HG DFR NFJGCX NCJGCX 8&12FT

9039560 F

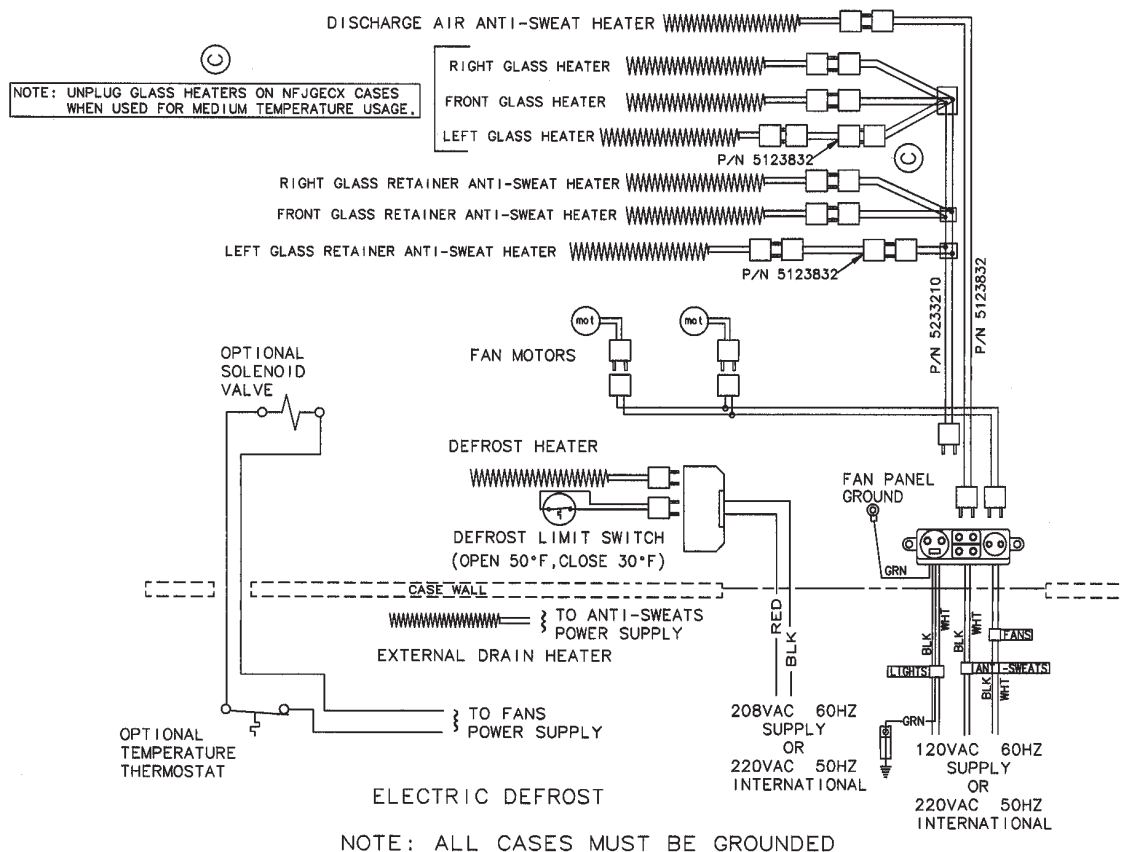
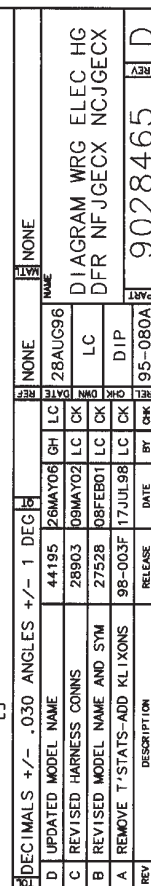
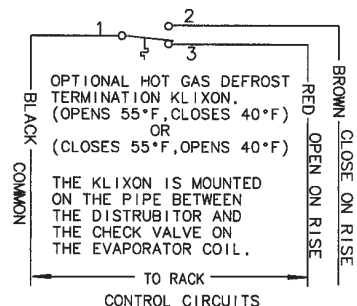
NTJGCX/NFMJGCX Domestic & Export (50 Hz) Case Circuits



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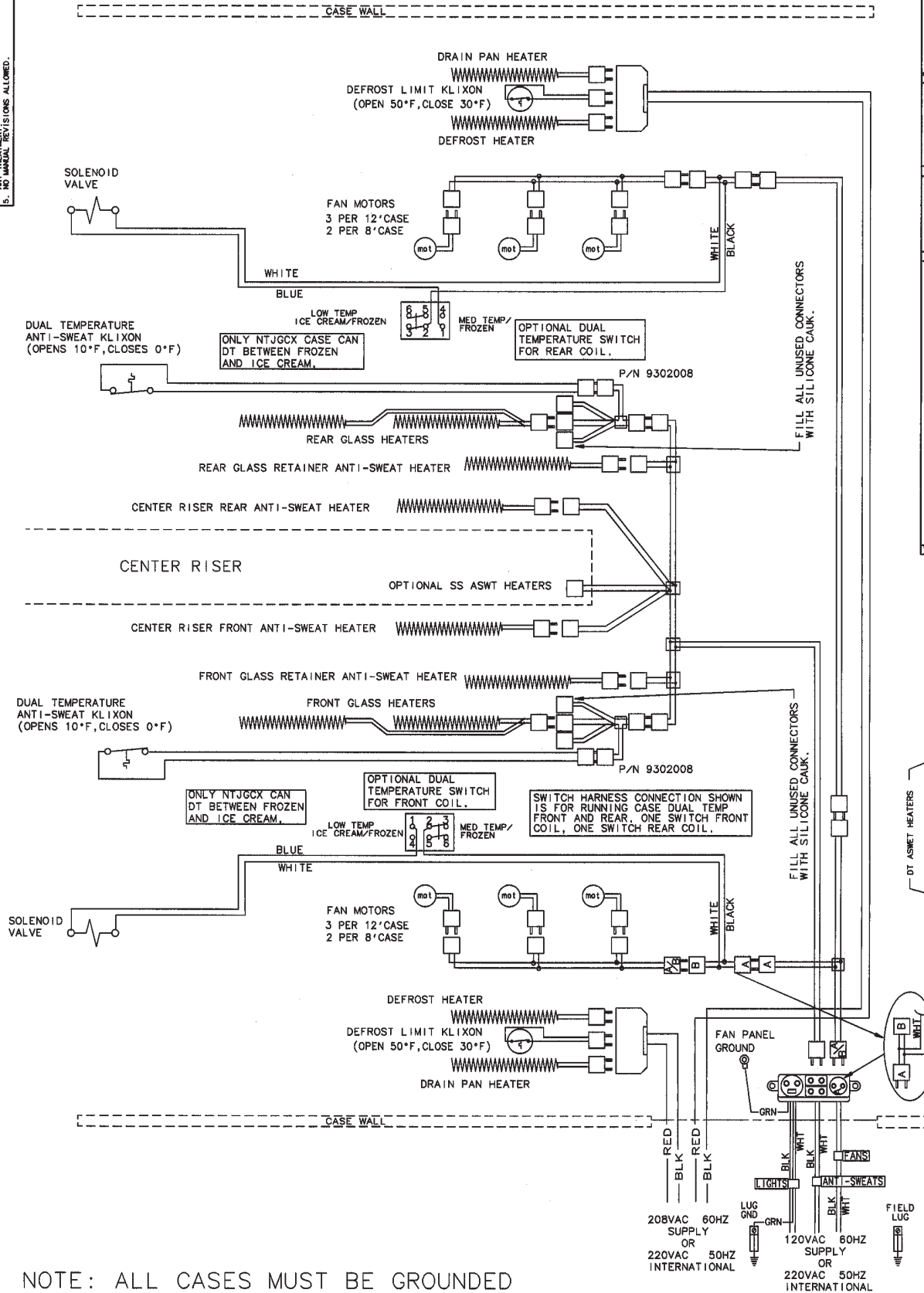
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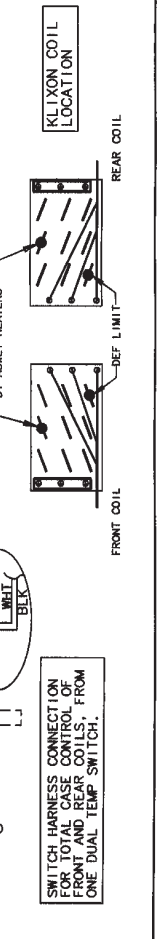
NTJGCX/NFMJGCX Dual Temperature Control Circuits

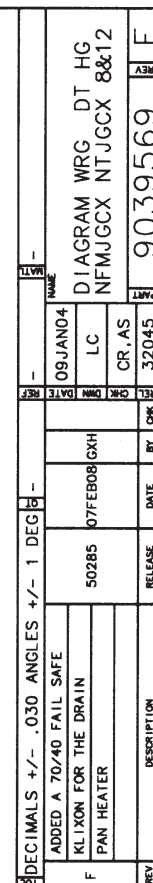
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REV	DATE	BY	CHK	APP	DESCRIPTION
1	27OCT06	LC	GH	45015	DIAGRAM WRG DT ELEC NFMJGCX NTJGCX 8&12
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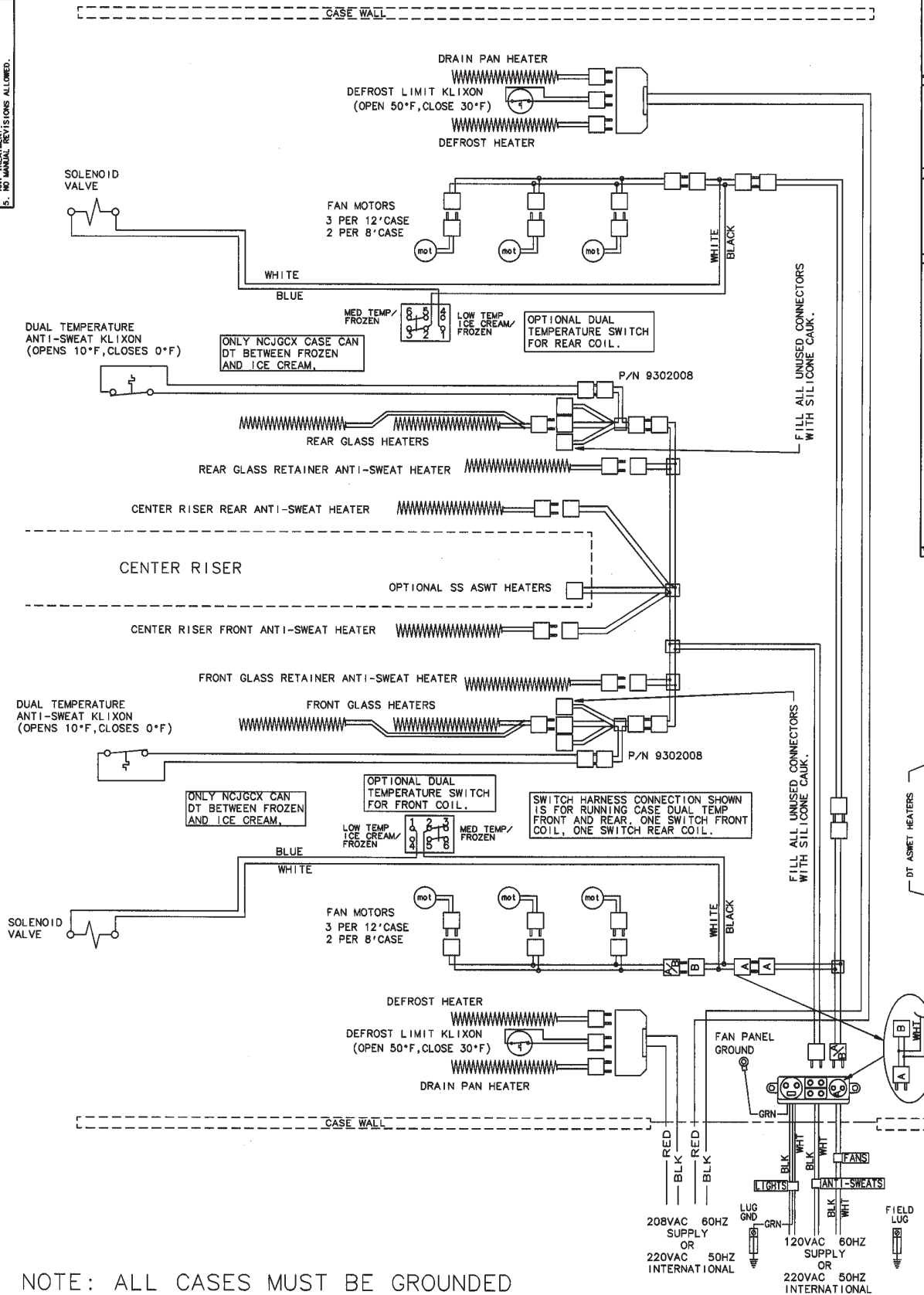




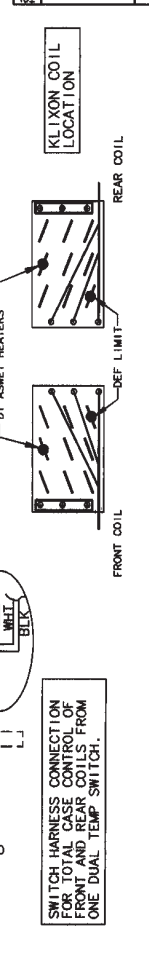
NFJGCX/NCJGCX Dual Temperature Control Circuits

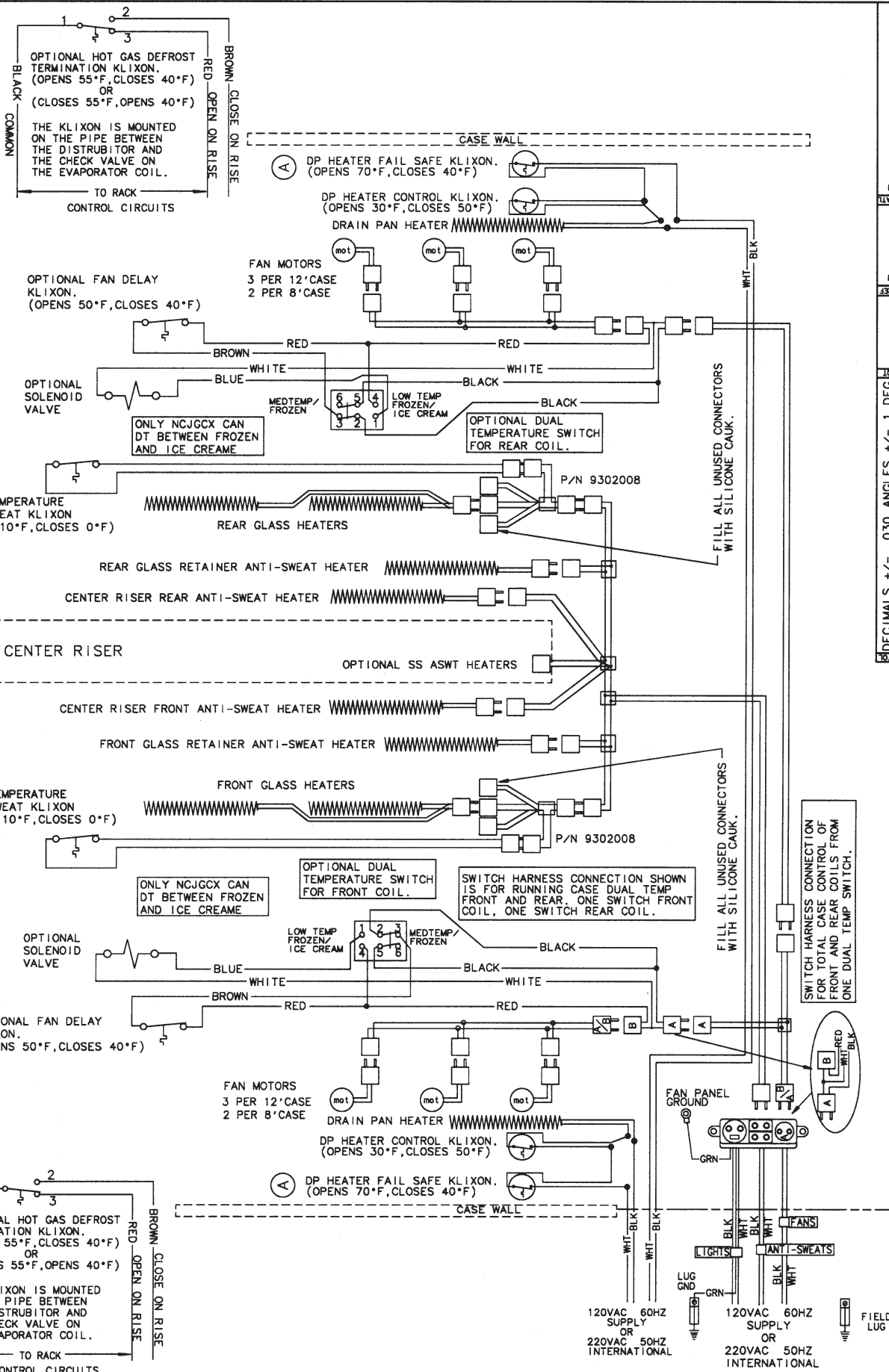
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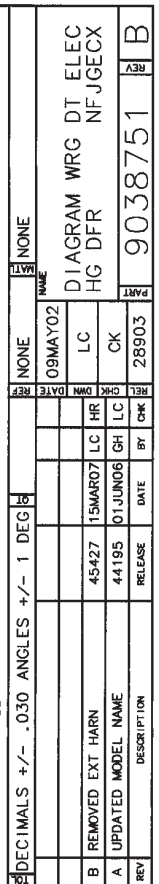
REV	DATE	BY	CHK	DATE	DESCRIPTION
1	03NOV06	LC	GH	45054	DIAGRAM WRG DT ELEC NFJGCX NCJGCX 8&12
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3					
4					
5					



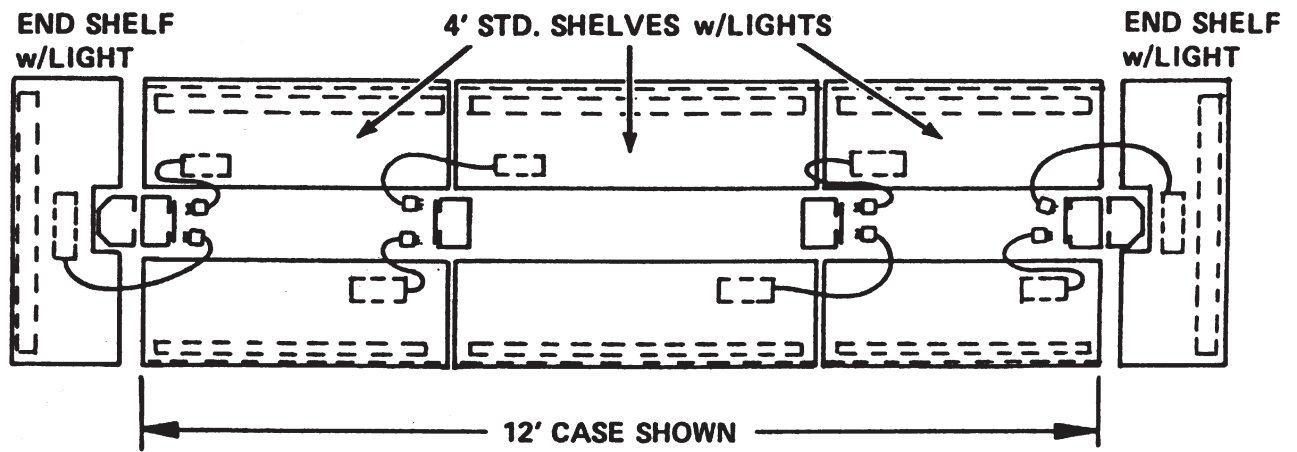
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8. ANY TREATMENT.
9. NO MANUAL REVISIONS ALLOWED.



Optional Superstructure Wiring Circuit



CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Bottom Screens and Trays

1. Remove product from bottom screens.
2. Push screens up until bottom screen tabs clear the holes in the front duct.
3. Remove bottom screens from holes in center riser panel and from case.
4. Grasp and lift out each of the bottom trays from the case interior.
5. After cleaning, replace in reverse order. Bottom tray should have ribs up.

CAUTION

Do not place product directly on bottom trays. Doing so could break a bottom tray and/or cause damage to the case.

NSF Product Thermometer

Remove two screws and product thermometers from top, right end of front and rear return air ducts. After cleaning, replace product thermometers on front and rear ducts and secure with screws.

Discharge Air Honeycomb

1. Remove screws and bottom retainer strip from both sides of the top of the center riser (NFJGCX/NCJGCX/NTJGCX/NFMJGCX) or from rear riser (NFJGECX/NCJGECX).

NOTE

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

2. Remove honeycomb grid sections from both sides of the center riser or from rear riser.

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.

Discharge Air Duct Panels

1. Remove bottom screens, bottom trays and discharge air honeycomb, see this page.
2. Remove mounting screws and discharge air duct panels from both sides of the center riser (NFJGCX/NCJGCX/NTJGCX/NFMJGCX).
-- or --
Remove mounting screws and discharge air duct panels (NFJGECX/NCJGECX).
3. After cleaning, replace in reverse order.

Return Air Duct Panels

1. Remove bottom screens, bottom trays and discharge air honeycomb, see this page.
2. Remove mounting screws and front and rear return air duct panels (NFJGCX/NCJGCX/NTJGCX/NFMJGCX).
-- or --
Remove mounting screws and front return air duct panels (NFJGECX/NCJGECX).
3. After cleaning, replace in reverse order.

Corner Trim

1. See page 22 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 22.

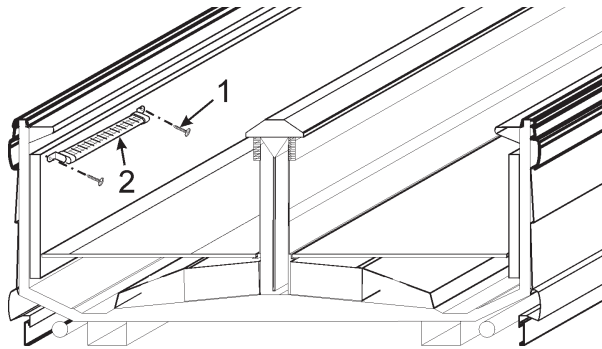
Front Cladding

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.

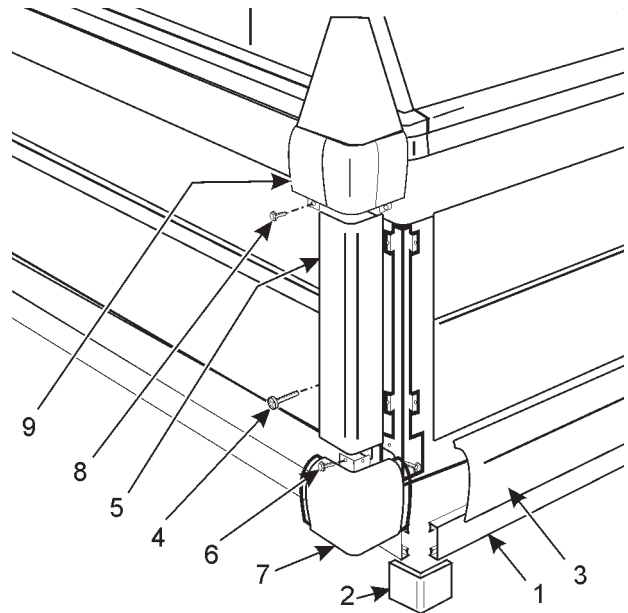
NSF Product Thermometer Replacement



1. Remove two screws (1) and thermometer (2) from top right end of front or rear return air ducts.
2. Install and secure a new product thermometer (2) on front or rear return air duct with two screws (1).

Corner Trim Replacement

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

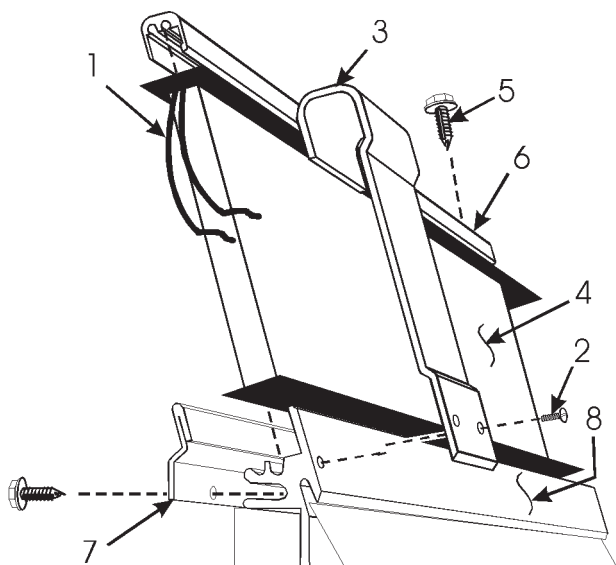


1. Remove kickplates (1) and kickplate corner trim (2) from both sides of the corner trim.
2. Remove raceway covers (3) from both sides of the corner trim.
3. Remove two screws (4) and corner cladding trim (5).
4. Remove two top screws (6) from the raceway corner trim (7), then lift and remove the raceway 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.

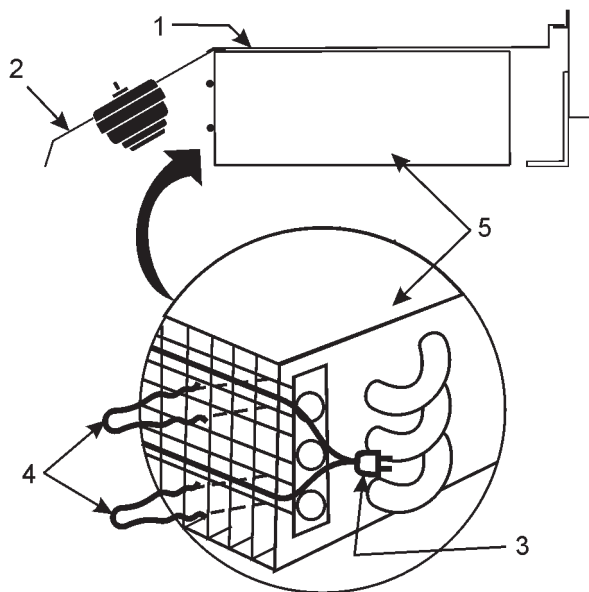
5. Apply sealant tape to top and bottom edge of new glass (4).
6. Position new glass (4) in glass retainer assembly (8) and secure by tightening rear retainer (7).
7. Install glass trim rail (6) with screws (5) over top edge of new glass (4).
8. Install glass joint trim (3) with screws (2) over the joint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



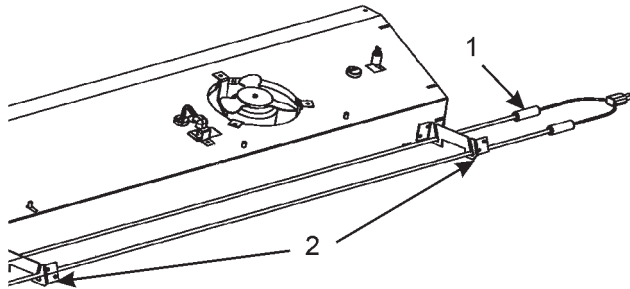
2. Unscrew and remove top coil cover (1).
3. Unscrew and lift up fan plenum (2).
4. Disconnect defective defrost heater (3) and remove mounting clips (4) and defrost heater (3) from front of coil assembly (5).
5. Install new defrost heater (3) in reverse order.
6. Restore electrical power to case.

Drain Pan Heater Replacement

WARNING

Always shut off electricity to case before replacing a drain pan 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. Unlug defective drain pan heater (1) and remove from slots in bracket supports (2).
3. Install new drain pan heater (1) in reverse order.
4. Restore electrical power to case.

Anti-Sweat Heater Replacement

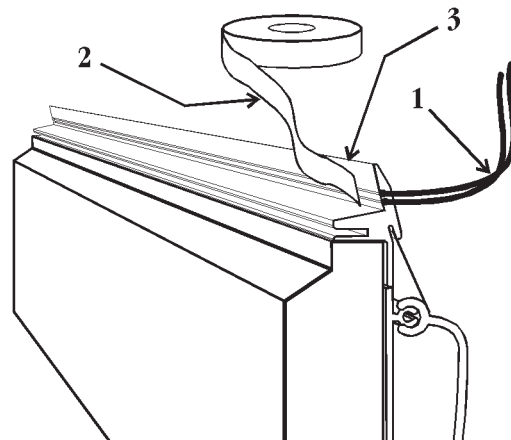
WARNING

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)

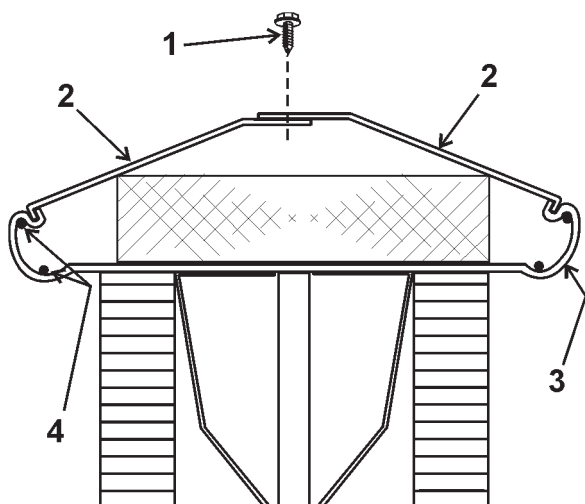
NOTE

- 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.



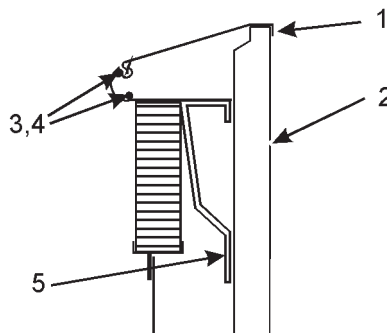
1. Disconnect or cut the defective anti-sweat wires (1) from the case wires.
2. Remove and replace the aluminum tape (2) and defective anti-sweat wire (1) from the bottom of the front glass retainer (3).
3. Reconnect the anti-sweat wires to case wires .
4. Replace the perimeter glass and any other trim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

**Center Riser Discharge Air Anti-Sweat
(NFJGCX/NCJGCX/NTJGCX/NFMJGCX)**



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 wire (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 new anti-sweat wires to case wires and reinstall the insulation, top riser caps and screws.

**Discharge Air Grid Anti-Sweat
(NFJGECX/NCJGECX)**



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 with screws.

NFJGCX, NCJGCX, NTJGCX, Installation & Service Manual NFMJGCX, N(F/C)JGECX

PARTS INFORMATION

Operational Parts List

Case Usage	Domestic			Export		
Electrical Circuit	115 Volt 60 Hertz			220 Volt 50 Hertz		
Case Size	8'	12'	End Case	8'	12'	End Case
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	9313764 2 Watt	9313764 2 Watt	9313764 2 Watt	----	----	----
Opt. ECM Fan Motor Brackets	5213132	5213132	5213132	----	----	----
Opt. ECM Fan Blades (6" 13° 5B)	9313765	9313765	9313765	----	----	----
Anti-Sweat Heater Wire (glass retainer)(NFJGCX/ NCJGCX/NTJGCX/NFMJGCX)	5218331	5218332	----	5081149	5081150	----
(center riser)(NFJGCX/ NCJGCX/NTJGCX/NFMJGCX)	9313417	9313416	----	5081149	5081150	----
(discharge air) (NFJGECX/NCJGECX)	----	----	5028893	----	----	5081271
(front glass retainer) (NFJGECX/NCJGECX)	----	----	9313470	----	----	9313471
(side glass retainer) (NFJGECX/NCJGECX)	----	----	9313472	----	----	9313473
Elec. Def. Heater (NFJGCX/NFMJGCX)	9313431	9313430	----	9313431	9313430	----
(NCJGCX/NTJGCX)	9313263	9313262	----	9313263	9313262	----
(NFJGECX/NCJGECX)	----	----	9313164	----	----	9313164
Elec. Def. Term. Klixon	9036670	9036670	9036670	9036670	9036670	9036670
Opt. Gas Def. Fan Delay Klixon (Medium or Dual Temp. only)	9303208	9303208	9303208	9303208	9303208	9303208
Opt. Gas Def. Term. Klixon	9023508	9023508	----	9023508	9023508	----
Opt. Glass Anti-Sweat Klixon (Dual Temp only)	9310711	9310711	----	9310711	9310711	----
Drain Pan Heater (120V Hot Gas)(All Models) (208V Elec.)	9313385	9313384	----	9313385	9313384	----
(NFJGCX/NFMJGCX)	9313436	9313437	----	9313436	9313437	----
(NCJGCX/NTJGCX)	9313349	9313348	----	9313349	9313348	----

Case Usage	Domestic			Export		
Electrical Circuit	115 Volt 60 Hertz			220 Volt 50 Hertz		
Case Size	8'	12'	End Case	8'	12'	End Case
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 Dept.

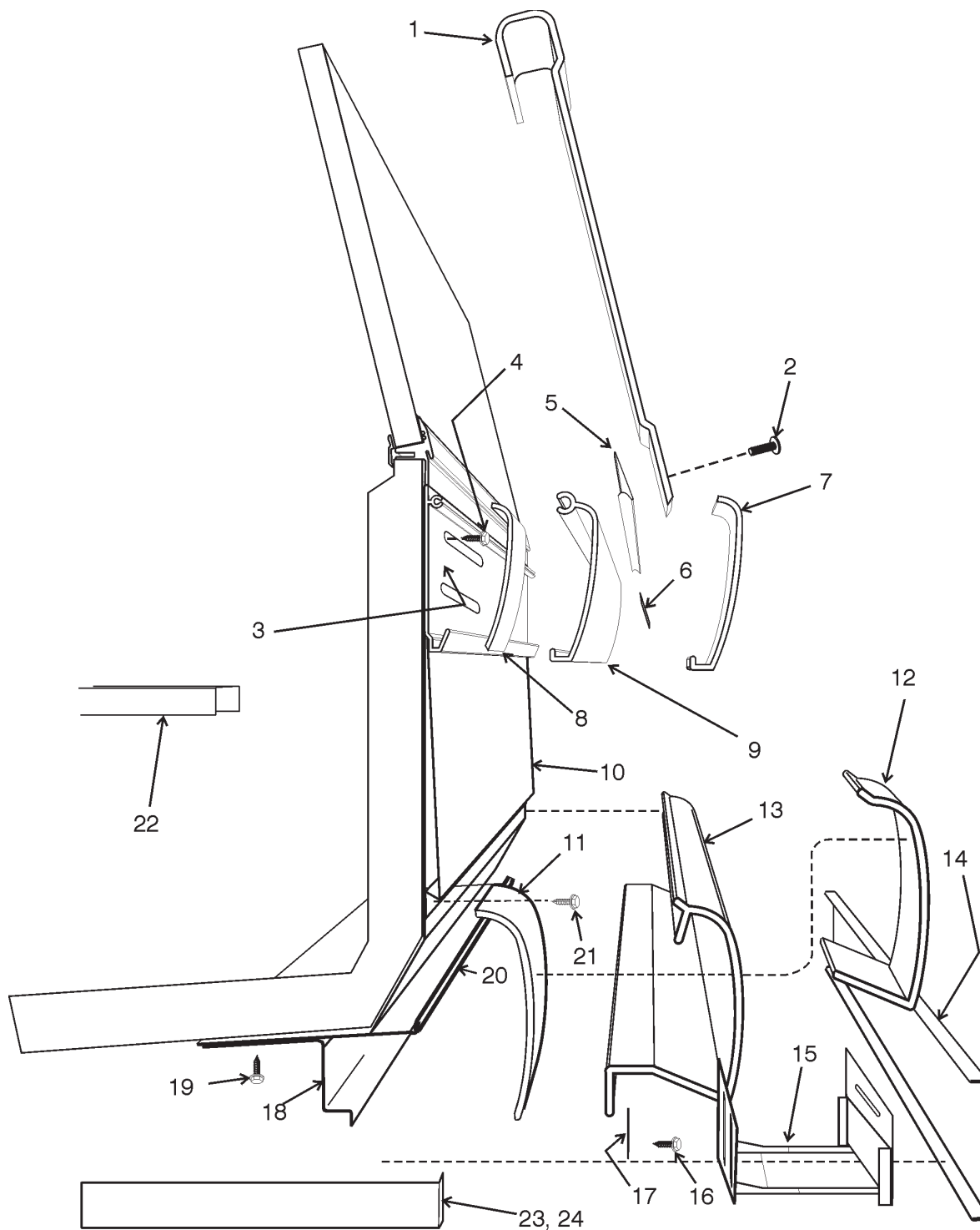
Cladding and Trim Parts Lists

Item Description	NFJGCX/NCJGCX/NTJGCX/NFMJGCX	
	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, Ptd.	9020971	9020972
6 Color Band Backer, Ptd.	9025982	9025982
7 Bumper End Trim	color per order	
8 Bumper Backer	color per order	
9 Bumper	color per order	
10 Front Cladding, Ptd.	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, Ptd. (per side)	9313317	9313310
Kickplate Joint Trim, Ptd.	----	9329434
15 Kickplate Support Assy. (per side)	9323069 (4)	9323069 (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 Shoulder Screw (per side)	9025833 (8)	9025833 (10)
22 Horizontal Joint Trim	5196166	5196166
23 Binding Screw	5222637 (6)	5222637 (6)

NFJGCX, NCJGCX, NTJGCX, NFMJGCX, N(F/C)JGECX

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Item	Description	NFJGCX/NCJGCX/NTJGCX/NFMJGCX	
		8'	12'
24	LH End Close-off, Ptd.	9027925	9027925
	RH End Close-off, Ptd.	9027926	9027926
25	Center Interior Joint Trim, Ptd. (not shown)	9308850 (4)	9308850 (4)



End Case Cladding and Trim Parts Lists

Item	Description	NFJGECX/NCJGECX	
		Front	Side
1	Bumper Retainer	9025867	9025866 (2)
2	Shoulder Screw (per side)	9025833 (6)	9025833 (3)
3	Color Band, Ptd.	9020965	9020969
4	Color Band Backer, Ptd.	9025982	9025982
5	Bumper	color per order	
6	Front Cladding, Ptd.	9025769	9025768
7	Raceway Cover	color per order	
8	Kickplate. Ptd.	9329436	9329437 (2)
	Screw (per kickplate)	9324612 (4)	9324612 (2)
	Kickplate Joint Trim, Ptd.	----	9329434
9	Kickplate Support Assy.(per side)	9043402 (2)	9323069 (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 (2)	5183536 (2)
14	Raceway	9300166 (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, Ptd.	9324546 (2)

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NFMJGCX, N(F/C)JGECX**

