SUPERIOR®

INSTALLATION INSTRUCTIONS

B-VENT 500/600/800 SERIES

B-VENTED GAS APPLIANCES
P/N 700,028M REV. G 11/2004

RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

This appliance may be installed in an aftermarket permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes. This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

MODELS

Millivolt Models	*Electronic Models*
B-500CMN	B-500CEN
B-500CMP	B-500CEP
B-600CMN	B-600CEN
B-600CMP	B-600CEP
B-800CMN	B-800CEN
B-800CMP	B-800CEP

INTERTEK C Warnock Hersey US

WH Report No. J3008600

WARNING: IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

FOR YOUR SAFETY: Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

FOR YOUR SAFETY: What to do if you smell gas:

- **DO NOT light any appliance.**
- **DO NOT touch any electrical switches.**
- **DO NOT use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone.**

Follow your gas suppliers instructions.

- **If your gas supplier cannot be reached, call the fire department.**

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

AVERTISSEMENT: ASSUREZ-VOUS DE BIEN SUIVRE LES INSTRUCTIONS DONNÉ DANS CETTE NOTICE POUR RÉDUIRE AU MINIMUM LE RISQUE D'INCENDIE OU POUR ÉVITER TOUT DOMMAGE MATÉRIEL, TOUTE BLESSURE OU LA MORT.

POUR VOTRE SÉCURITÉ: Ne pas entreposer ni utiliser d'essence ni d'autre vaperurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

POUR VOTRE SÉCURITÉ: Que faire si vous sentez une odeur de gaz:

- **Ne pas tenter d'allumer d'appareil.**
- **Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le batiment où vous vous trouvez.**
- **Evacuez la piéce, le bâtiment ou la zone.**
- **Appeflez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.**
- **Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service dos incendies.**

L'installation et service doit être exécuté par un qualifié installer, agence de service ou le fournisseur de gaz.

TABLE OF CONTENTS

This installation manual will help you obtain a safe, efficient, dependable installation for your appliance and vent system.

Please read and understand these instructions before beginning your installation.

We suggest that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

PACKAGING

The assembled vented gas fireplace is packaged with:

1 - one log set located in firebox area.
2 - one envelope containing the literature package which consists of the homeowner's manual, installation instructions, log set supplement and warranty; envelope is located in the control area.
3 - one hood located behind the top panel.
4 - one bag of decorative volcanic stone located in the control area.
5 - one bag of glowing embers (rockwool) located in the control area.

INTRODUCTION

The millivolt appliances are designed to operate on either natural or propane gas. A millivolt gas control valve with piezo ignition system provides safe, efficient operation.

The electronic appliances are designed to operate on either natural or propane gas. An electronic intermittent pilot system provides safe, efficient operation. External electrical power is required to operate these units.

These appliances comply with National Safety Standards and are tested and listed by Warnock Hersey (Report No. J3008600) to ANSI Z21.50 - 2000 (in Canada, CSA 2.22 - 2000), and CAN/CGA-2.17-M91 in both USA and Canada, as vented gas fireplaces.

Installation must conform to local codes. In the absence of local codes, installation must comply with the current National Fuel Gas Code, ANSI Z223.1 (NFPA 54). (In Canada, the current CAN/CGA B149 installation code.) Electrical wiring must comply with local codes. In the absence of local codes, installation must be in accordance with the National Electrical Code, NFPA 70 - (latest edition). (In Canada, the current CSA C22.1 Canadian Electric Code.)

DO NOT ATTEMPT TO ALTER OR MODIFY THE CONSTRUCTION OF THE APPLIANCE OR ITS COMPONENTS. ANY MODIFICATION OR ALTERATION MAY VOID THE WARRANTY, CERTIFICATION AND LISTINGS OF THIS UNIT.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THIS MANUAL. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

GENERAL INFORMATION

Note: *Installation and repair should be performed by a qualified service person. The appliance should be inspected annually by a qualified professional service technician. More frequent inspections and cleanings may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that the control compartment, burners and circulating air passage ways of the appliance be kept clean.*

S'assurer que le brùleur et le compartiment des commandes sont propres. Voir les instructions d'installation et d'utilisation qui accompagnent l'apareil.

Provide adequate clearances around air openings and adequate accessibility clearance for service and proper operation. Never obstruct the front openings of the appliance.

WARNING: THESE FIREPLACES ARE VENTED DECORATIVE GAS APPLIANCES. DO NOT BURN WOOD OR OTHER MATERIAL IN THESE APPLIANCES.

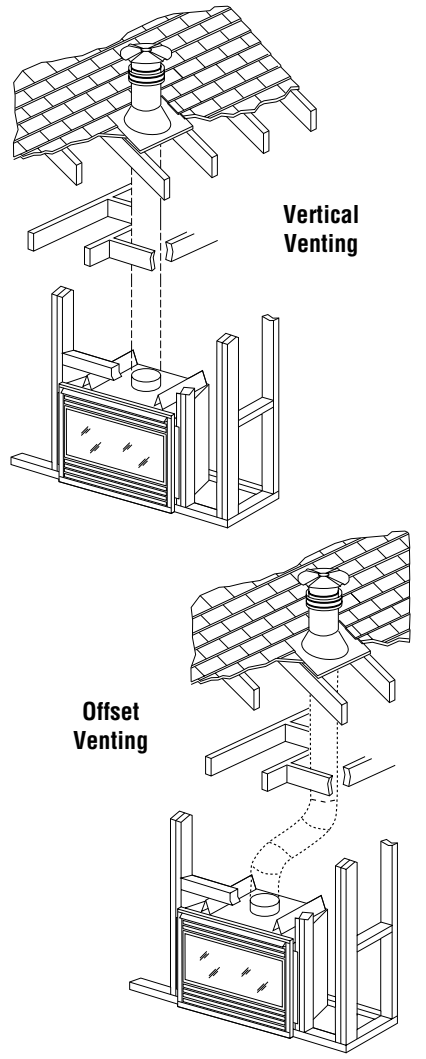


Figure 1

These appliances are designed to operate on natural or propane gas only.

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

Millivolt Models -
Millivolt models come standard with the manually-modulated gas valve; flame appearance and heat output can be controlled at the gas valve.

Input of millivolt models is shown in the following table:

Millivolt Models with Manually-Modulated Gas Valve			
Natural Gas		Propane Gas	
Model	Input rate (BTU/H)	Model	Input rate (BTU/H)
B-500	17,500 to 23,000	B-500	17,500 to 23,000
B-600	21,500 to 29,000	B-600	22,500 to 29,000
B-800	24,000 to 32,000	B-800	25,500 to 32,000

Electronic Models -
Electronic models have a fixed rate gas valve. Input of electronic models is shown in the following table:

Electronic Models with Fixed-Rate Gas Valve	
Natural and Propane Gas	
Models	Input rate (BTU/H)
B-500	23,000
B-600	29,000
B-800	32,000

All Models -
Maximum manifold pressure is 3.5 in. w.c. (0.87 kPa) for natural gas and 10 in. w.c. (2.49 kPa) for LP/Propane gas.

Installations at Altitudes of 0 to 4500 ft.- Units are tested and approved for elevations of 0 to 4500 feet (0 to 1372 meters).

Installations at Altitudes above 4500 ft.- For elevations above 4500 feet (1372 meters), install the unit according to the regulations of the local authorities having jurisdiction and, in the USA, the latest edition of the National Fuel Gas Code (ANSI Z223.1) or, in Canada, the latest edition of the CAN1-B149.1 and .2 codes.

***Table 1* shows the units' gas orifice size for the elevations indicated.**

Models	Orifice size		Elevation Feet (meters)
	Nat.	Prop.	
B-500	0.090 in.	#54	0-4500 (0-1370)
B-600	#36	#52	
B-800	#33	0.065 in.	

Table 1

Do not use these appliances if any part has been under water. Immediately call a qualified, professional service technician to inspect the appliance and to replace any parts of the control system and any gas control which have been under water.

Ne pas se servir de cet appareil s'il a été plongé dans l'eau, complètement ou en partie. Appeler un technicien qualifié pour inspecter l'appareil et remplacer toute partie du système de contrôle et toute commande qui ont été plongés dans l'lau.

This appliance may be installed in an aftermarket permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes. This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

Cet appareil peut être installé dans un maison préfabriquée (É.-U. seulement) ou mobile déjà installée à demeure si les réglements locaux le permettent.

Cet appareil doit être utilisé uniquement avec les types de gaz indiqués sur la plaque signalétique. Ne pas l'utiliser avec d'autres gaz sauf si un kit de conversion certifié est installé.

Millivolt appliances may be fitted at time of manufacture with either a Honeywell millivolt gas control valve or as SIT millivolt gas control valve. Both valves have been tested with and approved for use with these appliances and are listed accordingly.

Test gage connections are provided on the front of the millivolt gas control valves (identified OUT for the manifold side and IN for inlet pressure side for both SIT and Honeywell equipped appliances. A ⅛" NPT test gage connection is provided on the electronic gas control valve adjacent to the outlet to the main burner.

Minimum inlet gas pressure to the appliance is 5.0 inches water column (1.24 kPa) for natural gas and 11 inches water column (2.74 kPa) for propane for the purpose of input adjustment. Maximum inlet gas supply pressure to the appliance is 10.5 inches water column (2.61kPa) for natural gas and 13.0 inches water column (3.23 kPa) for propane.

The appliance must be isolated from the gas supply piping system (by closing its individual manual shut-off valve) during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psig (3.5) kPa).

The appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of ½ psig (3.5 kPa).

These appliances must not be connected to a chimney or flue serving a separate solid fuel burning appliance.

Do not place clothing or other materials on or near this appliance.

WARNING: FAILURE TO COMPLY WITH THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED IN THIS DOCUMENT WILL RESULT IN AN IMPROPERLY INSTALLED AND OPERATING APPLIANCE, VOIDING ITS WARRANTY. ANY CHANGE TO THIS APPLIANCE AND/OR ITS OPERATING CONTROLS IS DANGEROUS. IMPROPER INSTALLATION OR USE OF THIS APPLIANCE CAN CAUSE SERIOUS INJURY OR DEATH FORM FIRE, BURNS, EXPLOSION OR CARBON MONOXIDE POISONING.

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning are similar to the flu with headaches, dizziness and/or nausea. If you have these signs, obtain fresh air immediately. Turn off the gas supply to the appliance and have it serviced by a qualified professional, as it may not be operating correctly.

WARNING: B-VENT APPLIANCES ARE NOT DESIGNED TO OPERATE IN NEGATIVELY PRESSURED ENVIRONMENTS (PRESSURE WITHIN THE HOME IS LESS THAN PRESSURES OUTSIDE). SIGNIFICANT NEGATIVELY PRESSURED ENVIRONMENTS CAUSED BY WEATHER, HOME DESIGN, OR OTHER DEVICES MAY IMPACT THE OPERATION OF THESE APPLIANCES. NEGATIVE PRESSURES MAY RESULT IN POOR FLAME APPEARANCE, SOOTING, DAMAGE TO PROPERTY AND/OR SEVERE PERSONAL INJURY. DO NOT OPERATE THESE APPLIANCES IN NEGATIVELY PRESSURED ENVIRONMENTS.

WARNING: CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURES. USE CAUTION AROUND THE APPLIANCE TO AVOID BURNS OR CLOTHING IGNITION. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.

WARNING: DO NOT PLACE CLOTHING OR OTHER FLAMMABLE MATERIALS ON OR NEAR THIS APPLIANCE.

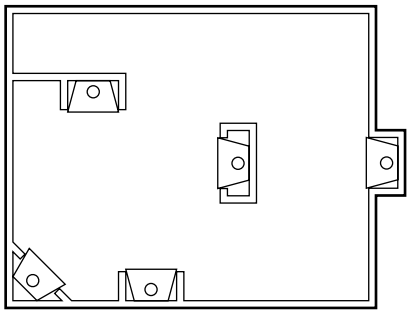
AVERTISSEMENT: SURVEILLER LES ENFANTS. GARDER LES VÊTEMENTS, LES MEUBLES, L'ESSENCE OU AUTRES LIQUIDES À VAPEUR INFLAMMABLES LIN DE L'APPAREIL.

WARNING: THIS APPLIANCE MAY ONLY BE FITTED WITH DOORS CERTIFIED FOR USE WITH THE APPLIANCE.

AVERTISSEMENT: POUR UTILISATION UNIQUEMENT AVEC LES PORTES EN VERRE CERTIFIÊES AVEC L'APPAREIL.

These appliances are equipped with an integral combustion air door and actuator arm. Combustion air kits are optional and must be installed before removing the securing screw allowing the movement of the combustion air actuator arm (see Step 8 on page 10)**.**

LOCATION



Typical Locations

Figure 2

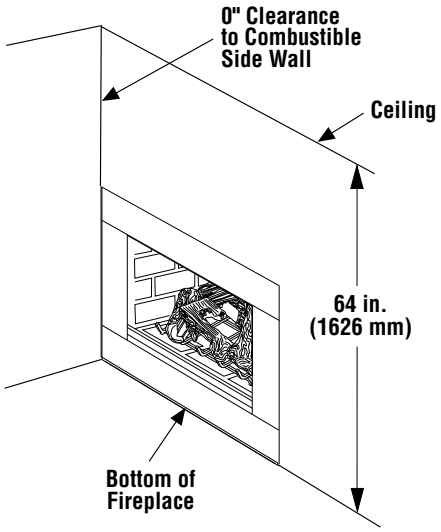
In selecting the location, the aesthetic and functional use of the appliance are primary concerns. However, vent system routing to the exterior and access to the fuel supply are also important. Due to high temperatures the appliance should be located out of traffic and away from furniture and draperies. Consideration should be given to traffic ways, furniture, draperies, etc., due to elevated surface temperatures. The location should also be free of electrical, plumbing or other heating/air conditioning ducting.

The appliance should be mounted on a fully supported base extending the full width and depth of the unit. The appliance may be located on or near conventional construction materials. However, if installed on combustible materials, such as carpeting, vinyl tile, etc., a metal or wood barrier covering the entire bottom surface must be used.

These appliances may be used for bedroom installations in the United States and are listed accordingly. These units may not be installed in bedrooms in Canada.

APPLIANCE CLEARANCES

BACK	1/2 in. (13 mm) 0 in. (0 mm) spacers
SIDES	1/2 in. (13 mm)* 0 in. (0 mm) spacers
TOP SPACERS	0 in. (0 mm)
FLOOR	0 in. (0 mm)
From Bottom of Unit to Ceiling	64 in. (1626 mm)
VENT	1 in. (25.4 mm)
SERVICE CLEARANCES	
FRONT	3 Feet. (0.9 meters)



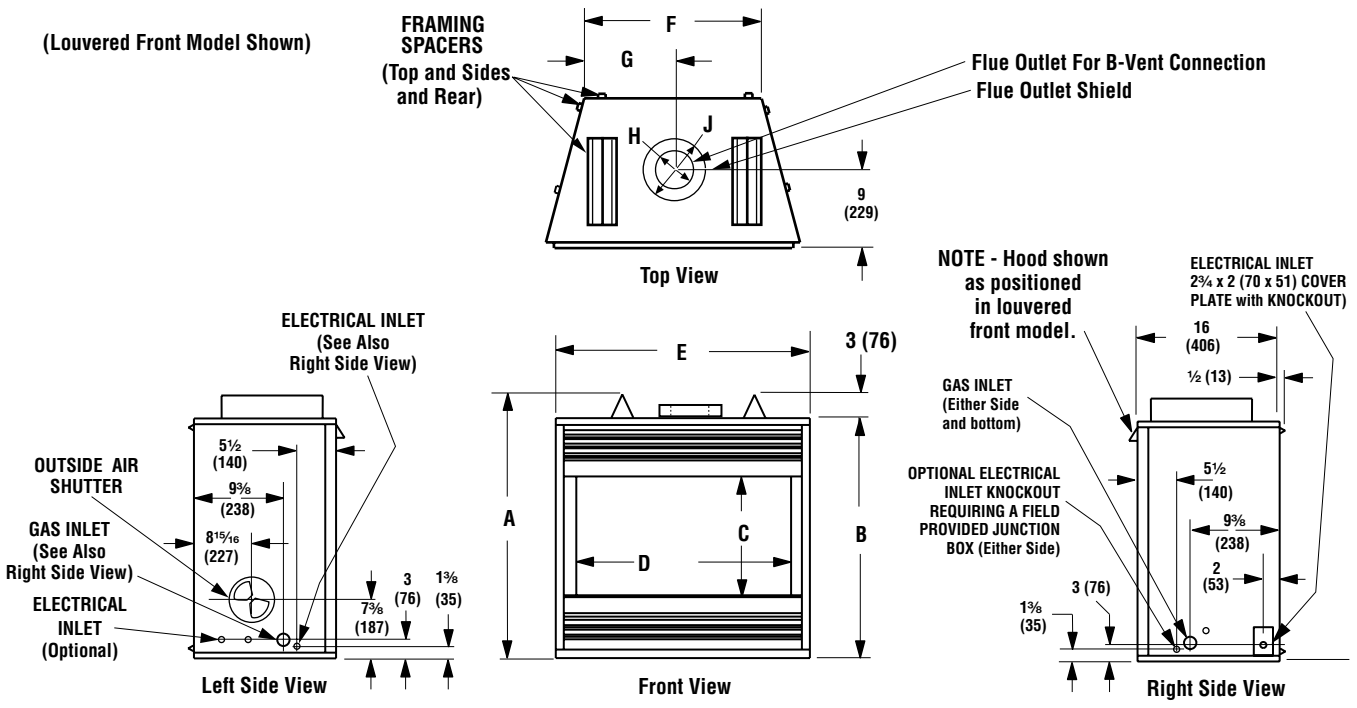
****Note:** See **page 6, step 3** for clearance requirements to the nailing flange located at each side of the unit and any screw heads adjacent to it.*

*****Note:** See also **Figure 29 on page 12** for an illustration of mantel clearances.*

Figure 3

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

FIREPLACE SPECIFICATIONS



Model No.		A	B	C	D	E	F	G	H	J
B-500	in.	35-1/8	32-1/8	19	29-1/2	35-1/8	24-7/8	12-7/16	5	8
	mm	892	816	483	749	892	632	316	127	203
B-600	in.	40-1/8	37-1/8	24	34-1/2	40-1/8	29-7/8	14-15/16	5	8
	mm	1019	943	610	876	1019	759	379	127	203
B-800	in.	40-1/8	37-1/8	24	39-1/2	45-1/8	34-7/8	17-7/16	6	8
	mm	1146	943	610	1003	1146	886	443	152	203

Figure 4

Venting

Gas Vent Rule – Gas vent caps are not permitted within 8 feet (2.4 mm) of a vertical wall or similar obstruction. Gas vent caps that are located 8' or more from a portion of a building which extends at an angle greater than 45° upward from the horizontal may terminate in accordance with ***Table 2 (Figure 5)***, provided that in no case shall any discharge opening on the cap be less than 2' (610 mm) horizontally from the roof surface (National Fuel Gas Code ANSI Z223.1 (NFPA 54) 7.6.2) (CAN/CGA B149).

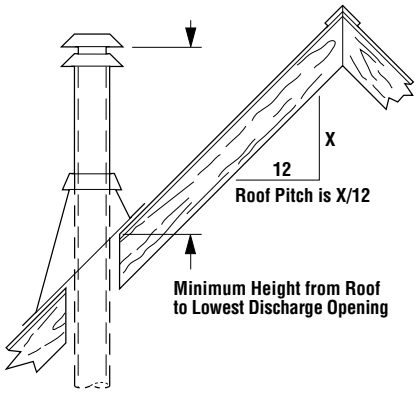


Figure 5

Roof Slope	Minimum Height from Roof to Lowest Discharge Opening	
	Feet	Meters
Flat to 6/12	1' 0"	0.3
Over 7/12 to 9/12	2' 0"	0.6
Over 10/12 to 12/12	4' 0"	1.2
Over 13/12 to 16/12	6' 0"	1.8
Over 17/12 to 21/12	8' 0"	2.4

Note: *Venting terminals shall not be recessed into a wall or siding.*

Table 2

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

FRAMING SPECIFICATIONS

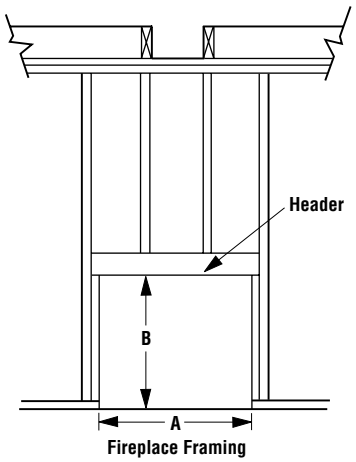


Figure 6

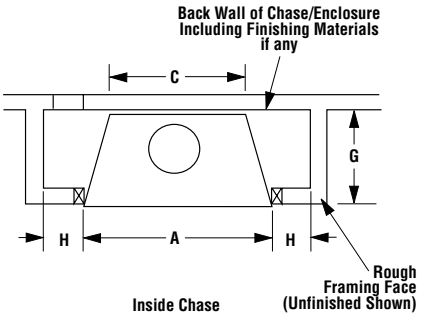


Figure 7

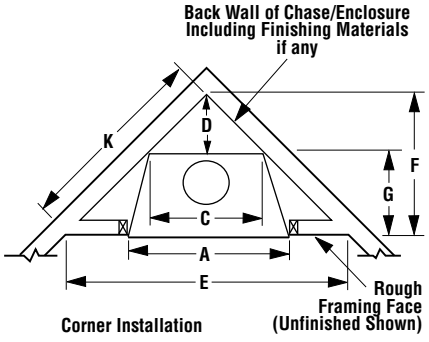


Figure 8

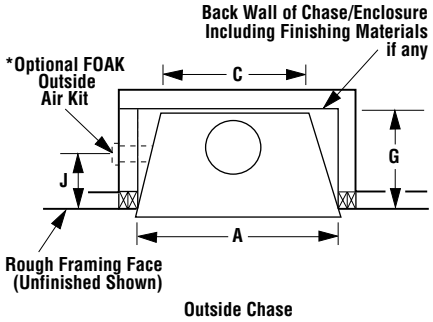


Figure 9

Note: *All framing dimensions calculated for 1/2" dry wall at the appliance face. If sheathing the chase or finishing with other thickness materials, calculations will need to be made.*

** Outside air kit - FOAK (without adapter)*

TYPICAL INSTALLATION SEQUENCE

The typical sequence of installation follows, however, each installation is unique resulting in variations to those described.

See the page numbers references in the following steps for detailed procedures.

Step 1. (page 7) Construct the appliance framing.

Step 2. (page 7) Route gas supply line to appliance location.

Step 3. (page 7) Position the appliance within the framing and secure with nailing brackets.

Step 4. (page 8) Install the vent system and exterior termination.

Step 5. (page 8) Field Wiring
a. Millivolt Appliances – The operating control switch is factory installed.
b. Electronic Appliances – Connect 120 Vac electrical power to the appliance receptacle.

Step 6. (page 9) Install the optional blower.

Step 7. (page 9) Make connection to gas supply.

Step 8. (page 10) Outside Air Kit Installation.

Step 9. (page 11) Install the log set and decorative volcanic stone.

Step 10. (page 11) Checkout appliance operation.

Step 11. (page 11) Install glass enclosure panel.

Step 12. (page 11) Burner adjustment.

Step 13. (page 12) Spillage Test and Safety Limit Switch Operation.

Step 14. (page 12) Install the hood.

PRE-INSTALLATION NOTES

The fireplace may be installed directly on a combustible floor or raised on a platform of an appropriate height. Do not place fireplace on carpeting, vinyl or other soft floor coverings. It may, however, be placed on flat wood, plywood, particle board or other hard surfaces. Be sure fireplace rests on a solid continuous floor or platform with appropriate framing for support and so that no cold air can enter the room from under the fireplace.

The fireplace may be positioned and then the framing built around it, or the framing may be constructed and the fireplace positioned into the opening.

Usually, no special floor support is needed for the fireplace, however, to be certain:

1. Estimate the total weight of the fireplace system and surround materials such as brick, stone, etc., to be installed.

Model No.		A Unit Size	A Framing Size	B	C	D	E	F	G	H	J	K
B-500	in.	35-1/8	35-1/4	35-1/4	19	19-5/8	57-1/2	28-3/4	16	4	6-9/16	40-5/8
	mm	892	895	895	483	498	1460	730	406	102	167	1032
B-600	in.	40-1/8	40-1/4	40-1/4	24	24-5/8	61-13/16	30-1/16	16	4	6-9/16	43-11/32
	mm	1019	1022	1022	610	625	1570	779	406	102	167	1101
B-800	in.	40-1/8	45-1/4	40-1/4	24	29-5/8	66-3/8	33-3/16	16	4	6-9/16	46-15/16
	mm	1146	1149	1022	610	752	1686	843	406	102	167	1192

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

2. Measure the square footage of the floor space to be occupied by the system, surrounds and hearth extensions.

3. Note the floor construction, i.e. 2 x 6's, 2 x 8's or 2 x 10's, single or double joists, type and thickness of floor boards.

4. Use this information and consult your local building code to determine if you need additional support.

If you plan to raise the fireplace and hearth extension, build the platform assembly then position fireplace and hearth extension on top. Secure the platform to the floor to prevent possible shifting.

INSTALLING THE FIREPLACE

Step 1. Construct the Appliance Framing - Frame appliance enclosure as illustrated in ***Figures 6 through 9 on page 6*.**

Note: The framed depth, 16 in. (406 mm) from a framed wall, must always be measured from a finished surface. If a wall covering such as drywall is to be attached to the rear wall, then the 16 in. (406 mm) must be measured from the drywall surface. It is important that this dimension be exact.

If the appliance is to be elevated above floor level, a solid continuous platform must be constructed.

The header may rest on the top metal spacers, but must not be notched to fit around them.

Consult all local codes.

Step 2. Route Gas Supply Line -

Route gas line ***(see Figure 10)*** using techniques and materials prescribed by local and/or national codes. It is recommended that a gas line of ½" or greater diameter be used to allow full gas volume to the fireplace. Undue pressure loss will occur if the pipe is too small. The appliance, as set up at the factory, is best suited for use with a gas line routed from the right side. The gas line may however be alternately routed from the left side.

When rigid pipe is used, an ANSI approved manual shut-off valve and union must be installed upstream of the fireplace.

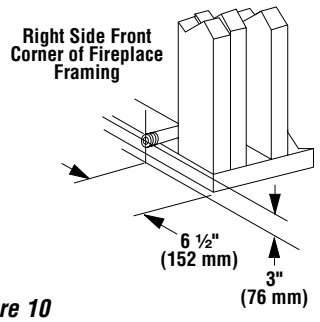


Figure 10

Ensure that a sediment trap is installed in the existing gas line, if not, install a sediment trap upstream to prevent moisture and contaminants from passing through trap to the appliance controls and burners. Failure to do so could prevent the appliance from operating reliably.

An external regulator must be used on all propane (L.P.G.) heaters to reduce the supply tank pressure to 13" w.c. (maximum). Any copper tubing used to supply propane (L.P.G.) from the tank must be internally tinned.

IMPORTANT: HOLD GAS VALVE SECURELY TO PREVENT MOVEMENT WHEN CONNECTING TO INLET GAS LINE

WARNING: CONNECTING DIRECTLY TO AN UNREGULATED PROPANE (L.P.G.) TANK MAY CAUSE AN EXPLOSION.

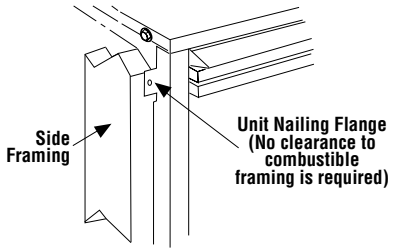
All appliances are equipped with a gas flex line and shutoff valve attached directly to the gas control valve. Use of the gas flex line will aid in the routing and attachment of the gas line to the fireplace.

Step 3. Position the Appliance - Slide the fireplace into prepared framing or position fireplace in its final position and frame later.

Refer to fireplace drawings and specifications on ***page 5*** for framing dimensions and details. Framing header may be positioned directly on the fireplace top spacers.

IMPORTANT: UNDER NO CIRCUMSTANCES CAN THE FIREPLACE TOP SPACERS *(REFER TO FIGURE 4)* BE REMOVED OR MODIFIED, NOR MAY YOU NOTCH THE HEADER TO FIT AROUND OR BE INSTALLED LOWER THAN THE SPACERS. THE HEADER MAY BE IN DIRECT CONTACT WITH THE TOP SPACERS BUT MAY NOT BE SUPPORTED BY THEM.

The fireplace should be secured to the side framing members using the unit's nailing flanges - two at the top and bottom on each side of the fireplace front. See ***Figure 11.*** Use 8d nails or their equivalent.



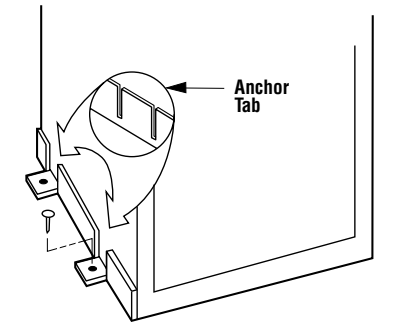
Left Side Front Corner of Fireplace Shown (Right Side Requirements the Same)

Unit Being Secured By Its Nailing Flanges To The Framing

Note: The nailing flanges, combustible members and screw heads located in areas directly adjacent to the nailing flanges, are EXEMPT from the 1/2" clearance to combustible requirements for the firebox outer wrapper. Combustible framing may be in direct contact with the nailing flanges and may be located closer than 1/2" from screw heads and the firebox wrapper in areas adjacent to the nailing flanges. Frame the opening to the exact dimensions specified in the framing details of this manual.

Figure 11

Fireplace may be anchored to floor. Bend down two anchor tabs (one on each side) located at the base of the fireplace and secure to the floor by nailing with 8d nails or equivalent ***(Figure 12).***



Note:
Some units only have one anchor tab on each side.

Figure 12

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

Step 4. Install the Vent System & Exterior Termination -

In the United States, vent installation must conform with local building codes. In the absence of local codes, vents must be installed in accordance with the current edition of the National Fuel Gas Code (ANSI-Z223.1).

In Canada, vent installation must conform with local building codes. In the absence of local codes, vents must be installed in accordance with the current edition of **the National Standard of Canada CAN/CGA-B149.1 or B149.2 Installation Code.**

B-500, and B-600 series fireplaces: These models must be vertically vented using listed 5 in. (127 mm) type-B, double-walled vent pipe and a listed vent termination.

B-800 series fireplaces: These models must be vertically vented using listed 6 in. (152 mm) type-B, double-walled vent pipe and a listed vent termination.

A - Connect a 5 in. (127) mm or 6 in. (152 mm) (depending on model; see statements above) Type B vent system to the fireplace flue collar with three sheet metal screws (No. 8 or larger). See ***Figure 13.*** Then install the remainder of the Type B vent to the outside.

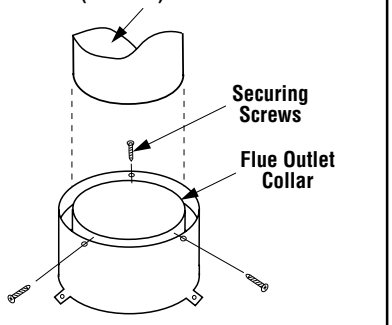


Figure 13

B - The following venting configurations may be installed ***(see Figure 14):***

1 - Vertical - Minimum overall height of the vent system and appliance without an offset must be 10' (2.54 m)

2 - With Offset -
a - Minimum overall height of the vent system and appliance must be 12' (3.66 m) when an offset up to 45 degrees from the vertical is used. The lower part of the offset may start at the fireplace flue collar.

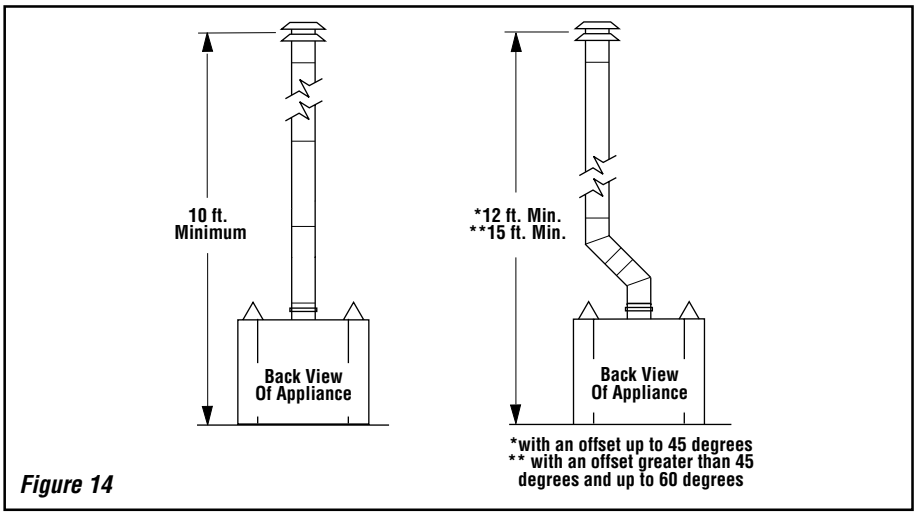


Figure 14

b - Minimum overall height of the vent system and appliance must be 15' (4.57 m) when an offset, more than 45 degrees but less than 60 degrees from the vertical, is used. The lower part of the offset may start at the fireplace flue collar.

Maximum overall height of the vent system and appliance should not exceed 40 feet (12.19 m).

Install the B-vent system in accordance with the vent manufacturer's instructions.

CAUTION: THIS APPLIANCE CANNOT BE VENTED HORIZONTALLY.

Note: *Refer to the vent manufacturers installation instructions for variations of venting techniques. If common venting of several units is contemplated, it should be discussed with an architect and the local Building Department.*

Do not place insulation materials within 1 in. of the gas vent system.

Step 5. FIELD WIRING

Refer to Section A for millivolt appliances and Section B for electronic appliances. The gas valve is set in place and pre-wired at the factory on both models.

A. SIT and Honeywell Millivolt Wiring *(See Figure 15) –*

1. Select any of the following optional controls: appliance-mounted (rocker switch) or wall-mounted switch, thermostat, or one of the optional remote control kits. If appliance-mounted ON/OFF control is selected mount it in the gas valve mounting bracket.

2. If wall-mounted ON/OFF control switch or thermostat is selected mount it in a convenient location on a wall near the fireplace.

3. Wire the control switch within the millivolt control circuit using the 15 feet of 2 conductor wire supplied with the unit . **Caution: do not connect the optional wall switch to a 120V power supply.**

4. Alternatively, the appliance may be operated without the use of the controls indicated in step 1, solely by manipulating the gas valve control knob. In order to use this method, twist the free ends of the two conductor wire (located in the lower compartment of the unit) together as shown in ***Figure 15***.

Note: *The supplied 15 feet of 2 conductor wire has one end of each conductor connected to the gas valve circuit and the other end of each conductor placed inside the control compartment.*

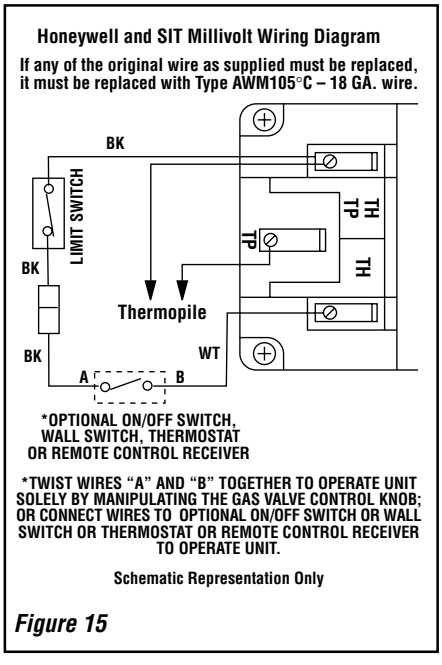


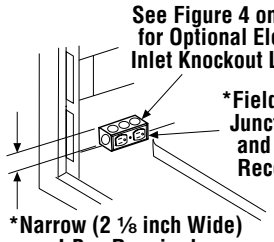
Figure 15

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

B. Electronic Wiring *(See figure 17 or 18)* –

Note: *The electronic appliance must be connected to the main power supply.*

A junction box is located at the rear of the control compartment on either side of the cabinet. The junction box on the right side contains a factory installed and wired outlet box (duplex receptacle). Also, an optional field-provided junction box with receptacle may be installed at the front of the control compartment on either side of the cabinet. ***See Figure 16.*** It will be held in place by a conduit fitting and locknut (field-provided).



Optional J-Box/Outlet Box (Left Side Shown)

Figure 16

1. Route a 3-wire 120Vac 60Hz 1ph power supply to the appliance junction box.

2. If the factory-provided outlet/junction box at the right rear of the fireplace is being used, remove the outlet box from the junction box by removing two screws.

3. Connect the power supply wires **(including the ground supply wire)** as shown in ***Figures 17 or 18.*** (If the field-provided J-box/outlet box is being used, all of the outlet box wiring must be field-provided.)

4. Locate and install a low voltage (24V) wall-mounted switch or thermostat (both field-provided) in the desired location.

5. Connect the low voltage wire, located in the lower control compartment, to the wall-mounted switch or thermostat.

Note: *The supplied 15 feet of 2 conductor wire has one end of each conductor connected to the gas valve circuit and the other end of each conductor placed inside the control compartment.*

6. Insert the control circuit plug into the **unswitched** receptacle of the outlet box.

7. After wiring is complete, mount the outlet box to the J-Box.

Note: *The gas valve-mounted ON/OFF switch is shown in* ***Figure 17 or 18****. It is integral with the gas valve and should be set to the ON position.*

Step 6. WIRING - OPTIONAL FORCED AIR BLOWER KIT

FBK-100, FBK-200 and FBK250 Kits
(See *Figure 17* ***for FBK-100, FBK-200 and*** *Figure 18* ***for FBK-250 wiring) -***

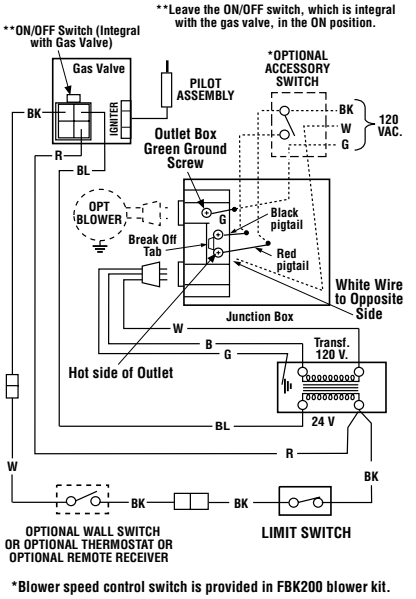
An electrical outlet box (receptacle) is factory - provided for the installation of the **FBK-100**, **FBK-200 and FBK-250** forced air blower kits. (An optional field-provided outletbox/J-Box may also be used. Electrical power must be connected to either of these receptacles in order to operate these blowers. Install the blower kits according to the installation instructions provided with the kits.

Note: The tab connecting the receptacles of the outlet box must be broken in FBK-100 and FBK-200 blower kit applications.

IMPORTANT: Ground supply wire must be connected to the green wire attached to the outlet receptacle's green ground screw. See *Figure 17 or 18*. Failure to do so will result in a potential safety hazard. The appliance must be electrically grounded in accordance with local codes or, in the absence of local codes, the National Electrical Code, ANSI/NFPA 70- (latest edition). (In Canada, the current CSA C22-1 Canadian Electrical Code.)

Electronic Wiring Diagram (Honeywell) Showing the Blower Wiring for the Optional FBK-100 and FBK-200 Kits

1. **If any of the original wire as supplied must be replaced, it must be replaced with Type AWM 105°C – 18 GA. wire.**
2. **120V, 60Hz – Less than 3 amps.**



***Blower speed control switch is provided in FBK200 blower kit.**

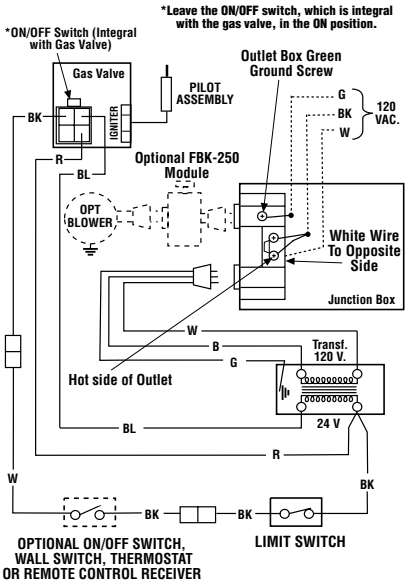
Factory Wired ····· Field Wired

Schematic Representation Only

Figure 17

Electronic Wiring Diagram (Honeywell) Showing the Blower Wiring for the Optional FBK-250 Kits

1. **If any of the original wire as supplied must be replaced, it must be replaced with Type AWM 105°C – 18 GA. wire.**
2. **120V, 60Hz – Less than 3 amps.**



Factory Wired ····· Field Wired

Schematic Representation Only

Figure 18

Step 7. CONNECTING GAS LINE

Make gas line connections. All codes require a shut-off valve mounted in the supply line. ***Figure 19*** illustrates two methods for connecting the gas supply. The flex-line method is acceptable in the U.S., however, Canadian requirements vary depending on locality. Installation must be in compliance with local codes.

These appliances are equipped with a gas flex line for use (where permitted) in connecting the unit to the gas line. A gas flex line is provided to aid in attaching the direct vent appliance to the gas supply. The gas flex line can only be used where local codes permit. See ***Figure 19*** for flex line description. The flex line is rated for both natural and propane gas. A manual shut off valve is also provided with the flex line.

The gas control valve is located in the lower control compartment. To access the valve open the lower control compartment door ***(see Figure 20)***. The millivolt control valve has a ⅜" (10 mm) NPT thread inlet port. The electronic control valve has a ½" (13 mm) NPT thread inlet port and is fitted with a ½" X ⅜" (13mm X 10 mm) NPT fitting.

Secure all joints tightly using appropriate tools and sealing compounds (ensure propane resistant compounds are used in propane applications).

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

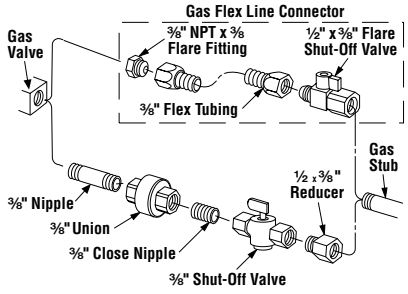


Figure 19- **GAS CONNECTION**

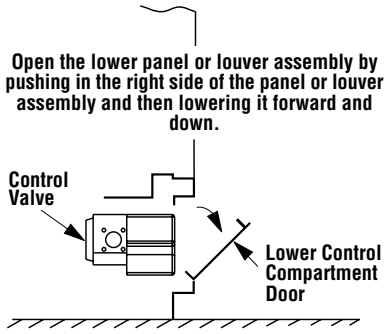


Figure 20 **OPENING CONTROL COMPARTMENT DOOR**

Turn on gas supply and test for gas leaks using a soapy water solution. **Never use an open flame to check for leaks**.

A. Mix a 50% dish soap, 50% water solution.

B. Light the appliance (refer to the lighting instructions provided in the Homeowner's Care and Operation Instructions).

C. Brush all joints and connections with the soapy water solution to check for leaks. If bubbles are formed, or gas odor is detected, turn the gas control knob to the "OFF" position. Either tighten or refasten the leaking connection and retest as described above.

D. When the gas lines are tested and leak free, observe the individual tongues of flame on the burner. Make sure all ports are open and producing flame evenly across the burner. If any ports are blocked, or partially blocked, clean out the ports.

Step 8. Outside Air Kits – Optional outside make-up air kits, Model FOAK-4 or FAOK-4LD, may be used with these appliances. Refer to the installation instructions packaged with the air kits for specific installation information. If used, the outside air kit must be installed before the fireplace is framed and enclosed in the finished wall.

Outside air drawn into the fireplace supplies air to the fire for combustion. Only one outside air duct is necessary, if installed. See ***Figure 4 on page 5*** for the location of the unit's outside air inlet.

If additional length of duct is necessary, purchase locally available U.L. Class 0 or Class 1 metallic ducting. The duct may extend up to 50' (15.24 m) in any direction.

Note: *When installing the air duct vertically,* ***DO NOT*** *terminate the duct closer than 3' below the chimney top.*

Outside combustion air ducting may be run upwards or vertically through framing and ceiling joists, with the hood installed through an outside wall and 3' (1 m) below the termination. Ducting may also be run downward through floor joists and under the home to a ventilated crawlspace not considered part of the living area of the home.

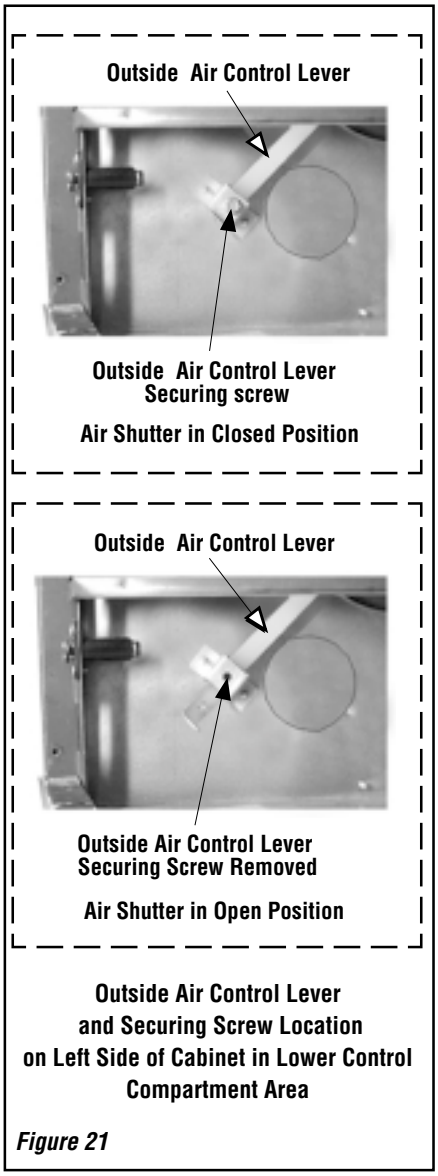
Note: Do not terminate outside air kit in attic space under any circumstances.

CAUTION: NEVER LOCATE INLET WHERE IT CAN BE BLOCKED BY SHRUBS, SNOW DRIFTS, ETC. NEVER LOCATE INLET IN GARAGE OR ANY AREA WHERE THERE IS ANOTHER FUEL BURNING APPLIANCE OR PRODUCTS EMITTING COMBUSTIBLE GASES SUCH AS PAINT, GASOLINE, ETC. IN COLD CLIMATES, IT IS RECOMMENDED THE OUTSIDE AIR DUCT BE INSULATED.

After completing the installation of the optional outside air vent system the outside air control lever must be put in service and tested to ensure proper operation before completing any enclosure around the firebox. Failure to do so may result in extensive and costly rework. Before the operation of the vent system can be tested, the lever securing screw must be removed. ***See Figure 21.***

The hand operated outside air control lever is located on the left side of the fireplace opening. ***See Figure 21.***

To open the outside air shutter, open the bottom control access panel, reach into the control compartment, and pull the outside air control lever all the way out. The outside air shutter should be fully open when the fireplace is in use and completely closed when the fireplace is not being used. Closing it when not in use will prevent outside cold air from entering the dwelling.



Outside Air Control Lever and Securing Screw Location on Left Side of Cabinet in Lower Control Compartment Area

Figure 21

Operate the actuator through several cycles including the closed position. Ensuring proper operation and freedom of movement. Return the actuator arm to the closed position.

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

Step 9. INSTALLING LOGS, DECORATIVE VOLCANIC STONE AND GLOWING EMBERS

The packaged logs are located within the firebox. The decorative volcanic stone and glowing embers are packaged separately in plastic bags located in the control area of the fireplace.

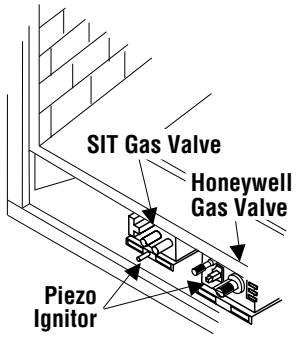
Refer to the **Homeowner's Care and Operation Guide** for detailed placement instructions for the decorative volcanic stone. Refer to the the **Log Placement Guide** for detailed placement instructions for logs and glowing embers.

Step 10. CHECKING APPLIANCE OPERATION

With gas line installed run initial system checkout before closing up the front of the unit. Follow the pilot lighting instructions provided in the Homeowner's Care and Operation Instructions. For piezo ignitor location see ***Figure 22*** (SIT and Honeywell millivolt appliances only).

Note: *Instructions are also found on the literature tag attached to the gas valve train.*

When first lighting the appliance, it will take a few minutes for the line to purge itself of air. Once purging is complete, the pilot and burner will light and operate as indicated in the instruction manual. Subsequent lightings of the appliance will not require such purging. Inspect the pilot flame (remove logs, if necessary, handling carefully).



Sit and Honeywell Millivolt Gas Valve Showing Piezo Ignitor Location (Each Unit is Equipped with Only One of these Gas Valves)

Figure 22

SIT and Honeywell Millivolt Appliance Checkout

The pilot flame should be steady, not lifting or floating. Flame should be blue in color with traces of orange at the outer edge.

The top ⅜" (10 mm) at the pilot generator (thermopile) and the top ⅛" min (tip) of the quick drop out thermocouple should be engulfed in the pilot flame. The flame should project 1" (25 mm) beyond the hood at all three ports (***Figure 23 - SIT, Figure 24 - Honeywell***).

Replace logs if removed for pilot inspection.

To light the burner; turn "ON" the remote wall switch and rotate the gas valve control knob counterclockwise to the "ON" position.

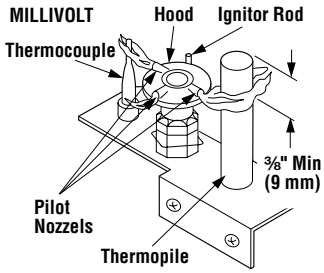


Figure 23

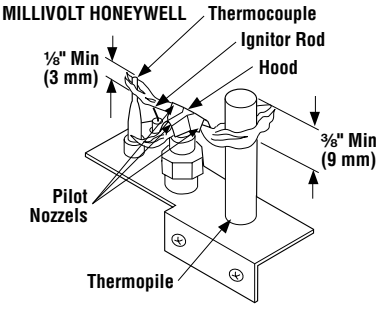


Figure 24

Electronic Appliance Checkout

To light the burner, turn 'ON' the optional remote wall switch and turn the gas control switch to the "ON" position. Ensure the ignitor lights the pilot. The pilot flame should engulf the flame rod as shown in ***Figure 25***.

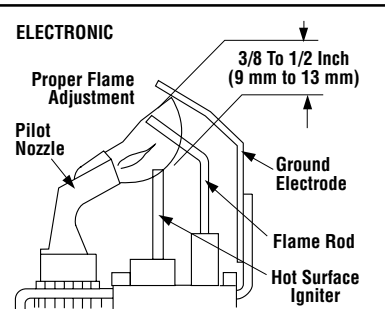


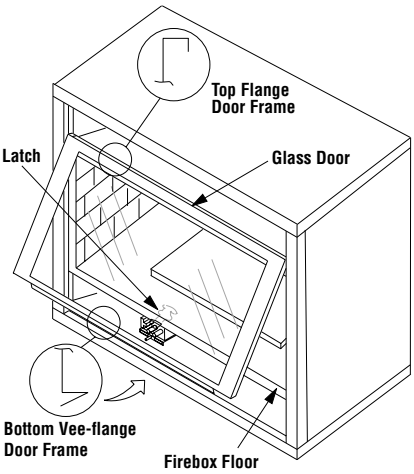
Figure 25

Step 11. INSTALLING THE GLASS DOOR

Retrieve the glass door. Visually inspect the gasket on the backside of the frame. Gasket surface must be clean, free of irregularities and seated firmly.

Position the door in front of the firebox opening with the bottom of the door held away from the fireplace ***(Figure 26)***. Hook the top flange of the door frame over the top of the firebox frame.

Let the bottom of the door frame swing gently in towards the fireplace ensuring that the gasket seats evenly as the door frame draws shut. Fasten the latch located underneath the firebox floor to the door's vee-flange. Close the latch securely.



INSTALLING THE GLASS DOOR

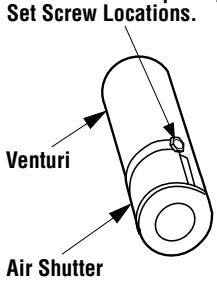
Figure 26

WARNING: HANDLE THIS GLASS WITH EXTREME CARE! THE GLASS PANEL IS SUSCEPTIBLE TO DAMAGE – DO NOT SCRATCH WHILE HANDLING OR WHILE RE-INSTALLING THE GLASS DOOR FRAME.

Step 12. BURNER ADJUSTMENTS

Note - *The air shutter for the burner primary air opening is factory-set. Do not adjust the factory-set position. The factory-set position is shown in* ***Figure 27.***

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.



Models	Gas Type	FACTORY AIR SHUTTER SETTING inches (mm)
B-500	Nat.	1/16 (1.59) open
	Prop.	1/4 (6.35) open
B-600	Nat.	1/16 (1.59) open
	Prop.	5/16 (7.94) open
B-800	Nat.	Fully closed
	Prop.	7/32 (5.55) open

Figure 27

Step 13. SPILLAGE TEST

After appliance installation, perform this spillage test to verify that proper venting conditions exist:

1 - Place unit in its normally-operated condition, that is, with the glass enclosure panel in place.

2 - Close all doors and windows in the room. Turn on all exhaust fans in the house.

3 - Light the appliance.

4 - Wait 15 minutes.

5 - To check for venting action, start by holding a smoke producing device within an inch of one edge (side edge, not top or bottom edge) of one glass enclosure panel. The smoke should be drawn toward the edge of the glass enclosure panel. Continue the test by moving the smoke producing device along the entire length of both side-edges of the glass door.

6 - **If the smoke is not drawn towards the edges of the glass door turn off the appliance and call a qualified service technican.**

Manually-Reset Safety Limit Switch

This appliance is equipped with a manually-reset blocked flue safety limit switch. Refer to ***Figure 28*** for its location. If, during appliance operation, the flame goes out (independently of the burner on/off wall switch), it may be due to the operation of this safety limit switch. **First allow the appliance to cool**. Remove top louver panel. Then reset the safety limit switch by pushing the red reset button, located between the wire terminals, on the back of the switch. See ***Detail A of Figure 28*** for location.

The appliance should then relight and remain lit. Reinstall top louver panel. If the appliance does not relight, **turn off the appliance and call for a qualified service technician**.

To replace the blocked flue safety limit switch refer to *Figure 28 (Details B and C)**:***

***NOTE -** This procedure should only be performed by a qualified service technician.*

Important - Turn electrical power off before beginning this procedure.

1 - Lower the bottom control compartment access panel. Remove the glass enclosure panel: open the latch (located in the center of the unit front opening, under the firebox floor) securing the glass enclosure panel. Remove the panel by tilting it outward at the bottom and lifting it up. Set the door aside protecting it from inadvertent damage. *See **Figure 26 on page 11.***

2 - Remove the lintel securing screws (3) and then remove the lintel. One of the lintel cabinet top holes is shown in ***Figure 28 (Detail B)***.

3 - Remove the scoop securing screws (3) and then remove the scoop. See ***Figure 28 (Detail B)***.

4 - Remove the safety switch bracket securing screws (2), and pull the switch/bracket assembly, with low voltage wires attached, through the side panel slot into the firebox. See ***Figure 28 (Detail C)***.

5 - Replace the switch.

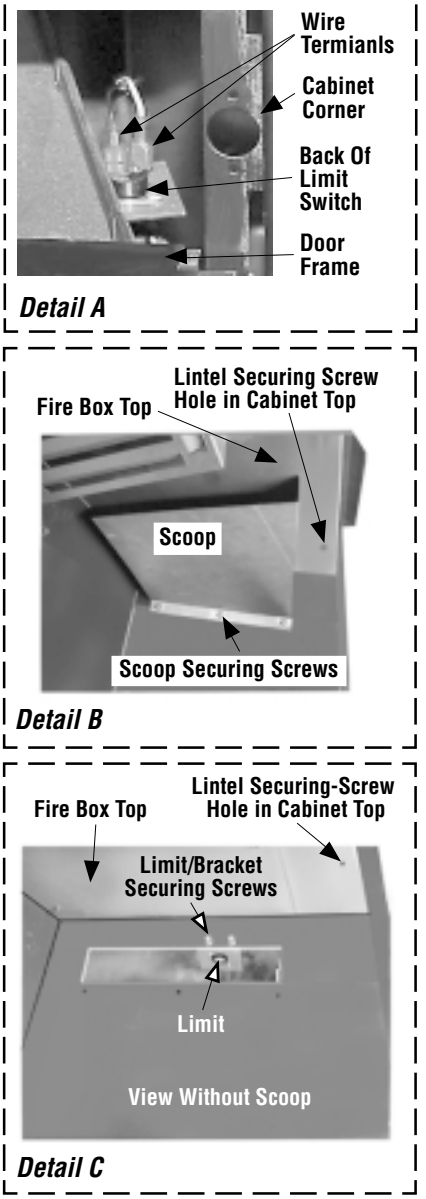
6 - Reinstall the switch/bracket assembly.

7 - Reinstall the scoop and lintel.

8 - Reinstall the glass enclosure panel.

9 - Raise the bottom control compartment access panel.

10 - The appliance should then relight and remain lit. If this does not occur, check unit for a blocked flue condition.



Blocked Flue Safety Limit Location

Inside View of Firebox - Top/Right Side Intersection

Figure 28

Step 14. HOOD INSTALLATION

All of these appliances must have a hood installed prior to operating on the side with a glass enclosure panel.

On all clean face units, slide the hood into the slot on the lower edge of the radiant panel ***(see Figure 30).***

On louvered face units, slide the hood into the slots on the lower edge of the cabinet top (***see Figure 31***).

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

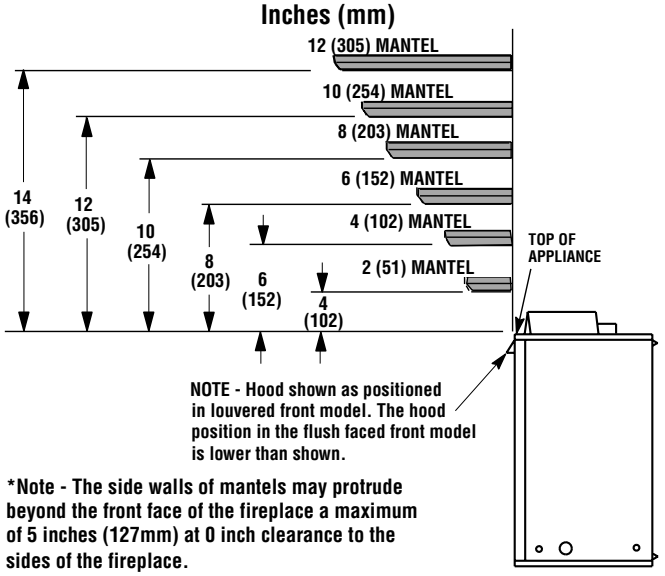


Figure 29

FINISHING REQUIREMENTS
Wall Details

Complete finished interior wall. To install the appliance facing flush with the finished wall, position framework to accommodate the thickness of the finished wall (***see Figures 30 and 31***).

A hearth extension is not required with this appliance. If a hearth extension is used, do not block the control compartment access panel. Any hearth extension used is for appearance only and does not have to conform to standard hearth extension installation requirements.

Note: *Combustible wall finish materials and/or surround materials must not be allowed to encroach the area defined by the appliance front face (black sheet metal). Never allow combustible materials to be positioned in front of or overlapping the appliance front face. See* ***Figures 30 and 31.***

Non-combustible materials, such as surrounds and other appliance trim, may be installed on the appliance front face with these exceptions: they must not cover any portion of the glass or louvers; they must not cover any portion of the top radiant panel and the air gaps surrounding the top radiant panel.

Vertical installation clearances to combustible mantels vary according to the depth of the mantel. *(refer to* ***Figure 29****)*. Mantels constructed of non-combustible materials may be installed at any height above the appliance opening; however, do not allow anything to hang below the hood.

COLD CLIMATE INSULATION

If you live in a cold climate, seal all cracks around your appliance with noncombustible material and wherever cold air could enter the room. It is especially important to insulate outside chase cavity between studs and under floor on which appliance rests, if floor is above ground level.

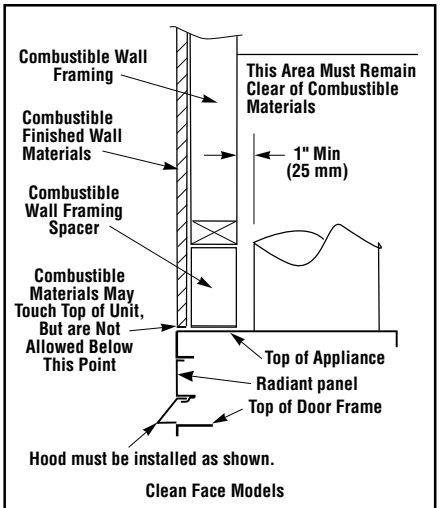


Figure 30

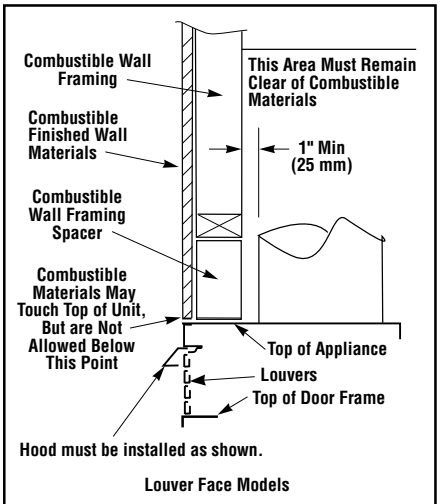


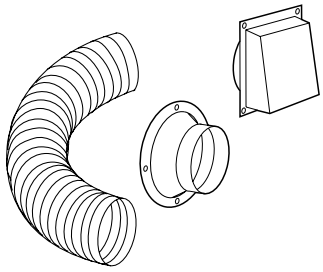
Figure 31

INSTALLATION ACCESSORIES

The following accessory items are available for use in the installation of this appliance.

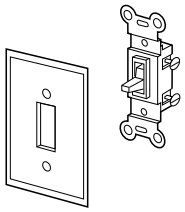
Outside Air Kits Models FOAK-4 and FOAK-4LD

Outside Air kits are available with duct (FOAK-4) and without duct (FOAK-4LD) for use if outside combustion air is required or desired. If model FOAK-4LD is used it must be used in conjunction with locally purchased, non-combustible Class 1 or Class 0 flexible duct.



Outside Combustion Air Kits		
(with duct)	81L87	FOAK
(without duct)	81L88	FOAK-LD

Wall Switch Kit FWSK



Wall Switch Kit	85L87	FWSK

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

GAS CONVERSION KITS

WARNING: THIS CONVERSION KIT SHALL BE INSTALLED BY A QUALIFIED SERVICE AGENCY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND ALL APPLICABLE CODES AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE, EXPLOSION OR PRODUCTION OF CARBON MONOXIDE MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE. THE INSTALLATION IS NOT PROPER AND COMPLETE UNTIL THE OPERATION OF THE CONVERTED APPLIANCE IS CHECKED AS SPECIFIED IN THE OWNER INSTRUCTIONS SUPPLIED WITH THE KIT. THE QUALIFIED SERVICE AGENCY PERFORMING THIS INSTALLATION ASSUMES RESPONSIBILITY FOR THIS CONVERSION.

AVERTISSEMENT: CET ÉQUIPEMENT DE CONVERSION SERA INSTALLÉ PAR UNE AGENCE QUALIFIÉE DE SERVICE CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT ET TOUTES EXIGENCES ET CODES APPLICABLES DE L'AUTORISÉS AVOIR LA JURIDICTION. SI L'INFORMATION DANS CETTE INSTRUCTION N'EST PAS SUIVIE EXACTEMENT, UN FEU, EXPLOSION OU PRODUCTION DE PROTOXYDE DE CARBONE PEUT RÉSULTER LE DOMMAGES CAUSER DE PROPRIÉTÉ, PERTE OU BLESSURE PERSONNELLE DE VIE. L'AGENCE QUALIFIÉE DE SERVICE EST ESPONSABLE DE L'INSTALLATION PROPRE DE CET ÉQUIPMENT. L'INSTALLATION N'EST PAS PROPRE ET COMPLÉTE JUSQU'À L'OPÉRATION DE L'APPAREIL CONVERTI EST CHÉQUE SUIVANT LES CRITÈRES ÉTABLIS DANS LES INSTRUCTIONS DE PROPRIÉTAIRE PROVISIONNÉES AVEC L'ÉQUIPEMENT.

In Canada:
THE CONVERSION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROVINCIAL AUTHORITIES HAVING JURISDICTION AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CAN1-B149.1 AND .2 INSTALLATION CODE.

LA CONVERSION DEVRA ÊTRE EFFECTUÉE CONFORMÉMENT AUX RECOMMANDATIONS DES AUTORITÉS PROVINCIALES AYANT JURIDICTION ET CONFORMÉMENT AUX EXIGENCES DU CODE D'INSTALLATION CAN1-B149.1 ET.2.

Gas conversion kits are available to adapt your appliance from the use of one type of gas to the use of another. These kits contain all the necessary components needed to complete the task including labeling that must be affixed to ensure safe operation.

Kit part numbers are listed here and the following steps detail the conversion procedure.

Step 1. Turn off the gas supply to the appliance. Remove the front glass door/frame from the appliance. Access the control compartment.

Step 2. Carefully remove the logs. **Exercise care so as not to break the logs.**

Step 3. Locate the screws securing the burner (tray) to the appliance. Remove the burner and retain the securing screws.

Millivolt SIT Systems - Natural To Propane Gas Conversion Kits		
Models	Unit Type	Catalog No.
B-500	millivolt	85L59
B-600	millivolt	85L60
B-800	millivolt	85L61

Honeywell Systems - Natural To Propane Gas Conversion Kits		
Models	Unit Type	Catalog No.
B-500	millivolt	11M37
B-600	millivolt	11M38
B-800	millivolt	11M39
B-500	electronic	85L73
B-600	electronic	85L74
B-800	electronic	85L75

Step 4. Millivolt Appliances - SIT Systems

a. Refer to ***Figure 32*** and the instructions provided with the kit. Using a Torx T20, remove and discard the three pressure regulator mounting screws. Remove the pressure regulator, spring, poppet, diaphragm and bushing. **Discard all removed components**. Ensure the rubber gasket installed on the back of the replacement pressure regulator is properly positioned and install the new pressure regulator using the new screws supplied with the kit. Tighten screws to 25 In. lb. torque.

Millivolt SIT Systems - Propane to Natural Gas Conversion Kits		
Models	Unit Type	Catalog No.
B-500	millivolt	85L66
B-600	millivolt	85L67
B-800	millivolt	85L68

Honeywell Systems - Propane to Natural Gas Conversion Kits		
Models	Unit Type	Catalog No.
B-500	millivolt	11M34
B-600	millivolt	11M35
B-800	millivolt	11M36
B-500	electronic	85L80
B-600	electronic	85L81
B-800	electronic	85L82

SIT Millivolt Gas Valve

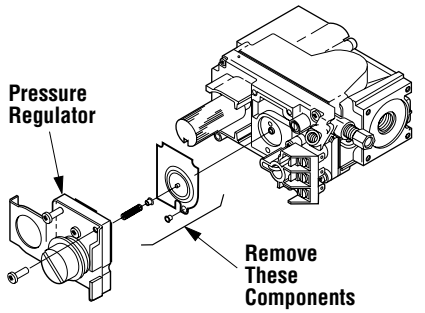


Figure 32

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

b. Attach manometer to the manifold side pressure test fitting and verify manifold pressure reads 3.5 inches water column (0.87 kPa) for natural gas, and 10.0 inches water column (2.49 kPa) for propane gas.

c. Refer to ***Figure 33*** and remove the pilot hood assembly to access the hexed pilot orifice. Remove and replace the orifice with the one provided with the kit.

Pilot for SIT Millivolt Gas Valve

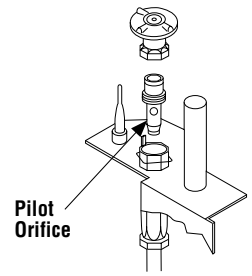


Figure 33

Step 5. Millivolt Appliances - Honeywell Systems

a. *Convert the gas valve as follows (*see ***Figure 34):***
Remove the plastic protecting cap. Remove the gas type setting screw by turning it counterclockwise. Obtain the replacement gas type setting screw from the kit and screw it into place (red for propane and blue for natural gas). Tighten the gas type setting screw by turning it clockwise. Replace the plastic protecting cap.

Honeywell Millivolt Gas Valve

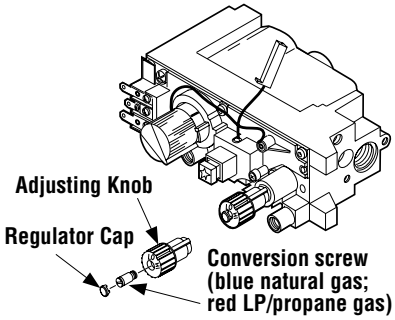


Figure 34

b. Attach manometer to the manifold side pressure test fitting and verify manifold pressure reads 3.5 inches water column (0.87 kPa) for natural gas, and 10.0 inches water column (2.49 kPa) for propane gas.

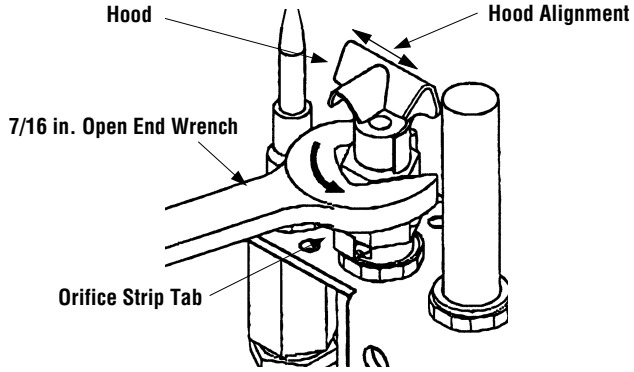
c. *Convert the pilot orifice as follows (see* ***Figures 35, 36 and 37****):*
Note - Use extra care not to engage the orifice strip with the 7/16" open end wrench (contacting the orifice strip could cause strip distortion rendering the pilot inoperative). Also avoid wrench contact to any of the other pilot parts.
Use a 7/16" open end wrench and turn the pilot hex fitting counter-clockwise 1/4 turn. (See ***Figure 35).***

Note - *The orifice strip tab may be randomly located on any side of the hex fitting.*

d. Push the orifice strip tab all the way against the hex fitting to align the appropriate gas type orifice ***(see Figures 36 and 37)***. The type of gas for which the pilot is set, is, the gas type shown on the tab.

e. Retighten, clockwise, the pilot hex fitting until the pilot hood aligns with the thermocouple and thermopile as indicated by the arrows shown in ***Figure 35.***

Pilot for Honeywell Millivolt Gas Valve
(Loosening of Hex Fitting For Orifice Strip Tab Positioning)



Take Care Not to Contact the Orifice Strip Tab with the Hex Fitting Wrench - Distortion of the Tab May Render the Pilot Inoperative.

Figure 35

Pilot for Honeywell Millivolt Gas Valve

Orifice Strip Tab Position Identification For LP/Propane and Natural Gas

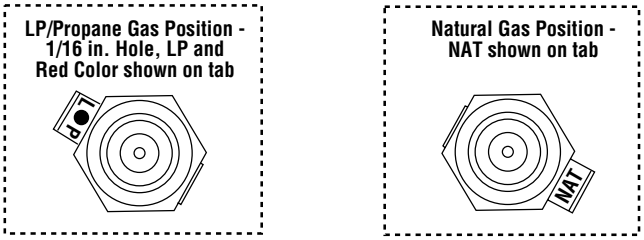


Figure 36

Top View of Hex Fitting and Orifice Strip Tab

Pilot for Honeywell Millivolt Gas Valve
Orifice Strip Tab Positioning

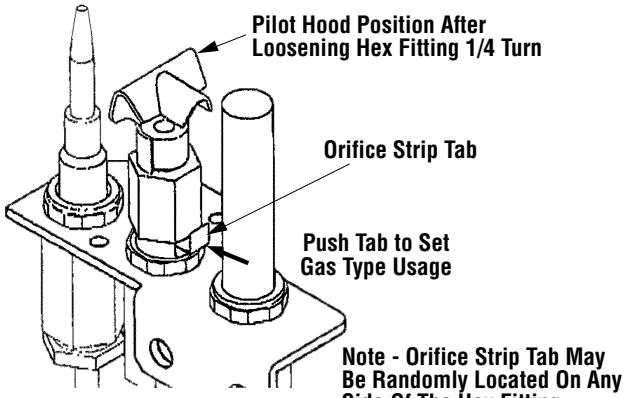


Figure 37

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

Step 6. Electronic Appliances - Honeywell Systems

See ***Figure 38*** and the instructions provided with the kit. Remove the slotted cap screw, o-ring, pressure-regulating adjusting screw and spring. Retain all parts for possible later use. Install new components from the kit. Black cap and red spring for propane gas units. Silver cap and stainless steel spring for natural gas units. Before installing the cap, attach manometer to the manifold side pressure test fitting and adjust screw until pressure reads 3.5 inches water column (0.87 kPa) for natural gas, and 10.0 inches water column (2.49 kPa) for propane gas.

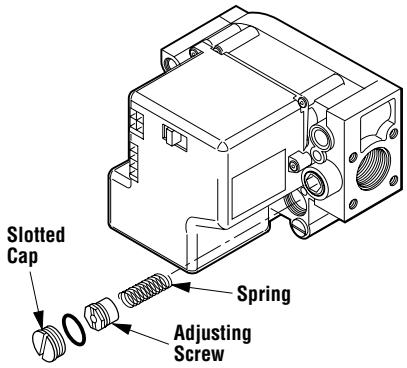
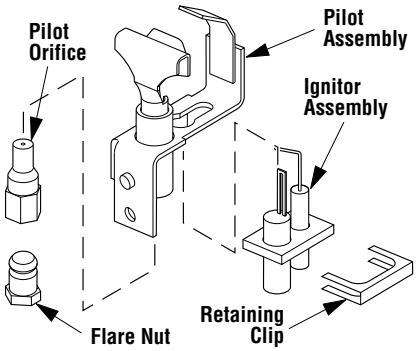


Figure 38

See ***Figure 39*** and replace the pilot orifice as follows: Remove the ignitor assembly retainer clip, and carefully remove the ignitor assembly.

Exercise extreme care to prevent damage to or breakage of the ignitor assembly. Remove the screw securing the pilot assembly to its mounting bracket. Back off the flare nut at the end of the pilot gas line to free the pilot assembly from the gas line. Remove the pilot orifice and replace it with the one provided with the conversion kit. Reinstall the pilot assembly by reversing the **steps** detailed here.

When reinstalling the ignitor assembly, use extreme care to prevent damage and breakage. Do not apply any leverage to the ignitor assembly while restoring the retainer clip to its original position.



Note: If the ignitor is damaged, a replacement kit is available - order Catalog Number 87L54.

Figure 39

All Models

Step 7. Remove the orifice from the manifold and replace it with the one provided with the kit. See the following table for orifice sizes for natural and propane models. ***Figure 40*** illustrated the orifice.

Models	Orifice Size	
	Natural	Propane
B-500	0.090 in.	#54
B-600	#36	#52
B-800	#33	0.065 in.

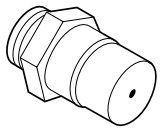


Figure 40

Step 8. Reassemble all removed components by reversing the procedures outlined in the preceding steps. Use pipe joint compound or Teflon tape on all pipe fittings before installing (ensure propane resistant compounds are used in propane applications, do not use pipe joint compounds on flare fittings).

Step 9. Attach the conversion label provided in the conversion kit to the rating plate on the appliance.

Step 10. Turn on gas supply and test for gas leaks.

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

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