

FURNACE WARNINGS

Gas furnaces should be installed and troubleshooted by qualified electricians and plumbers.

Make sure that the furnace is wired or plugged into the correct voltage. The correct voltage should be written on the machine data sticker.

Also, make sure that the furnace be piped into the correct gas (Natural or Propane).

Gas leak testing should be performed before and after putting the furnace into operation.

The furnace is rated at 30,000 BTU. Stay with the minimum of 1/2" pipe size on the supply piping.

Make sure that the furnace is properly vented to make sure that exhaust gases are leaving the building.

We strongly recommend that you call Conley Casting first if you have any furnace problems.

INSTALLING & OPERATING - #160 FURNACE

- Locate furnace on stand to the right of air caster - 12" from wall.
- Insert C/I pot into furnace.
- Mount Partlow control on wall behind furnace to the right and insert 3/8 element bulb into cast iron well. Then pack well with steel wool.
- Wire as per diagram using "C" and "L" as high limit connection. The "H" is not used. (*unit maybe prewired*)
- Pipe 3/4" to 1 1/4" line to rear connection of gas train. A ^{Maximum} ~~minimum~~ of 11" of pressure should be measured at the gas valve pressure tap.
- Upon completion of 1, 2, 3, 4, & 5, you can now check for gas leaks in pilot with soapy water. Turn tan knob on gas valve to pilot and press. It may take some time to bleed air from the system, to check for leaks spray soapy water on any and all connections and inspect for bubble. If no bubbles, light pilot and hold button for 30-40 seconds. Let button up and turn to "ON".
- Turn power on to gas valve and set temperature on Partlow control, burner should light.
- Fill pot with 8-10 bars of white metal.
- Upon completion of 1-8 you should have to wait 30-60 minutes for the metal to be up to set point.

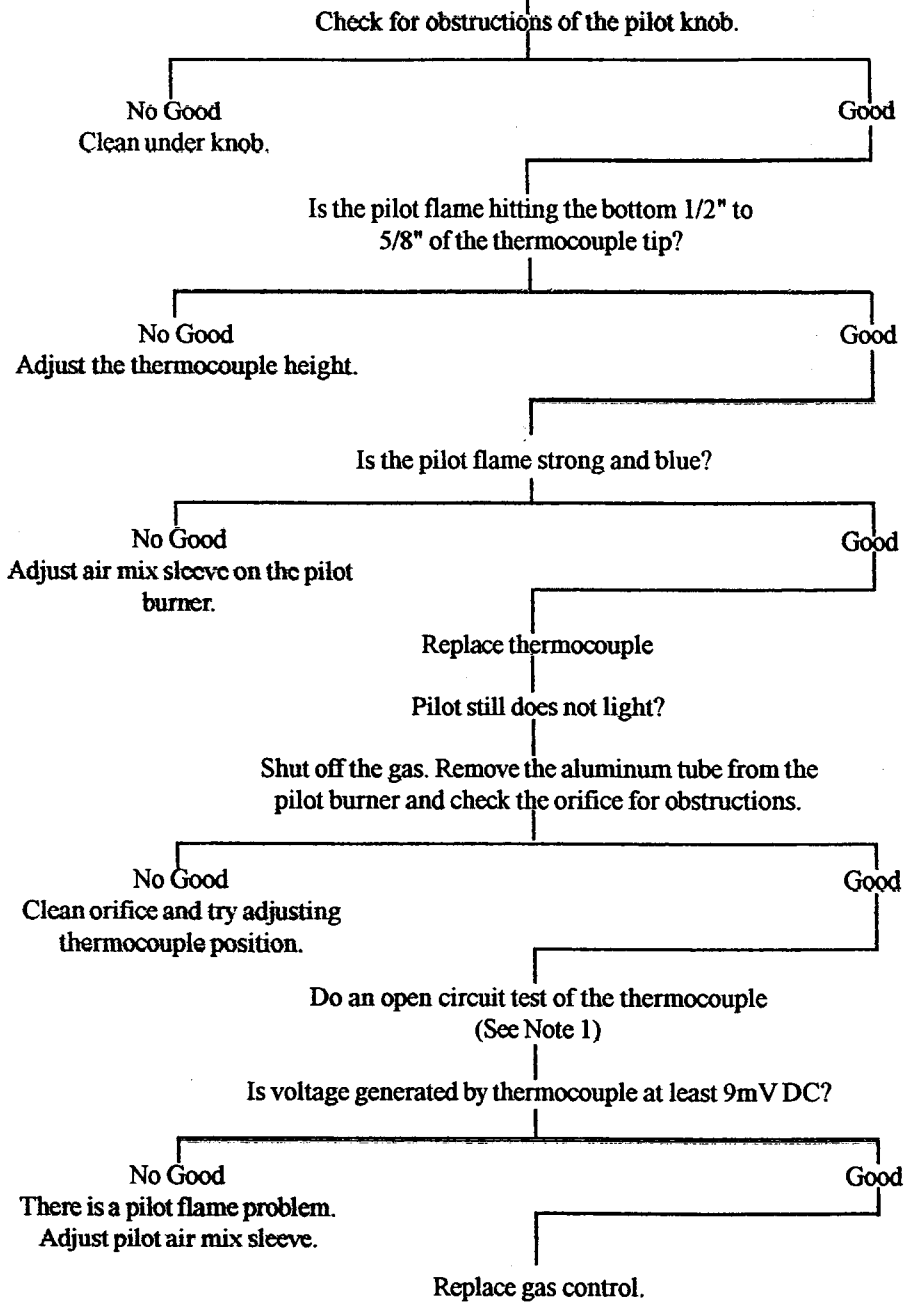
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TROUBLE SHOOTING - #160 FURNACE

- If pilot does not light; check gas line shut off valve.
- If pilot lights, but does not stay lit, tighten thermocouple connection at gas valve and insure at least 3/4" of pilot tip is in flame.
- If pilot lights but main burner ignition blows pilot out, check gas pressure - pilot flame should be 6"-7" in length.
- If pilot lights but main burner does not, check all electric connections to ensure that the gas valve is receiving a full 120 volts.
- If furnace lights but temperature is unstable, be sure Partlow element is inserted all the way down into cast iron well.

FURNACE TROUBLESHOOTING

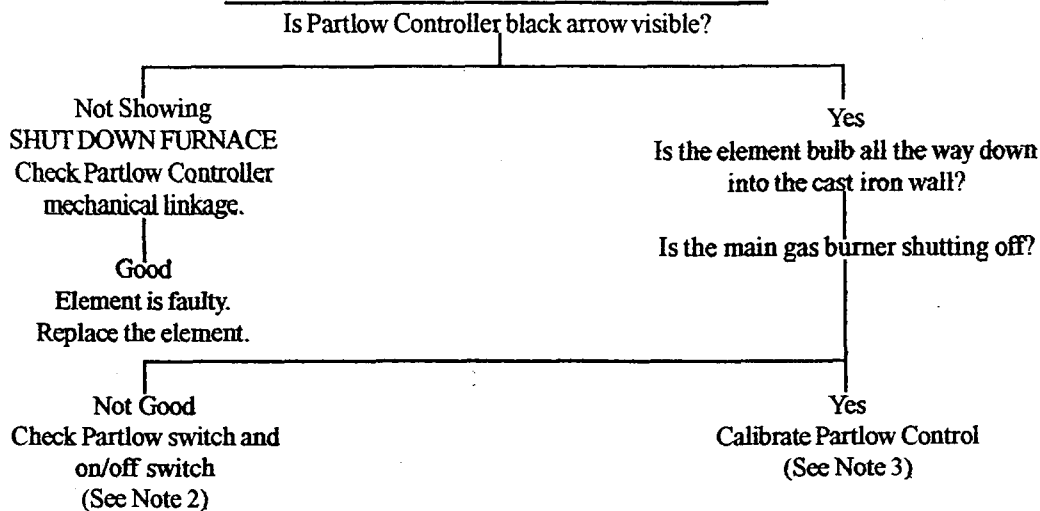
FURNACE PILOT WILL NOT LIGHT



NOTE 1: An open circuit test of the thermocouple requires that a millivolt meter be used to measure the DC millivolts that the thermocouple generates. The pilot must be on and the thermocouple removed from the gas control. The negative lead of the meter is connected to the copper (outside) part of the thermocouple. The red positive lead is connected to the "button" under the screw that secures the thermocouple to the gas control.

FURNACE TROUBLESHOOTING

METAL TEMPERATURE IS TOO HOT

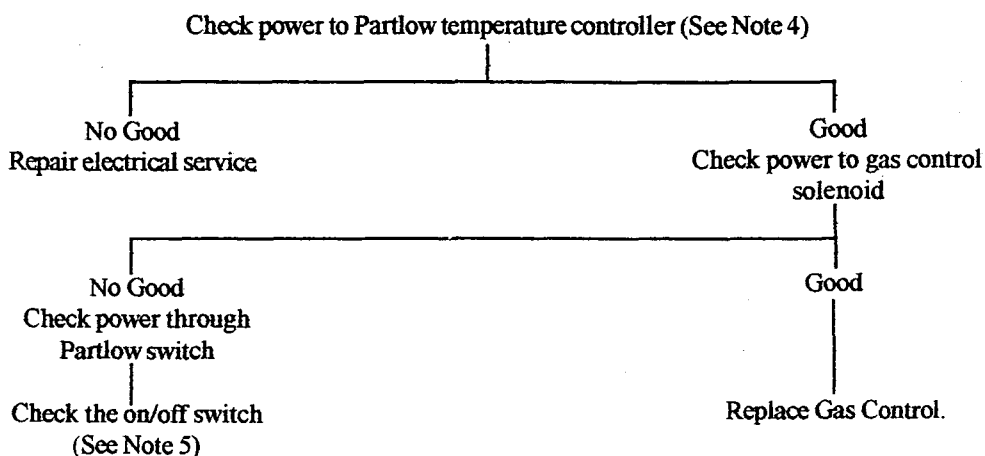


NOTE 2: Checking the Partlow switch requires a volt meter to measure voltage through the switch. The switch could be sticking or the mechanical linkage in the control could be sticking. WD40 spray lubricant usually frees up a sticky mechanism. A sticky switch should be replaced.

NOTE 3: Directions for calibrating the temperature control should be with the information package. It requires removing the Partlow control knob and front cover. Then you need a small flat tip screwdriver to loosen the actuating rod set screw. Then you would use the special Partlow wrench to turn the black arrow or turn the actuating rod out to raise the black arrow setting. The black arrow should read within 20° F of the actual metal temperature. A thermometer that reads up to 1000°F is recommended to find out what the metal temperature is.

MAIN GAS FLAME IS NOT COMING ON AND METAL IS COLD

Pilot has to be lit and the gas control knob has to be in the on position.



NOTE 4: Power to the temperature controller means that is the electricity from your service receptacle powering up the furnace.

NOTE 5: The Partlow switch and on/off switch are wired in series. If either of the switches is open, the furnace will not work. Checking these switches requires a volt meter that can check AC voltage, 110V or 220V. Knowledge of how to check these switches is necessary. Always use caution when electrical power is on and you are troubleshooting!

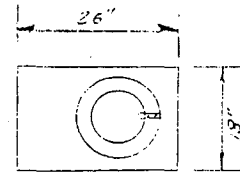
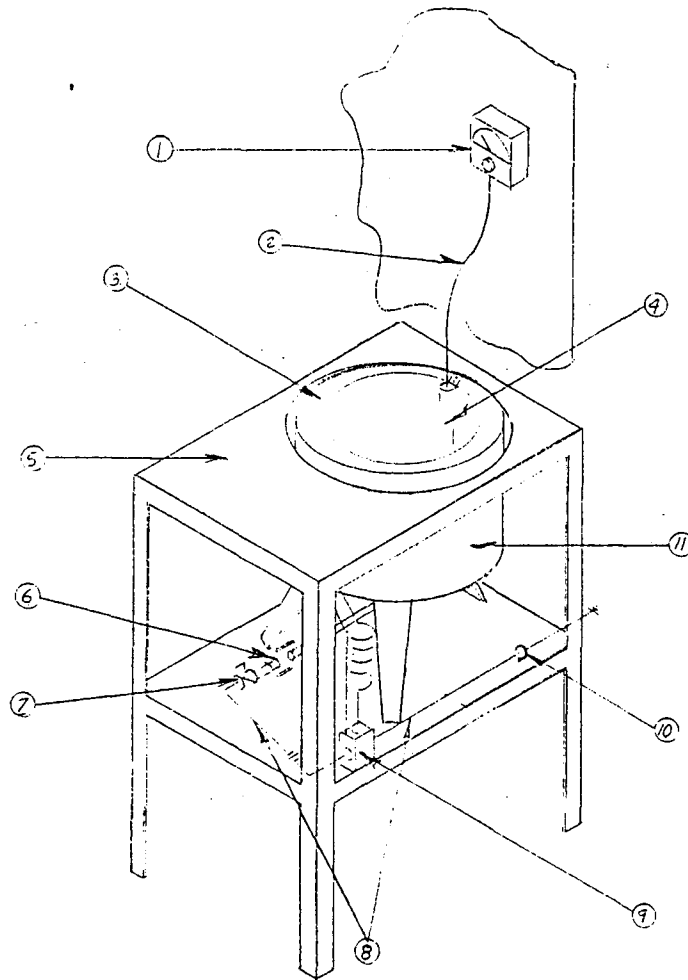
CHARLES A. HONES, INC.
607 Albany Avenue
North Amityville, New York 11701
(516)842-8886

SUGGESTIONS FOR MAXIMUM SERVICE OF CAST IRON POTS

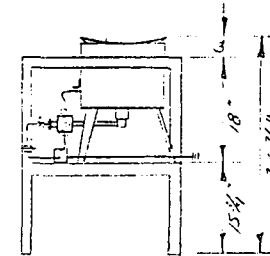
1. This pot has been purposely seasoned to help prolong its life. Metals containing zinc, aluminum and other alloys have a deteriorating effect and special care should be taken not to overheat, nor allow metal to freeze solid in pot.
2. Carry a neutral, or slightly reducing flame at all times. A flame that is too blue is oxidizing, and will cause rapid sealing of the pot, greatly shortening its life.
3. Install pot and charge with metal to be melted.
4. Remove all sludge or sediment from the pot at least once a day, and even more often if the furnace is being operated continuously. If allowed to remain, it acts as a heat insulator, causing local overheating and premature failure.
5. Never force the furnace in bringing the metal up to temperature, or in an attempt to speed up production. Forcing the fire results in excessive combustion chamber temperatures, shortening the life of the pot and furnace lining.
6. Remove the pot from the furnace at regular intervals, and thoroughly clean the inside surface.
7. Keeping pot covered will reduce radiation losses and increase furnace efficiency.
8. CAST IRON POT is recommended for Lead, Tin, Zinc, Aluminum, Babbitt or their alloys. DO NOT overheat the metal; zinc should be kept below 900°F. Have pot empty at the end of the day's use. These metals should NOT be allowed to freeze solid in the pot.

PART LIST

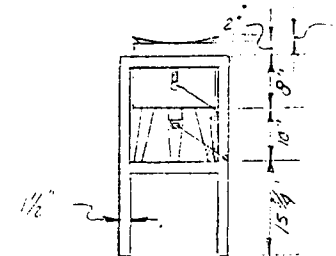
- (1) PARTLOW CONTROL MF-79
- (2) PARTLOW ELEMENT 910 HRL F110 5'
- (3) 160 CAST IRON POT
- (4) CAST IRON WELL T62A
- (5) STAND
- (6) VENTURY VALVE ON MAIN BURNER
- (7) GAS COCK 1/4"
- (8) PIPING
- (9) 1/4" UNION
- (10) 1/4" X 3 NIPPLES
- (11) 1/4" STREET ELBOW
- (12) 1/2" X 18 NIPPLE
- (13) 36" 30MV THERMOCOUPLE HONEYWELL
- (14) PILOT TUBE AND ASSEMBLY
- (15) GAS SAFETY SOLINOID VH7CO 45L
- (16) 1/2" 13SR SPLIT RING
- (17) FURNACE SHELL



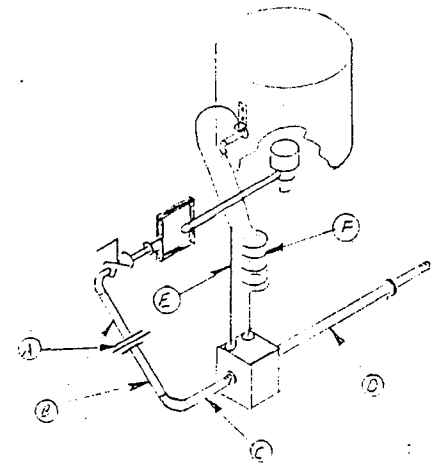
TOP VIEW



RIGHT SIDE VIEW



FRONT VIEW



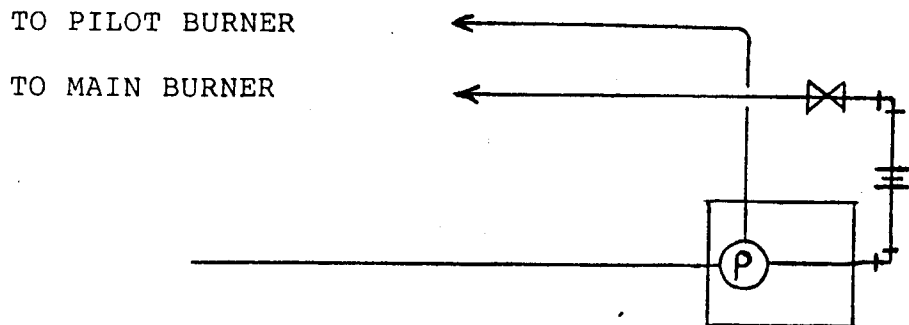
GAS TRAIN DETAIL

N.T.S.

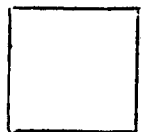
WHITE METAL FURNACE

SCALE: 1/2" = 1'-0"

CONLEY 160 FURNACE



LEGEND



ROBERTSHAW COMBINATION GAS VALVE, SERIES 700, WITH 30 MILLIVOLT SAFETY ELECTROMAGNET ASSEMBLY, AND 110V SOLENOID BUILT IN.



1/4 TURN GAS COCK



MALEABLE ELBOWS



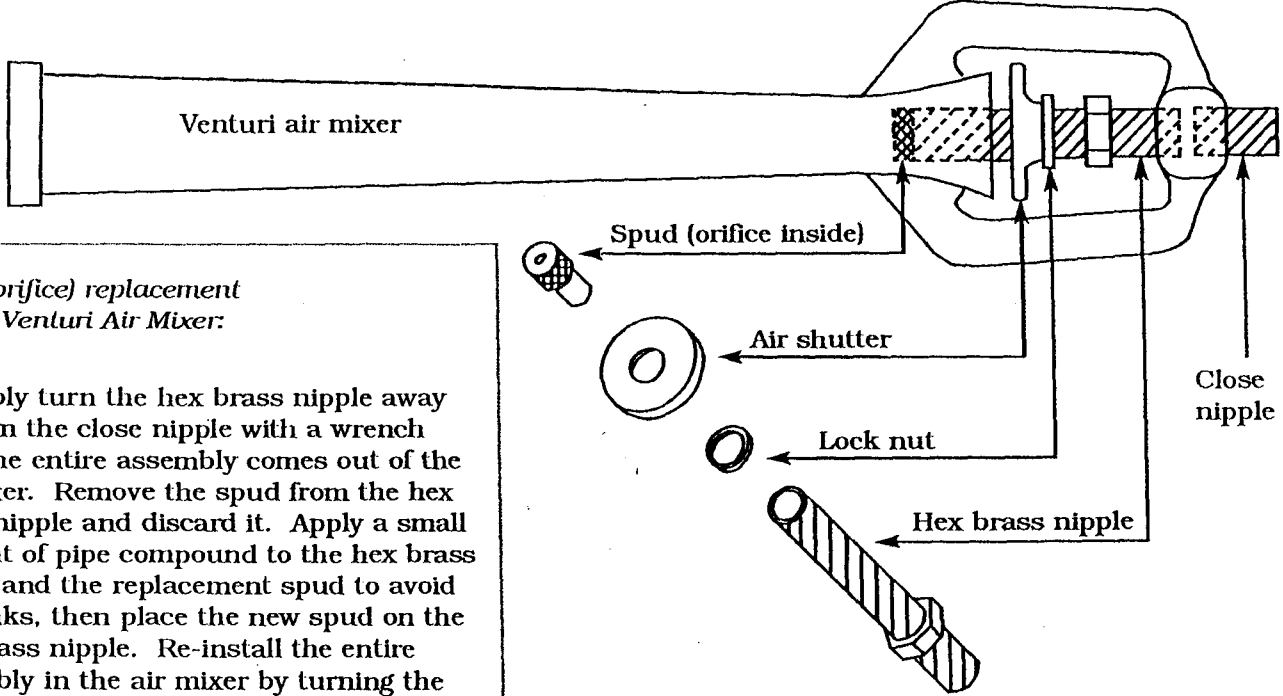
150 lb. MALEABLE UNION



ROBERTSHAW 11'' W.C. PRESSURE REGULATOR BUILT IN TO COMBINATION GAS VALVE. (Propane)
3.5'' W.C. for Natural Gas

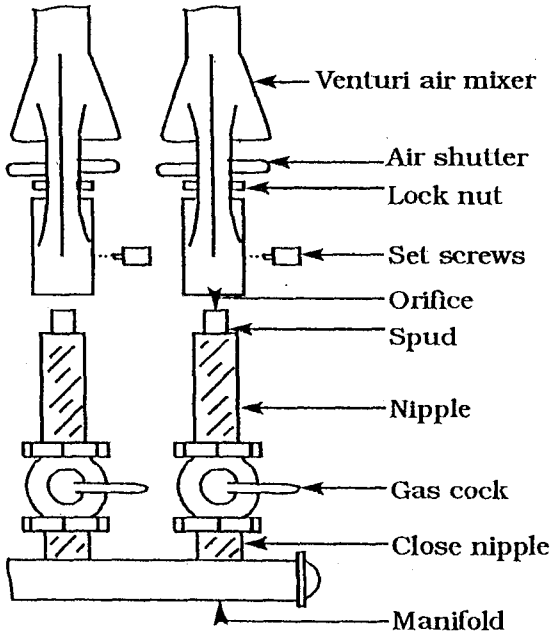
BUZZER VENTURI AND PILOT ASSEMBLY
 - spud (orifice) replacement detailed below -

No blower. No compressed air.
Buzzer
 No complicated piping. Simple.



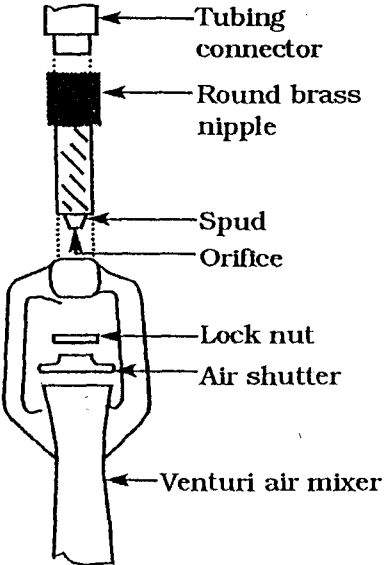
Spud (orifice) replacement for the Venturi Air Mixer:

Simply turn the hex brass nipple away from the close nipple with a wrench until the entire assembly comes out of the air mixer. Remove the spud from the hex brass nipple and discard it. Apply a small amount of pipe compound to the hex brass nipple and the replacement spud to avoid gas leaks, then place the new spud on the hex brass nipple. Re-install the entire assembly in the air mixer by turning the hex brass nipple towards the close nipple.



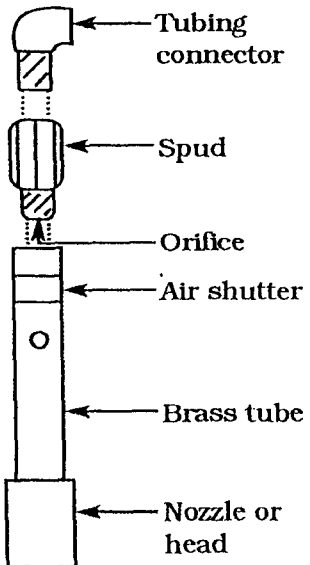
Multiple ring burners

Loosen set screws and remove entire assembly. Unscrew the spud and replace, using a small amount of pipe compound.



#50 Pilot

Disconnect tubing connector and unscrew round brass nipple. Unscrew spud and replace, using a small amount of pipe



C & N Pilot

Remove tubing connector and unscrew spud. Replace spud, using a small amount of pipe compound.