

INSTALLATION INSTRUCTIONS FOR BLOWER TYPE FURNACE WITH GARDSMAN JN
AUTOMATIC TEMPERATURE CONTROL & SAFETY

- A.) CONNECT 115 VOLT ELECTRICAL SOURCE TO BLACK AND WHITE LEADS COMING FROM "ON-OFF" SWITCH BOX. REMOVE PLUG FROM GARDSMAN JN UNIT AND CONNECT TO RED AND WHITE LEADS COMING FROM "ON-OFF" SWITCH BOX AS SHOWN ON WIRING DIAGRAM.
- B.) IF THE MIXING TEE AND BLOWER ASSEMBLY ARE PACKED SEPARATELY, CONNECT THEM TO THE FURNACE PIPING.
- C.) SUPPLY GAS TO PIPING. THE INLET PRESSURE SHOULD NOT EXCEED (4) OUNCES ON NATURAL GAS OR (6) OUNCES ON LP GAS.

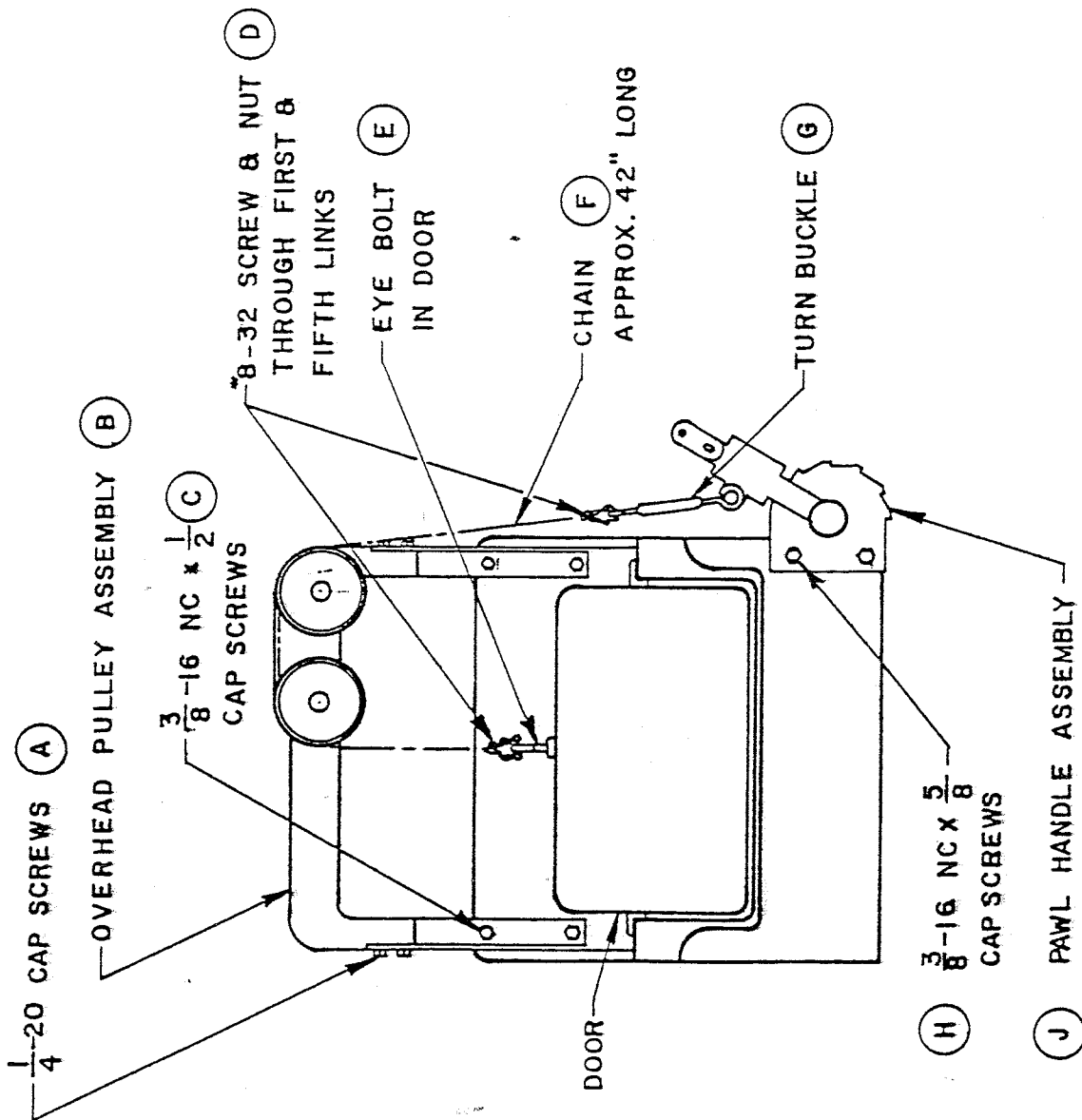
OPERATING INSTRUCTIONS FOR NO. 142 FURNACE WITH GARDSMAN JN
AUTOMATIC TEMPERATURE CONTROL AND SAFETY SYSTEM

AFTER ALL WIRING AND PIPING ARE COMPLETED, MAKE SURE THE NO. 1 LEVER-HANDLE REGULATING VALVE IS CLOSED AND THE ELECTRICAL SWITCH IS "OFF".

1. Set Rheostat Knob on upper panel of Gardsman Control to "15". Set Blower Air Shutter so that small hole supplies the air. Turn the #5 By-pass Valve fully open.
2. Press "Start" Button on "Start-Stop" Station if furnished (Optional).
3. Depress the Push Button By-pass Valve and ignite pilot. Hold Button in for (40) seconds and press Button on Baso Switch. Solenoid Valve in Pilot Line should open. Release Bypass and Baso Buttons. Pilot should remain burning. If not, repeat Step No. 3.
4. Set the Gardsman Control to your lowest operating temperature. This MUST be above 1300° Fahrenheit.
5. Turn the Electrical "On-Off" Switch to "On". The main Solenoid Valve in the gas line will open. The Bunsen Pilot should be burning and the Blower Motor should be running at full speed.
6. Open the Furnace Door. With both pilots burning and the Blower Motor running, gradually open the No. 1 Lever Handle Regulating Valve until the Main Burners ignite. Make minor adjustments to the gas valve to obtain a steady roar from the Burners. Close the Furnace Door. After the Furnace has warmed up, adjust the No. 1 Lever Handle Regulating Valve to give a sharp tail of flame out the top exhaust ports. No flame means too little gas. A long, lazy flame means too much gas.
7. When the Furnace reaches the Control temperature, the green Control light comes on, the Blower Motor slows down and your Furnace is now on Lo-Fire. If you have a lazy tail of flame coming from the Furnace Exhaust Openings, gradually turn down the #5 By-pass Valve to obtain a steady roar from the burners. Allow the Furnace to cycle from "Hi" to "Lo" to "Hi" several times. If your Furnace over-runs the set temperature on the Control, gradually reduce the Lo-Fire gas by turning down the #5 By-pass Valve until the furnace no longer over-heats.

NOTE: The small Blower Shutter Air Opening will take care of temperatures up to 1900 Fahrenheit. If you desire faster heat-up or temperatures above 1900 Fahrenheit, use the 1½" diameter Air Opening and use the same lighting and operating instructions stated above.

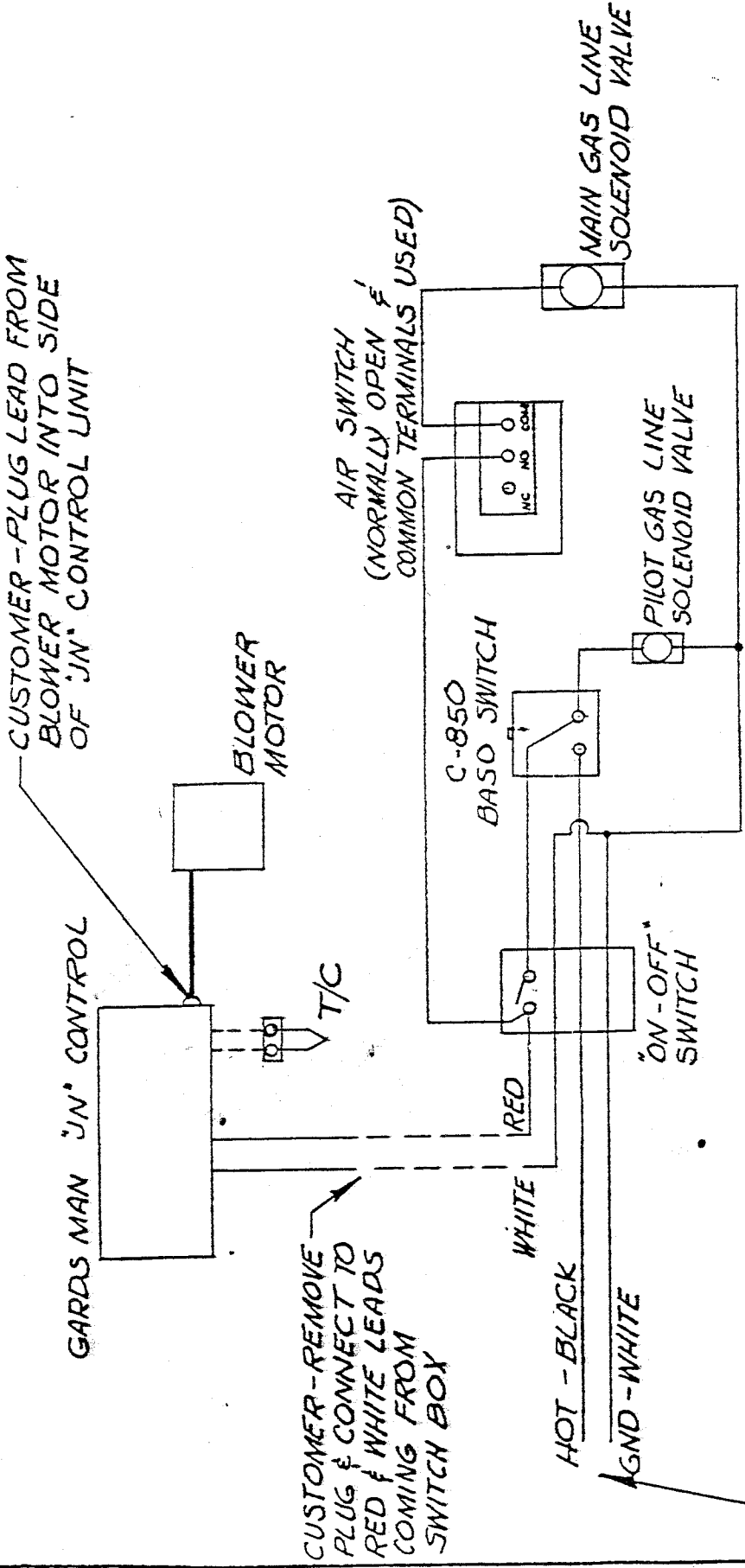
DOOR ASSEMBLY - FOR - FURNACES NOS. 142-143-175-706



- DOOR ASSEMBLY -

1. LOOSEN SCREWS "A" AND POSITION OVERHEAD PULLEY ASSEMBLY "B" ON DOOR FRAME.
2. FASTEN PULLEY ASSEMBLY "B" TO DOOR FRAME WITH SCREWS "C".
3. TIGHTEN SCREWS "A".
4. FASTEN PAWL HANDLE ASSEMBLY "J" TO DOOR FRAME WITH SCREWS "H".
5. SET THE DOOR IN POSITION AS SHOWN.
6. SET HANDLE IN FIRST NOTCH AND THREAD CHAIN "F" THROUGH PULLEYS.
7. LOOSEN TURNBUCKLE "G" AND FASTEN CHAIN TO EYEBOLT "E". [USE 5 CHAIN LINKS]
8. TAKE UP CHAIN SLACK BY TIGHTENING THE TURNBUCKLE.
9. RAISE AND LOWER THE DOOR SEVERAL TIMES AND MAKE MINOR ADJUSTMENTS BY TIGHTENING OR LOOSENING THE TURNBUCKLE.

JOHNSON GAS APPLIANCE CO.
CEDAR RAPIDS, IA 52405



CUSTOMER-PLUG LEAD FROM BLOWER MOTOR INTO SIDE OF 'JN' CONTROL UNIT

BLOWER MOTOR

CUSTOMER-REMOVE PLUG & CONNECT TO RED & WHITE LEADS COMING FROM SWITCH BOX

AIR SWITCH (NORMALLY OPEN & COMMON TERMINALS USED)

C-850 BASO SWITCH

'ON-OFF' SWITCH

HOT - BLACK
GND - WHITE

INC NO COIL

PILOT GAS LINE SOLENOID VALVE

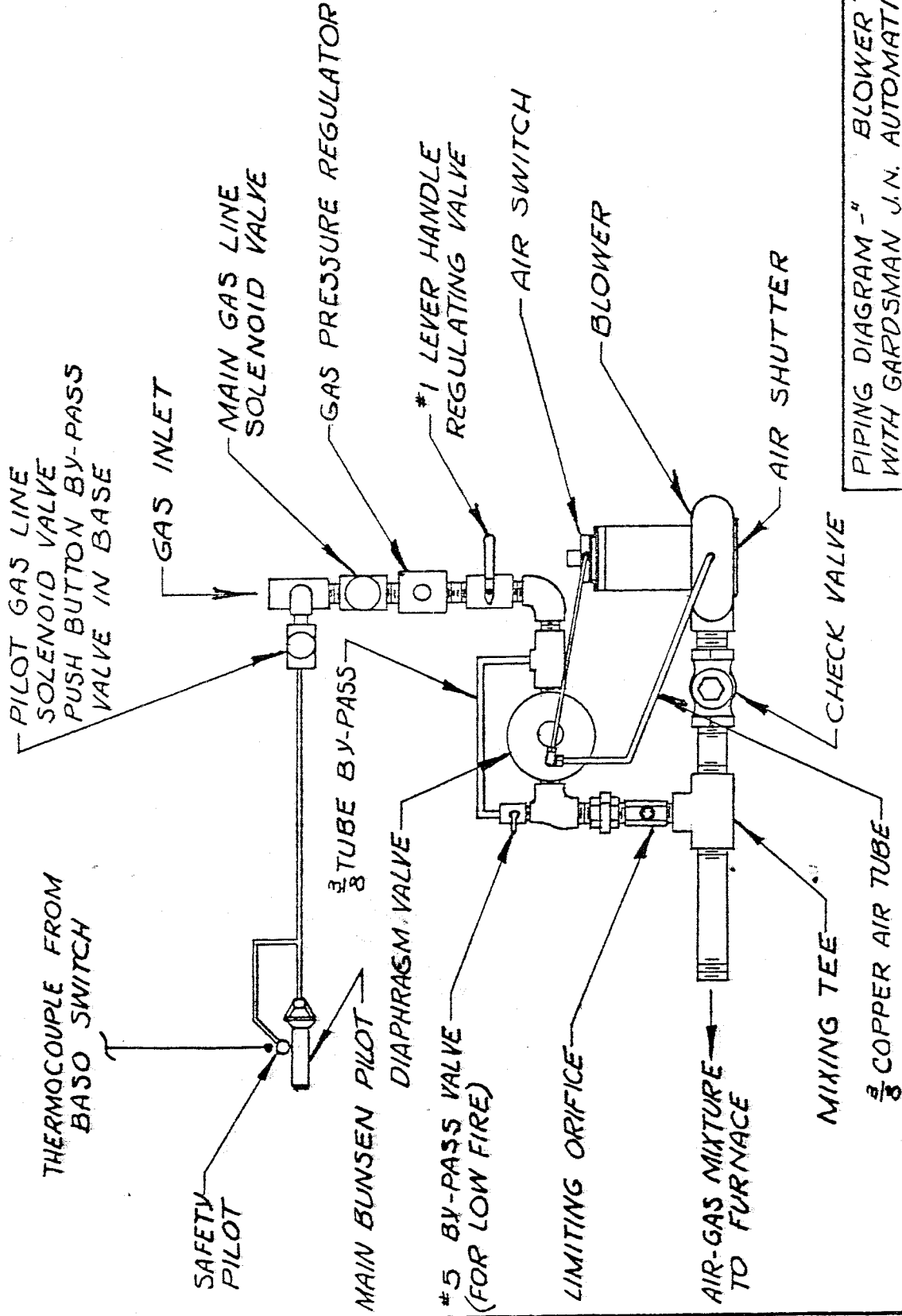
MAIN GAS LINE SOLENOID VALVE

CUSTOMER-CONNECT 115 VOLT, 60 CYCLE POWER SOURCE TO BLACK & WHITE LEADS COMING FROM SWITCH BOX

WIRING DIAGRAM - # BLOWER TYPE FURNACE WITH GARDSMAN 'JN' AUTOMATIC TEMPERATURE

Title - CONTROL AND SAFETY

Mat'l		Dwn.	Scale
		CK'd	
		Appr.	
		Date	2-3-64
JOHNSON GAS APPLIANCE COMPANY CEDAR RAPIDS, IOWA			
Used On ---			
A - FORM NO. 60			



PIPING DIAGRAM - " BLOWER TYPE FURNACE WITH GARDSMAN J.N. AUTOMATIC TEMPERATURE

Title - CONTROL AND SAFETY SYSTEM

Mat'l

JOHNSON GAS APPLIANCE COMPANY
CEDAR RAPIDS, IOWA

Scale

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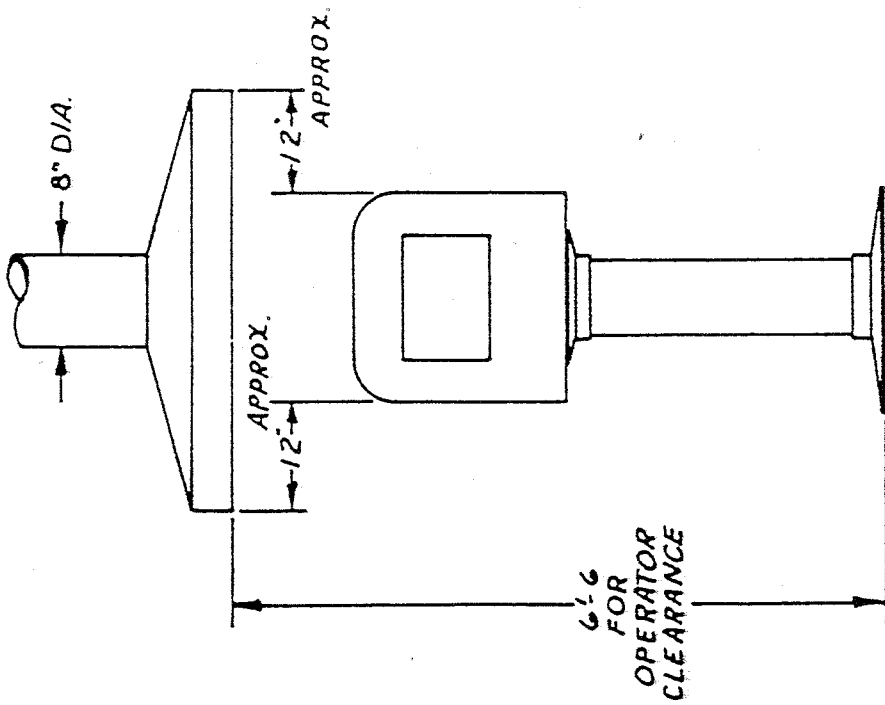
1-6-64

Used On -

SUGGESTED METHODS OF VENTING JOHNSON #142 & #143 FURNACES

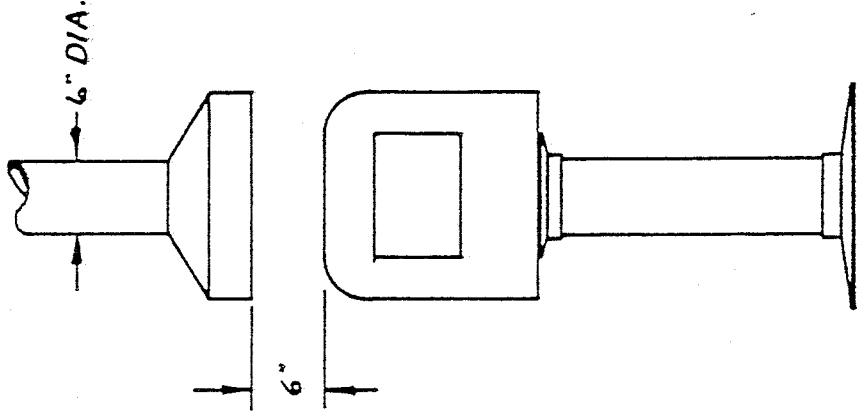
HEAVY GAUGE SHEET METAL SHOULD BE USED FOR HOOD AND STACK.
CLASS "A" VENT PIPE RECOMMENDED.

FLUE PRODUCT : 160 CFM @ 2000°



METHOD #1
EXHAUST FAN REQUIREMENT:
2000 CFM

JOHNSON GAS APPLIANCE CO., CEDAR RAPIDS, IOWA



METHOD #2
EXHAUST FAN REQUIREMENT:
800 CFM

VENTING REQUIREMENTS FOR

JOHNSON FURNACES

1. POT FURNACES, FORGES, AND MELTING FURNACES.

SINGLE UNITS OR MULTIPLE INSTALLATIONS

FOR EXHAUST HOODS APPROXIMATELY 6' 6" TO 7' ABOVE FLOOR, THE EXHAUST FAN SHOULD BE SUFFICIENT TO PROVIDE A 200 FPM FACE VELOCITY AT THE HOOD.

2. OVEN TYPE FURNACES (INCLUDES OVEN FORGES)

A. SINGLE INSTALLATIONS

FOR SINGLE INSTALLATION THE VENT REQUIREMENTS SHOULD REDUCE FLUE GAS TEMPERATURE TO 500 OR BELOW. FOR CFM REQUIREMENTS, DIVIDE BTU INPUT OF THE FURNACE BY 225. (APPLICABLE WHERE THE VENT HOOD IS 6" TO 8" ABOVE EXHAUST OPENING.)

B. FOR SINGLE OR MULTIPLE INSTALLATIONS WHEN SINGLE EXHAUST HOOD IS 6' 6" TO 7' ABOVE FLOOR, PROVIDE FOR A 200 FPM FACE VELOCITY.