

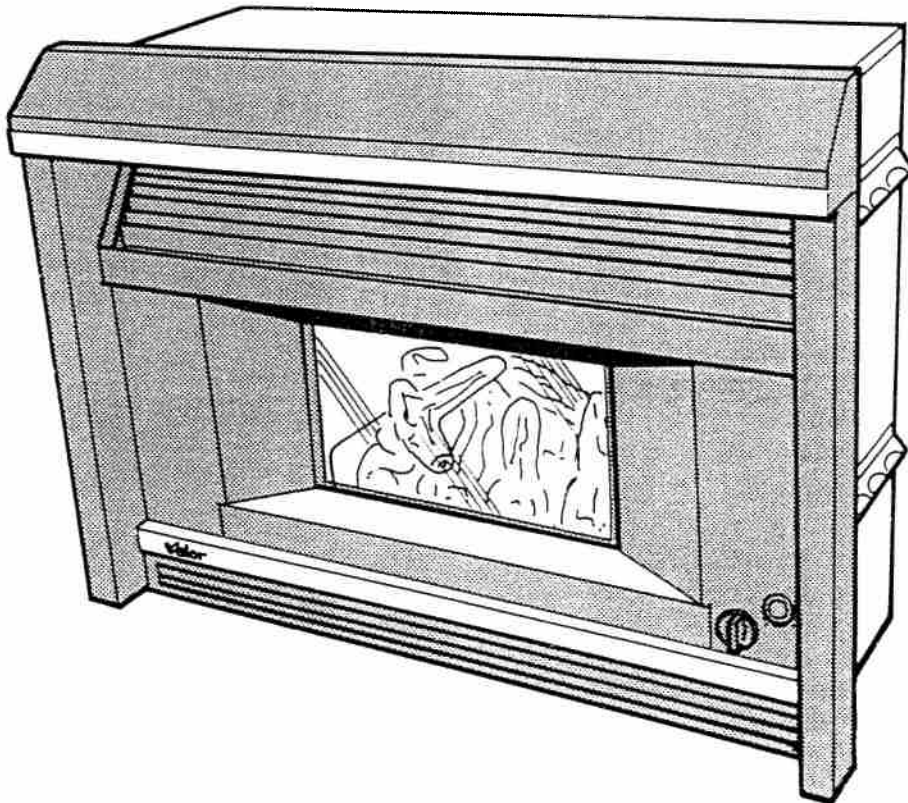
valor



Direct Vent Wall Furnace

MODEL 502CN

For use with Natural Gas



INSTALLATION INSTRUCTIONS

PLEASE LEAVE THESE INSTRUCTIONS WITH THE OWNER

Vous pourrez vous procurer un exemplaire en langue Française
de cette brochure chez votre concessionnaire.

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

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

VALOR HEATING
ERDINGTON, BIRMINGHAM
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ENGLAND

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1. INSTALLATION

1.1 GENERAL

This fireplace is certified by the Canadian Gas Association for installation on an outside wall and for use with Natural Gas. The installation must conform with local codes. In the absence of local codes, the installation must conform with the current CAN-1B 149.1 installation code. Only qualified personnel should install the appliance.

1.2 SUPPLY GAS

This fireplace must only be used with Natural Gas having a pressure at the appliance inlet between a maximum of 8in. W.C. and a minimum of 5in. W.C.

1.3 LOCATION

The fireplace must be located on an outside wall.

1.3.1 THE WALL

The vent reach from the outside surface of the wall to the back of the fireplace must be between 4" minimum and 16" maximum.

The vent clearance hole in the wall is $7\frac{3}{8}$ " diameter.

1.3.2 OUTSIDE THE WALL

This fireplace is designed to operate when an undisturbed air flow hits the outside vent terminal from any direction. Minimal clearances to external obstructions which could disrupt the air flow are shown in fig. 1.

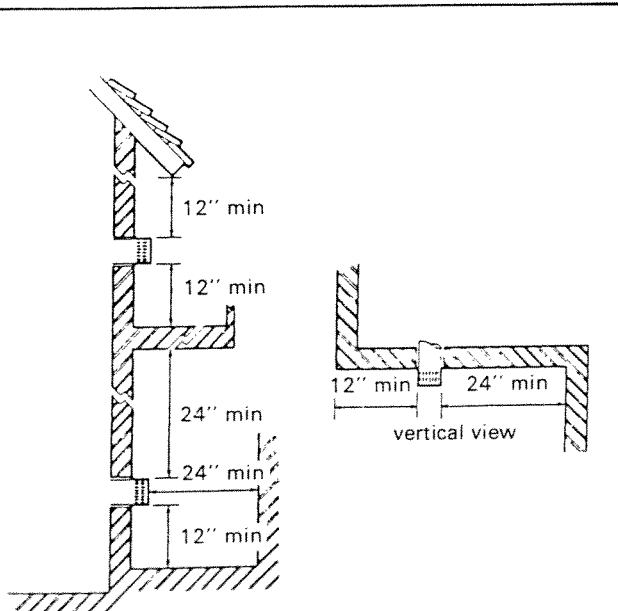


FIG. 1 MINIMUM OUTSIDE CLEARANCES

In addition the vent outlet should not terminate within 3 feet of a building opening or the combustion air inlet of another appliance. This clearance may be reduced to 9 inches with the approval of the authority having jurisdiction. The vent outlet should not terminate within 6 feet of a mechanical air supply to a building.

The vent outlet should be positioned where it will not be covered by any snowdrifts.

If the outside vent terminal is to be located where it will be accessible to any person, we recommend that a guard is fitted over the terminal to prevent damage to the vent and to prevent it being touched. The terminal gets very hot in use and could cause burns. A suitable optional guard is available from your supplier - ask for guard part # 235.

1.3.3 INSIDE THE WALL

A fireplace cavity maintaining the dimensions shown in fig. 2 is required. As the unit installs after the wall finish is applied, the depth must always be measured from a finished surface.

Minimum clearances to combustible materials inside the room must be no less than those shown in fig. 3.

Combustible materials within the framing (such as insulation etc.) must not be closer to the outside surfaces of the fireplace metal case than the points of the "V" shaped spacing strips on the sides and back of the case. Apart from this requirement, no clearances to combustible materials inside the framing are required.

1.4 GAS FEED LINE

The fireplace case contains 3 alternative gas line access panels - two panels in the case back and one in the right side. The position of the openings is shown in fig. 3. The gas feed line should be extended so that connection to the appliance can be through one of these panel openings. The gas connection point to the appliance firebox is at the right side. It will therefore be preferable if the feed line can enter the fireplace case through the right side access panel. See section 1.12 for gas supply connection details.

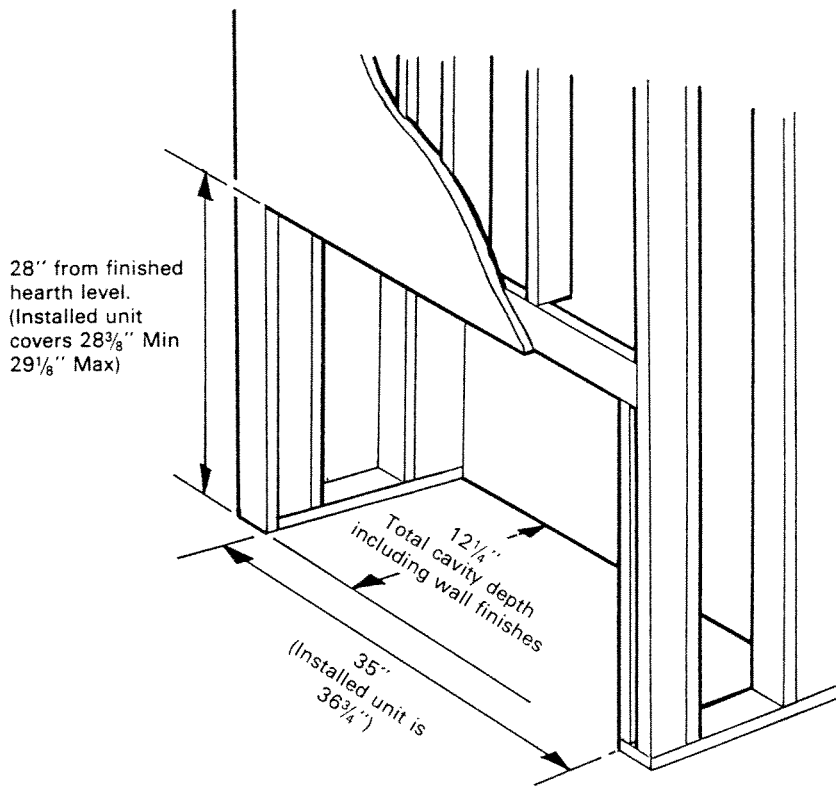


FIG. 2 FRAMING

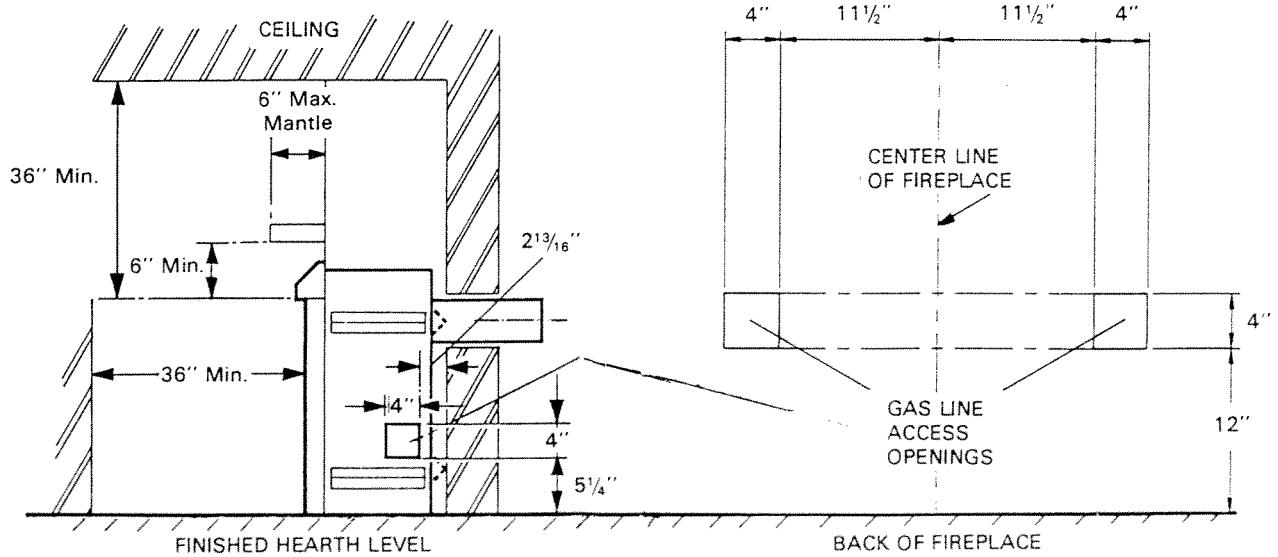


FIG. 3 CLEARANCES TO COMBUSTIBLE MATERIALS & GAS LINE AREAS

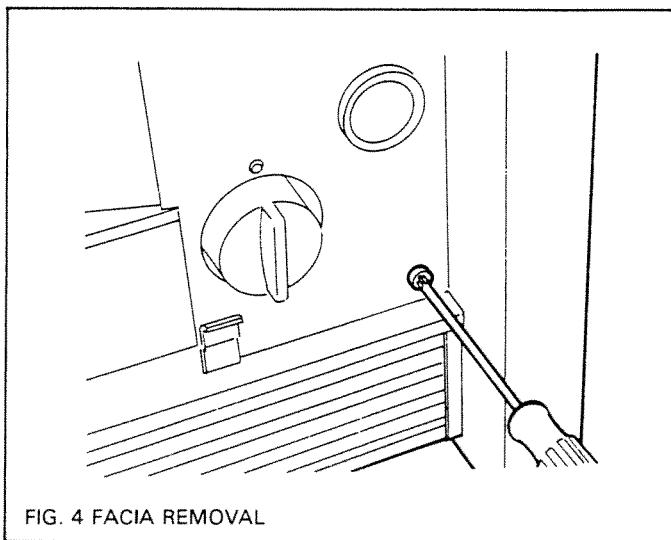
1.5 FIREPLACE PACK CONTENTS

The pack contains:

- 1 Fireplace unit (Comprising of the outer case complete with assembled firebox unit and front facia unit).
- 1 Top front grille.
- 1 Facia strip for bottom front.
- 1 Thin Sealing ring for vent to case sealing.
- 1 Thick Sealing ring for vent to case sealing.
- 1 Thick Sealing ring for vent to outside wall plates sealing.
- 5 Ceramic logs in styrofoam pack.
- 2 Ceramic side cheeks.
- 1 Air intake & vent tube unit.
- 3 Vent tube locating plates.
- 1 Outer vent shield tube.
- 1 Bag containing fixing screws & plugs.

1.5.1 REMOVE THE FRONT FACIA (SEE FIG. 4)

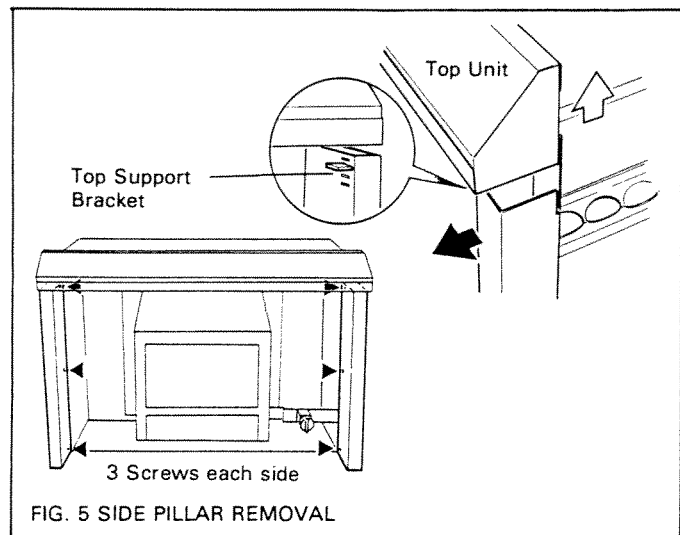
Remove the front facia by withdrawing the two screws situated near the bottom corners of the facia. Lift the facia forward to clear the control knob and expose the rear of the piezo ignitor unit. Detach the leads from



the body of the piezo ignitor unit then lift the facia completely clear and store in a safe place.

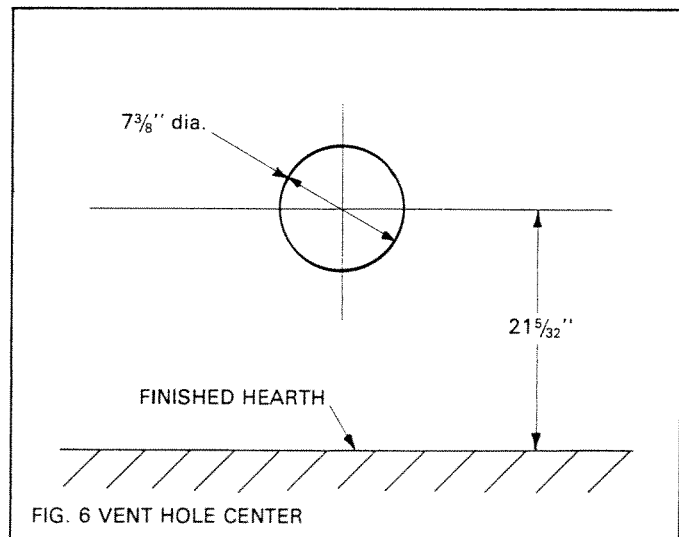
The vent unit, ceramic parts and most other loose items will be found inside the fireplace outer case.

Check that all the contents listed are in the pack and are undamaged.



1.5.2 REMOVE THE SIDE PILLARS (SEE FIG. 5)

- Remove the 3 screws holding each side pillar.
- Lift up the top cross unit to free the side pillars. To prevent them falling out and getting lost, remove the 2 top support brackets located in the slots in the side pillars. Put the pillars and support brackets in a safe place.



1.6 PREPARING THE VENT HOLE IN WALL

Before cutting the vent hole in the wall, make sure that the finished hearth level is established. Once the vent hole is cut in the wall, it will not be possible to alter the position of the heater without re-cutting the wall.

- Place dust sheets on the floor.
- Mark the position of the center of the vent on the wall (see fig. 6).

- (c) Cut $7\frac{3}{8}$ " dia. hole through the wall making sure that it is straight and level.

1.7 PREPARE THE VENT UNIT

(See fig. 7)

- (a) Measure the total wall depth from finished interior to finished exterior surfaces.
- (b) Mark the vent unit at a length equal to the total wall depth **plus 5 in.** measured from the outside end of the vent cap.

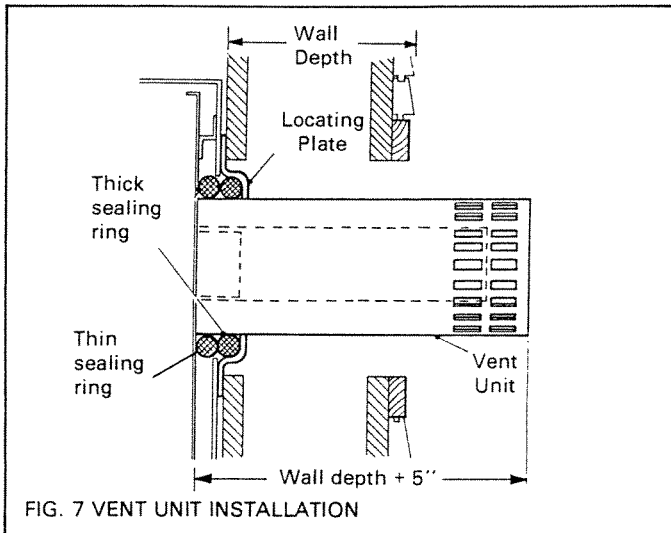


FIG. 7 VENT UNIT INSTALLATION

- (c) Insert the styrofoam support and cut off the vent tubes squarely at this marked position.

IMPORTANT: MAKE SURE THAT ALL STYROFOAM IS REMOVED FROM THE VENT UNIT AFTER CUTTING.

1.8 FIT THE VENT UNIT

- (a) Insert the cut end of the vent unit through the hole in the rear of the case. **Make sure that the seam on the outer vent tube is not at the bottom.** Push the vent unit on to the two collars at back of the firebox.

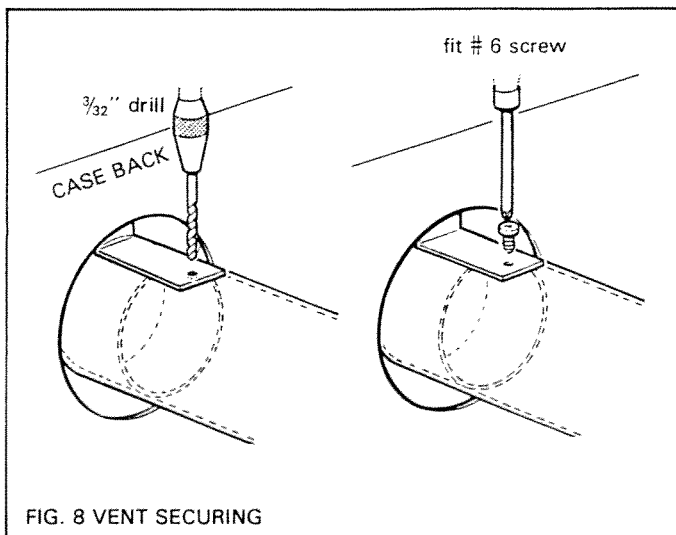


FIG. 8 VENT SECURING

IMPORTANT WARNING: MAKE SURE THAT THE VENT UNIT IS FULLY PUSHED HOME ONTO BOTH COLLARS. FAILURE TO SECURELY INSTALL THE VENT COULD RESULT IN A HAZARD TO THE USER.

- (b) A #6 x $\frac{3}{8}$ " thread tapping screw is supplied to help secure the vent unit to the fireplace outlet. Insert a $\frac{3}{32}$ " drill through the hole in the vent securing bracket (situated above the outer collar (see fig. 8). Drill into the vent outer tube and secure with the screw.
- (c) Fit one thin and one thick soft ceramic sealing ring over the vent unit. The thin ring must be on the inside and the thick ring outside - see figs 7 & 9. Push the seals up to the back of the firebox.
- (d) Fit one of the vent tube locating plates over the vent unit. Push the

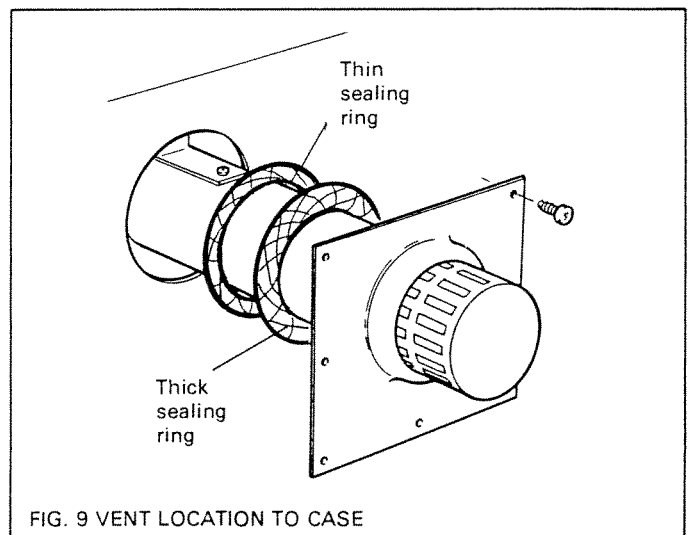


FIG. 9 VENT LOCATION TO CASE

plate up to the outer case. Make sure that the ceramic seals are located in the well in the plate and up to the firebox back and that they are not trapped between the locating plate and the outer case.

- (e) Secure the locating plate to the back of the outer case using the seven #8 thread tapping screws provided (see fig. 9).

1.9 INSTALL THE FIREPLACE

- (a) Position the fireplace (with vent attached) into the framed enclosure. Push the fireplace right up to the wall with the vent projecting through the wall. Make sure that the dished ring on the vent locating plate at the back of the fireplace is fully centralized with the vent hole in the wall.

- (b) Fix the fireplace to the framing enclosure using two of the wood screws supplied through each side flange of the metal case (see fig. 10).
- (c) Replace the two side pillars by lifting up the top cross unit and inserting the side pillars. Fix the pillars to the

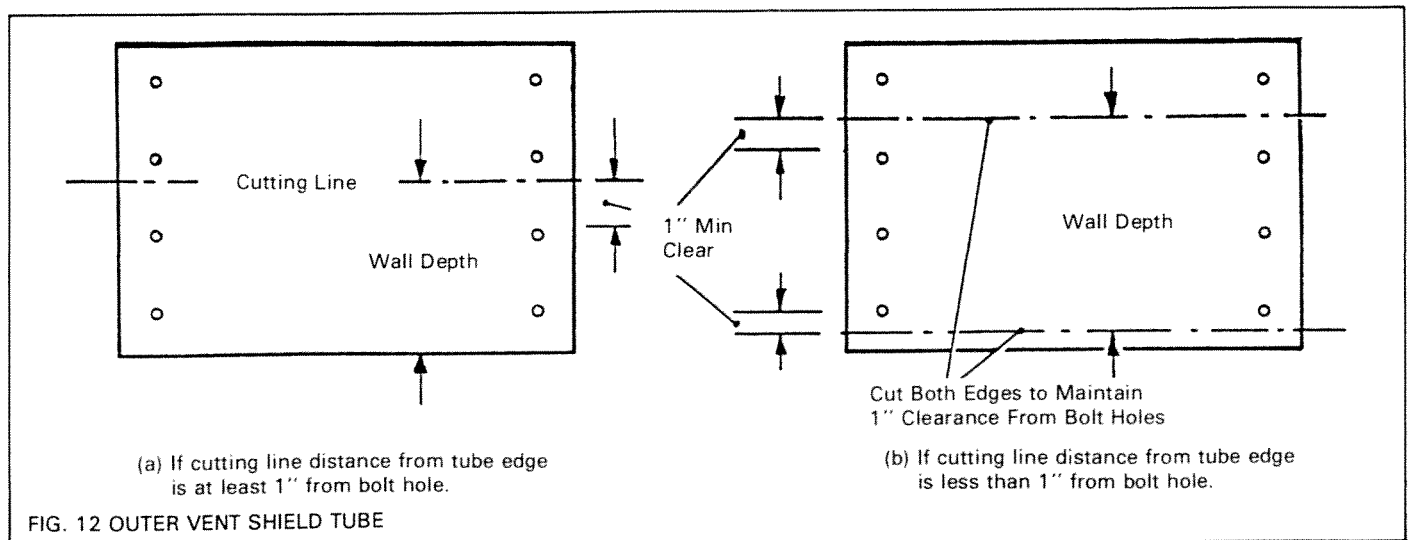
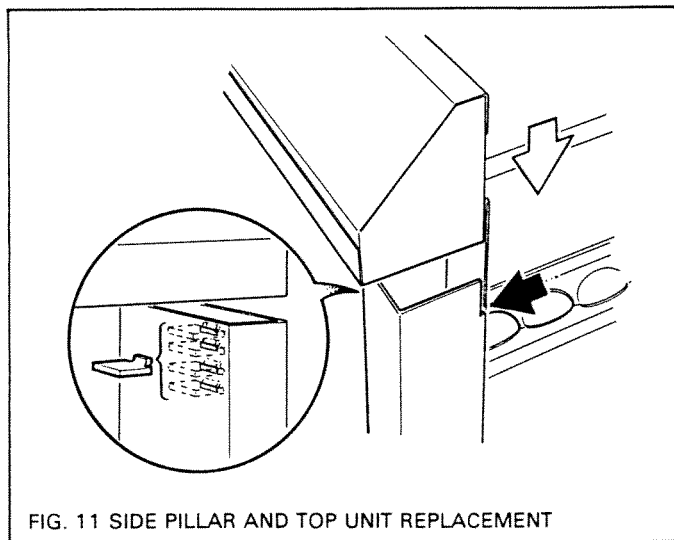
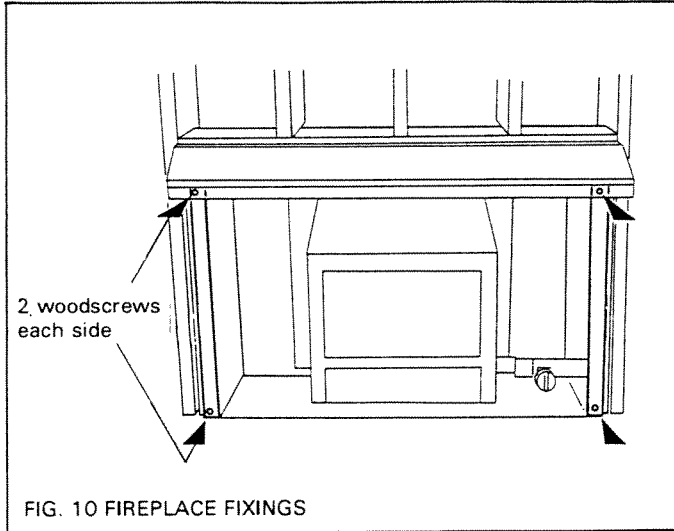
fireplace case with the three screws each side previously removed. Relocate a top support bracket in one of the slots in each side pillar. There are four slots in each pillar giving a choice of height for the top unit. Make sure that the top cross unit is properly located over the side pillars and rests on the support brackets (see fig. 11).

1.10 PREPARE THE OUTER VENT SHIELD TUBE

- (a) The outer vent shield tube is supplied coiled round the vent unit. Flatten it and cut at a length of **wall depth plus 1/2 in.** Make sure that the cutting line is at least 1 inch away from the nearest bolt hole (see fig. 12).
- (b) Form the shield into a tube with the holes aligned. Fasten using the 10 bolts and nuts provided, with the bolt heads outside.
- (c) Insert the shield tube into the wall from the outside wall. Push the tube firmly in so that it locates fully over the dished ring of the vent location plate on the fireplace back. Trim the tube if necessary (see fig. 13).

1.11 FIT OUTSIDE VENT LOCATION PLATES

- (a) Fit a wall plate over the outside wall end of the vent unit with the dished projection to the inside. Push the plate up to the wall so that the dished projection locates inside the outer vent shield tube. Mark the location plate fixing holes on the wall. Remove the plate.
- (b) Drill the fixing holes in the wall and insert wall plugs if necessary.



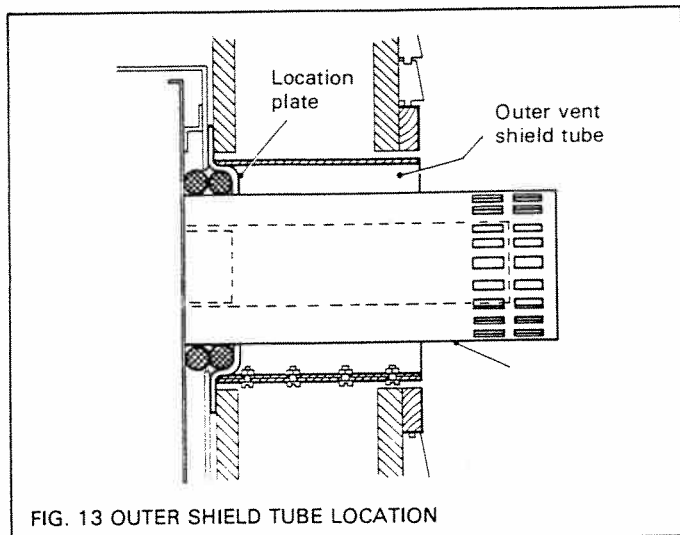


FIG. 13 OUTER SHIELD TUBE LOCATION

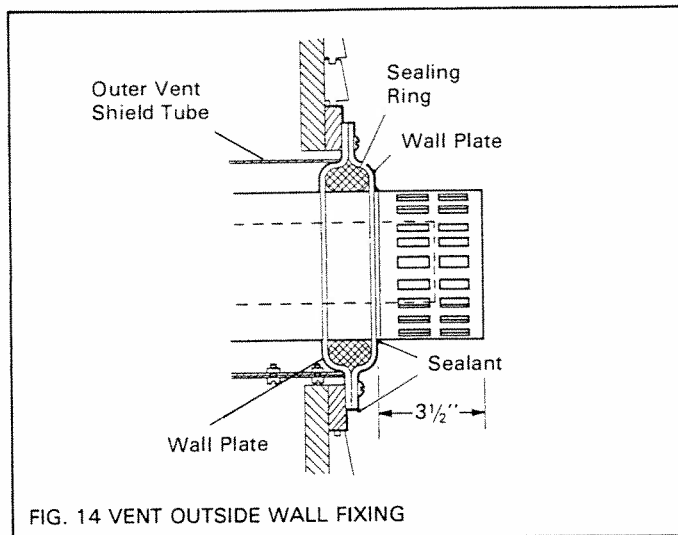


FIG. 14 VENT OUTSIDE WALL FIXING

- (c) Replace the location plate making sure that it sits firmly inside the outer shield tube.
- (d) Fit a thick sealing ring over the vent unit and push in to the location plate.
- (e) Fit the remaining vent location plate over the vent unit with the dished projection to the outside. Line up the screw holes and start the fixing screws. Apply a clear silicone rubber sealant under the edges of the wall plate and tighten the screws. Apply a bead of silicone sealant around the vent tube where it exits the wall plate (see fig. 14).

1.12 CONNECT THE GAS SUPPLY

The gas connection point on the appliance is at the right side of the firebox inside the outer case. The connection is $\frac{3}{8}$ " N.P.T. We recommend using only new black iron or steel pipes. Copper tubing may be acceptable - Check local codes.

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

Sealants used must be resistant to the action of all gas constituents including liquified petroleum gas. Sealants should be applied lightly to male threads to ensure excess sealant does not enter the gas lines.

The supply system should include an accessible manual shut off valve and union in the line so that the fireplace can be disconnected for servicing. Unions in the gas line should be of ground joint type.

A plugged $\frac{1}{8}$ " N.P.T. tapping must be installed in the line. The tapping should be accessible for test gauge connections upstream of the gas supply connection to the furnace.

The fireplace is designed for the supply feed line to enter the appliance through one of the two access openings in the back of the outer case. These openings are covered by metal plates. Remove the cover plate from the chosen access opening by unfastening the fixing screws. Cut out sufficient of the cover plate to allow the feed line to pass through it. Do not cut away more than is necessary. Refit the cover plate after cutting in order that heat losses through the back of the fireplace are minimised. All gas piping and connections must be tested for leaks after installation or servicing. All leaks must be corrected immediately.

When testing for leaks:-

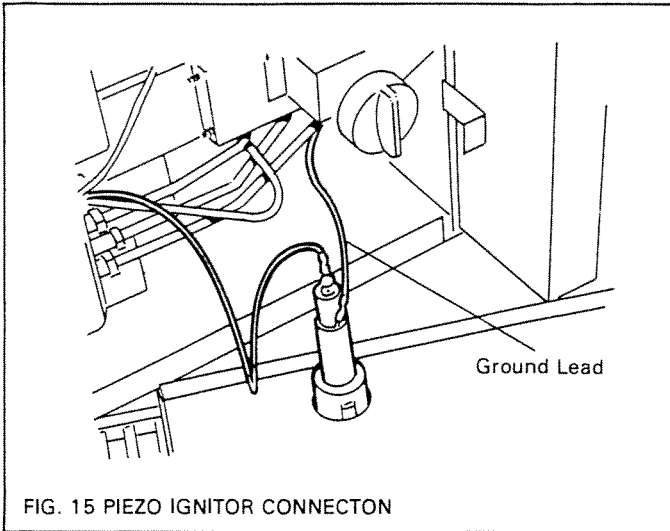
- (a) Make sure that the fireplace control is OFF (The knob "OFF" marking should be at the top).
- (b) Open the manual shut off valve.
- (c) Test for leaks by applying a liquid detergent to all joints. Bubbles forming indicate a gas leak.
NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS.
- (d) Correct any leak detected immediately.

1.13 CHECK PILOT IGNITION

1.13.1 REMOVE WINDOW UNIT

Remove the firebox window unit by unscrewing the twelve wing nuts. Put the window and nuts in a safe place.

Remove the cardboard packing which holds the ceramic log



support bed in position during transit.

Check that the support bed is correctly located with its front edge under the front lip of the firebox.

1.13.2 CONNECT THE PIEZO IGNITOR UNIT

Bring the fascia unit close to the fireplace so that the piezo ignitor unit wires can be connected for testing before fully fitting the fascia.

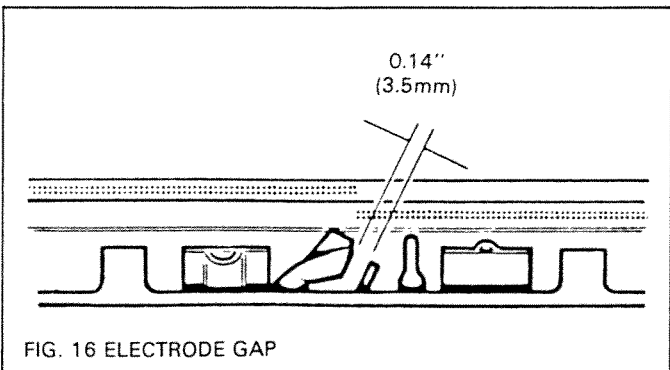
Connect the wires as shown in fig. 15.

1.13.3 CHECK PILOT IGNITION

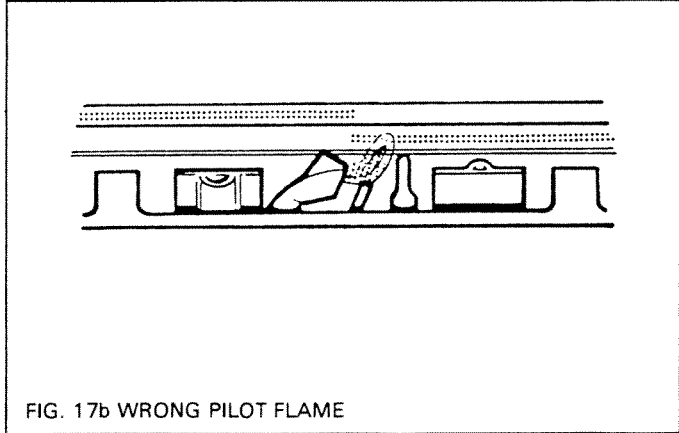
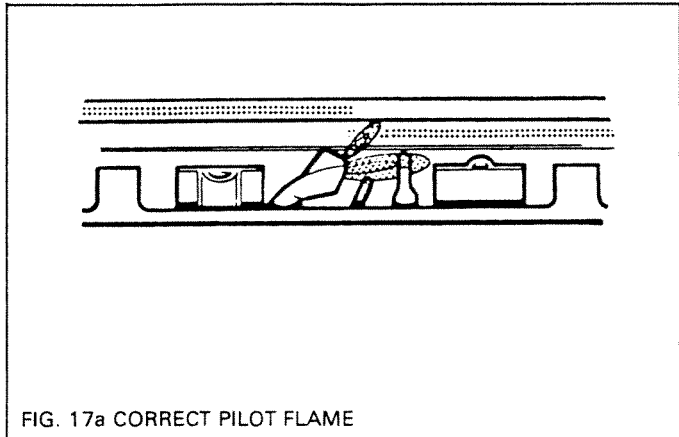
Pilot ignition is initiated by a piezo-electric spark produced by depressing the ignitor push button on the fascia.

To ignite the pilot gas:

- (a) Push in the control knob and turn counter-clockwise until the 1/IGN marking is at the top (This will be by the bright stud on the fascia when the fascia is installed).
- (b) Hold the knob in for a few seconds to allow gas to flow to the pilot.



- (c) While still holding in the control knob, depress the ignitor button several times until the pilot lights. If the pilot does not ignite (after ensuring that all air has been purged from the gas lines), check that the electrode gap is set as shown in fig. 16.
- (d) Hold the control knob in for a further 10 seconds to prevent the flame failure detector from shutting off the



gas while its thermocouple probe is warming up. The pilot should then remain lit.

- (e) Check the pilot flame - See figs 17a & 17b.
- (f) Turn off by pushing in the knob slightly and turning clockwise until the "OFF" marking is at the top.

1.14 ASSEMBLE THE CERAMIC SIDE CHEEKS

Unwrap the ceramic side cheeks and place in position. The cheeks are left and right handed (see fig. 18).

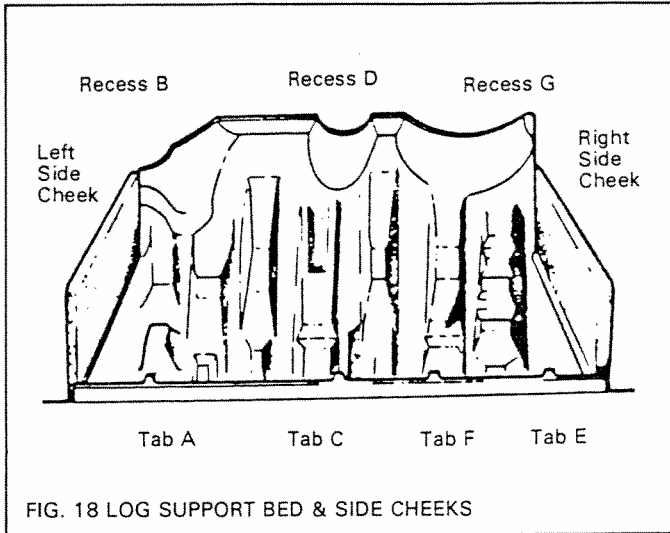


FIG. 18 LOG SUPPORT BED & SIDE CHEEKS

1.15 ASSEMBLE THE CERAMIC LOGS

In order to obtain the correct performance, the logs must be positioned as described 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. Each log has a number stamped on it which corresponds with the number referred to in these instructions. **When in position the numbers on these logs face down.**

Refer to figures 19, 20 & 21.

- (a) Place Log # 1 at the left side of the log support bed. Locate the hole at the front edge of the log on to tab "A" on the front log support rail and locate the projection underneath the log into recess "B" in the ceramic support bed.
- (b) Place Log # 2 to the right side of Log # 1 and locate the hole at its front edge onto tab "C" on the front support rail. Locate the rear of the log into recess "D" in the support bed.
- (c) Place Log # 3 at the right side of the support bed. Locate the hole at the front edge onto tab "E" of the front support rail. Locate the underside of the log onto the recess "G" in the support bed. The Logs should now be as shown in fig. 19.

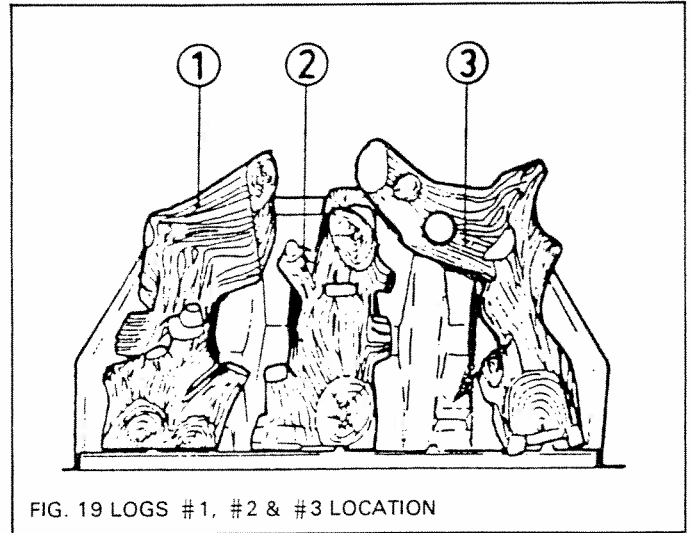


FIG. 19 LOGS #1, #2 & #3 LOCATION

- (d) Place Log # 4 between Logs # 2 & # 3. Locate the groove (situated under the front edge of the log) onto tab "F" on the front support rail. Locate projection "H" (situated under the rear of the log) into the hole in Log # 3 (see fig. 20).

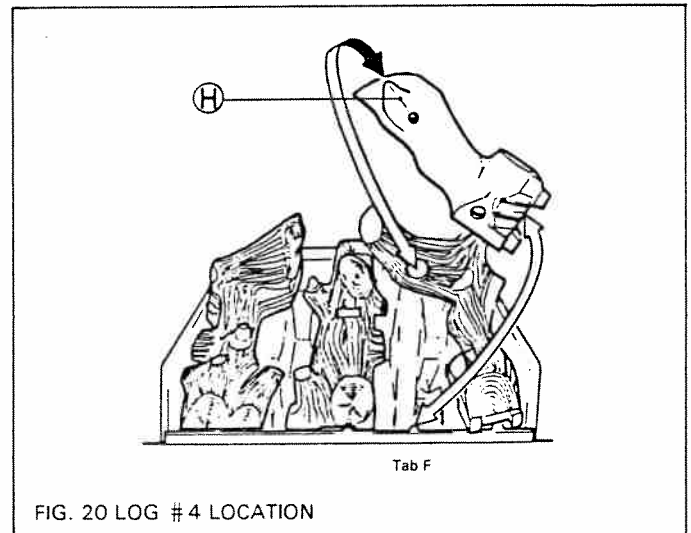
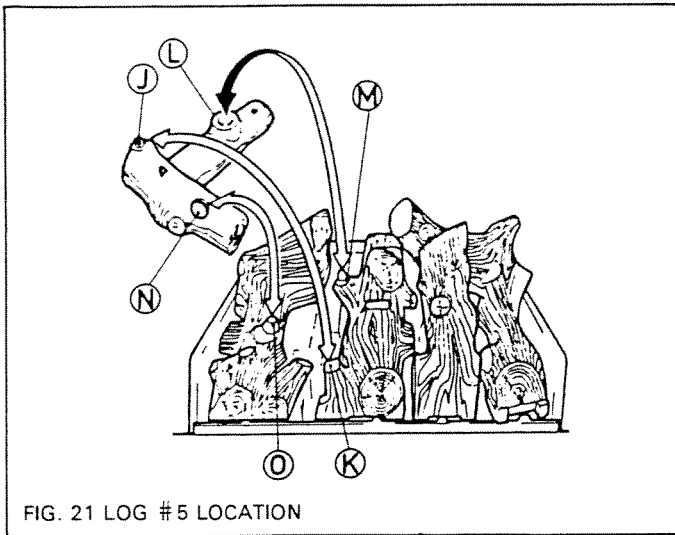
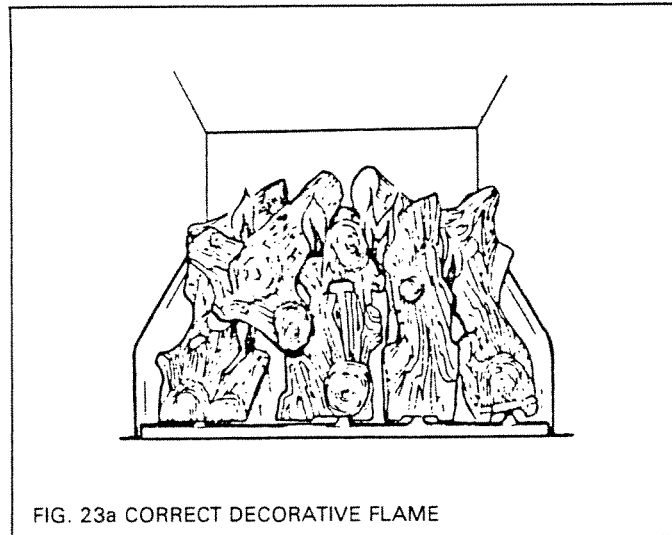
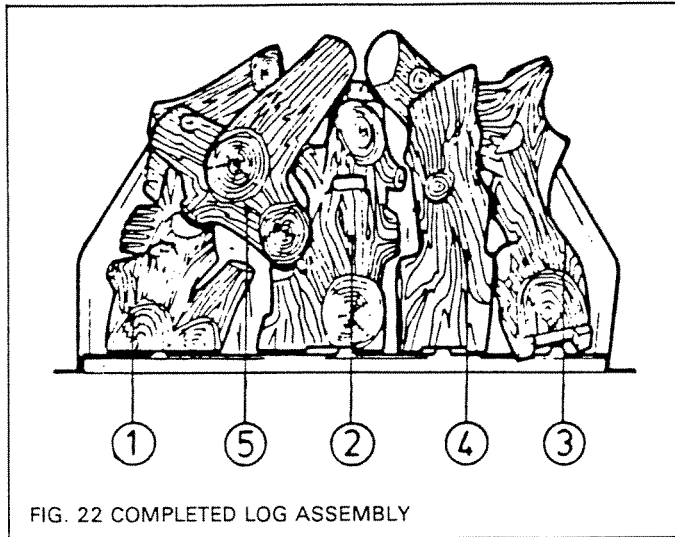


FIG. 20 LOG #4 LOCATION

- (e) Place Log # 5 between Logs # 1 & # 2 so that hole "N" (underneath the left branch of Log # 5) locates over the projection "O" in the middle of Log # 1. Locate the depression "L" (underneath the long branch of Log # 5) onto the projection "M" at the top left side of Log # 2. Place the bottom right end "J" of Log # 5 onto the lower left side of Log # 2 (position "K") (see fig. 21). The completed log assembly should be as shown in fig. 22.
- (f) Replace the window unit and re-fit and tighten the 12 wing nuts.

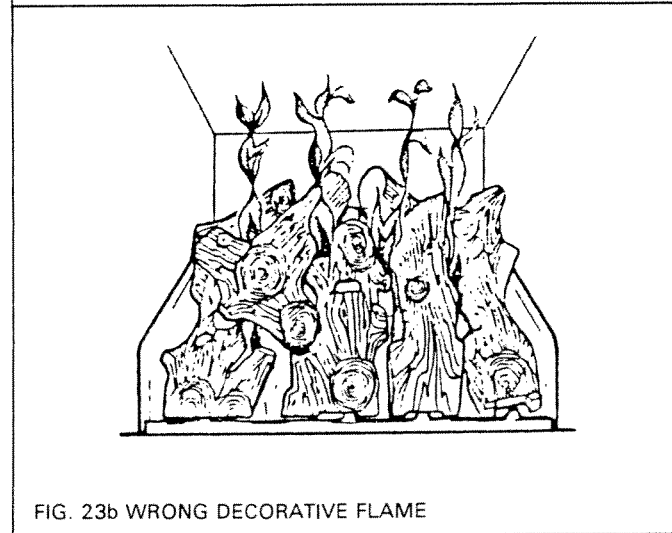


Control Position	Main Burner	Decorative Burner
1/IGN	Off (Pilot ignition position)	Off
2	Low (Center area only on)	Off
3	Low (Center area only on)	Center area only on
4	High (All areas on)	All areas on



1.16 CHECK CONTROL OPERATION & FLAMES

Relight the pilot as described above. When the pilot is correctly burning, push the control knob in slightly and check each control position by turning progressively counter-clockwise until the marking on the knob for the position to be checked is at the top. Check that the burners are as in the table below and that the appearance of the flames is correct - See figs 23 & 24. Turn off by pushing in the knob slightly and turning clockwise until the "OFF" marking is at the top.



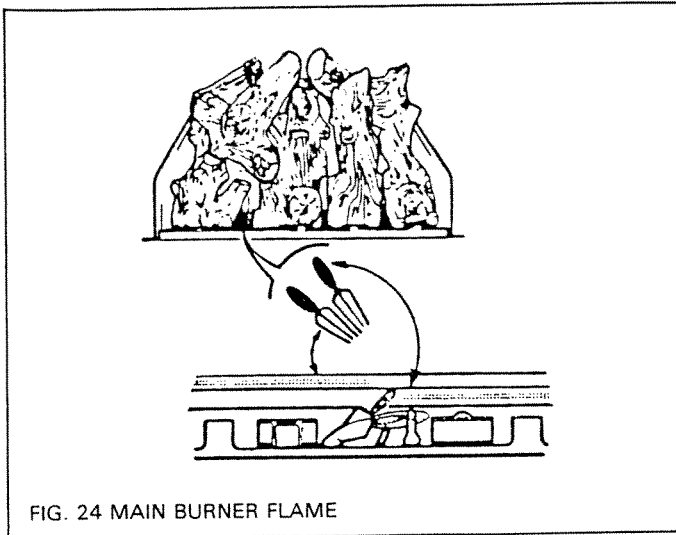


FIG. 24 MAIN BURNER FLAME

1.17 CHECK THE SYSTEM PRESSURE

Maximum heat input is 19,000 Btu/h. The fireplace is pre-set to give the correct heat input with natural gas. For input adjustment, the gas supply pressure to the fireplace inlet must be a minimum of 5" w.c. The maximum inlet gas supply pressure is 8" w.c.

The burner manifold pressure is controlled by a built-in regulator. The manifold pressure must be 4" w.c. and should be checked at the pressure test point which is located immediately downstream of the regulator. The pressure check should be made with the appliance burning and the control set at position 4.

1.18 DECORATIVE FLAME ADJUSTMENT

The decorative flame burner may need adjusting to suit the local supply gas.

To adjust:-

- (a) Remove the six wing nuts from the burner box front panel (see fig. 25).

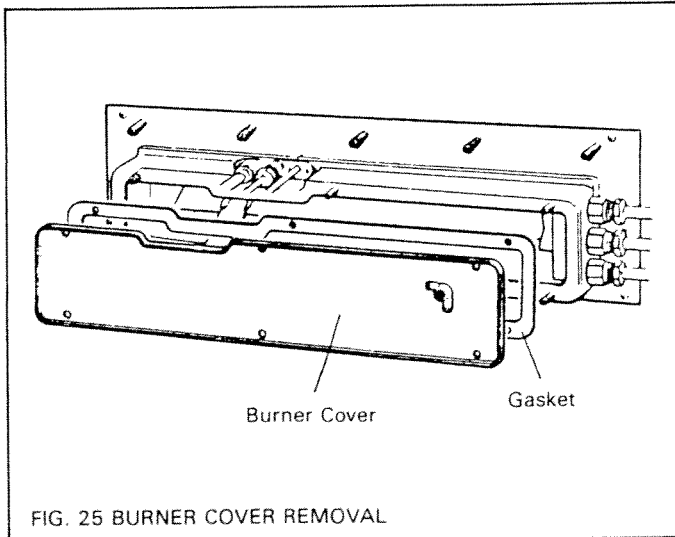


FIG. 25 BURNER COVER REMOVAL

- (b) Remove the cover plate and seal. Be careful not to damage the seal.
- (c) Light the appliance and turn to control setting # 4.
- (d) Slide the aeration sleeve on the decorative flame burner either way to give the correct flame pattern (see fig. 26). There should be no appreciable deposits of carbon on the logs.

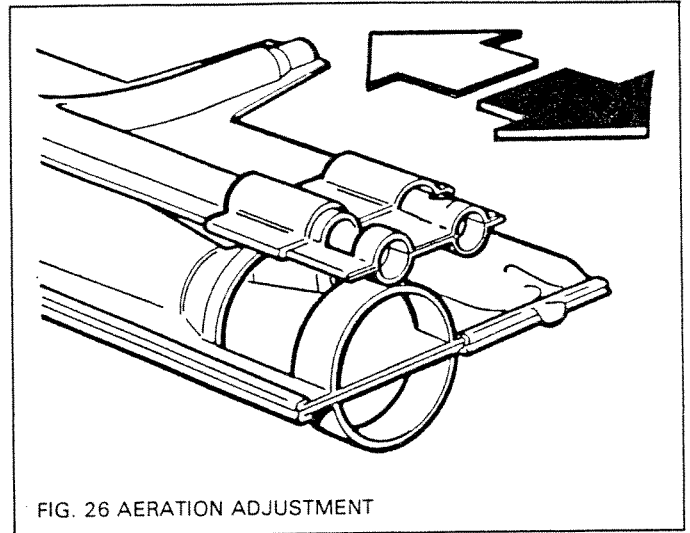


FIG. 26 AERATION ADJUSTMENT

- (e) Replace the seal, cover plate and wing nuts and tighten securely.

1.19 FIT FACIA, FRONT STRIP & GRILLE

- (a) Replace the facia in the fireplace case checking that the ignitor wires do not get trapped. Re-fit and tighten the two screws at the bottom corners of the facia.
- (b) Locate the bottom front facia strip over the two location brackets as shown in fig. 27.

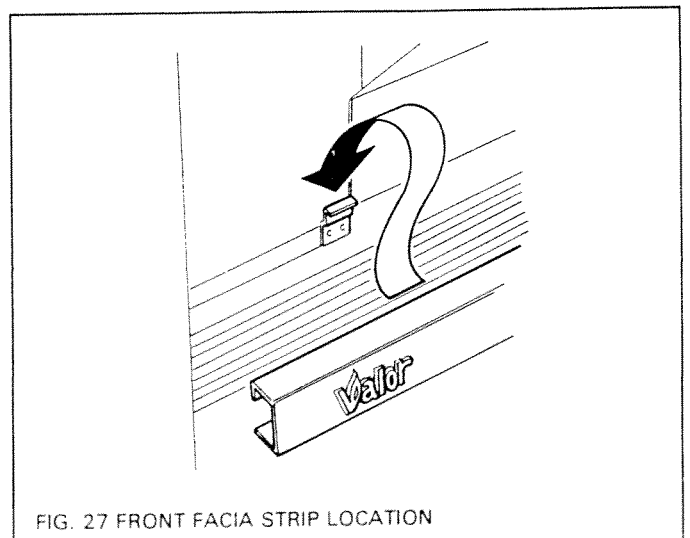


FIG. 27 FRONT FACIA STRIP LOCATION

- (c) Place the top grille in position at the top of the facia. The projecting end of the strip midway along the grille must be at the top of the grille and point into the fireplace case. The bottom of the grille should rest in the "V" channel at the top of the facia. The sides of the grille should rest against the stop brackets fixed to the inside of the case sides (see fig. 28).

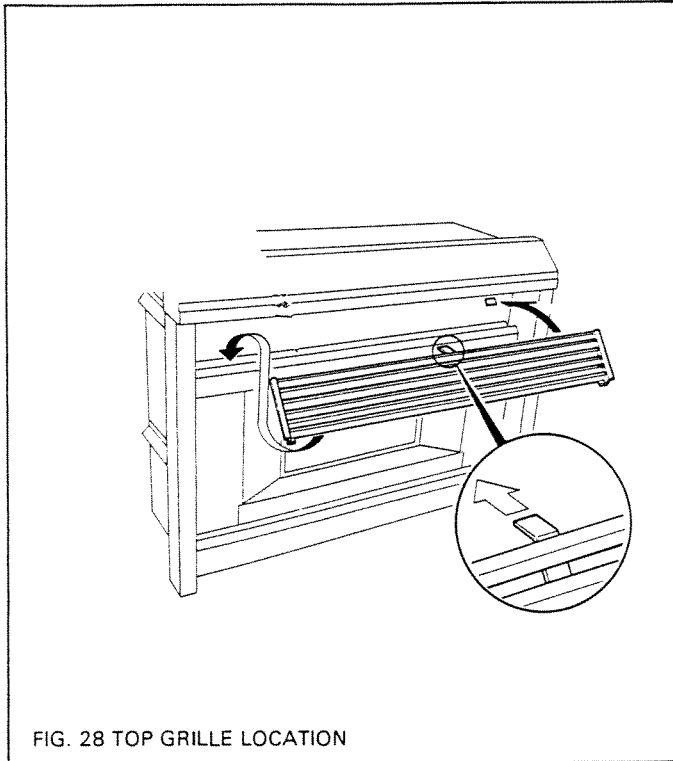


FIG. 28 TOP GRILLE LOCATION

1.20 MAKE FINAL CHECK

Re-check the ignition and operation at all control settings.

Instruct the owner mentioning the following points:-

- (a) How to operate the fireplace mentioning that the control knob must be pushed in before turning counter-clockwise and that the knob must be turned to 1/IGN and the ignitor button pushed in to light.

- (b) Warn that if the ceramic window is damaged the fireplace **must be turned off immediately and not used until the window is replaced.**
- (c) If necessary, the facia and window may be removed to re-set the logs when the fireplace is shut off and cold but must be replaced securely before operating the fireplace.
- (d) The fireplace may smell slightly for a short time due to being new. This will soon disappear.
- (e) It is recommended that the fireplace has a service check at least once a year.
- (f) Point out the location of the supply pipe shut off valve and its operation.
- (g) Hand over the instruction booklets to the owner.

2. SERVICING

2.1 GENERAL

- (a) Repair and replacement work should only be done by a qualified service person.
- (b) Always shut off the gas supply and make sure that the fireplace is cool before commencing any servicing operation.
- (c) Always check for leaks after servicing.
- (d) Always check that the fireplace area is clear and free from combustible materials, gasoline and other flammable vapors and liquids.

2.2 PERIODIC CHECKS

- (a) Examine the vent system periodically. Check that the tubes and cap on the outside wall are not obstructed.
- (b) Check the flame patterns periodically - See illustrations in installation section.