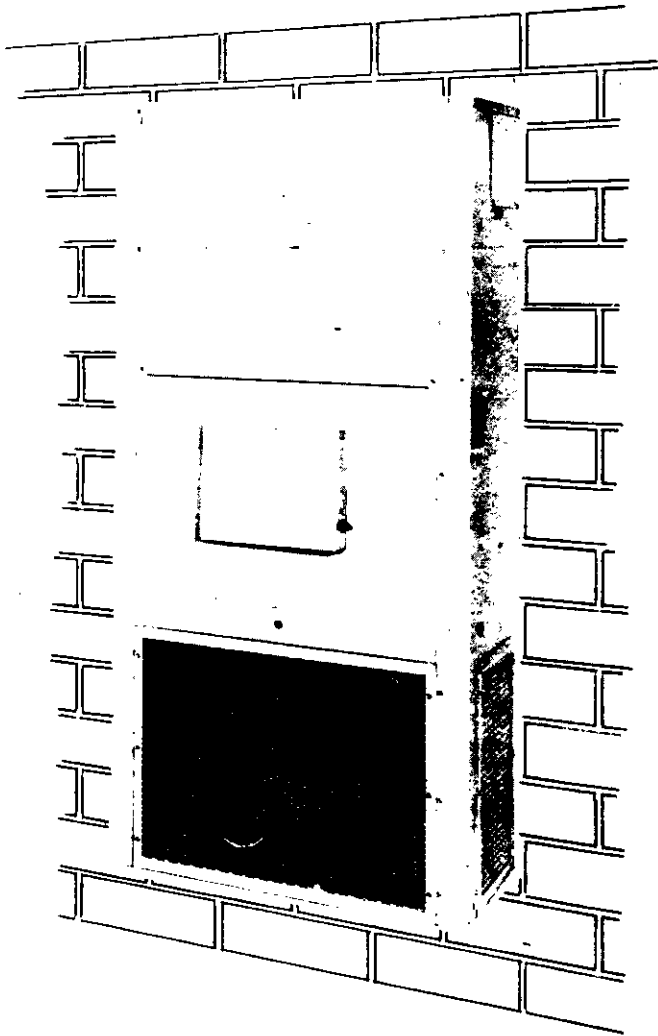


# INSTALLATION INSTRUCTIONS

SELF CONTAINED WALL MOUNTED  
HEAT PUMPS



18WH1

20WH

24WH1

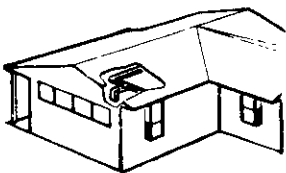
30WH

36WH1

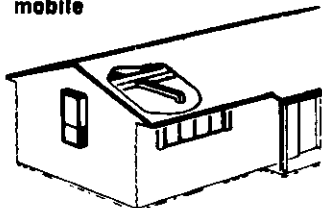
48WH

## APPLICATIONS

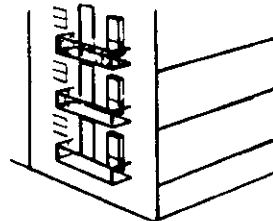
### RESIDENTIAL . . . single, multiple, mobile



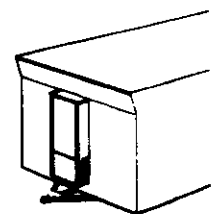
Zoned heating/cooling control in multiple areas



Attic ducted single unit installation

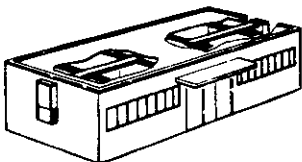


Multiple dwelling installation

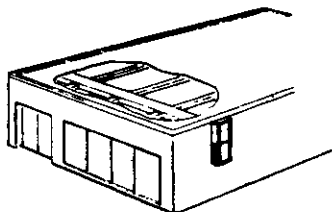


Offices/Homes on wheels

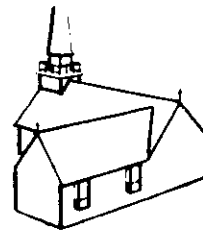
### COMMERCIAL and INSTITUTIONAL



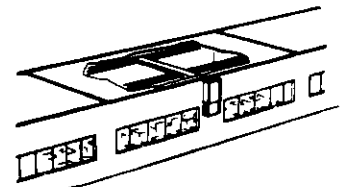
Separate offices (zoned)



Production areas (for complete conditioning from single unit)



Churches (zoned)



Temporary classrooms

ELECTRICAL INFORMATION										WIRING INFORMATION**									
Model	Rated Volts & Ph	Operating Voltage Range	Heater* Kw	Max Unit Amps	No. Power Circuits	Internal Fuses		Req'd Ext. Fuses		Min. Ckt. Ampacity		Field Power Wiring		Ground Wire Size		Wiring Diagram Number			
						Ckt.A	Ckt.B	Ckt.A	Ckt.B	Ckt.A	Ckt.B	Ckt.A	Ckt.B	Ckt.A	Ckt.B				
18WH1	230/1	197-253	0	13.8	1			25		17		12		12		4011-110			
18WH1	230/1	197-253	4	30.5	1			40		38		8		10		-120			
18WH1	230/1	197-253	8	47.1	2			40	25	38	21	6	10	10	10	-130			
20WH	230/1	197-253	0	14.3	1			25		17		12		12		4011-110			
20WH	230/1	197-253	4	31	1			45		38		8		10		-120			
20WH	230/1	197-253	8	47.6	2			45	25	38	21	6	10	10	10	-130			
24WH1	230/1	197-253	0	15.8	1			30		19		12		12		4011-110			
24WH1	230/1	197-253	4	32.5	1			45		40		8		10		-120			
24WH1	230/1	197-253	8	49.1	2			45	25	40	21	6	10	10	10	-130			
30WH	230/1	197-253	0	18.8	1			35		22		10		10		4012-110			
30WH	230/1	197-253	5	39.6	1			50		48		6		10		-120			
30WH	230/1	197-253	10	60.4	2			50	30	48	26	4	8	10	10	-130			
30WH	230/1	197-253	15	65.9	2		50	50	60	48	52	4	4	10	10	-140			
36WH1	230/1	197-253	0	27.5	1			50		33		8		10		4013-110			
36WH1	230/1	197-253	5	48.3	1			60		59		4		10		-120			
36WH1	230/1	197-253	10	69.1	2			60	30	59	26	3	8	10	10	-130			
36WH1	230/1	197-253	15	65.9	2		60	60	60	59	52	3	4	10	10	-140			
36WH1	230/3	187-264	0	18.5	1			35		22		10		10		4013-210			
36WH1	230/3	187-264	6	32.9	2			35	30	22	27	10	8	10	10	-220			
36WH1	230/3	187-264	9	40.2	2			35	45	22	45	10	6	10	10	-220			
36WH1	230/3	187-264	15	39.5	2			35	45	22	45	10	6	10	10	-230			
48WH	230/1	197-253	0	34.8	1			60		42		6		10		4014-110			
48WH	230/1	197-253	5	55.6	2			60	30	42	26	6	10	10	10	-120			
48WH	230/1	197-253	10	76.4	2			60	60	42	52	6	6	10	10	-130			
48WH	230/1	197-253	15	97.3	2		60	60/30	80	42	78	6	3	10	8	-140			
48WH	230/1	197-253	20	118	2		60	60/60	110	42	104	6	1	10	6	-150			
48WH	230/3	187-264	0	21.8	1			40		26		10		10		4014-210			
48WH	230/3	187-264	9	43.5	2			40	30	26	27	10	10	10	10	-220			
48WH	230/3	187-264	12	50.7	2			40	40	26	36	10	8	10	10	-230			
48WH	230/3	187-264	15	58	2			40	45	26	45	10	6	10	10	-230			
48WH	230/3	187-264	18	65.2	2			40	60	26	54	10	6	10	10	-240			

\* Electric heaters are nominal Kw @ 240V.

\*\*Based on using 60°C copper wire. Other wiring materials must be rated for marked minimum circuit ampacity or greater. Not all models approved for aluminum wire.

## APPLICATION AND INSTALLATION INSTRUCTIONS

### GENERAL

Units are shipped completely assembled and internally wired, requiring only duct connections, thermostat wiring and external 220-240 volt AC power supply. The refrigerant system is completely assembled and charged.

These instructions and any instructions packaged with any separate equipment should be carefully read before beginning the installation. Note particularly any tags and/or labels attached to the equipment.

While these instructions are intended as a general recommended guide, they do not supersede any national and/or local codes in any way. Authorities having jurisdiction should be consulted before the installation is made.

### SHIPPING DAMAGE

Upon receipt of equipment, the carton should be checked for external signs of shipping damage. If damage is found, the receiving party must contact the last carrier immediately, preferably in writing, requesting inspection by the carrier's agent.

### INSTALLATION

Size of unit for a proposed installation should be based on heat loss calculation made according to methods of National Warm Air Heating and Air Conditioning Association. The air duct should be installed in accordance with the Standards of the National Fire Protection Association for the Installation of Air Conditioning and Ventilating Systems of Other Than Residence Type, NFPA No. 90A, and Residence Type Warm Air Heating and Air Conditioning Systems, NFPA No. 90B. Where local regulations are at a variance with instructions, installer should adhere to local codes.

### DUCTWORK

Design the ductwork according to methods given by the National Warm Air Heating and Air Conditioning Association. When duct runs through unheated spaces, it should be insulated with a minimum of two inches of insulation. Use insulation with a vapor barrier on the outside of the insulation. Flexible joints should be used to connect the ductwork to the equipment in order to keep the noise transmission to a minimum.

A one inch clearance to combustible material for the first three feet of duct attached to the outlet air frame is required. See pages 7, 8, 9 and 10 for further details.

### FILTER

A 1" throw away filter is supplied with each unit. The filter slides into position making it easy to service. This filter can be serviced from the outside by removing the service door.

### FRESH AIR INTAKE

All units are made with a fresh air inlet hole punched in the service panel. If not ordered originally, a fresh air cover with shut-off damper may be ordered from the factory. The fresh air cover is so positioned that all fresh air intake is filtered by the internal unit filter.

### WALL MOUNTING

1. Two holes, the size of the supply and return air openings must be cut through the wall as shown in Fig. 1, 2, 3, 4, 5 and 6.
2. On wood-frame walls, the wall construction must be strong and rigid enough to carry the weight of the unit without transmitting any unit vibration.
3. Concrete block walls must be thoroughly inspected to insure that they are capable of carrying the weight of the installing unit.
4. Ducts through the walls must be insulated and all joints taped or sealed to prevent air or moisture entering the wall cavity.
5. Some installations may not require any return air duct. It is recommended that on this type of installation that a filter grille be located in the wall. Filters must be of sufficient size to allow a maximum velocity of 400 FPM.

### WIRING - MAIN POWER

Refer to the unit rating plate for wire sizing information and maximum fuse size. Each outdoor unit is marked with a "Minimum Circuit Ampacity." This means that the field wiring used must be sized to carry that amount of current. Depending on the installed Kw of electric heat, there may be two field power circuits required. If this is the case, the unit serial plate will so indicate. Some models are suitable only for connection with copper wire, while others can be wired with either copper or aluminum wire. Each unit and/or wiring diagram will be marked "Use Copper Conductors Only" or "Use Copper or Aluminum Conductors." These instructions MUST BE adhered to. Refer to the National Electrical Code for complete current carrying capacity data on the various insulation grades of wiring material.

The electrical specifications on page 2 lists fuse and wire sizes (60°F copper) for all models, including the most commonly used heater sizes. Also shown are the number of field power circuits required for the various models with heaters.

The unit rating plate lists a "Maximum Time Delay Fuse" that is to be used with the equipment. The correct size fuse must be used for proper circuit protection and also to assure that there will be no nuisance tripping due to the momentary high starting current of the compressor motor.

### WIRING - CONTROL CIRCUIT

All units are provided with a 24 volt terminal board which is marked C, G, R, Y, W1, W2, E and F. DO NOT wire to terminal C. This will cause transformer burnout. Refer to specific unit wiring diagram for details.

### CONDENSATE DRAIN

A plastic drain hose extends from the drain pan at the top of the unit down to the unit base. There are openings in the unit base for the drain hose to pass through. In the event the drain hose is connected to a drain system of some type, it must be an open or vented type system to assure proper drainage.

## PRESSURE SERVICE PORTS

High and low pressure service ports are installed on all units so that the system operating pressures can be observed. Pressure curves can be found later in the manual covering all models on both cooling and heating cycles. It is imperative to match the correct pressure curve to the unit by model number.

## CRANKCASE HEATERS

All units are provided with some form of compressor crankcase heat. Single phase units utilize the compressor motor start winding in series with a portion of the run capacitor to generate heat within the compressor shell to prevent liquid refrigerant migration.

Three phase units utilize a wraparound type of crankcase heater that warms the compressor oil from the outside.

Some form of crankcase heat is essential to prevent liquid refrigerant from migrating to the compressor, causing oil pump out on compressor start-up and possible valve failure due to compressing a liquid.

IMPORTANT NOTICE - Be sure to follow start-up instructions as shown below and also on unit.

**IMPORTANT**

**THESE PROCEDURES MUST BE FOLLOWED AT INITIAL START-UP AND AT ANY TIME POWER HAS BEEN REMOVED FOR 12 HOURS OR LONGER.**

TO PREVENT COMPRESSOR DAMAGE WHICH MAY RESULT FROM THE PRESENCE OF LIQUID REFRIGERANT IN THE COMPRESSOR CRANKCASE:

1. MAKE CERTAIN THE ROOM THERMOSTAT IS IN THE "OFF" POSITION (THE COMPRESSOR IS NOT TO OPERATE).
2. APPLY POWER BY CLOSING THE SYSTEM DISCONNECT SWITCH. THIS ENERGIZES THE COMPRESSOR HEATER WHICH EVAPORATES THE LIQUID REFRIGERANT IN THE CRANKCASE.
3. ALLOW 4 HOURS OR 60 MINUTES PER POUND OF REFRIGERANT IN THE SYSTEM AS NOTED ON THE UNIT RATING PLATE, WHICHEVER IS GREATER.
4. AFTER PROPERLY ELAPSED TIME THE THERMOSTAT MAY BE SET TO OPERATE THE COMPRESSOR.
5. EXCEPT AS REQUIRED FOR SAFETY WHILE SERVICING - DO NOT OPEN SYSTEM DISCONNECT SWITCH.

7081-081

## COMPRESSOR CUT-OFF THERMOSTAT

Heat pump compressor operation at outdoor temperatures below 0°F are neither desirable nor advantageous in terms of efficiency. Since most equipment at time of manufacture is not designed for any specific destination of the country, and most of the equipment is installed in areas not approaching the lower outdoor temperature range, the compressor cut-offs are not factory installed.

Typical wiring diagrams showing the application of a compressor cut-off can be found later in the manual on page 6.

## SEQUENCE OF OPERATION

Cooling - R-Y at thermostat pulls in the compressor contactor starting the compressor and outdoor fan. The same R-Y also feeds G, which pulls in the fan relay for blower operation. The reversing valve is not energized, so the system is in the cooling cycle.

Heating - R-W (or W1) make at thermostat on a call for heat. This pulls in the changeover relay. Terminals 6-4 of changeover relay make R-Y circuit which pulls in compressor contactor starting the compressor and outdoor fan, also R-Y at thermostat completes G circuit, pulling in fan relay starting indoor blower. Terminals 1-3 on changeover relay make, energizing the reversing valve to put the system into the heating cycle. SEE REFRIGERANT FLOW DIAGRAM. The system will now be producing warm air indoors.

## DEFROST CYCLE

The defrost cycle is controlled by time and temperature. When the outdoor temperature is in the lower 40°F temperature range or colder, the outdoor coil temperature is 32°F or below. This temperature is sensed by a defrost thermostat mounted low and at the return bend end of the outdoor coil. The defrost thermostat makes at approximately 32°F refrigerant temperature. The MAKE of the contacts starts the defrost timer motor. The defrost timer motor can run only when the heat pump is in operation. After approximately 30 minutes of heat pump running time, with the outdoor coil below 32°F, the defrost timer contacts make. This causes the defrost relay to pull in.

Terminals 4-5 of the defrost relay open, breaking power to the outdoor fan and the reversing valve. The outdoor fan motor stops and the reversing valve shifts to the cooling cycle. Terminals 7-9 of the defrost relay make which pulls in W2, second stage strip heaters, with the indoor blower continuing to operate.

As the heat pump continues to operate in the defrost cycle, the outdoor coil warms up from the hot gas flow. As the temperature rises to approximately 57°F at the defrost thermostat location, the contacts now open. This de-energizes the defrost timer and defrost relay. All the components then return to the normal heating cycle as before.

## EMERGENCY HEAT RELAY

It is often desired to utilize an emergency heat relay in conjunction with a special heat pump thermostat subbase to allow the operator of the equipment to easily de-energize the heat pump unit and still have total heating capability from the supplemental heaters.

The emergency heat relay is factory installed on all WH models, and a 8404-001 (Q672F1026) subbase is required to operate the relay.

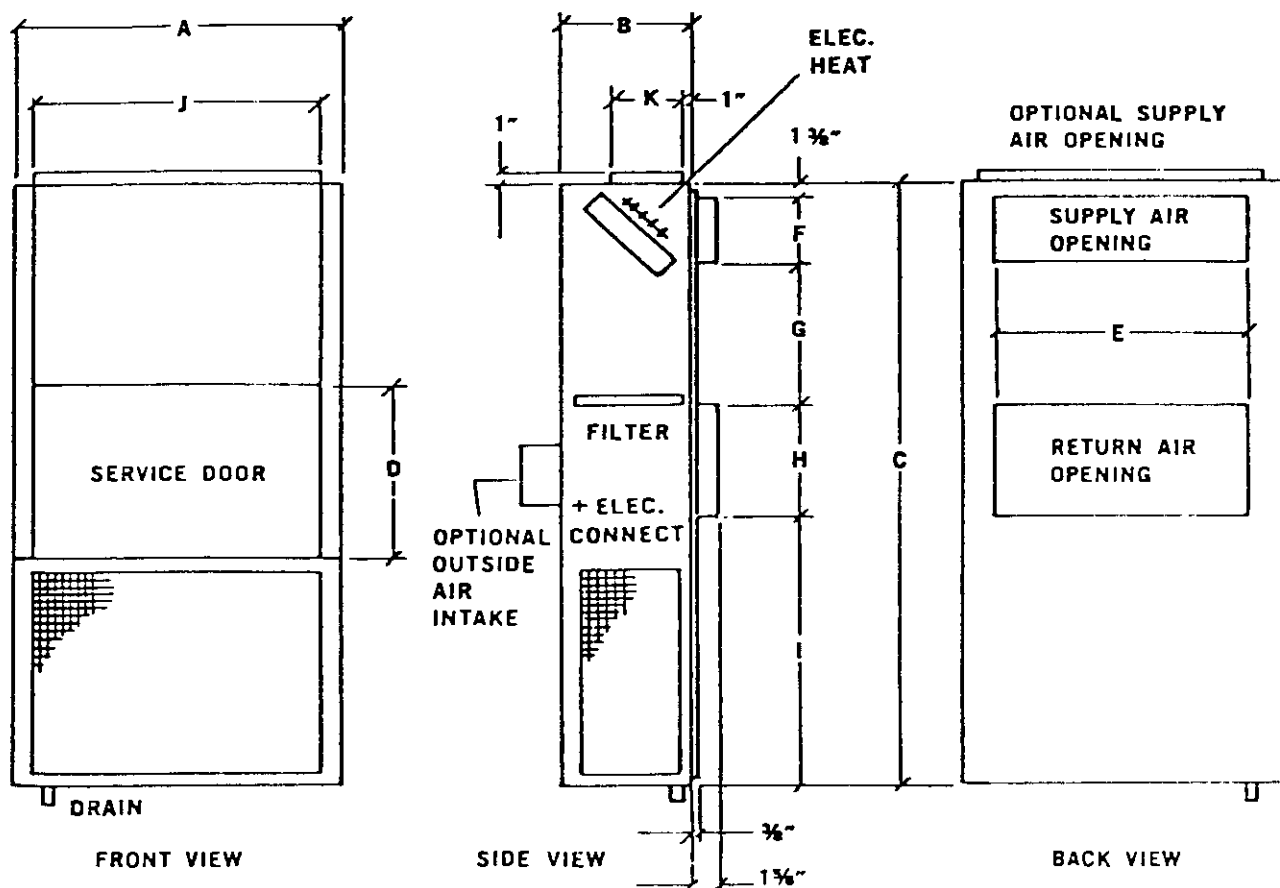
INSTALLER NOTE: Optimum unit performance will occur with a refrigerant charge resulting in a suction line temperature (near the compressor) of 53° to 58°F with 95°F outdoor temperature and 80°F dry bulb/67°F wet bulb (50% R.H.) indoor temperatures and rated airflow across the indoor coil.

# DIMENSIONS \*

... for architect and installation requirements

MODEL	A	B	C	D	E	F	G	H	I	J	K	FILTER SIZES*
18WH1, 20WH, 24WH1	32 1/4	13 1/2	67 1/2	20	20	8	20 1/2	12	25 3/4			14 x 25
30WH, 36WH1	38 1/4	15 1/4	74	22 1/2	28	8	18 1/4	14	32 1/4	32	8	15 x 30-5/8
48WH	42	22	84	21 1/2	30	10	30	16	26 3/4			(2) 16 x 20

\* Dimensions and filter sizes are in inches.



**COOLING AND HEATING ANTICIPATION  
FOR WALL THERMOSTATS**

All 24V wall thermostats are built with both cooling and heating anticipators. The purpose of these anticipators is to compensate the thermostat for various system controls and allow the best possible cycle rates.

The cooling anticipator for all thermostats, and the heating anticipator on a limited number, are fixed and require no adjustment. Most heating anticipators are adjustable and DO REQUIRE ADJUSTMENT to match the current rating of the relay, contactor or other control being cycled by that heating stage. In the case of a two stage heating thermostat there will be an anticipator for each stage, either both adjustable, one fixed and one adjustable, or both fixed.

The fixed anticipators are rated for a maximum of 1.5A. The adjustable anticipators generally have a range of .2 - 1.2A, and MUST BE ADJUSTED. Failure to adjust the anticipator lever to correspond to the actual current draw passing through that stage mercury switch and anticipator will cause severe short cycling conditions if set too low and room temperature may never attain the thermostat set point, and if set too high, will cause room temperature over-shoot.

While oil burner primary controls and gas valves are normally marked with the nominal current rating, the contactors and relays installed in air conditioners and heat pumps are not. Listed below are some of the more popularly used controls and their nominal current ratings.

Contactor or Relay	Nominal Current Rating
Honeywell - R8508 Series	.55
- R8210 Series	.40
- R8212 Series	.40
- R8214 Series	.40
- R8222 Series	.38
- R8228 Series	.38
- R8242 Series	.38
- R8243 Series	.38
BBM - Type 84	.12
- Type 91	.34
- Type 112	.34
- Type 143	.34
- Type 154	.26
- Type 184	.12
Elmwood - 308020	.39
- 30C020	.39
- 30C020	.39
- 307020	.21
- 308030	.21
- 308030	.21

Below is a procedure which allows accurate low amperage current measurements with a standard clamp-on ammeter with a 0-6A range. It is actually recommended that this measurement always be taken, since variations in voltage, thermostat wire length, etc. can all cause some change in current draw.

1. Wrap exactly 10 loops of thermostat wire (W1) around the prongs of an Amprobe.
2. Let the heating system operate for one minute before reading the W1 or W2 current draw.
3. Divide the reading obtained in Step 2 by 10.
4. Use the value calculated in step 3 to set the heat anticipator.
5. Repeat the procedure for (W2) if 2-stage heat.



**SUPPLY AIR METAL DUCT LINER  
MODELS WA AND WE**

The cabinets on all models, with or without electric heaters, are approved for 0" clearance to combustible material. The outlet duct on all models with electric heaters must have 1" clearance to combustible materials for at least the first 3 feet of duct.

Whenever a model WA or WE is installed, a galvanized metal duct liner must always be attached (Fig. 8). Before installing, determine the wall thickness. If the installation is free air flow, with no external duct, then the liner should be cut flush with the inside wall opening. In order to insure no sweating, the duct liner should be wrapped with a minimum of 1" insulation.

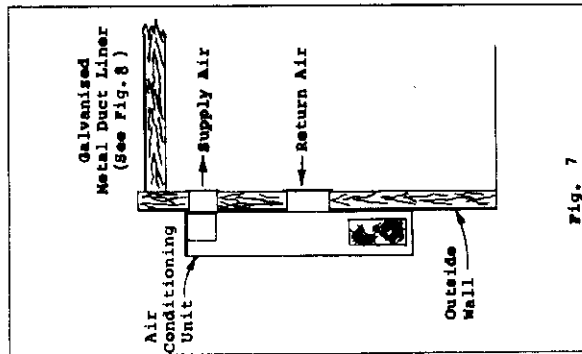


Fig. 7

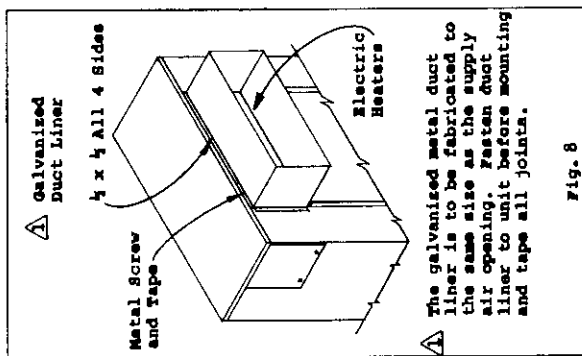


Fig. 8

## MODELS 18WH1-20WH-24WH1

### MOUNTING ON CONCRETE BLOCK WALL

These units are secured by wall mounting brackets which secure the unit to the outside wall surface at both sides and at the bottom. (Fig. 1).

In a standard 8 x 16 in. block wall, saw or knock out two 22 inch sections of concrete blocks normally the 7th, 8th and 11th course of blocks above floor level. In both cases this should be one whole block plus 3 in. of the block on each side.

On the wall, lay out approximately the position for the bottom and side brackets. Fasten these brackets to the wall firmly with 3/8 in. lag screws.

The side brackets should be located approximately 15 in. down from the top of the unit and fastened to both sides with metal screws. After mounting the unit on the wall a metal weather stripping should be installed at the top to insure a water tight application.

### INSTALLATION SCHEMATIC

#### CONCRETE BLOCK WALL

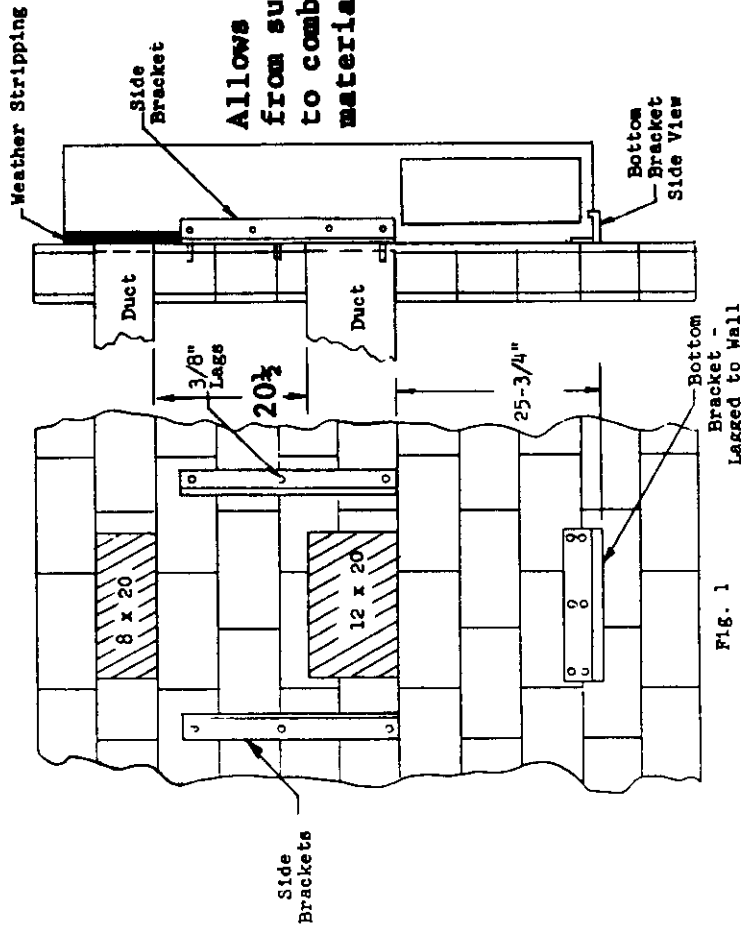


Fig. 1

## MODELS 18WH1-20WH-24WH1

### MOUNTING ON WOOD FRAME WALLS

Locate and cut out two openings as shown in (Fig. 2). Cut away the outside siding to the depth of the sheathing. Install metal weather stripping at the top and caulk or otherwise seal joints between siding and sheathing. Frame in the openings between the wall studs as necessary for the particular wall involved with the plates at the bottom of each wall opening being sufficiently strong to carry the weight of the unit.

Install the two side brackets to the unit (15 in. down from the top). Mount unit on wall and pull in firmly using three 3/8 in. lag screws through each of the wall mounting brackets.

For additional mounting rigidity, each air opening collar may be screwed to the plate at the bottom of each wall opening. Drill two 1/4 in. holes in the bottom flange of each collar before hanging the unit, then fasten to wall plate with No. 10 by 1-1/2 in. wood screws.

### OUTSIDE FRAME WALL SCHEMATIC

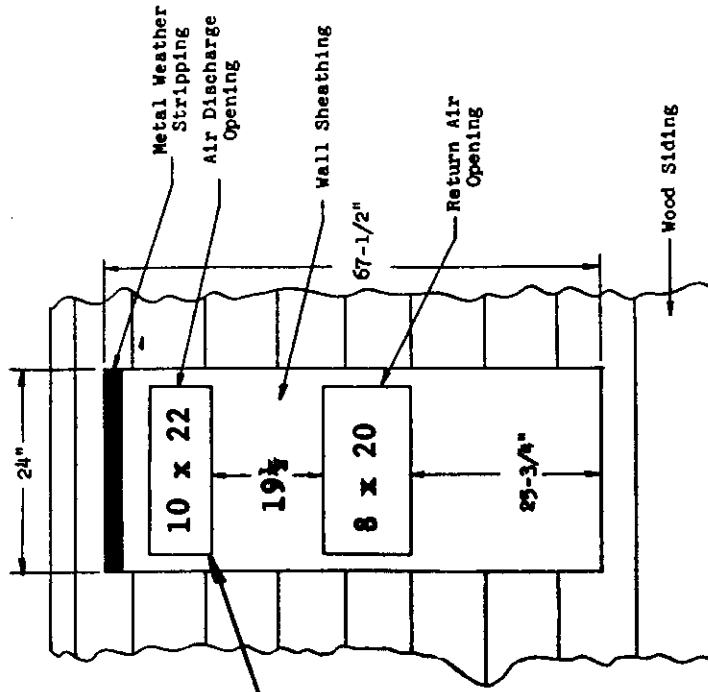


Fig. 2

Allows 1" clearance from supply air duct to combustible materials.

## MODELS 30WH-36WH1

### MOUNTING ON CONCRETE BLOCK WALL

These units are secured by wall mounting brackets which secure the unit to the outside wall surface at both sides and at the bottom (Fig. 3).

In a standard 8 x 16 in. block wall, knock out two 28 in. sections of concrete blocks normally the 7th, 8th, and 11th courses of blocks above floor level. In both cases this should be one whole block plus 7 in. of the block on each side.

On the wall, lay out approximately the position for the bottom and side brackets. Fasten these brackets to the wall firmly with 3/8 in. lag screws.

The side brackets should be located approximately 15 in. down from the top of the unit and fastened to both sides with metal screws. Before drilling into side of casing, check inside tubing for clearance. After mounting the unit on the wall a metal weather stripping should be installed at the top to insure a water tight application.

### INSTALLATION SCHEMATIC

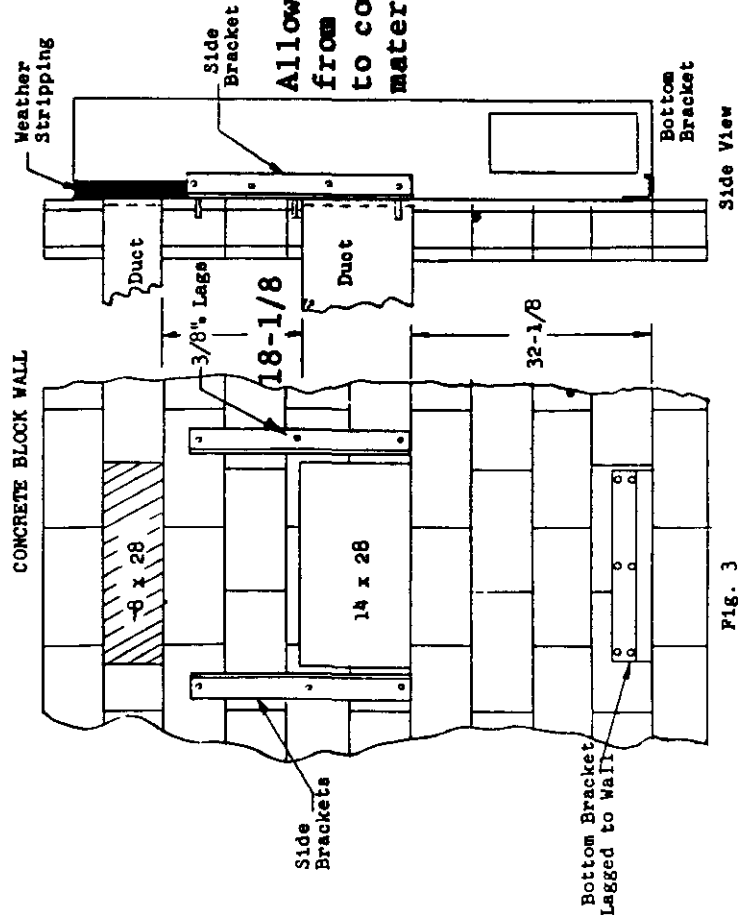


Fig. 3

## MODELS 30WH-36WH1

### MOUNTING ON WOOD FRAME WALLS

Locate and cut out two openings as shown in (Fig. 4). Cut away the outside siding to the depth of the sheathing. Install metal stripping at the top and caulk or otherwise seal joints between siding and sheathing. Frame in the openings between the wall plates at the bottom of each wall opening being sufficiently strong to carry the weight of the unit.

Install the two side brackets to the unit (15 in. down from the top). Before drilling into side of casing, check inside tubing for clearance. Mount unit on wall and pull in firmly using three 3/8 in. lag screws through each of the wall mounting brackets.

For additional mounting rigidity, each air opening collar may be screwed to the plate at the bottom of each wall opening. Drill two 1/4 in. holes in the bottom flange of each collar before hanging the unit, then fasten to wall plate with No. 10 by 1-1/2 in. wood screws.

### OUTSIDE FRAME WALL SCHEMATIC

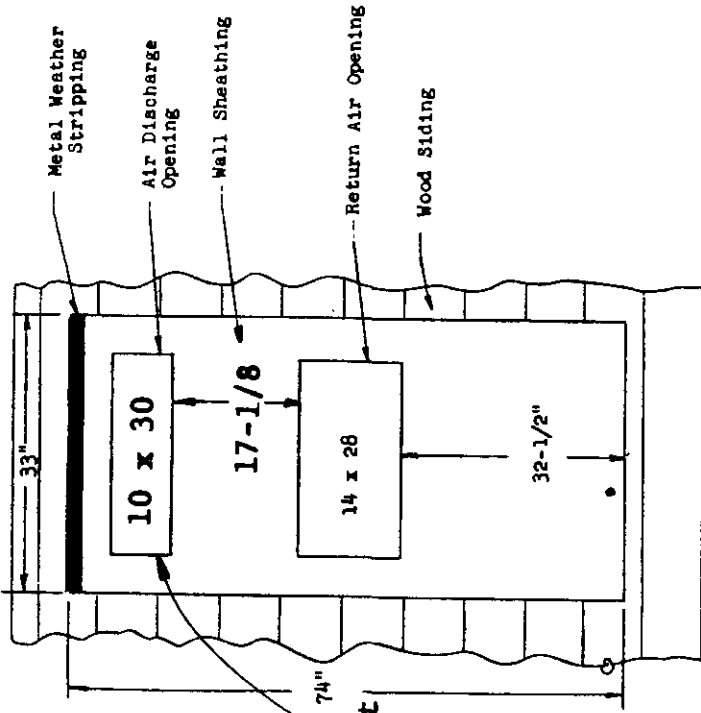


Fig. 4

Allows 1" clearance from supply air duct to combustible materials.



## MODEL 48WH

### MOUNTING ON WOOD FRAME WALLS

Locate and cut out two 8 x 28 in. (minimum) openings as shown in (Fig. 6). Cut away the outside siding to the depth of the sheathing. Install metal weather stripping at the top and calk or otherwise seal joints between siding and sheathing. Frame in the openings between the wall studs as necessary for the particular wall involved with the plates at the bottom of each wall opening being sufficiently strong to carry the weight of the unit.

Install the two side brackets to the unit (10 in. down from the top). Before drilling into side of casing, check inside tubing for clearance. Mount unit on wall and pull in firmly using three - 3/8 in. lag screws through each of the wall mounting brackets.

For additional mounting rigidity, each air opening collar may be screwed to the plate at the bottom of each wall opening. Drill two 1/4 in. holes in the bottom flange of each collar before hanging the unit, then fasten to wall plate with No. 10 by 1-1/2 in. wood screws.

OUTSIDE FRAME WALL SCHEMATIC

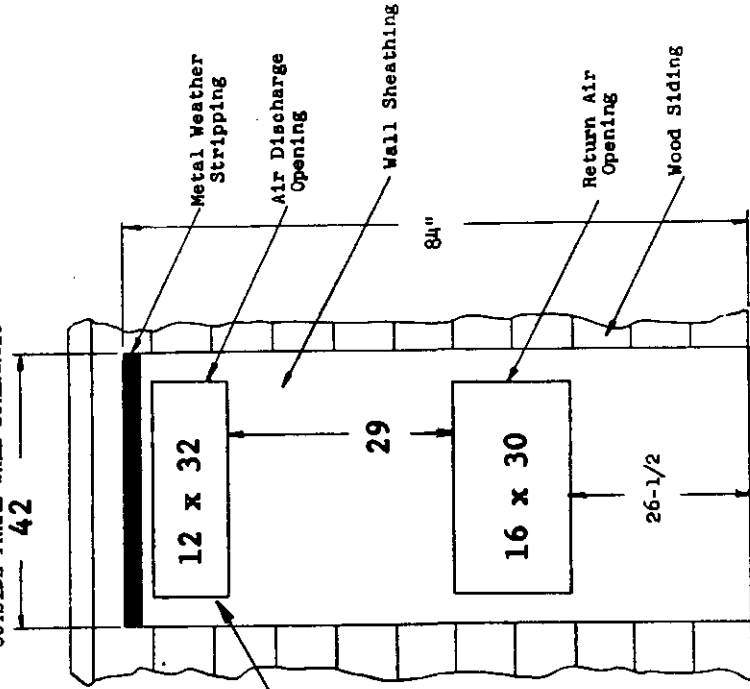


Fig. 6

Allows 1" clearance from supply air duct to combustible materials.

## MODEL 48WH

### MOUNTING ON CONCRETE BLOCK WALL

These units are secured by wall mounting brackets which secure the unit to the outside wall surface at both sides and at the bottom (Fig. 5).

In a standard 8 x 16 in. block wall, saw or knock out two 30 in. sections of concrete blocks normally the 8th and 11th course of blocks above floor level. In both cases this should be two whole block.

On the wall, lay out approximately the position for the bottom and side brackets. Fasten these brackets to the wall firmly with 3/8 in. lag screws.

The side brackets should be located approximately 10 in. down from the top of the unit and fastened to both sides with metal screws. Before drilling into side of casing, check inside tubing for clearance. After mounting the unit on the wall, a metal weather stripping should be installed at the top to insure a water-tight application.

INSTALLATION SCHEMATIC

### CONCRETE BLOCK WALL

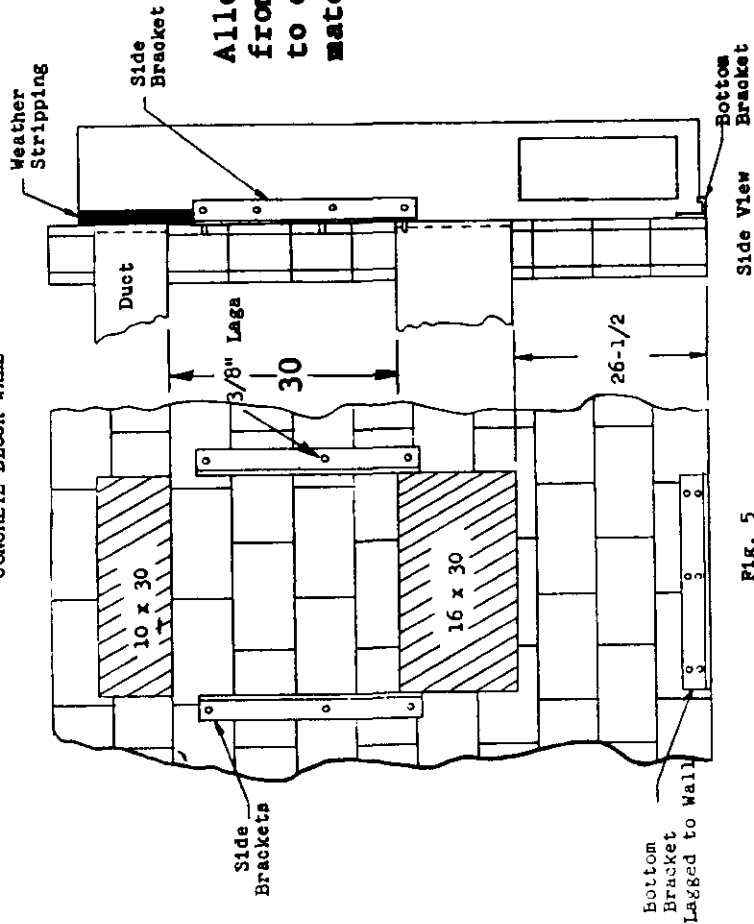
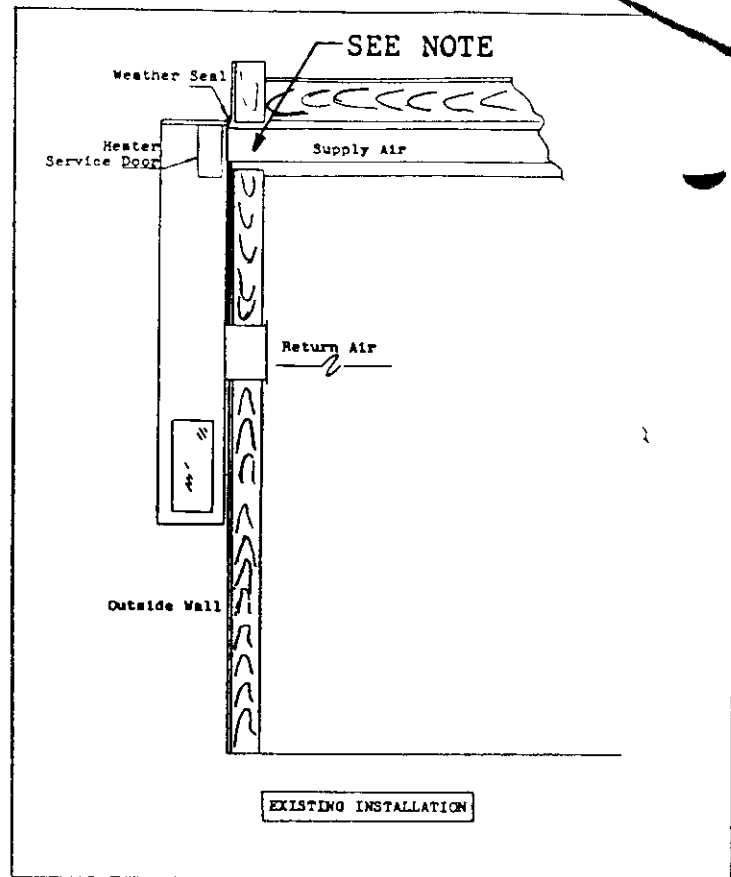
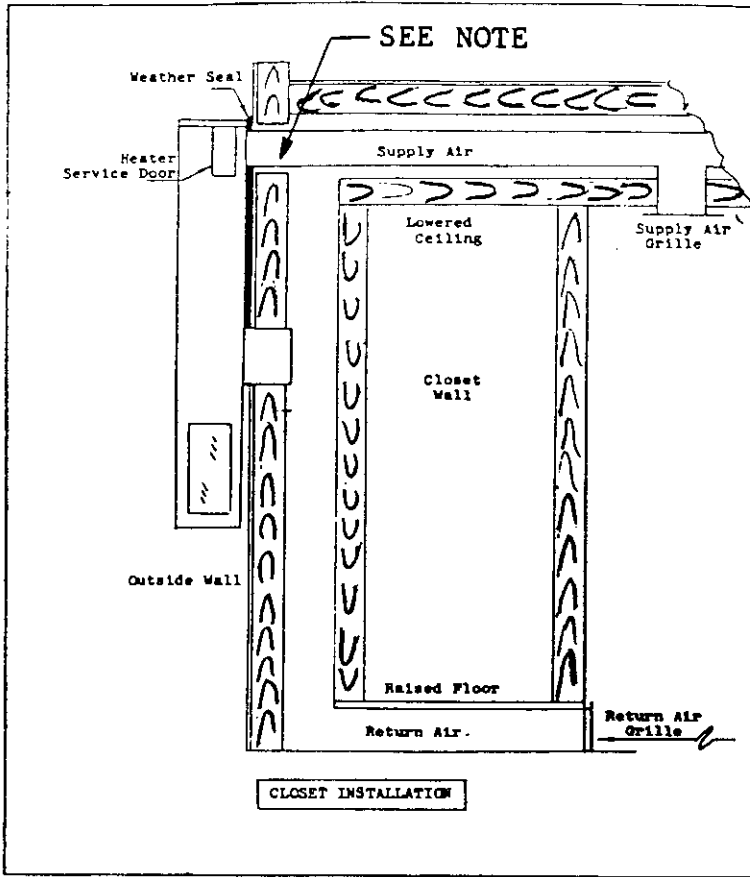
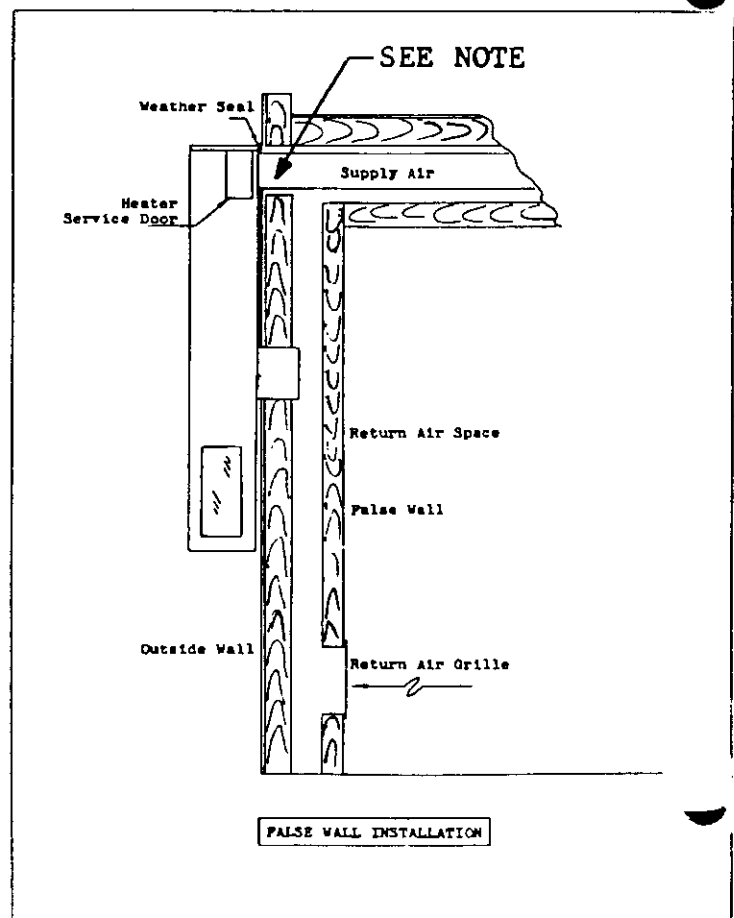
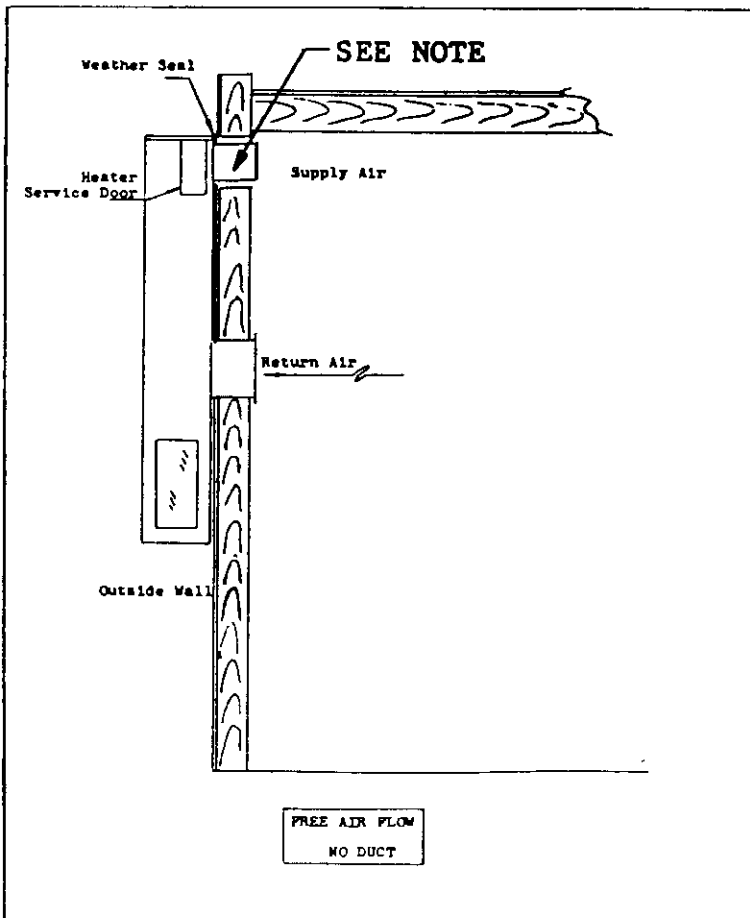
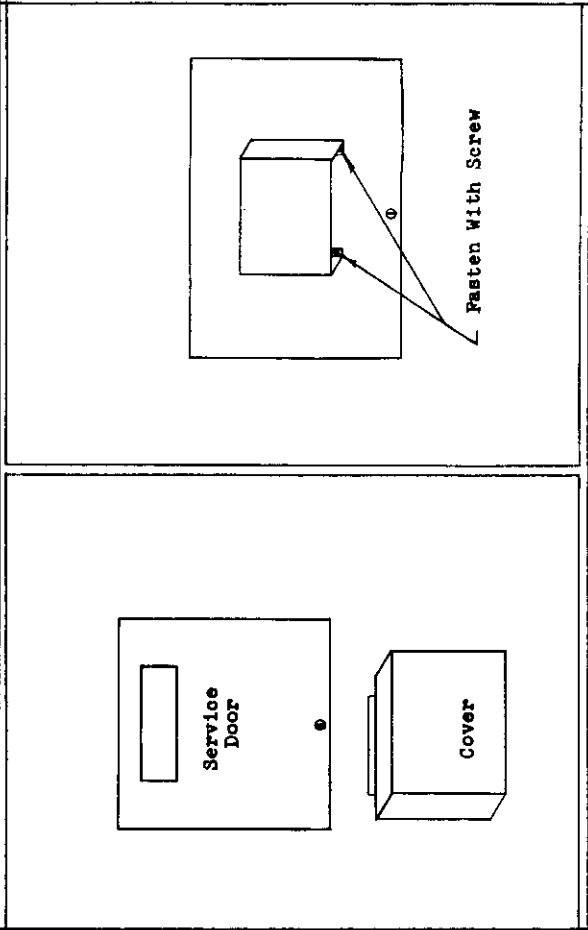
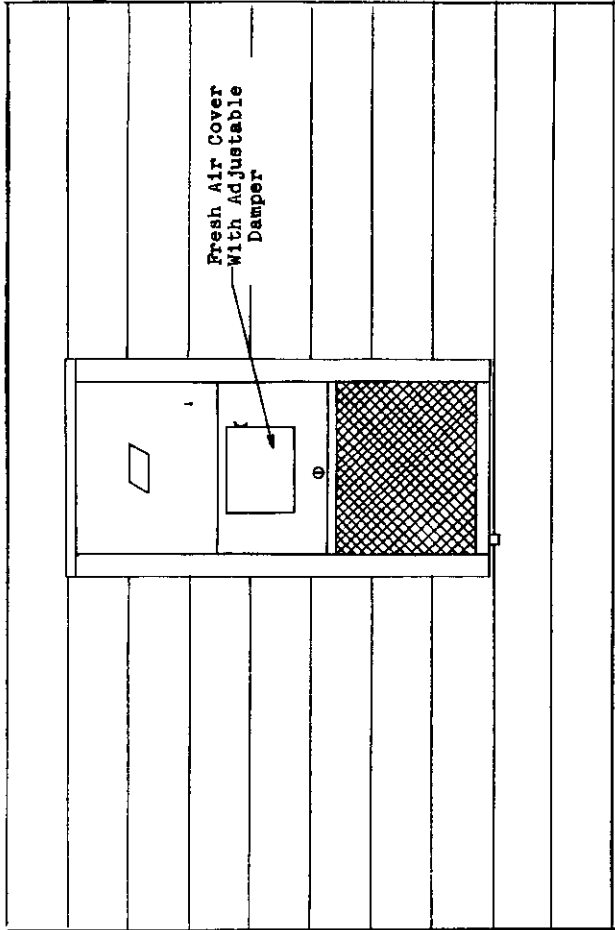
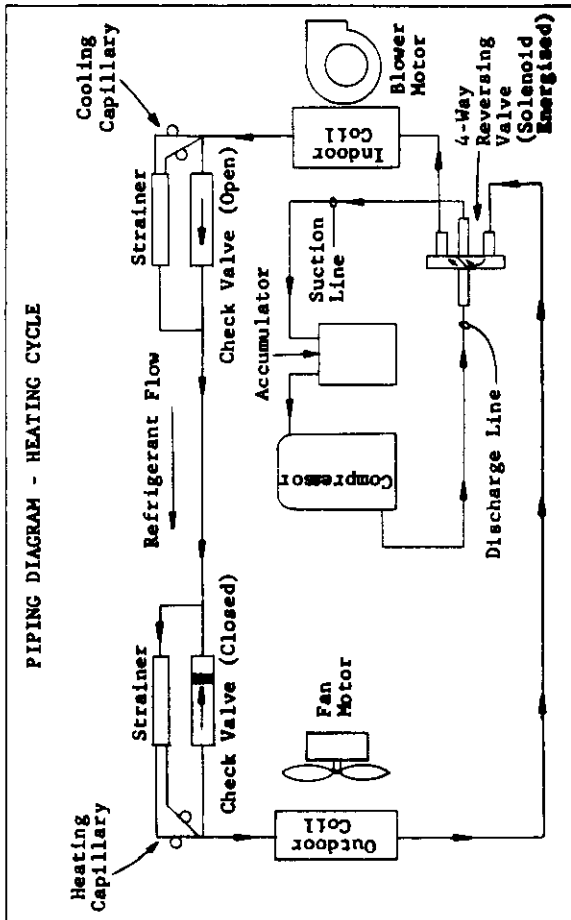
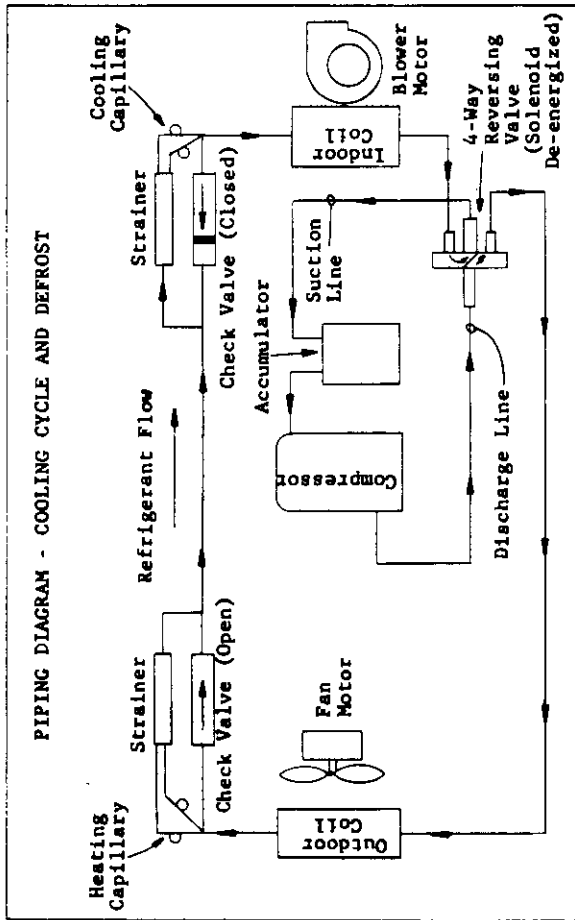


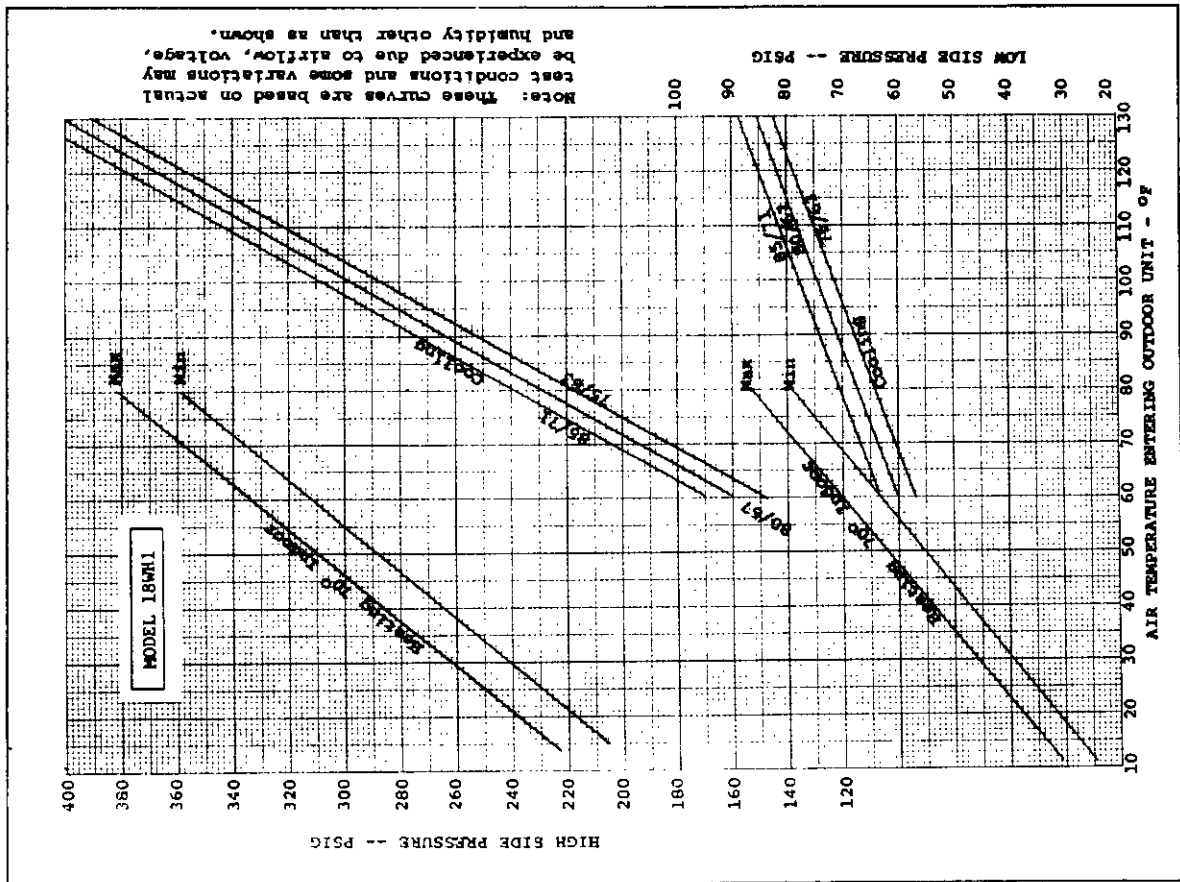
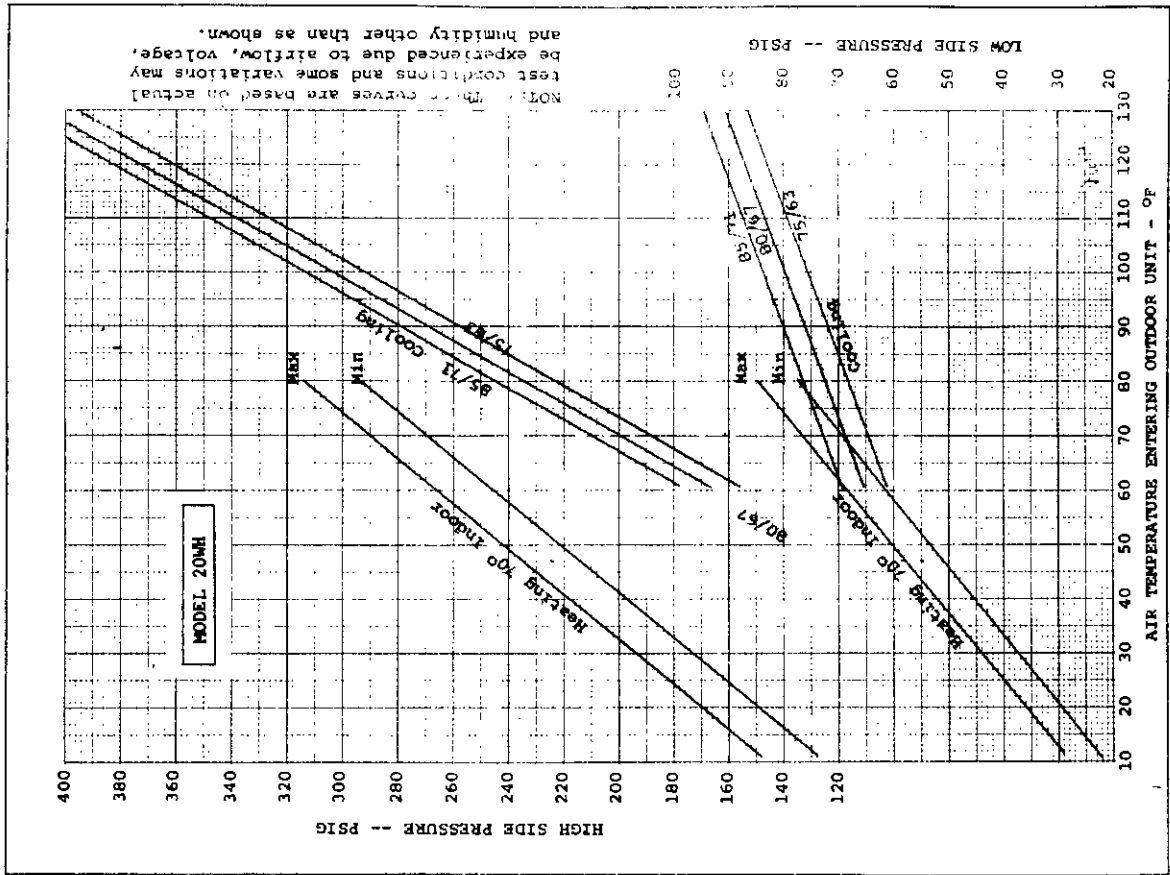
Fig. 5

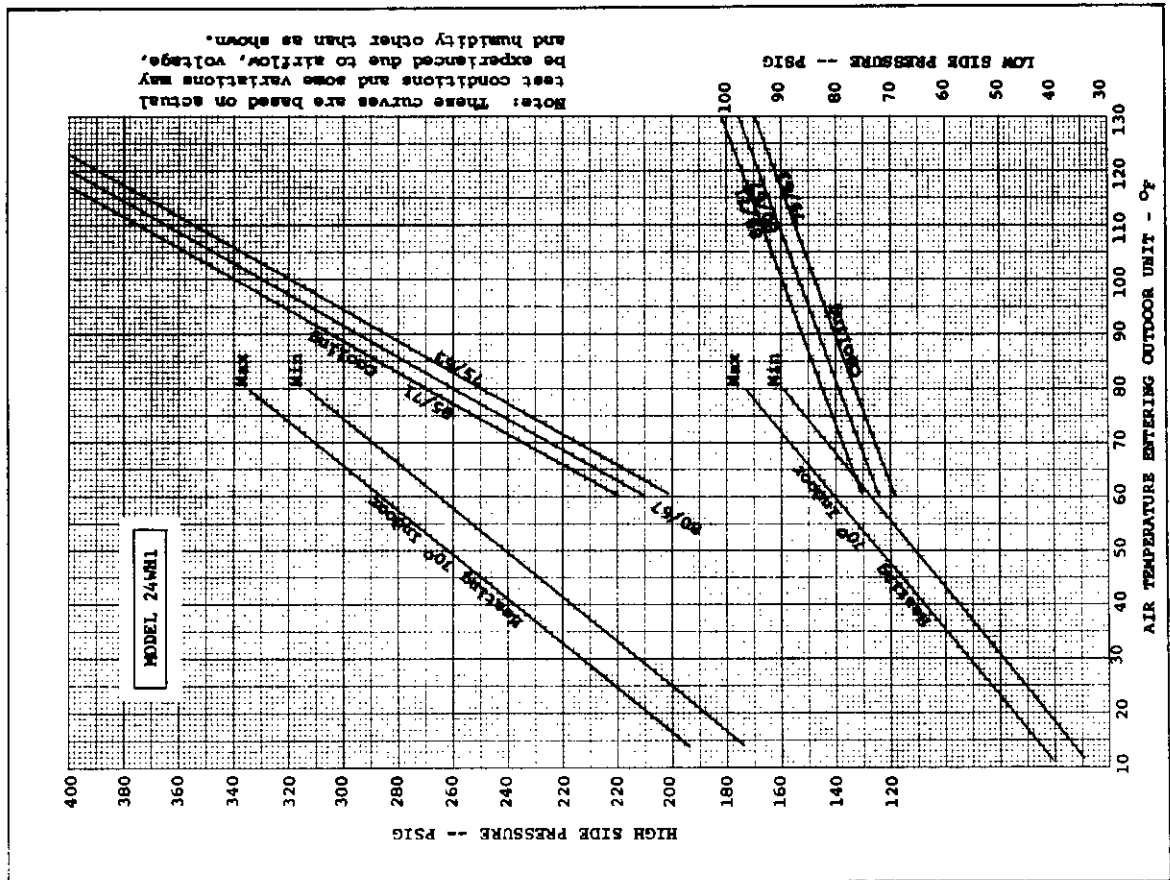
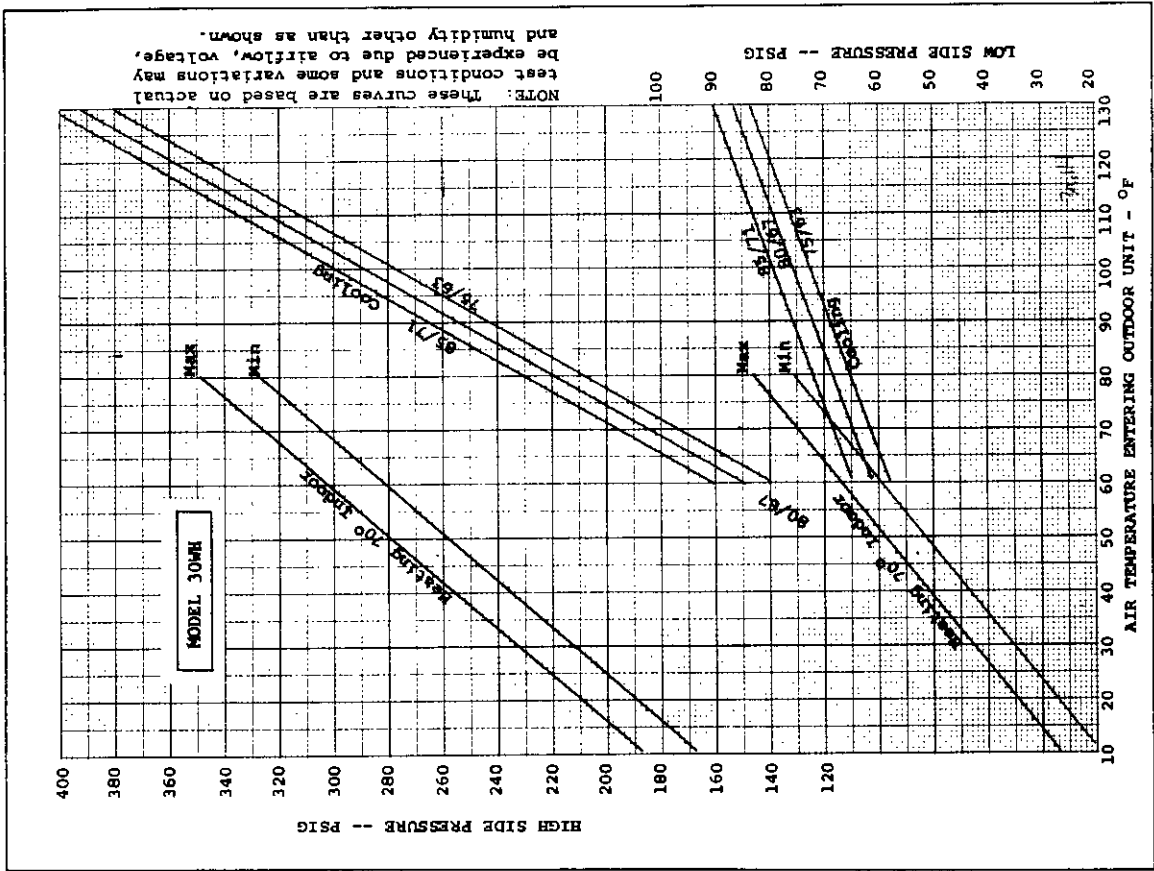


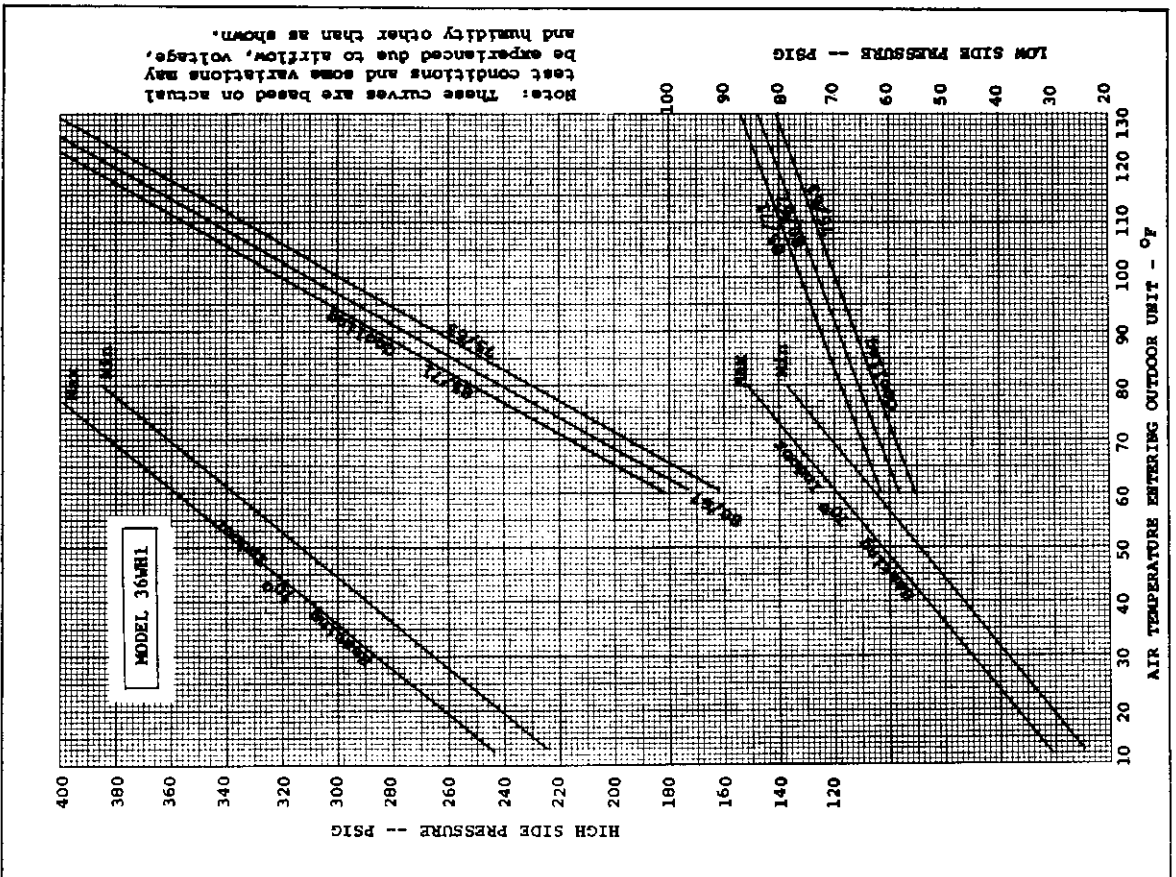
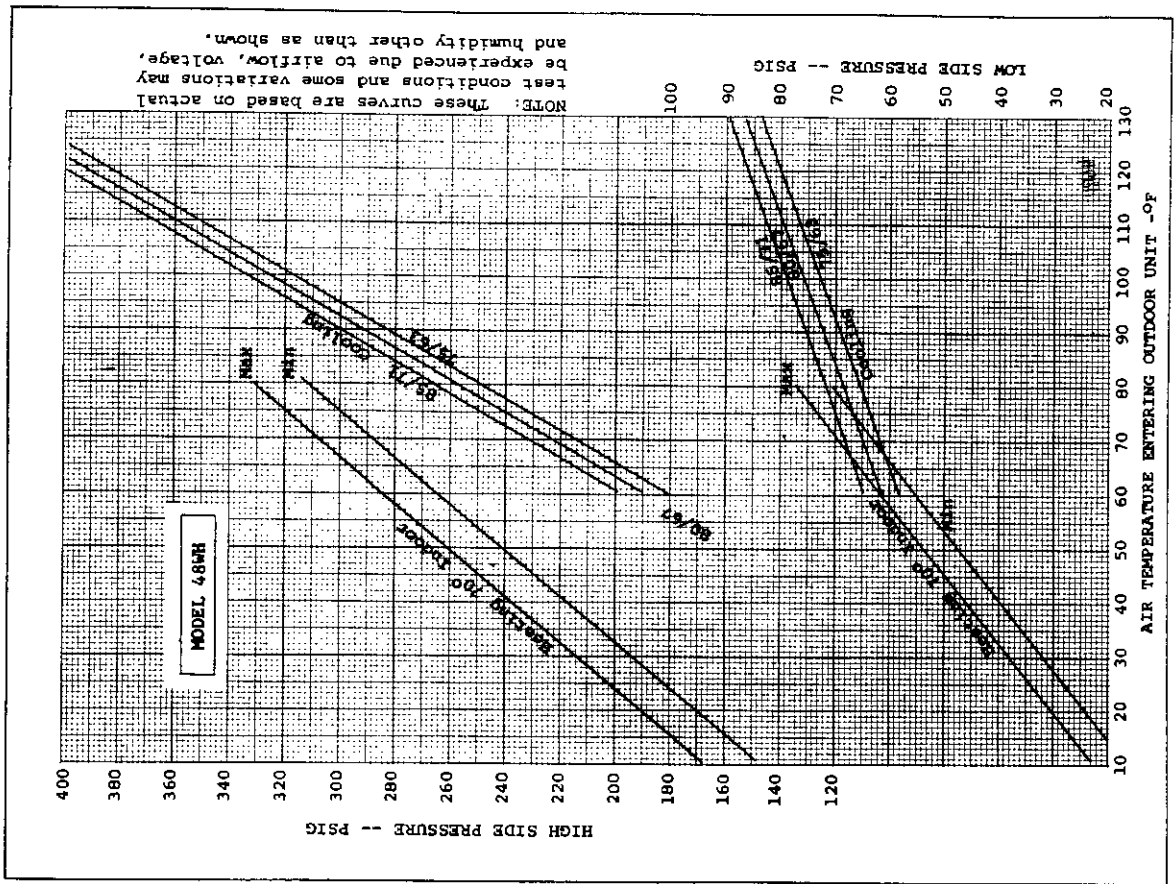
NOTE: 1" clearance to combustable materials required for first 3 feet of supply air duct system.









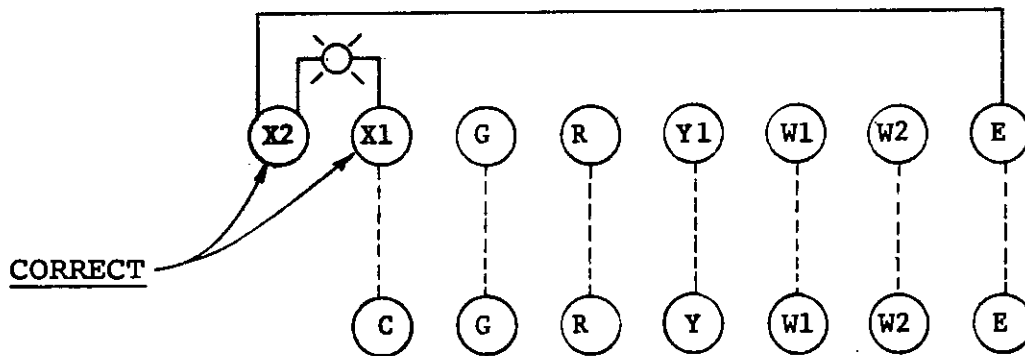
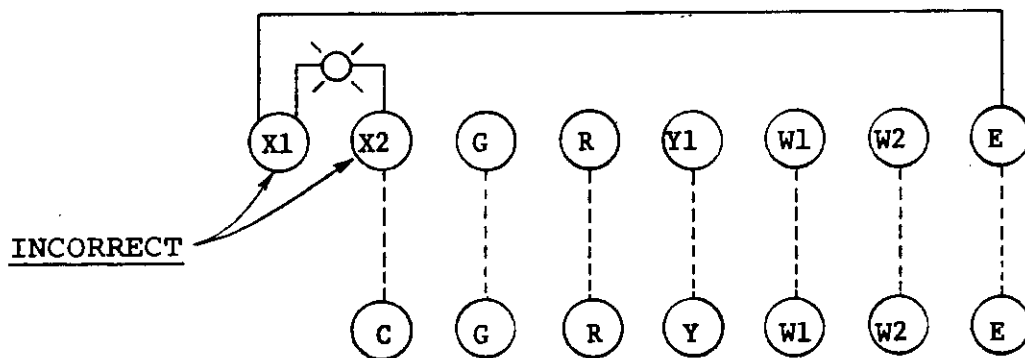


# IMPORTANT NOTICE

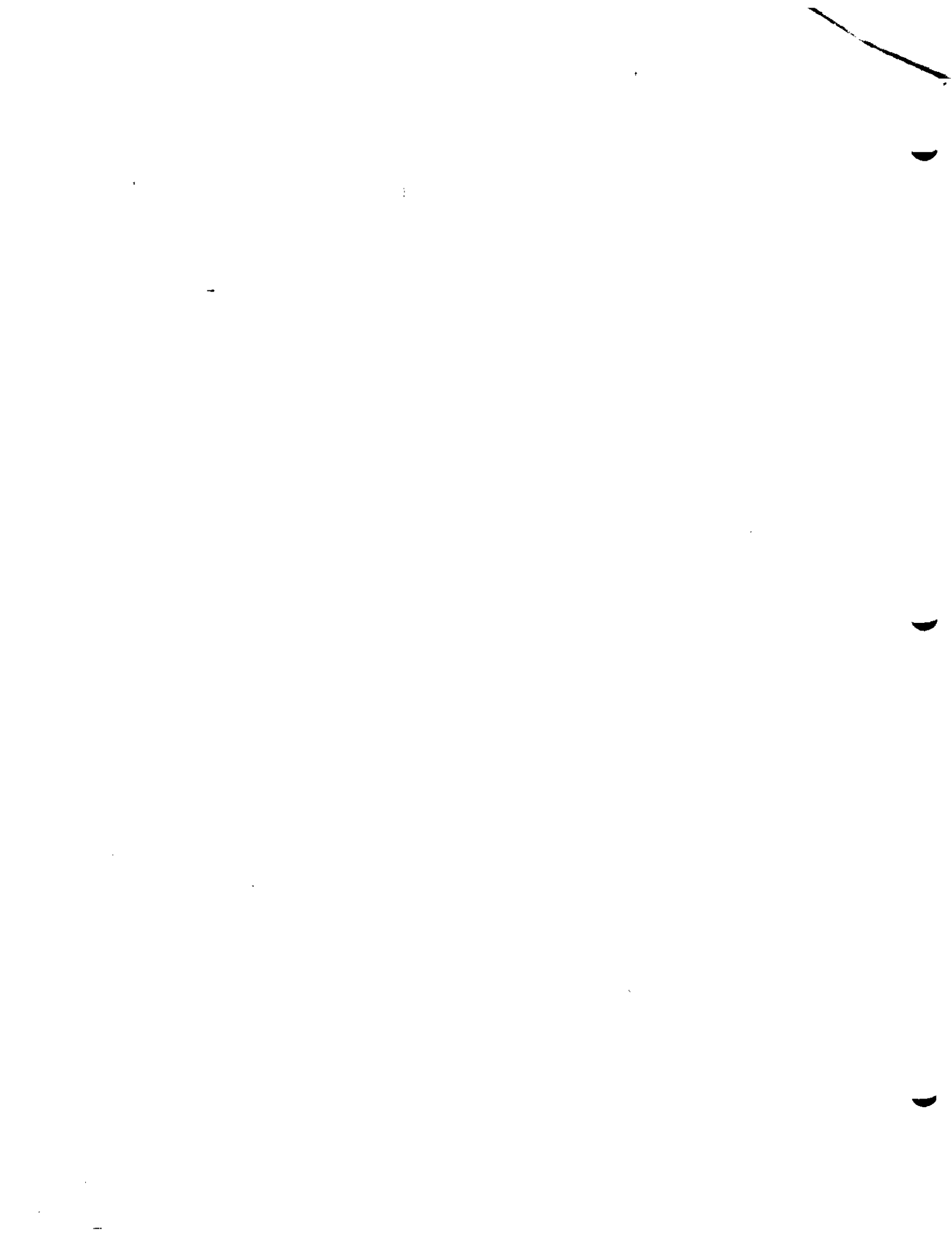
----- WIRING DIAGRAM CORRECTION -----

PAGES 15-21

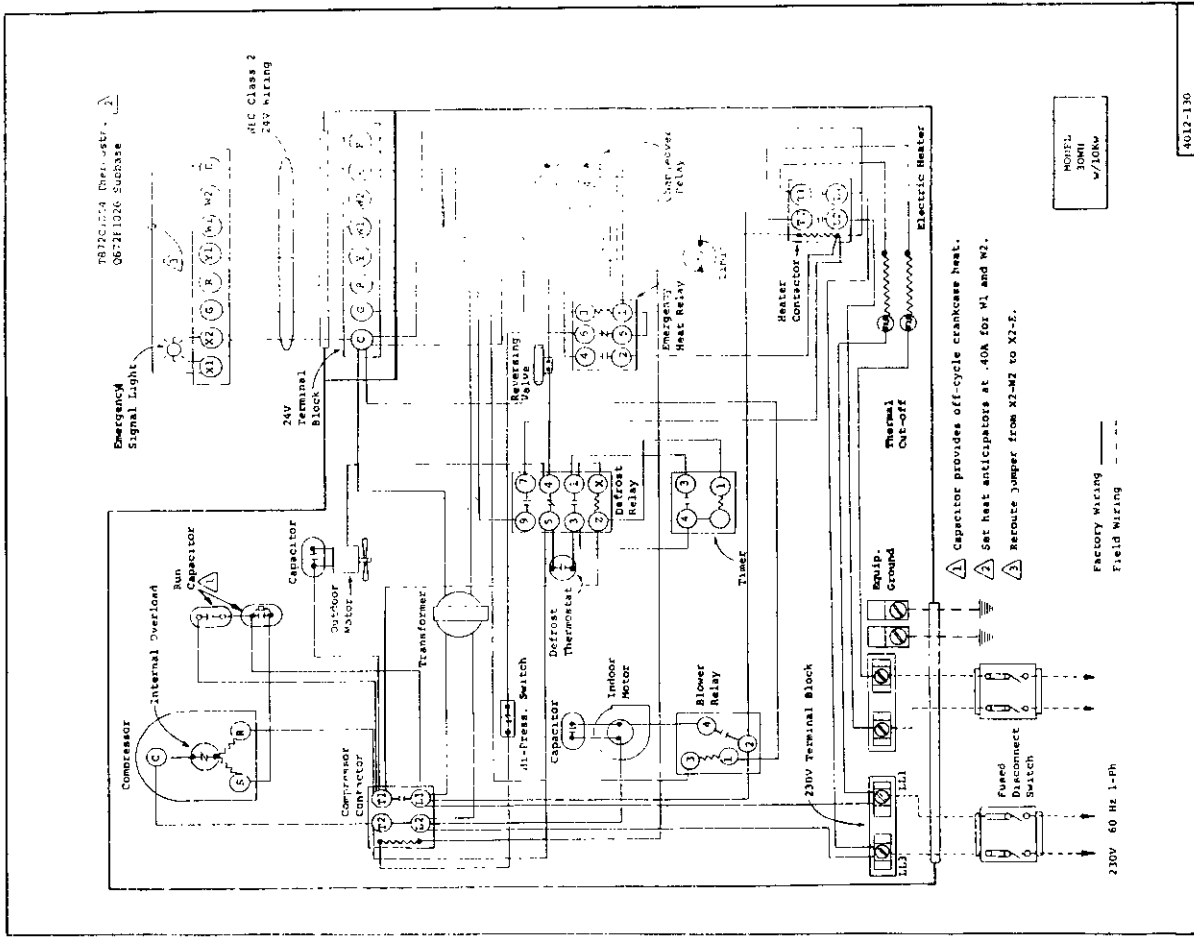
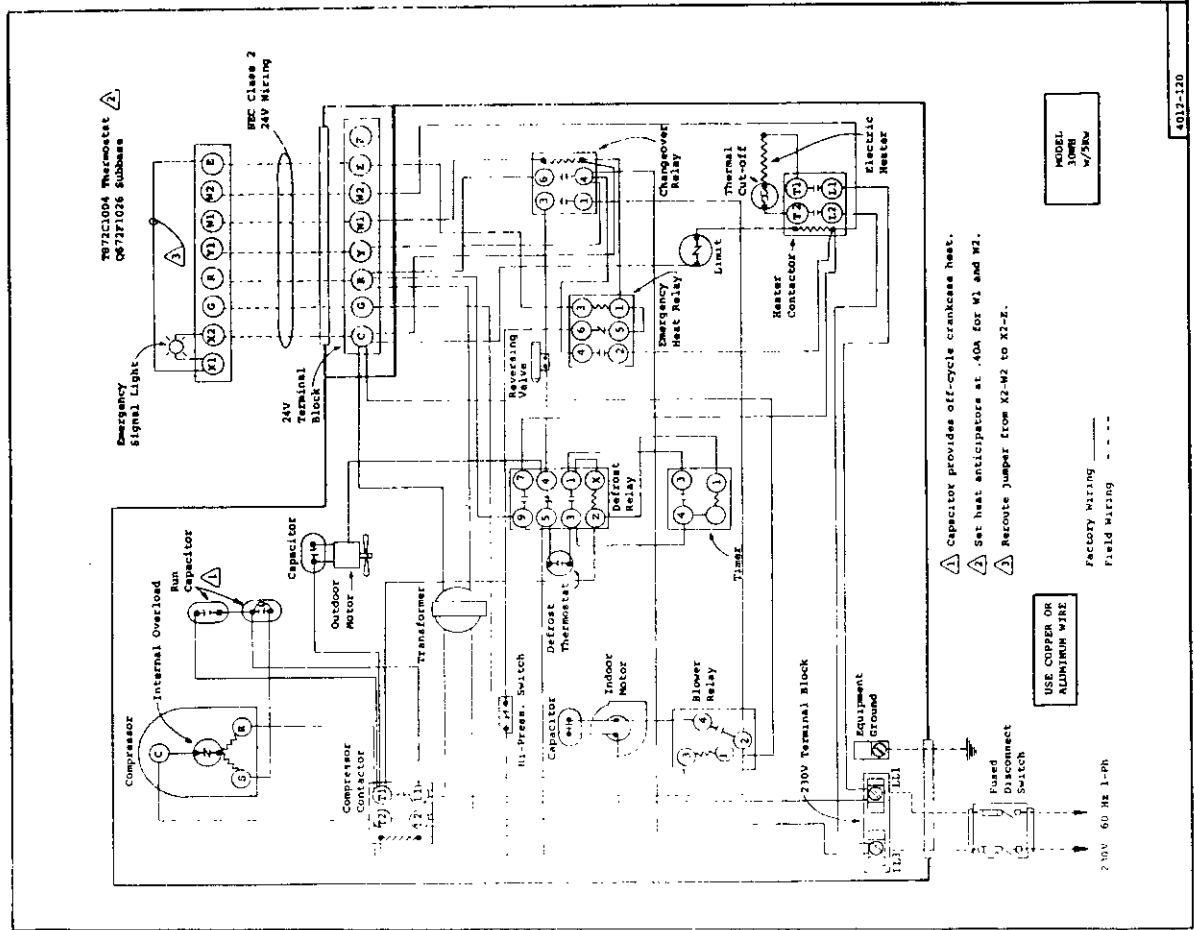
All diagrams on pages 15 thru 21  
have the X1 and X2 markings at the  
wall thermostat reversed.

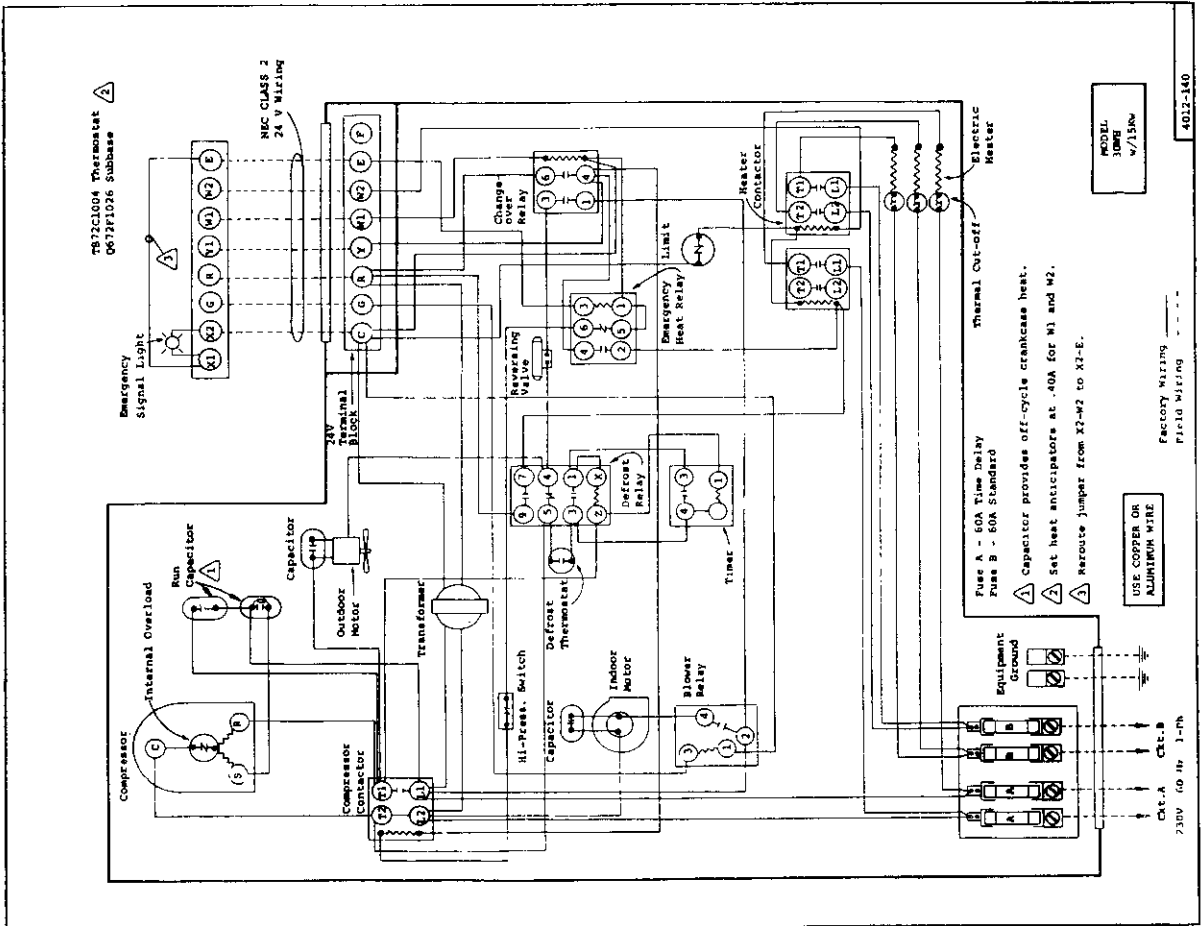
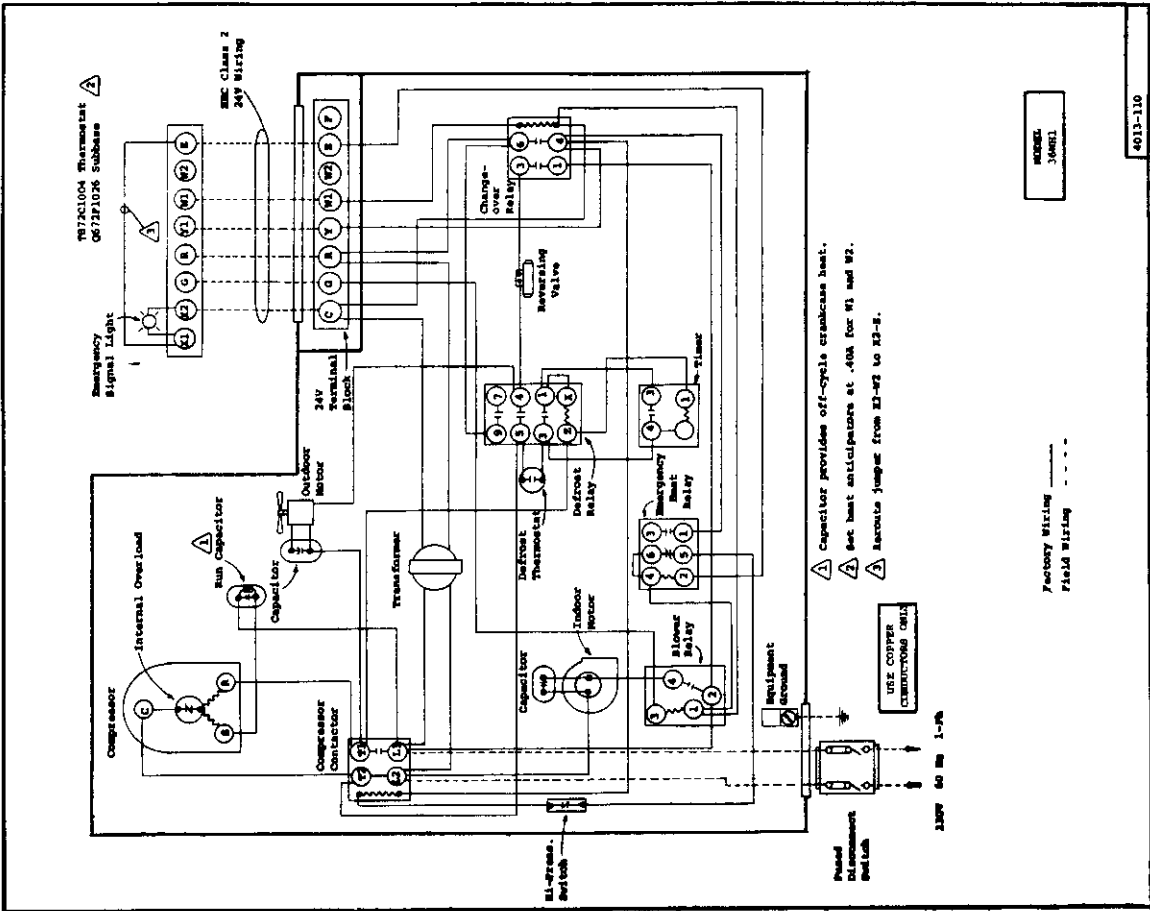


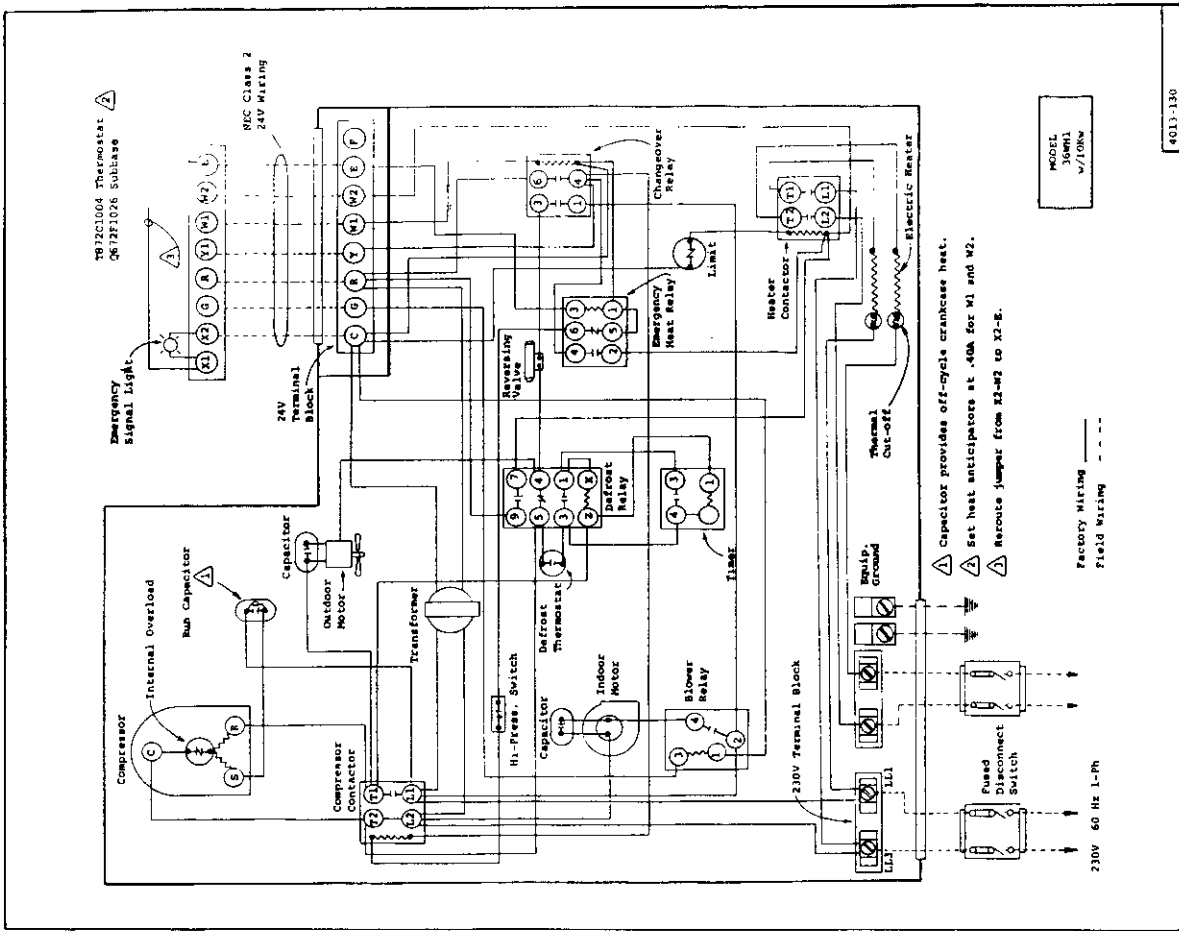
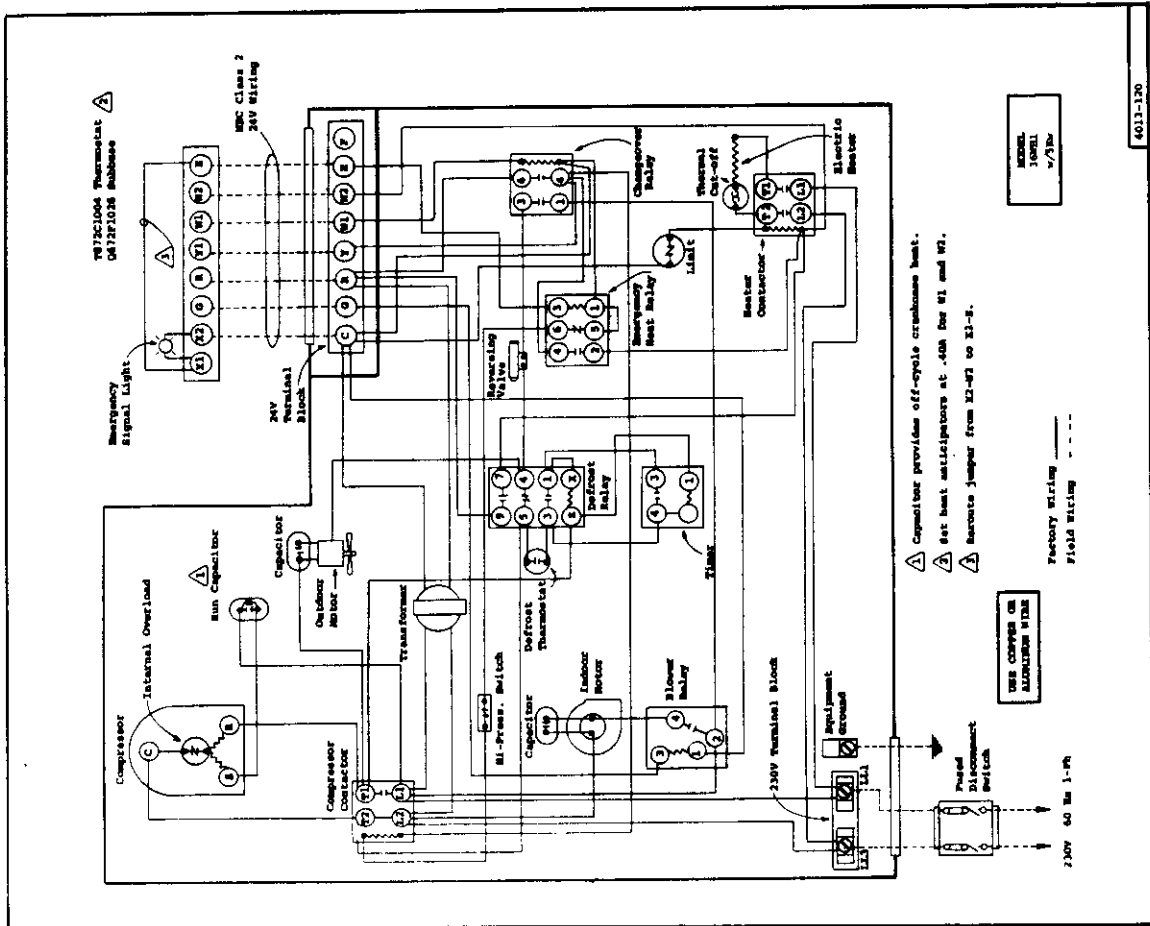
Pages 22-26 are correct as shown.

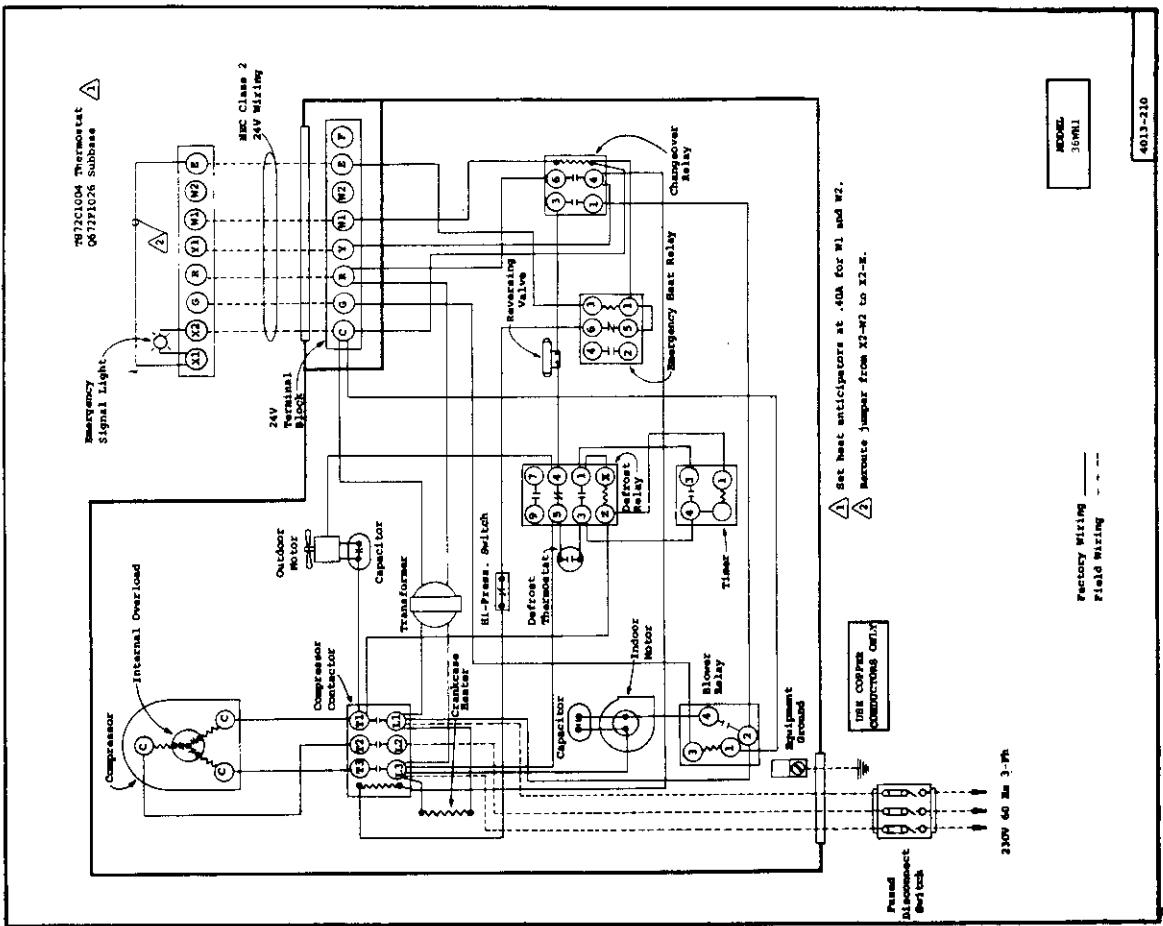
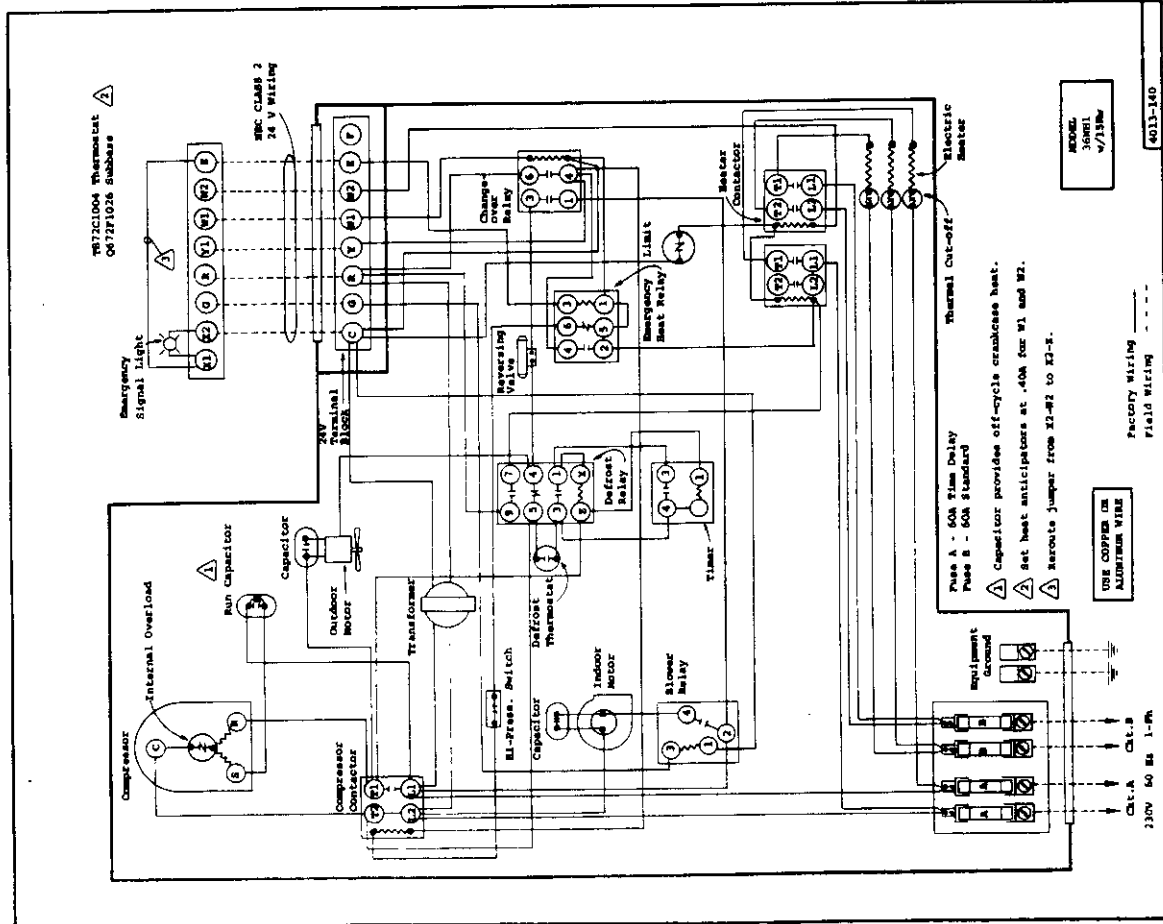








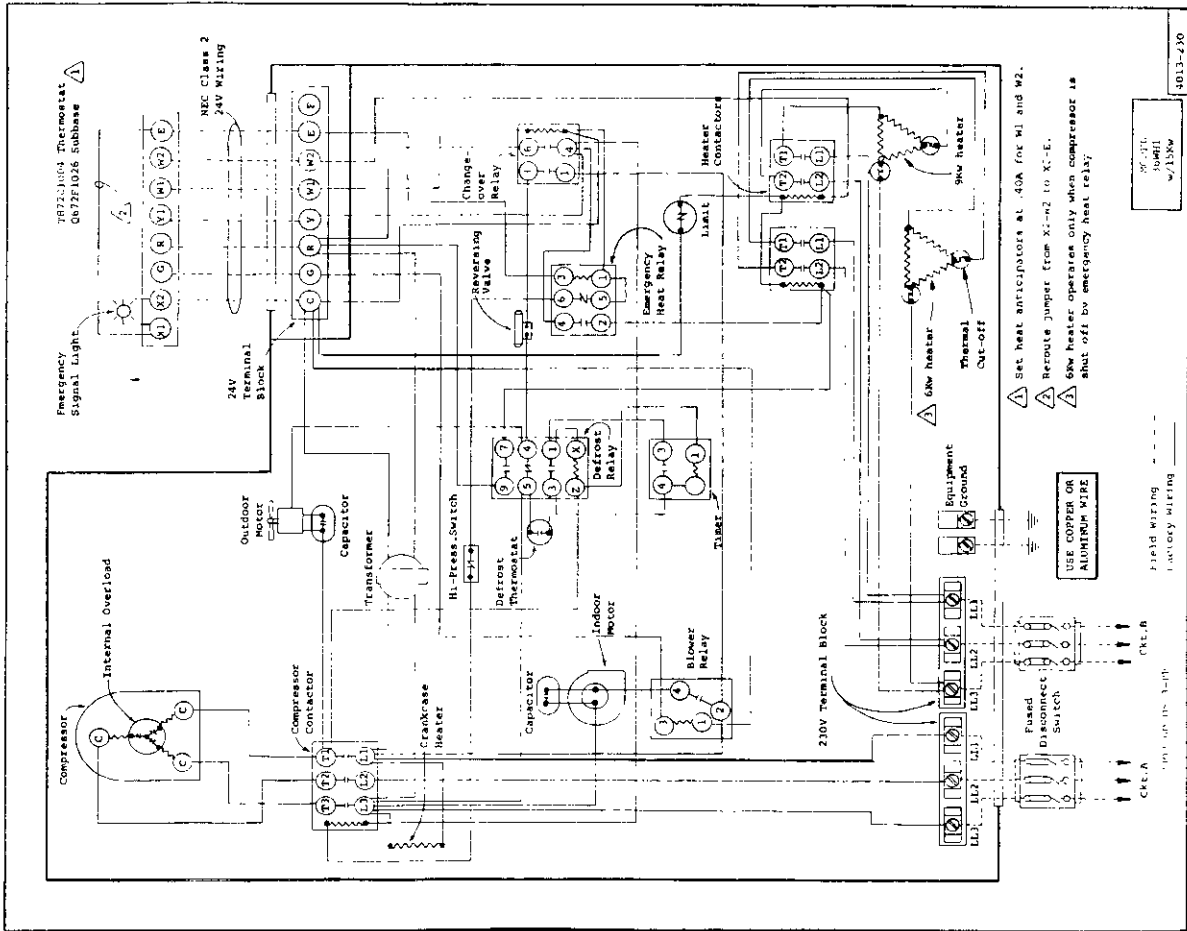
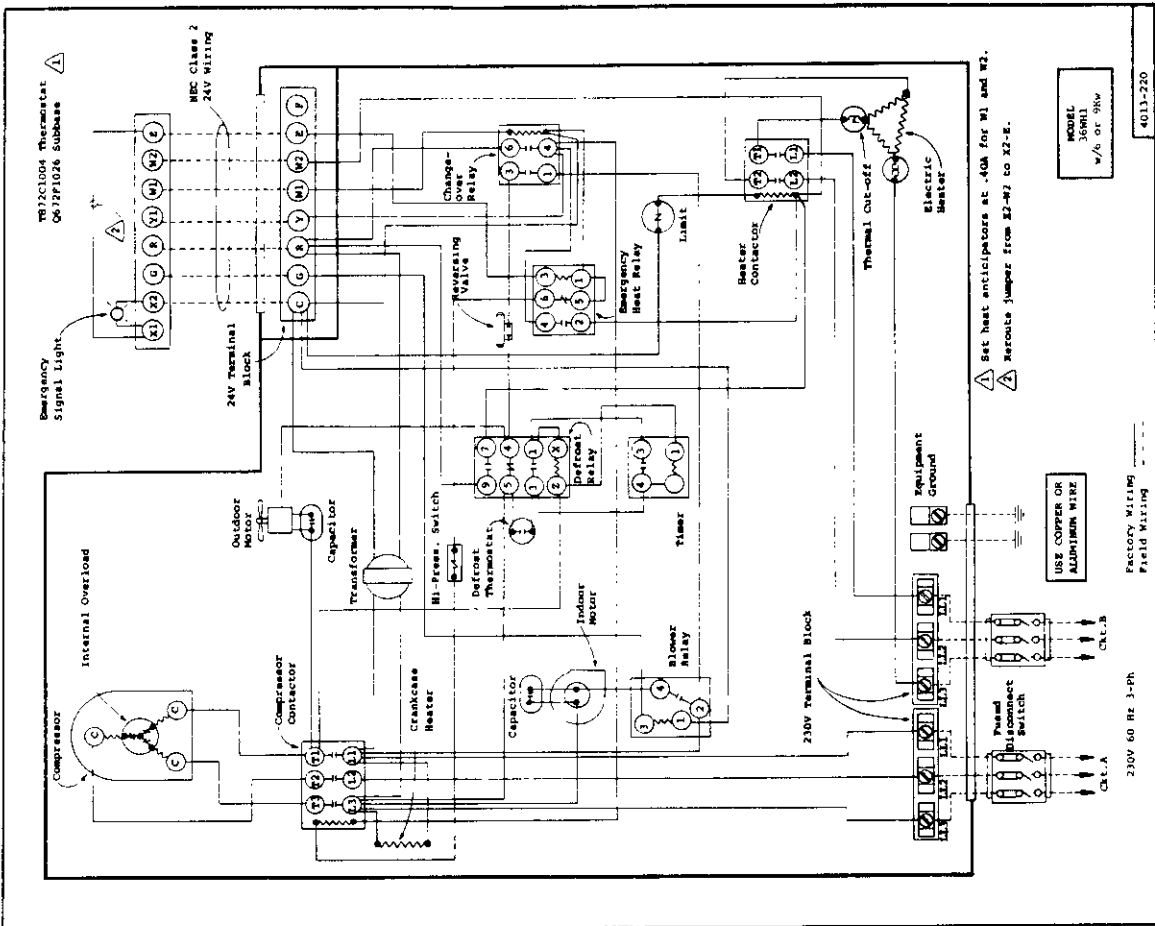


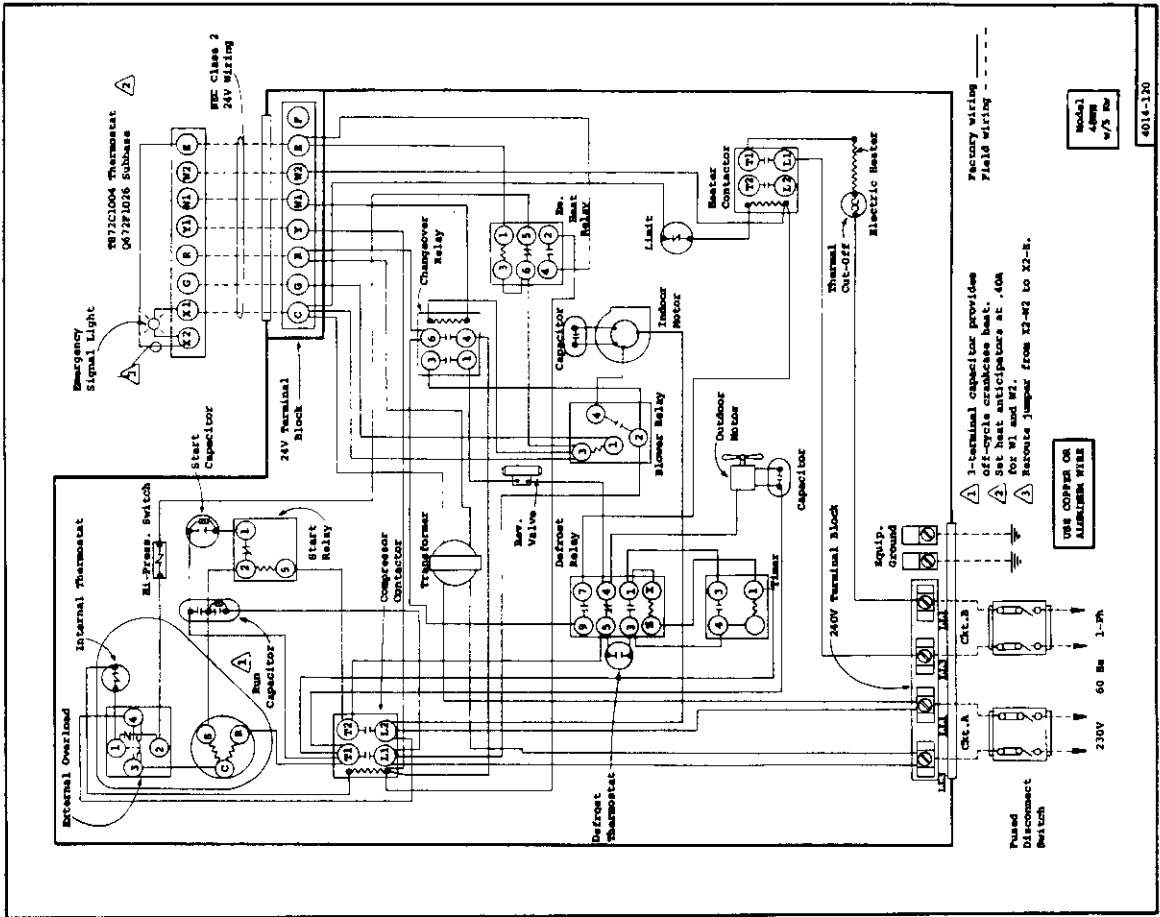
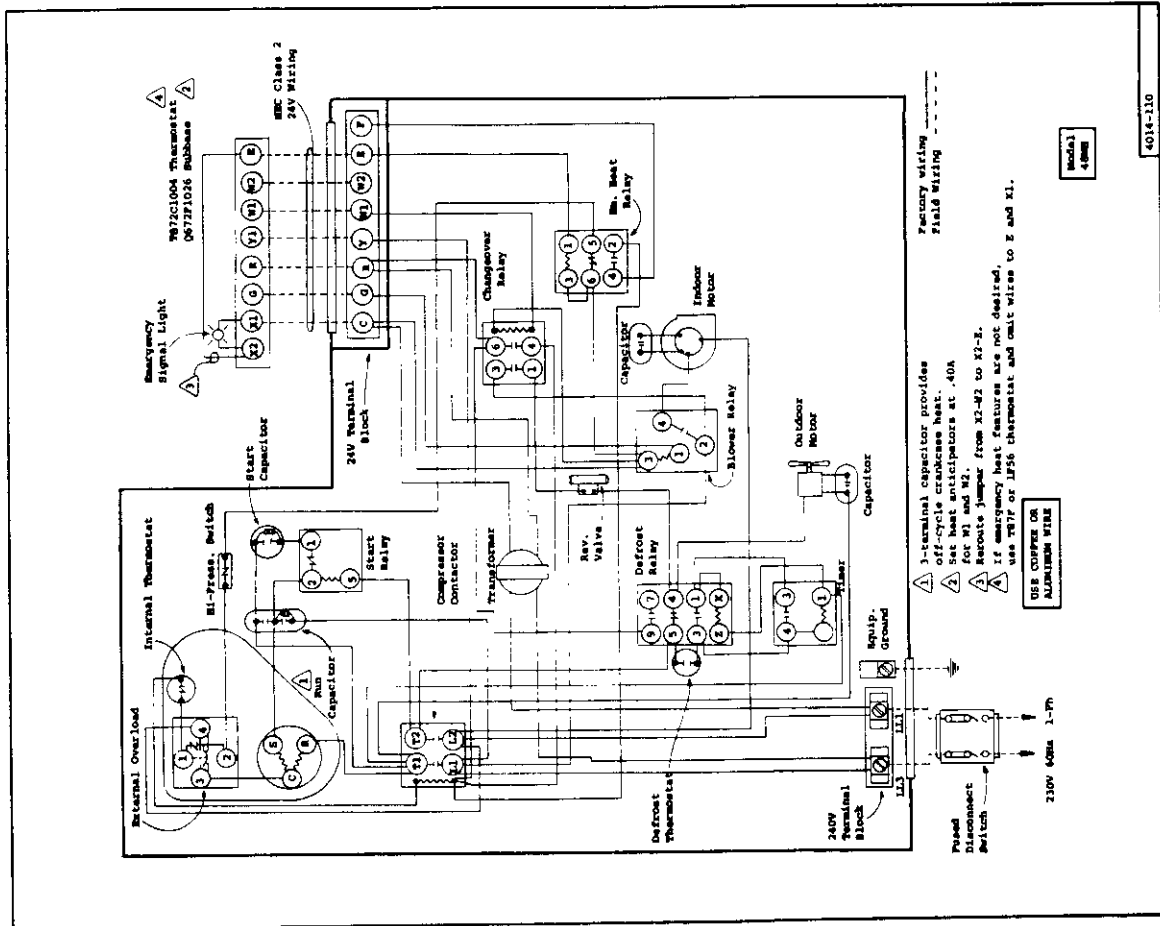


PART NO.	DESCRIPTION	18WH1	20WH	24WH1	30WH	36WH1	48WH	48WH-3	36WH1-3	460V	48WH-3	
5202-001	Accumulator	X	X	X								
5202-003	Accumulator			X	X							
5202-004	Accumulator					X				X		
5202-005	Accumulator						X				X	
5152-030	Blower Housing	X	X	X	X	X	X	X	X	X	X	X
5152-026	Blower Wheel											
5152-028	Blower Wheel	X	X	X	X	X	X	X	X	X	X	X
5152-029	Blower Wheel	X	X	X	X	X	X	X	X	X	X	X
5152-011	Blower Wheel	X	X	X	X	X	X	X	X	X	X	X
5152-012	Blower Wheel											
8552-007	Capacitor 370V	X	X	X								
8552-012	Capacitor 440V											
8552-001	Capacitor 370V	X	X	X	X	X	X	X	X	X	X	X
8552-014	Capacitor 440V											
8552-005	Capacitor 370V						X				X	
8552-020	Capacitor 370V				X							
8552-022	Capacitor 370V				X							
8552-002	Capacitor 370V	X	X	X	X	X	X	X	X	X	X	X
5811-021	Cap Tube - Cool	X	X	X	X	X	X	X	X	X	X	X
5811-008	Cap Tube - Heat	X	X	X	X	X	X	X	X	X	X	X
5811-017	Cap Tube - Heat											
5811-022	Cap Tube - Cool					(2)	(2)	(2)	(2)	(2)	(2)	(2)
5811-020	Cap Tube - Heat											
5811-018	Cap Tube - Heat											
5811-014	Cap Tube - Cool				(2)		(3)	(3)	(3)	(3)	(3)	(3)
5811-007	Cap Tube - Heat	X	X	X	X	X	X	X	X	X	X	X
5651-006	Check Valve											
8000-004	Compressor 1-Ph	X	X	X	X	X	X	X	X	X	X	X
8000-005	Compressor 1-Ph											
8000-042	Compressor 1-Ph				X							
8000-008	Compressor 1-Ph											
8000-009	Compressor 3-Ph											
8000-016	Compressor 1-Ph											
8000-017	Compressor 3-Ph											
8000-010	Compressor 3-Ph											
8000-018	Compressor 3-Ph											
5051-004	Condenser Coil	X	X	X	X	X	X	X	X	X	X	X
5051-008	Condenser Coil											
5051-003	Condenser Coil				X	X	X	X	X	X	X	X
5051-010	Condenser Coil											

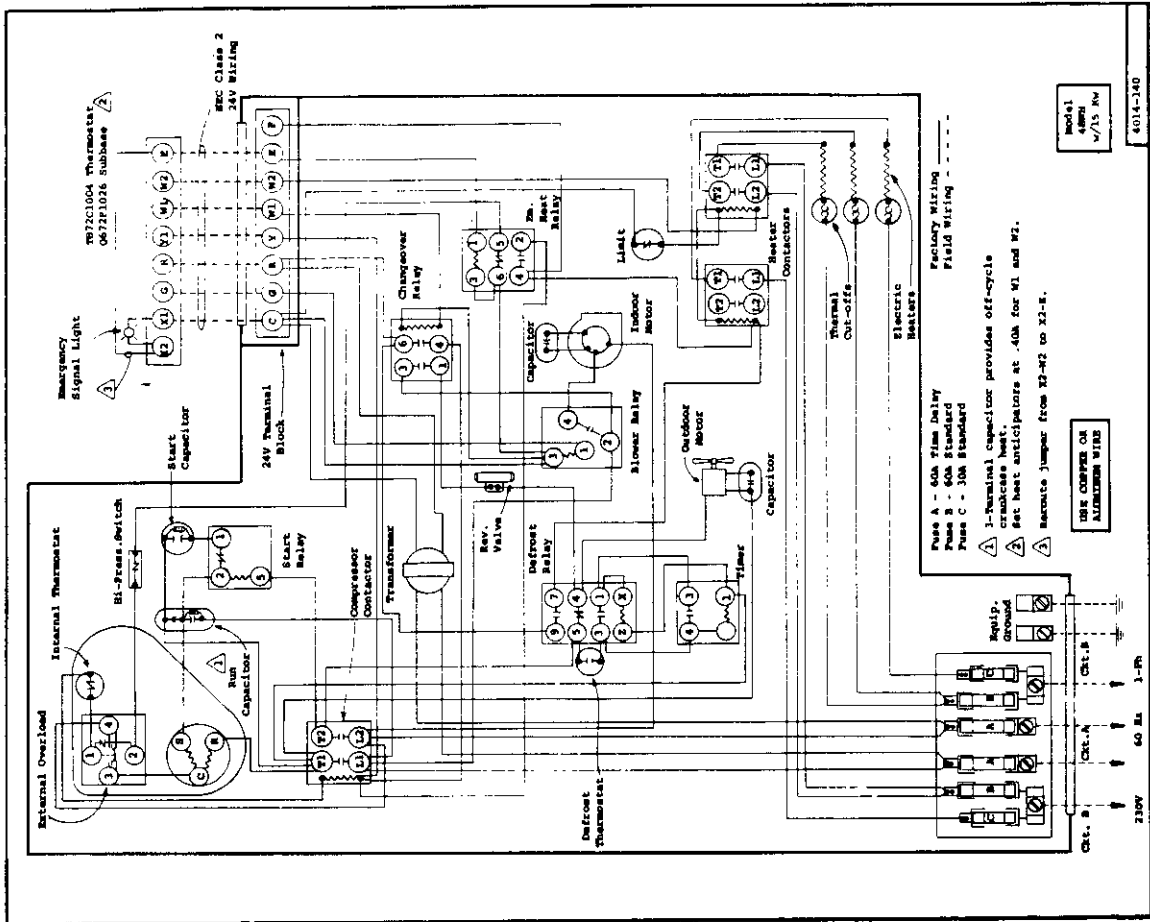
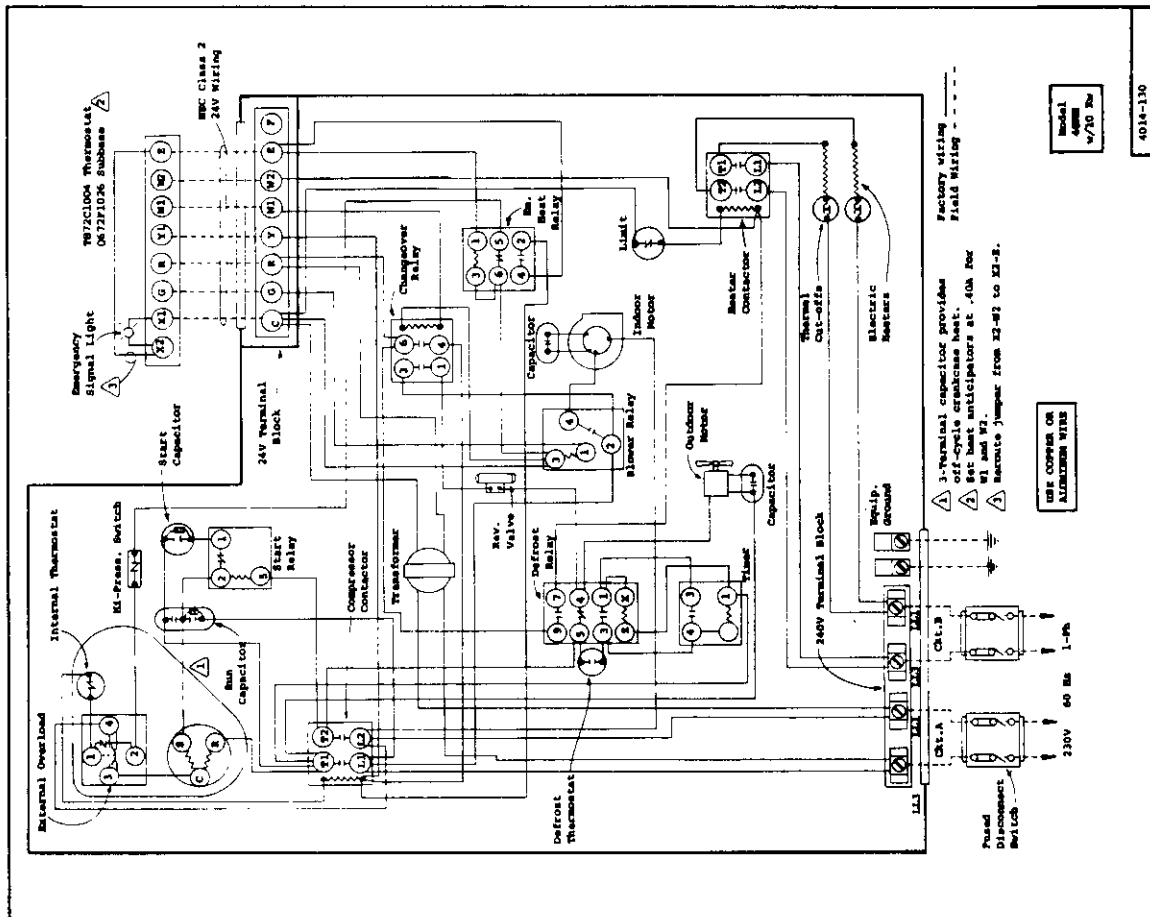
PART NO.	DESCRIPTION	18WH1	20WH	24WH1	30WH	36WH1	48WH	48WH-3	36WH1-3	460V	48WH-3	
8401-007	Contactor - Compressor	X	X	X	X	X	X	X	X	X	X	X
8401-003	Contactor - Compressor											
8401-002	Contactor - Compressor					X					X	
8401-001	Contactor - Compressor						X				X	
8401-006	Contactor - Heater	X	X	X	X	X	X	X	X	X	X	X
8605-001	Crankcase Heater											
8605-002	Crankcase Heater											
8408-004	Defrost Mtg. Plate	X	X	X	X	X	X	X	X	X	X	X
8408-002	Defrost Thermostat	X	X	X	X	X	X	X	X	X	X	X
5060-007	Evaporator Coil	X	X	X	X	X	X	X	X	X	X	X
5060-005	Evaporator Coil											
5060-006	Evaporator Coil				X	X	X	X	X	X	X	X
5060-001	Evaporator Coil											
5151-009	Fan Blade	X	X	X	X	X	X	X	X	X	X	X
5151-004	Fan Blade											
5151-021	Fan Blade											
7004-006	Filter	X	X	X	X	X	X	X	X	X	X	X
7004-008	Filter											
7004-010	Filter											
8614-007	Fuse - Heater											
8614-022	Fuse - Compressor				X	X	X	X	X	X	X	X
8614-013	Fuse Block				X	X	X	X	X	X	X	X
8614-014	Fuse Block											
8614-019	Fuse Block											
8604-041	Heat Strip 4Kw	X	X	X	X	X	X	X	X	X	X	X
8604-043	Heat Strip 8Kw	X	X	X	X	X	X	X	X	X	X	X
8604-044	Heat Strip 10Kw	X	X	X	X	X	X	X	X	X	X	X
8604-042	Heat Strip 5Kw											
8604-048	Heat Strip 9Kw											
8604-046	Heat Strip 12Kw											
8604-049	Heat Strip 6Kw											
8604-047	Heat Strip 15Kw				X							
8604-050	Heat Strip 9Kw											
8604-051	Heat Strip 12Kw											
8604-052	Heat Strip 15Kw											
8201-015	Emergency Heat Relay	X	X	X	X	X	X	X	X	X	X	X
8406-010	High Pressure Switch	X	X	X	X	X	X	X	X	X	X	X
8402-031	Limit Switch											
8402-029	Limit Switch	X	X	X	X	X	X	X	X	X	X	X

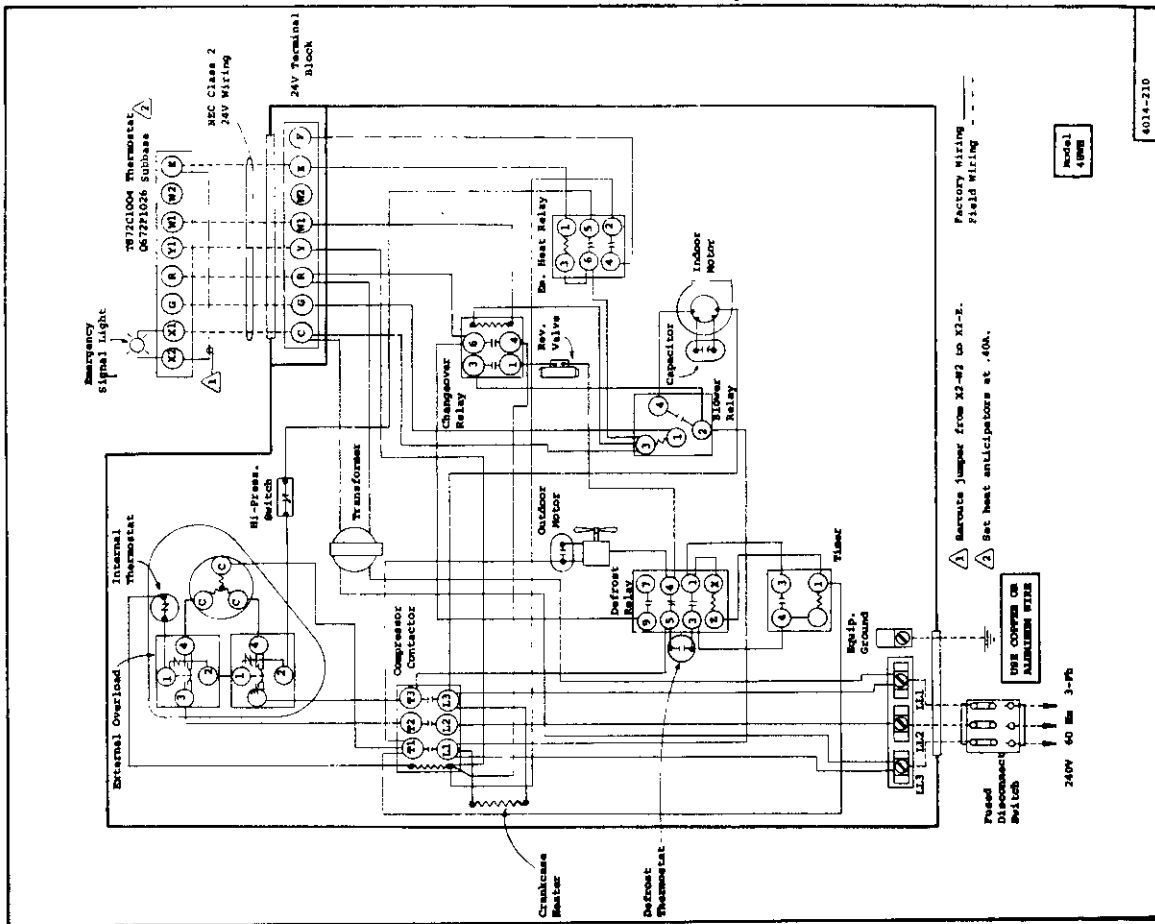
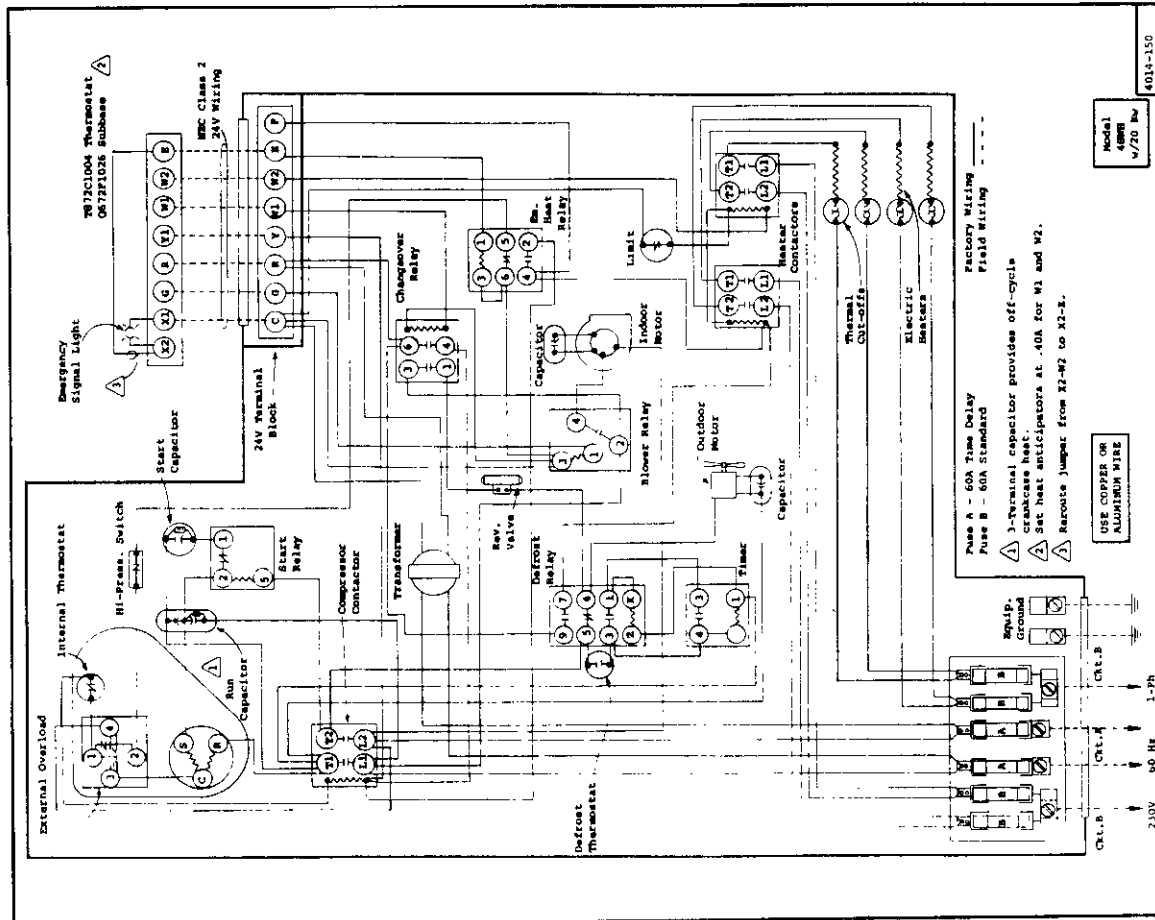
PART NO.	DESCRIPTION	18WH1	20WH	24WH1	30WH	36WH1	36WH1-3	48WH	48WH-3	36WH1-3	48WH-3	48WH-3	460V	460V
8102-002	Motor - Blower	X	X	X										
8105-003	Motor - Blower				X	X	X						X	
8106-005	Motor - Blower							X	X					X
8103-009	Motor - Fan	X	X	X	X	X	X						X	
8105-005	Motor - Fan							X	X					X
8200-001	Motor Mount - Fan	X	X	X	X	X	X							X
8200-004	Motor Mount - Fan													X
8201-008	Relay - Blower	X	X	X	X	X	X							X
8201-013	Relay - Changeover	X	X	X	X	X	X							X
8201-018	Relay - Defrost	X	X	X	X	X	X							X
5650-004	Reversing Valve	X	X	X										
5650-005	Reversing Valve				X									
5650-006	Reversing Valve													
5650-002	Solenoid Coil	X	X	X	X	X	X						X	X
8551-001	Start Capacitor							X						
8201-020	Start Relay							X						
5210-004	Strainer				X	X	X							X
5210-002	Strainer	X	X	X	X	X	X							
5210-003	Strainer							X						X
8607-006	Terminal Board 24V	X	X	X	X	X	X						X	X
8607-001	Terminal Block 230V	X	X	X	X	X	X						X	X
8607-002	Terminal Block 230V									X			X	X
8607-003	Terminal Block 230V	X	X	X	X	X	X							
8402-030	Thermal Cut-off	X	X	X										
8402-032	Thermal Cut-off	X	X	X										
8612-008	Timer	X	X	X	X	X	X						X	X
8407-015	Transformer	X	X	X	X	X	X						X	X
8407-004	Transformer-Stepdown													X
8407-003	Transformer-Stepdown													X

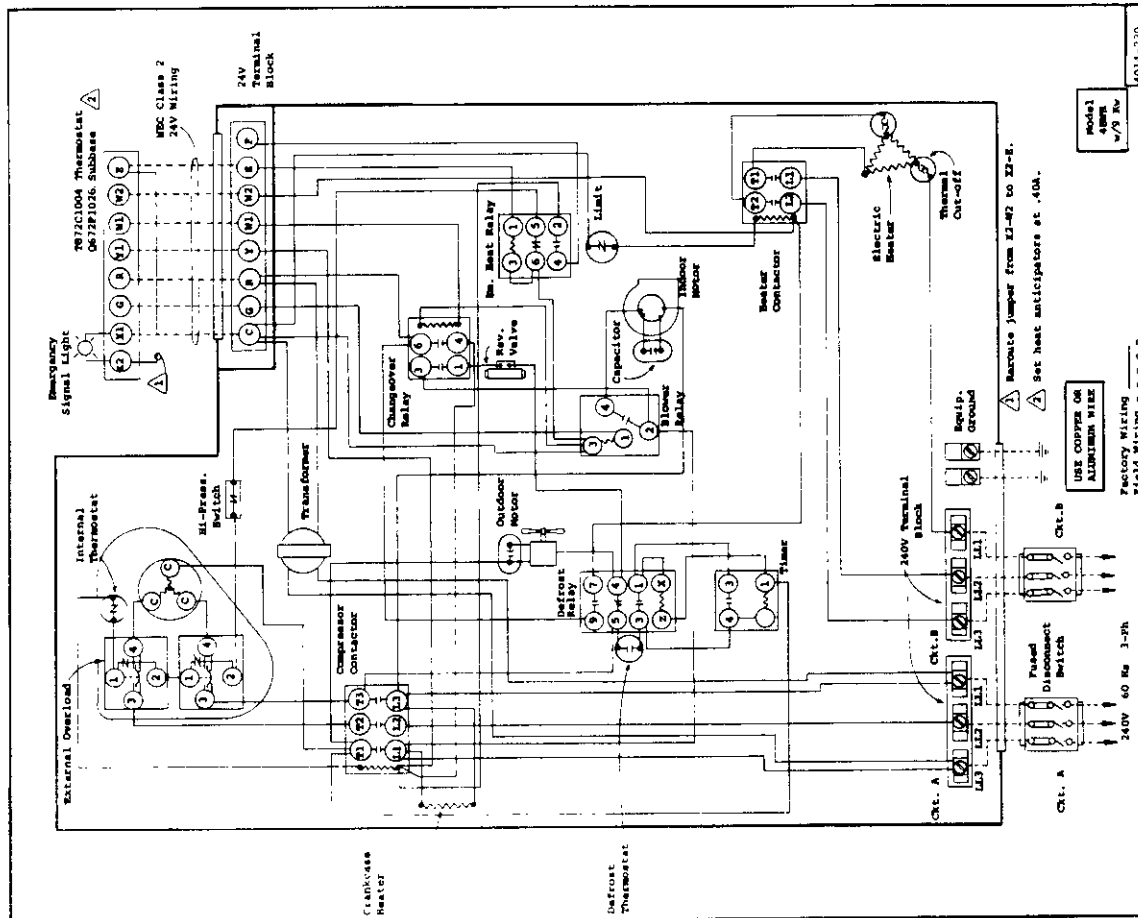
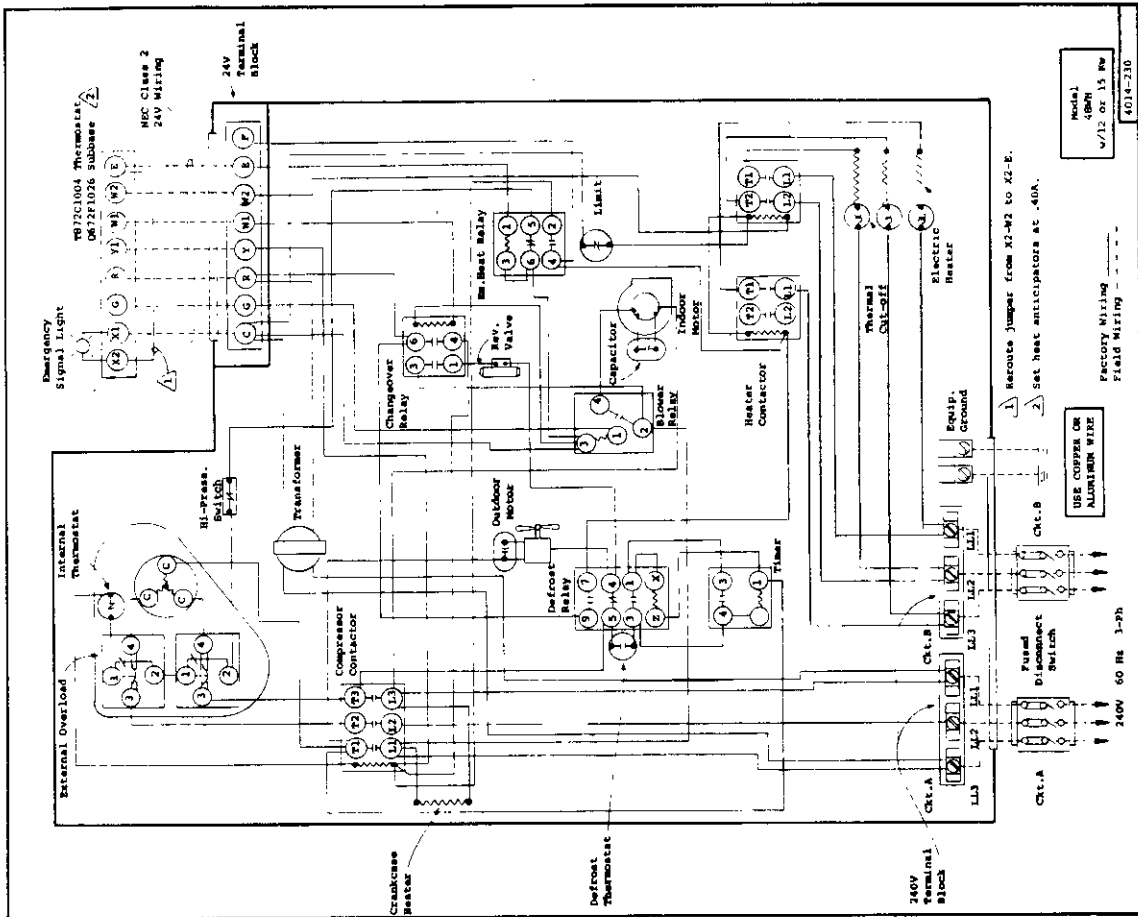












**FIELD INSTALLATION OF COMPRESSOR CUT-OFF**

1. Mount A-22 thermostat, Bard Part No. 8408-001, so that sensing capillary senses the air temperature in the vicinity of the outdoor fan, and shielded from the sun.
2. If an emergency heat relay is installed as described above, wire by Figure A below. If there is NO emergency heat relay installed, wire by Figure B below.

