

INSTALLATION INSTRUCTIONS FOR NO. _____ FURNACE WITH MANUAL
TEMPERATURE CONTROL & SAFETY

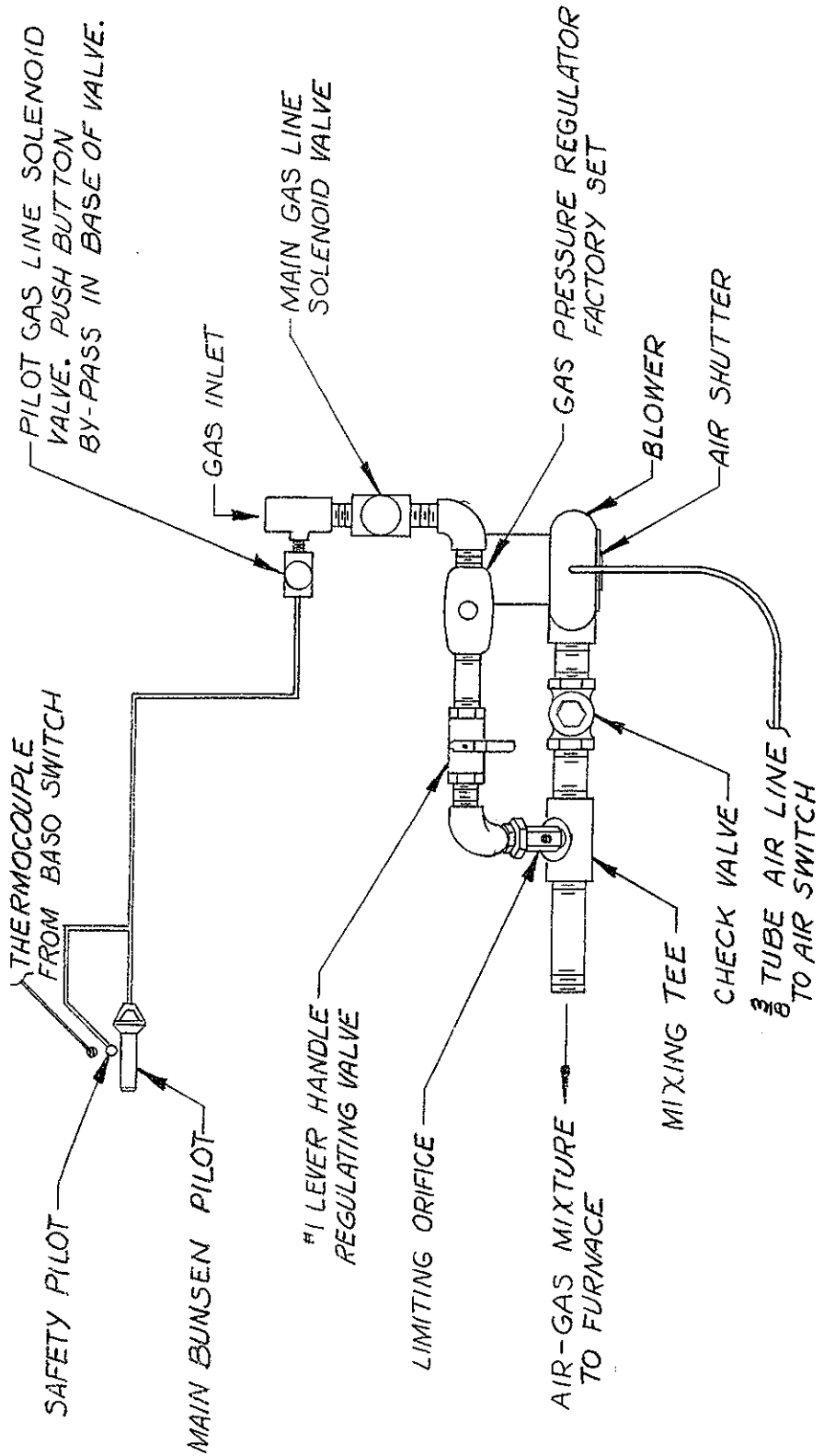
- A. Connect 115 Volt Electrical Source to leads from "On-Off" Switch, as shown on Wiring Diagram.
- B. If the Mixing Tee and blower assembly are packed separately, connect them to the furnace piping.
- C. Connect gas piping. The supply pressure for Natural gas should be at least 4" water column but not more than 7" water column. For LP gas the supply pressure should be 11" water column.

Supply pressure to the unit should fall within the pressure limits specified when the unit is operating.

— PIPING DIAGRAM —

FORM 45

BLOWER TYPE FURNACE WITH MANUAL TEMPERATURE CONTROL AND SAFETY



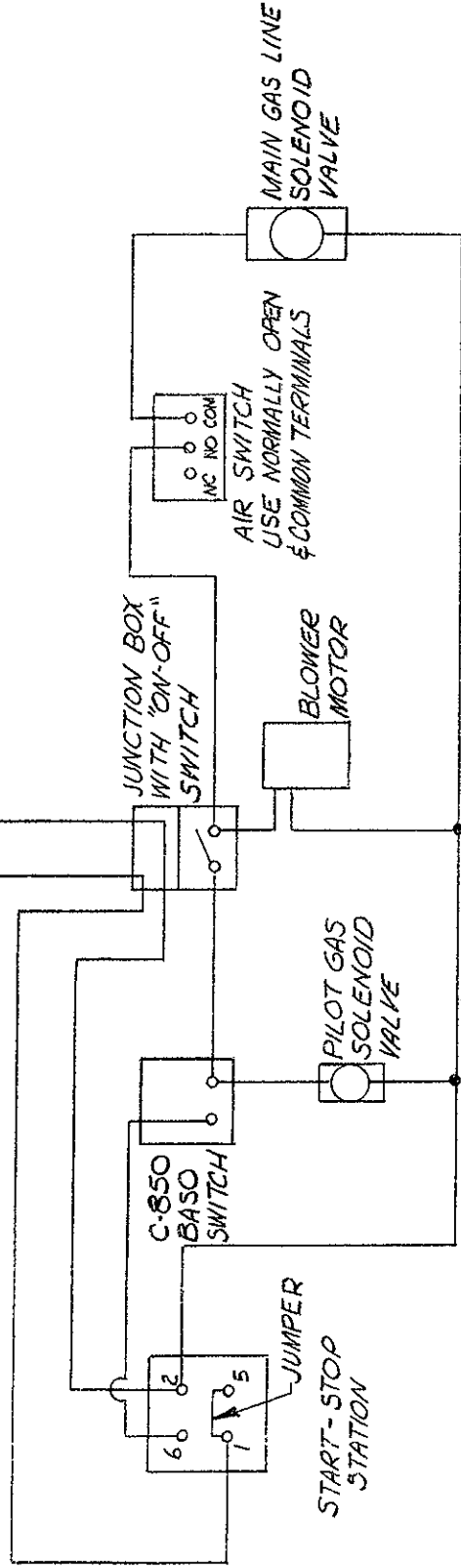
JOHNSON GAS APPLIANCE CO.
CEDAR RAPIDS, IOWA

FORM 45
5-10-66

WIRING DIAGRAM FOR BLOWER TYPE
FURNACE WITH MANUAL CONTROL, SAFETY
START-STOP STATION SWITCH

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

HOT
BLACK
GND.
WHITE

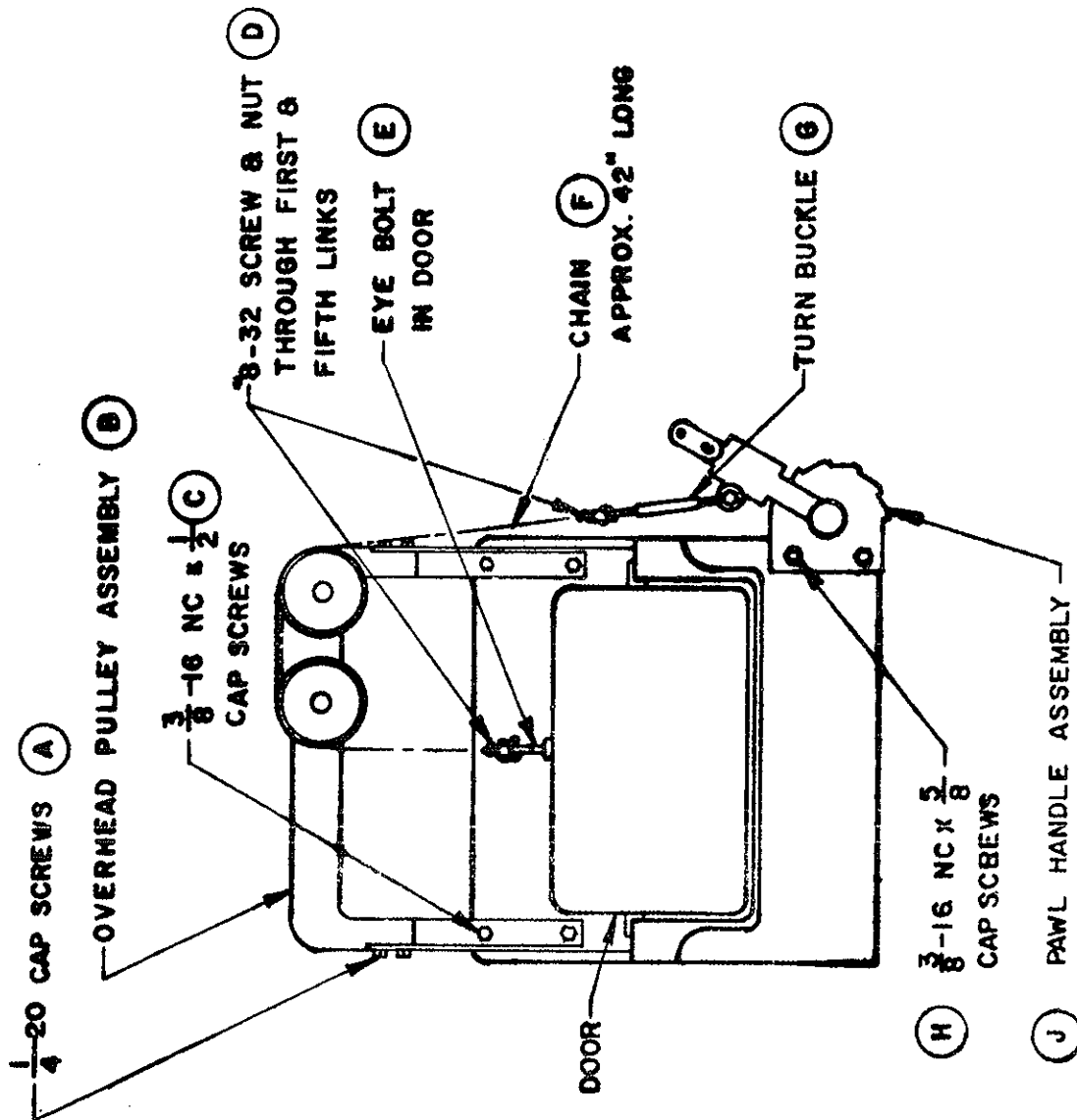


LIGHTING INSTRUCTIONS FOR BLOWER TYPE FURNACES WITH MANUAL
TEMPERATURE CONTROL AND SAFETY UNIT

AFTER WIRING AND PIPING CONNECTIONS ARE COMPLETED, MAKE SURE THE #1 LEVER HANDLE VALVE IS CLOSED AND THE ELECTRICAL "ON-OFF" SWITCH IS "OFF".

1. PRESS "START" BUTTON ON "START-STOP" STATION IF FURNISHED. (OPTIONAL)
2. DEPRESS THE PUSH BUTTON BY-PASS VALVE AND IGNITE THE PILOT BURNERS. AFTER THE PILOTS HAVE BURNED FOR (40) SECONDS, DEPRESS THE BUTTON ON TOP OF THE C-850 BASO SWITCH. RELEASE THE BUTTON ON THE BASO SWITCH FIRST AND THEN ON THE BY-PASS VALVE. THE PILOTS SHOULD REMAIN BURNING. IF NOT, REPEAT STEP 2.
3. TURN THE ELECTRICAL SWITCH TO "ON"; THE BLOWER MOTOR WILL RUN AND THE MAIN GAS SOLENOID VALVE WILL "OPEN".
4. SET THE BLOWER AIR SHUTTER ABOUT 1/4" OPEN.
5. IF YOU ARE OPERATING AN OVEN FURNACE, OPEN THE DOOR.
6. WITH BOTH PILOTS BURNING AND THE BLOWER MOTOR RUNNING, SLOWLY OPEN THE #1 LEVER HANDLE VALVE UNTIL THE MAIN BURNERS IGNITE. MAKE MINOR ADJUSTMENTS TO THE VALVE TO OBTAIN A STEADY ROAR FROM THE BURNERS. THE OVEN DOOR CAN NOW BE CLOSED.
7. AFTER THE FURNACE HAS WARMED UP, ADJUST THE #1 VALVE TO OBTAIN A SHARP TAIL OF FLAME. NO FLAME MEANS NOT ENOUGH GAS; A LONG, LAZY FLAME MEANS TOO MUCH GAS.
8. IF IT IS DESIRED TO INCREASE THE GAS INPUT, OPEN THE BLOWER AIR SHUTTER SLIGHTLY TO DECREASE THE TAIL OF FLAME. THEN, OPEN THE #1 VALVE SLIGHTLY TO BRING BACK THE SHARP TAIL OF FLAME. REPEAT THIS PROCEDURE UNTIL THE MAXIMUM OR DESIRED GAS INPUT IS REACHED.
9. TO SHUT DOWN THE FURNACE, TURN "OFF" THE #1 LEVER HANDLE VALVE AND TURN THE ELECTRIC SWITCH TO "OFF".

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.

VENTING REQUIREMENTS

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 INSTALLATIONS 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 OPENINGS)

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

FORM 316
 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°

