DISTRIBUTION DATE: 02/04/97
REVISION: 1

LENNOX F17 & G20

MODEL NUMBER:	Upflow - "Whisper Heat"
BTU SIZES:	50,000 to 150,000 BTU

ACCESSIBILITY CLEARANCE

Service access = 36"

CLEARANCE FROM COMBUSTIBLE MATERIAL

CLEARANCE TO COMBUSTIBLES
Top - 1"
Side - 1"
Rear - 1"
Front - 6"
Flue - 6"

See appliance rating plate.

Warning: Do not install furnace directly on carpeting, tile or other combustible material other than wood flooring.

COLD AIR RETURN AIR DUCTS

Sealed to the furnace casing and terminating outside the space containing the furnace. Sheet metal screws or joint tape must be used on all connections.

All G-20E and G-20XE units with bottom return air require a bottom return kit.

GARAGE

Approved. Must meet requirements in the UMC and the Good Practice Book.

GENERAL

Unit must be installed level.

Furnace must be electrically grounded.

Do not remove burner access panel when thermostat is calling for heat.

HIGH ALTITUDE INSTALLATIONS	
Deration	Unit must be derated 4% per 1,000 feet of elevation when installed at 2,000 feet of elevation or above.
Orifice	Standard orifice - See rating plate
Regulator Pressure	See rating plate
Pressure Switch	Used with side wall venting kit SWG-5L

MOBILE HOME

Not approved.

VENTING MATERIAL AND REQUIREMENTS	
Vent Pipe	Type "C" Type "B-1"
Vent Fittings	Type "C" Type "B-1"

The following round vent sizes must be used for the furnace listed:

50,000 and 75,000 BTU units = 4"
100,000 BTU units = 5"
125,000 and 150,000 BTU units = 6"

All units require a 9" minimum vertical rise above vent collar to the first elbow.

VENT CLEARANCE FROM COMBUSTIBLE MATERIAL

"C" vent = 6"
"B-1" vent = 1"

VENTING PROCEDURE

Must be sized per the GAMA vent tables.

The effective area of a masonry chimney serving a single G-20 must be no less than the area of the vent connector and it must be lined.

The masonry chimney must extend vertical at least 5 feet above appliance collar.

May be vented horizontally only when using Lennox kit #SWG-5L (See wiring schematic for sidewall venting)

MISCELLANEOUS INFORMATION/NOTES

The G-20E and G-20X units are equipped with an intermittent pilot ignition system.

Fan on time of 45 seconds is not adjustable, fan off time can be adjusted from 90 to 270 seconds.

Pilot flame must be a soft stable flame that surrounds flame sensor.

TYPICAL G20E WIRING DIAGRAM

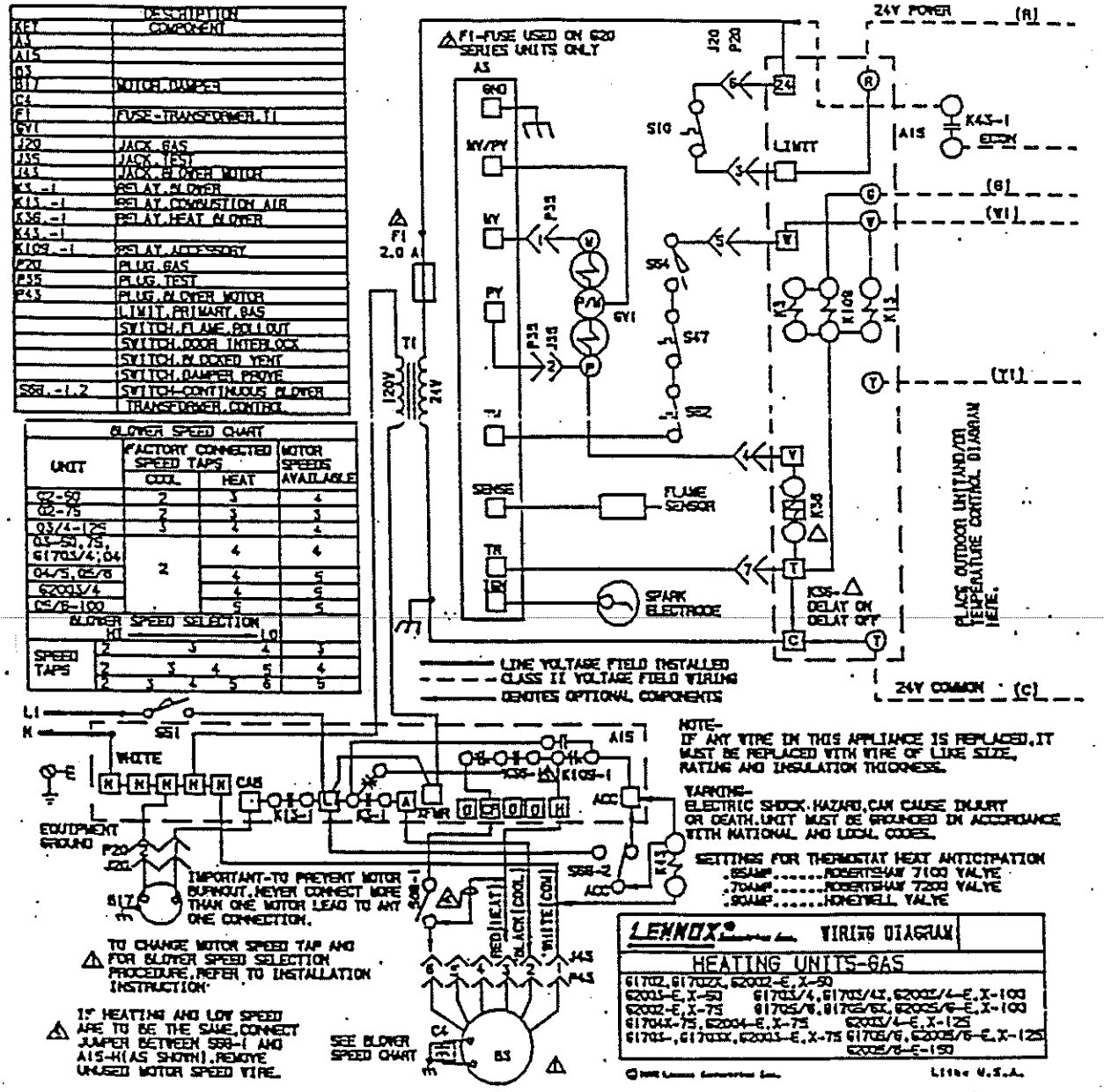


FIGURE 13

LENNOX G20E (Whisper Heat)
Schematic Explanation

115 vac enters the furnace through the door interlock switch. From the door switch to the 115 vac terminal strip on the circuit board terminal L. One leg travels to terminal XFMR 115 vac. 115 vac travels from terminal XFMR to the transformer on the furnace.

The completion leg travels from the transformer back to terminal N on the circuit board which completes back to the building completion leg. 115 vac also travels from terminal L inside the circuit board through a normally closed set of contacts to an open set of contacts at the K36 relay which when closed energizes the heating blower speed on the blower motor. 115 vac also waits at the K3 open set of relay contacts that when closed energizes the high speed blower motor windings on the blower motor. At the same time 115 vac travels to the open set of contacts at the K13 relay when energized sends 115 vac to the damper motor.

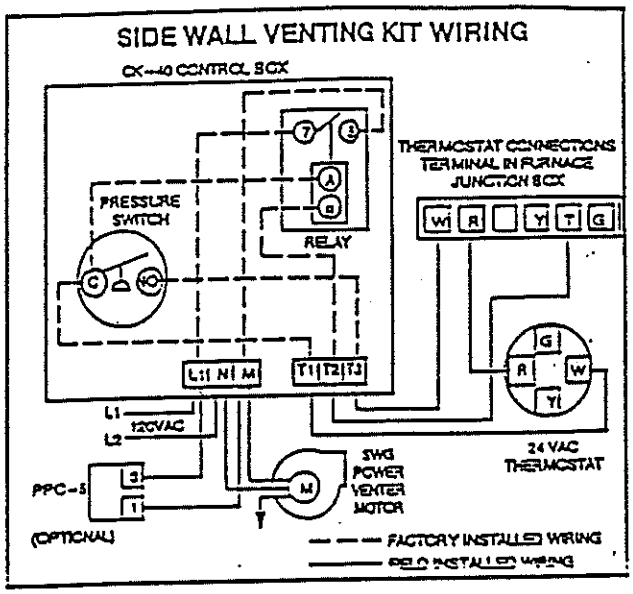
The 24 vac circuit travels from the low voltage side of the transformer through a 2 amp fuse to the 24 vac terminal on the circuit board from the 24 vac terminal through the wiring plug to the primary limit switch from the limit switch through the wiring plug back to the limit terminal on the circuit board. From the limit terminal, power travels internally through the circuit board to R. From the R terminal 24 vac travels through the closed contacts of the thermostat and back to terminal W on the circuit board. From W, inside the circuit board, 24 vac travels to the K13 relay which when energized closes the contacts and energizes the damper motor. Also from terminal W power is sent through the wiring plug to the damper proving switch, to the flame roll-out switch, to the spill switch, to terminal TH on the ignition module supplying 24 vac to the ignition module.

When the ignition module is energized the module sends 24 vac out from the PV terminal through the wiring plug to the pilot coil on the control valve supplying pilot gas to the pilot assembly. At the same time the spark electrode is energized from the IGN terminal on the ignition module. From the PV terminal on the control valve 24 vac travels through the wiring plug to the V terminal on the circuit board energizing the K36 relay, after 45 seconds the low speed blower motor is energized.

If the pilot lights, the module will sense 0.80 to 1.20 (.07 minimum) microamps from the flame sensor at the sense terminal on the module. When the pilot is established, 24 vac travels from the MV terminal on the module through the wiring plug to terminal M on the automatic control valve. The completion leg travels from P/M terminal on the control valve back to the MV/PV terminal on the ignition module. The completion leg travels from the TR terminal on the module through the wiring plug to terminal T on the circuit board. From the C terminal on the circuit board back to completion side of the transformer.

The furnace now continues to operate until call for heat is satisfied. The furnace will lockout after 90 seconds if flame is not established one (1) try. Reset by power interruption.

Horizontal Venting



Schematic Explanation of the side wall venting kit

When using side wall venting kit and thermostat calls for heat 24 volt power is sent from the "R" to the "W" terminals at the thermostat through terminal "T-1" of the CK-40 control box to terminal "C" of the normally open contacts of the pressure switch, 24 volt power branches off from "C" and energizes the coil between terminals "A and B" of the control box relay which completes through "T-2" of the control box and back to "T" on the low voltage terminal strip of the furnace.

With the coil energized between terminals "A and B" the open set of contacts close and line voltage power is sent from terminals "7" to "5" and through terminal "M" to the power vent motor which completes back to "N".

With the power vent motor operating the open set of contacts of the pressure switch close sending 24 volts through terminal "T-3" and the control box to the "W" terminal of the low voltage terminal strip of the furnace.