

## CARRIER WEATHERMAKER 8000 58ZAV

MODEL NUMBER:	58ZAV	050-08 050-12	070-08 070-12	096-12 096-16	115-16 115-20	135-20
BTU SIZES:	50,000 - 70,000 - 96,000 - 115,000 - 135,000 BTU'S					

### ACCESSIBILITY CLEARANCE

Provide 30 inches front clearance for servicing. An open door in front of the furnace can meet this requirement. A minimum clearance of 3 inches must be provided in front of the furnace for combustion air and proper operation.

### CLEARANCE FROM COMBUSTIBLE MATERIAL

UNIT SIZE	050 and 070	096 - 135
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### DOWNFLOW (In Alcove or Closet)

<b>Sides</b> .....	Single-Wall Vent	1	0
	Type B-1 Double-Wall Vent	0	0
<b>Back</b>		0	0
<b>Top</b>		1	1
<b>Front</b> .....	Single-Wall Vent	6*	6*
	Type B-1 Double-Wall Vent	3*	3*
<b>Vent</b> .....	Single-Wall Vent	6	6
	Type B-1 Double-Wall Vent	1	1

### HORIZONTAL (Attic, Alcove, or Crawlspace)

<b>Sides#</b> .....	Single-Wall Vent	1	0
<b>Back</b>		0	0
<b>Top</b> .....	Single-Wall Vent	1	1
	Type B-1 Double-Wall Vent	1	1
<b>Front@</b> .....	Single-Wall Vent	6*	6*
	Type B-1 Double-Wall Vent	3*	3*
<b>Vent</b> .....	Single-Wall Vent	6	6
	Type B-1 Double-Wall Vent	1	1

continued...

**CLEARANCE FROM COMBUSTIBLE MATERIAL**

**HORIZONTAL (In Closet)**

<b>Sides#</b> ..... Single-Wall Vent	1	1
<b>Back</b>	0	0
<b>Top</b> ..... Single-Wall Vent	2	2
..... Type B-1 Double-Wall Vent	2	2
<b>Front</b> ..... Single-Wall Vent	6	6
..... Type B-1 Double-Wall Vent	3	3
<b>Vent</b> ..... Single-Wall Vent	6	6
..... Type B-1 Double-Wall Vent	1	1

- # - Indicates supply or return sides when furnace is in the horizontal position.
- \* - Clearance shown is for outlet end. The inlet end must maintain 6-in. minimum clearance from the vent to combustible materials when using single-wall vent.
- @ - Minimum 18-in. front clearance required for alcove.

This furnace shall not be installed directly on carpeting, tile, or any combustible material other than wood flooring. The furnace may be installed on combustible flooring when installed with the accessory downflow subbase, which is available from your distributor or branch when required.

**COLD AIR RETURN AIR DUCTS**

Do not install the furnace on its back; safety control operation will be adversely affected. Never connect return-air ducts to the sides or back of the furnace. Failure to follow this warning could result in fire, personal injury, or death.

**GARAGE**

When the furnace is installed in a residential garage, it must be installed so that the burners and ignition source are located at least 18 in. above the floor. The furnace should be protected from physical damage by vehicles.

**GENERAL**

The furnace can be installed horizontally on either the left-hand (LH) or right-hand (RH) side.

**HIGH ALTITUDE INSTALLATIONS**

<b>Deration</b>	See orifice chart in Resource Manual Standard deration
<b>Orifice</b>	Change only
<b>Regulator Pressure</b>	3.5" + or - .3"
<b>Pressure Switch</b>	

**MOBILE HOME**

The design of this furnace is NOT A.G.A./C.G.A. certified for installation in mobile homes, recreation vehicles, or outdoors.

VENTING MATERIAL AND REQUIREMENTS	
Vent Pipe	Type "B" Type "C"
Vent Fittings	Type "B" Type "C"
VENT CLEARANCE FROM COMBUSTIBLE MATERIAL	
Type "B" = 1" Type "C" = 6"	
VENTING PROCEDURE	
Category I appliance Vent according to GAMA charts or Quick Vent in installation instructions.	
MISCELLANEOUS INFORMATION/NOTES	
Set heat anticipator with amp meter or amp probe.	

### SEQUENCE OF OPERATION

**CAUTION:** Furnace control must be grounded for proper operation or control will lockout. Control is grounded through green wire routed to gas valve and burner bracket screw.

Using the schematic diagram (Figure 14) follow the sequence of operation through the different modes. Read and follow the wiring diagram very carefully.

**NOTE:** If there is a power interruption and any thermostat call, the control will initiate a 90-sec blower only before starting another cycle.

**HEATING MODE:** When the thermostat "calls for heat," R-W circuit closes. The furnace control performs a self-check, verifies the pressure switch contacts are open, and starts the inducer motor.

- a. Prepurge period - As the inducer motor comes up to speed, the pressure switch contacts close to begin a 15-sec prepurge period.
- b. Ignitor warm-up - At the end of the prepurge period, the ignitor is energized for a 17-sec ignitor warm-up period.
- c. Ignition sequence - When the ignitor warm-up period is completed, the gas valve opens, permitting gas flow to the burners where it is ignited. After 5 sec, the ignitor is de-energized and a 2-sec flame-sensing period begins.
- d. HUM terminal is energized with the gas valve.
- e. Flame sensing - When burner flame is sensed, the control begins the blower on delay period and continued holding the gas valve open. If burner flame is not sensed, the control closes the gas valve and repeats the ignition cycle.

**NOTE: Ignition sequence will repeat 3 additional times before a lockout occurs. Lockout automatically resets after 3 hours, or can be manually reset by turning 115v off (not at thermostat) for 3 sec minimum, then on again.**

- f. Blower on delay - Forty sec after burner flame is proven, the blower motor is energized on heating speed. Simultaneously, the humidifier and electronic air cleaner terminals (HUM and C for humidifier, EAC-1 and EAC-2 for electronic air cleaner) are energized. Jumper is on pin 6 and pin 9, blower on delay is 60 sec.
- g. Blower off delay - When the thermostat is satisfied, the circuit between R and W is broken, de-energizing the gas valve and stopping gas flow to the burners. The blower motor, and EAC remain energized 90, 135, 180, or 225 sec (depending on the blower off time selection). The furnace is factory set for a 135-sec blower off delay period.
- h. Post purge - The inducer motor remains energized 5 sec after the burners are extinguished. If jumper is on pin 6 and pin 9, the post-purge period is 15 sec.

## START-UP PROCEDURES

**COMPONENT TEST** - The furnace control allows all components, except gas valve, to be run for a short period of time.

This feature help diagnose a system problem in case of a component failure. To initiate component test procedure, short (jumper) the TEST 1/4-inch quick connect terminal on control board (adjacent to diagnostic light) and the C terminal on thermostat connection block for approximately 2 sec (See Figure 11).

**NOTE:** Component test feature will not operate if any thermostat signal is present at control center.

Component test sequence is as follows.

- a. Momentarily jumper TEST and C terminal until LED goes off.
- b. LED will display previous fault 4 times.
- c. Inducer motor operates for 10 sec, then stops.
- d. Hot surface ignitor is energized for 15 sec, the de-energized.
- e. Blower motor operates on cooling speed for 10 sec, then stops.
- f. Blower motor operates on heating speed for 10 sec, then stops.

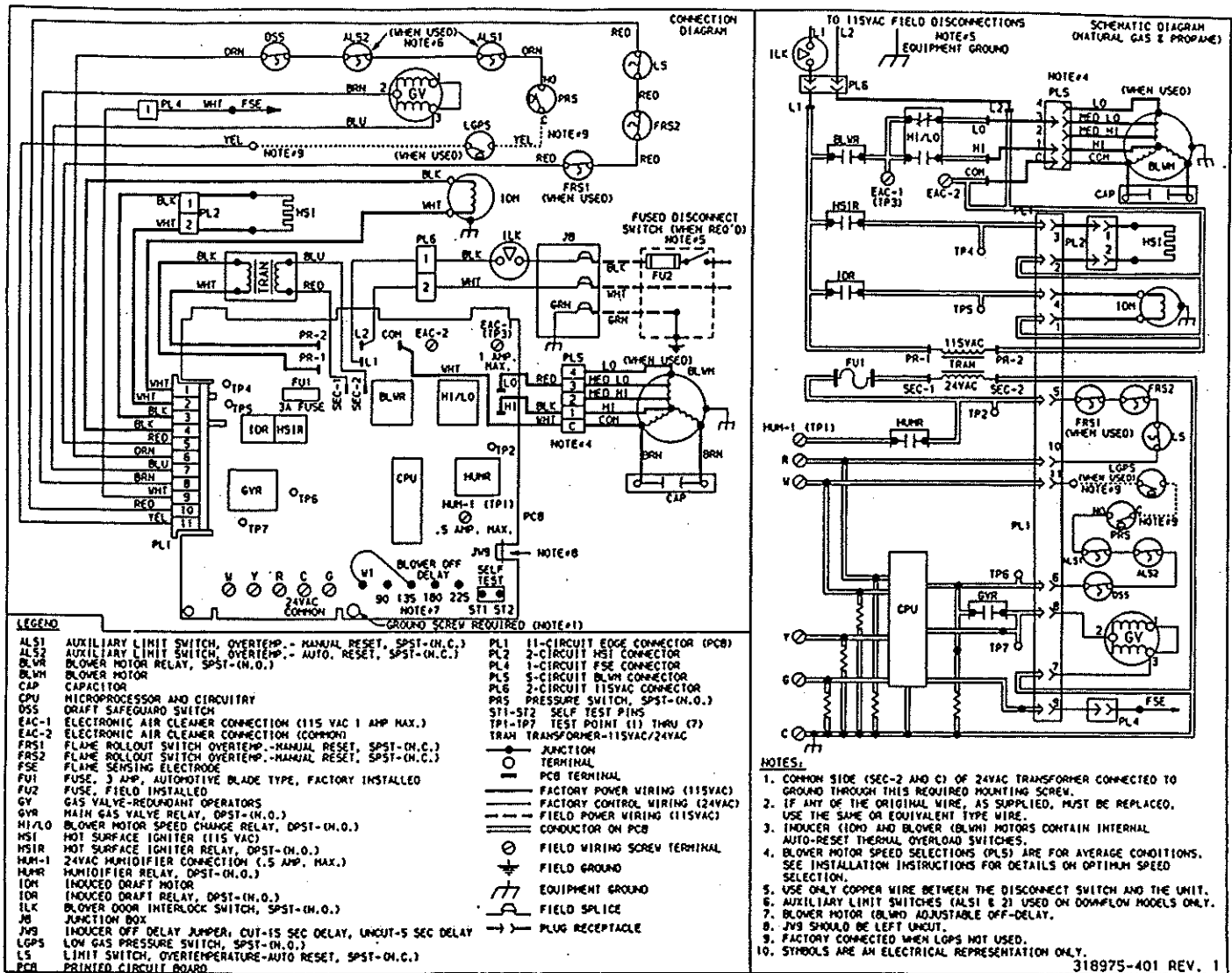
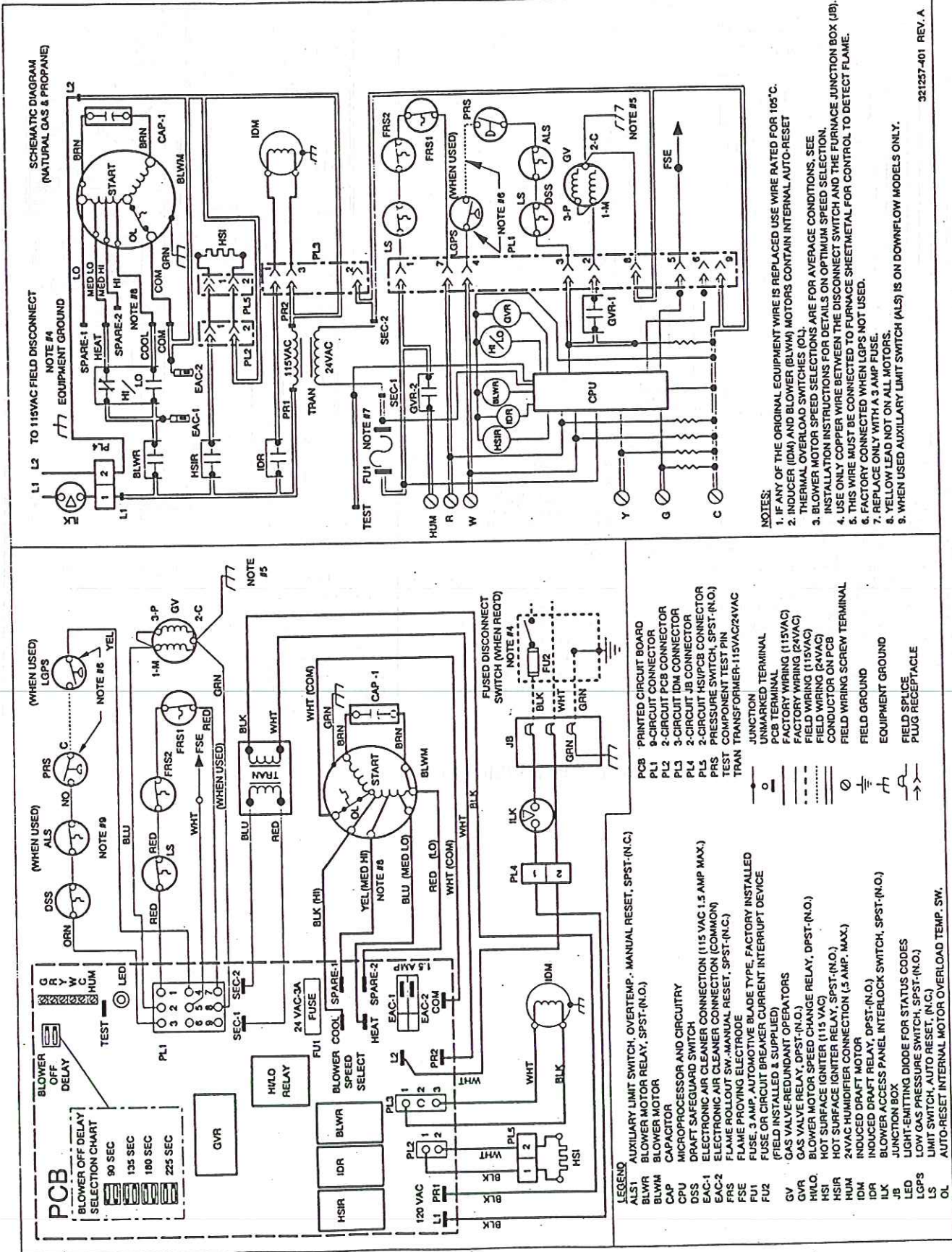


Fig. 11—Unit Wiring Diagram

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→ Fig. 14—Unit Wiring Diagram

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