

## COMFORTMAKER DOWNFLOW

MODEL NUMBER:

GDE

BTU SIZES:

45,000 - 67,500 - 90,000 - 113,000 - 135,000

### ACCESSIBILITY CLEARANCE

All servicing and cleaning of these units can be done from the front, and a minimum of 36" horizontal clearances should be allowed.

### CLEARANCE FROM COMBUSTIBLE MATERIAL

See Table I (Page 3)

Non-combustible floor - Set the furnace over the opening in the floor. If necessary, grout around the base to seal air leaks between the base and the floor.

COMBUSTIBLE FLOOR BASE PART NUMBER	INPUT BTUH
8271330	45
	67
8271332	90
8271334	113
8271337	135

### COLD AIR RETURN AIR DUCTS

It is recommended that a flexible duct connection of a non-flammable material be used for the return air and supply air connections to prevent transmission of vibration. Never make an installation without a ducted return air system to the unit. The return connection must be made full size to a location outside the utility room. RETURN AIR MUST NEVER BE DRAWN FORM THE INSIDE OF A CLOSET OR UTILITY ROOM.

### GARAGE

(Installation instructions do not mention garage installation.)

### GENERAL

HIGH ALTITUDE INSTALLATIONS

Deration	Installation above 2,000 feet - ratings to be reduced 4% for each 1,000 feet above sea level.
Orifice	Peen and redrill
Regulator Pressure	3.5 + or - .3" water column

MOBILE HOME

Not approved.

VENTING MATERIAL AND REQUIREMENTS

VENT CONNECTION:

B-1 venting

The furnace shall not be connected to a chimney flue serving a separate appliance designed to burn any fuel other than gas.

FLUE CONNECTION:

Where the flue pipe passes through combustible material, a UL certified insulated thimble, whose diameter is 4" larger than the pipe must be used.

VENT CLEARANCE FROM COMBUSTIBLE MATERIAL

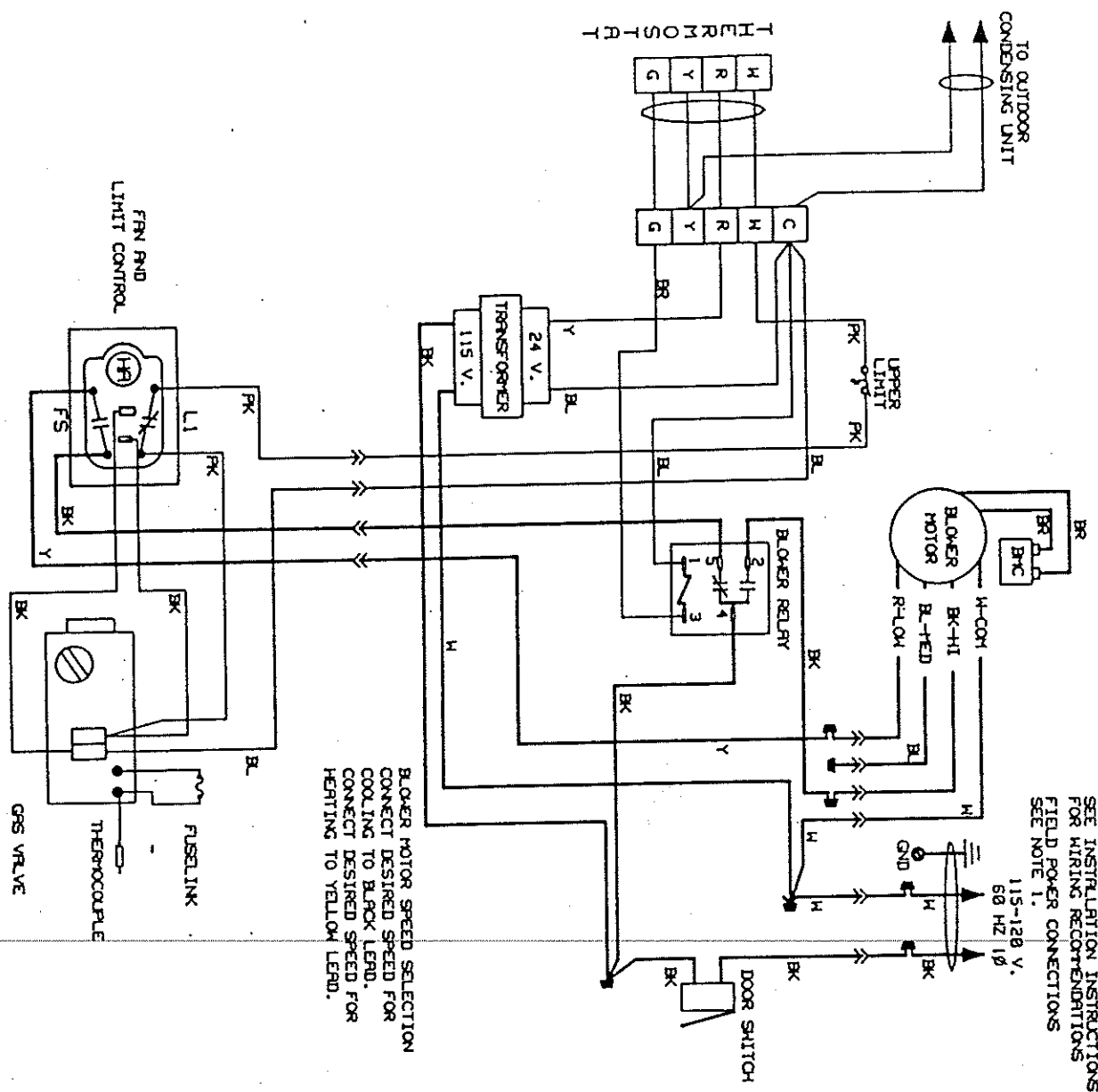
B-1 = 1"

VENTING PROCEDURE

None

MISCELLANEOUS INFORMATION/NOTES

SEE INSTALLATION INSTRUCTIONS  
FOR WIRING RECOMMENDATIONS  
FIELD POWER CONNECTIONS  
SEE NOTE 1.

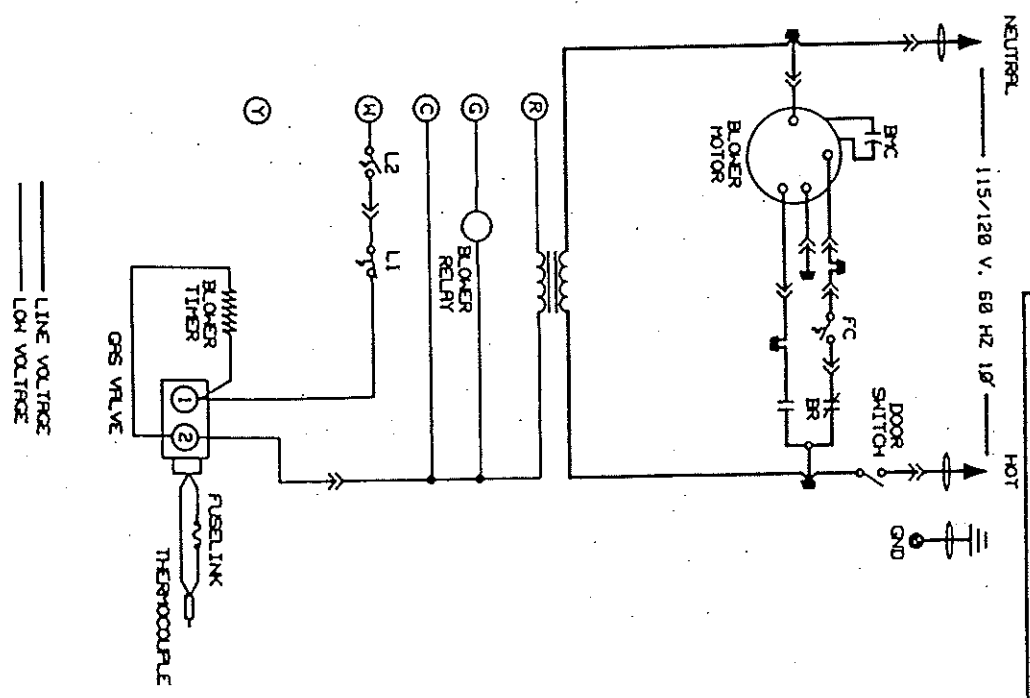


BLOWER MOTOR SPEED SELECTION  
CONNECT DESIRED SPEED FOR  
COOLING TO BLACK LEAD.  
CONNECT DESIRED SPEED FOR  
HEATING TO YELLOW LEAD.

**CAUTION:**  
HAZARD OF ELECTRIC SHOCK.  
DISCONNECT ALL POWER SUP-  
PLIES BEFORE SERVICING.

**-NOTES-**

1. ALL WIRING MUST BE DONE IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.
2. WIRING THAT IS CIRCLED MUST BE DONE BY INSTALLER
3. IF ANY WIRE MUST BE REPLACED, IT MUST BE REPLACED WITH ITS EQUIVALENT, MIN. RATING -105°C



LINE VOLTAGE  
LOW VOLTAGE

## CLEARANCE FROM COMBUSTIBLE IN INCHES

INPUT BTU/HR	FRONT	REAR	SIDES	VENT CONNECTION*	VENT DAMPER	FURNACE FLUE PIPE SIZE	FLOOR #
45,000	6	1	1@	6	6	3 Dia.	non-comb
67,500	6	1	1@	6	6	4 Dia.	non-comb
90,000	6	0	0	6	6	5 Dia.	non-comb
113,000	6	0	0	6	6	5 Dia.	non-comb
135,000	6	0	0	6	6	6 Dia. (oval)	non-comb

@ may be 0 inch when listed Type B-1 vent is used.

\* may be 1 inch when listed Type B-1 vent is used. When optional vent damper is supplied a 6 inch clearance to vent damper is required.

# when unit is to set on combustible floor, a combustible floor base must be used under the furnace.

### SEQUENCE OF OPERATION

#### SEQUENCE OF OPERATION FOR STANDING PILOT:

The standing pilot furnace will operate in the following sequence when the room thermostat is set on "HEAT" and the room temperature falls below the selected thermostat setting:

Assuming that the pilot has been lit, the flame from the standing pilot will heat the thermocouple which continually signals the gas valve that the pilot is lit. The thermostat calls for heat and sends a signal to the gas valve to open and allow gas to the burners. The pilot lights the first burner and the flame spreads across the carryovers and lights the remaining burners.

The heat from the fire warms the heat exchanger surface and the flue products pass through the baffles and vent outdoors through the flue pipe.

The fan and limit control senses the supply air temperature adjacent to (and tightly sealed from) the heat exchanger and will signal the blower to operate when the supply air temperature reaches the "ON" fan set point. (The limit control will shut gas off if the supply air temperature reaches its high temperature set point.) the blower continues to operate and conditioned air is supplied to the space through the duct system. When the thermostat temperature is reached, the gas valve is de-energized and the gas to the burners is shut off. The blower continues to

operate until the supply air temperature cools down below the "OFF" fan set point. The furnace repeats the same cycle each time the thermostat calls for heat.

Also, the gas valve will automatically shut off the gas to the pilot if the pilot flame goes out.

#### SEQUENCE OF OPERATION FOR ELECTRICAL IGNITION FURNACE: (IL, IM, IN, IM suffix)

The following information is the sequence of operation for the Electric Ignition system.

The electric ignition furnace will operate in the following sequence when the room thermostat is set on "HEAT" and the room temperature falls below the selected thermostat setting:

The thermostat signals the ignition control which causes a thirty (30) second delay before energizing the silicone carbide ignitor. The ignitor is energized for approximately a 10 second warm-up time before the gas valve receives the signal to open.

The ignitor provides the heat to light the main burner which lights the remaining burners via the carry-overs. The control system must detect the main burner flame within 7 seconds or the gas valve and the ignitor are de-energized.