

3000 series

K/W Part #: 31E03-015

Date: 10-97

Supersedes: all

INSTALLATION & OPERATION MANUAL

M1A3, M1AG3 MEAT MERCHANDISER



*This case conforms to the Commercial Refrigerator Manufacturers Association's
Health and Sanitation Standard.*

1600 Industrial Blvd., Conyers, GA 30012
(770) 483-5600
5201 Transport Blvd., Columbus, GA 31907
5 Mutec Dr., Columbus, GA 31907

KYSOR/WARREN®



INSTALLATION AND OPERATING INSTRUCTIONS

M1A(G)3 MODEL

SINGLE DECK MEAT MERCHANDISER

APPLICATION

The Kysor//Warren single deck, meat cases are designed to merchandise packaged meats. These cases should be installed and operated according to the instructions contained in this manual to insure proper performance. They are designed for display of products in an air-conditioned store where temperature and humidity are maintained at a maximum of 75 degree F dry bulb temperature and 55% relative humidity.

MODEL

DESCRIPTION

M1A3	Single deck, fresh meat case with air defrost as standard or hot gas/electric as optional.
M1AG3	Single deck, fresh meat case with a glass front and air defrost as standard or hot gas/electric as optional.

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3000 *series*

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GENERAL

These cases may be installed individually or in a continuous line-up consisting of several 4',6',8' and 12' sections by using a joint kit. A plexiglass divider kit must be used between cases operating on different refrigeration systems. The divider will be factory installed if specified on order.

SHIPPING DAMAGE

All equipment should be examined for shipping damage before and during unloading. If there is any damage, the carrier should be notified immediately and an inspection requested. Also, any damage must be noted on the equipment delivery receipt. If damage is of a concealed nature, you must contact the carrier immediately or no later than three (3) days following delivery. A claim must be filed with the carrier by the consignee for all damages.

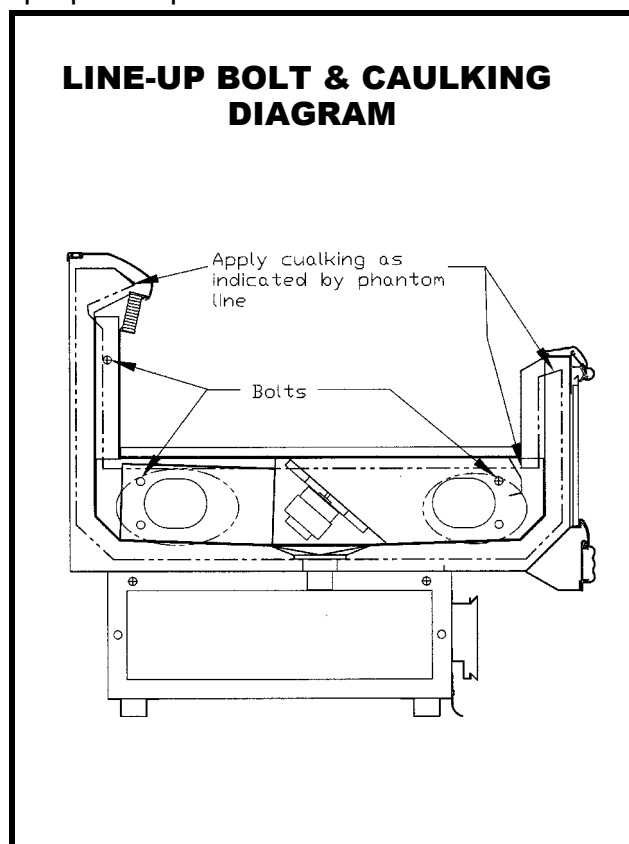
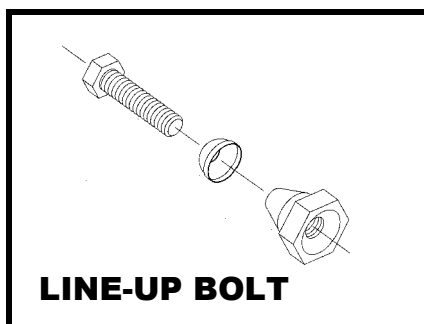
NOTE: All claims for shortages must be made within 10 days after receipt of shipment.

INSTALLATION & LOCATION

IMPORTANT: This case must be located on a firmly based floor and leveled within plus or minus 1/16". Use shims provided to level your case.

JOINING

Two or more cases of like models can be joined together to form a continuous line-up. Before lining up cases, inspect refrigeration lines, electrical connections and controls to insure cases are in the proper line-up and are in the proper sequence.



JOINING INSTRUCTIONS

1. Move cases as near their permanent location as possible before removing shipping braces, skids or rollers. NOTE: all cases are factory numbered with line-up and position numbers. Make sure that cases are installed in order. (Line up sticker found on the front of each case.)
2. Remove skids and shipping braces. Install approximately a 5/16" bead of sealer at one end of case as noted by a phantom line on cross-section.
3. Move cases as close together as possible and level by using the shims provided.
CASES MUST BE LEVELED FROM FRONT TO BACK AND END TO END.

4. Remove access covers over line-up holes & place the special T-nut washer on the 3/8" machine bolt with hollow section away from the bolt head. Insert the 3/8" line-up bolts in the end frame. Tighten the 3/8" bolts with nut washer into the T-nuts alternately until cases are pulled up tight & the joint is completely sealed. (Reasonable care should be exercised in this procedure to prevent end frame distortion.) Assist in pulling the case up tight by bumping from opposite end of case or by using pry bar.
5. Inspect joint for proper air and water tight seal inside and outside the case.
6. Replace line-up access cover plugs & plates.

Most case trim can and should be installed immediately after cases are lined up to prevent loss. The trim that cannot be installed immediately such as the kickplate area, and related parts should be stored in a safe place until refrigeration and electrical work is completed.

WASTE OUTLET

These cases are equipped with a 1 1/2" M-NPT waste outlet connection which terminates in the center of the case below the insulated bottom. A 1 1/2" PVC water seal trap is shipped loose for field installation.

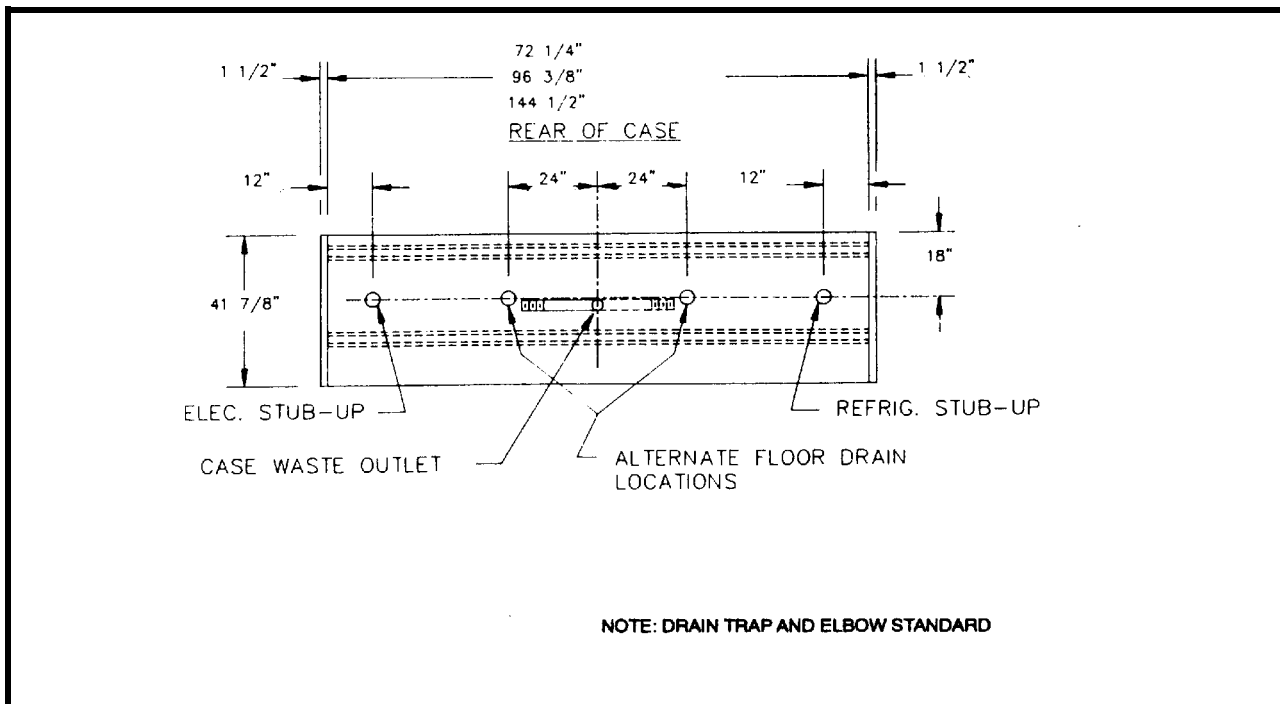
INSTALLING DRIP PIPE

Improperly installed drip pipes can seriously effect the operation of this case and result in increased maintenance cost. Listed below are some general rules for drip pipe installation:

- 7 Never use a double water seal.
- 7 Never use a pipe smaller than the size pipe or water seal supplied with the case.
- 7 Always provide as much fall as possible in drip pipe. (1" fall for each 4' of drip pipe.)
- 7 Avoid long runs of drip pipe which make it impossible to provide necessary fall.
- 7 Provide a drip space between drip pipe and floor drain or sewer connection.
- 7 Do not allow drip pipe to come in contact with uninsulated suction lines, which will cause the condensation from your case to freeze.

series 3000

PLAN VIEW



CLEANING

To insure minimum maintenance cost, case should be thoroughly emptied and washed out at least once a month. The exterior should be washed weekly. A mild soap and water solution is recommended for painted surfaces of the cabinet. Do not use cleaners containing abrasive materials or ammonia which will scratch or dull finish. The waste outlet should be flushed with water following each cleaning.

CAUTION: Be sure that refrigeration and all electrical power is off before washing your case.

WARNING: Never introduce water into the case faster than the waste outlet can carry it away. Do not use steam or high pressure systems to clean the case, as seals may be broken which will cause the case to leak. When cleaning lighted shelves, wipe down with a wet sponge or cloth so that water does not enter the light rails. Do not use a hose or submerge shelves in water.

LOADING

Merchandise should not be placed in the case until all controls have been adjusted and the case is at proper temperature. **AT NO TIME SHOULD THE CASE BE STOCKED BEYOND THE LOAD LINE OR OVER THE FRONT EDGE OF ADJUSTABLE SHELVES.** In doing so, you will seriously affect the performance which will result in higher product temperatures and increase operating costs.

ELECTRICAL

All field installed wiring must comply with the NATIONAL ELECTRICAL CODES and LOCAL CODES.

ELECTRICAL RACEWAY

An electrical raceway is provided with each case for wiring your fan, anti-sweat heaters, and light circuits from case to case without using conduit. This applies, of course, when the front bumper is properly secured into position. This is an approved method by the Underwriters' Laboratories; however, field wiring must be in accordance with local and national electrical codes.

ELECTRICAL CONNECTIONS

All field connections are made in the electrical raceway. Make sure that proper voltage is supplied to your case. Check case nameplate for the required voltage for fans, anti-sweat heaters, lights and defrost heaters. **ALL CASES MUST BE GROUNDED.** The Case Data chart on page 15 shows the electrical ratings for your case. This is the same information that appears on your case nameplate.

NOTE: Fan motors must operate continuously and panel must be marked sufficiently to prevent the fan motors and anti-sweat heaters from being turned off accidentally. When cases are multiplexed, add the total of these amperage values to determine wire size and circuit protection. Anti-condensate controllers can be used to control the anti-condensate heater.

On electric defrost models, the defrost heater amperages of all cases on defrost circuit should be added together, and if their rating exceeds the defrost time clock or condensing unit breaker capacity, a defrost relay and circuit breaker must be employed and furnished by others. Make sure that proper wire size and branch circuit protection are employed for safe operation.

REFRIGERATION FAN MOTORS

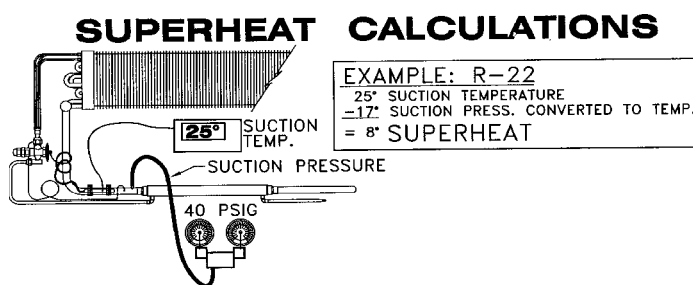
The fan motors employed are permanently oiled for the life of the motor and requires no periodic maintenance. They are wired according to the enclosed wiring diagram and must run continuously.

ANTI-SWEAT HEATERS

M1A3 cases have anti-sweat heaters located behind the top cap at the discharge air and under the thermopane glass at the front of the case, on glass front models.

EXPANSION VALVE & SUPERHEAT

The expansion valve furnished with your case has been sized for maximum coil efficiency. To adjust superheat, place a thermocouple under the expansion valve bulb. Read the suction line pressure as near coil as possible. (If at the condensing unit, estimate suction line loss at 2 PSIG.) Convert coil suction pressure to temperature. The difference between coil temperature and the thermocouple temperature is superheat. (Use average superheat when expansion valve is hunting.) Do not set superheat until cases have pulled down to operating temperature and never open or close valve over 1/4 turn between adjustments. Allow 10 minutes or more between adjustments. Superheat setting should be between 6 and 8 degrees F.



REFRIGERATION LINES

The refrigeration lines are located under the deck pans on the 4', 6', 8' and 12' cases. A refrigeration outlet is provided in the front right hand end of the M1AG3 cases. Make sure all refrigeration lines lie close to the case bottom so as not to obstruct the air pattern or block the deck pans. See the section on "Recommended Piping Practices" for additional details on piping.

These 4', 6', 8' and 12' cases have polyurethane foamed-in-place insulation. In opening a ferrule hole, simply heat a piece of copper tubing of the same size as the tubing to be employed and force it through the ferrule hole.

NOTE: Seal around lines after connections are made. Keep direct flame from bottom of cases, as heat will disintegrate the bottom and insulation. Use a heat shield when welding near the bottom of the cases.

REFRIGERANT

Expansion valves are supplied for the refrigerant specified on the original sales order.

HEAT EXCHANGER

Heat exchangers are standard in these cases. They aid to increase operating efficiency and reduce frosting and flood-back to the compressor. Heat exchangers may not be used if mechanical subcooling is incorporated in the system design.

OPERATION

On single condensing unit systems a thermostat should be used to control temperatures. The thermostat bulb should be mounted in the discharge air. On parallel units, temperature control can be provided by EPR valve, thermostat and liquid line solenoid or

solid state low pressure controls on the compressor unit. The Recommended Control Settings chart shows approximate settings for cases. Since many variables are present in each installation, such as store temperature, length of tubing runs, temperature desired in case, etc., the case data is only a guide for the installer.

DEHYDRATION OF REFRIGERATION SYSTEMS

Please read carefully before placing system into operation. To prevent scaling due to brazing, dry nitrogen should be allowed to flow through lines at 2 psig while brazing operations are taking place. After laying refrigerant lines, they should be blown out with dry nitrogen before making final connections at fixture or condensing unit to prevent any foreign matter being left in the lines.

After the case has been pressure-tested (not to exceed 250 pounds) and proven leak-free, it is recommended that the case be dehydrated with a vacuum pump to 1000 microns for the first two evacuations and 500 microns on the third. This triple evacuation method requires evacuating the case three successive times and breaking the first two vacuums with dry nitrogen. The third vacuum would be broken with the refrigerant specified for the case.

CAUTION: During installation and service of this equipment, precautions should be taken to prevent loss of refrigerant to the atmosphere.

AIR DEFROST

On the M1A(G)3, the evaporator fans run continuously; however, they reverse the air flow during defrost cycle. In defrost, the air is pulled into the case through the refrigeration discharge grill, through the ducts and coil then discharged out the return air duct.

Defrost termination is bi-metal "fixed" temperature control, wired in series and set to terminate at 45 degrees F on the coil. See the case data page for defrost clock control settings. The defrost cycle is started by the time clock, which reverses the contacts on the relay normally installed at the case, causing the evaporator fan motors to reverse thus

reversing the air flow to defrost the coils.

Note: Do not use pump down systems with air defrost. On parallel compressor systems, an electric stop EPR valve or solenoid is required in the suction line.

OFF-TIME DEFROST

Off-time defrost is not recommended for M1A3 cases.

ELECTRIC DEFROST MODELS

For optional electric defrost, electric heaters are utilized to melt the frost and ice on the coil. The heaters are located in the air stream in front of the coil. The defrost cycle is time initiated and should be temperature terminated. Case fans operate continuously in defrost and refrigeration. As a safety precaution, a safety cut-off is wired in series with the defrost heater to turn the heater off at temperatures above 70-degree F.

HOT GAS DEFROST MODELS

On hot gas defrost models, (optional for parallel compressors operation only) hot gas is routed through the suction line and evaporator coil. It exits the coil through a by-pass around the expansion valve and heat exchanger to return to the liquid line where the condensed liquid is used to feed the other cases on the same parallel unit. The case fans continue to operate during defrost to warm up the drain pan and air ducts. The defrost cycle is time initiated and should be temperature terminated.

THERMOSTAT LOCATION

For convenience, the thermostat (if utilized) is located at the left end of the case. If the case is equipped with a defrost terminator, it will be located in the same area.

RECOMMENDED CONTROL SETTINGS

<u>MODEL</u>	<u>REFRIGERANT</u>	<u>EPR SETTING</u>	<u>THERMOSTAT</u>	
			<u>CUT-OUT</u>	<u>CUT-IN</u>
M1A(G)3	HCFC-22	38#	26	22
	HFC-134a	15#	26	22
(+15 deg F)	R-404a	48#	26	22
	HFC- 507	52#	26	22

CASE DATA -M1A(G)3

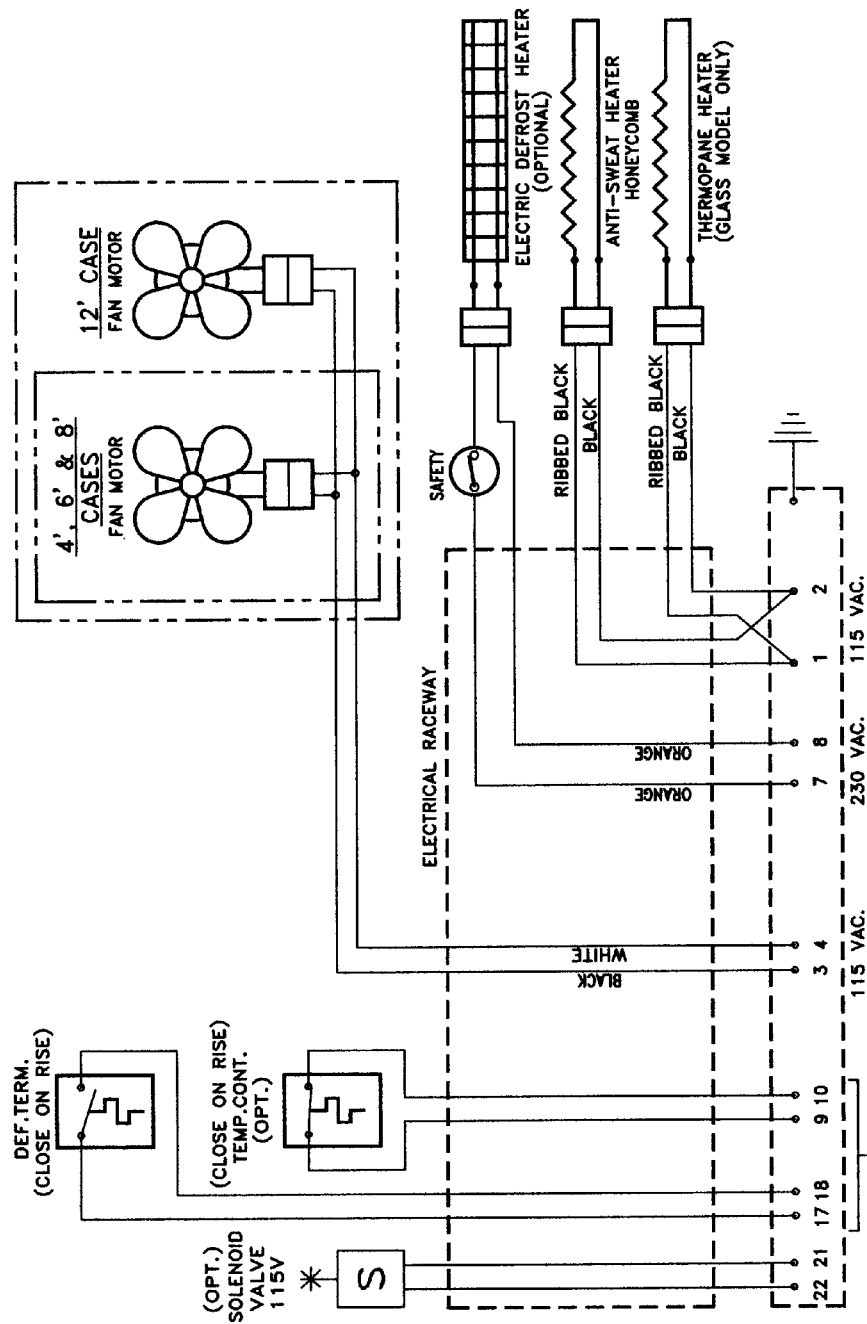
		4'	6'	8'	12'
Cubic Foot Capacity	M1A3	5.4cf	8.1cf	10.8cf	16.2cf
	M1AG3	6.8cf	10.2cf	13.5cf	20.3cf
Square Footage		10.7sf	16.1sf	21.5sf	32.2sf
# of Fans/ Wattage	Air defrost	1/36	1/36	1/36	2/72
	Electric & Hot Gas defrost	1/40	1/40	1/40	2/80
Anti Sweat Wattage@115V	M1A3	50w	70w	81w	140w
	M1AG3	105w	128w	123w	197w
Optional Defrost Heater Load (watts)		759w	1290w	1824w	2654w
Defrost Amps@ (230v)	(Electric defrost)	3.3	5.6	7.9	11.5
# Defrosts/ Fail Safe (Air)-		3/45	3/45	3/45	3/45
# Defrosts/ Fail Safe (Off-Cycle)		N/A	N/A	N/A	N/A
# Defrosts/ Fail Safe (Electric)-		3/30	3/30	3/30	3/30
# Defrosts/ Fail Safe (Hot Gas)-		3/18	3/18	3/18	3/18
Defrost Termination (All models)		45	45	45	45
Superheat Setting		69 to 89 F	69 to 89 F	69 to 89 F	69 to 89 F
Discharge Air Temp		229 to 269 F	229 to 269 F	229 to 269 F	229 to 269 F
BTU Requirements	M1A3	*2150	*3200	*4160	*6240
	M1AG3	*2000	*2970	*3960	*5940

IMPORTANT: * BTU requirements shown are for use on parallel systems only. A minimum excess capacity should be added to all conventional single compressor condensing units.

NOTE: Temperature is measured in discharge air. Defrost frequency is at design conditions. (Max 75°F and 55% humidity) Higher temperature or humidity may require more defrost and longer failsafes.

WIRING DIAGRAM- M1A(G)3 ELECTRIC OR HOT GAS DEFROST

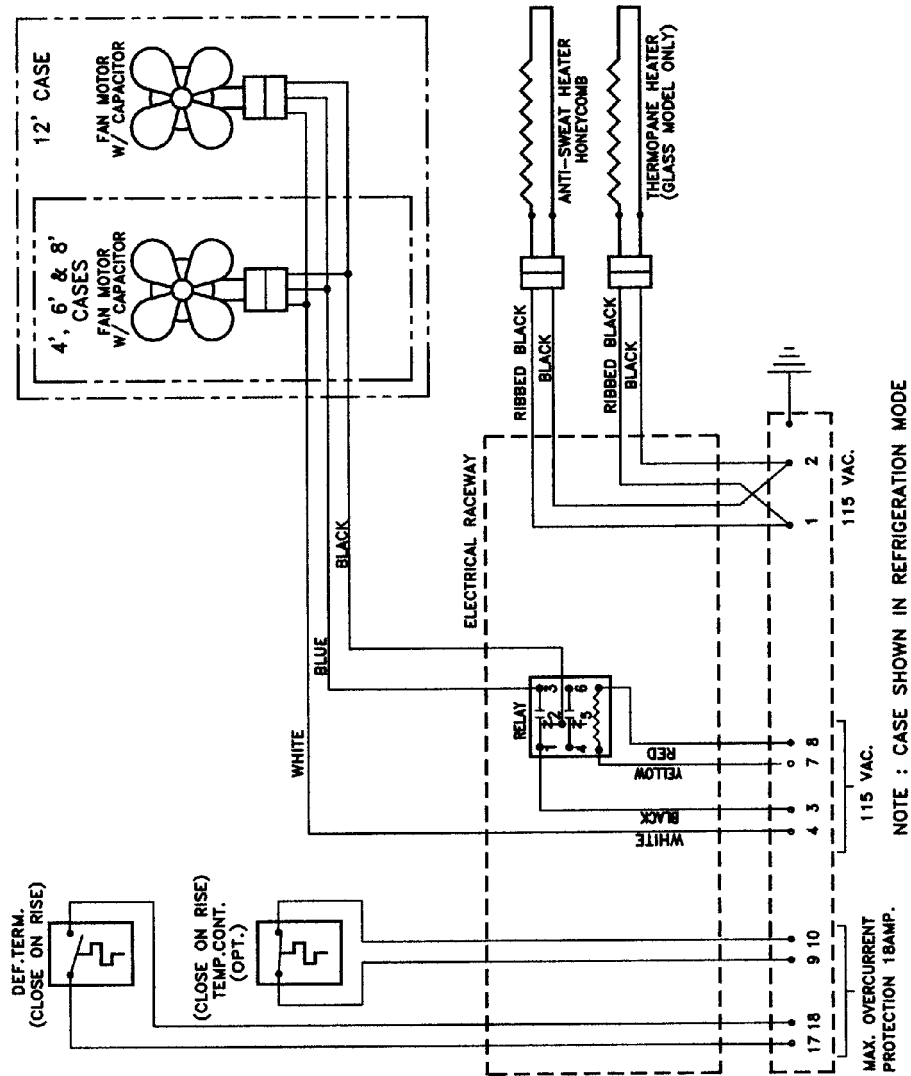
31c10430



NOTE : CASE SHOWN IN REFRIGERATION MODE
MAX. OVERCURRENT PROTECTION 18AMP.

WIRING DIAGRAM- M1A(G)3 AIR DEFROST

31c10429



PARTS LIST-M1AG3

DESCRIPTION	M1A3				M1AG3				PART NO.
	4'	6'	8'	12'	4'	6'	8'	12'	
Expansion Valve (E)GVE-1/5-C R-22 Sweat Flare	1 1				1 1				03A25-001 03A10-093
Expansion Valve (E)GVE-1/3-C R-22 Sweat Flare		1 1	1 1			1 1	1 1		03A25-002 03A10-094
Expansion Valve (E)GVE-3/4-C R-22 Sweat Flare				1 1				1 1	03A32-004 03A10-095
Expansion Valve (E)GSE-1/8-C R-404 Sweat Flare	1 1				1 1				03A32-004 03A33-004
Expansion Valve (E)GSE-1/4"-C R-404 Sweat Flare		1 1	1 1			1 1	1 1		13A32-005 03A33-005
Expansion Valve (E)GSE-1/2"-C R-404 Sweat Flare				1 1				1 1	03A32-006 03A33-006
Evap Fan Motor (Reversing 9W 115V cw)	1	1	1	2	1	1	1	2	09A10-056
Evap Fan Motor (Elec. & Hot Gas)	1	1	1	2	1	1	1	2	09A10-041
Evap Fan Blade (8" 5 blade 209 cw)	1	1	1	2	1	1	1	2	09B10-059
Defrost Control (Air Defrost)	1	1	1	1	1	1	1	1	08E11-054
Defrost Control (Hot Gas)	1	1	1	1	1	1	1	1	08A11-027
Defrost Control (Elect)	1	1	1	1	1	1	1	1	08A11-049
Honeycomb Grill	1		2	3	1		2	3	13A15-012

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DESCRIPTION	M1A3				M1AG3				PART NO.
	4	6	8	12	4	6	8	12	
Honeycomb Grill		1				1			13A15-033
Honeycomb Heater 4'	1								10K12-073
Honeycomb Heater 6'		1				1			10K12-074
Honeycomb Heater 8'			1						10K12-062
Honeycomb Heater 12'				1					10K12-063
Thermopane Glass 4'					1				14D10-109
Thermopane Glass 6'						1			14D10-110
Thermopane Glass 8'							1		14D10-111
Thermopane Glass 12'								1	14D10-112
Thermopane Heater Assy.					1				81D10-034
Thermopane Heater Assy.						1			81D10-035
Thermopane Heater Assy.							1		81D10-030
Thermopane Heater Assy.								1	81D10-031
Deck Pans	2	3			2	3			54N18-237
Deck Pans			4	6			4	6	54N18-314
Adj. Wire Racks	2	3	4	6	2	3	4	6	28G19-251

CASE FRONT PART SELECTION

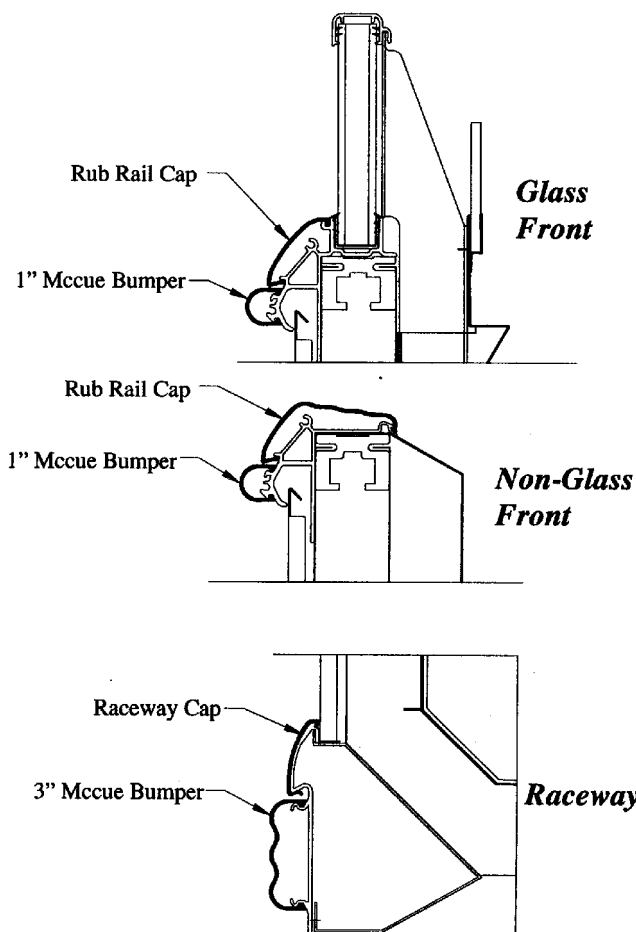
FOR CASES IN A LINEUP:

Rub Rail Cap Starter	1/lineup	Std. or w/ ptm
Raceway Cap Starter	1/lineup	
1" Mccue Bumper Starter	1/lineup	
3" Mccue Bumper Starter	1/lineup	

Rub Rail Cap	1/case	Std. or w/ptm
Raceway Cap	1/case	
1" Mccue Bumper	1/case	
3" Mccue Bumper	1/case	

FOR SINGLE CASE:

Rub Rail Cap	1/case	Std. or w/ ptm
Raceway Cap	1/case	
1" Mccue Bumper	1/case	
3" Mccue Bumper	1/case	

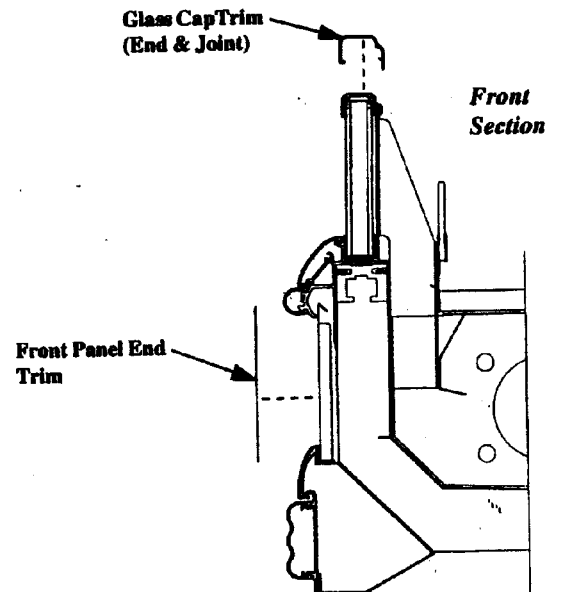


CASE TRIM SELECTION

FOR SINGLE CASE W/ TWO ENDS:

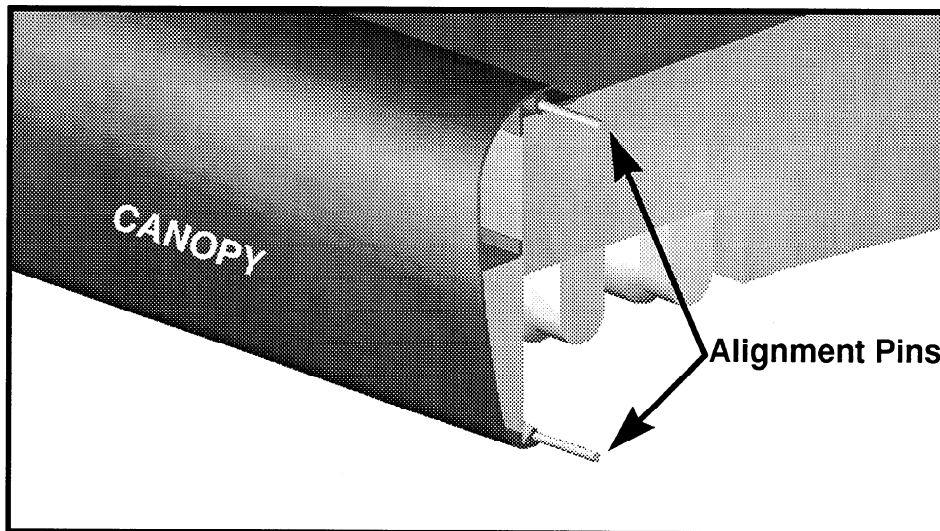
No end trim is required.

NOTE: IF A MUTUAL END IS USED IN A LINEUP, THE PROPER ADDITIONAL PIECES OF TRIM SHOULD BE USED.

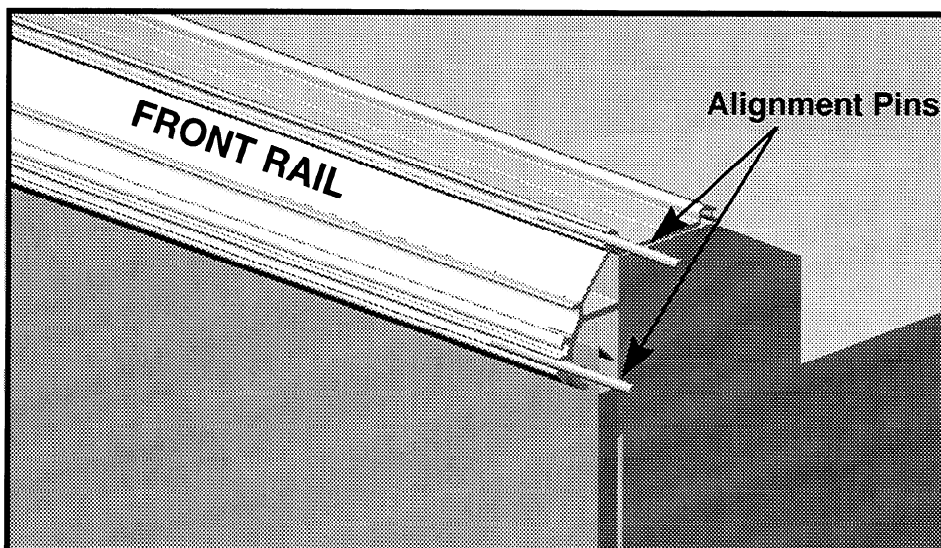


Canopy and Front Rail Alignment

After the display cases are properly joined and sealed, align the canopies by sliding the alignment pins across the joint from one canopy into the adjoining canopy. It may be necessary to loosen and/or remove the screws at the top of the canopy to aid in the alignment of the two canopies and to eliminate any gap between the canopies. The screws should be tightened after canopies are aligned.



Align the case front rails with a single alignment pin sliding the pin across the joint into the adjoining front rail. It may be necessary to loosen the screws holding the front rail to aid in the alignment process. The screws should be tightened after the front rails are aligned.

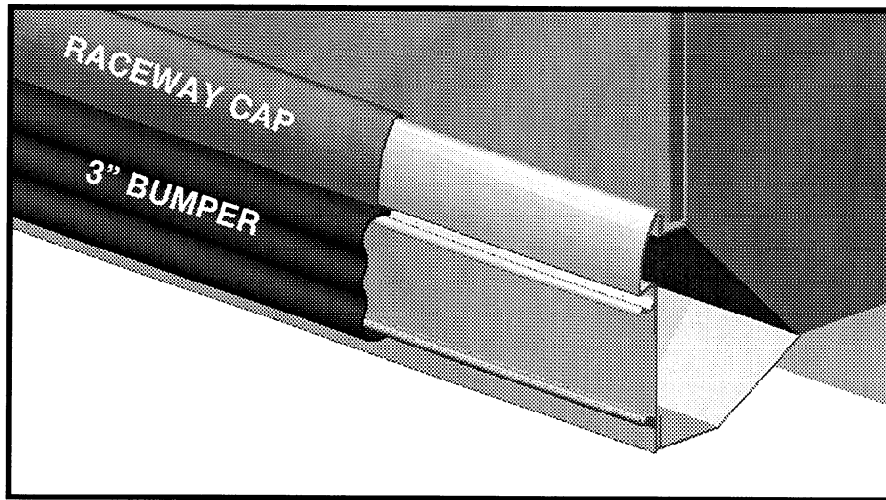


3" Bumper

- Install the 3" bumper parts to the raceway using the same procedure as described for the 1" bumper parts.

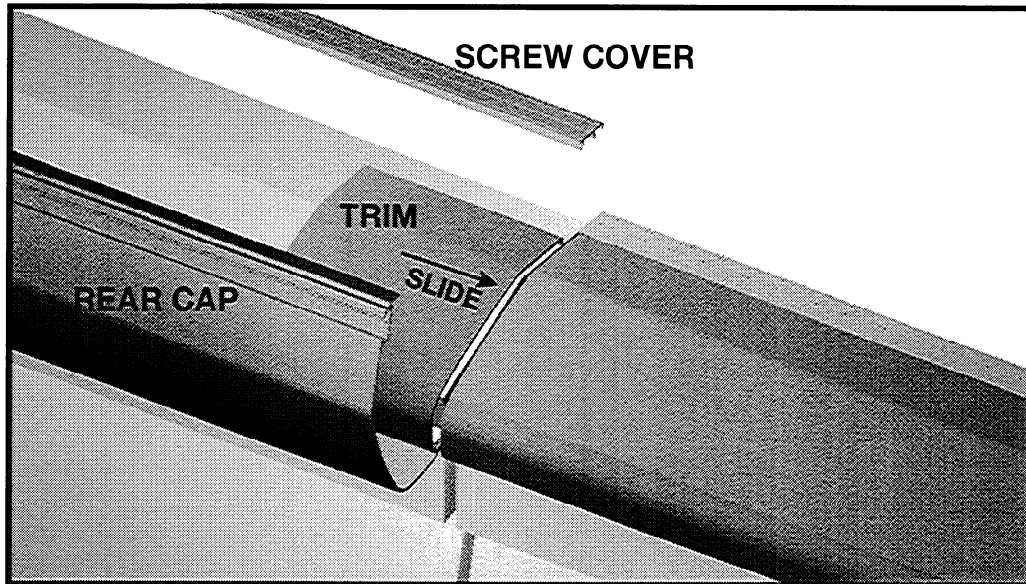
Raceway Cap

- Install the raceway cap parts to the raceway using the same procedure as described for the rub rail cap. *Note:* The raceway cover parts do not overlap as the rub rail cap parts do.

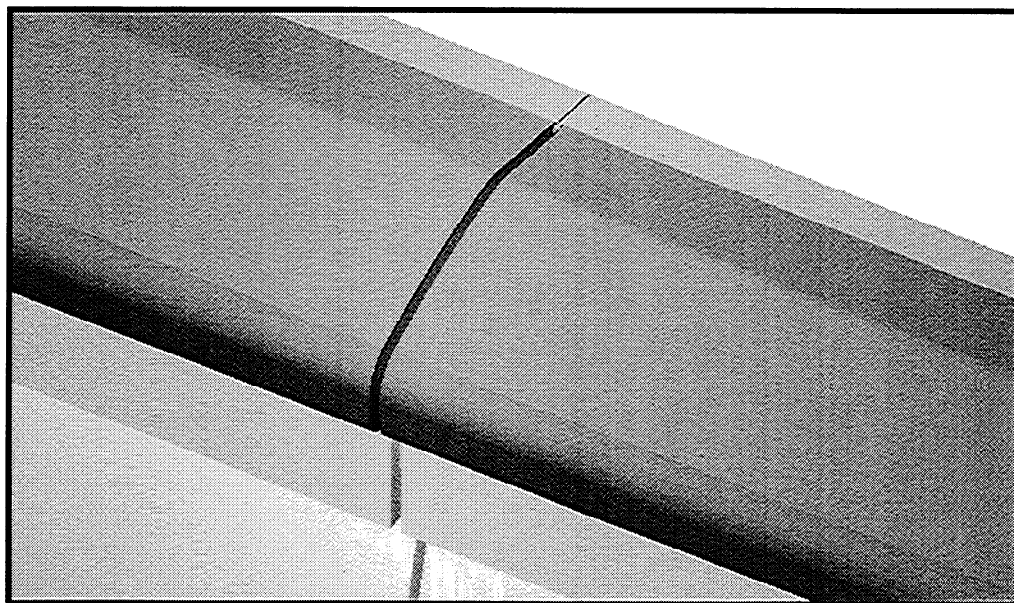


Rear Cap Joint Trim Installation

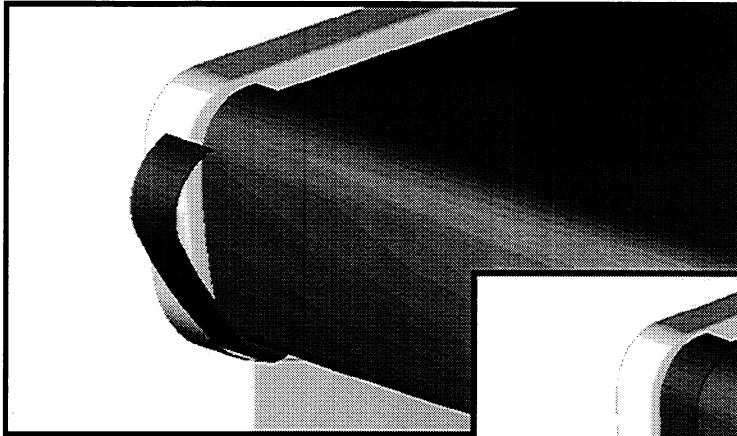
After the display cases are properly joined and sealed, remove the screw cover from the rear cap of every other case in the lineup and remove the screws from the rear cap. Rotate the rear cap forward (the alignment pins will hold it in place) and position the trim as shown in the illustration. Slide the trim across the case joint under the rear cap of the adjoining case about half the width of the trim.



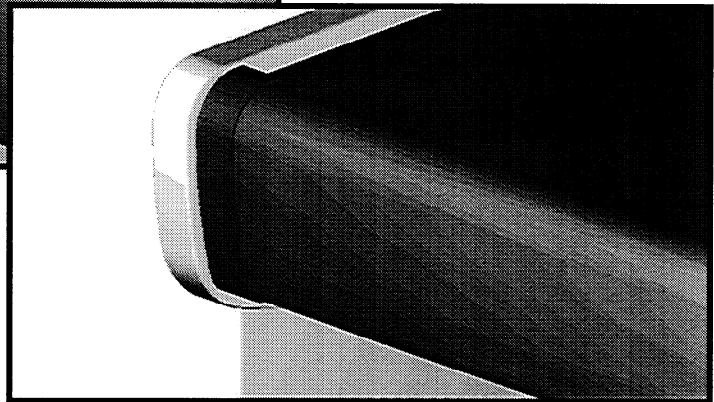
Rotate the rear cap back into place over the trim and secure the rear cap and screw cover. Repeat this procedure for each case joint.



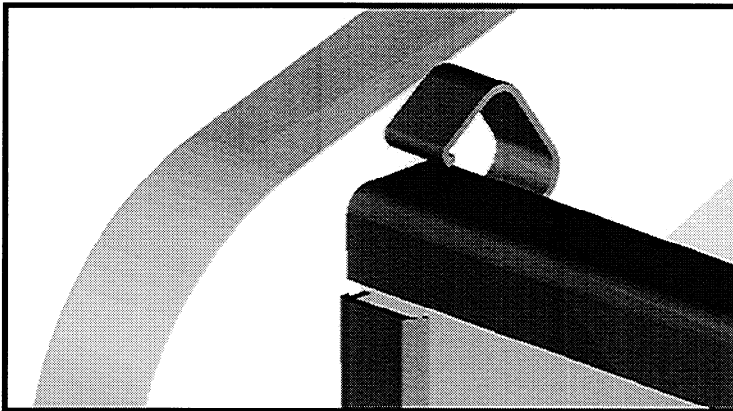
Canopy End Trim Installation - All Models



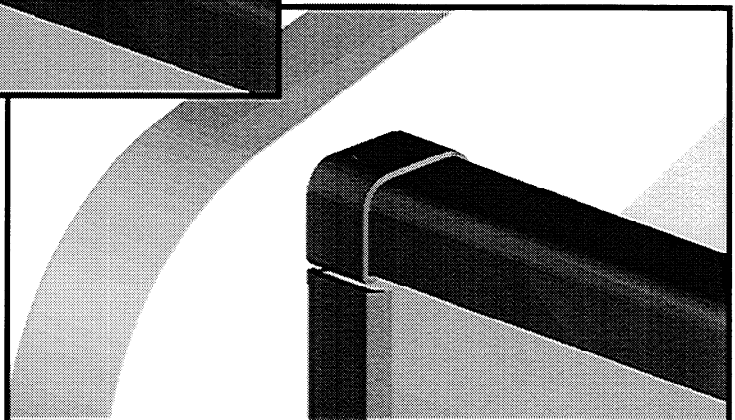
Hook the end trim under the lower edge of the canopy then rotate the part over the top of the canopy and snap into place.



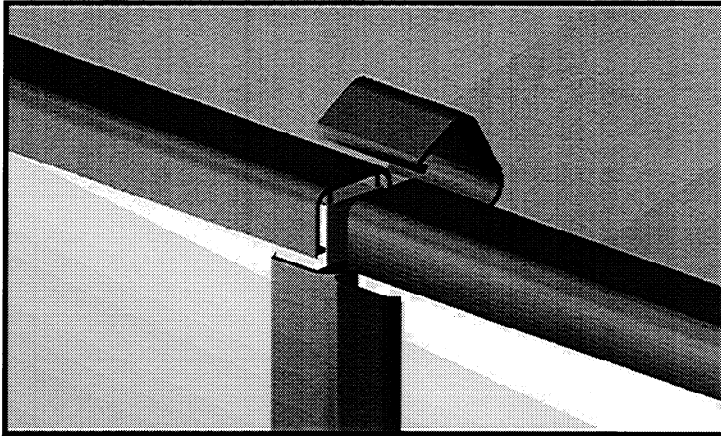
Glass Cap Rail End Trim Installation - Glass Models



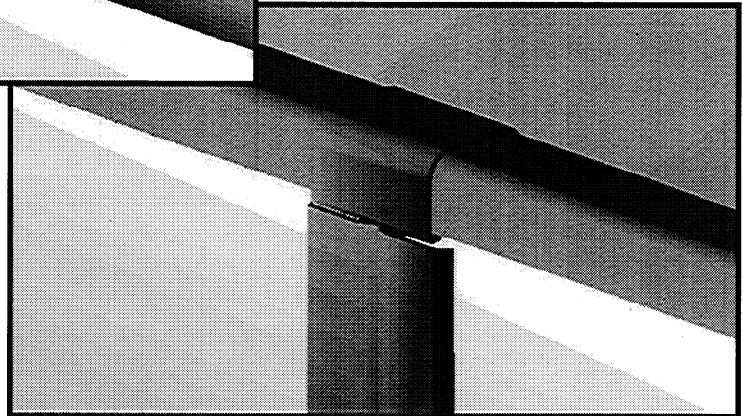
Hook the back inside edge of the end trim to the back side of the glass cap rail then rotate the part forward and snap into place.



Glass Cap Rail Joint Trim Installation - Glass Models



Hook the back inside edge of the joint trim to the back side of the glass cap rail then rotate the part forward and snap into place.



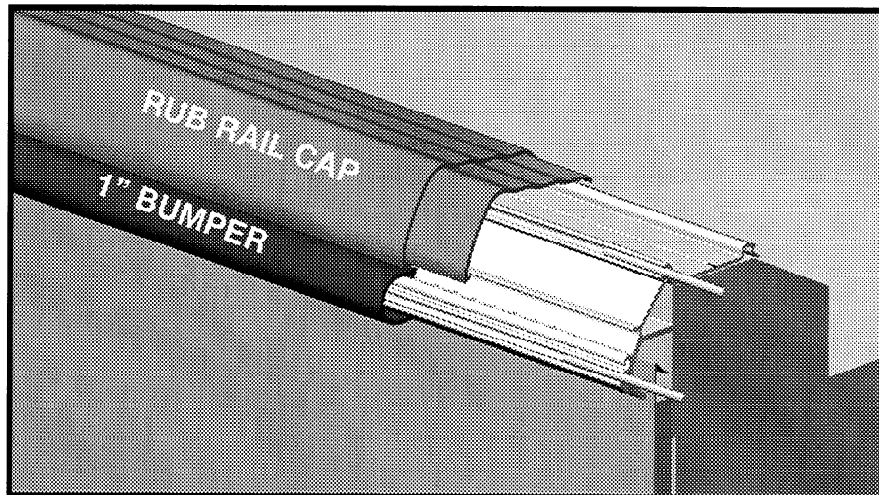
Bumper, Rub Rail Cap, and Raceway Cover Installation

1" Bumper

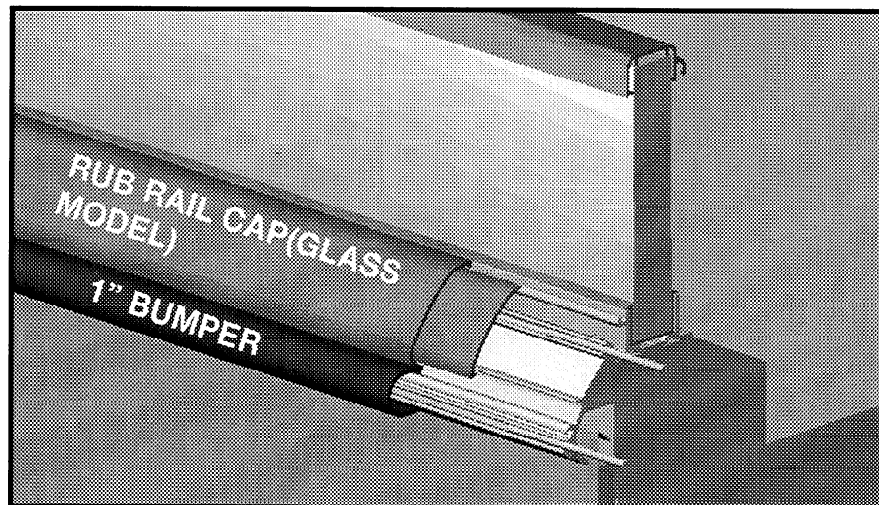
- Install the two foot length of 1" bumper to the left hand end of the first case in the lineup. To install the bumper hook the lower edge of the bumper to the aluminum retainer and rotate the bumper up and snap the top edge onto the retainer. Install this part as close to the case flat end panel as possible.
- Install the additional case length 1" bumper parts crossing over the joint of the cases in the lineup and trimming the last piece to fit the last case in the lineup.

Rub Rail Cap

- Install the four foot rub rail cap part to the left hand of the first case in the lineup. To install the rub rail cap hook the lower edge of the cap to the aluminum front rail just above the 1" bumper then rotate the cap toward the case and snap it down to the back hook on the aluminum rail on non-glass models and the top hook on the aluminum rail on glass models. Install this part as close to the case flat end panel as possible.
- Install the additional case length rub rail cap parts as close to one another as possible, crossing over the joint of the cases in the lineup and overlapping each part where provided. Trim the last part to fit the last case in the lineup.



Non-Glass Model



Glass Model

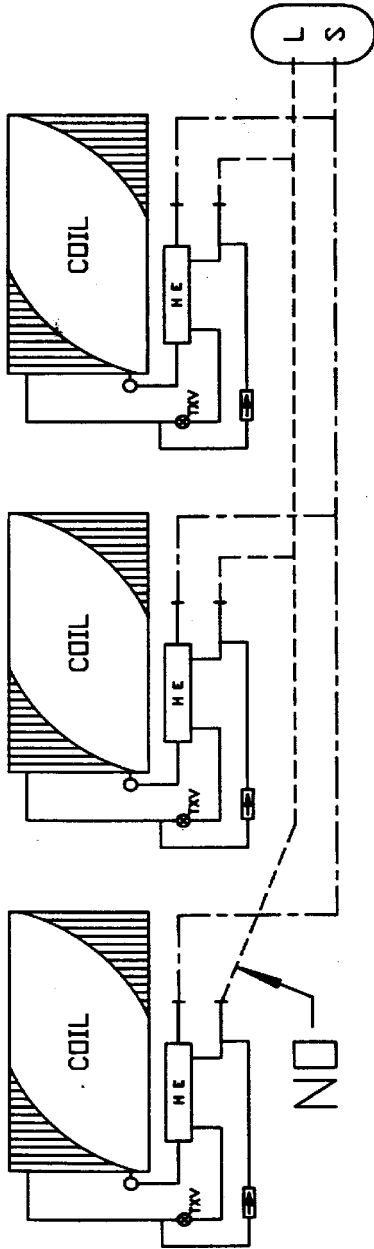
RECOMMENDED PIPING PRACTICES FOR KYSOR/WARREN CASES

1. Proper size refrigeration lines are essential to good refrigeration performance. Suction lines are more critical than liquid or discharge lines. Oversized suction lines may prevent good oil return to the compressor. Undersized lines can rob refrigeration capacity and increase operating cost. Consult the technical manual or legend sheet for proper line sizes.
2. Refrigeration lines in cases in line-ups can be reduced. However, the lines should be no smaller than the main trunk lines in at least 1/3 of the cases and no smaller than one size above the case lines to the last case. Reductions should not exceed one line size per case. It is preferred to bring the main trunk lines in at the center of line-up. Liquid lines on systems on hot gas defrost must be increased one line size above the main trunk line for the entire line-up. Individual feed lines should be at the bottom of the liquid header. (See proper liquid line piping diagram on page 32)
3. Do not run refrigeration lines from one system through cases on another system.
4. Use dry nitrogen in lines during the brazing to prevent scaling and oxidation.
5. Insulate suction lines from the cases to the compressor with 3/4" wall thickness foam on low temperature cases to provide maximum of 65-degree sub-cooled back to the compressor and prevent condensation in exposed areas. Insulate suction lines on medium temperature cases with 1/2" thick insulation in exposed areas to prevent condensate droppage.
6. Suction and liquid lines should never be taped or soldered together. Adequate heat exchanger is provided in the case. Kysor//Warren recommends use of heat exchanger in all medium and low temperature case that are not mechanically sub-cooled for proper operation.
7. Refrigeration lines should never be placed in the ground unless they are protected against moisture and electrolysis attack.

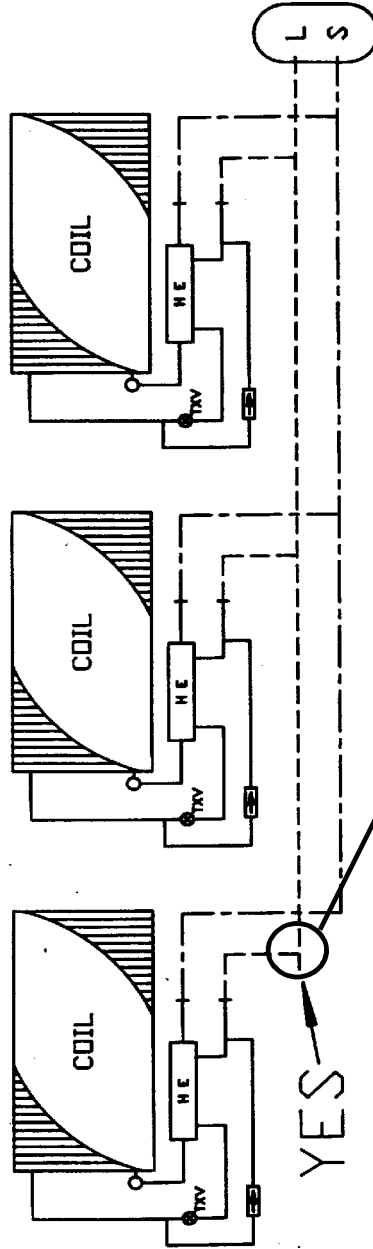
8. Always slope suction lines down toward the compressor, $\frac{1}{2}$ " each 10'. Do not leave dips in the line that would trap oil.
9. Provide "P" traps at the bottom of suction line risers, 4' or longer. Use a double "P" trap for each 20' of risers. "P" traps should be the same size as the horizontal line. Consult the technical manual or legend sheet for proper size risers.
10. Use long radius ells and avoid 45-degree ells.
11. Provide expansion loops in suction lines on systems on hot gas defrost. An expansion loop is required for each 100' of straight run.
12. Strap and support tubing to prevent excessive line vibration and noise.
13. Brazing of copper to copper should be with a minimum of 10% silver. Copper to brass or copper to steel should be with 45% silver.
14. Avoid the use of "bull head" tees in suction lines. An example is where suction gas enters both ends of the tee and exits the center. This can cause a substantial increase in pressure drop in the suction lines.
15. When connecting more than one suction line to a main trunk line, connect each branch with an inverted trap.

PIPING DIAGRAM

IMPROPER LIQUID LINE PIPING FOR MULTICASE HOT GAS DEFROST

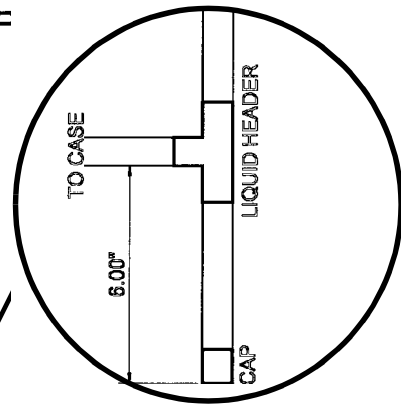


PROPER LIQUID LINE PIPING FOR MULTICASE HOT GAS DEFROST



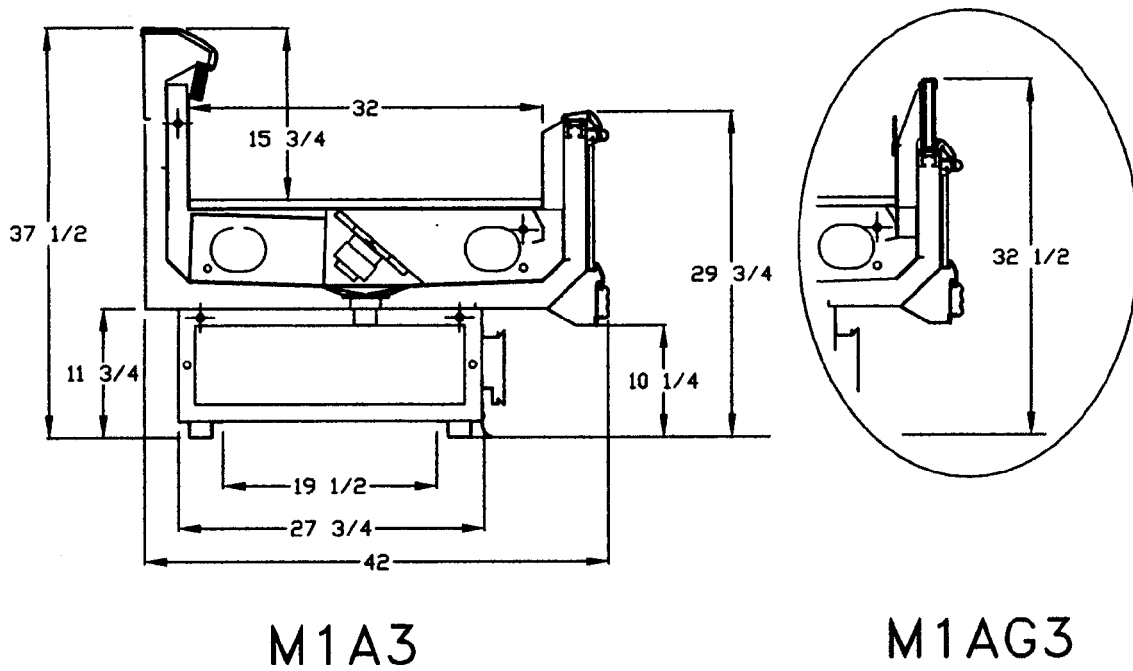
KYSOR/WARREN

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--- Field Piping - LIQUID
 - - - Field Piping - SUCTION

CASE VIEW . M1A(G)3



PARTS WARRANTY POLICY

The following procedures are in accordance with Kysor//Warren's standard one year warranty which covers any part to be free of defects under normal use and service for one year from the date of installation. **Not to exceed one year and thirty days from the date of original shipment from the factory.**

New Equipment Parts Shortages and Defects

Any parts shortages or damage must be reported to Kysor//Warren no more than 10 working days from the date of delivery. After this time has expired Kysor//Warren will assume the parts were lost during installation and all parts required will be charged cost plus shipping to replace.

Parts Ordering Procedure

All parts must be ordered through the Kysor//Warren parts department with the following information:

- Store Name and Number
- Location
- Unit or Case Model and Serial Number
- Firm or Contractor Placing Order
- Shipping Address
- Part Description
- Reason for Defect

If the order is for a replacement part still in warranty a Purchase Order Number will be required from the contractor placing the order. We will then issue a Return Material Authorization Tag that will be sent to the firm or contractor who has ordered the part.

Return Authorization Procedure

Warranty parts must be returned postage prepaid to Kysor//Warren within 30 days from replacement part ship date and must be accompanied by a RMA in order to ensure proper credit. The RMA tag number should also be written on the outside of the box. Any parts not returned within 30 days will be invoiced to the firm or contractor who has placed the order.

IN THE CONSTANT EFFORT TO IMPROVE OUR PRODUCTS, WE RESERVE THE RIGHT TO CHANGE AT ANY TIME SPECIFICATIONS, DESIGN, OR PRICES WITHOUT INCURRING OBLIGATION.

KYSOR/WARREN

DIVISION OF KYSOR INDUSTRIAL CORPORATION

P.O. Box C
1600 Industrial Blvd.
Conyers, Georgia 30207
770-483-5600

ONE-YEAR WARRANTY

KYSOR/WARREN warrants to the original purchaser this new equipment and all parts thereof, to be free from defects in material and workmanship under normal use and service. If any part or parts of the equipment should prove defective during the period of one year from installation date (not to exceed one year and thirty days from the date of original shipment from the factory), **KYSOR/WARREN** hereby guarantees to replace or repair, without charge (F.O.B. CONYERS, GEORGIA), such part or parts as prove defective, and which **KYSOR/WARREN**'s examination discloses to its satisfaction to be thus defective, with a new or functionally operative part. The liability of **KYSOR/WARREN** under this warranty shall be limited to claims made by the original purchaser to **KYSOR/WARREN** or its local distributor within the warranty period.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS, AND ALL OTHER OBLIGATIONS OR LIABILITIES OF KYSOR/WARREN.

I. GLAZING: Glass is not guaranteed against breakage. If this refrigerator is equipped with a glazing assembly carrying the manufacturer's brand name (Thermopane, Twindow, etc.), the manufacturer's glazing warranty in effect at the time of this shipment is extended to that assembly. It is void outside the continental United States.

II. BULBS: Light Bulbs and Fluorescent lamp tubes are not covered by any warranty for length of life or for any type of breakage.

III. THIS WARRANTY SHALL NOT APPLY:

1. To the condensing unit used with refrigerated equipment unless same was sold and shipped by **KYSOR/WARREN**.
2. When this equipment or any part thereof is damaged by fire, flood, act of God, or when the original model and serial - number plate has been altered, defaced, or removed.
3. When this equipment or any part thereof is subject to accident, alteration, abuse, misuse, tampering, operation on low or improper voltages, or is put to a use other than recommended by **KYSOR/WARREN**.
4. When this equipment or any part thereof is damaged, or when operation is impaired, due to failure to follow installation manual (improper installation is the responsibility of the installer).
5. Outside the continental United States, Canada and Mexico.
6. To labor cost for replacement of parts, or for freight or shipping expenses.
7. To freight or shipping charges or to customs duties to ANY country.
8. If the Warranty holder fails to comply with all the provisions, terms and conditions of this Warranty.

Parts replaced under this Warranty are warranted only through the remainder of the original Warranty. **KYSOR/WARREN** may, at its option and in its discretion, elect to honor this Warranty and to disregard the original purchaser's noncompliance with any of the provisions, terms and conditions of the Warranty.

THIS WARRANTY DOES NOT COVER CONSEQUENTIAL DAMAGES.

KYSOR/WARREN shall not be liable under any circumstances for any consequential damages, including loss of profits, additional labor costs, loss of refrigerant or food products, or injury to person or property caused by defective material or parts or for any delay in the performance of this Warranty due to causes beyond its control. The foregoing shall constitute the sole and exclusive remedy of any purchaser and the sole and exclusive liability of **KYSOR/WARREN** in connection with this product.