



# UNVENTED (VENT-FREE) FIREBOX Circulating Models

Listed Certified for USA  
FVF350

FVFB350MVN, FVFB350MVP Burner Systems are approved to  
ANSI Z21.11.2 - 2007 for the FVF350 Vent Free Firebox only

## Owner's Operation and Installation Manual

**INSTALLER:** Leave this manual with the appliance.  
**CONSUMER:** Retain this manual for future reference.



This appliance must be installed by a licensed plumber or gas fitter in the Commonwealth of Massachusetts and meet the requirements of 527 CMR 30 and 248 CMR.

### **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.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- 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.
- Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

### **Warning**

Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage. Refer to this manual for correct installation and operational procedures. For assistance or additional information consult a qualified installer, service agency, or the gas supplier.

### **Warning**

This is an unvented gas-fired heater. It uses air (oxygen) from the room in which installed. Provisions for adequate combustion and ventilation must be provided. Refer to Page 12.

### **Warning**

The FVF350 Firebox is to be used only with certain vent-free gas log heaters (see table 1, Page 5). Do not burn wood or other materials in these fireboxes.



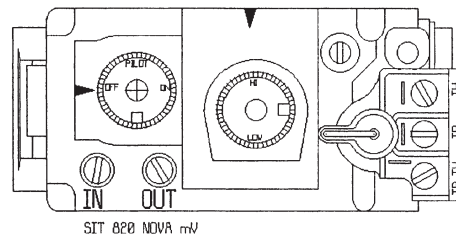
# WARNING:

PLEASE VERIFY THE FOLLOWING STEPS ARE TAKEN WHEN INSTALLING A VENT FREE BURNER SYSTEM.

**STEP 1:** WHEN INSTALLING BURNER SYSTEMS, VERIFY THAT THE SERIAL NUMBER PLATE AND YELLOW BURNER INSPECTION TAG (LOCATED NEAR VALVE) ARE THE SAME TYPE OF GAS. SHOULD THE GAS TYPE NOT BE SAME, RETURN THE BURNER SYSTEM TO WHOM YOU PURCHASED IT FROM, AND ASK FOR A REPLACEMENT.

**STEP 2:** VERIFY THE WATER COLUMN PRESSURE (IN/OUT). (IF YOU DON'T KNOW HOW TO CHECK WATER COLUMN PRESSURE YOU SHOULD NOT BE INSTALLING THIS PRODUCT, CONTACT A LICENSED GAS FITTER.) THE OUTLET PRESSURE IS REQUIRED NOT TO EXCEED THE FACTORY SETTINGS. ADJUST PROPANE AT THE REGULATOR IF PRESSURES EXCEED THOSE RECOMMENDED, IF THE NATURAL GAS PRESSURE IS ABOVE 3 1/2" CONTACT THE FACTORY OR SALES REPRESENTATIVE WITH YOUR READING BEFORE YOU USE THE BURNER SYSTEM.

<u>TYPE OF GAS</u>	<u>INLET</u>	<u>OUTLET</u>
PROPANE	11"	10"
NATURAL GAS	5 1/2 - 7"	3 1/2"



**STEP 3:** THE POSITIONING OF THE LOGS IS CRITICAL FOR SAFE AND CLEAN OPERATION OF THIS HEATER. SOOTING AND OTHER PROBLEMS CAN OCCUR IF THE LOGS ARE NOT PROPERLY AND FIRMLY POSITIONED AS INSTRUCTED IN MANUAL. DO NOT ATTEMPT TO INSTALL LOGS IF THEY ARE DAMAGED OR BROKEN.

**FAILURE TO FOLLOW AND COMPLY WITH THESE STEPS CAN CAUSE SOOTING AND KINGSMAN FIREPLACES WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OR EXPENSES IN CONNECTION WITH ANY USE OR FAILURE OF THE VENT FREE BURNER SYSTEM.**

**READ OWNERS MANUAL CAREFULLY AND COMPLETELY BEFORE TRYING TO ASSEMBLE OPERATE, OR SERVICE THIS APPLIANCE.**

## PRE-INSTALLATION QUESTIONS and ANSWERS

### Why does my fireplace or stove give off odour?

It is normal for your fireplace to give off some odour. This is due to the curing of the paint, adhesives, silicones and any undetected oil from the manufacturing process as well as the finishing materials used with the installations (e.g. marble, tile and the adhesives used to adhere this product to the walls can react with heat and cause odours).

It is recommended that you burn your gas fireplace or stove for a minimum of four hours at a time with the fan off after the curing of the paint has been completed. These odours can last upward to 40 hours of burn time, keep burning at a minimum of four hours per use until odours dissipate.

### About curing of the paint

Your stove or fireplace has been painted with the highest quality silicone stove paint. This paint dries quickly in 15-20 minutes when first applied at the factory. However, due to the high temperature silicone components, the paint will cure when heat is applied to the appliance as it is first used.

The following information **applies to the curing process** to get the paint fully hard and durable.

Fire the appliance four successive times for 10 minutes each firing and a 5 minute cool down between each. Be aware during log and firebox paint curing that a white deposit may be developing on the inside of the glass doors. It is important to remove this white deposit from the glass doors with an appropriate cleaner to prevent build-up (such as Windex or a commercial fireplace glass cleaner).

- Babies, small children, pregnant women and pets should leave the area during the cure phase.
- Ventilate well, open doors and windows.
- Do not touch during curing.

### Noise coming from the fireplace?

- Noise caused by metal expanding and contracting as it heats up and cools down, similar to the sound produced by a furnace or heating duct. This noise does not affect the operation or longevity of your fireplace.
- Different types and thicknesses of steel will expand and contract at different rates resulting in “cracking” and “ticking” sounds throughout the heating and cooling periods.
- You should also be aware that as temperatures change within the unit these sounds will likely re-occur. Again this is normal for steel fireboxes, and is not a defect.

### Cleaning the Glass

During the first few fires, a white film may develop on the glass front, as part of the curing process. The glass should be cleaned after the unit has cooled down or the film can bake on and become very difficult to remove. Use a non-abrasive cleaner and do not attempt to clean the glass while it is hot.

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# BURNER SYSTEM OPTIONS

The appropriate burner system must be ordered for each firebox, see chart below for required burner system and logset.

**This appliance is equipped for (Natural or Propane) Gas.  
Field conversion is not permitted.**

**TABLE 1**

**FVF350 Vent Free Firebox**

**Required Burner system: (Select from below to complete the stove)**

*Burner Systems – Controls are hidden and accessed through bottom access door*

Burner Model	Valve Type	Fuel Type	BTU Input	Min./Max. Inlet	Manifold Pressure	Orifice Size	Primary Air
FVFB350MVN	Millivolt	Natural Gas	25,000 - 40,000	5.5/10"	1.6 - 3.5"	31	0.25"
FVFB350MVP	Millivolt	Liquid Propane	27,000 - 37,000	11/13"	6.3 - 10"	49	Full Open

**Fibre Log Set - required for all the burners above.**

LOGF35                      Fibre Log set

**Door Frame (required for each FVF350 Stove)**

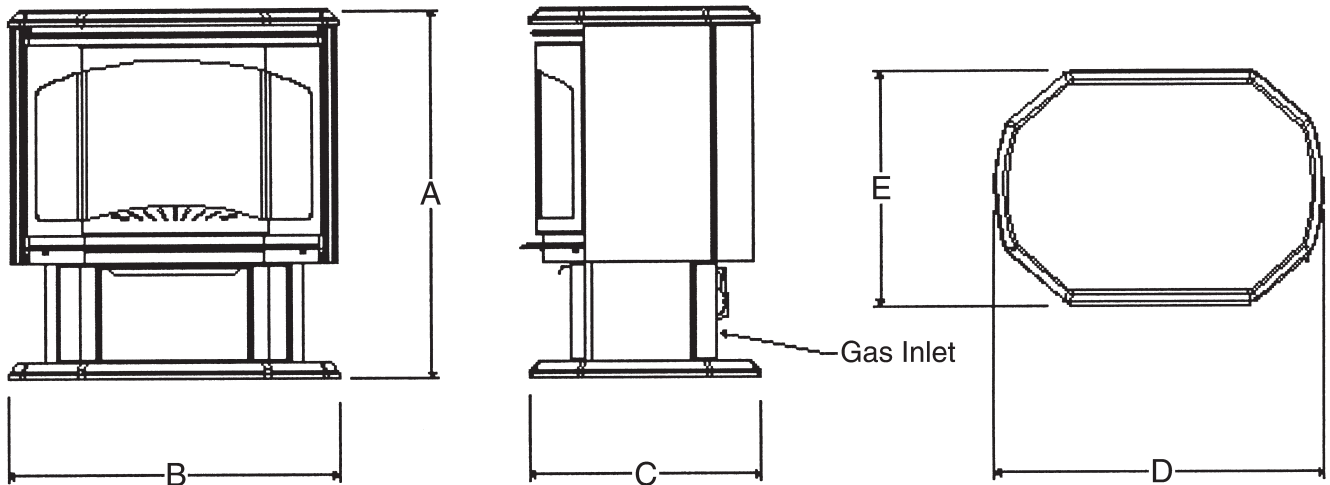
FVF350DG      Door Frame Gold and Fixed Mesh Screen  
FVF350DB      Door Frame Black and Fixed Mesh Screen

**Optional Accessories:**

F35FK              Fan Kit w/ Variable Speed control (Temperature Sensing)  
F35RL              Refractory Liner  
F35LG              Louver (Gold)  
Z1MT              Thermostat Millivolt Wall Mount  
Z80PT              Thermostat Programmable Digital Millivolt Wall Mount (1F80-40)  
Z1RC              Remote Control Millivolt (On/Off with LED) (Model I)  
ZART              Remote Control Thermostat Millivolt (Model K)

# SPECIFICATIONS

A	30 <sup>3</sup> / <sub>8</sub> "
B	27 <sup>5</sup> / <sub>16</sub> "
C	19"
D	27 <sup>5</sup> / <sub>16</sub> "
E	19 <sup>3</sup> / <sub>16</sub> "



# SAFETY INFORMATION WARNINGS

## WARNINGS

**Important:** Read this owner's manual carefully and completely before trying to assemble, operate, or service this firebox. Improper use of this firebox can cause serious injury or death from burns, fire, explosion, electrical shock, and carbon monoxide poisoning.

Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, and / or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once! Turn off gas appliance. Have appliance serviced.** Some people (such as pregnant women, persons with heart or lung disease, persons with anemia and those at high altitudes) are more affected by carbon monoxide than others. Make certain you read and understand all warnings.

**This appliance is equipped for  
(Natural or Propane) Gas.  
Field conversion is not permitted.**

**Warning:** Failure to position parts in accordance with these diagrams or failure to use only part specifically approved with this heater may result in property damages or personal injury.

1. Use correct gas type for your appliance. Do not convert from one gas type to another.
2. If this appliance is for use with Propane gas, do not place propane supply tank(s) inside any structure. Locate propane supply tank(s) outdoors.
3. If you smell gas:
  - Shut off gas supply.
  - 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.
4. Do not use this appliance for burning trash or cooking. Never place matches, paper, garbage, or any other material on top of logs or logs into flame.
5. **Warning:** Always operate appliance with front fireplace screens closed.
6. Make sure any safety screen or guard removed for servicing is in place before running appliance.
7. Never run appliance in a small, closed room. Open the door into next room to help ventilate.



**DANGER**

**CARBON MONOXIDE POISONING  
MAY LEAD TO DEATH!**

**NOTE:** It is recommended that a Carbon Monoxide (CO) Detector be installed in or near bedrooms and on all levels of your home. Place a detector about 15 feet (4.5 meters) outside the room that houses your gas appliance.

8. If appliance shuts off, do not relight until you provide fresh outside air. If appliance keeps shutting off, have it serviced.
9. Do not run appliance:
  - where flammable liquids or vapors are used or stored.
  - under dusty conditions.
10. Surface of appliance becomes very hot when operating. Keep children and adults away from hot surface. Appliance will remain hot for some time after shutdown. Allow surface to cool before touching.
11. Do not use this appliance if any part has been submerged under water. Immediately call a qualified technician to inspect the appliance and to replace any part of the control system and gas control which has been under water.
12. The installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1.
13. Never install the appliance:
  - in a bedroom, bathroom, mobile home, or recreational vehicle.
  - where curtains, furniture, clothing, or other flammable objects are less than forty-two inches (42") from the front of the appliance.
  - in high traffic areas.
  - in windy or drafty areas.
14. Disconnect the appliance and its individual shut off valve from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig, (3.5kPa).

## SAFETY INFORMATION WARNINGS Cont.

15. Isolate the appliance from the gas supply piping system by closing its individual manual shut off valve during any pressure testing of the the gas supply piping system at test pressure equal or less than 1/2 psig.
16. Do not use any type of after-market blower that fits inside the fireplace. Drafts created by these type of blowers may cause sooting.
17. Turn off appliance and let cool before servicing. Only a qualified service person should install, service and repair appliance.
18. Inspect the appliance before use and at least annually by a professional service person. Frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is important that control compartment, burner and circulating air passage of the appliance be kept open.
19. When operated for the first time, there will be some smell from the appliance. This will diminish and disappear after a few hours of operation.
20. **Warning:** Do not allow fans to blow directly into the fireplace. Avoid any drafts that alter flame patterns.
21. **Warning:** Do not use a blower insert, heat exchanger insert or other accessory not approved for use with this heater.
22. The firebox canopy must not be replaced with a canopy which may be provided with the decorative type UNVENTED room heater.
23. **Warning:** Do not operate ceiling fans in same room as the vent free appliance.
24. Keep burner and control compartment clean. See installation and operating instructions accompanying heater.
25. Children and adults should be alerted to the hazard of high surface temperature and should stay away to avoid burns or clothing ignition.
26. Young children should be carefully supervised when they are in the same room with the appliance.
27. Must be installed by a licensed gasfitter in the Commonwealth of Massachusetts. Complies to code 527CMR.
28. Unvented gas fired appliances may be used only for supplemental heat and/or decorative purposes and under no circumstances shall they provide a primary heat source.

### LOCAL CODES

Install and use fireplace with care. Follow all local codes. In the absence of local codes, use the latest edition of The National Fuel Gas Code ANSI Z223.1, also known as NFPA 54\*. Firebox must be electrically grounded in accordance with the National Electrical Code, ANSI/NFPA 70 (latest edition).

\*Available from:

American National Standards Institute, Inc.  
1430 Broadway  
New York, NY 10018

National Fire Protection Association, Inc.  
Batterymarch Park  
Quincy, MA 02260

### FOR YOUR SAFETY READ BEFORE LIGHTING

- A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.
- B. **Before lighting**, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.  
**What to do if you smell gas**
  - Do not try to light any appliance.
  - Do not touch any electric 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.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician or gas supplier. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

### WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

# AIR FOR COMBUSTION AND VENTILATION

Today's homes are built more energy efficient than ever. New materials, increased insulation, and new construction methods help reduce heat loss in homes. Home owners weather strip and caulk around windows and doors to keep the cold air out and the warm air in. During heating months, home owners want their homes as airtight as possible.

## WARNING

This firebox shall not be installed in a confined space unless provisions are provided for adequate combustion and ventilation air. Read the following instructions to insure proper fresh air for this and other fuel-burning appliances in your home.

While it is good to make your home energy efficient, your home needs to breathe. Fresh air must enter your home. All fuel-burning appliances need fresh air for proper combustion and ventilation.

Exhaust fans, fireboxes, clothes dryers, and fuel burning appliances draw air from the house to operate. You must provide adequate fresh air for these appliances. This will insure proper venting of vented fuel-burning appliances.

## PROVIDING ADEQUATE VENTILATION

The following are excerpts from *National Fuel Gas Code, NFPA 54/ANSI Z223.1, Section 5.3, Air for Combustion and Ventilation*:

All spaces in homes fall into one of the three following ventilation classifications:

1. Unusually Tight Construction
2. Unconfined Space
3. Confined Space.

The information on pages 9 through 11 will help you classify your space and provide adequate ventilation.

### Unusually Tight Construction

The air that leaks around doors and windows may provide enough fresh air for combustion and ventilation. However, in building of usually tight construction, you must provide additional fresh air.

**Unusually tight construction is defined as construction where:**

- a. walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm (6 x 10<sup>-11</sup> per pasc-m<sup>2</sup>) or less with openings gasketed or sealed and
- b. weather stripping has been added on openable windows and doors *and*
- c. caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical, and gas lines, and at other openings.

**If your home meets all of the three criteria above, you must provide additional fresh air.**

See *Ventilation Air From Outdoors*, page 11.

### Confined and Unconfined Space

The National Fuel Gas Code (*ANSI Z223.1, 1992 Section 5.3*) defines a confined space as a space whose volume is less than 50 cubic feet per 1,000 btu per hour (4.8 m<sup>3</sup> per kw) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed\*, through openings not furnished with doors, are considered a part of the unconfined space.

\*Adjoining rooms are communicating only if there are doorless passageways or ventilation grills between them.

## DETERMINING AIR FLOW FOR FIREBOX LOCATION

### Determining if You Have a Confined or Unconfined Space

Use the work sheet on the next page to determine if you have a confined or unconfined space.

**Space:** Includes the room in which you will install firebox plus any adjoining rooms with doorless passageways or ventilation grills between the rooms.



# AIR FOR COMBUSTION AND VENTILATION Cont.

1. Determine the volume of the space (length x width x height).

Length x Width x Height = \_\_\_\_\_ cu. ft. (volume of space)

*Example:* Space size 22ft. (length) x 18 ft. (width) x 8 ft. (ceiling height) = 3168 cu. ft. (volume of space)

If additional ventilation to adjoining room is supplied with grills or openings, add the volume of these rooms to the total volume of the space.

2. Divide the space volume by 50 cubic feet to determine the maximum Btu/Hr the space can support.  
 \_\_\_\_\_ (volume of space) ÷ 50 cu. ft. = 63.3 or 63,300 (maximum Btu/Hr the space can support)
3. Add the Btu/Hr of all fuel burning appliances in the space.

Vent-free firebox	_____	Btu/Hr
Gas water heater*	_____	Btu/Hr
Gas furnace	_____	Btu/Hr
Vented gas heater	_____	Btu/Hr
Gas firebox logs	_____	Btu/Hr
Other gas appliances*	+ _____	Btu/Hr
Total	= _____	Btu/Hr

Example:	Gas water heater	40,000 Btu/Hr
	Vent-free firebox with log heater	+ 39,000 Btu/Hr
	Total	= 79,000Btu/Hr

\* Do not include direct-vent gas appliances. Direct-vent draws combustion air from the outdoors and vents to the outdoors.

4. Compare the maximum Btu/Hr the space can support with the actual amount of Btu/Hr used.

\_\_\_\_\_ Btu/Hr (maximum the space can support)

\_\_\_\_\_ Btu/Hr (actual amount of Btu/Hr used)

Example: 63,300 Btu/Hr (maximum the space can support)

79,000 Btu/Hr (actual amount of Btu/Hr used)

The space in the above example is a confined space because the actual Btu/Hr used is more than the maximum Btu/Hr the space can support. You must provide additional fresh air. Your options are a follows:

- A. Rework work sheet, adding the space of an adjoining room. If the extra space provides an unconfined space, remove door to adjoining room or add ventilation grills between rooms, See *Ventilation Air from Inside Building*, page 10.
- B. Vent room directly to the outdoors. See *ventilation Air from Outdoors*, page 11.
- C. Install a lower Btu/Hr firebox, if lower Btu/Hr size makes room unconfined.

If the actual Btu/Hr used is less than the maximum Btu/Hr the space can support, the space is an unconfined space. You will need no additional fresh air ventilation.

**WARNING**

If the area in which the firebox and gas log heater may be operated is smaller than that defined as an unconfined space, provide adequate combustion and ventilation air by one of the methods described in the National Fuel Gas Code, ANSI Z223.1, 1992, Section 5.3.

# AIR FOR COMBUSTION AND VENTILATION Cont.

## VENTILATION AIR FROM INSIDE BUILDING

This fresh air would come from an adjoining unconfined space. When ventilating to an adjoining unconfined space, you must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor on the wall connecting the two spaces. You can also remove door into adjoining room. Follow the *National Fuel Gas Code NFPA 54/ANSI Z223.1, Section 5.3, Air for Combustion and Ventilation* for required size of ventilation for required size of ventilation grills or ducts.

### **WARNING**

Rework worksheet, adding the space of the adjoining unconfined space. The combined spaces must have enough fresh air to supply all appliances in both spaces.

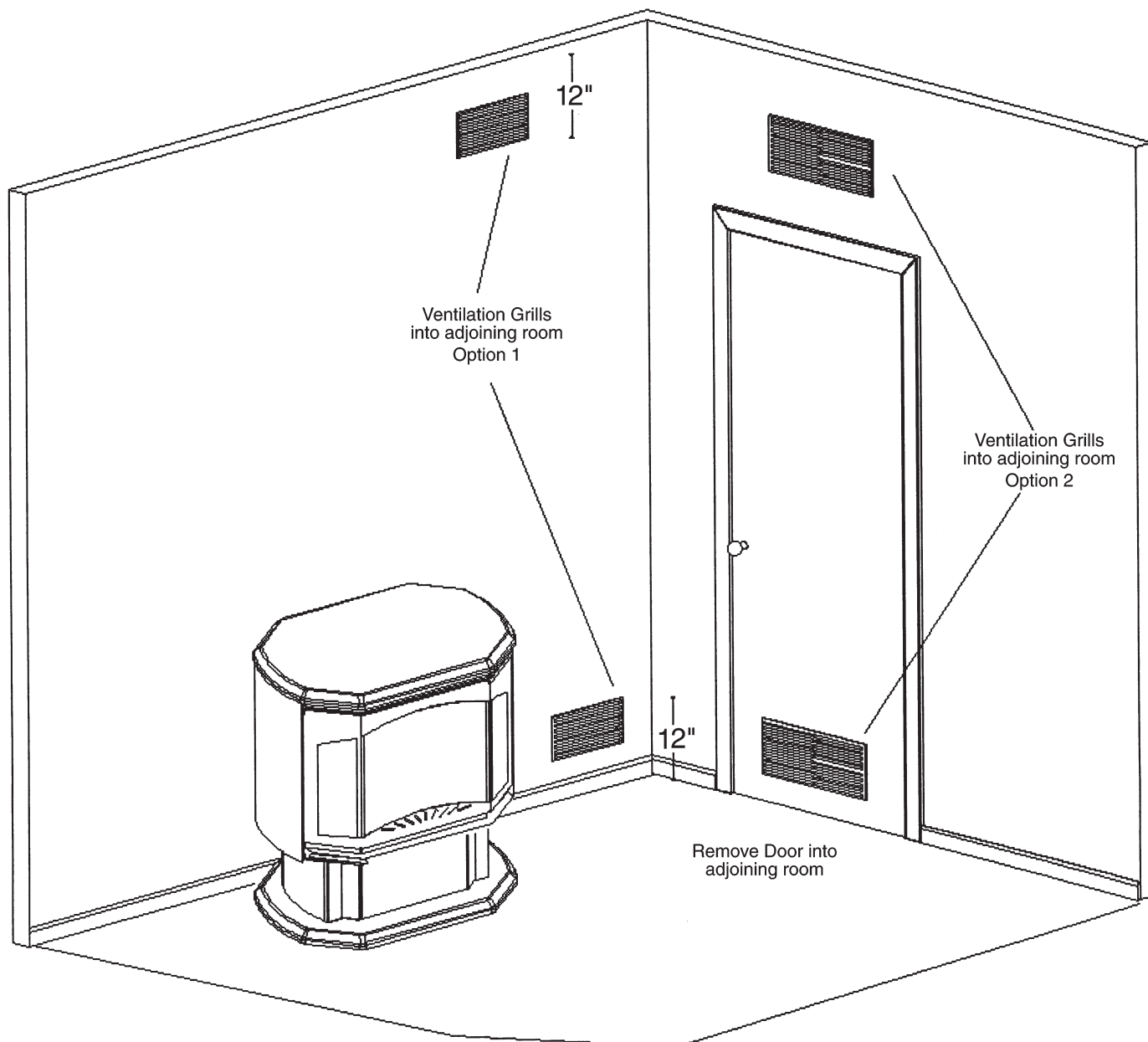


FIGURE 5 - Ventilation Air from Inside Building

# AIR FOR COMBUSTION AND VENTILATION Cont.

## Ventilation Air From Outdoors

Provide extra fresh air by using ventilation grills or ducts. You must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor. Connect these items directly to the outdoors or spaces open to the outdoors. These spaces include attics and crawl spaces.

**IMPORTANT:** Do not provide openings for inlet or outlet air into attic if attic has a thermostat-controlled power vent. Heated air entering the attic will activate the power vent.

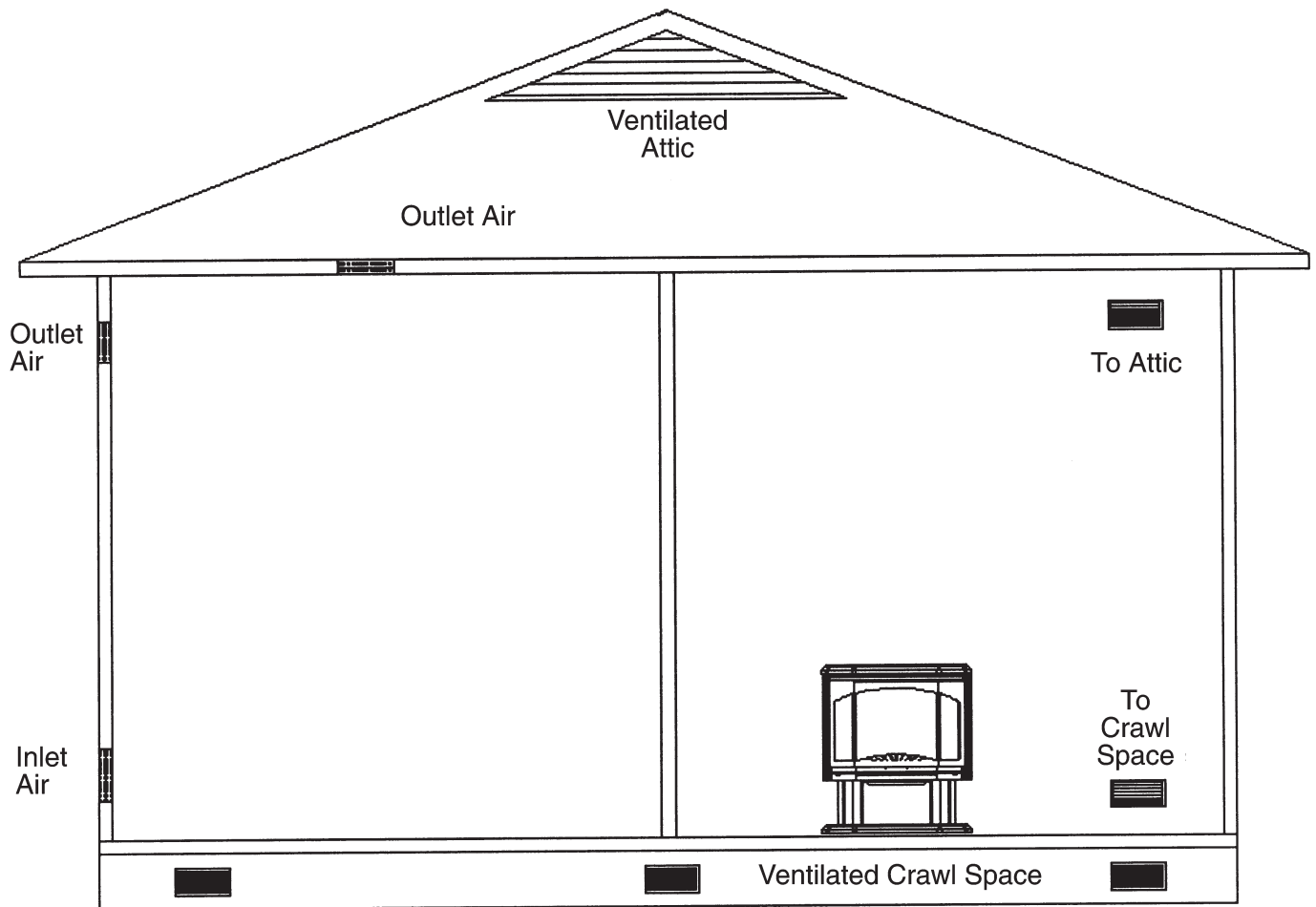


FIGURE 6 - Ventilation Air from Outdoors

## INSTALLING – Clearances

### NOTICE

A qualified service person must install firebox. Follow all local codes.

### WARNING

Never install the firebox

- in a bedroom or bathroom
- in a recreational vehicle
- where curtains, furniture, clothing, or other flammable objects are less than 36 inches from the front, top, or sides of the firebox
- in high traffic areas
- in windy or drafty areas

**IMPORTANT:** Vent-free gas log heaters add moisture to the air. Although this is beneficial, installing firebox in rooms without enough ventilation air may cause mildew to form from too much moisture. See *Air for Combustion and Ventilation*, pages 8 through 11.

**IMPORTANT:** Make sure the firebox is level. If firebox is not level, log set will not work properly.

## INSTALLATION CLEARANCES

Carefully follow the instructions below. This will ensure safe installation.

### Minimum Wall and Ceiling Clearances

- Clearances from the firebox to adjacent wall should not be less than 12 inches.
- Clearance from the back of the stove to the rear wall should not be less than 3 inches.
- Clearance from the side of unit in corner (45 degree installation) is 3" inches.
- Clearance from top of stove is 41 inches.

### WARNING

Ensure the minimum clearances shown in Figure 7 are maintained. Left and right clearances are determined when facing the front of the heater.

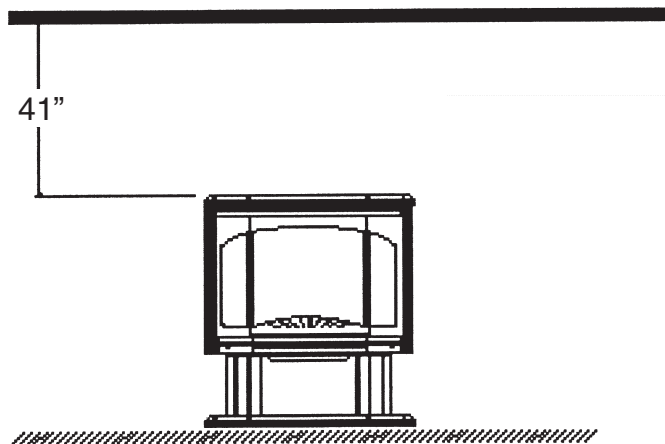
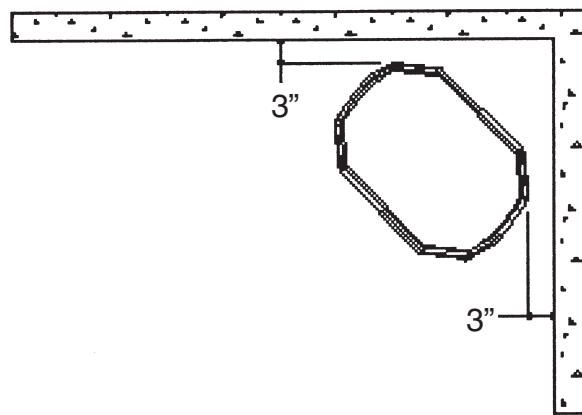
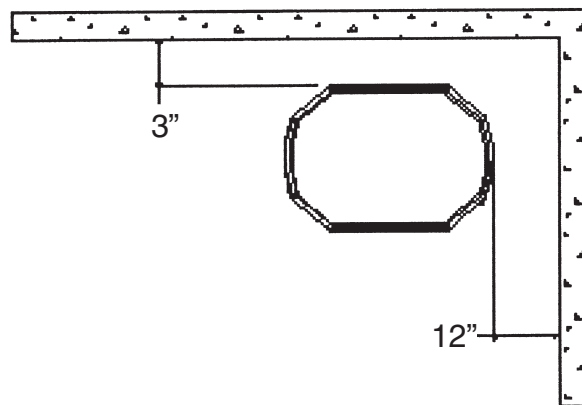


FIGURE 7 – Minimum Clearances - Top and Sides of Room Heater to Ceiling and Walls.

### WARNING

Maintain the minimum clearances. If you can, provide greater clearances from floor, ceiling, and adjoining wall.

# INSTALLING

## CAUTION

Log heaters installed in this firebox create warm air currents. These currents move heat to wall surfaces next to firebox. Installing firebox next to vinyl or cloth wall coverings or operating firebox where impurities in the air (such as tobacco smoke) exist, may discolor walls.

## WARNING

Never modify or cover the louvered slots on the front of the firebox.

## CAUTION

Use new black pipe only. Internally tinned copper tubing can be used in some areas when permitted by local codes. Only use pipe of 1/2" or greater diameter to allow full gas volume to heater. Excessive pressure loss will occur if the pipe is too small.

A manual shutoff valve, union and plugged 1/8" NPT pressure tap pointer must be installed upstream of the heater.

A sediment trap must be installed upstream of the heater to prevent moisture and contaminants from passing through the pipe to the heater controls and burners. Failure to do so could prevent the heater from operating reliably.

## NOTICE

A qualified service person must install firebox. Follow all local codes.

## WARNING

Any changes to this heater or its controls can be dangerous.

## NOTICE

Installation and repair should be done by a qualified service person well trained in the installation of such appliances. You will also need a building permit from your local Building Commissioner before installing this appliance, otherwise your insurance company may not cover this appliance.

## DANGER

**CARBON MONOXIDE POISONING  
MAY LEAD TO DEATH!**

# INSTALLING – Gas Line

## INSTALLING GAS LINE

Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, and / or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once!** Turn off gas appliance. Have appliance serviced. Some people (such as pregnant women, persons with heart or lung disease, persons with anemia and those at high altitudes) are more affected by carbon monoxide than others. Make certain you read and understand all warnings. Place Burner Base or Grate Assembly in center of firebox and connect flexible gas line to incoming black iron pipe gas line.

**Do not connect appliance before pressure testing gas piping. Damage to gas valve may result and an unsafe condition may be caused.**

Prepare incoming black iron gas line with **Teflon tape** or **pipe joint compound** (check with local codes about the use of Teflon tape). Compounds used on threaded joints of gas piping shall be resistant to the action of Liquefied Petroleum (LP or Propane) and should be applied lightly to ensure excess sealant does not enter the gas line.

Complete your gas installation by connecting incoming gas line to regulator. Secure all joints tightly with wrench but **do not over-tighten**. If a flexible gas line is used, take care not to kink connector. The burner pressure is controlled by the regulator. Check pressure at the pressure test point, which is located on the side of the gas control near the pilot outlet. Make sure that the pressure tap is completely closed after checking gas pressure. The pressure should be checked with the appliance burning and the control set on high.

**IMPORTANT:** Loosen the pipe adapter on the flex tube before installing to the system piping.

**CHECK GAS TYPE:** The gas supply must be the same as stated on the heater's rating plate. If the gas supply is different, Do Not Install the heater. Contact your dealer for the correct model.

For the state of Massachusetts a **T-handle gas shut-off valve** must be used on a gas appliance. This T-handle gas shut-off valve must be listed and approved by the state of Massachusetts. This is in reference to the state of Massachusetts state code CMR238.

## CAUTION

All gas piping and connections must be tested for leaks after installation is completed. To test, turn gas valve on, then apply a soap and water solution to all connections and joints. If bubbles appear, leak can be detected and corrected. **Never use an open flame for leak testing. Never operate any appliance if a leak is detected!**

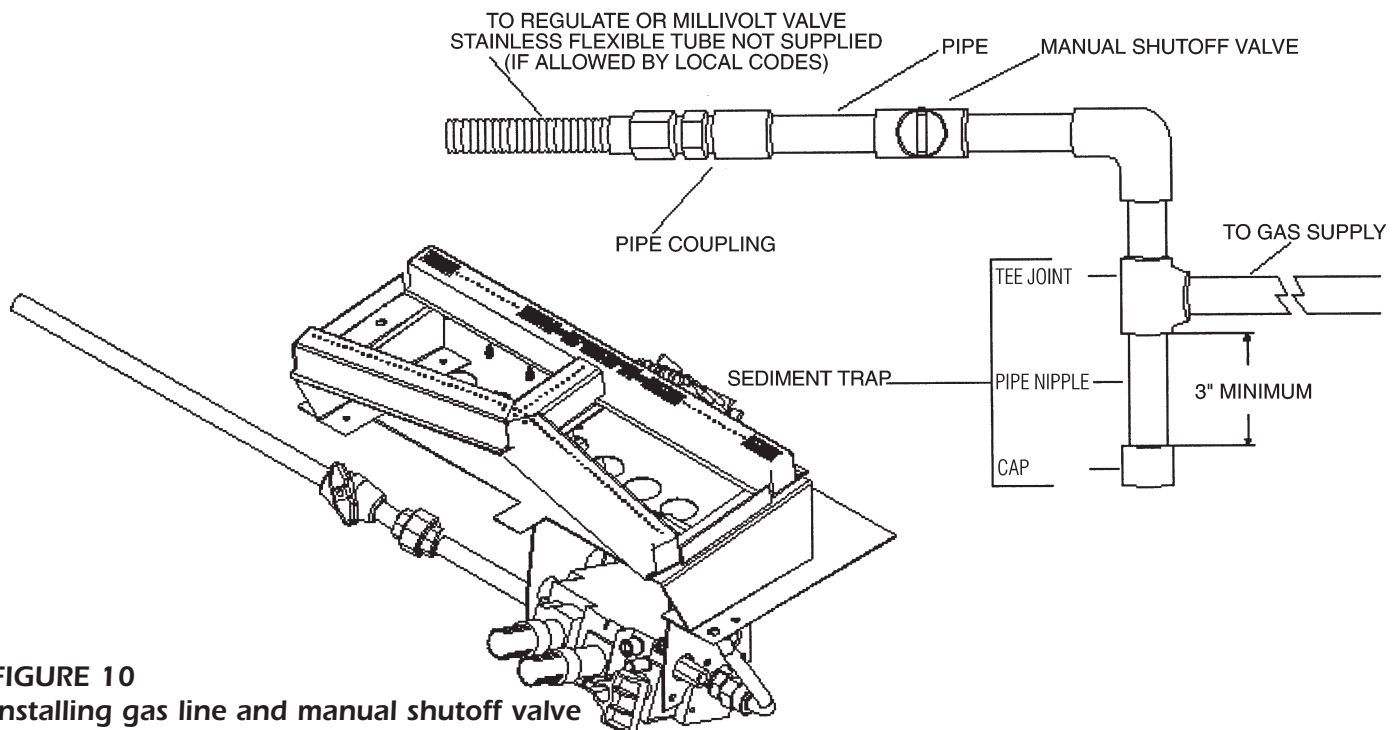
## CAUTION

Any safety screen or guard removed for servicing an appliance must be replaced prior to operating the heater.

Any safety screen or guard removed for servicing an appliance must be replaced prior to operating the heater.

## NOTICE

A qualified gas appliance installer must connect the fireplace to the gas supply. Consult all local codes.



**FIGURE 10**  
Installing gas line and manual shutoff valve

# INSTALLING – Burner Systems

## CLEANING AND SERVICING OF BURNER / ODS PILOT

It is recommended to annually inspect and clean the unit to prevent malfunction and / or sooting. This operation should be performed by your dealer or a qualified technician.

1. Remove door. (Refer to *Installation of Door*.)
2. Remove log set, handling carefully by holding gently at each end. (Refer to *Log Placement*.) Gloves are recommended to prevent skin irritation from ceramic.

### Annual Cleaning / Inspection

- Do not use cleaning fluids to clean logs or any part of the heater.
- Use a soft bristle brush or a vacuum with brush attachment.
- Vacuum loose particles and dust from burner ports, valve and blower compartments.
- Vacuum any accumulation of lint from primary mixing tube.
- Inspect ODS pilot for operation, accumulation of lint at the air inlet holes.
- Verify flame pattern and log placement for proper operation.
- Verify that all ports ignite and cross over smoothly from rear to front burner.

## WARNING

Turn off heater and allow to cool before cleaning. Only a qualified service technician should service and repair appliance.

## WARNING

Failure to keep primary air openings clear, may result in sooting and property damage.

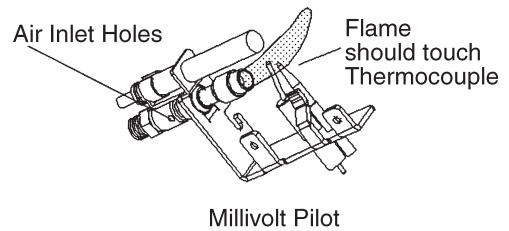


FIGURE 11 – Manual and Millivolt Pilot Flames

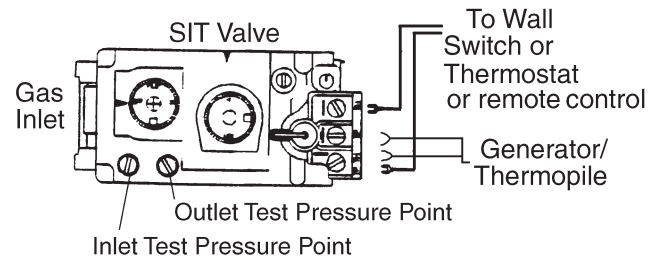


FIGURE 12 – Millivolt Models

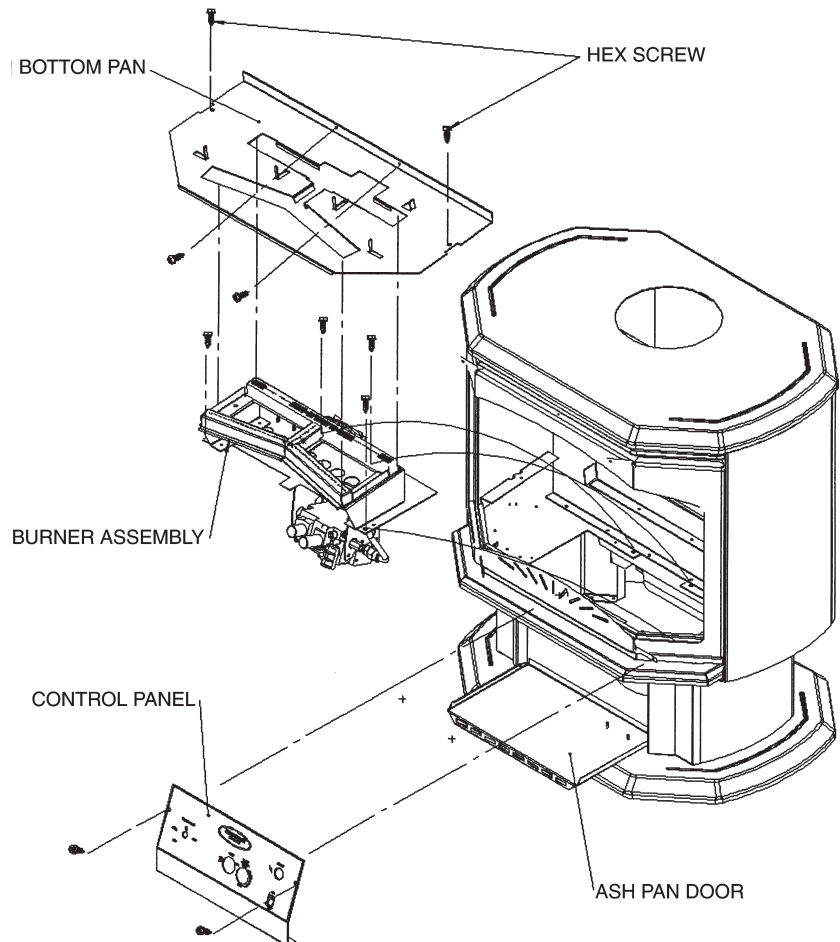
# Installation of Burner Systems

## INSTALLING BURNER ASSEMBLY INTO FVF350 FIREBOX

**This appliance is equipped for  
(Natural or Propane) Gas.  
Field conversion is not permitted.**

**Warning:** Failure to position parts in accordance with these diagrams or failure to use only part specifically approved with this heater may result in property damages or personal injury.

- 1) You will find that the control panel is secured in place with 2 screws. Remove them in order to install accessories. The control panel is located behind the front door (ashpan door).
- 2) Before installing the burner assembly, the bottom pan must be removed (bottom pan comes pre-installed) Remove the 4 hex screws that hold the bottom pan in place. There are 2 along the back and 1 on each side.
- 3) Once the bottom pan is removed, place the burner assembly in by slightly rotating it towards yourself. Being careful not to disturb any of the pilot/valve tubing, rest it in place. Secure the assembly in place by using the 4 hex screws that were supplied. There is 1 hole on each side and 2 along the back.
- 4) Once the burner assembly is secure, the bottom pan must be inserted and screwed down. Use the 4 hex screws to secure. These should be installed the same way they were taken out. 2 in the back and 1 on each side.
- 5) After the burner assembly and pan are secure, it's recommended to install gas line. (See gas line instructions.) NOTE: For ease of installation, the fan kit option, if purchased, should be installed now. See page 20.
- 6) Once the gas line is properly connected, the control panel should be re-installed. Find the white wire leading off the pilot system and connect it to the piézo-igniter. On the on/off switch, you will see 2 wires leading off the back. The wires will have connectors on them which will connect onto the terminal block. In no arrangement, connect the wires to the terminals marked TH and TPTH. Once all wiring is connected properly, line up the control panel with the holes on either side. Use the 2 hex screws that you removed previous to secure in place. NOTE: If you have a variable speed control switch for a fan, you should see fan installation, before securing control panel.
- 7) The 2 extension knobs are for the valve. Place like kind over the other ON/OFF and HI/LO knobs. NOTE: These should be put on after the burner assembly is in place.





# LOG ASSEMBLY FOR FVF350

If installing optional brick liner, proceed to page 19 before installing log set.

Fig. 1. Remove front door as described on page 16.

Fig. 2. Remove logs from carton (3) and inspect. The logs are lettered A, B, and C. Log strip D is shipped with the stove.

Fig. 3. Log A has 2 locating holes. Position the 2 holes on the log over the 2 pins on the left side of the log mounting pan as shown in the picture.

Fig. 4. Log B has 2 locating holes. Position the 2 holes on the log over the 2 pins on the right side of the log mounting pan as shown in the picture.

Fig. 5. Log C has to be lowered into position just behind logs A and B. Center Log C with rear burner tube.

Fig. 6. Position Log D up against logs A and B as shown in the picture.

Fig. 1

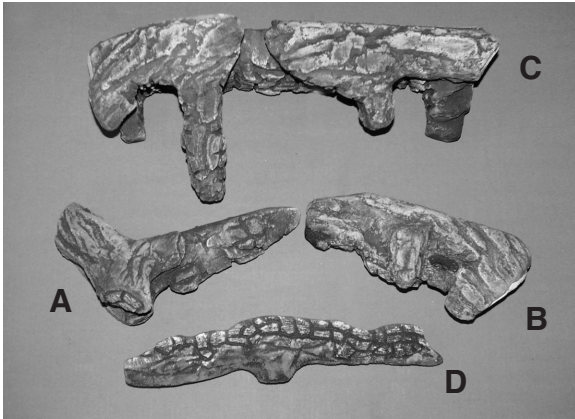


Fig. 2

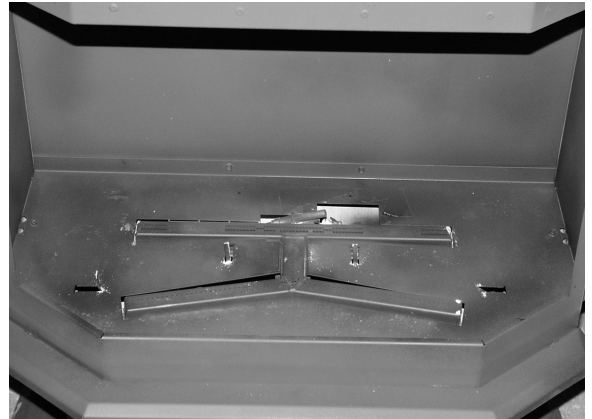


Fig. 3



Fig. 4



Fig. 5

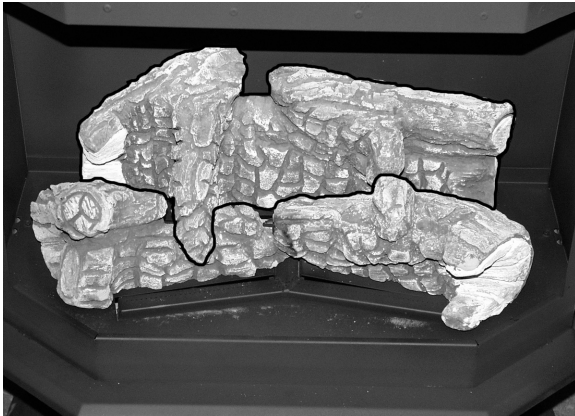
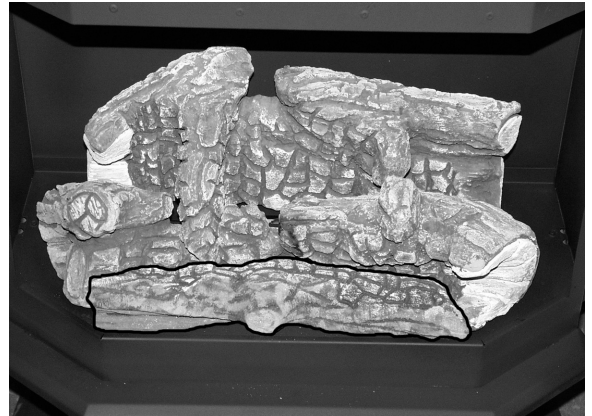
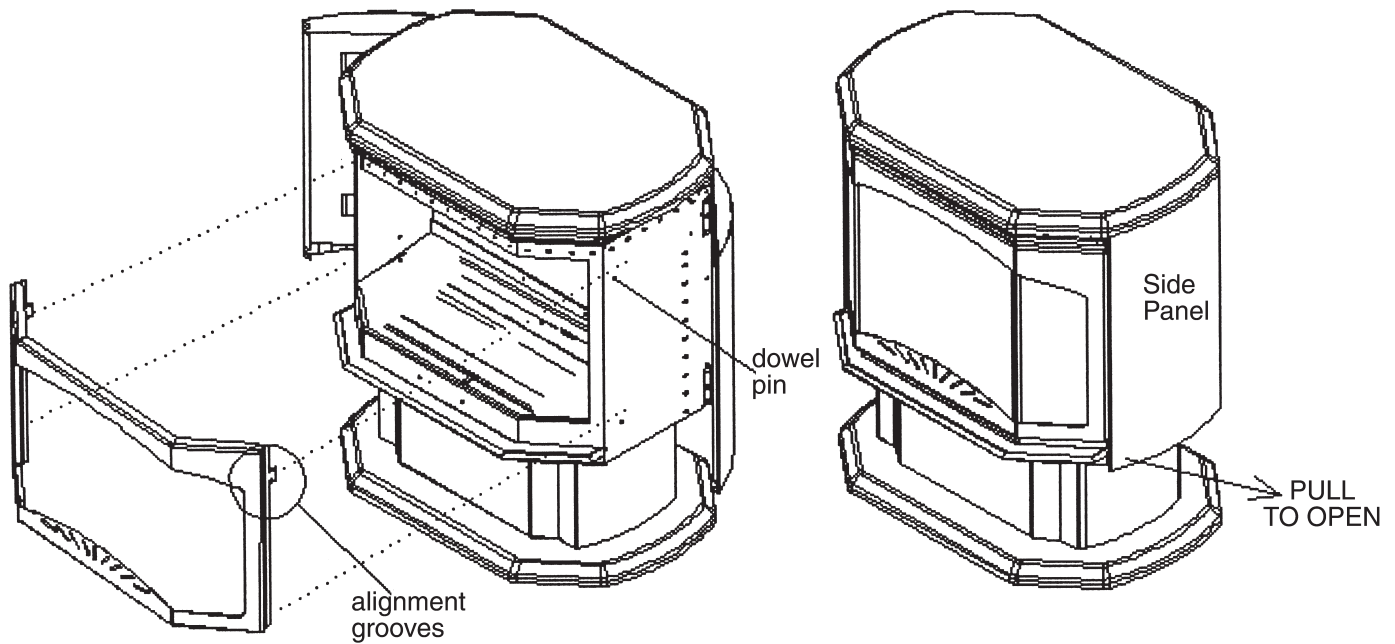


Fig. 6



# REMOVAL AND INSTALLATION OF FRONT DOOR



1. Open both left and right side panels by pulling outwards from the side of the unit.
2. Slightly lift and pull door from the alignment grooves as shown in diagram.
3. Hold the Door Frame in both hands and pull towards yourself.
4. To replace the Door Frame to the unit, reverse the above steps.

# MILLIVOLT LIGHTING INSTRUCTIONS



## FOR YOUR SAFETY READ BEFORE LIGHTING

**WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

### BEFORE LIGHTING

- A** This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.
- B** Smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS**
- Do not try to light an appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbour's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.
- C** Use only your hand to push or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified technician. Force or attempted repair may result in a fire or explosion.
- D** Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system which has been under water.

## LIGHTING INSTRUCTIONS

1. Stop! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electrical power to the appliance.
4. Locate valve under the burner assembly.
5. If the control knob is not already in the off position, ie. the word "OFF" in the 9 o'clock position, then push in the gas control knob slightly and turn  clockwise to "OFF".  
NOTE: Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. Do not use force.
6. Wait five (5) minutes to clear out any gas. If you then smell gas. STOP! Follow "B" in the safety information above on this label. If you don't smell gas then go to the next step.
7. Now push in the control knob slightly and turn counter-clockwise  to the "PILOT" position.
8. Push in the control knob all the way and hold it. With the other hand push in the red ignitor button until you hear a click. Now observe closely the pilot burner located on the rear center-left hand side of the main burner. If a flame has appeared then continue to depress the control knob for 20 seconds. If the flame did not appear then continue to depress the red ignitor button every 5 seconds until a flame is established. NOTE: If after 30 seconds a flame has not yet been established then turn the control knob back to the off position and repeat steps 5, 6 & 7.
9. Once the pilot has been established hold the control knob in the depressed position for approximately 25 seconds before releasing. If the flame goes out then repeat steps 7 and 8.
10. Now turn the control knob to the "ON" position. The burner will not light unless the wall switch thermostat or remote control is turned "ON" or in the case of the thermostat there is a call for heat.
11. Close the access door and turn all electric power back to the appliance.

## TO TURN OFF THE APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Open the control access door.
4. Push in the gas control knob slightly and turn clockwise  to the "OFF" position. Do not force.
5. Replace control access panel.



## CAUTION

Do not wire 120 Volt power to Millivolt switches or thermostats.

# INSTALLATION OF BRICK PANEL KIT

1. Open side panels and remove front door and log set. (Skip this step if components are not installed at this time.)
2. Hold the rear brick panel with both hands on the left-right panel, tilt the top of panel towards you slightly and pull your right hand towards you slightly and place panel directly onto the rear of the firebox.  
NOTE: TAKE CARE NOT TO DAMAGE PILOT ASSEMBLY WHEN PLACING REAR PANEL.
3. Loosen both brick clips using 1/4" nut driver. Swing brick clip out of the way and position side brick panel up to rear brick panel and against side of firebox and tighten brick clip down onto panel. Repeat this step with the other side panel.
4. Install log set and front door.

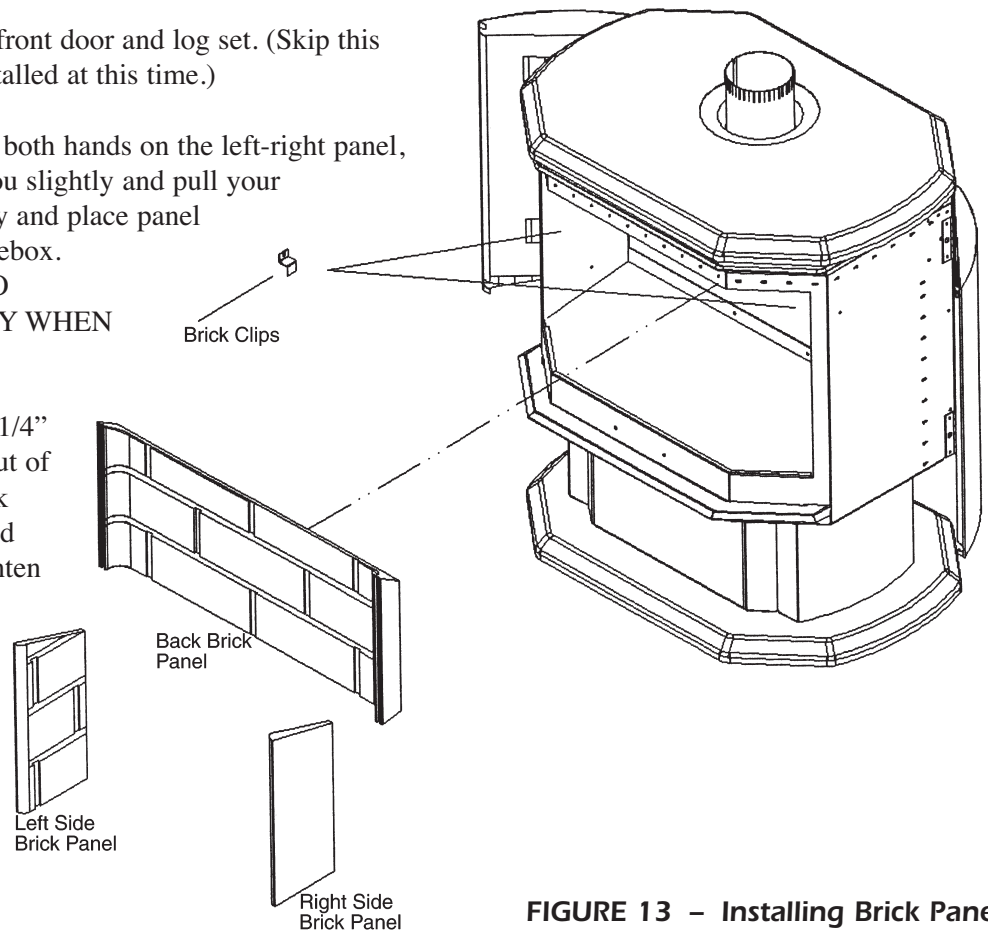
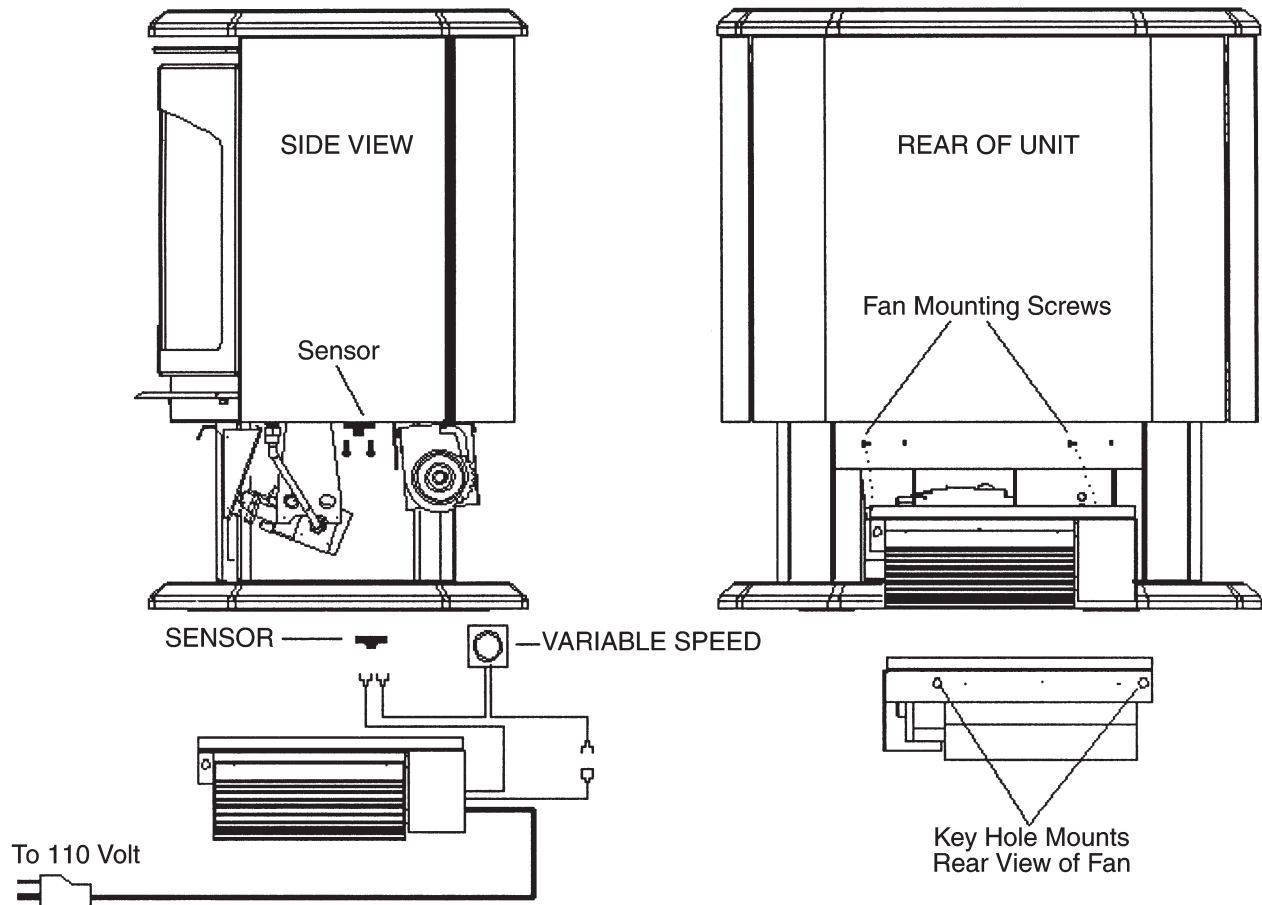


FIGURE 13 – Installing Brick Panels

# OPTIONAL FAN KIT INSTALLATION



**NOTE: FOR EASE OF INSTALLATION, THE FAN KIT SHOULD BE INSTALLED BEFORE THE STOVE IS PUT IN ITS FINAL POSITION.**

## AUTOMATIC ON/OFF THERMOSTAT CONTROLLED FAN KIT (Part #F35FK)

1. Open the front access door where the piezo-igniter is located. Remove the two screws that hold the control panel in place, pull the control panel out towards you and install the variable speed control in the hole provided opposite the piezo-igniter.
2. Locate the two fan mounting screws in the rear of the unit as shown in the above diagram and place the key holes on the rear of the fan over the mounting screws and drop into position.
3. Connect the power, sensor and variable speed control as shown in the wiring diagram. NOTE: Sensor is pre-installed on the bottom burner assembly.
4. Turn the switch on (clockwise). NOTE: The stove must now be installed and gas line attached before proceeding.
5. Turn the stove on. Once the sensor unit reaches operating temperature (in approximately 10 to 15 minutes) the fan will turn on. The fan can be switched off, if desired by turning the switch fully counter-clockwise.
6. Once the fan has started to turn it may be desirable to adjust the minimum fan speed. Tilt the control panel forward to access the rear of the variable speed switch. Turn the variable switch to its minimum setting (fully clockwise). Use the set screw on the side of the variable speed control to increase or decrease the minimum fan speed. (It may be desirable to lower minimum fan speed to decrease the sound level created by the fan.) Reinstall the control panel.

## WARNING

A qualified electrician must connect electrical wiring to junction outlet for built-in installation. **Follow all codes.**

## ! WARNING

Electrical Grounding Instructions - This appliance is equipped with a three - pronged (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle.

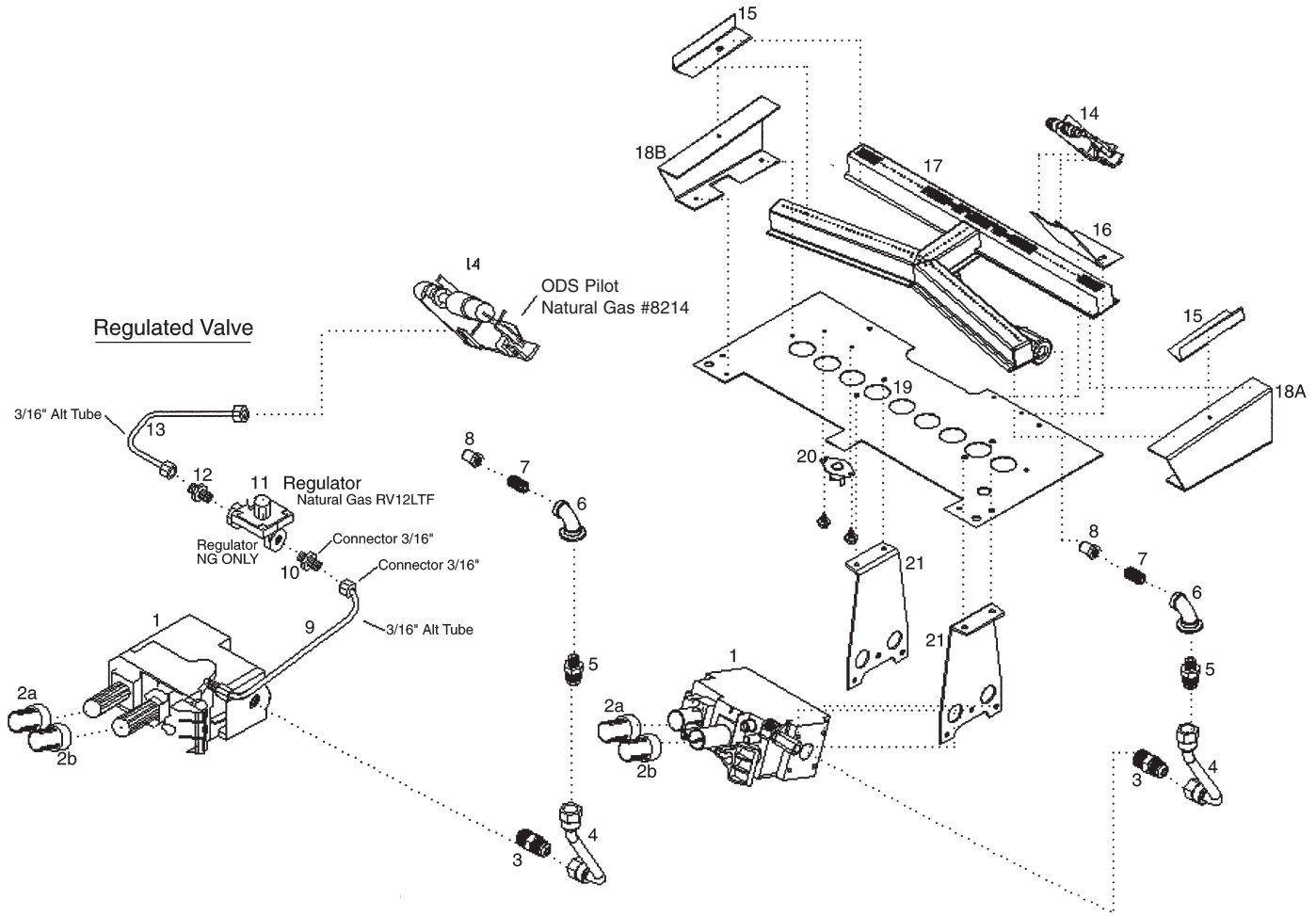
## WARNING

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation and servicing.

# ILLUSTRATED PARTS LIST

## FVF350 Parts and Assembly

Model: FVF350MVN



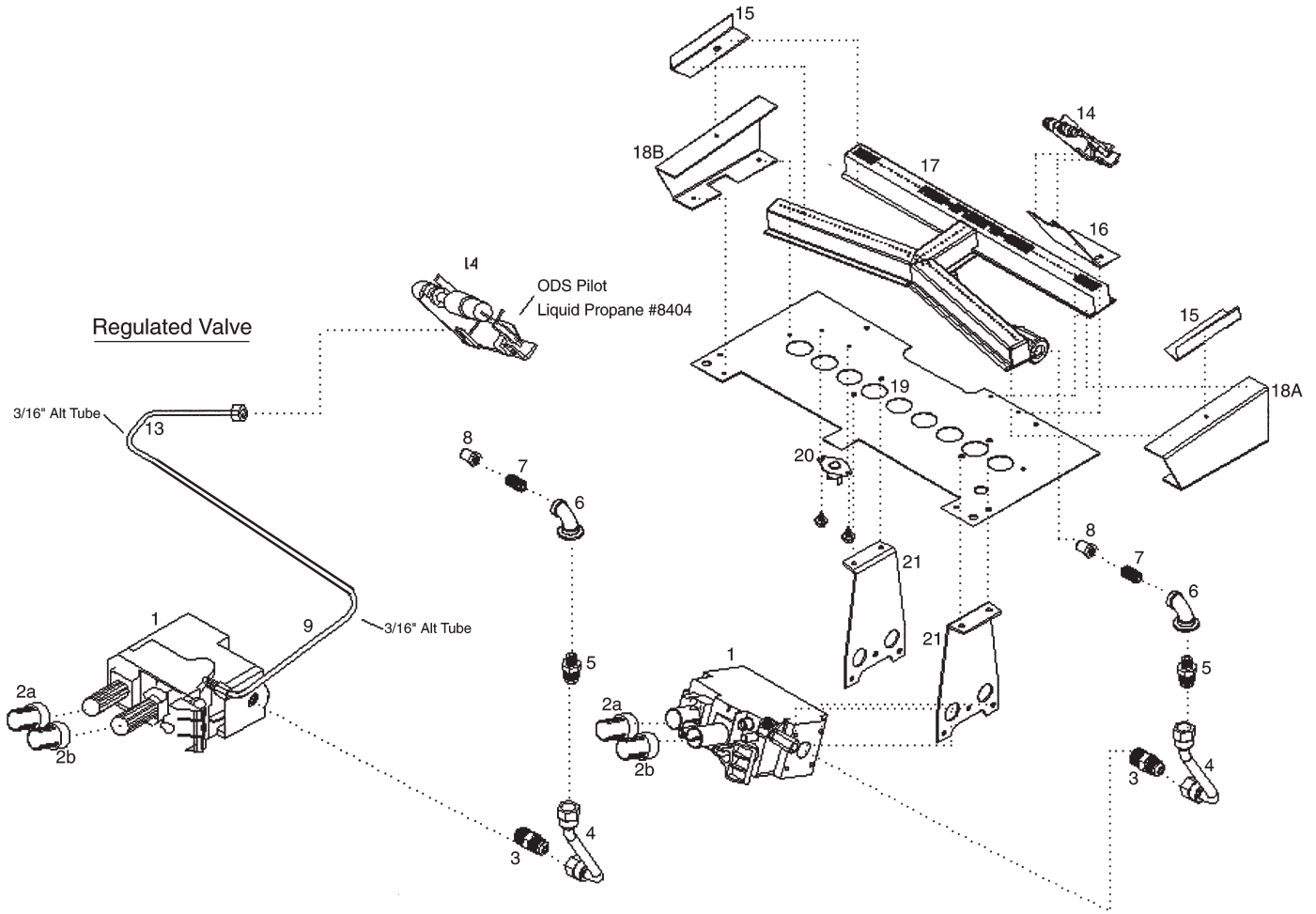
Reference Number	FVF350MVN	Description
1	33VF-P637SI	Valve - Millivolt Vent Free
2A	350-P217SI	Knob - Pilot/On/Off
2B	350-P218SI	Knob - Hi/Lo
3	4000-P963VE	Flare - .375 x .375
4	350-P3875D	Tube - .375 x 8
5	27FP-P904FF	Flare - .125 x .375
6	2000-213	Elbow 3/8
7	1000-253	Closed Nipple
8	1000-255	Orifice
9	33VF-P316VE	Alt Tubing - 3/16
10	33VF-P683VE	Connector-3/16
11	33VF-P245M	Regulator - Natural Gas Only

Reference Number	FVF350MVN	Description
12	33VF-P683VE	Connector - 3/16
13	33VF-P316VE	Alt Tubing - 3/16
14	33VF-P8214	ODS pilot - Millivolt
15	350-520	Burner Retainer
16	350-506	Pilot Bracket
17	350VF-200	Burner
18A	350-221	Burner Mount
18B	350-221R	Burner Mount
19	350-525	Bottom Pan
20	2000-080	Temperature Fan Disk
21	350-216	Valve Bracket

# ILLUSTRATED PARTS LIST Cont.

## FVF350 PARTS AND ASSEMBLY

Model: FVF350MVP



Reference Number	FVF350MVP	Description
1	33VF-P636SI	Valve - Millivolt Vent Free
2A	350-P217SI	Knob - Pilot/On/Off
2B	350-P218SI	Knob - Hi/Lo
3	4000-P963VE	Flare - .375 x .375
4	350-P3875D	Tube - .375 x 8
5	27FP-P904FF	Flare - .125 x .375
6	2000-213	Elbow 3/8
7	1000-253	Closed Nipple
8	1000-255	Orifice
9	33VF-P316VE	Alt Tubing - 3/16
10	N/A	Connector-3/16
11	N/A	Regulator - Natural Gas Only

Reference Number	FVF350MVP	Description
12	N/A	Connector - 3/16
13	N/A	Alt Tubing - 3/16
14	33VF-P8404	ODS pilot - Millivolt
15	350-520	Burner Retainer
16	350-506	Pilot Bracket
17	350VF-200	Burner
18A	350-221	Burner Mount
18B	350-221R	Burner Mount
19	350-525	Bottom Pan
20	2000-080	Temperature Fan Disk
21	350-216	Valve Bracket

## TROUBLESHOOTING

## WARNING

**NOTE:** all troubleshooting items are listed in order of operation.

Turn off and let cool before servicing. Only a qualified service person should service and repair heater.

### **When igniter button is pressed, there is no spark at ODS/Pilot.**

#### *Possible Cause*

1. igniter electrode positioned wrong.
2. igniter electrode is broken.
3. igniter electrode not connected to igniter cable.
4. igniter cable pinched or wet.
5. Piezo-igniter nut is loose.
6. Broken igniter cable.
7. Bad piezo-igniter.

#### *Remedy*

1. Replace igniter.
2. Replace igniter.
3. Reconnect igniter cable.
4. Free igniter cable if pinched by any metal or tubing. Keep igniter cable dry.
5. Tighten nut.
6. Replace igniter cable.
7. Replace piezo-igniter.

### **Appliance produces unwanted odors.**

#### *Possible Cause*

1. Appliance burning vapors from paint, hair spray, glues, etc.
2. Gas leak.

#### *Remedy*

1. Ventilate room. Stop using odor-causing products while heater is running
2. Locate and correct all leaks.

### **Appliance shuts off in use.**

#### *Possible Cause*

1. Not enough fresh air is available for ODS/pilot to operate.
2. Low line pressure.
3. ODS/pilot is partially clogged.

#### *Remedy*

1. Open window and/or door ventilation.
2. Contact local gas company.
3. Clean ODS/pilot.

### **Gas odor even when control knob is in OFF position.**

#### *Possible Cause*

1. Gas leak.
2. Control valve defective.

#### *Remedy*

1. Locate and correct all leaks.
2. Replace control valve.

### **When igniter button is pressed, there is a spark at ODS/pilot, but no ignition.**

#### *Possible Cause*

1. Gas supply turned off or manual shutoff valve closed.
2. Control knob not in PILOT position.
3. Control knob not pressed in while in PILOT position.
4. Air in gas lines when installed.
5. ODS/pilot is clogged.
6. Gas regulator setting is not correct.

#### *Remedy*

1. Turn on gas supply or open manual shutoff valve.
2. Turn control knob while in PILOT position.
3. Press control knob in while in PILOT position.
4. Continue holding down control knob. Repeat igniting operation until air is removed.
5. Replace ODS/pilot assembly or get it serviced.
6. Replace gas regulator.

### **ODS/pilot lights, but flame goes out when control knob is released.**

#### *Possible Cause*

1. Control knob not fully pressed in.
2. Control knob not pressed in long enough.
3. Manual shutoff valve not fully open.
4. Thermocouple connection loose at valve.

#### *Remedy*

1. Press control knob in fully.
2. After ODS/pilot lights, keep control knob pressed in for 30 seconds.
3. Fully open manual shutoff valve.
4. Hand tighten until snug, then tighten  $\frac{1}{4}$  turn more.



# TROUBLESHOOTING Cont.

5. Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. Problem could be caused by one or both of the following:
  - A) Low gas pressure
  - B) Dirty or partially clogged ODS/pilot.
6. Thermocouple damaged.
7. Control valve damaged.
5. Contact local gas company.
6. Replace thermocouple
7. Replace control valve.

## **One or both burners do not light after ODS/pilot is lit.**

### *Possible Cause*

1. Burner orifice is clogged.
2. Inlet pressure is too low.

### *Remedy*

1. Clean burner or replace light burner orifice.
2. Contact qualified service person.

## **Delayed ignition of burner.**

### *Possible Cause*

1. Manifold pressure is too low.
2. Burner orifice is clogged.

### *Remedy*

1. Contact local gas company.
2. Clean burner or replace burner orifice.

## **Burner backfiring during combustion.**

### *Possible Cause*

1. Burner orifice is clogged or damaged.
2. Burner is damaged.
3. Gas regulator is defective.

### *Remedy*

1. Clean burner or replace burner orifice.
2. Replace burner.
3. Replace Gas regulator.

## **Slight smoke or odor during initial operation.**

### *Possible Cause*

1. Vapors from paint or curing process of logs.

### *Remedy*

1. Problem will stop after a few hours of operation. Run the heater with the damper open if you have one or open a window for the first few hours.

## **Log appears to smoke (after initial operation).**

### *Possible Cause*

1. Vapors from paint or curing process of logs.

### *Remedy*

1. Log heater is intended to be smokeless. Turn off heater and call qualified service person.

## **Heater produces a whistling noise when burner is lit.**

### *Possible Cause*

1. Turning control knob to HI position when burner is cold.
2. Air in gas line.
3. Dirty or partially clogged burner orifice.

### *Remedy*

1. Turn control knob to LO position and let warm up for a minute
2. Operate burner until air is removed from line. Have gas line checked by local gas company.
3. Clean burner or replace burner orifice.

## **No Gas to pilot.**

### *Possible Cause*

1. LP regulator shut down due to inlet pressure being too high

### *Remedy*

1. Verify LP tank regulator is installed and set at 11 to 13 inches w.c.
2. Replace LP regulator on heater.



## LIMITED LIFETIME WARRANTY

This Limited Lifetime Warranty applies only while the unit remains at the site of the original installation and only if the unit is installed inside the continental United States, Alaska, Hawaii, and Canada. The warranty applies only if the unit is installed and operated in accordance with the printed instructions and in compliance with applicable installation and building codes and good trade practices.

### BASIC ONE YEAR WARRANTY

During the first year after installation, we will provide a replacement for any component part of your unit found to be defective in materials or workmanship, including labour costs. Repair work requires prior approval by Kingsman, labour costs are based on a predetermined rate schedule and any repair work must be done through an authorized Kingsman dealer.

### LIMITED LIFETIME WARRANTY

The heat exchanger, combustion chamber and burner of every Kingsman product excluding the Outdoor Firepit are warranted against materials or workmanship during the period the product is owned by the original owner. The part to be replaced must be returned to our distributor in exchange for the replacement part. Any labor, material, freight and/or handling charges associated with any repair or replacement pursuant to this Limited Lifetime Warranty will not be covered by this warranty.

### GENERAL TERMS

In lieu of providing a replacement part, we may, at our option, provide the distributor's component purchase price from us or a credit equal to the distributors component purchase price from us toward the purchase of any new unit which we distribute. If a credit is given in lieu of a replacement part, the rating plate from the unit being replaced must be submitted on a warranty claim, and the unit being replaced must be made available to our distributor for disposition.

In establishing the date of installation for any purpose, including determination of the starting date for the term of this Limited Lifetime Warranty, reasonable proof of the original installation date must be presented\*, otherwise the effective date will be based upon the date of manufacture plus thirty (30) days.

We will not be responsible for and you, the user, will pay for: (a) damages caused by accident, abuse, negligence, misuse, riot, fire, flood, or Acts of God (b) damages caused by operating the unit where there is a corrosive atmosphere containing chlorine, fluorine, or any other damaging chemicals (other than in a normal residential environment) (c) damages caused by any unauthorized alteration or repair of the unit affecting its stability or performance (d) damages caused by improper matching or application of the unit or the unit's components (e) damages caused by failing to provide proper maintenance and service to the unit (f) any expenses incurred for erecting, disconnecting or dismantling the unit (g) parts or supplies used in connection with service or maintenance (h) damage repairs, inoperation or inefficiency resulting from faulty installation or application (i) electricity or fuel costs or any increase in electricity or fuel cost whatsoever including additional or unusual use of supplemental electric heat.

We shall not be liable for any incidental, consequential, or special damages or expenses in connection with any use or failure of this unit. We have not made and do not make any representation or warranty of fitness for a particular use or purpose, and there is no implied condition of fitness for a particular use or purpose. We make no express warranties except as stated in this Limited Lifetime Warranty. No one is authorized to change this Limited Lifetime Warranty or to create for us any other obligation or liability in connections with this unit. Any implied warranties shall last for one year after the original installation. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages or do not allow limitations on how long an implied warranty or condition lasts, so the above limitations or exclusions may not apply to you. The provisions of this limited warranty are in additions to and not a modification of or subtraction from any statutory warranties and other rights and remedies provided by law.

Save this certificate. It gives you specific legal rights, and you may also have other rights which may vary from state to state and province to province.

In the event your unit needs servicing, contact your dealer or contractor who installed or serviced your unit. When requesting service, please have the model and serial number from each unit readily available. If your dealer needs assistance, the distributor is available for support and we, in turn support the distributor's efforts.

Fill in the installation date and model and serial numbers of the unit in the space provided below and retain this limited warranty for your files.

**Model No.** \_\_\_\_\_ **Serial No.** \_\_\_\_\_ **Date installed** \_\_\_\_\_

**Dealer or Contractor Name:** \_\_\_\_\_

\*To receive advantage of your warranty, you must retain the original records that can establish the installation date of your unit.