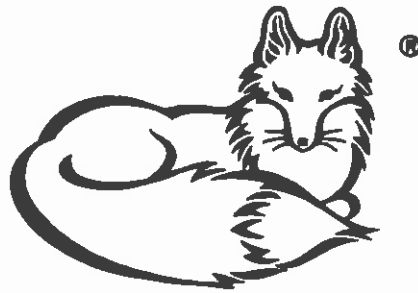
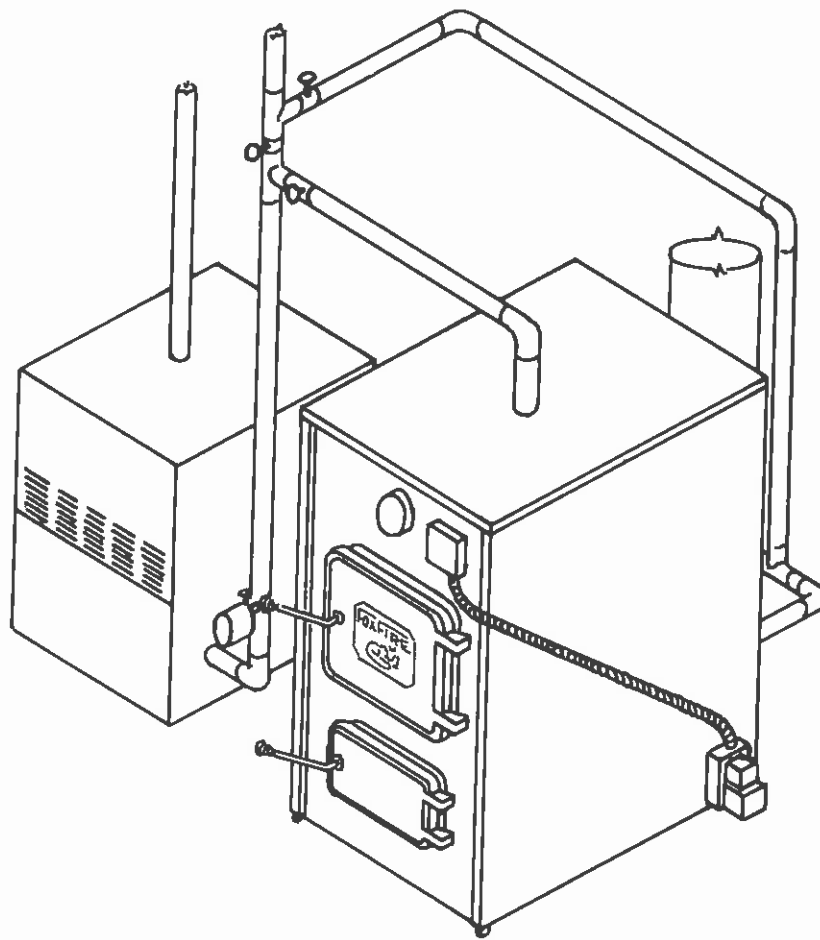


FOX FIRE



Owners Manual And Operating Instructions



Add-On Boiler

Models FB-18 & FB-24

UNPACKING YOUR FOXFIRE ADD-ON BOILER

Fire brick, mounting hardware, blower, controls, and wiring are packaged inside the boiler.

DO NOT DISCARD THE SHIPPING CARTON AND PACKING MATERIAL UNTIL ALL OF THE ABOVE PARTS ARE REMOVED.

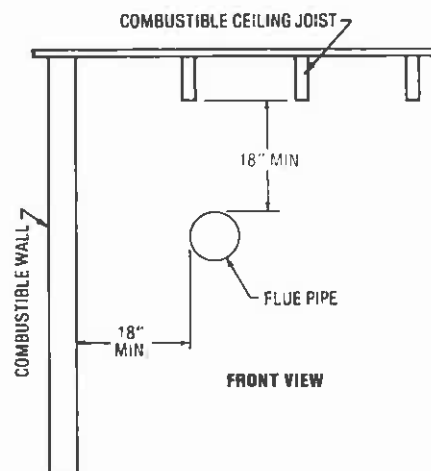
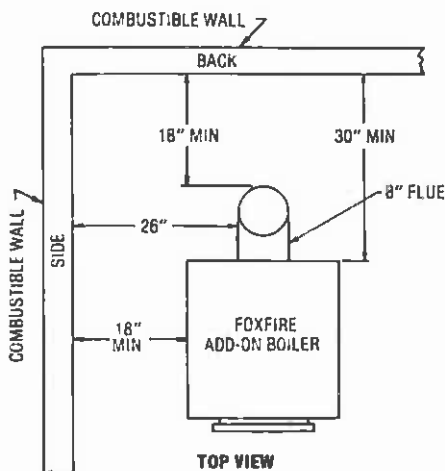
NOTE: Because of the oil coating on the surface of the steel and the new paint, it is advisable first to fire your unit outdoors before installing the unit to avoid the smoke and fumes from the initial burning to enter your home.

LOCATING YOUR FOXFIRE ADD-ON BOILER

Your Foxfire Add-On Boiler is a solid-fuel burning device, and it will get very hot, along with the flue pipe to the chimney and the water pipes to your present boiler. It is important that there is adequate space between the Add-On Boiler and combustible walls or other combustible materials. See drawing below for clearance distances. There should be adequate clearance in the front to allow easy access to the feed door and to remove the ash pan. There should also be adequate room between the add-on boiler and your existing boiler to service either unit.

Nearby combustible surfaces must be cool enough so you can hold your hand on them while the boiler is in operation. The flue pipe must be at least 18 inches from any combustible surface (walls and ceiling joists). The sides of the boiler must be at least 18 inches from a combustible wall; the back must be at least 30 inches from a combustible wall, and the boiler itself must be installed on a non-combustible floor.

NOTE: The add-on boiler must be installed on a non-combustible floor.



INSTALLING YOUR FOXFIRE ADD-ON BOILER

VERY IMPORTANT:

We highly recommend a qualified heating specialist install your add-on boiler. Your Foxfire Add-On Boiler is a listed solid-fuel burning appliance, but you should check your local codes and ordinances with your building inspector or fire marshall first.

CONNECTING YOUR FOXFIRE ADD-ON BOILER TO THE CHIMNEY

IMPORTANT:

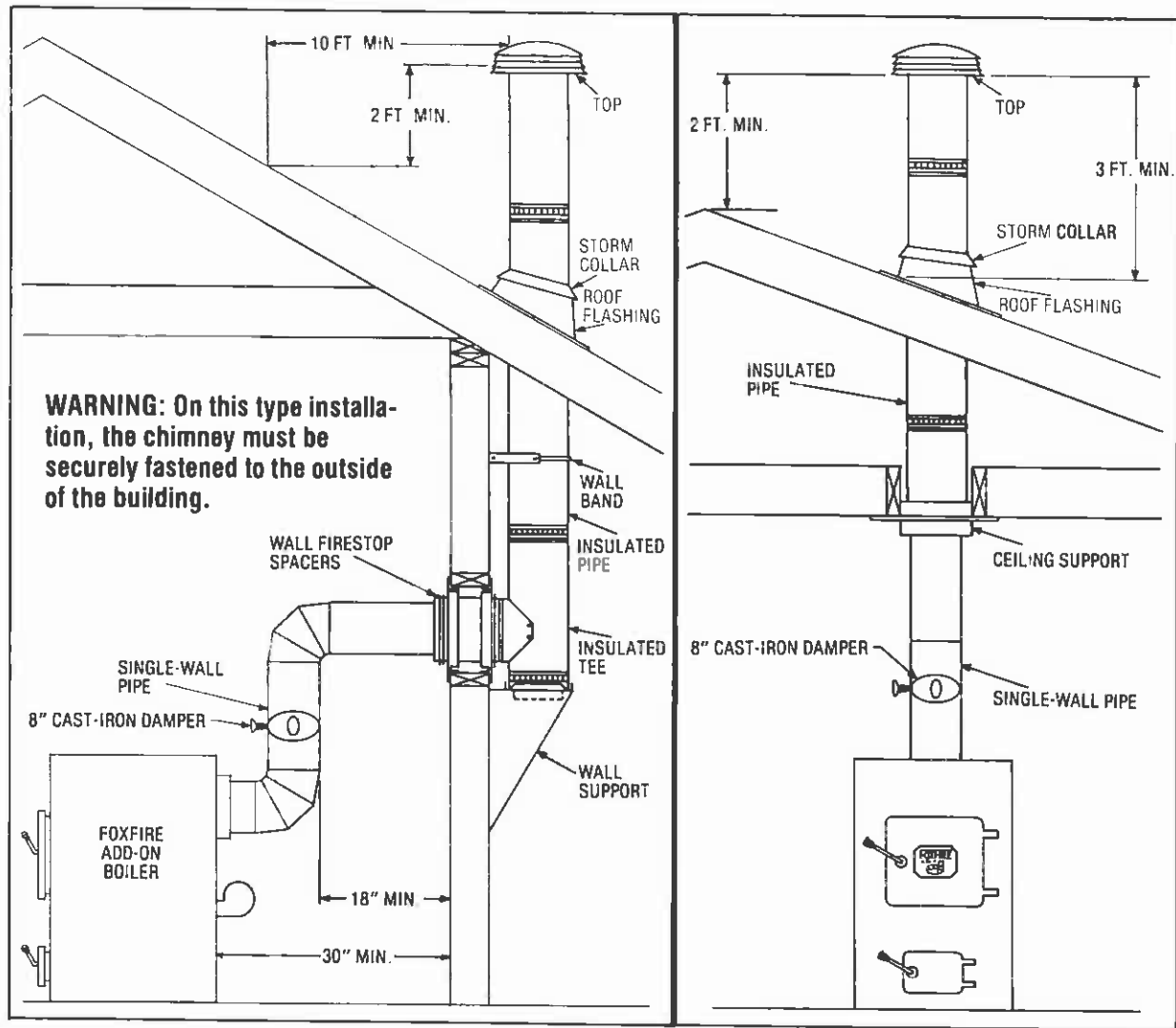
Your Foxfire Add-On Boiler **MUST** be connected to a listed low-heat appliance chimney, (Class "A" chimney, which consists of either a masonry chimney with a tile liner, or an insulated or multiple-walled pipe chimney.) Before making any connections to your chimney, check with your local building inspector, your fire marshall or a reliable heating engineer, for the requirements in your area.

If your Foxfire Add-On Boiler is connected to a poorly designed or defective chimney, it could hinder the proper function of the unit and cause other problems. A single-brick wall chimney will chill rapidly causing creosote; plus, without a liner, it is not a listed low-heat appliance chimney. A single-wall metal pipe should only be used to run the boiler to the chimney. **NEVER** use single-wall metal pipe for the chimney itself.

Pipe installed outside or through a cool area inside should be insulated or multiple-walled to reduce creosote buildup caused by condensation of hot gases when coming in contact with a cold pipe. Factory-built stacks are ideal for this purpose; plus, they are easy to install through a wall or ceiling.

NFPA No. 211 requires factory-built chimneys be laboratory-listed and installed in accordance with the conditions of the listing and the manufacturer's instructions.

NFPA No. 211 also requires that your pipe be extended at least three feet above the highest point it passes through the roof and at least two feet higher than any portion of a building within ten feet of the factory-built chimney.



WARNING: On this type installation, the chimney must be securely fastened to the outside of the building.

THE EIGHT-INCH FLUE PIPE

Your Foxfire Add-On Boiler has an eight-inch flue pipe outlet. You must have an eight-inch hole below the flue pipe outlet chimney connection for your existing boiler. Venting two or more appliances into one chimney is not allowed in some areas. Check with your local building inspector before attempting to do this.

If no hole is present in the chimney, you will need to provide one. (Combining two flue pipes into one before going into the chimney is not recommended.) Consult your local building inspector, as codes from area to area may vary. The point of entrance into the chimney for your Foxfire Add-On Boiler should be as high as possible, taking into consideration safe distances to surrounding surfaces.

The eight-inch flue pipe should be a 24-gauge or heavier black pipe, and should be installed with the crimped end down, to prevent any possible creosote formation from running down the outside of the pipe.

An eight-inch cast-iron damper must be installed between the chimney and your Foxfire Add-On Boiler. Horizontal pipes should have no more than two (2)

sweeping 90° elbows, as straight and short as possible, and have at least 1/4-inch rise to the linear foot. Be sure the pipe is easily accessible for cleaning. All pipe joints must be secured with at least three (3) metal screws.

NOTE: CREOSOTE — FORMATION AND NEED FOR REMOVAL:

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in a relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire.

The chimney connector and chimney should be inspected at least twice a month during the heating season to determine if a creosote buildup has occurred.

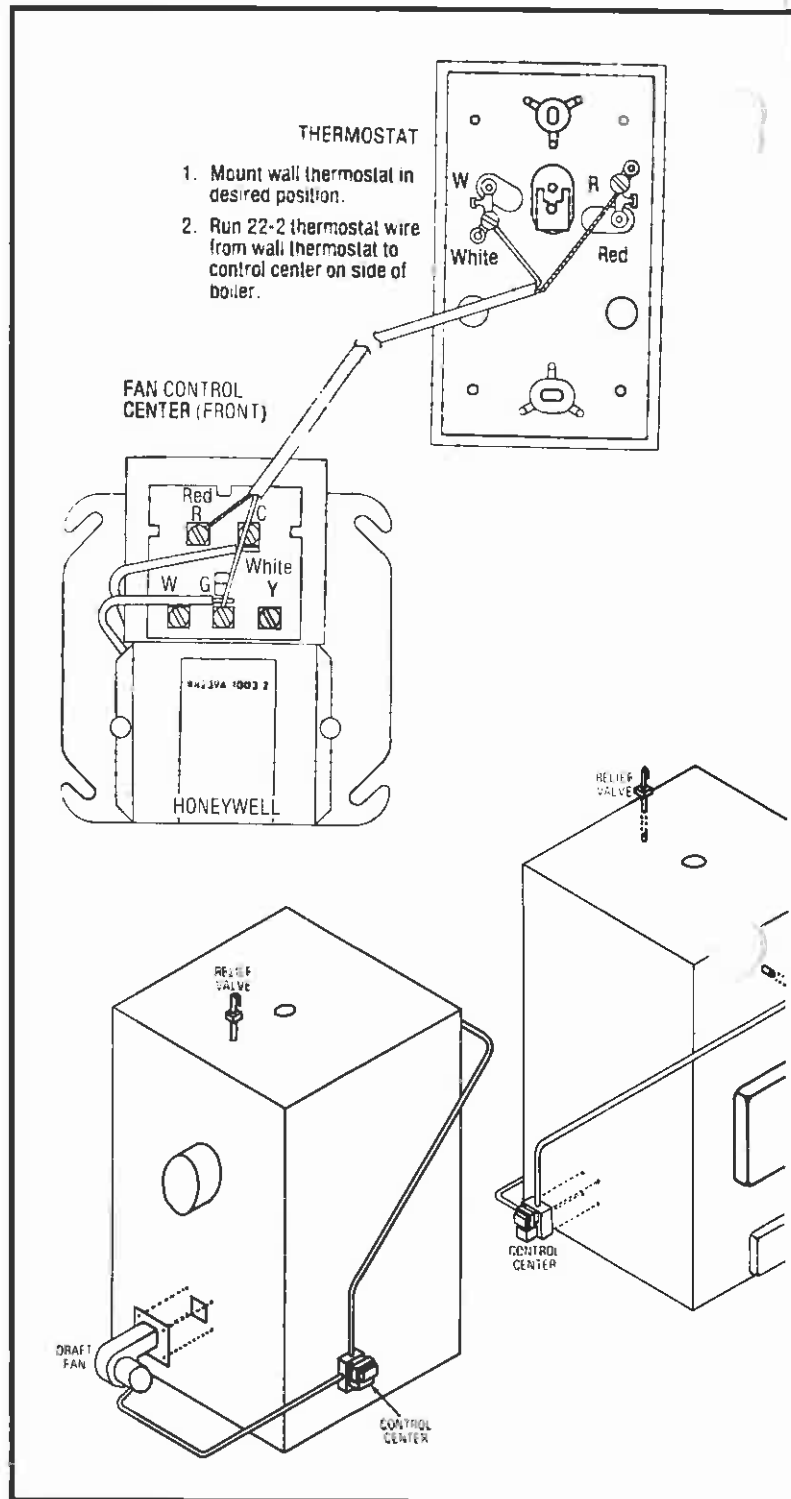
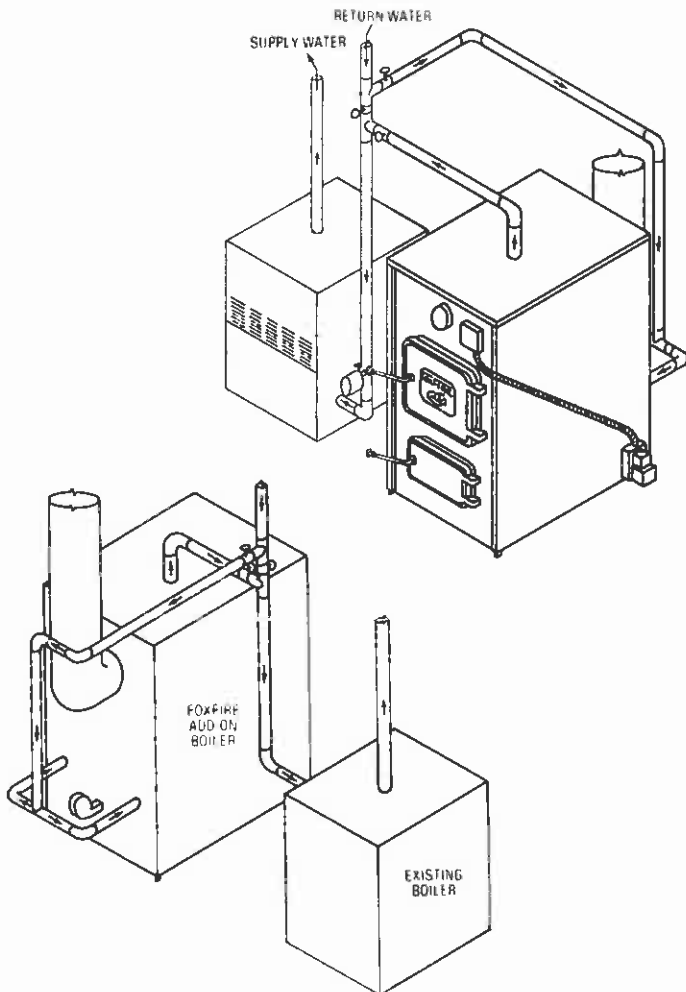
If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

CONNECTING THE HOT-WATER PIPING TO YOUR EXISTING HOT-WATER SYSTEM

Your Foxfire Add-On Boiler must be installed on a non-combustible floor. Your Foxfire Add-On Boiler is a solid-fuel heating device and should be installed by a qualified heating specialist. Your unit should be located as close as possible to your chimney and comply to minimum code requirements for fire protection and accessibility, making sure there is sufficient air for combustion.

The pressure, temperature gauge and aquastat go into the front of your unit. (It does not matter which side either of these go on.) The relief valve should be located in the top rear fitting of the add-on boiler. The dump side of this valve should be plumbed to a floor drain. The draft fan is bolted to the rear of the add-on boiler. All wiring should be done as explained in the electrical section of this manual.

Your Foxfire Add-On Boiler should be piped as shown in the diagram below. If your add-on boiler is piped as shown and tied into the return side of your existing boiler and if you use the wood boiler as your primary heating source, your existing boiler will only operate when the fire is out in your wood boiler and the temperature in your home drops to a point where the thermostat for your existing boiler calls for heat.



PROBLEMS THAT MIGHT POSSIBLY OCCUR

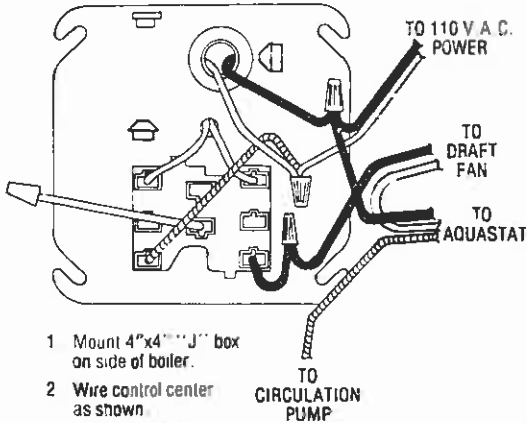
1. Smoke puffs from the heater.
 - Check the chimney draft. With a good fire burning, the chimney should supply .06" water column updraft.
 - Check the flue pipe and chimney for possible creosote buildup. If so, clean the chimney at once.

THE ELECTRICAL WIRING

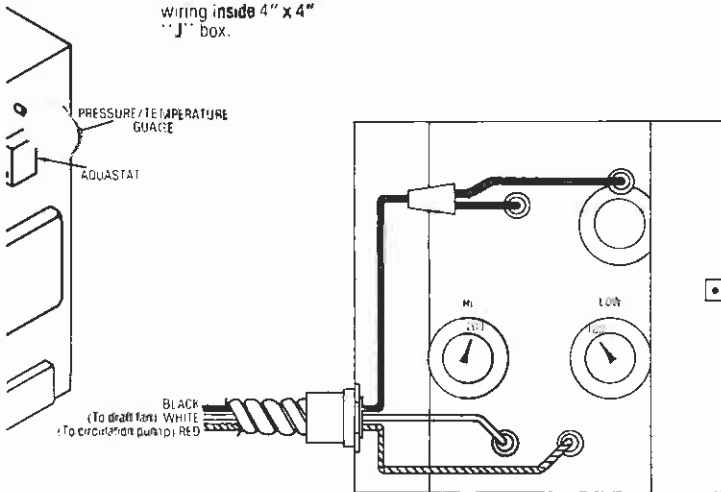
Study the wiring diagrams and make sure all existing local, state and federal codes are complied with.

DANGER: RISK OF ELECTRICAL SHOCK. DISCONNECT POWER BEFORE CONNECTING PARTS OR SERVICING UNIT.

FAN CONTROL CENTER (BACK)



- 1 Mount 4"x4" "J" box on side of boiler.
- 2 Wire control center as shown.
- 3 Mount control center on 4" x 4" "J" box with wiring inside 4" x 4" "J" box.



AQUASTAT

1. Mount aquastat to either 1/2" pipe nipple on front of boiler.
2. Run wires as shown from aquastat to control center.

- Check the ash pan and fire chamber for an overload or buildup of ash.
- Check your chimney for downdrafts. This is caused by air currents being deflected down the chimney from higher objects, such as trees, building and hills. This problem can usually be corrected with an open vented chimney cap.
- A chimney that is too cold will chill flue gases

as they rise up the chimney. As this gas cools, it becomes heavy and other gases from the fire try to penetrate this heavy column of cool air. This results in back puffing and poor combustion and may cause odors in your home.

- Add more air to the furnace room. Your home may be so airtight that not enough air is reaching the fire.
- Make sure the chimney clean-out door is tightly closed.
- Other fuel-burning devices connected to the same chimney may be robbing the needed draft for your Foxfire Add-On Boiler. This situation should be corrected by your heating engineer.

2. Not receiving enough heat from your Foxfire Add-On Boiler.

- Check to see if the blower and the limit control on your Foxfire Add-On Boiler are operating properly and if the inlet opening of blower is clean and not plugged.
- The furnace room air may be inadequate, and it may be necessary to run a 3" outside air pipe to the draft blower on your Foxfire Add-On Boiler.
- Check the type of wood being burned. If it is too green or is a type of wood that has a low heat value, the best-designed Foxfire Add-On Boiler cannot increase it.

CHECKLIST FOR SAFE WOODBURNING FURNACE INSTALLATION

Before you start your first fire, check the following:

1. The boiler is located on a non-combustible floor.
2. A minimum of 18 inches exists between the boiler side, and 30 inches exists between the boiler back and combustible material.
3. Stove pipe of 24-gauge black pipe is used to run from flue collar to the chimney.
4. The flue pipe diameter is not reduced between boiler and the chimney.
5. A cast-iron damper is installed in the flue pipe within (2) feet of the boiler.
6. The total length of the flue pipe is less than 10 feet.
7. There is at least 18 inches between the flue pipe and any combustible wall or ceiling.
8. The flue pipe slopes upward toward the chimney and enters the chimney higher than the outlet of the boiler.
9. The flue pipe enters the chimney horizontally through a fire-clay thimble or double-wall insulated pipe.
10. The flue pipe does not extend into the chimney flue lining.
11. There is an airtight connection where the flue pipe enters the chimney.
12. A UL-approved all-fuel chimney is used where a masonry chimney is not available.

13. The chimney is in good repair, and the flue lining is not blocked and is cleaned.
14. A metal container with a tight-fitting lid is available for ash disposal.

OPERATING YOUR FOXFIRE ADD-ON BOILER

Your Foxfire Add-On Boiler is a solid-fuel burning device that is installed onto your existing hot water, oil, gas or electric boiler system and is connected to a suitable Class "A" chimney. This will enable you to burn wood in place of oil, gas or electricity to heat your home.

Once your add-on boiler has been properly installed, these procedures are to be followed.

1. First, open the cast-iron damper in the 8" flue pipe to the chimney.
2. Next, open the ash door and pull out the ash pan 2 to 3 inches.
3. Prepare to build your fire. Lay wadded newspapers inside the fire chamber on top of the grate, and place dry kindling on top of paper.

CAUTION: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID OR SIMILAR LIQUIDS TO START OR "FRESHEN UP" A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

4. With the damper and ash door open, light the paper and close the feed door tightly.
5. Once adequate ignition occurs, close the ash door tightly, fill the fire chamber with a charge of wood. (Keep feed door and ash door closed tightly when furnace is in operation.)
6. Adjust the damper to 1/2 to 3/4 closed and keep the ash door closed tightly. (Because of chimney drafts, damper settings may vary.)

NOTE: Your Foxfire Add-On Boiler is designed to operate with .06" water column updraft at the chimney connector. A qualified heating installer will be able to check your chimney draft. If your draw is too low (such as .02" or .03" w/c) you will get smoke back out of the feed door when you load the unit. If your draw is too high (such as .09" or .10" w/c) your fires will burn too hard and fast. If your draw is too low, you may have a problem with your chimney which must be corrected. This can be done in a number of ways, such as increasing your chimney height or with a power draft. See your local qualified heating installer for the best way to solve the problem. The same holds true if your chimney draft is too high. See your qualified heating installer.

7. Once your unit is in operation set the wall thermostat to the desired temperature as you would your oil, gas or electric furnace.

MAINTAINING YOUR FOXFIRE ADD-ON BOILER

At least once a day take your poker and rake the ashes and coals across the grate. The finely powdered ashes will fall through the slots in the grate. Because the coals are larger than the grate slots, they will remain on the grate to continue to give off usable heat. The ash pan should be removed and emptied once a day also. Failure to clean out the ashes from the ash pan will lead to a buildup which will reduce the air supply to the fire resulting in loss of heat from the unit.

NOTE: DISPOSAL OF ASHES

Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

HOW TO USE YOUR FOXFIRE ADD-ON BOILER DURING PERIODS OF ELECTRICAL POWER FAILURE

If during operation of your add-on boiler you have an electrical power failure, the pump on your existing boiler will not operate to push the heated water through your plumbing system.

You should open the valves to the zones you would like to have the most heat in.

By doing this you will help aid the flow of heated water by gravity, to heat your home.

DO NOT operate the add-on boiler with either the feed door or ash door open during electrical power failure nor at any other time.

FIT OF FEED DOOR AND ASH DOOR

A tight fit of both the feed door and ash door on your Foxfire Add-On Boiler is necessary to insure proper control of air intake to the fire. A loose-fitting door may allow too much air to enter the fire chamber, causing an uncontrollable fire.

The usual cause of a loose-fitting door is the deterioration of the 1/2" rope gasket in the door. To replace this 1/2" rope gasket, remove the old gasket and push the new gasket in the U-shaped channel on the inside of the door. Most wood-stove dealers stock this 1/2" fiberglass rope.

THE BLOWER

The blower should be lubricated at the beginning and end of each heating season with SAE 20 oil. Check frequently the blower wheel, the housing, and the motor for lint and dust. Always keep these areas clean. To assure free air circulation, do not stack wood or other objects near the blower.

SUMMER MAINTENANCE OF YOUR FOXFIRE ADD-ON BOILER

During the summer months, preparing your Foxfire Add-On Boiler for the future heating season will lengthen the life of your boiler investment.

First, remove all ash from the fire box, ash pan, and ash pan compartment. Allowing ashes to remain in these areas when your add-on boiler is not in use will cause rust and corrosion of the fire box.

Next, paint the inside of the fire box and ash pan area with any type of oil, such as used motor oil, SAE 10 thru 50. This will help to prevent rust due to moisture from your chimney or natural condensation.

You should examine the outside of your add-on boiler for any worn or burned-off paint. If you find areas like this, sand lightly to remove any rust that may have formed and repaint with a high-temperature paint, such as paint used on charcoal grills. Your wood-stove dealer and most hardware stores stock high-temperature paint.

ABOUT FIREWOOD

For best results and a longer-lasting fire, the heavier hardwoods such as ash, beech, birch, maple

and oak are recommended. These hardwood species burn less vigorously and with a shorter flame than softwoods. Oak gives the most uniform and shortest flames and produces steady, glowing coals.

Softwoods, like pine, spruce and fir burn rapidly with a hot flame and burn up quickly requiring frequent attention and replenishment. Because softwoods are resinous, they are easy to ignite for a quick warm-up fire. Softwoods, particularly pine, have a tendency to create creosote because of the tar and pitch in the wood.

IMPORTANT WARNINGS

"Heat savers" should not be added to the smoke pipe as they can be a source of creosote buildup.

Your Foxfire Add-On Boiler is NOT designed to serve as an incinerator for trash and garbage and is not to be used in this manner.

Driftwood that has been in saltwater should not be used. This type of wood can cause deep corrosive pits in the fire chamber and premature burnout can occur.

Rubber tires, creosote logs or artificial fireplace logs should not be used for fuel in your Foxfire Add-On Boiler. Some log manufacturers use coal oil, paraffin or other flammable liquids which may prevent the steady slow efficient burning and might be the cause of a chimney fire.

NOTE: For further information on using your heater safely, obtain a copy of the National Fire Protection Association Publication, "USING COAL AND WOOD STOVES SAFELY" NFPA No. HS-10-1978. The address of the NFPA is: 470 Atlantic Avenue, Boston, Massachusetts 02210.

FOXFIRE

375 East Orr • Orrville, OH • 44667

Limited Warranty

Date Purchased _____ Serial Number _____

The Foxfire Boiler you have purchased is warranted by the manufacturer, to the original owner, against defects in materials and/or workmanship as follows:

The metal components and workmanship of the Foxfire Boiler is warranted for one (1) year while personally owned by such purchaser, but does not include the paint on the surface of the product. Electrical components, blowers, and cast iron contained therein are warranted for one (1) year from date of purchase. Firebrick is warranted for ninety (90) days from date of purchase.

The warranty does not apply if damage occurs* (because of accident, improper handling, installation, or operation, shipping damage, abuse, misuse, unauthorized repair or modification made or attempted).

This warranty means that this boiler will be replaced or repaired during warranty period at Foxfire's option. Only boilers that prove to be defective will be repaired or replaced. If any boiler becomes defective during warranty period, send the boiler freight pre-paid to our address.

***** All liability for any and all consequential ***
*** damages is disclaimed and excluded herefrom *****

(Some states do not allow the exclusion or limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you.)

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. This warranty is void if you do not return the card within thirty (30) days after the date of purchase.

*A term required by federal law.

F-5182 20208



Foxfire by Orrville Products Inc., 375 East Orr, Orrville, OH 44667