VALOR

Homeflame

MODELS 4705A-N - FOR NATURAL GAS

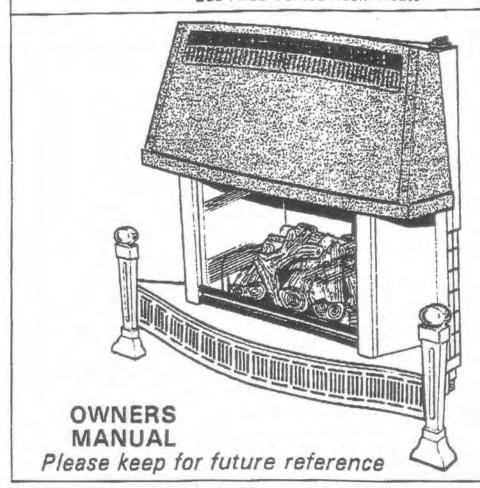
470RB-N - FOR NATURAL GAS

470SA-P - FOR PROPANE

470RB-P - FOR PROPANE -

Gas-Fired Vented Room Heater





FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

FOR YOUR SAFETY

WHAT TO DO IF YOU SMELL GAS

Do not try to light any appliance.

 Do not touch any electrical switch; do not use any phone in your building.

 Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

 If you cannot reach your gas supplier, call the fire department.

PLEASE READ THIS MANUAL BEFORE OPERATING YOUR HEATER.

INSTALLATION INSTRUCTIONS

1. GENERAL

The installation requirements vary with the locality. The installation must conform with local codes. In the absence of local codes, the installation must conform with National Fuel Gas Code ANSI Z223.1.1984, also known as NFPA 54. Only qualified (licensed or trained) personnel should install the product..

1.1 CLEARANCES

Make sure that minimum clearances to combustible construction are maintained during installation including adequate space for the proper operation and servicing of the heater.

The minimum clearances from the heater to combustibles are shown below (Fig. 1).

NOTE: Ensure that the combustion air opening under the heater is not obstructed.

1.2 FLOOR

DO NOT place heater on Carpeting, Vinyl or other soft-surfaced floor coverings. Install only on hard surfaced materials. It is recommended for aesthetic considerations and ease of maintenance that the appliance be installed on a hearth finished with brick, ceramic tile, marble etc. Raising the hearth slightly will help to minimize dust and lint accumulation under the unit.

1.3 DRAFT HOOD

This heater has a draft hood built into its back

and draws its air from either side. It must not be altered or obstructed, and the unit must be installed so that the draft hood is in the same atmospheric pressure zone as the combustion air inlet to the burner.

1.4 VENTING

This heater is a vented appliance. It must be properly connected to a venting system in accordance with the latest edition of the National Fuel Gas Code.

The heater must not be connected to a chimney flue serving a separate solid-fuel burning appliance.

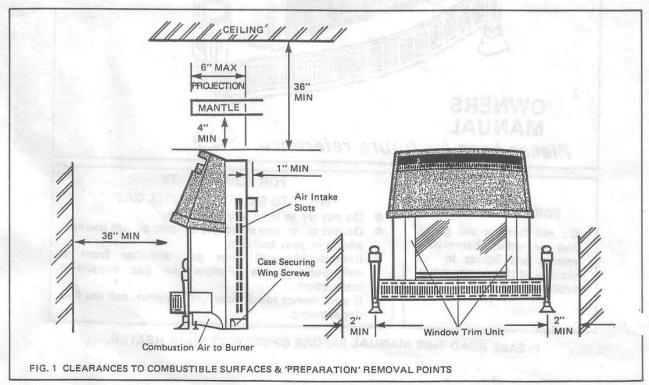
The heater is equipped with a safety control system designed to protect against improper venting of combustion products.

Operation of this heater when not connected to a properly installed and maintained venting system or tampering with the vent safety shutoff system can result in carbon monoxide (CO) poisoning and possible death.

The heater is supplied with a sealing plate for connection to the opening of a solid fuel burning fireplace that is no longer being used.

For free standing installations, vent adaptor kit number LF300 is available. This kit is designed for connecting to a 4 inch round flue.

Flue pipes to the outside must be terminated in a properly approved vent cap installed in accordance with the latest edition of the National Fuel Gas Code.



1.5 GAS

This heater must only be used with the type of gas and within the inlet pressure range shown below.

MODEL	470SAN	470SAP
Gas Type	Natural	Propane
Max Inlet Pressure(in w.c.)	7	14
Min Inlet Pressure(in w.c.)	5	11

Important. Propane systems must include a regulator in the supply line between the L.P. tank and the appliance to reduce the pressure to the maximum figure shown above. Never connect the appliance directly to the supply tank.

2. PREPARATION

2.1 UNPACKING - The heater is packed assembled, except for the ceramic logs, ceramic grids, log support bars, ceramic side cheeks, flue collar, and collar sealing ring, all of which are in a separate styrofoam package within the main carton. The sealing plate is located in the cardboard carton.

GREAT CARE SHOULD BE TAKEN IN REMOVING THE HEATER FROM THE CARTON TO PREVENT DAMAGE TO THE OUTER CASING.

- 2.2 PREPARE THE HEATER by standing it upright and
- (a) Remove the window trim assembly by grasping the 'brass' side trims and pushing upwards to clear their locations. Lift clear of the casing and remove (see fig 1)
- (b) Unscrew the two case securing wing screws (one either side) located in the recesses near the bottom rear of the outer casing sides (see fig 1)
- (c) Lift the outer casing assembly clear and place safely to one side.
- (d) Remove the window frame by releasing the two side catches and lifting the frame clear of its bottom location. Place the window frame safely to one side.
- (e) Fit the flue collar to the back of the heater using the self tapping screws provided.

NOTE: The white baseboard in the radiant box must be left in place - it is not packing material.

2.3 VENTING CONNECTIONS

2.3.1. VENTING INTO SOLID FUEL BURNING FIREPLACES

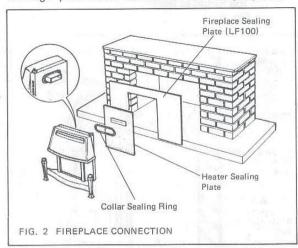
2.3.1.1. GENERAL

- a. Prior to installation, the chimney must be swept and checked for soundness.
- b. The fireplace opening must be sealed in a permanent manner to receive the flue collar of the appliance.

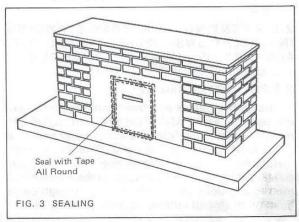
- In areas of extreme cold or where experience or local codes dictate, an approved chimney liner shall be installed.
- d. Any flue damper shall be removed or fixed open in a permanent manner to an opening not less than 20 square inches.

2.3.1.2. CONNECTION TO A FIREPLACE (FACE SEALING METHOD) (fig 2)

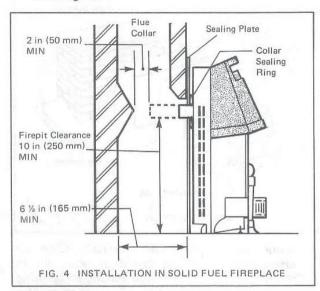
*(Part No LF 100 fireplace sealing plate is available through your Valor Inc. dealer for this purpose).



- a. Using non-combustible materials such as sheet metal, cement board or brick set in mortar; seal in the fireplace leaving an opening not less than 20" high by 12" wide or greater than 22" high by 16" wide.* Ensure that a proper seal is obtained. This opening will henceforth be used as a means of inspecting and servicing the chimney flue.
- b. Use the heater sealing plate supplied with the appliance to close in the inspection opening. Attach it with appropriate fastenings and seal the perimeter with a heat proof foil type tape. Up to 3" may be trimmed from the top of the sealing plate so that it won't be exposed when the heater is set in place. SEE FIGURE 3.



c. Fit the flue collar sealing ring over the flue collar and push it up to the heater back. Install the appliance on the fireplace hearth with the flue collar passing through the rectangular opening in the sealing plate. The collar sealing ring should be trapped between the sealing plate and the heater back. The flue collar must have a minimum clearance of at least 2" between its open end and any obstruction. There should be a minimum 10" clearance from the firepit of the fireplace to the flue outlet. See Fig. 4.



2.3.1.3. IMPORTANT CHECKS

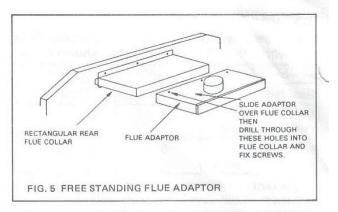
- Check for void between the decorative fireplace facing & lintel. If necessary, fill with mortar.
- Seal any ash dump or combustion air openings inside the fireplace.

2.3.1.4. CONNECTION TO A CHIMNEY LINER

- a. Use only a flue liner system approved by the enforcing authority and installed in accordance with the manufacturers instructions.
- The flue liner must have a minimum diameter of 4".
- 2.3.2.VENTING FOR FREE-STANDING INSTALLATIONS. (PART LF300 FLUE ADAPTOR KIT IS AVAILABLE FROM YOUR VALOR INC. DEALER FOR THIS PURPOSE)

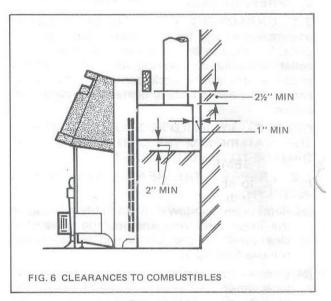
2.3.2.1. ATTACHMENT

To install the heater in a free-standing mode, use the optional FLUE ADAPTOR KIT. Part LF300 to provide a transition from the rectangular rear flue collar to 4" round top flue outlet. The flue adaptor installs by sliding the adaptor over the rectangular collar, drilling through the holes in the adaptor into the rectangular collar and fastening through these holes with thread cutting screws. (See fig 5)



2.3.2.2. CLEARANCES TO COMBUSTIBLES

Minimum distances to combustible surfaces are shown below (Fig. 6).



2.4. LEVELLING

Level the heater by slacking off the lock nuts on the 2 black levelling screws (situated near the front corners of the main case) and turning the screws up or down as required. The screw heads bear on the floor plate. After ensuring that the heater is square with the wall, tighten the lock nuts.

2.5 GAS SUPPLY CONNECTION

2.5.1. PIPING CONNECTION

Gas connection is $\frac{3}{8}$ " NPT and is on the right hand side.

We recommend using only new black iron or steelpipes. Copper tubing may be acceptable. CHECK LOCAL CODES.

The gas supply line shall be sized and installed to provide a sufficient supply of gas to meet the maximum demand of the heater without undue loss of pressure.

The sealant used on the threaded joints of the gas pipe must be a type to resist the action of the gas. (This sealant should be applied lightly to male threads to ensure excess sealant does not enter lines.)

The supply system must include a manual shutoff valve and union in the line, so the heater can be disconnected for servicing. Unions in gas lines must be of the ground joint type.

Include a drip leg (trap) and a plugged ½" NPT tapping in the line. The tapping should be accessible for test gauge connections upstream of the gas supply connection to the heater.

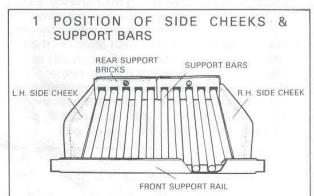
2.5.2. CHECKS AFTER GAS CONNECTION

All gas piping and connections must be tested for leaks after installation or servicing. All leaks must be corrected immediately.

- (a) Make sure the control of the heater is in the "OFF" position.
- (b) Open the manual shutoff valve. Test for leaks by applying a liquid detergent to all joints. CAUTION: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS.
- (c) Correct any leak detected at once. (Bubbles forming indicate a gas leak.)

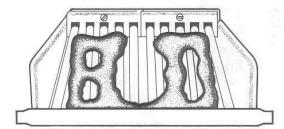
2.6. ASSEMBLE THE LOGS

In order to obtain the correct performance, the Ceramic Grids and Logs must be positioned as in these instructions. A poor flame pattern will result if the logs are positioned other than as described below. Take care to duplicate the positioning as shown in each illustration. The Ceramic Grids are handed. Each Log has a number stamped on it which corresponds with the number referred to in these Instructions. WHEN IN POSITION THE NUMBERS ON THE LOGS FACE DOWN.



Make sure the side cheeks are in position and that the 10 support bars are correctly positioned in the cut-out slots in the rear support bricks and front support rail. Make sure these are not broken.

2 POSITION THE CERAMIC GRIDS



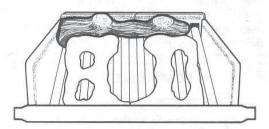
The grids are handed.

The left hand grid (which is 'L' shaped) must be positioned so that its long 'finger' is at the front of the fire bed and points to the right. The locating lugs on the underside of the grid must drop in place between the third and fourth support rods, counting from the left hand side.

The right hand grid (which is a reversed 'L' shape) must be positioned so that it is a mirror image of the left hand grid, *i.e.*, the long 'finger' must be at the front of the fire bed and pointing to the left. The locating lugs on the underside of the grid must drop in place between the third and fourth support rods counting from the right hand side.

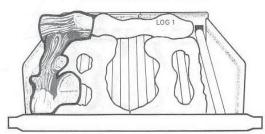
When assembled, the 'fingers' will touch in the center.

3 POSITION LOG No. 1



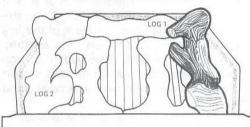
Place log No 1 behind the ceramic grids. The 'L' shaped end of the log should be at the left hand side with the short leg of the 'L' facing to the front of the fire. The location lug underneath the log should rest between the two center support bars. The log should be pushed as far to the left as possible.

4 POSITION LOG No. 2



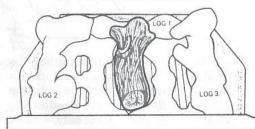
Place log No 2 at the left side of the bed. Slide the wedge shaped end under the top lip of the metal front support rail and to the left of the ceramic grid. The left hand stump of the T shaped branch at the rear should be over the left side cheek and touch the bright metal side of the firebox.

5 POSITION LOG No. 3



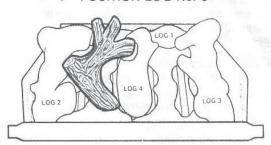
Place log No 3 at the right side of the bed. Slide the wedge shaped end under the top lip of the metal front support rail and to the right of the ceramic grid. The right hand end of the T shaped branch at the rear should be over the right side cheek and touch the bright metal side of the fire box.

6 POSITION LOG No. 4



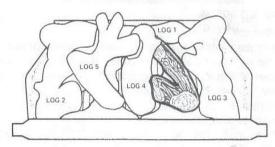
Place log No 4 in the center of the fire bed with the wide end at the front. The two location lugs underneath the log should drop between the two center support rods. The bottom front edge of the log must be BEHIND the 'fingers' at the front of the ceramic grids and NOT on top of the grids. The base of the log should rest directly on the support bars over the full length.

7 POSITION LOG No. 5

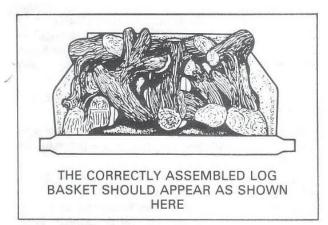


Place log No 5 between No 2 and log No 4. The arm with three branches should point to the rear center with the right hand branch resting inside the comma shaped seating on the top of log No 4. The left hand branch should rest against the right hand of the rear T section of log No 2 and be pushed down to touch the rear log (No 1). The branch at the front of the log should rest against the front right hand piece of log No 2 and its right hand edge (pointing to the front center of the bed) should touch the front left side of the center log (No 4).

8 POSITION LOG No. 6



Place log No 6 between log No 3 and log No 4. The joined section of the two branches should be at the front. Slide the long thin branch underneath the small stump at the right hand side of the center log (No 4) so that it is pointing towards the rear center of the bed and so that its rear edge touches the rear log (log No 1). The lug underneath the front (jointed) part of the log should drop into the front hole in the ceramic grid.



REPLACE THE GLASS WINDOW AND FRAME

3. COMMISSIONING

3.1. CHECK OPERATION OF CONTROLS

NOTE: To check the control knob settings before the outer casing is attached, the small hole in the bracket at the left of the igniter button should be used as the control position indicator.

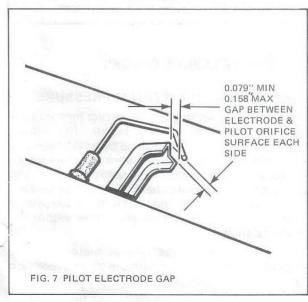
3.1.1. CHECK PILOT IGNITION

NOTE: If the heater has previously been operated, wait 5 minutes after shutting off before relighting.

Pilot ignition is initiated by a piezo-electric spark produced by depressing the igniter push button situated next to the control knob on top of the heater.

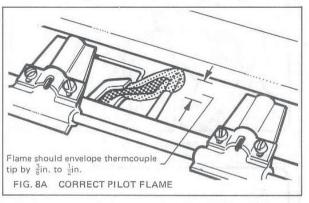
To ignite the pilot gas:

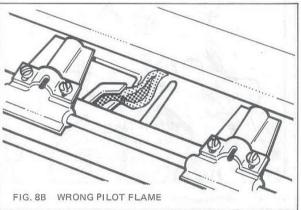
- (a) Push in the control knob and turn counterclockwise to the 1/IGN position.
- (b) Hold the knob down for a few seconds to allow the gas to flow to the pilot.



- (c) With the control knob still held down, press in the igniter push button several times until the pilot is lit. If the pilot does not ignite (after ensuring that the air has been purged), check that the electrode gap is set as shown in fig 7.(See servicing section for access to the electrode).
- (d) Hold the control knob down for a further 10 seconds to prevent the flame failure device from shutting off the gas while the thermocouple probe is warming up. The pilot should then remain lit.

Check the pilot flame pattern (see fig 8A & B)





3.1.2. CHECK ALL CONTROL SETTINGS

Press the control knob down slightly. Turn progressively counter clockwise and check for the correct flame pattern at each position. The decorative flame can be adjusted if necessary — see section 3.1.2.1.

CONTROL SETTING

1/IGN — Main Burner Off (Pilot/Ignition Position)

Decorative Flame Burner Off

2 — Main Burner Center Section only on (Low Heat)

Decorative Flame Burner Off

3 — Main Burner Center Section only on (Low Heat)

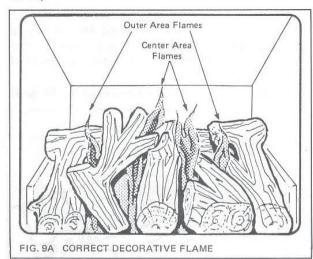
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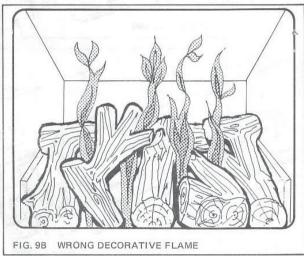
Decorative Burner - Center Area only on

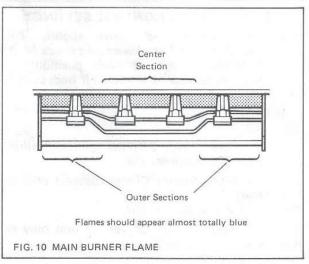
4 — Main Burner Center and Outer Sections on (High Heat)

Decorative Burner - All areas on

The correct flame patterns are shown below (figs 9 & 10)





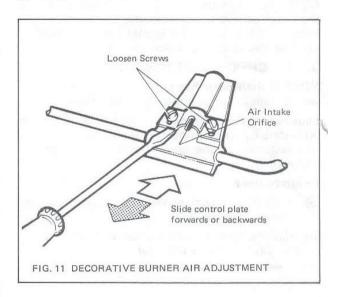


OFF: Depress the Knob slightly turn clockwise to OFF and release Knob. If any resistance is experienced at the 1/IGN position release the Knob before turning to OFF.

3.1.2.1. DECORATIVE FLAME ADJUSTMENTS (fig 11)

The decorative flame burner may need adjusting to suit the local supply gas. The adjustment procedure is as follows:-

- (a) Light the pilot and turn to setting number 4.
- (b) Leave on for 15 minutes.
- (c) Loosen the slotted screws fixing the air intake control plates located on the decorative flame burner nozzles.
- (d) Adjust the air intake by sliding the control plates forward or back using the tip of the screwdriver to give the correct flame pattern. There should be no appreciable deposit of carbon on the logs.
- (e) Retighten the screws.



3.2 GAS PRESSURE CHECKS

3.2.1. CHECK THE SYSTEM PRESSURE

The unit is pre-set to give the correct heat input at the inlet pressure shown below. The burner manifold pressure is controlled by a regulator and should be checked at the pressure test point which is located immediately downstream of the regulator. The pressure check should be carried out with the unit burning and the control knob setting at 4. The pressure setting should be within the limits as shown.

If in doubt - check gas rate at meter after 10 minutes of operation at maximum (Control position 4)

MODEL	470SAN	470SAP
GAS TYPE	Natural	Propane
BURNER INLET ORIFICE SIZES (ins) MAIN BURNER: Center Section Outer Sections DECORATIVE BURNER All Sections	0.045 0.071 0.0276	0.028 0.0375 0.0276
Input (Btw/hr)	20,000	19,500
Max Output (Btu/hr)	15,000	14,625
SUPPLY PRESSURE (ins w.c.) FOR INPUT ADJUSTMENT Maximum Minimum	7.0 5.0	14.0 11.0
Manifold Pressure (ins w.c.)	3.5	9.5

3.2.2. PRESSURE TESTING SUPPLY LINE

The heater and its individual manual shutoff valve must be disconnected from the gas supply piping system and capped during any pressure testing of that system at pressures in excess of ½"p.s.i.g.

The heater must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at pressures equal to or less than 1/2 p.s.i.g.

CHECK COMBUSTION PRODUCT VENTING

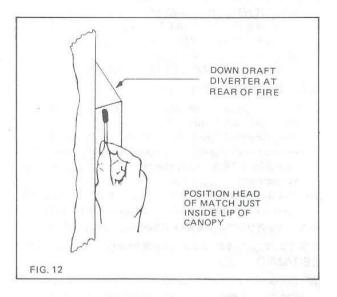
Check that combustion product venting is satisfactory as follows:

- (a) Close all doors and windows and start all exhaust fans in the room.
- (b) Light the heater and set control at high setting (position 4)
- (c) Leave for 5 minutes.
- (d) The heater should remain on if venting is satisfactory. If the heater shuts off before 5 minutes, wait 10 minutes and then repeat steps (b) and (c).
 - If the heater again shuts off before 5 minutes, the vent safety shut off system is probably operating indicating incorrect venting.
- (e) A confirmatory test for incorrect venting can be made by re-lighting the heater, setting to position 4 and testing with a smoke match or cigarette positioned just inside the lip of the draft diverter left hand side (see fig 12). If venting is correct, most of the smoke should be drawn into the draft diverter. If the above tests indicate incorrect venting, check for cause. If necessary seek expert advice AND DO NOT OPERATE THE HEATER.

3.4 COMPLETE THE ASSEMBLY

- (a) Re-locate the outer casing assembly over the unit. Re-fit the wing screws in the bottom sides of the case. Make sure that the casing sides are located outside of the back panel.
- (b) Adjust the brass andirons at the front of the

- casing by slackening the Pozi-drive screw behind each one and ensuring that the foot of the andiron rests on the floor. Re-tighten the screws
- (c) Replace the window trim assembly. (Note: This assembly cannot be fitted unless the window frame side catches are correctly located).



3.5 FINAL OPERATION CHECK:

Re-check the ignition and operate the heater on all settings.

MAKE SURE THAT THE USER KNOWS THAT:

- 1. The control knob must be pressed in before turning counter-clockwise.
- To light the heater the control knob must be turned to 1/IGN position and the ignition button depressed. Explain lighting sequence, and how to turn off.
- In the event of the glass front panel being damaged the heater should be turned off and not used until the glass is replaced.
- The window frame can be removed to re-set the logs if necessary but must be placed back in position. (Explain how to remove the window frame).
- 5. The heater may smell slightly for a period due to its newness.
- 6. It is recommended that the heater be serviced at least once a year.
- 7. The supply system has a shutoff valve (point out its location).

HAND OVER THE INSTRUCTION BOOKLETS TO THE OWNER.

MAINTENANCE AND SERVICING

4.1. GENERAL

- (a) ALWAYS SHUT OFF GAS SUPPLY AND MAKE SURE THAT THE HEATER IS COOL BEFORE COMMENCING ANY SERVICING OPERATION.
- (b) ALWAYS CHECK FOR LEAKS AFTER SERVICING.
- (c) ALWAYS CHECK FOR CORRECT COMBUSTION AND VENTILATION AIR FLOW.
- (d) ALWAYS CHECK THAT THE APPLIANCE AREA IS CLEAR AND FREE FROM COMBUSTIBLE MATERIALS, GASOLINE AND OTHER FLAMMABLE VAPORS AND LIQUIDS.

4.2. PERIODIC CHECKS

- (a) It is recommended that the venting system is checked annually. The heater should be disconnected from the venting chimney or flue system and the system inspected and cleared of any debris. Make sure the heater is resealed to the system after inspection.
- (b) The flame patterns should be periodically checked. (See figs 8 through 10 in installation section).

4.3. SERVICING AND REPLACING PARTS

4.3.1. TO REPLACE CERAMIC LOG(S) OR CERAMIC GRIDS:

- (a) Remove the window trim assembly by grasping the two brass side trims and pushing upwards to clear their location. Lift clear of the casing and remove.
- (b) Remove the window frame by releasing the two side catches and lifting the frame clear of its bottom location. Place window frame carefully to one side.
- (c) The Log(s) or ceramic grids can now be removed as required. Replace the log(s) or ceramic grids as shown in The Log Assembly Section. To replace window frame and decorative trim, reverse the procedure above.

4.3.2. TO REPLACE THE LOG SUPPORT RODS:

Proceed as section 4.3.1.(a) and (b) above. Remove all the logs and ceramic grids. Remove and replace the log support rods as necessary, making sure no broken pieces of ceramic are left on the bed under the support rods. Replace the ceramic grids and logs as shown in the Log Assembly Section. Replace window frame and decorative trim.

4.3.3. TO REPLACE THE WINDOW SEAL

Proceed as Section 4.3.1.(a) and (b) above. Carefully bend the bottom location tabs to release the ends of the seal and lift out gasket. Replace with the new seal in reverse order. Replace the window frame and window trim assembly.

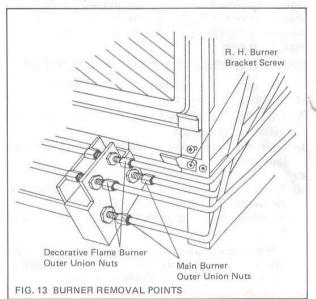
4.3.4. GENERAL ACCESS TO HEATER INTERIOR

 (a) Remove the window trim assembly by grasping the two 'brass' side trims and pushing upwards to

- clear their location. Lift clear of the casing and
- (b) Unscrew the two case securing wing screws (one either side) located in the recesses' near the bottom rear of the outer casing sides.
- (c) Lift the outer casing clear and place safely to one side.

4.3.5. TO REMOVE THE BURNER UNIT

- (a) Remove outer casing (see 4.3.4.)
- (b) Disconnect the pilot gas supply pipe from the pilot elbow
- (c) Disconnect the thermocouple conduction wire by undoing the nut connecting it to the pilot probe.
- (d) Disconnect the 4 outer union nuts connecting the piping to the main and decorative flame burners. (See fig 13)
- (e) Remove the RH burner bracket screw (see fig 13)
- (f) Slide the burner to the left to disengage from its right hand location. Pull the burner forward and disconnect the electrode lead.
- (g) Move the burner to the right to disengage it completely.



4.3.6. TO CHANGE BURNER INLET GAS INJECTOR(S)

- (a) Remove burner unit (see 4.3.5.)
- (b) Unscrew injector(s) and replace with new.

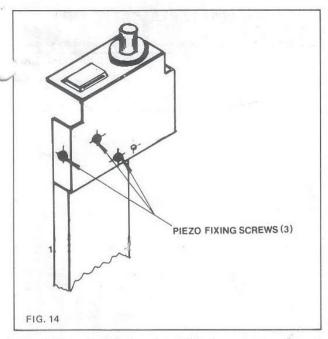
4.3.7. TO CHANGE SPARK ELECTRODE

- (a) Remove burner unit (see 4.3.5.)
- (b) Remove the electrode retaining screw.
- (c) Replace with new electrode. Make sure the spark gap is as shown in fig 7.

4.3.8. TO CHANGE PIEZO UNIT

Remove the outer casing. (See 4.3.4.)

Disconnect the ignition lead from the piezo unit. Remove the fixing screws from the piezo clamp bracket (See Fig 14), and withdraw bracket. Remove



locknut from under bracket. Withdraw piezo unit and replace with new unit. Reassemble in reverse order.

4.3.9. TO REPLACE THE CONTROL TAP UNIT

Remove the outer casing (see 4.3.4.). Disconnect the thermocouple nut from the base of the control tap.

Slacken the screws holding the tap bracket.

 Undo the five union nuts holding the pipework to the control tap.

Turn the control to gain access to the split pin holding the extension rod to the control tap spindle. Remove the pin and lift the extension rod clear of the control tap.

Undo the control locknut and pull the control down and out of the support bracket. Fit the new control in reverse order taking care to align and tighten the union nuts correctly before fitting the locknut. Reconnect the thermocouple nut. DO NOT OVERTIGHTEN THE NUT.

4.4. REPAIR PARTS

- (a) Contact your dealer for a source of parts.
- (b) If you have any questions about parts and service, your dealer can answer them or obtain answers.
- (c) If you would like to communicate with the factory write:-VALOR INC. 699 WEST MAIN STREET

P.O. BOX 2661

HENDERSONVILLE TN 37077

 d) The repair parts are itemized overleaf. Please always quote Part Number and description with requests for spares. 