K//W PART NUMBER: 31E01002
DATE: DECEMBER 4, 1990

KYSOR//WARREN

The Leading Edge of Technology

INSTALLATION & OPERATION MANUAL

MODEL: **TZP-TZUP-ETZP**

PRODUCE ISLE

THIS REFRIGERATOR CONFORMS TO THE COMMERCIAL REFRIGERATOR MANUFACTURERS ASSOCIATION HEALTH AND SANITATION STANDARD.

KYSOR//WARREN

DIVISION OF KYSOR INDUSTRIAL CORPORATION

1600 INDUSTRIAL BLVD., CONYERS, GEORGIA 30207 / 404•483•5600
5201 TRANSPORT BLVD., COLUMBUS, GEORGIA 31907

INSTALLATION AND OPERATING INSTRUCTIONS

FOR

TZP, TZUP, AND ETZP

SELF-SERVICE ISLAND PRODUCE MERCHANDISER

APPLICATION:

The Kysor//Warren island, self-service produce cases are designed to merchandise bulk and packaged vegetables. 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, 55% relative humidity.

MODEL	DESCRIPTION
TZP	Refrigerated Island Produce
TZUP	Non-Refrigerated Island Produce Companion to TZP
ETZP	Non-Refrigerated Island Produce End Case - Companion to TZP or TZUP

Revised 07/13/81
12/20/83
02/07/91

GENERAL

These display refrigerators may be installed individually or in a continuous line-up consisting of several 8' and 12' sections by using a joint trim kit. A plexiglass divider kit must be used between cases operating on different refrigeration systems. 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. The delivery receipt must be noted that the equipment was received damaged. 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.

LOCATION

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

JOINING

Two or more fixtures of like models can be joined together to form a continuous line-up. Instructions for joining fixtures are included in the joint kit. Before lining up refrigerator, inspect refrigeration lines, electrical connections and controls to insure refrigerators are in proper line-up and are in the proper sequence.

NOTE: THESE REFRIGERATORS ARE LINED UP AT THE FACTORY AND ARE NUMBERED. INSURE THEY ARE LINED UP IN THE FIELD IN THE SAME SEQUENCE NUMBER.

WASTE OUTLET

These cases are equipped with a 1-1/2" FPI waste outlet connector which terminates in the center of the refrigerator below the insulated bottom. A 1-1/2" galv. water seal trap is provided for field installation.

INSTALLING DRIP PIPE

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

1. Never use a double water seal.

2. Never use a pipe smaller than the size pipe or water seal supplied with the equipment.

3. Always provide as much as fall as possible in drip pipe. (1" fall for each 4' of drip pipe.)

4. Avoid long runs in drip pipe which make it impossible to provide maximum fall in pipe.

5. Provide a drip space between drip pipe and floor drain or sewer connection.

6. Do not allow drip pipe to come in contact with uninsulated suction lines, which will cause the condensation from your refrigerator to freeze.

CLEANING

To insure minimum maintenance cost, cabinet should be thoroughly emptied and washed out every three (3) months. 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 which will scratch or dull finish. The waste outlet should be flushed with a bucket of water following each cleaning.

NOTE: NEVER INTRODUCE WATER INTO THE FIXTURE FASTER THAN THE WASTE OUTLET CAN CARRY IT AWAY. BE SURE REFRIGERATION IS TURNED OFF AND ALL ELECTRICAL IS OFF BEFORE WASHING YOUR REFRIGERATOR.

LOADING

Merchandise should not be placed in the fixture until all controls have been adjusted and the refrigerator is at proper temperature.

At no time should the fixture 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 refrigerator for running your fan and anti-sweat heater circuits from case to case without using conduit. This applies, of course, when the front panel is properly secured into position. This is an approved method by the Underwriters' Laboratories; however, wiring must be run 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 refrigerator. Check refrigerator nameplate for fan and anti-sweat volts. ALL REFRIGERATORS MUST BE GROUNDED.

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 refrigerators are multiplexed, add the total of these amperage values to determine wire size and circuit protection.

Chart #1 shows the electrical ratings for your refrigerator. This is the same information that appears on your refrigeration nameplate.

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.

EXPANSION VALVE

The expansion valve furnished with your refrigerator 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 2PSIG.) 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 and allow 10 minutes or more between adjustments. Superheat should be set to 6-8-degree F.

REFRIGERATION LINES

The refrigeration lines are located under the deck pans on the 8' and 12' cases. A refrigeration outlet is provided in the front right hand and left hand ends of the TZP case. Make sure all refrigeration lines lie as close to the refrigerator 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 practices.

REFRIGERATION LINES (Cont.)

These 8' and 12' refrigerators 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 REFRIGERATOR, AS HEAT WILL DISINTEGRATE THE BOTTOM AND INSULATION. USE A HEAT SHIELD WHEN WELDING NEAR THE BOTTOM OF THE CASES.

REFRIGERANT

R-12 expansion valves are standard. If other refrigerant is used, the order must specify the expansion valve to be supplied.

HEAT EXCHANGER

Heat exchangers are optional in these refrigerators. They aid to increase operating efficiency and reduce frosting and flood-back to compressor.

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 compressor unit. Chart #2 shows approximate settings for merchandisers. Since many variables are present in each installation, such as store temperature, length of tubing runs, temperature desired in refrigerator, etc., Chart #2 is only a guide for the installer.

DEHYDRATION OF REFRIGERATION SYSTEMS

Please read carefully before placing system into operation. After laying refrigerant lines, they should be blown out before making final connection at fixture or condensing unit. Use dry nitrogen to prevent any foreign matter being left in the lines. Keep pressure below 250 pounds. To prevent scaling due to brazing, dry nitrogen should be allowed to flow through lines while brazing operations are taking place.

After the refrigeration system has been pressure-tested and proven leak-free, it is recommended that the system be dehydrated with a vacuum pump to 1000 microns for the first two (2) evacuations and 500 microns on the third. The triple evacuation method requires evacuating the system three successive times and breaking each vacuum with dry refrigerant. Allow the pressure to rise above atmospheric pressure.

DEFROST CYCLE

Off-time defrost is standard on these models. The fans run continuously and defrost termination is by pressure or time (fail safe). See Chart #2 for defrost settings.

CHART #1

ELECTRICAL RATINGS

MODEL	EVAPORATOR FAN (AMPS)	ANTI-COND. HEATER (AMPS)	LIGHT (AMPS)
TZP 8	2.0	0.0	N.A.
TZP 12	3.0	0.0	N.A.
TZUP 8	0.0	0.0	N.A.
TZUP 12	0.0	0.0	N.A.
ETZP	0.0	0.0	0.0

CHART #2

RECOMMENDED CONTROL SETTINGS

MODEL	REFRIGERANT & APPLICATION	LP CONTROL CUT OUT	LP CONTROL CUT IN	EPR SETTING	THERMOSTAT CUT OUT	THERMOSTAT CUT IN
TZP	R-12 Produce	20PSIG	35PSIG	18#	34degF	40degF
	R-502 Produce	52PSIG	68PSIG	50#	34degF	40degF

MODEL	*DEFROST PERIODS PER 24 HOURS	PRESSURE TERMINATION R-12	PRESSURE TERMINATION R-502	FAIL SAFE PRESS TER	FAIL SAFE TIME OFF
TZP	4	45#	90#	32 min.	32 min.

*Defrost frequency is specified at design conditions. Higher temperatures or humidity may require more frequent defrost settings.

PARTS LIST

TZP-TZUP

REF. NO.	DESCRIPTION	PART NO. 8'	QTY REQ'D	PART NO. 12'	QTY REQ'D
1	*Expansion Valve	3A11-046	1	3A11-046	1
2	*Fan Blade	9B10-022	4	9B10-022	6
3	*Fan Harness	10M10-100	2	10M10-101	2
6	Upper Front Panel	51A12-120	2	51A14-101	2
7	Lower Front Panel	51A12-116	2	51A14-097	2
8	Base Kickplate	51A12-128	2	51A14-111	2
9	Colorband	55F12-079	2	55F14-073	2
10	Skidrail	54D12-115	2	54D12-106	2
11	Back Baffle Assy	54H28-110	2	54H30-075	2
12	*Plenum Chamber	54N12-229	2	54N14-187	2
13	Deck Pan	54N18-117	8	54N18-117	12
14	Base Leg Weld Assy	54X11-018	3	54X11-018	4
15	Top Section Panel	55F12-054	1	55F14-053	1
16	Front Baffle	56B10-075	2	56B10-076	2
17	Foamed Shel Assy	73H10-057	2	73H10-058	2
18	*Fan Motor	9A10-017	4	9A10-017	6
19	*Coil	5A20-010	1	5A20-011	1

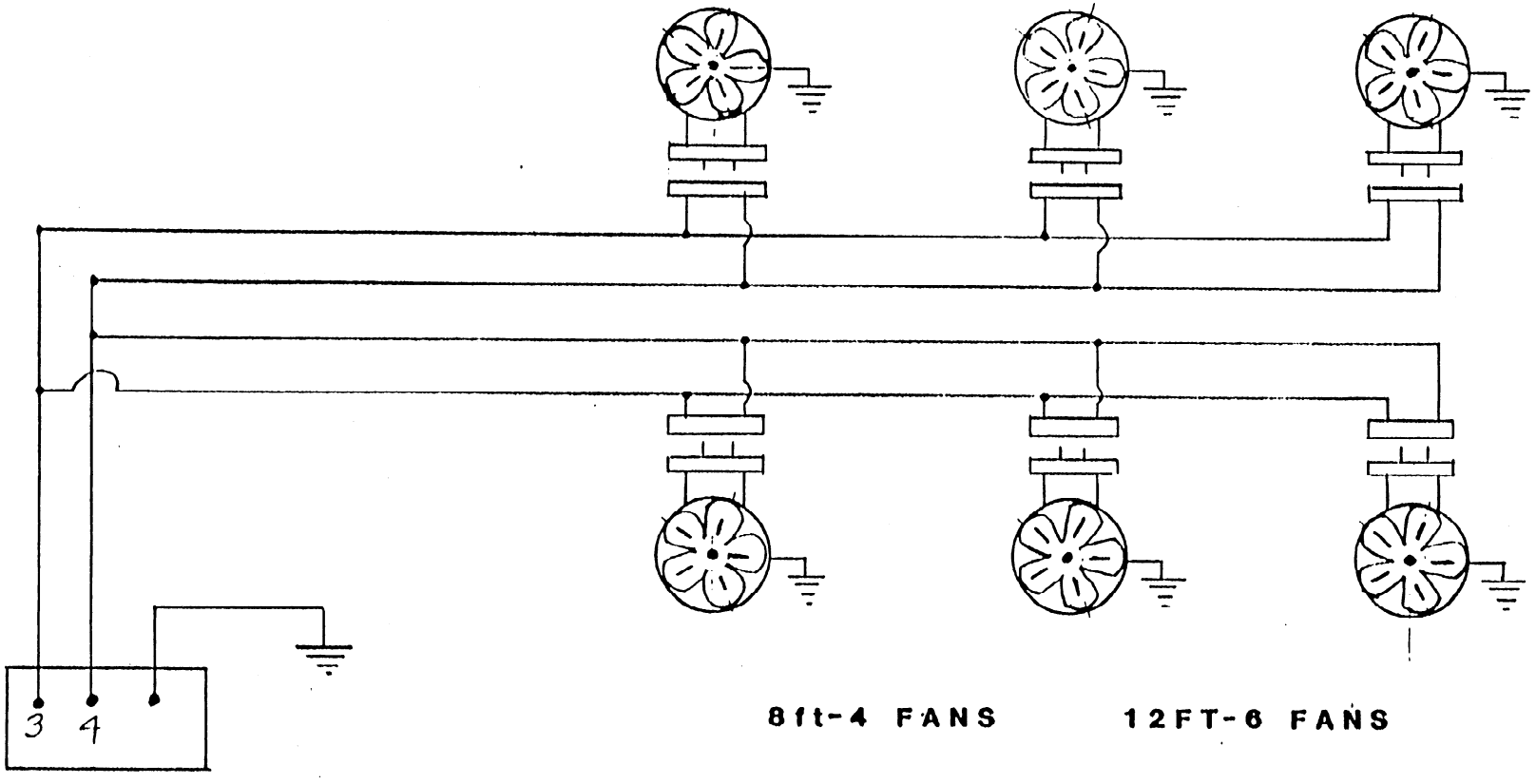
*TZP Only

PARTS LIST

ETZP

REF. NO.	PART NO.	DESCRIPTION	QTY REQ'D
1	16F10-060	Corner Casting	2
2	51A11-081	Base Kickplate	1
3	55F11-014	End Colorband	1
4	55F11-020	Side Colorband	2
5	51A11-070	LH Upper Front Panel	1
6	51A11-071	RH Upper Front Panel	1
7	51A11-069	End Upper Front Panel	1
8	51A11-066	Lower Front Panel	1
9	54N18-130	Deck Pan	1
10	51A11-067	Lower Side Panel LH	1
11	51A11-068	Lower Side Panel RH	1
12	56B10-072	LH Wrap-Around Baffle	1
13	56B10-073	RH Wrap-Around Baffle	1
14	56B10-074	Front Wrap-Around Baffle	1

AF 8066



8ft-4 FANS

12FT-6 FANS

120 VOLT FAN CIRCUIT

11

A	REDRAWN REPLACES PB 20874	8/30/83	WHH
LETTER	REVISED	DATE	BY

DATE 8/30/83

SCALE NONE

DRAWN WGG

APPD.

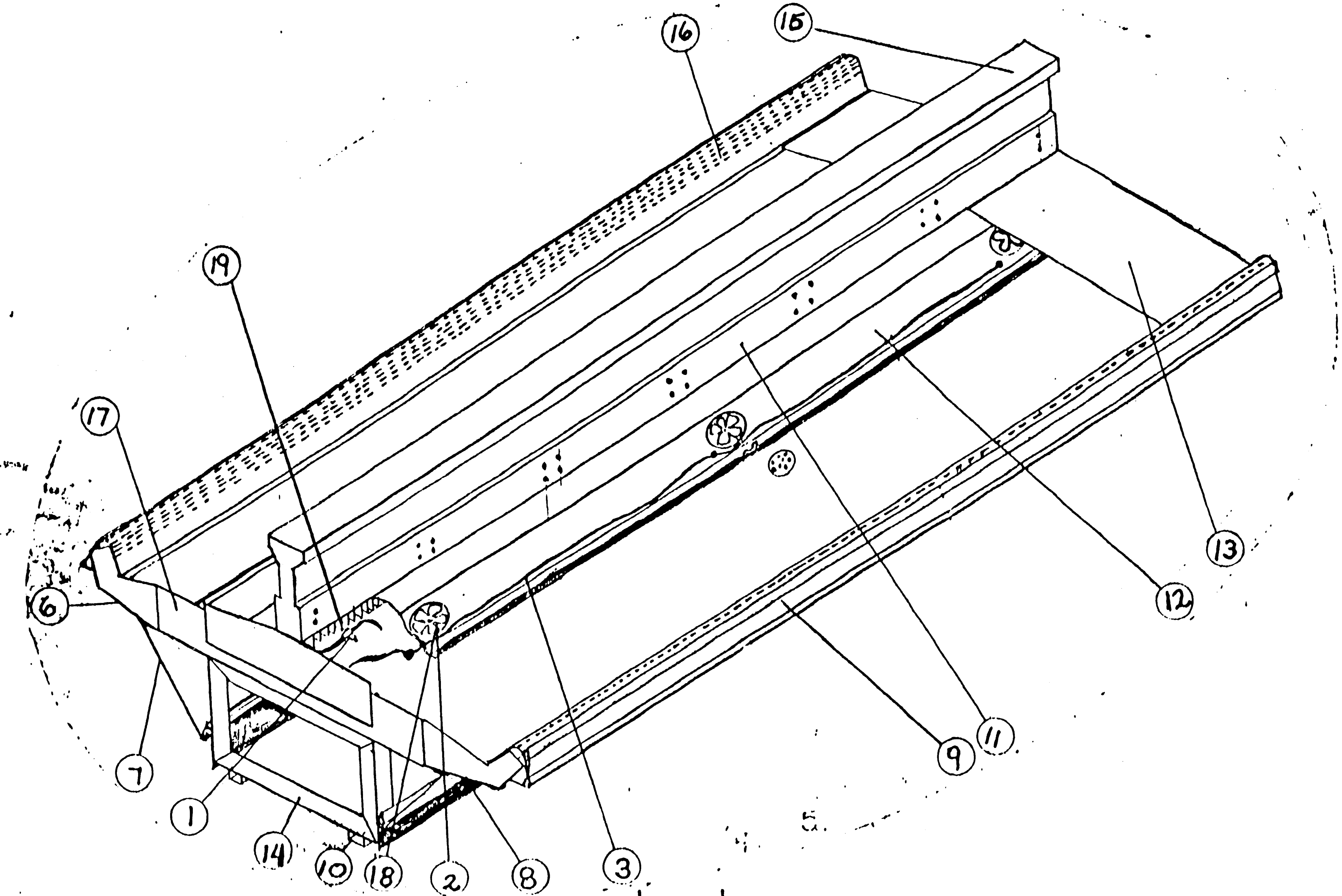
TITLE

TZP WIRING DIAGRAM

KYSOR | WARREN/SHERER
DIVISION OF KYSOR INDUSTRIAL CORPORATION

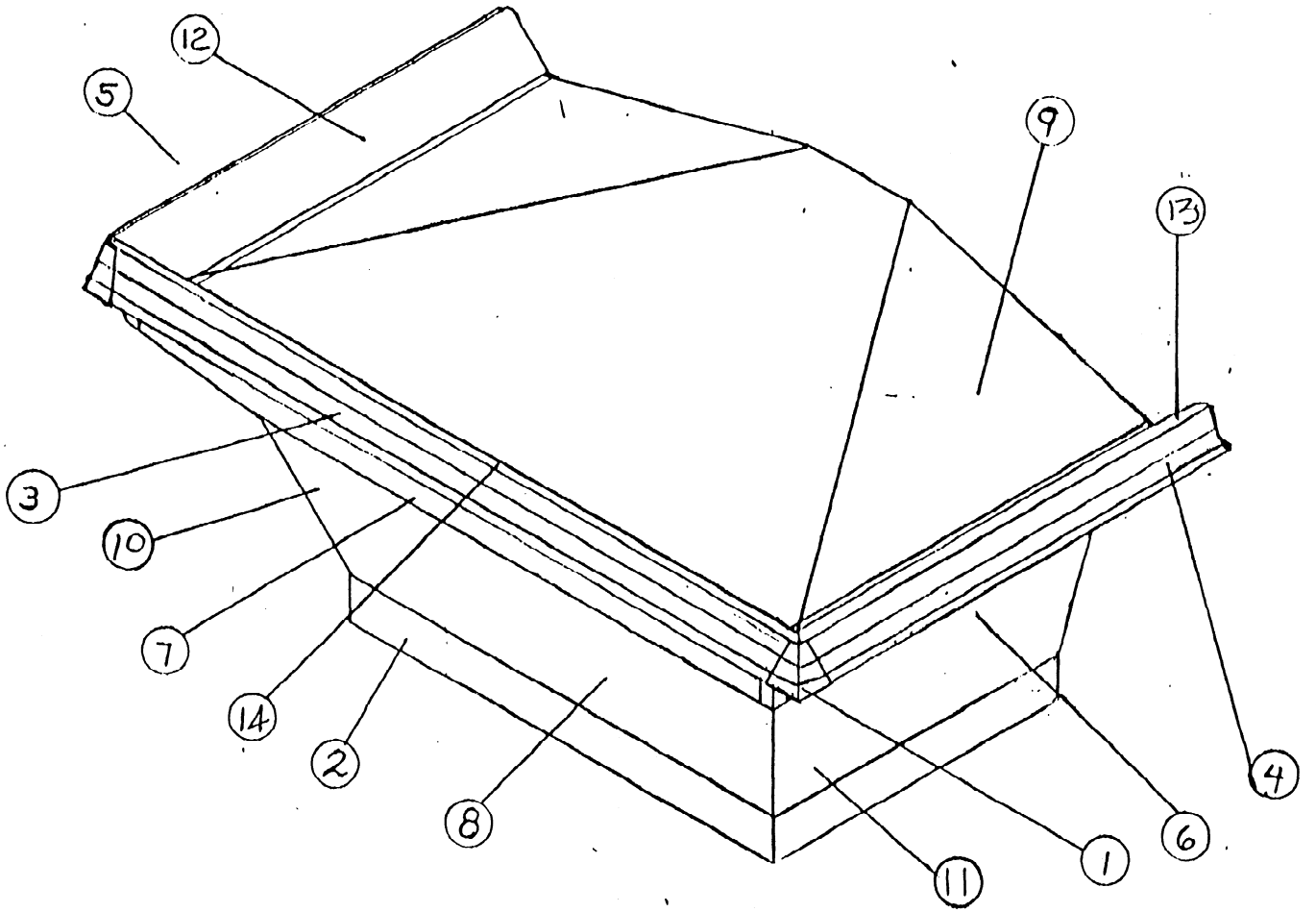
DRAWING NUMBER
PA-20532A

WARREN/SHERER PP# 31C10-284



A	UPDATED REFERENCE NUMBERS	1/13/84	JRB
LETTER	REVISED	DATE	BY

DATE 9-6-74	TITLE TZP - TZ UP PICTORIAL	
SCALE NONE		
DRAWN WILLIAMS		
APP'D WAY	WARREN - Dual Jet — DIVISION OF KYSOR INDUSTRIAL CORPORATION — P. O. Box 1436, Atlanta, Georgia 30301	DRAWING NUMBER PA-20526



A	UPDATED REFERENCE NUMBERS	1/13/84	DRB
LETTER	REVISED	DATE	BY

DATE 9-6-74

SCALE NONE

DRAWN WILLIAMS

APPD WMM

TITLE

ETZP

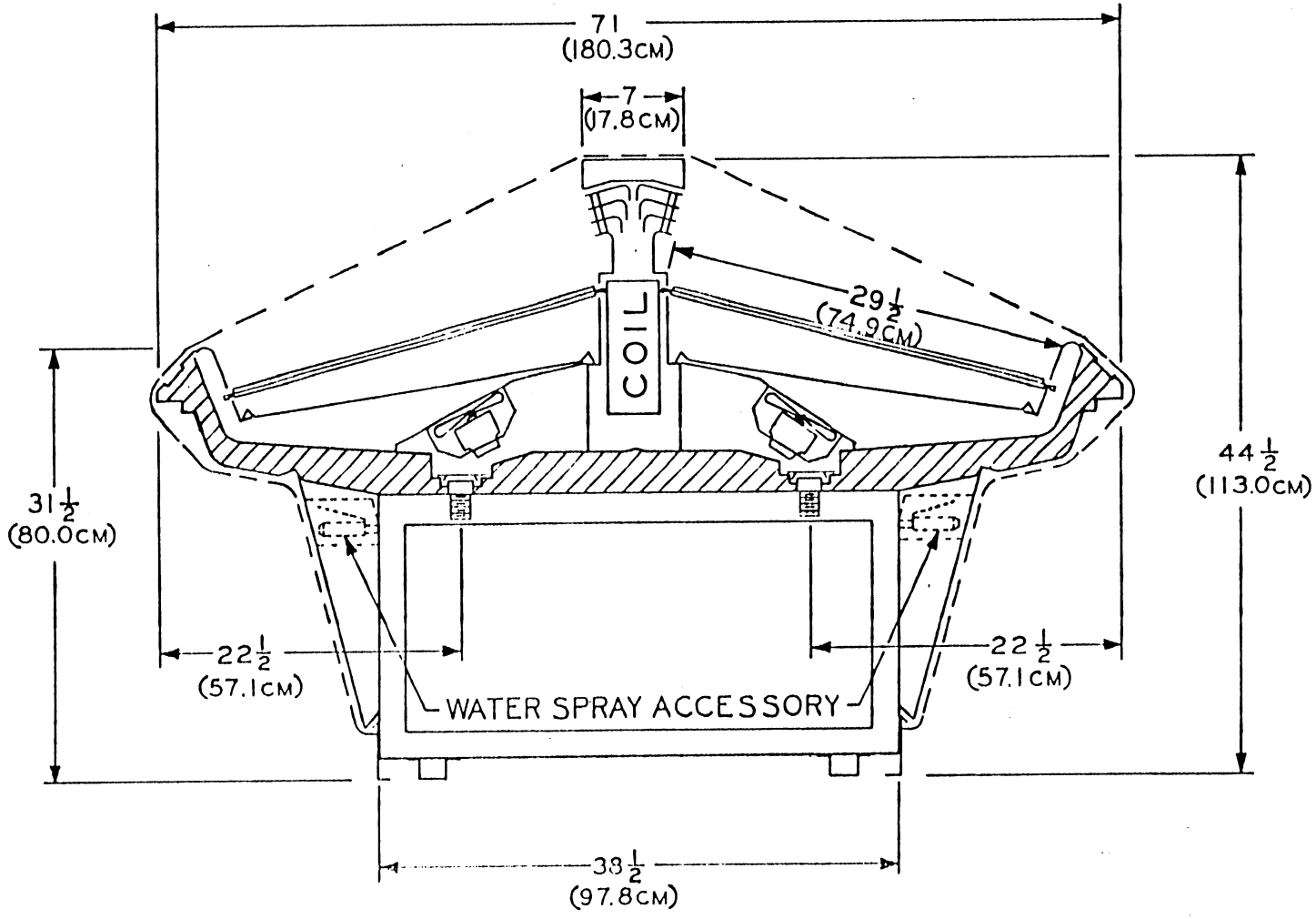
PICTORIAL

WARREN - Dual Jet

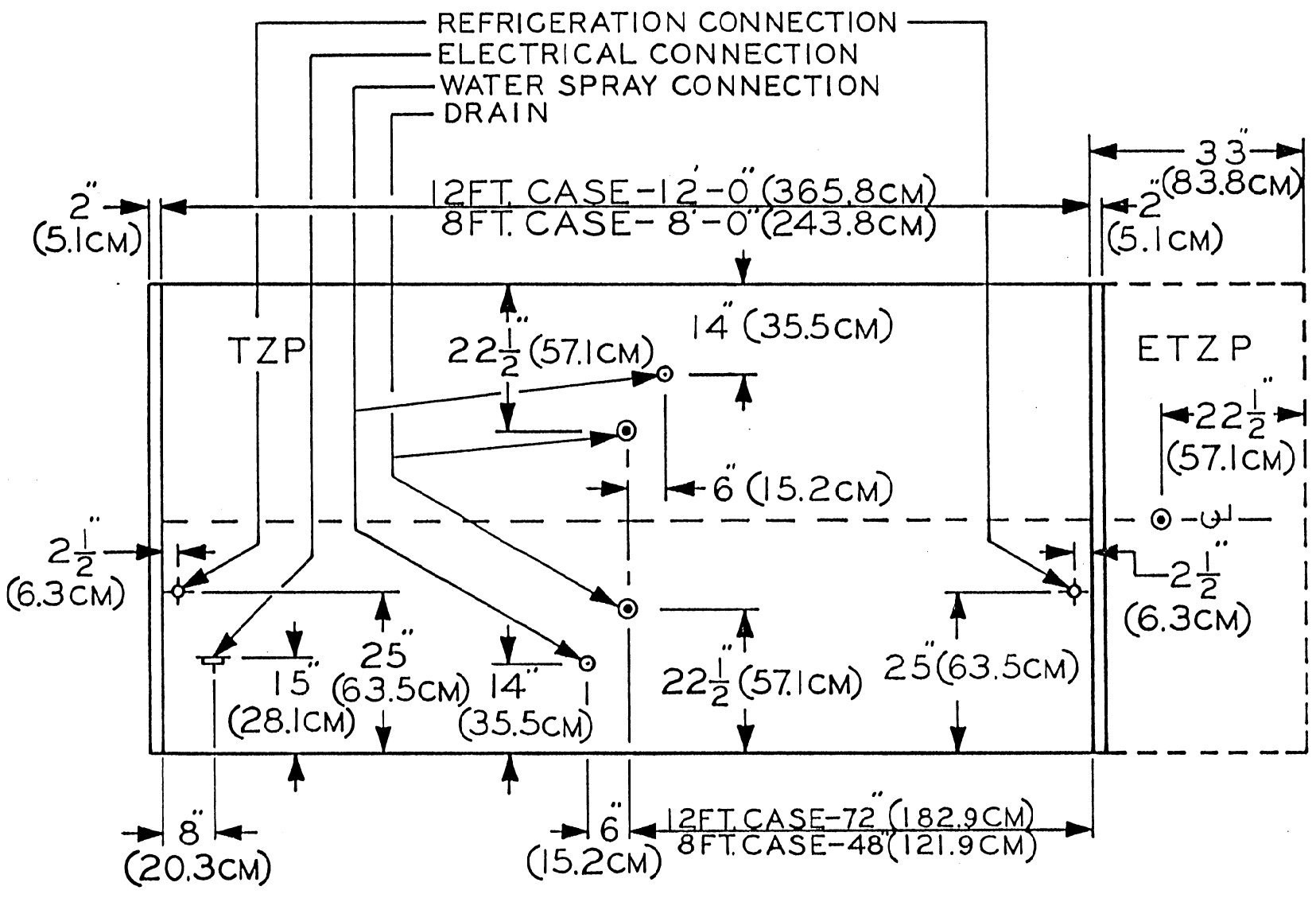
DIVISION OF KYSOR INDUSTRIAL CORPORATION

DRAWING NUMBER

PA 20528



LETTER	REVISED	DATE
DATE 1-27-81	TITLE CROSS SECTION MODEL TZP	
SCALE 1/8 1-0"		
DRAWN P.P.M.		DRAWING NUMBER



LETTER	REVISED	DATE	BY

DATE 2-13-81

SCALE 1/2" = 1'-0"

DRAWN RRM

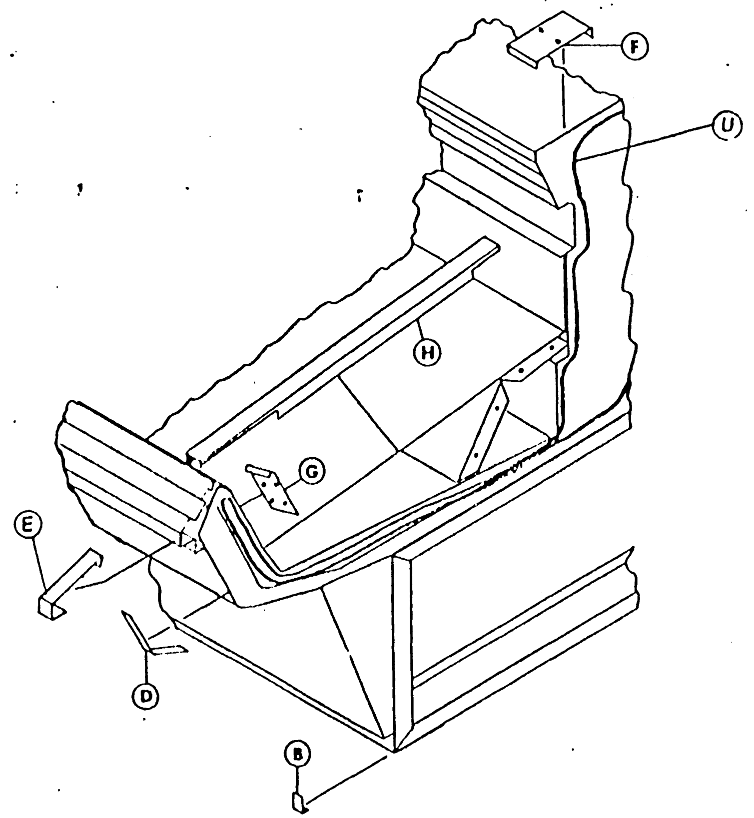
APPD.

TITLE

PLAN VIEW
MODEL TZP

KYSOR | WARREN / SHERER
DIVISION OF KYSOR INDUSTRIAL CORPORATION

DRAWING NUMBER SA-81502



TYPICAL BOTH SIDES

NOTE: SEE PA-21543-A FOR INSTALLATION INSTRUCTION

MODELS TZP TO TZP		KIT NO. 94A13-427	KIT NO. 94A13-526	
		BRUSHED	BRIGHT	
ITEM	DESCRIPTION	PART NO.	PART NO.	QTY.
A				
B	TRIM-BASE KICKPLATE JOINT	51F11-58	51F11-58	2
C				
D	TRIM-UPPER FRONT PANEL JOINT	55P12-237	55P12-238	2
E	TRIM-COLORBAND JOINT	55P12-157	55P12-158	2
F	TRIM-CENTER BACK JOINT	55P13-285	55P13-331	2
G	TRIM-FRONT BAFFLE JOINT	56F18-134	56F18-134	2
H	CHANNEL-JOINT DRIP	56F18-133	56F18-133	2
I	WASHER-ROUND SLUG TEE NUT	54V10-13	54V10-13	8
J	NUT-3/8-16 HEX SCP	19A15-10	19A15-10	8
K	NUT-3/8 SQ HD TEE SMALL	19A15-13	19A15-13	8
L	WASHER-3/8 CUT SCP	19B13-11	19B13-11	8
M	BOLT-3/8-16 X 1 1/4 HEX HD MACHINE SCP	2CE10-11	2CE10-11	8
N	SCREW-#10-16 X 3/4 SD PH SS	21B12-19	21B12-19	8
O				
P				
Q	SCREW-#10-16 X 1/2 SD SMS	21B12-17	21B12-17	30
R	CAULKING PUTTY	29B10-17	29B10-17	1 FT.
S				
T	SCREW-#8 X 3/4 SS SMS	21B11-12	21B11-12	14
U	CAULKING COMPOUND	29B10-28	29B10-28	1 TS.

LETTER	REVISED	DATE	BY
A	REVISED 12F10-57, 55P12-125 & 55P12-127 —	3-7-91	T.J.

DATE: 10-14-80
SCALE: NONE
DRAWN: V/JJ
APPD:

TITLE: JOINT KIT ASSY. W\ CASTING TZP TO TZP

KYSOR | WARREN/SHERER — DIVISION OF KYSOR INDUSTRIAL CORPORATION

DRAWING NUMBER: PB-21520 A

ADDED: 55P12-157, 55P12-158

NOTES

1. MOVE REFRIGERATORS AS NEAR THEIR PERMANENT LOCATION AS POSSIBLE BEFORE REMOVING SHIPPING BRACES, SKIDS OR ROLLERS. NOTE: THESE REFRIGERATORS WERE LINED UP AT FACTORY & NUMBERED. INSURE THEY ARE LINED UP IN THE FIELD BY THE SAME SEQUENCE NUMBER. (THE NUMBER IS LOCATED ON THE HANDRAIL). THE CASES MUST BE POSITIONED SO THAT ELECTRICAL CONNECTIONS ARE ON THE SAME SIDE IN THE LINE-UP.

2. REMOVE SKIDS & SHIPPING BRACES. INSTALL APPROX. A 5/16" BEAD OF SEALER AT ONE END OF CASE AS NOTED BY HEAVY LINE ON CROSS-SECTION.

3. MOVE CASES AS CLOSE TOGETHER AS POSSIBLE & LEVEL BY USING THE SHIMS PROVIDED. (CASES MUST BE LEVELED FROM FRONT TO BACK & END TO END).

4. REMOVE ACCESS COVERS OVER LINE-UP HOLES & INSERT THE SMALL T-NUTS IN THE END FRAME, BOTH FRONT & BACK. PLACE SPECIAL T-NUT WASHER ON THE 3/8" MCHN BOLT WITH HOLLOW SECTION AWAY FROM THE BOLT HEAD. ROTATE THE 3/8" BOLTS WITH T-NUT WASHER INTO 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 PULLING CASE UP TIGHT BY BUMPING FROM OPPOSITE END OF CASE OR USING PRY BAR.

5. INSPECT JOINT FOR PROPER AIR AND WATER-TIGHT SEAL BOTH INSIDE AND OUTSIDE THE CASE.

6. REPLACE LINE-UP ACCESS COVER PLUGS OR PLATES.

JOINT TRIM - MOST JOINT TRIM CAN & SHOULD BE INSTALLED IMMEDIATELY AFTER CASES ARE LINED UP. WHERE POSSIBLE, INSTALL ALL TRIM IMMEDIATELY SO IT WILL NOT BE LOST. THE TRIM THAT CANNOT BE INSTALLED IMMEDIATELY SUCH AS KICKPLATE AREA, STORE IN A SAFE PLACE UNTIL REFRIGERATION AND ELECTRICAL WORK IS COMPLETED.

7. COLORBAND JOINT TRIM - FASTEN COLORBAND JOINT TRIM "E" WITH (2) #21B12-17 IN UPPER HOLES FIRST, THEN (2) #21B12-19 IN LOWER HOLES.

8. PLACE SEALER ON JOINT TRIM DRIP CHANNEL AND PUSH INTO PLACE. FASTEN FRONT TRIM BAFFLE AND CENTER BACK JOINT TRIM.

9. FASTEN UPPER FRONT PANEL TRIM TO JOINT. FASTEN LOWER FRONT TRIM. FASTEN BOTH WITH #21B12-17. FASTEN KICKPLATE WITH #21B12-17.

10. FOR ANY TRIM FURNISHED BUT NOT MENTIONED IN INSTRUCTIONS, POSITION AS SHOWN ON DRAWING AND SECURE WITH FASTENERS.

NOTE! JOINT KIT ASSY - SEE PB-21520-A

LETTER	REVISED	DATE	BY
A	REVISED COLORBAND JOINT TRIM NOTATION	10/30/81	TLA

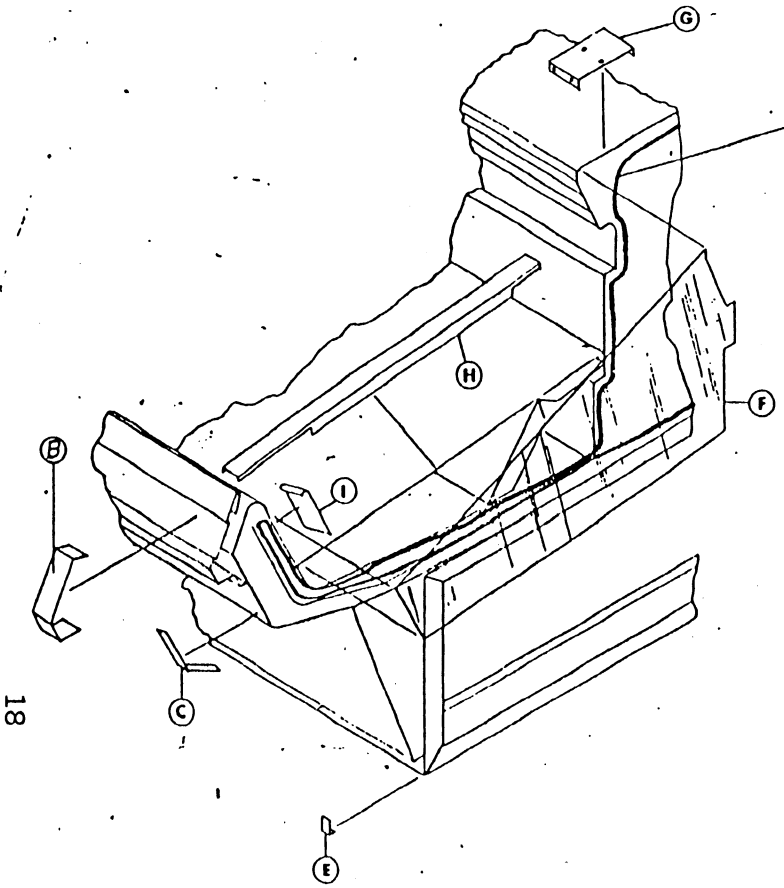
DATE 5-13-81
SCALE NONE
DRAWN TLA
APPD. JPM

TITLE: JOINT KIT INSTALLATION INSTRUCTION FOR T-20-T20

KYSOR | WARREN / SHERER DIVISION OF KYSOR INDUSTRIAL CORPORATION

DRAWING NUMBER PA-21513-A

AF 1066



TYPICAL BOTH SIDES

MODELS: TZP - TZUP		KIT NO. 94A13-428	KIT NO. 94A13-527	
		BRUSHED	BRIGHT	
ITEM	DESCRIPTION	PART NO.	PART NO.	QTY.
A				
B	TRIM - COLORBAND JOINT	55P12-157	55P12-158	2
C	TRIM - UPPER FRONT PANEL JOINT	55P12-237	55P12-238	2
E	TRIM - BASE KICKPLATE JOINT	51F11 - 58	51F 11 - 58	2
F	CLIP - END PLEXIGLASS DIVIDER	54V11 - 74	54V11 - 74	4
G	TRIM - CENTER BACK END	55P13 - 286	55P13-332	2
H	CHANNEL - JOINT DRIP	56F18 - 133	56F18-133	2
I	TRIM - FRONT BAFFLE JOINT	56F18 - 134	56F18-134	2
J	CLIP - PLEXIGLASS DIVIDER	56J10 - 81	56J10 - 81	2
K	DIVIDER - PLEXIGLASS	73F11 - 98	73F11 - 98	2
L	PLUG - INSULATED	73D10-200	73D10-200	2
M	WASHER - ROUND SLUG T-NUT	54V10 - 13	54V10 - 13	8
N	NUT - 3/8-16 HEX SCP	19A15 - 10	19A15 - 10	8
O	NUT - 3/8 SQ HC TEE SMALL	19A15 - 13	19A15 - 13	8
P	WASHER - 3/8 CJT SCP	19B13 - 11	19B13 - 11	8
Q	BOLT - 3/8-16 X 1 1/4 HEX HD MACH. SCP	20E10 - 11	20E10 - 11	8
R				
S				
T	SCREW - # 8 X 3/4 SS SMS	21B11 - 12	21B11 - 12	14
U				
V	SCREW - #10-16 X 3/4 SD SS	21B12 - 19	21B12-19	8
W	SCREW - #10-16 X 1/2 SD SMS	21B12 - 17	21B12-17	30
X	CAULKING PUTTY	29B10 - 17	29B10 - 17	1 FT.
Y	BUTYL SEALER	29B10 - 28	29B10 - 28	1 TB.

NOTE: SEE PA-21542-A FOR INSTALLATION INSTRUCTION

ADDED: 55P12-157, 55P12-158

LETTER	REVISED	DATE	BY
A	REVISED 16F10-57, 55P12-105 & 55P12-129	3-19-81	JLA

DATE 11-20-81
SCALE NONE
DRAWN JW
APPD JPM

TITLE: JOINT KIT ASS'Y. TZP - TZUP

KYSOR | WARREN/SHERER

DRAWING NUMBER PB-21526-A

NOTES

1. MOVE REFRIGERATORS AS NEAR THEIR PERMANENT LOCATION AS POSSIBLE BEFORE REMOVING SHIPPING BRACES, SKIDS OR ROLLERS. NOTE: THESE REFRIGERATORS WERE LINED UP AT FACTORY & NUMBERED. INSURE THEY ARE LINED UP IN THE FIELD BY THE SAME SEQUENCE NUMBER. (THE NUMBER IS LOCATED ON THE HANDRAIL). THE CASES MUST BE POSITIONED SO THAT ELECTRICAL CONNECTIONS ARE ON THE SAME SIDE IN THE LINE-UP.

2. REMOVE SKIDS & SHIPPING BRACES. INSTALL APPROX. A 5/16" BEAD OF SEALER AT ONE END OF CASE AS NOTED BY HEAVY LINE ON CROSS-SECTION.

3. MOVE CASES AS CLOSE TOGETHER AS POSSIBLE & LEVEL BY USING THE SHIMS PROVIDED. (CASES MUST BE LEVELED FROM FRONT TO BACK & END TO END).

4. REMOVE ACCESS COVERS OVER LINE-UP HOLES & INSERT THE SMALL T-NUTS IN THE END FRAME, BOTH FRONT & BACK. PLACE SPECIAL T-NUT WASHER ON THE 3/8" MCHN BOLT WITH HOLLOW SECTION AWAY FROM THE BOLT HEAD. ROTATE THE 3/8" BOLTS WITH T-NUT WASHER INTO 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 PULLING CASE UP TIGHT BY BUMPING FROM OPPOSITE END OF CASE OR USING PRY BAR.

5. INSPECT JOINT FOR PROPER AIR AND WATER-TIGHT SEAL BOTH INSIDE AND OUTSIDE THE CASE.

6. REPLACE LINE-UP ACCESS COVER PLUGS OR PLATES.

JOINT TRIM - MOST JOINT TRIM CAN & SHOULD BE INSTALLED IMMEDIATELY AFTER CASES ARE LINED UP. WHERE POSSIBLE, INSTALL ALL TRIM IMMEDIATELY SO IT WILL NOT BE LOST. THE TRIM THAT CANNOT BE INSTALLED IMMEDIATELY SUCH AS KICKPLATE AREA, STORE IN A SAFE PLACE UNTIL REFRIGERATION AND ELECTRICAL WORK IS COMPLETED.

7. COLORBAND JOINT TRIM - FASTEN COLORBAND JOINT TRIM "B" WITH (2) #21B12-17 IN UPPER HOLES FIRST, THEN (2) #21B12-19 IN LOWER HOLES.

8. PLACE SEALER ON JOINT TRIM DRIP CHANNEL AND PUSH INTO PLACE. FASTEN FRONT TRIM BAFFLE & CENTER BACK JOINT TRIM. FASTEN PLEXIGLASS DIVIDER USING CLIPS PROVIDED.

9. FASTEN UPPER FRONT PANEL TRIM TO JOINT. THEN FASTEN LOWER FRONT TRIM. FASTEN BOTH WITH #21B12-17. FASTEN KICKPLATE WITH #21B12-17.

10. FOR ANY TRIM FURNISHED BUT NOT MENTIONED IN INSTRUCTIONS, POSITION AS SHOWN ON DRAWING AND SECURE WITH FASTENERS.

NOTE: JOINT KIT ASSY - SEE PB-21526-A

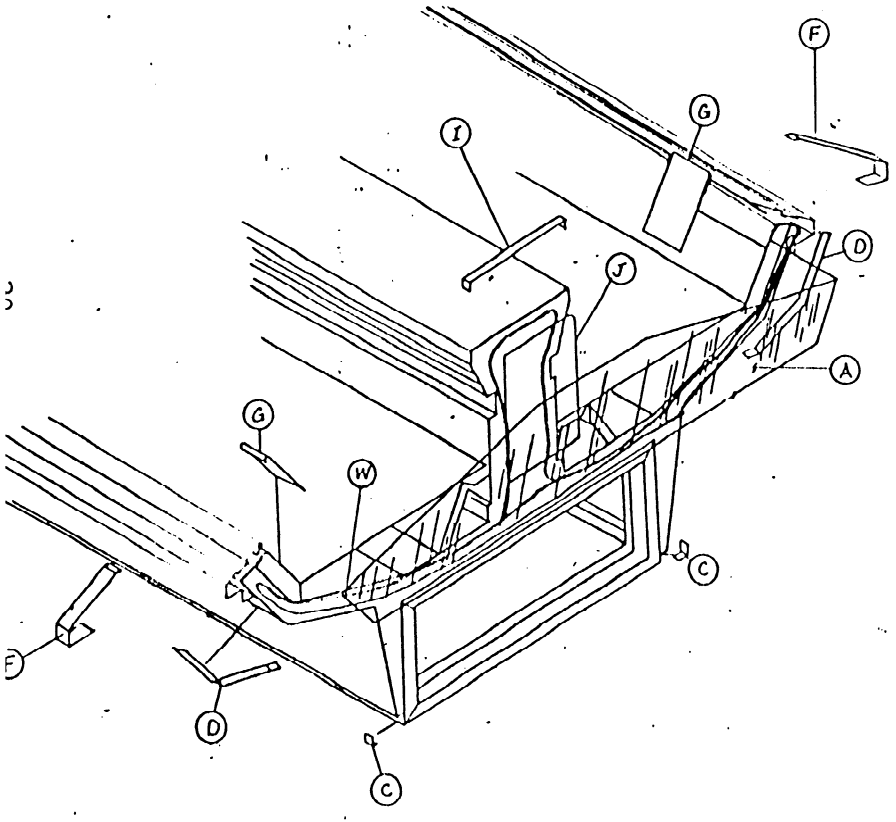
LETTER	REVISED	DATE	BY
A	REVISED COLORBAND JOINT TRIM NOTATION	10/30/81	TLA

TITLE: JOINT KIT INSTALLATION INSTRUCTION FOR T2P-T2UP

DATE 1-13-81 | SCALE NONE | DRAWN TLA | APPD JPM

KYSOR | WARREN / SHERER DIVISION OF KYSOR INDUSTRIAL CORPORATION

DRAWING NUMBER PA-21542-A



NOTE: SEE PA-21562-A FOR INSTALLATION INSTRUCTION

MODELS: TZ(U)P - ETZP W\ PLEX. DIVIDER		KIT NO. 94A13-438	KIT NO. 94A13-528	
		BRUSHED	BRIGHT	
ITEM	DESCRIPTION	PART NO.	PART NO.	QTY.
A	PARTITION - PLEXIGLASS	73F11-97	73F11-97	1
B				2
C	TRIM - BASE KICKPLATE JOINT	51F11-58	51F11-58	2
D	TRIM - UPPER FRONT PANEL JOINT	55P12-237	55P12-238	2
E				
F	TRIM - COLORBAND JOINT	55P12-157	55P12-158	2
G	TRIM - FRONT BAFFLE JOINT	56F18-134	56F18-134	2
H	CLIP - PLEXIGLASS DIVIDER	56J10-81	56J10-81	2
I	TRIM - CENTER BACK END	55P13-286	55P13-332	1
J	WASHER - ROUND SLUG TEE NUT	54V10-13	54V10-13	8
K	PLATE - END COVER	51X16-42	51X16-42	1
L	NUT - 3/8-16 HEX SCP	19A15-10	19A15-10	8
M	NUT - 3/8 SQ HD TEE SMALL	19A15-13	19A15-13	8
N	WASHER - 3/8 CUT SCP	19B13-11	19B13-11	8
O	BOLT - 3/8-16 X 1 1/4 HEX HEAD MCHN. SCP	20E10-11	20E10-11	8
P	SCREW - #8 X 3/4 SS SMS	21B11-12	21B11-12	20
Q				
R				
S	SCREW - #10-16 X 3/4 SQ DH SS	21B12-19	21B12-19	8
T	SCREW - #10-16 X 1/2 SQ SMS	21B12-17	21B12-17	30
U	CAULKING PUTTY	29B10-17	29B10-17	1 FT.
V	PLUG - INSULATION	73D10-200	73D10-200	2
W	BUTYL SEALER	29B10-28	29B10-28	1 FT.

LETTER	REVISED	DATE	BY
	ADDED: 55P12-157, 55P13-158		
A	REMOVED: 56F10-57, 55P12-165, 55P12-159	9-27-1	TLH

DATE 10-14-80
SCALE NONE
DRAWN TLH
APPD Jpm

TITLE: TZ(U)P - ETZP W\ PLEX. DIVIDER JOINT KIT INSTRUCTIONS

KYSOR | WARREN / OHIO

DRAWING NUMBER PA-21562-A

NOTES

1. MOVE REFRIGERATORS AS NEAR THEIR PERMANENT LOCATION AS POSSIBLE BEFORE REMOVING SHIPPING BRACES, SKIDS OR ROLLERS. NOTE: THESE REFRIGERATORS WERE LINED UP AT FACTORY & NUMBERED. INSURE THEY ARE LINED UP IN THE FIELD BY THE SAME SEQUENCE NUMBER. (THE NUMBER IS LOCATED ON THE HANDRAIL). THE CASES MUST BE POSITIONED SO THAT ELECTRICAL CONNECTIONS ARE ON THE SAME SIDE IN THE LINE-UP.

2. REMOVE SKIDS & SHIPPING BRACES. INSTALL APPROX. A 5/16" BEAD OF SEALER AT ONE END OF CASE AS NOTED BY HEAVY LINE ON CROSS-SECTION.

3. MOVE CASES AS CLOSE TOGETHER AS POSSIBLE & LEVEL BY USING THE SHIMS PROVIDED. (CASES MUST BE LEVELED FROM FRONT TO BACK & END TO END).

4. REMOVE ACCESS COVERS OVER LINE-UP HOLES & INSERT THE SMALL T-NUTS IN THE END FRAME, BOTH FRONT & BACK. PLACE SPECIAL T-NUT WASHER ON THE 3/8" MCHN BOLT WITH HOLLOW SECTION AWAY FROM THE BOLT HEAD. ROTATE THE 3/8" BOLTS WITH T-NUT WASHER INTO 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 PULLING CASE UP TIGHT BY BUMPING FROM OPPOSITE END OF CASE OR USING PRY BAR.

5. INSPECT JOINT FOR PROPER AIR AND WATER-TIGHT SEAL BOTH INSIDE AND OUTSIDE THE CASE.

6. REPLACE LINE-UP ACCESS COVER PLUGS OR PLATES.

JOINT TRIM - MOST JOINT TRIM CAN & SHOULD BE INSTALLED IMMEDIATELY AFTER CASES ARE LINED UP. WHERE POSSIBLE, INSTALL ALL TRIM IMMEDIATELY SO IT WILL NOT BE LOST. THE TRIM THAT CANNOT BE INSTALLED IMMEDIATELY SUCH AS KICKPLATE AREA, STORE IN A SAFE PLACE UNTIL REFRIGERATION AND ELECTRICAL WORK IS COMPLETED.

7. COLORBAND JOINT TRIM - FASTEN COLORBAND JOINT TRIM "F" WITH (2) #21B12-17 IN UPPER HOLES FIRST, THEN (2) #21B12-19 IN LOWER HOLES.

8. PLACE SEALER ON JOINT TRIM DRIP CHANNEL AND PUSH INTO PLACE. FASTEN FRONT TRIM BAFFLE AND CENTER BACK JOINT TRIM.

9. FASTEN UPPER FRONT PANEL TRIM TO JOINT. FASTEN LOWER FRONT TRIM. FASTEN BOTH WITH #21B11-19. FASTEN KICKPLATE WITH #21A11-11.

10. FOR ANY TRIM FURNISHED BUT NOT MENTIONED IN INSTRUCTIONS, POSITION AS SHOWN ON DRAWING AND SECURE WITH FASTENERS.

NOTE: JOINT KIT ASSY - SEE PB-21519-A

LETTER	REVISED	DATE	BY
A	REVISED COLORBAND JOINT TRIM NOTATION	11/3/81	TG

TITLE: JOINT KIT INSTALLATION INSTRUCTION FOR T2(W)P-ETZP

DATE 1-16-81 | SCALE NONE | DRAWN TLA | APPD. JPM

KYSOR | WARREN / SHERER DIVISION OF KYSOR INDUSTRIAL CORPORATION

DRAWING NUMBER PA-21562-A

AF 8066

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 ine-up. Individual feed lines should be at the bottom of the liquid header.

~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 Armaflex or equal on low temp cases to provide maximum of 65-degree sub-cooled gas back to the compressor and prevent condensation in exposed areas. Insulate suction lines on medium temp cases with 1/2" thick insulation in exposed areas to prevent condensate drippage.

~6. Suction and liquid lines should never be taped or soldered together. Adequate heat exchanger is provided in the case.

~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, 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 risors, 4' or longer. Use a double "P" trap for each 20' of risors. "P" traps should be the same size as the horizontal line. Consult the technical manual or legend sheet for proper size risors.

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 line with an inverted trap.

07/25/80

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
404 483-5600

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.

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 continential United States.

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.

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.
6. To labor cost for replacement of parts, or for freight or shipping expenses.
7. 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 this 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.