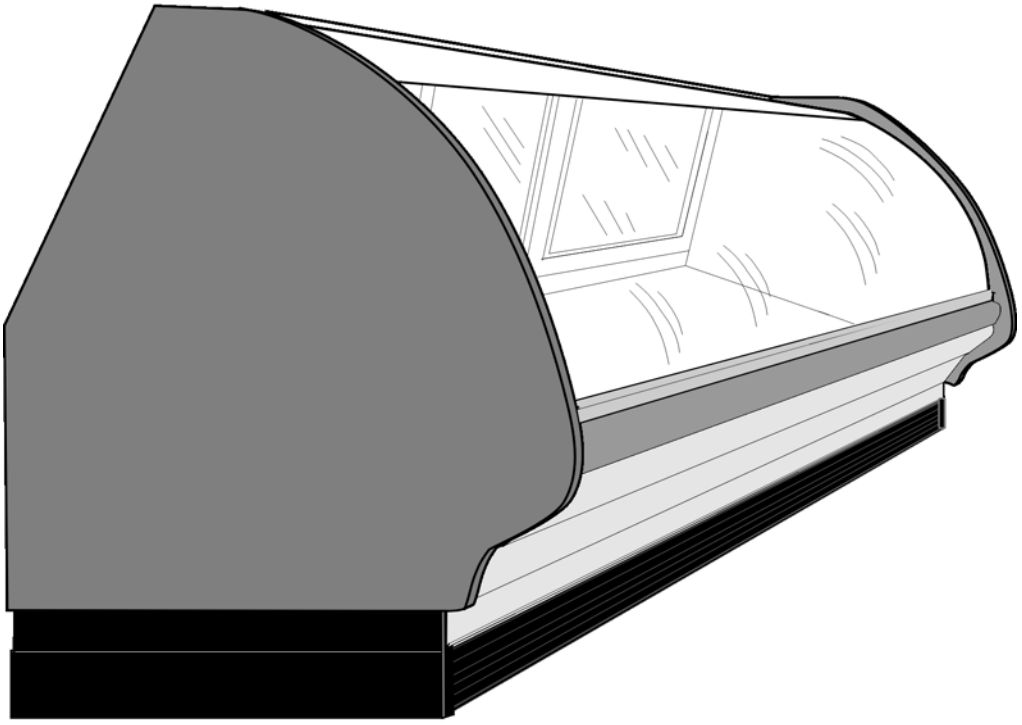
TYLER REFRIGERATION

Carrier
A United Technologies Company

1series Advantage

Installation & Service Manual



NFM, NFF, NFD, NFL

FIXED CURVED GLASS MEAT/SEAFOOD/DELI SERVICE MERCHANDISERS
Medium & Low Temperature Service Display Cases

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

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

PRINTED IN IN U.S.A.	Specifications subject to change without notice.	REPLACES EDITION	11/05	ISSUE DATE	4/07	PART NO.	9043542	REV.	B

Tyler Refrigeration * Niles, Michigan 49120

CONTENTS

The following Medium and Low Temperature Fixed Curved Glass Meat, Seafood and Deli Service Merchandiser models are covered in this manual:

MODEL	DESCRIPTION
NFM	**4', 6', 8' & 12' FIXED CURVED GLASS GRAVITY COIL MEAT SERVICE MERCHANDISERS**
NFF	**6', 8' & 12' FIXED CURVED GLASS GRAVITY COIL SEAFOOD SERVICE MERCHANDISERS**
NFD	**4', 6', 8' & 12' FIXED CURVED GLASS FORCED AIR DELI SERVICE MERCHANDISERS**
NFL	**6', 8' & 12' FIXED CURVED GLASS LOW TEMP. FORCED AIR SERVICE MERCHANDISERS**

NFM/NFF Fixed Curved Glass Gravity Service Merchandisers
NFD Fixed Curved Glass Blower Service Merchandisers
NFL Fixed Curved Glass Low Temperature Blower Service 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)	
NFM	ALL	Meat / Fish	210*	315*	+13**	+11	N/A	N/A	0.70
NFF	ALL	Fish (Iced)	178*	266*	+20**	+18	N/A	N/A	0.39
NFD	ALL	Deli	324*	486*	+15**	+13	30	325***	0.53
NFL	ALL	Low Temp	264*	273*	-15**	-18	-5	325***	0.27

* Capacity data listed for cases with 1 row of T-8 top lights. ADD 23 BTUH/FT for each lighted mezzanine shelf.
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 measured 1 hour after defrost at the vertical part of the Rear Duct.

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 and Heaters (120 and 208 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		ANTI-SWEAT HEATER (120 V) RR LWR DR FRAME		HEATED GLASS (120 V)		DEFROST HEATER (208 V)	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
NFM	4'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NFM / NFF	6'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NFM / NFF	8'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NFM / NFF	12'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NFD	4'	1	0.34	30.2	0.22	11.0	N/A	N/A	N/A	N/A	N/A	N/A
NFD	6'	2	0.68	60.4	0.44	22.0	N/A	N/A	N/A	N/A	N/A	N/A
NFD	8'	2	0.68	60.4	0.44	22.0	N/A	N/A	N/A	N/A	N/A	N/A
NFD	12'	3	1.02	90.6	0.66	33.0	N/A	N/A	N/A	N/A	N/A	N/A
NFL	6'	2	0.68	60.4	0.44	22.0	0.68	82.0	1.25	150.0	6.50	1,352
NFL	8'	2	0.68	60.4	0.44	22.0	0.68	82.0	1.25	150.0	6.90	1,435
NFL	12'	3	1.02	90.6	0.66	33.0	0.68	82.0	2.50	300.0	10.30	2,142

Heaters (208 Volt)(NFL Cases Only)

208 VOLT DEFROST (AMPS)											
FT	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'
1 Phase	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	7/8"

T8 Lighting with Electronic Ballasts (120 Volt)

MODEL	CASE LENGTH	CANOPY LIGHTS AMPS 1 ROW	CANOPY LIGHTS AMPS 2 ROW	CANOPY LIGHTS WATTS 1 ROW	CANOPY LIGHTS WATTS 2 ROW	SHELF LIGHTS – PER ROW AMPS 1 ROW	SHELF LIGHTS – PER ROW AMPS 2 ROWS	SHELF LIGHTS – PER ROW WATTS 1 ROW	SHELF LIGHTS – PER ROW WATTS 2 ROWS	MAXIMUM LIGHTING* AMPS (3 or 2 ROWS)	MAXIMUM LIGHTING* WATTS (3 or 2 ROWS)
NF(M/D)	4'	0.35	N/A	42.0	N/A	0.35	0.50	42.0	60.0	0.85*	102.0*
NF(M/F/D)	6'	0.40	N/A	48.0	N/A	0.40	0.80	48.0	96.0	1.20*	144.0*
NF(M/F/D)	8'	0.50	N/A	60.0	N/A	0.50	1.00	60.0	120.0	1.50*	180.0*
NF(M/F/D)	12'	0.70	N/A	84.0	N/A	0.70	1.40	84.0	168.0	2.10*	252.0*
NFL	6'	0.40	0.75	48.0	90.0	N/A	N/A	N/A	N/A	1.20**	144.0**
NFL	8'	0.50	0.95	60.0	114.0	N/A	N/A	N/A	N/A	1.50**	180.0**
NFL	12'	0.70	1.40	84.0	168.0	N/A	N/A	N/A	N/A	2.10**	252.0**

* For cases with 1 row of canopy lights and 2 rows of shelf lights.
** For cases with 2 rows of canopy lights and no shelf lights.

NSF CERTIFIED to meet ANSI/NSF – 7.

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

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP. (°F)	BACKUP PRESSURE SETTINGS **		EPR SETTINGS ***		DEFROST WATER (LB / FT / DAY)
				CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	
TIME OFF – NFM / NFF	1	110	N/A	34# @ R22	24# @ R22	36	47	N/A
TIME OFF – NFD	1	46	N/A					
ELECTRIC – NFL	1	46	50	20# @ R404A	10# @ R404A	13	21	N/A
HOT GAS - NFL	2	17-20	55*					

* If an electronic sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klaxon for that defrost type.
** Used with electronic thermostat and EPR control.
*** Set EPR to give this pressure at the case.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH SIZING FOR CASE LINE-UPS												
MODEL	4'	6'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'
NFM – R22	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	7/8"
NFF – R22	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"
NFD – R22	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"
NFL - R404A	N/A	1/2"	1/2"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1-1/8"	1-1/8"

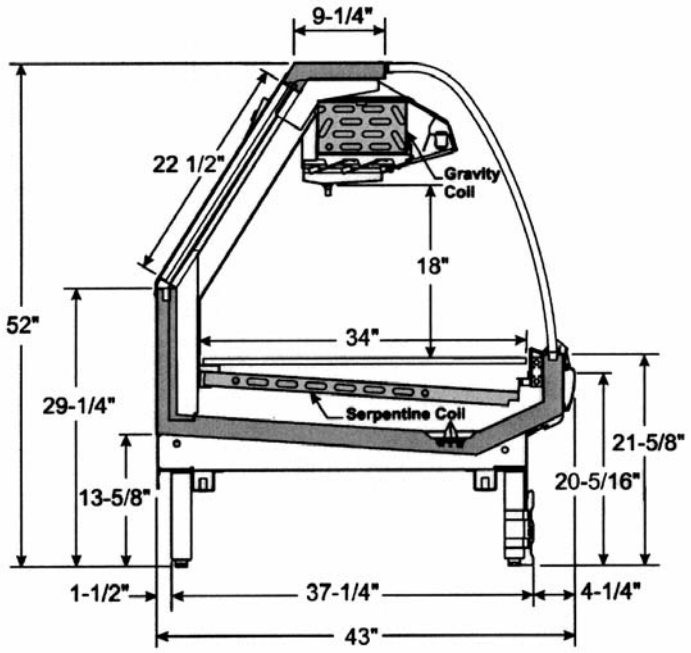
CONVENIENCE OUTLET CIRCUIT: One single convenience outlet is on the back of the 4' and 6' cases and two single convenience outlets are on the back of the 8' and 12' cases. Plan suitable 15A circuits for these 120V outlets.

A suitably sized Evaporator Pressure Regulator should be installed on each system to aid in temperature control. Set the EPR for 36 PSIG (R22) on NFM, NFF or NFD cases. Set the EPR for 21 PSIG (R404A) on NFL cases.

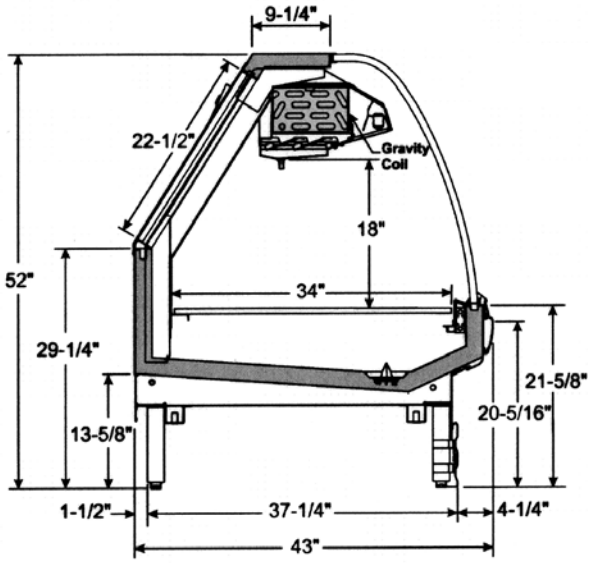
Shelves not recommended in gravity coil cases since they disrupt airflow and compromise performance. Blower style cases may use shelving.

Pressure control settings shown in the above table are for backup purposes only. The actual temperature control should be set by the thermostat. NFM setting for this case = CUT IN @ 32°F and CUT OUT @ 22°F. NFF setting for this case = CUT IN @ 34°F and CUT OUT @ 33°F. NFD setting for this case = CUT IN @ 31°F and CUT OUT @ 24°F.

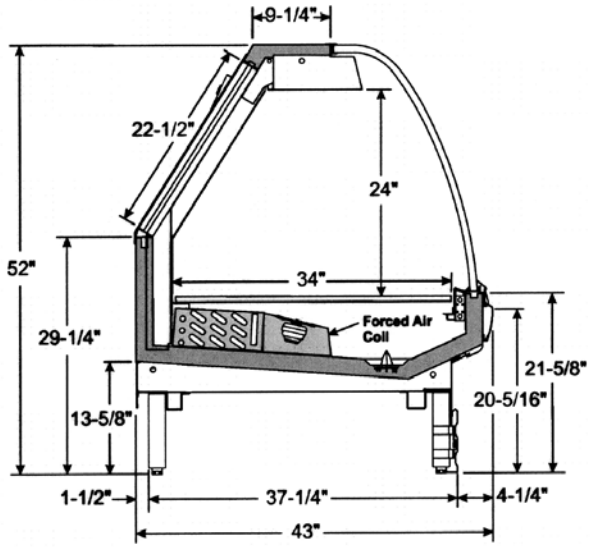
NFM CROSS SECTION



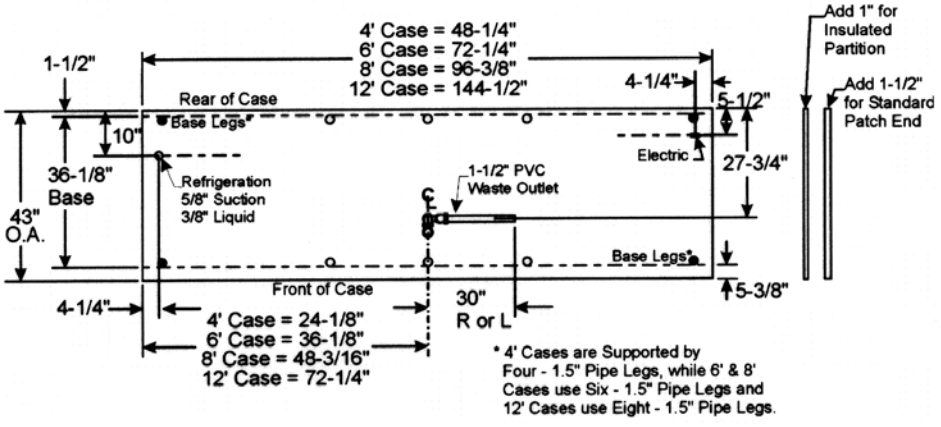
NFF CROSS SECTION



NFD / NFL CROSS SECTION



NFM/NFF/NFD/NFL FLOOR PLAN



INSTALLATION PROCEDURES

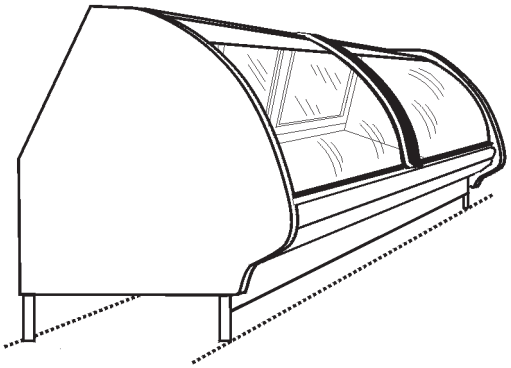
Carpentry Procedures

Case Line-Up

Before starting the case line-up, review the store layout floorplans and survey the areas where case line-ups are going to be installed.

WARNING

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



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

NOTE

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

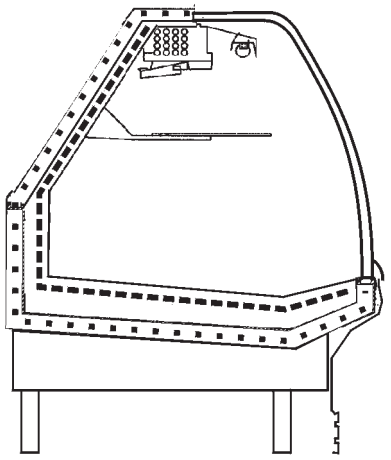
2. After rolling the case to approximate installation location, lift case one end at a time to remove the casters and install the legs. Make sure legs are completely threaded into the base to properly secure them. Thread out bottom leg insert, up to 1 1/2", to level the case. Check leveling across the top of the case and on top of the color band.

CAUTION

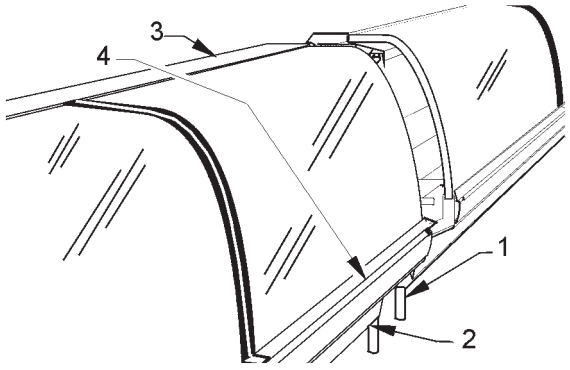
If the base of this case is not sitting evenly on the floor, the case could warp when loaded and possibly break the glass.

NOTE

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



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

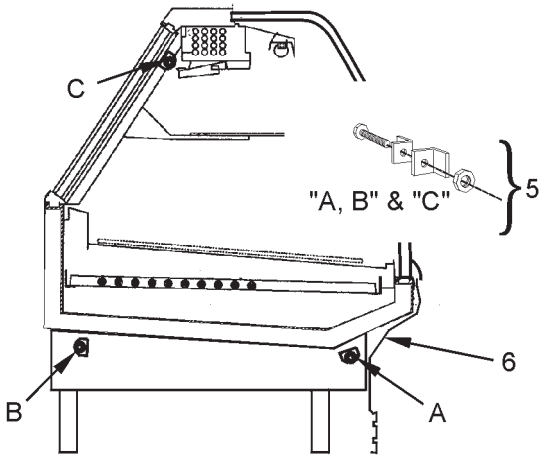


4. Push cases tightly together making sure the pull-ups are aligned.

5. Adjust legs (1), as required, under the adjoining case ends (2). Check leveling at top of the case (3) and on top of the color band (4).

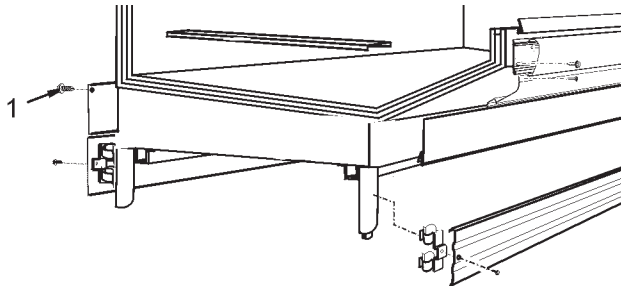
CAUTION

Do not drill or use other holes through the case end for pull-ups. This may deform the case end and could cause joint leaks and/or poor refrigeration.



6. Position pull-up bolts and mounting hardware (5) at pull-up locations (A, B, and C). Do not tighten any pull-up hardware until all of it has been installed. Tighten all pull-up hardware equally starting at point A and finishing at point D. **Do not overtighten.**
7. Install top tabs of front lower cladding (6) in slots in bottom of front upper cladding and rear tabs in mounting holes in front of frame assembly. Make sure all tabs are securely fit into each slot.

Rear Rail Cover & Close-off Installation



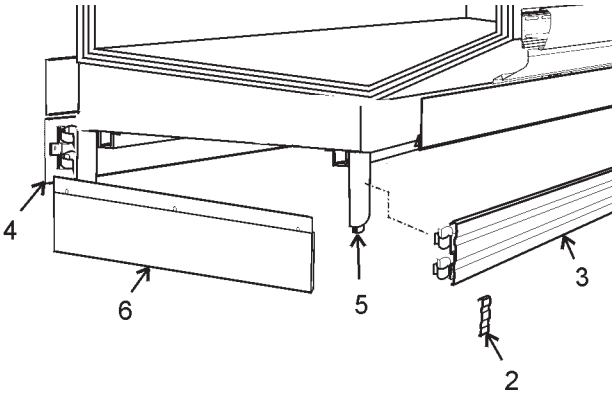
Position rear rail cover (1) over rear raceway opening and secure with screws in every hole.

Bottom and End Close-off Installation

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

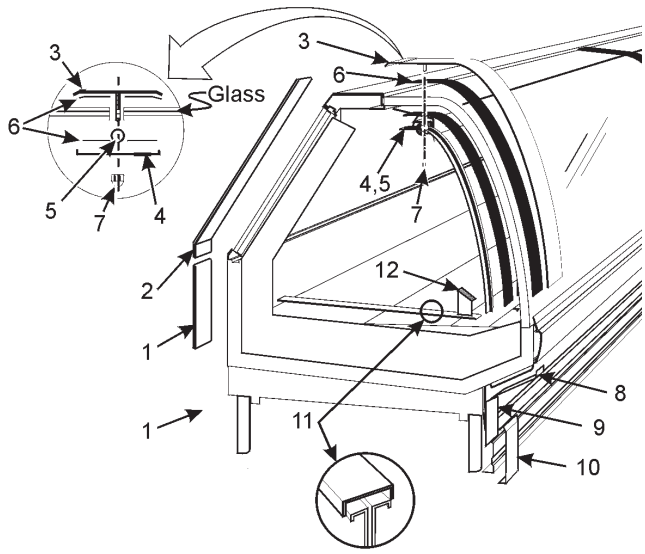
NOTE

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



1. Before installing kickplates on a multiple case lineup, snap a joint trim (2) over the top and bottom of one end of each kickplate (3).
2. Lineup each kickplate (3) and/or optional rear bottom close-off (4) and push to secure the spring clips to the legs (5).
3. Slide joint trims (2) over the case-to-case joints.
4. Position end close-offs (6) over the end of the kickplate (3) and/or optional rear bottom close-off (4) and push intil the spring clips secure to the legs (5).

Trim & NSF Thermometer Installation



All joint trim and mounting hardware is shipped loose. Trim includes rear lower joint trim (1), rear upper joint trim (2), outer glass joint trim (3), inner glass joint trim (4), tubing (5), sealing tape (6), acorn nut (7), front upper cladding joint trim (8), front lower cladding joint trim (9), front kickplate joint trim (10) and horizontal joint trim (11).

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

NOTE

Compound sealing tape can be added to inside surfaces of inner and outer glass joint trim to make the trim level and even.

Glass joint trim pieces are preformed, but should be "hand formed" to each glass joint during installation. This helps provide an even joint between cases.

The insulated tubing should be pushed in between the two pieces of glass. Tubing can be slit lengthwise to make installation easier. After tubing has been installed, position inner glass joint trim and punch holes through the tubing using the mounting holes as a guide.

WARNING

Do not overtighten the glass joint trim. Overtightening could cause the glass to break and/or personal injury.

Carefully install outer glass joint trim through the tubing and inner glass joint trim and secure with the acorn nuts.

Patch end trim is shipped factory installed. The black sealing tape has already been installed under the trim. Trim any exposed sealing tape.

The NSF case thermometer and bracket assembly (12) is shipped loose with the case.

After removing the thermometer and bracket assembly from the shipping packaging, position bracket over left horizontal joint trim and case-to-case joint where the joint trim is notched out. Make sure the bracket is positioned to the front of the case, flush with the top and left inside edge of the bottom case end welds. Secure thermometer bracket to end welds with two screws in the pre-drilled holes.

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

Refrigeration Procedures

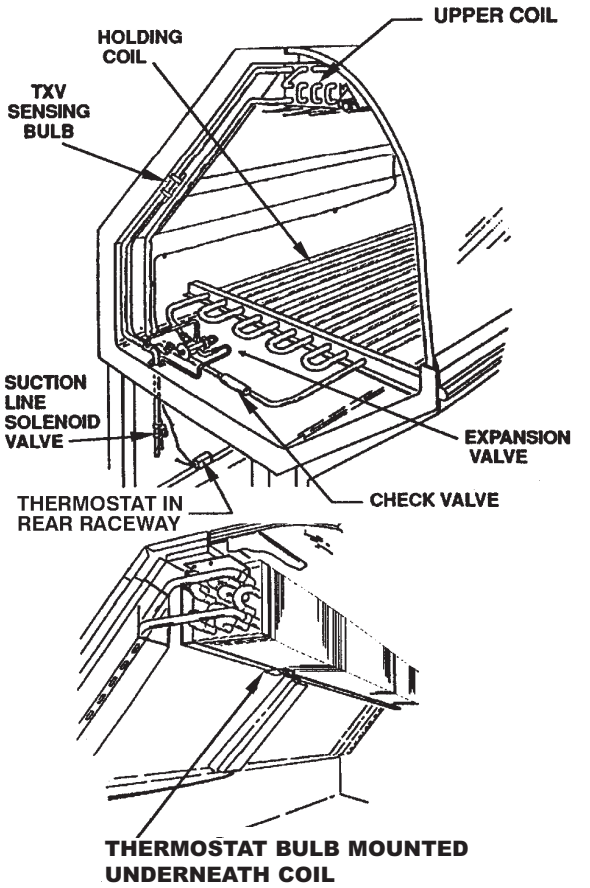
Refrigeration system and superheat instructions can be found in the "General (UL/NSF) I&S Manual". Service case temperature control information is listed below.

Temperature Control

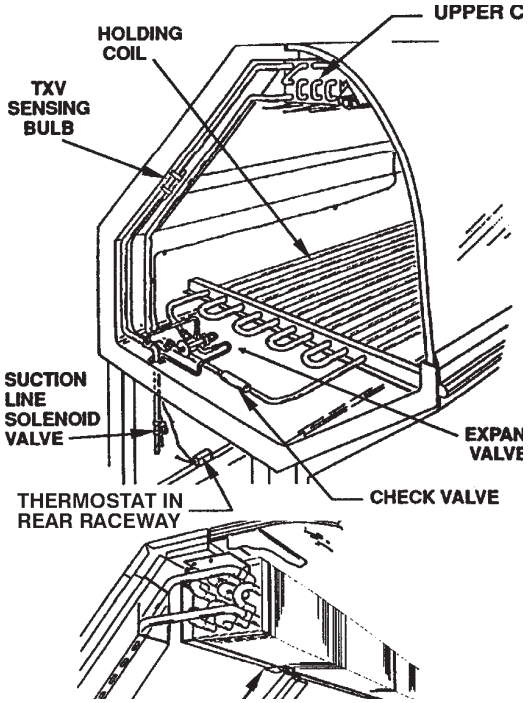
The temperature of each case is controlled with a thermostat and suction line solenoid. One thermostat and one solenoid are required for up to three cases.

The NFM, NFF, NFD and NFL cases use an electronic thermostat for improved temperature control.

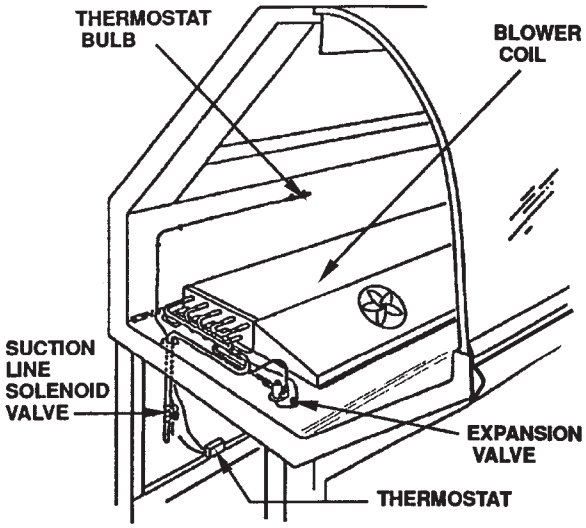
Typical Service Case with Gravity Coil



THERMOSTAT BULB PLACEMENT



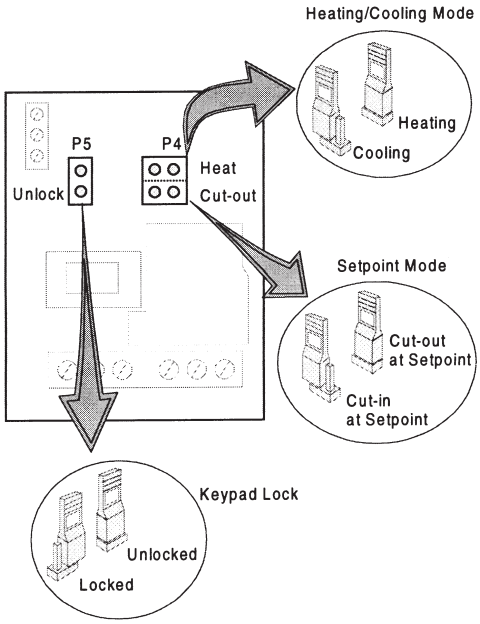
Typical Service Case with Blower Coil



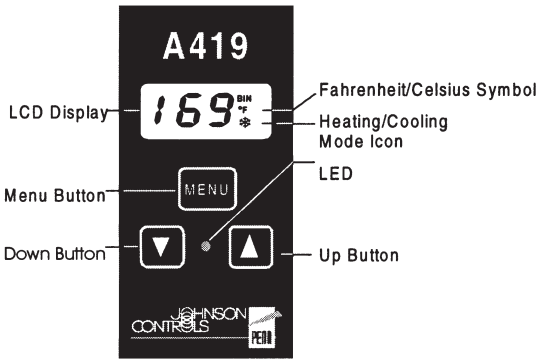
In addition to the thermostat and suction solenoid, a suction stop EPR valve is required in the suction line. The EPR valve acts as a low pressure limit to aid in the overall temperature control. See “Connecting the Refrigeration Piping and Components” on page 30 of this manual.

Setting the Electronic Thermostat

1. Remove the four screws and cover from the electronic thermostat.
2. Connect sensor wires to the common (COM) and sensor (SEN) terminals of the terminal strip located at the top left of the printed circuit board. The sensor leads are interchangeable.



3. Set the Heating/Cooling jumper blocks to the "COOL" position.
4. Set the Cut-in at Setpoint/Cut-out at Setpoint jumper blocks to the "Cut-out at Setpoint" position.
5. Set the keypad Locked/Unlocked jumper blocks to the "Unlocked" position.
6. Replace the electronic thermostat cover and secure with four screws.



7. To adjust the setpoint:
   a. Push the Menu Button. "SP" will flash on the LCD display.
   b. Push the Menu Button one more time and a setpoint temperature will be displayed.
   c. Push the Up or Down Button until the desired setpoint is displayed. (NFM = 22°F, NFF = 33°F or NFD = 24°F)
   d. Push the Menu Button.
8. To adjust the differential:
   a. Push the Menu Button. "SP" will flash on the LCD display.
   b. Push the Down Button until "DIF" is shown on the LCD display.
   c. Push the Menu Button one more time and a differential number will be displayed.
   d. Push the Up or Down Button until the desired differential setting is displayed. (NFM = 10°F, NFF = 1°F or NFD = 7°F)
   d. Push the Menu Button.

With the cooling mode selected, the differential is ABOVE the setpoint. The relay will energize and the LED indicator will illuminate when the temperature reaches the differential setting. When the temperature drops to the setpoint, the relay and LED indicator will de-energize and refrigeration will stop.

The settings above are specific to TYLER service cases. Other applications will require different setpoints and differentials.

Electrical Procedures

Electrical Considerations

CAUTION

Make sure all electrical connections at components and terminal blocks are tight. This prevents burning of electrical terminals and/or premature component failure.

NOTE

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

Case Fan Circuit (NFD/NFL)

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

Fluorescent Lamp Circuit

NF(M/F/D/L) case lighting is supplied by T-8 electronic ballast lights. It is controlled by a light switch in each case. The standard lighting is 1-row of T-8 canopy lights.

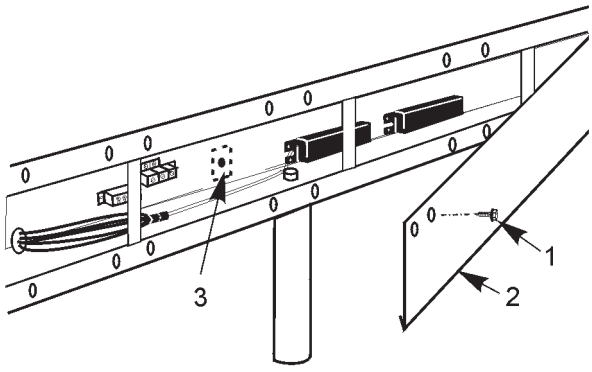
Anti-Sweat Circuit (NFL only)

NFL cases have anti-sweat heaters in two locations. One anti-sweat heater for the front glass and one to three anti-sweat heaters for the rear sliding door frames. All anti-sweat heaters are wired directly to the main power supply so they can operate at all times.

Ground Fault Detector (NFL only)

A 20 amp, 125 VAC feed through a ground fault circuit interrupter has been installed in the NFL case for added safety. The detector guards against electrical shock from exposed anti-sweat wires should the front glass shatter. The unit opens the anti-sweat circuit (0.025 seconds) to the front glass heater when a ground is sensed in the circuit.

If the detector should inadvertently trip due to a power surge, it can be manually reset as follows:



1. Remove screws (1) and rear rail cover (2) from rear of case.
2. Locate the ground fault indicator (3) in the rear electrical raceway (4).
3. Reset the detector by pushing in the RESET button.
4. Replace rear rail cover (2) and secure with screws (1).

If the unit trips again, it indicates that a problem exists in the anti-sweat circuit. Any further checks or repairs should be done by a qualified electrical technician.

Defrost Information

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

Defrost Control Chart

NFM/NFF Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	1	110	-----

NFD Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Off Time	1	46	-----

NFL Defrost Option Settings

Defrost Type	Defrosts Per Day	Defrost Duration (Min)	Term. Temp.
Electric	1	46	50°F
Hot Gas	2	17-20	55°F

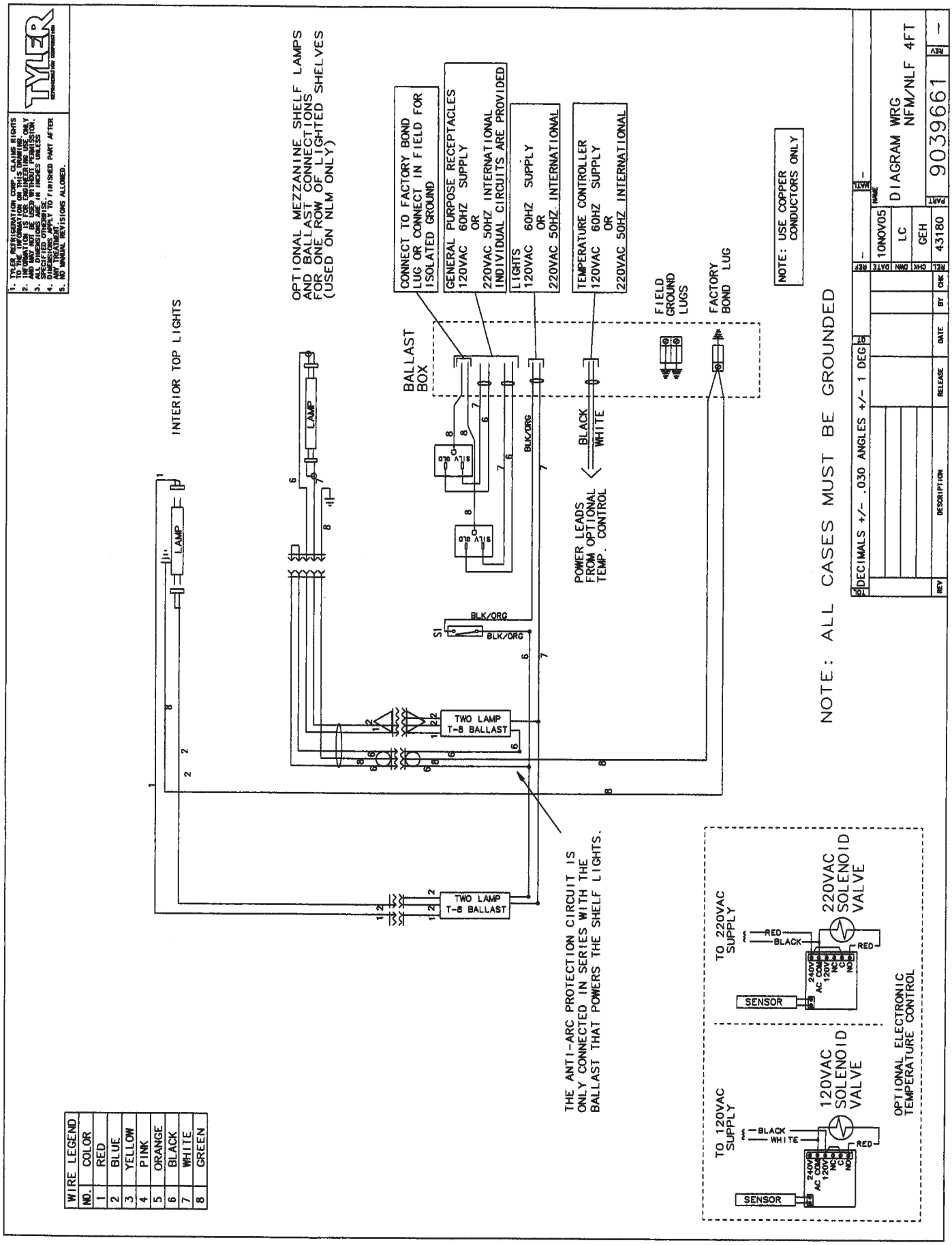
Thermostat and sensor locatations are shown on page 10 of this manual.

WIRING DIAGRAMS

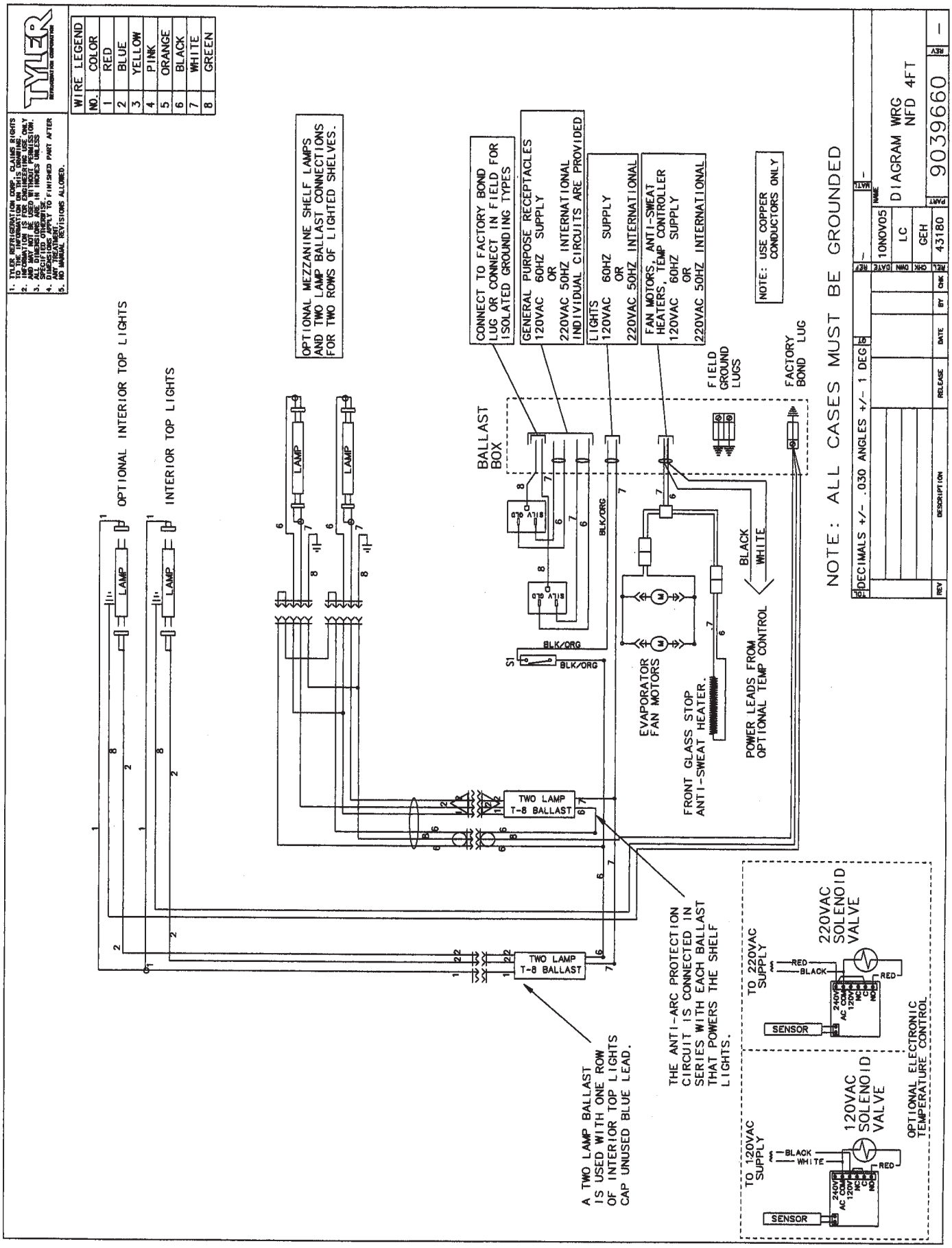
ELECTRICIAN NOTE - OVERCURRENT PROTECTION

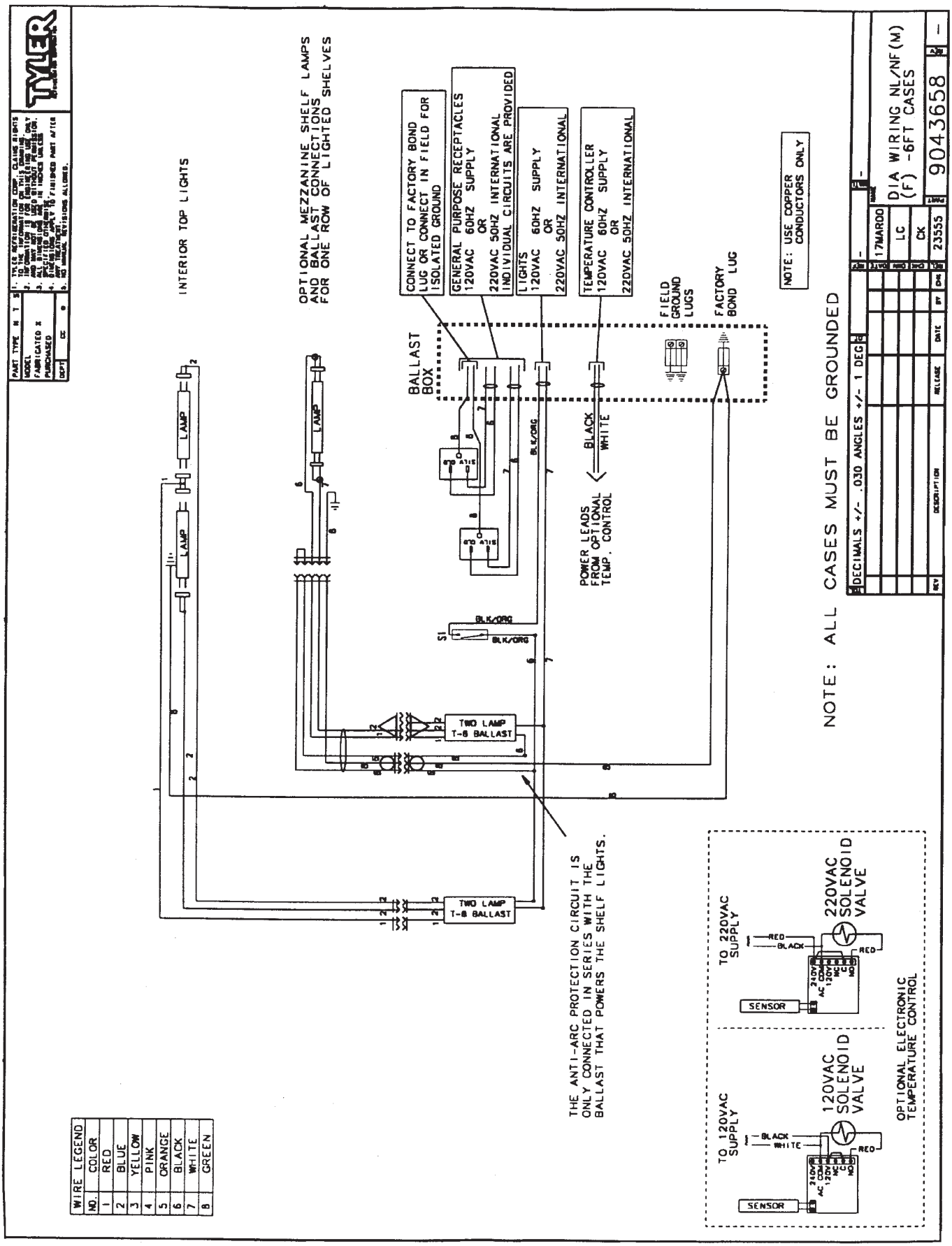
120V circuits should be protected by 15 or 20 Amp devices per the requirements noted on the cabinet nameplate or the National Electrical Code, Canadian Electrical Code - Part 1, Section 28. 208V defrost circuits employ No. 12 AWG field wire leads for field connections. On remote cases intended for end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

The wiring diagrams on pages 13 thru 22 will cover all NFM, NFF, NFD and NFL case circuits.

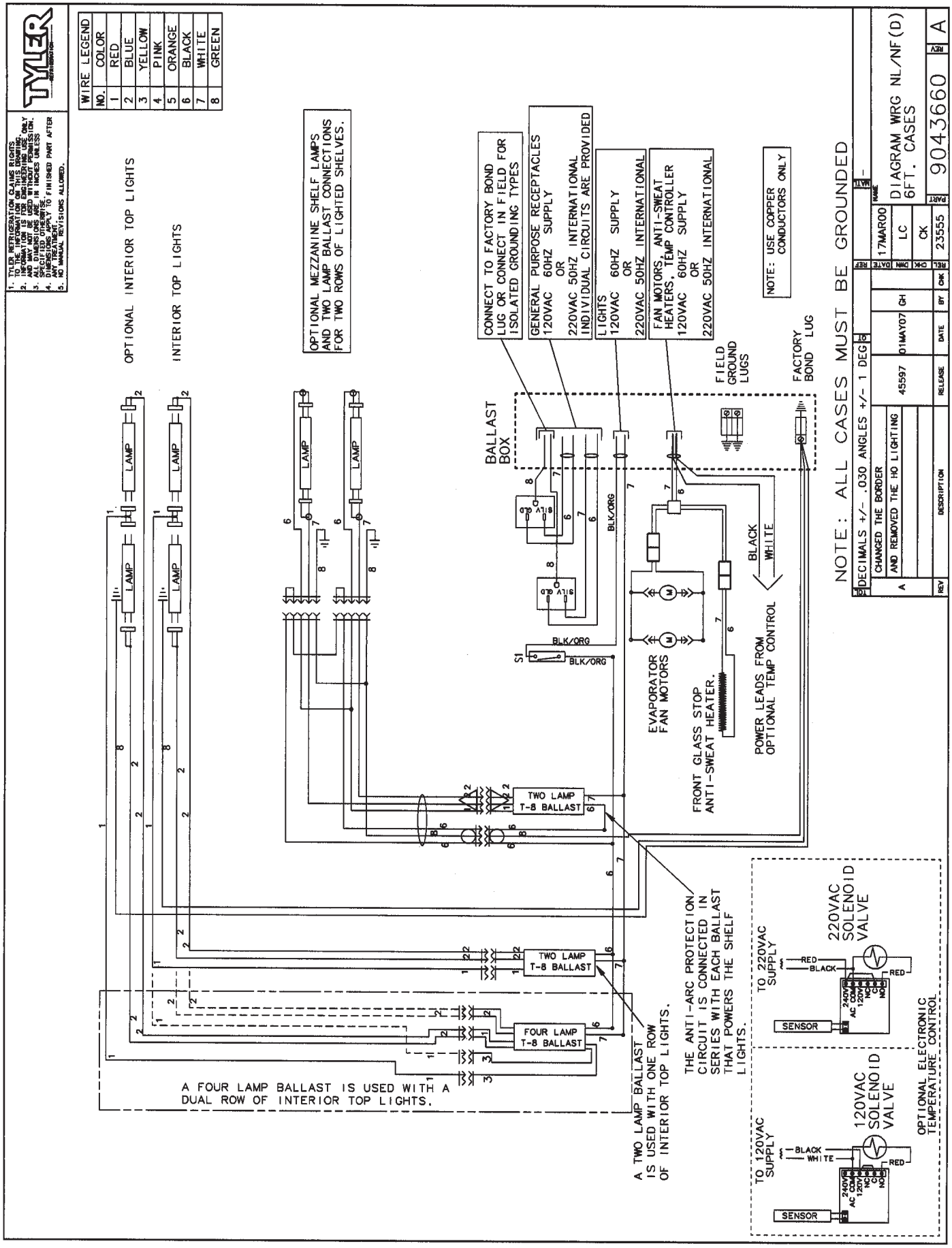

1. TYLER REFRIGERATION CORP. CLAIMS RIGHTS TO THE INFORMATION CONTAINED ON THIS DRAWING.
2. INFORMATION IS FOR ENGINEERING USE ONLY AND SHALL NOT BE USED IN ANY FASHION. SPECIFIED OTHERWISE.
3. ALL DIMENSIONS ARE IN INCHES UNLESS
4. TOLERANCES APPLY TO FINISHED PART AFTER ANY TREATMENT.
5. NO MANUAL REVISIONS ALLOWED.
TYLER
INTERIOR TOP LIGHTS
OPTIONAL MEZZANINE SHELF LAMPS AND BALLAST CONNECTIONS FOR ONE ROW OF LIGHTED SHELVES (USED ON NLM ONLY)
CONNECT TO FACTORY BOND LUG OR CONNECT IN FIELD FOR ISOLATED GROUND
GENERAL PURPOSE RECEPTACLES 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL INDIVIDUAL CIRCUITS ARE PROVIDED
LIGHTS 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
TEMPERATURE CONTROLLER 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
BALLAST BOX
FIELD GROUND LUGS
FACTORY BOND LUG
NOTE: USE COPPER CONDUCTORS ONLY
POWER LEADS FROM OPTIONAL TEMP. CONTROL
BLACK
WHITE
LAMP
TWO LAMP T-8 BALLAST
S1
BLK/ORG
NOTE: ALL CASES MUST BE GROUNDED
THE ANTI-ARC PROTECTION CIRCUIT IS ONLY CONNECTED IN SERIES WITH THE BALLAST THAT POWERS THE SHELF LIGHTS.
TO 220VAC SUPPLY
220VAC SOLENOID VALVE
RED
BLACK
SENSOR
TO 120VAC SUPPLY
120VAC SOLENOID VALVE
BLACK
WHITE
OPTIONAL ELECTRONIC TEMPERATURE CONTROL
DECIMALS +/- .030 ANGLES +/- 1 DEG
10NOV05
LC
GEH
43180
DIAGRAM WRG NFM/NLF 4FT
9039661
WIRE LEGEND
NO. COLOR
1 RED
2 BLUE
3 YELLOW
4 PINK
5 ORANGE
6 BLACK
7 WHITE
8 GREEN

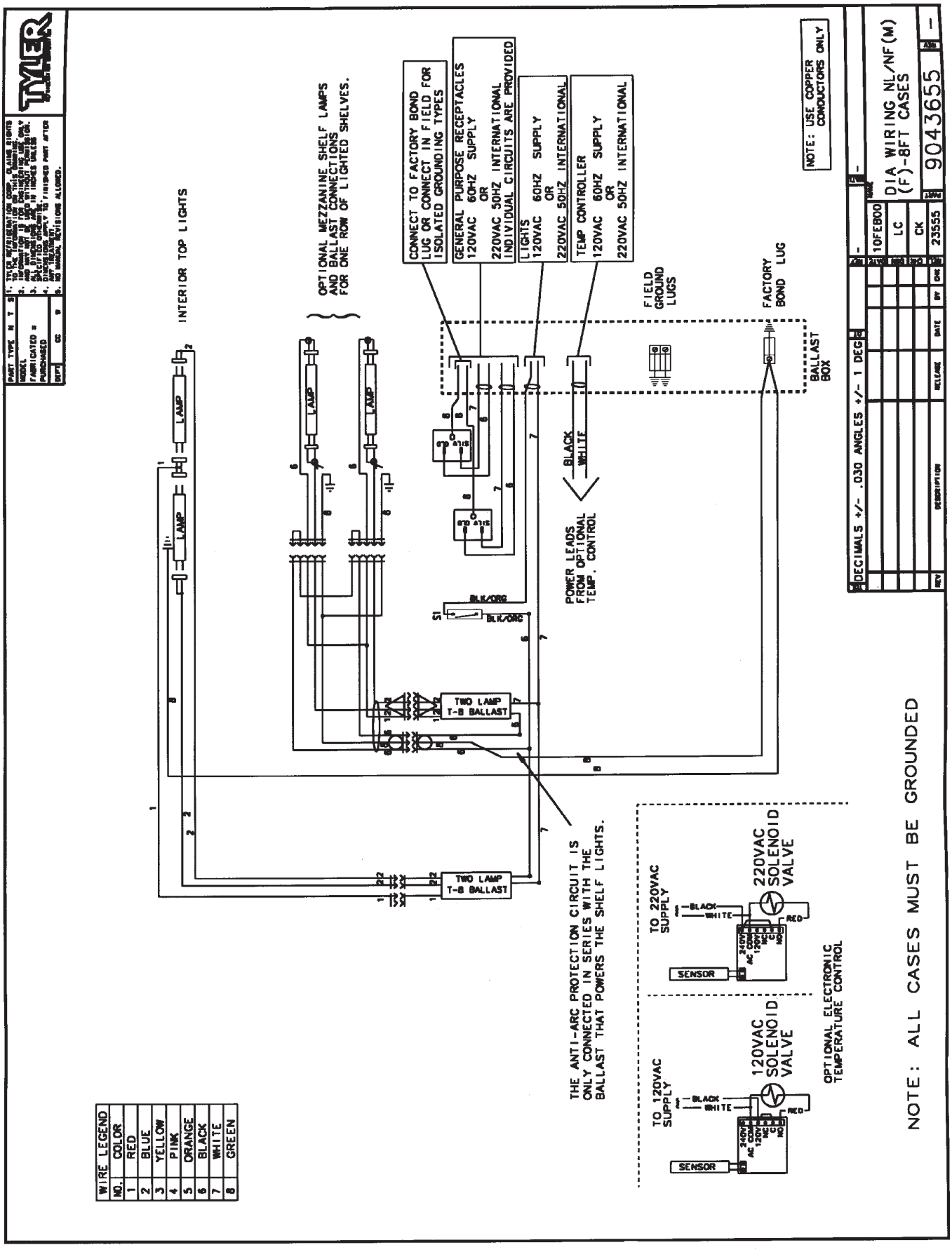
NFD Domestic & Export (50 Hz) Case Circuits (4' Cases)



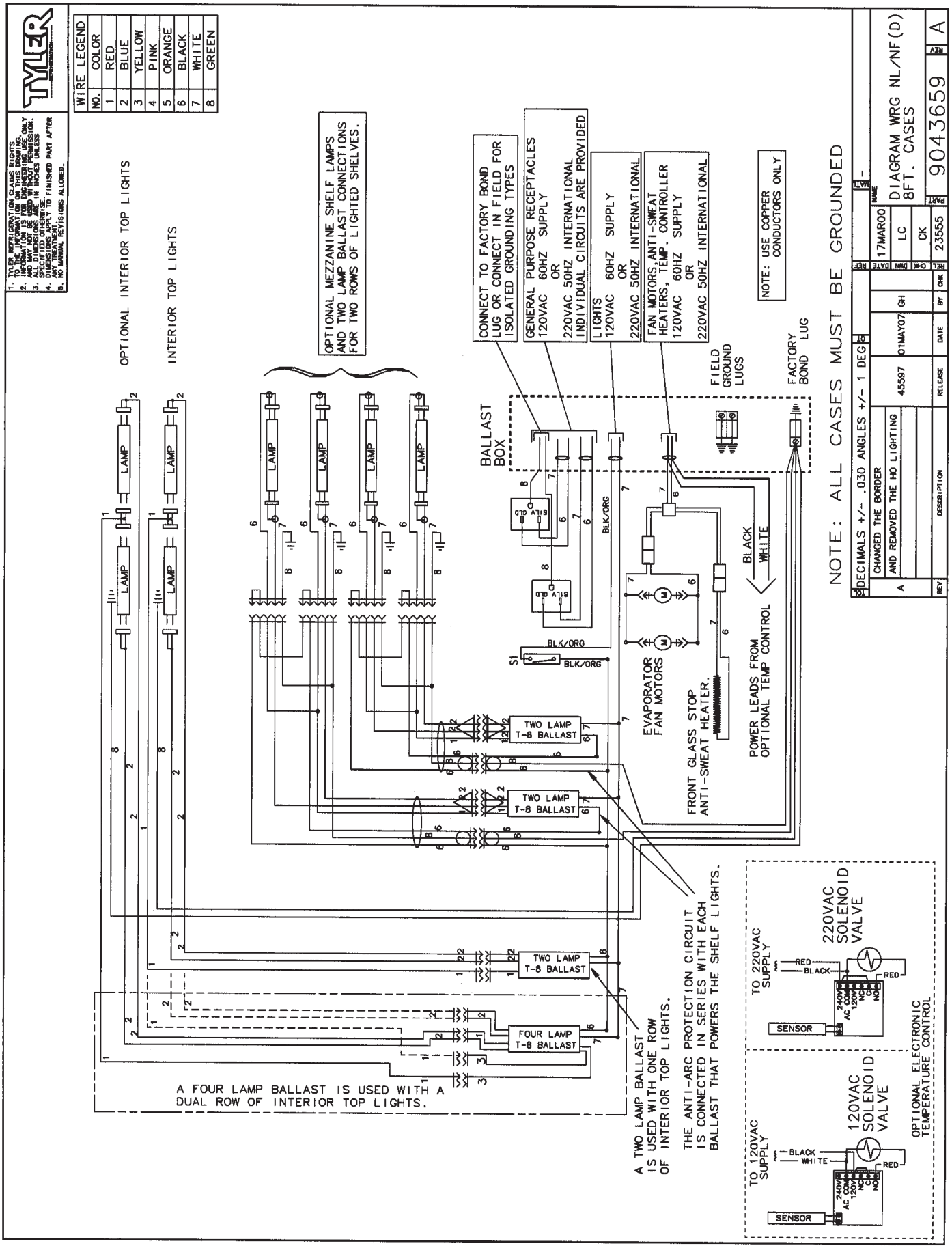

INTERIOR TOP LIGHTS
OPTIONAL MEZZANINE SHELF LAMPS AND BALLAST CONNECTIONS FOR ONE ROW OF LIGHTED SHELVES
BALLAST BOX
CONNECT TO FACTORY BOND LUG OR CONNECT IN FIELD FOR ISOLATED GROUND
GENERAL PURPOSE RECEPTACLES 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL INDIVIDUAL CIRCUITS ARE PROVIDED
LIGHTS 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
TEMPERATURE CONTROLLER 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
FIELD GROUND LUGS
FACTORY BOND LUG
NOTE: USE COPPER CONDUCTORS ONLY
POWER LEADS FROM OPTIONAL TEMP. CONTROL
BLACK
WHITE
LAMP
TWO LAMP T-8 BALLAST
S1
BLK/ORG
THE ANTI-ARC PROTECTION CIRCUIT IS ONLY CONNECTED IN SERIES WITH THE BALLAST THAT POWERS THE SHELF LIGHTS.
NOTE: ALL CASES MUST BE GROUNDED
TO 220VAC SUPPLY
220VAC SOLENOID VALVE
RED
BLACK
SENSOR
TO 120VAC SUPPLY
120VAC SOLENOID VALVE
WHITE
OPTIONAL ELECTRONIC TEMPERATURE CONTROL
WIRE LEGEND
NO. COLOR
1 RED
2 BLUE
3 YELLOW
4 PINK
5 ORANGE
6 BLACK
7 WHITE
8 GREEN
TYLER
DECIMALS +/- .030 ANGLES +/- 1 DEG
17MAR00
LC
CK
23555
DIA WIRING NL/NF(M) (F) -6FT CASES
9043658

NFD Domestic & Export (50 Hz) Case Circuits (6' Cases)

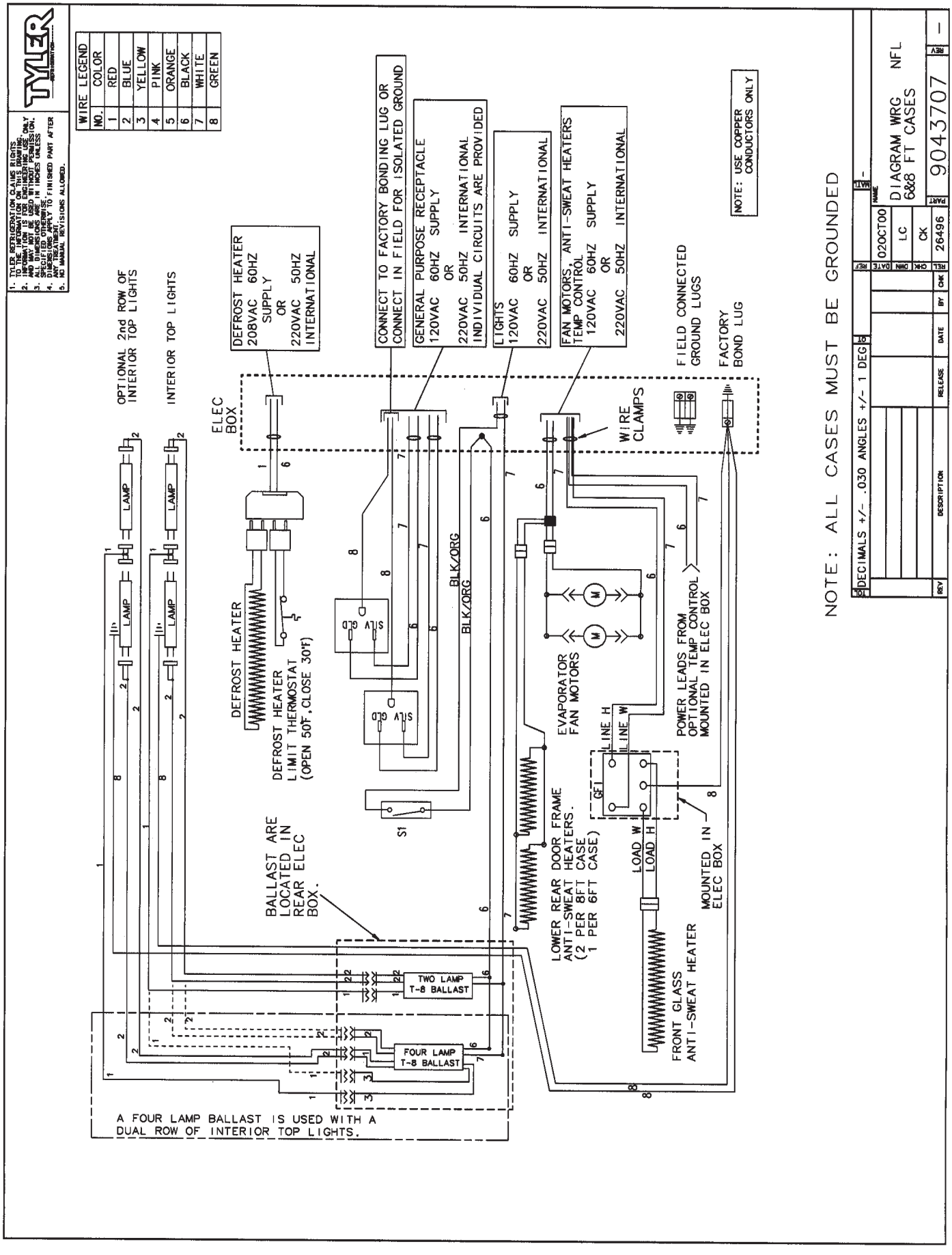



TYLER
DIA WIRING NL/NF(M)
(F)-8FT CASES
9043655
10FEB00
LC
CK
23555
DECIMALS +/- .030 ANGLES +/- 1 DEG
NOTE: USE COPPER CONDUCTORS ONLY
INTERIOR TOP LIGHTS
OPTIONAL MEZZANINE SHELF LAMPS AND BALLAST CONNECTIONS FOR ONE ROW OF LIGHTED SHELVES.
CONNECT TO FACTORY BOND LUG OR CONNECT IN FIELD FOR ISOLATED GROUNDING TYPES
GENERAL PURPOSE RECEPTACLES 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL INDIVIDUAL CIRCUITS ARE PROVIDED
LIGHTS 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
TEMP CONTROLLER 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
FIELD GROUND LUGS
FACTORY BOND LUG
BALLAST BOX
LAMP
TWO LAMP T-8 BALLAST
BLACK
WHITE
POWER LEADS FROM OPTIONAL TEMP. CONTROL
BLK/ORG
S1
THE ANTI-ARC PROTECTION CIRCUIT IS ONLY CONNECTED IN SERIES WITH THE BALLAST THAT POWERS THE SHELF LIGHTS.
TO 220VAC SUPPLY
220VAC SOLENOID VALVE
SENSOR
TO 120VAC SUPPLY
120VAC SOLENOID VALVE
OPTIONAL ELECTRONIC TEMPERATURE CONTROL
NOTE: ALL CASES MUST BE GROUNDED
WIRE LEGEND
NO. COLOR
1 RED
2 BLUE
3 YELLOW
4 PINK
5 ORANGE
6 BLACK
7 WHITE
8 GREEN

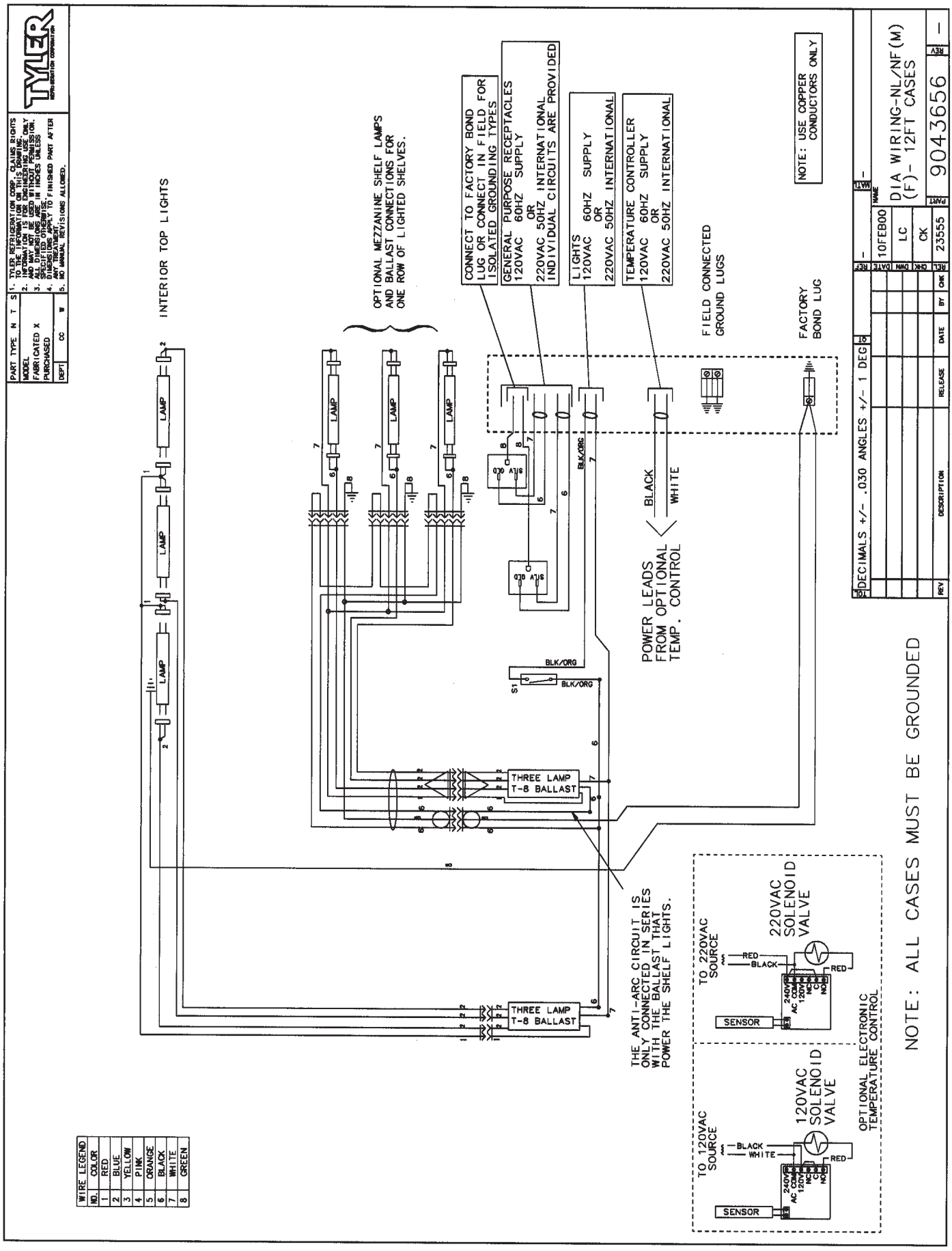
NFD Domestic & Export (50 Hz) Case Circuits (8' Cases)

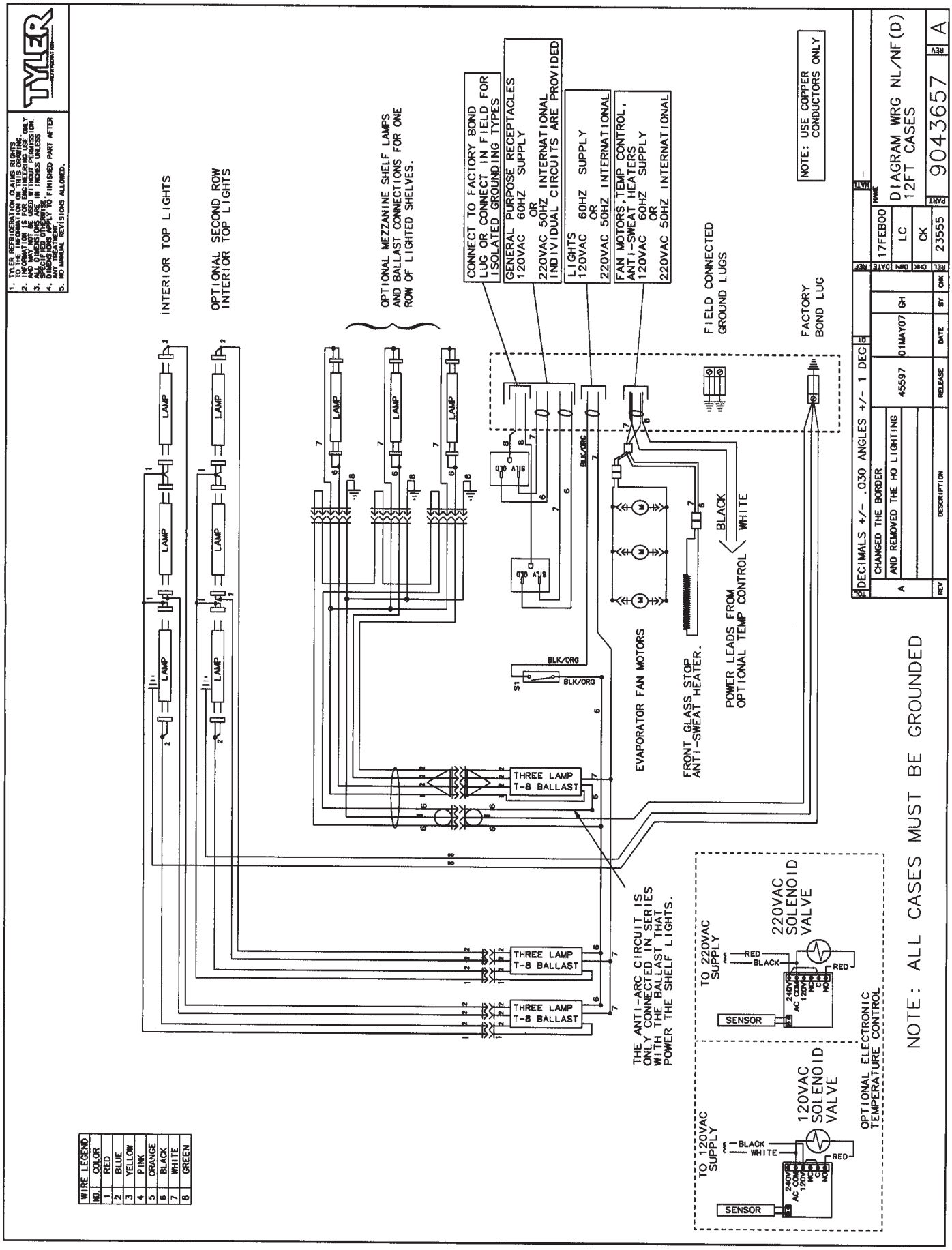


NFL Domestic & Export (50 Hz) Case Circuits (6' & 8' Cases)

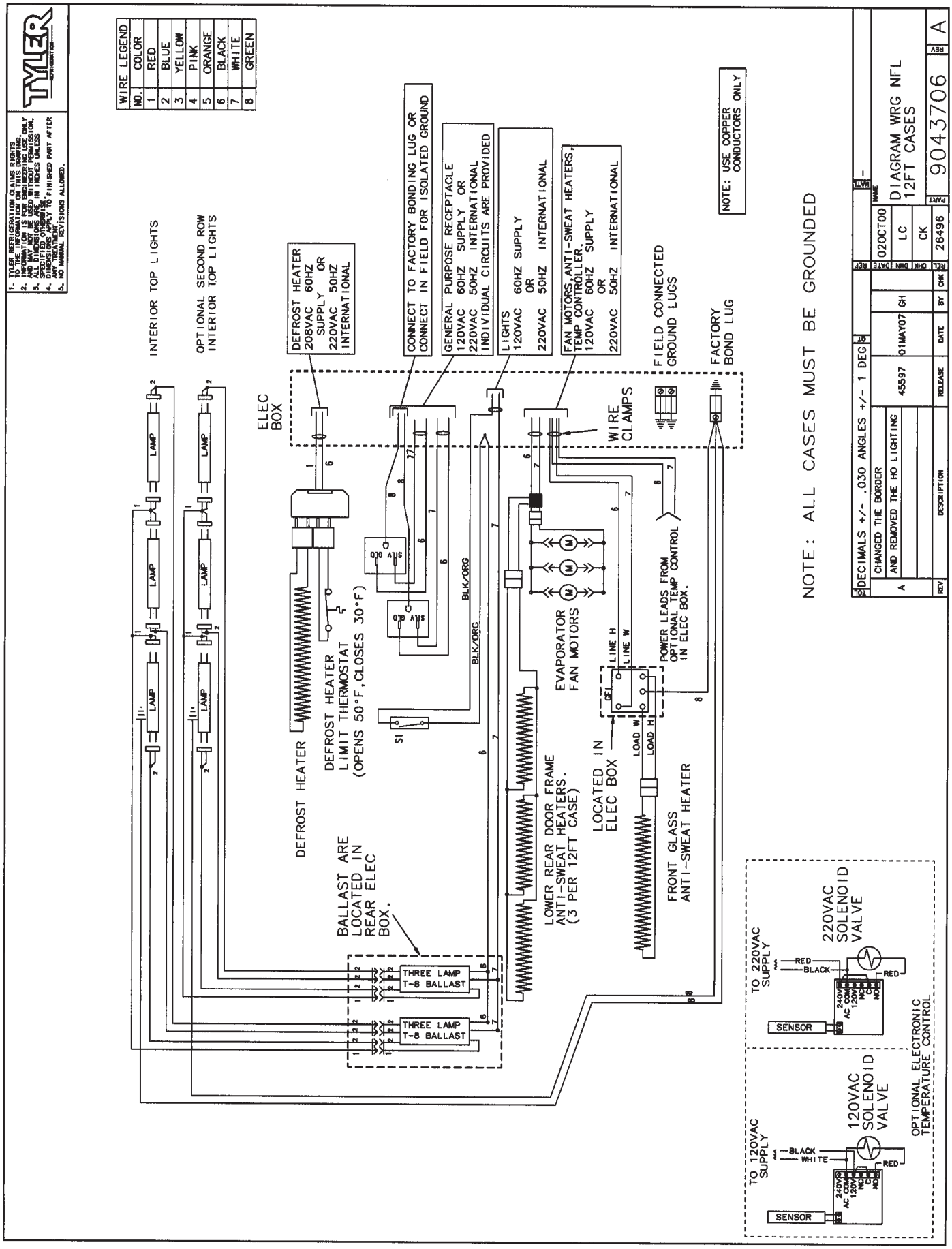


NFM/NFF Domestic & Export (50 Hz) Case Circuits (12' Cases)




INTERIOR TOP LIGHTS
OPTIONAL SECOND ROW INTERIOR TOP LIGHTS
OPTIONAL MEZZANINE SHELF LAMPS AND BALLAST CONNECTIONS FOR ONE ROW OF LIGHTED SHELVES.
CONNECT TO FACTORY BOND LUG OR CONNECT IN FIELD FOR ISOLATED GROUNDING TYPES
GENERAL PURPOSE RECEPTACLES 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
LIGHTS 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
FAN MOTORS, TEMP CONTROL, ANTI-SWEAT HEATERS 120VAC 60HZ SUPPLY OR 220VAC 50HZ INTERNATIONAL
INDIVIDUAL CIRCUITS ARE PROVIDED
FIELD CONNECTED GROUND LUGS
FACTORY BOND LUG
NOTE: USE COPPER CONDUCTORS ONLY
LAMP
THREE LAMP T-8 BALLAST
EVAPORATOR FAN MOTORS
FRONT GLASS STOP ANTI-SWEAT HEATER.
POWER LEADS FROM OPTIONAL TEMP CONTROL
BLACK
WHITE
BLK/ORG
S1
THE ANTI-ARC CIRCUIT IS ONLY CONNECTED IN SERIES WITH THE BALLAST THAT POWER THE SHELF LIGHTS.
TO 220VAC SUPPLY
220VAC SOLENOID VALVE
RED
BLACK
SENSOR
TO 120VAC SUPPLY
120VAC SOLENOID VALVE
WHITE
OPTIONAL ELECTRONIC TEMPERATURE CONTROL
NOTE: ALL CASES MUST BE GROUNDED
WIRE LEGEND
NO. COLOR
1 RED
2 BLUE
3 YELLOW
4 PINK
5 ORANGE
6 BLACK
7 WHITE
8 GREEN
TYLER
DECIMALS +/- .030 ANGLES +/- 1 DEG
CHANGED THE BORDER AND REMOVED THE HO LIGHTING
45597
01MAY07
GH
17FEB00
LC
OK
23555
DIAGRAM WRG NL/NF(D) 12FT CASES
9043657
A

NFL Domestic & Export (50 Hz) Case Circuits (12' Cases)



CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Lower Trays and Screens

1. Open and remove rear sliding doors. See page 26.
2. Remove product from the case interior.
3. Grasp and lift out each lower tray or screen from the bottom of the case.
4. After cleaning, replace in reverse order.

Front Air Ducts

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

Rear Air Ducts

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

Mullion Covers

1. Open the front curved glass by lifting the handle at the bottom.
2. Remove mounting screws from each mullion cover.

WARNING

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

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

End Coil Cover (NFM/NFF)

1. Open rear sliding doors at each end.
2. Remove screws and end coil covers from ends of upper coil.
3. After cleaning, replace end coil covers in reverse order.

Refrigeration Line Cover (NFM Only)

1. Remove lower screens, see this page.
2. Remove mounting screws and refrigeration line cover.
3. After cleaning, replace in reverse order.

Electrical Cover (NFM Only)

1. Remove lower screens, see this page.
2. Remove mounting screws and electrical cover.

WARNING

Do not get moisture on electrical wires when cleaning under this cover. Moisture on wires could cause premature product failure and/or personal injury or death from electrical shock.

4. After cleaning, replace in reverse order.

Front Lower Cladding

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

Front Upper Cladding

1. Remove color band, bumper and bumper retainer from the case. See “General-UL/NSF I&S Manual”.

2. Remove front kickplate.
3. Remove screws and front lower cladding. See page 23.
4. Remove screws from top and bottom of front upper cladding and remove front upper cladding.
5. After cleaning, replace front upper cladding and remaining front components in the reverse order.

Cleaning Instructions

CAUTION

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

WARNING

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

See "General (UL/NSF) I&S Manual" for case cleaning instructions. Stainless steel cleaning is covered in the following chart.

Stainless Steel Cleaning Methods

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

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

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

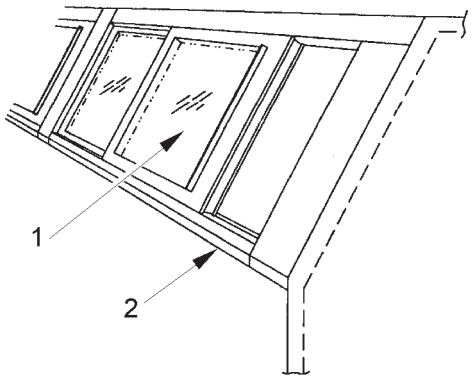
***** **Use of proprietary names is intended only to indicate a type of cleaner, and does not constitute an endorsement, nor is omission of any proprietary cleanser to imply its inadequacy. It should be emphasized that all products should be used in strict accordance with instructions on package.**

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

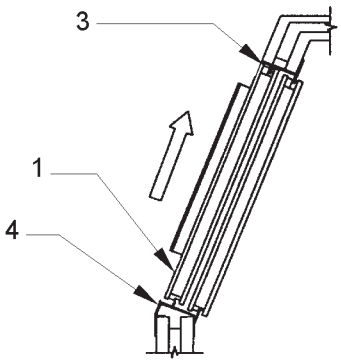
GENERAL INFORMATION

Rear Sliding Door Removal and Installation

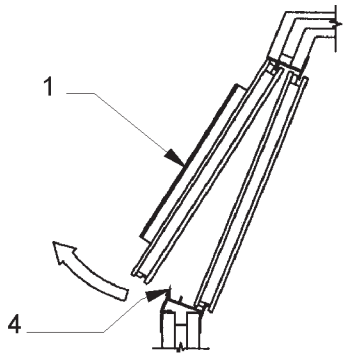
The sliding doors come installed from the factory in the door frame. These doors are removable for cleaning and to aid in case maintenance. **NOTE: DO NOT FULLY IMMERSE DOORS WHEN CLEANING.** The inner and outer doors are marked with labels from the factory. If the doors are not labeled, the inner door can be identified as having the limiter stops on it.



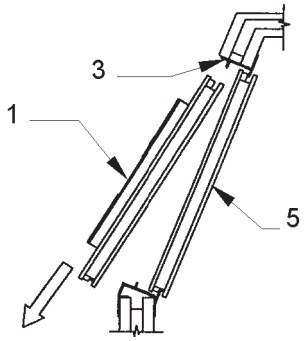
1. Remove the outer door (1) by sliding it to the right end of the door frame (2) (within an inch of being closed).



2. Firmly grasp both sides of the outer door (1) and lift into the upper track (3) until it clears the lower track (4).



3. Tilt out the bottom of the outer door (1) so it can clear the lower track (4).



4. Lower the outer door (1) out of the upper track (3) to remove it from the case.
5. Repeat steps 1 thru 4 to remove the inner door (5).
6. Reverse the above steps to replace the inner and outer doors (5 and 1).

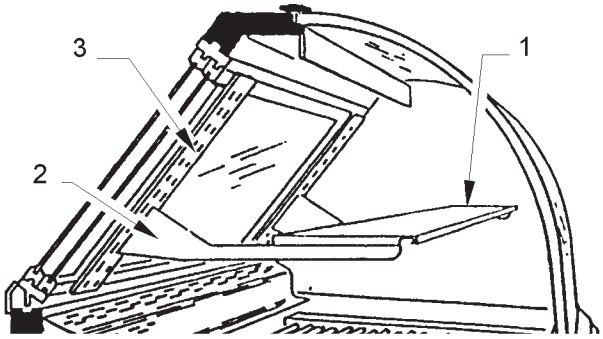
Mezzanine Shelving

Mezzanine shelves are available in 10” or 12” widths. One level of shelving is optionally available for NFM and NFF cases, while two levels of shelving is available for NFD cases. The shelves can be moved forward from the mullions in two inch increments and can be locked into three positions.

NOTE

Shelving is not available for NFL cases.

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



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

NOTE

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

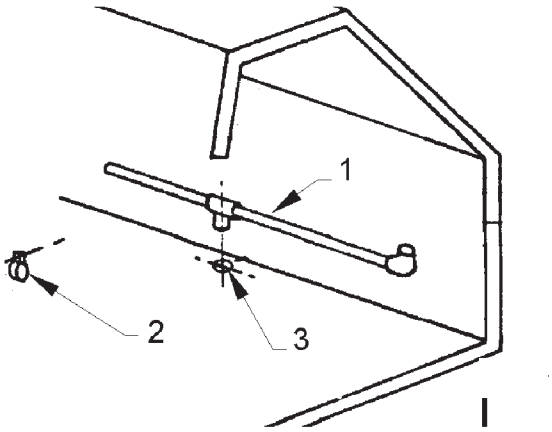
Lighted Shelves

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

Service Case Flush System

Flush systems are offered only on NLF cases to provide a convenient and effective means of maintaining case cleanliness. The system may be operated either manually by a hand valve or automatically using a solenoid and a time clock. The flush water is drained from the case via the normal drain path.

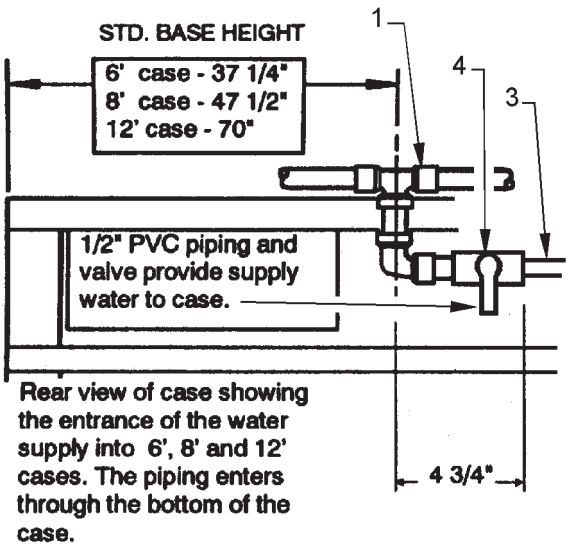
Water is supplied to the system through a pressurized water connection to a domestic water supply. The water is fed to a nozzle array which provides even flushing throughout the case interior. It is recommended to flush cases at least once a day. Flush time varies depending on the specific case needs.



1. Position the manifold (1) near the rear case wall and secure with manifold anchor clamps (2).
2. Cut a hole in the case well just large enough to connect manifold to 1/2” PVC water supply piping (3).

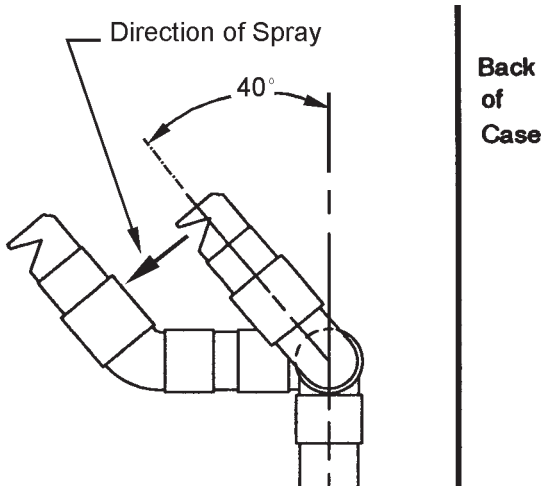
NOTE

A suitable water supply must be downstream of the isolation valve.



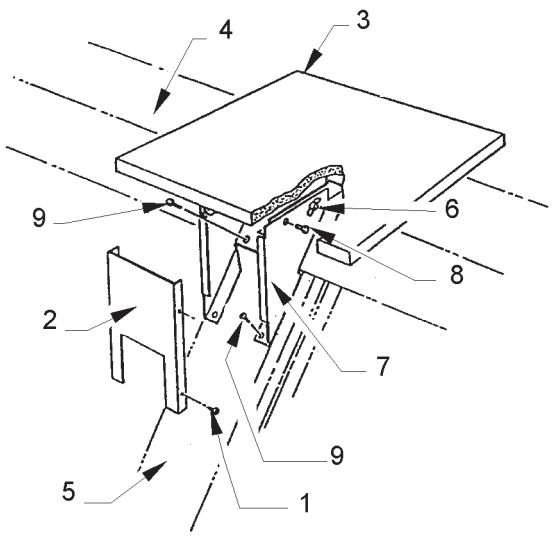
Rear view of case showing the entrance of the water supply into 6', 8' and 12' cases. The piping enters through the bottom of the case.

3. Install isolation valve (4) (hand or solenoid) and manifold (1) to water supply piping (3).
4. Caulk the area where the water supply piping (3) enters the case well to prevent water leakage during system flushing.



Top Mounted Scale Shelf Installation

The optional scale shelf is mounted to the mullion on the back of the case. The shelf rests on the flat portion of the top of the case. Use the follow instructions to mount the scale shelf assembly.



1. Remove the screws (1) and rear cover (2) from the scale shelf assembly (3).
2. Center the scale shelf assembly (3) on the top rear of the case (4) at the selected mullion (5) location.
3. Loosen wing nut (6) on the front right side of the lower rear support (7) and the two locking capscrews (8) at the rear.
4. Adjust scale shelf (3) to sit level from front-to-rear and side-to-side. When the shelf is level, retighten the wing nut (6) and the two locking capscrews (8).
5. Drill pilot holes in the top two holes in the lower rear support (7), and start two screws (9). Check for proper shelf alignment, then tighten two screws (9).
6. Drill pilot holes thru lower two holes in lower rear support (7) and secure with two screws (9).
7. Replace rear cover (2) and screws (1) on scale shelf assembly (3).

SERVICE INSTRUCTIONS

See "General (UL/NSF) I&S Manual" for T-8 lamp and fan blade and motor (NFD/NFL), and color band and bumper replacement instructions.

Connecting the Refrigeration Piping and Components

WARNING

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

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

NOTE

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

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

Light Servicing

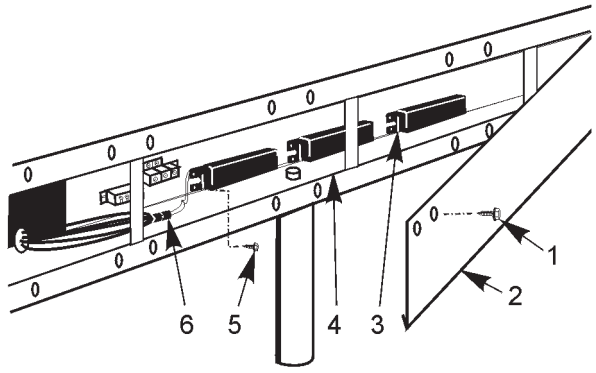
See "General (UL/NSF) I&S Manual" for T-8 lamp replacement instructions.

Ballast and Lighting Locations

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

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

Ballast Replacement



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

NOTE

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

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

Anti-Sweat Replacement (NFL only)

NFL cases have one anti-sweat heater in the front glass and an anti-sweat heater wire in each of the rear door lower door frames. The front glass anti-sweat heater can only be replaced by replacing the front glass. Use the following instructions to replace an anti-sweat heater in the rear door lower frames.

WARNING

Shut off or disconnect power supply to case before changing an anti-sweat. Electrical power from wire ends could damage other components and/or cause personal injury or death.

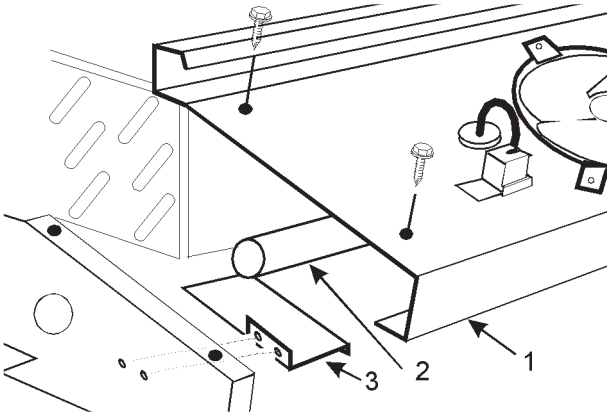
1. Remove the rear doors from the rear door frame with the defective anti-sweat wire.
2. Remove the screws and rear door frame from the back of the case.
3. Disconnect or cut the defective anti-sweat wire from the case wires.
4. Remove the aluminum tape and defective anti-sweat wire from the case.
5. Position new anti-sweat wire in case and secure with new aluminum tape.
6. Connect or splice the new anti-sweat wire to case wires.
7. Replace all components that were removed to expose the anti-sweat wire.
8. Restore the electrical power to case.

Defrost Heater Replacement (NFL only)

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 screens and/or bottom trays from the case.



2. Remove mounting screws and carefully lift fan plenum (1) out of the way.
3. Disconnect and remove defrost heater (2) from mounting clips (3) and case.
4. Install and connect new defrost heater (2).
5. Secure fan plenum (1) and replace bottom trays and/or bottom screens in case.
6. Restore electrical power to case.

PARTS INFORMATION

Operational Parts List

Case Usage	**Domestic**			**Export**		
Electrical Circuit	115 Volt 60 Hertz			220 Volt 50 Hertz		
Case Size	6'*	8'	12'	6'	8'	12'
Fan Motor (NFD/NFL)	5125532 5 Watt	5125532 5 Watt	5125532 5 Watt	5126572 5 Watt	5126572 5 Watt	5126572 5 Watt
Fan Motor Brackets (NFD/NFL)	5962269	5962269	5962269	5962269	5962269	5962269
Fan Bracket Plate (NFD/NFL)	9041077	9041077	9041077	9041077	9041077	9041077
Fan Blades (7" 25° 5B) (NFD)	5236974	5236974	5236974	5236974	5236974	5236974
(7" 15° 5B) (NFL)	5223891	5223891	5223891	5223891	5223891	5223891
Opt. ECM Motor (NFD/NFL)	9025002 8 Watt	9025002 8 Watt	9025002 8 Watt	----	----	----
Opt. ECM Fan Brackets (NFD/NFL)	9025005	9025005	9025005	----	----	----
Opt. ECM Fan Blades (7" 30° 5B) (NFD)	5223370	5223370	5223370	----	----	----
(7" 15° 5B) (NFL)	5223891	5223891	5223891	----	----	----
Rocker Switch	5961377	5961377	5961377	5961377	5961377	5961377
Rectangular Outlet	5236335	5236335	5236335	5236335	5236335	5236335
T-8 Lamp Ballast (canopy)(1-row)	5991029	5991029	5991030	9322286	9322286	9322287
(opt. can.)(2-row)(NLD)	5966635	5966635	5991030	9322288	9322288	9322287
(opt. shelf)(per row)	5991029	5991029	5991030	9322286	9322286	9322287
T-8 Lampholder (canopy)	5232279	5232279	5232279	5232279	5232279	5232279
(shelf)	5092414	5092414	5092414	5092414	5092414	5092414
Anti-Sweat Heater Wire (NFL) (rear lower door frame)	5228677	5228678	5228678	5228677	5228678	5228678
Opt. Elec. Def. Heater (NFL)	5125123	5124521	5124522	5125123	5124521	5124522
Suction Solenoid Valve	5191445	5191445	5191445	5231619	5231619	5231619
Electronic Thermostat	5997588	5997588	5997588	5997588	5997588	5997588
Check Valve (NFM)	5199417	5199417	5199417	5199417	5199417	5199417

* NFM and NFD are also available as 4' models. Parts will be the same as the 6' models.

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

Cladding and Trim Parts List

Item	Description	4’	6’	8’	12’
1	Inner Glass Joint Trim	5224642	5224642	5224642	5224642
2	Insulated Tubing	5107191	5107191	5107191	5107191
3	Black Sealant Tape, 3” Wide	5223866	5223866	5223866	5223866
4	Outside Glass Joint Trim	5234301	5234301	5234301	5234301
	Screw	5619204(4)	5619204(4)	5619204(4)	5619204(4)
5	Bumper Retainer	9025045	9025052	9025058	9025061
6	Screw, Shoulder	9025833(8)	9025833(12)	9025833(16)	9025833(24)
7	Bumper	---------- color per order ----------			
8	Color Band, Ptd.	9020989	9025979	9025980	9025981
9	Frt. Kickplate Assembly, Std.	9037933	9024937	9024938	9024939
	Frt. Kickplate Assembly, Opt.	9050820	9024974	9024975	9024976
10	Color Band Backer, Ptd.	9025655	9025655	9025655	9025655
11	Bumper Backer	---------- color per order ----------			
12	Upr. Frt. Cladding, Ptd.	9037989	9024922	9024923	9024924
	Screw	5183536(5)	5183536(8)	5183536(9)	5183536(11)
13	Upr. Frt. Cladding Joint Trim	9043829	9043829	9043829	9043829
	Screw	9024814(4)	9024814(4)	9024814(4)	9024814(4)
14	Kickplate Joint Trim	9043816	9043816	9043816	9043816
	Screw	5619204(4)	5619204(4)	5619204(4)	5619204(4)
15	Lwr. Frt. Cladding, Std. Ptd.	9037927	9043822	9043823	9043824
	Lwr. Frt. Cladding, Opt. Ptd.	9037934	9043825	9043826	9043827
16	Lwr. Frt. Cladding Joint Trim	9043893	9043893	9043893	9043893
	Opt. Frt. Cladding Joint Trim	9043891	9043891	9043891	9043891
	Screw	9024814(4)	9024814(4)	9024814(4)	9024814(4)
17	Pipe Leg, Std. (2” X 9.75”)	9024894(4)	9024894(6)	9024894(6)	9024894(8)
	Pipe Leg, Opt. (2” X 6.00”)	9024893(4)	9024893(6)	9024893(6)	9024893(8)
18	RH Base End Close-off, Ptd. (per patch end)	9024986	9024986	9024986	9024986
	LH Base End Close-off, Ptd. (per patch end)	9043066	9043066	9043066	9043066
	Opt. Base End Close-off, (per patch end)	9024980	9024980	9024980	9024980
19	Opt. Rear Base Close-off	9039106	9024934	9024935	9024936

Item	Description	4’	6’	8’	12’
20	Rear Rail Cover, Ptd.	9024928	9024929	9024928(2)	9024929(2)
	Screw	9043080(12)	9043080(16)	9043080(24)	9043080(32)
21	Lwr. Rear Shelf Cover	9037948	9024770	9024771	9024772
	Screw	9024814(4)	9024814(6)	9024814(7)	9024814(12)
22	Rear Lower Joint Trim	5233635	5233635	5233635	5233635
	Screw	5199134(4)	5199134(4)	5199134(4)	5199134(4)
23	Rear Upper Joint Trim	5233635	5233635	5233635	5233635
	Screw	5619204(4)	5619204(4)	5619204(4)	5619204(4)
24	Horizontal End Trim	9037279	9037279	9037279	9037279
25	NSF Product Thermometer	5967100	5967100	5967100	5967100
26	Refrig. Line Cover (NFM) (Not Shown)	9024864	9024864	9024864	9024864
27	Electrical Wire Cover (NFM) (Not Shown)	5236336	5236336	5236336	5236336