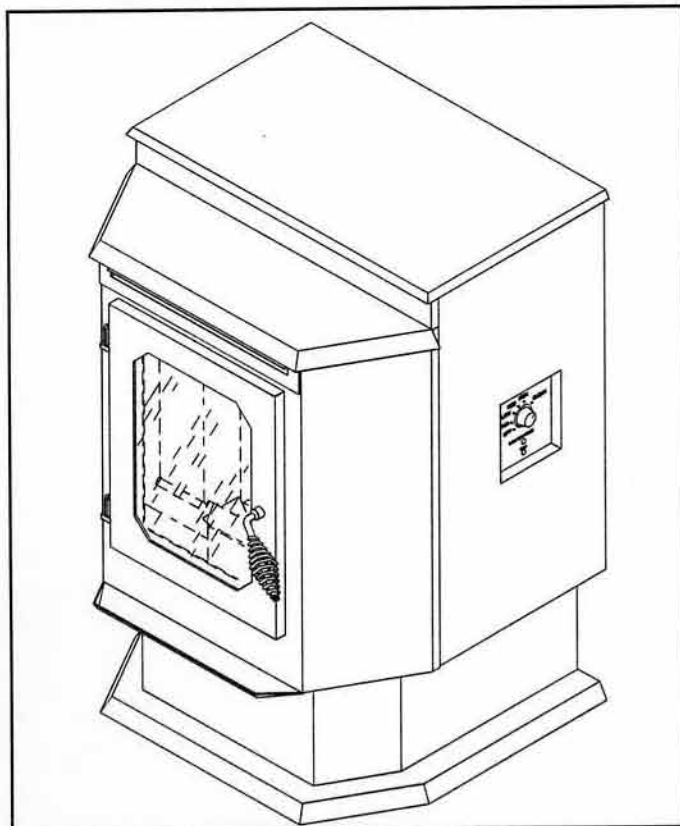




EF3800 Pellet Heater Manual

Installation and Operating Instructions

Please read this entire manual before installation. Save these instructions.



SAFETY NOTICE

- ▶ **CAUTION: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNERS.**
- ▶ **IF THIS HEATER IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT.**
- ▶ **CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.**
- ▣ **FAILURE TO COMPLY WITH OWNERS' MANUAL INSTRUCTIONS WILL VOID YOUR WARRANTY!**

NOTE: This heater should not be installed in a bedroom or bathroom.

GENERAL INFORMATION

Installation and repair should be done by a qualified service person. The heater should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to fuel quality, excessive lint from carpeting, bedding material, etc. It is imperative that control compartments, burners and circulating air passageways of the heater be kept clean.

The EASYFIRE Pellet heater has been designed and approved for burning **wood pellet fuel only**. Burning solid fuel in other forms is not permitted and will void all warranties.

This unit has been approved for use with a **3" Type L Pellet Vent System** (4" on runs 10' and up).

NEVER use gasoline, gasoline-type lantern fuels, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire. Keep all such liquids well away from the heater while it is in use.

Ashes must be disposed of in a metal container with a tight fitting lid and placed on a noncombustible floor or ground, well away from all fuels, pending final disposal.

NOTE : During the first few burns the high temperature paint and sealant used in manufacture will emit some odor and smoke. Open doors and windows to the outside for proper ventilation during the first burn cycle and curing of the paint.

This heater, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the **National Electrical Code, ANSI/NFPA 70**.

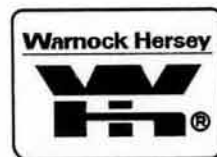
Provide adequate clearances around air openings into the combustion chamber and adequate accessibility clearance for servicing and proper operation. Never obstruct the front opening of the heater.

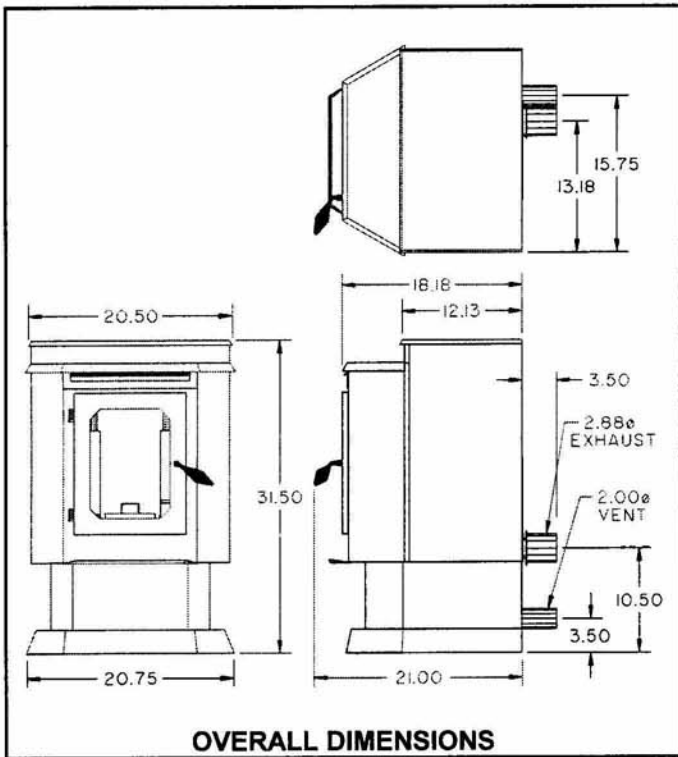
The heater may be installed as a free-standing unit mounted on a non-combustible protective floor pad or hearth. Or it may be mounted into an existing U. L. approved wood stove chimney. Non-combustible floor protection is required and must be used when placing the heater on any combustible material.

CAUTION: Do not connect this unit to a chimney flue serving another appliance.

PLEASE LEAVE THIS MANUAL WITH THE OWNER !!

Design Certified to ASTM Standards
by Warnock Hersey, Inc.





Use only listed Type "L" pellet vent and components for installation. Failure to use listed pellet vent pipe will void your warranty. See pipe manufacturer instructions for installation instructions.

OUTSIDE COMBUSTION AIR IS MANDATORY IN MOBILE OR MODULAR HOME INSTALLATIONS. SEE SECTION ON OUTSIDE AIR INSTALLATION.

The pellet heater must be operated with a power source and will not operate using natural draft. If there is a power failure the heater will shut down. If the 12 volt back system is installed, the heater will automatically switch to 12 volt power.

The EASYFIRE Pellet Heater has been tested and approved by Warnock Hersey, Inc. to ASTM, U.L., U.L.C., and EPA Standards.

CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

CLEARANCES AND PROPER VENTING

CHECK WITH LOCAL BUILDING OFFICIALS FOR SPECIFIC CODE REQUIREMENTS. A LISTED, TYPE "L" PELLET VENT PIPE IS MANDATORY ON ALL INSTALLATIONS.

WARNING: Installation of a Mobile Attachment Home Kit P/N 10412 and outside combustion air is mandatory in mobile or modular home installations although it may also be used in all residential applications. **An outside air inlet MUST be provided for combustion and ventilation air.** The air inlet must remain unrestricted while unit is in use. Outside air connection is located in the rear of the heater (Figure 1). Use conduit pipe or metal flex pipe and/or fittings to make the air intake hook-up. Also, the **structural integrity of the mobile home floor, walls and ceiling/roof must be maintained.**

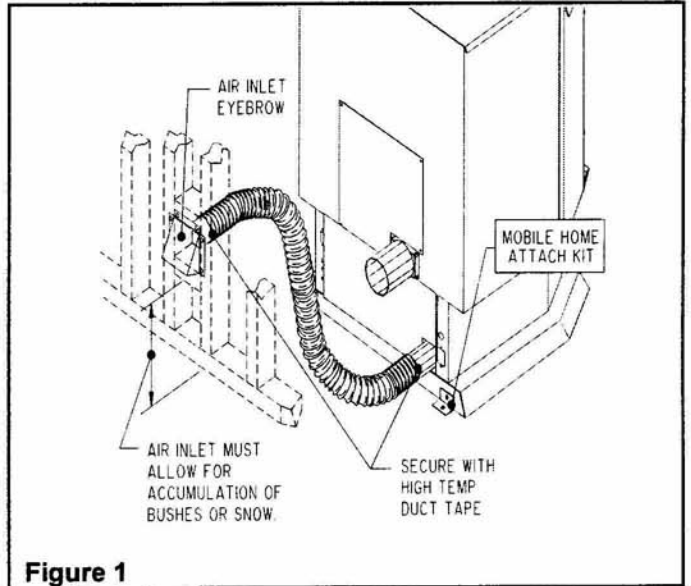


Figure 1

1. When deciding on the location of your heater and vent pipe, try to minimize the alteration and reframing of structural components of the building. **Vent pipe must be installed so that access is provided for inspection and cleaning.**
2. Avoid installing heater in high traffic areas. Keep children well away from the heater when in operation.
3. **A 3" clearance to combustibles must be maintained** for horizontal and vertical venting. When passing through ceilings or walls, you must use a listed wall thimble, making sure all combustible materials and insulation products are a minimum of 3" away from the pellet vent pipe.

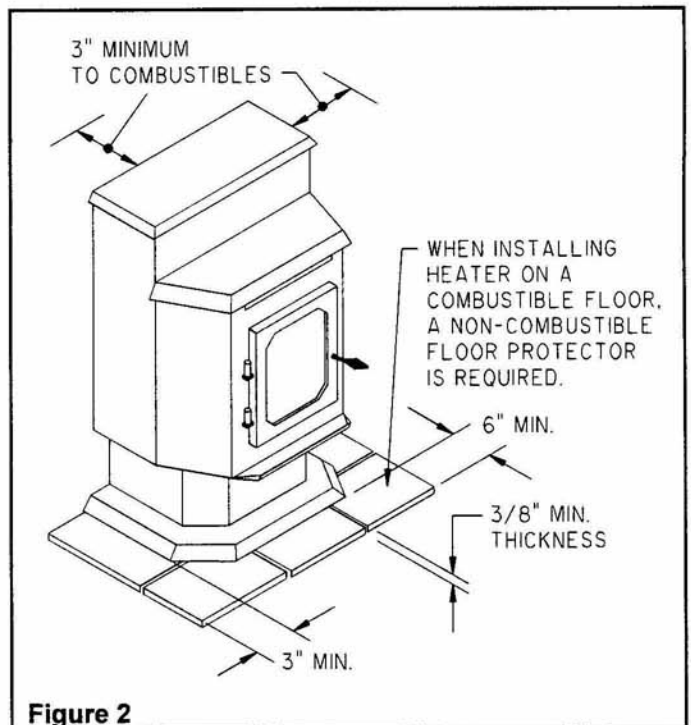


Figure 2

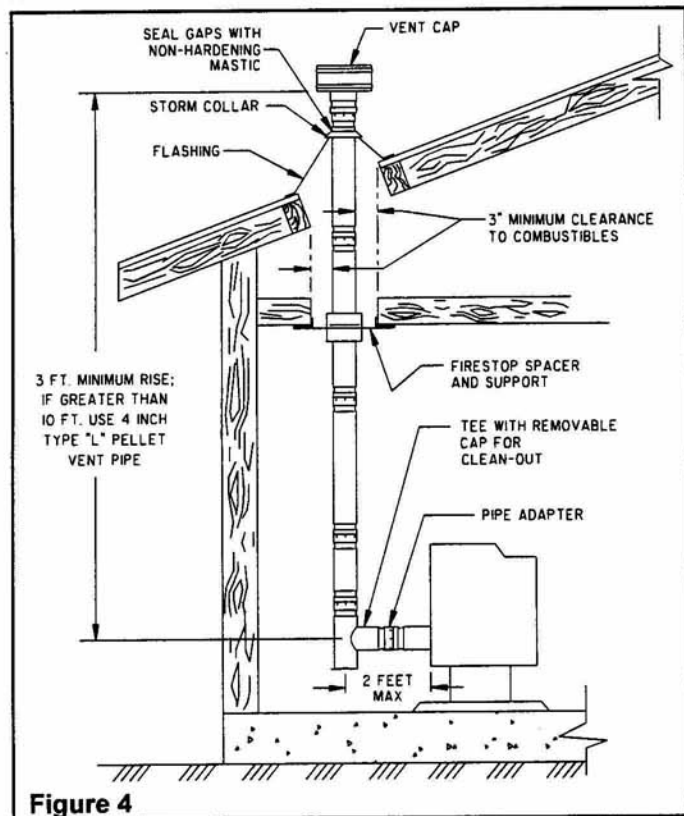
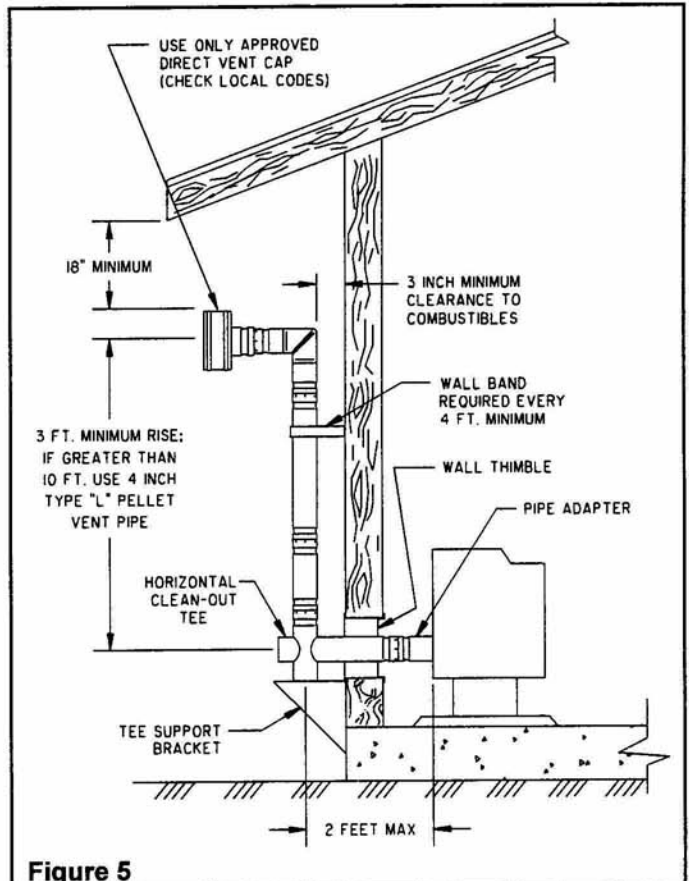
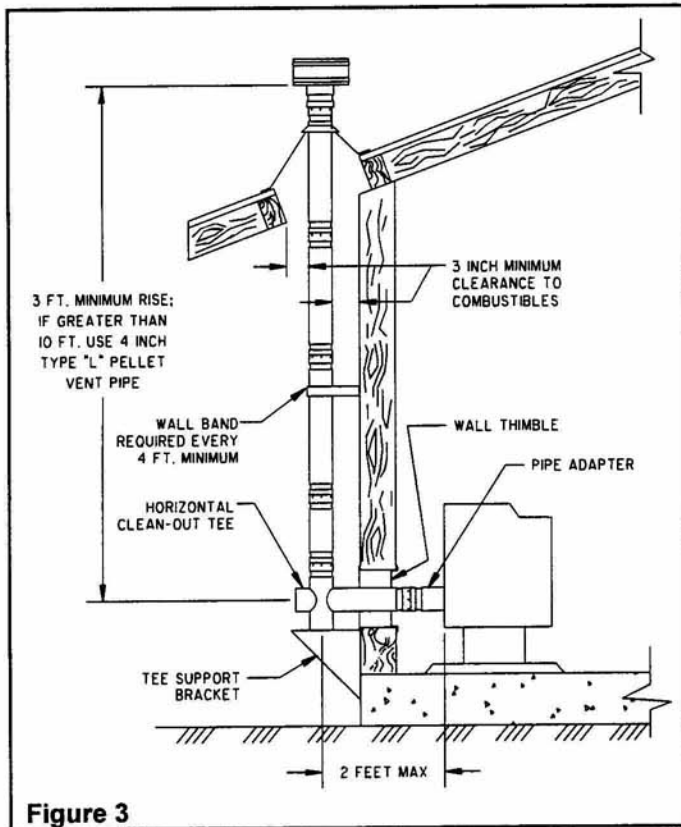


Figure 5

4. A non-combustible hearth pad must be used if installed on a carpet, wood floor or other combustible material (see Figure 2).

5. When installing the exhaust vent into an existing chimney, a tee must be installed behind the heater before going up into the chimney. This is necessary in order to remove fly ash accumulation.

6. Exit termination (distance to openings):

- a. 3 ft. minimum above any forced air inlet located within 10 ft.
- b. 4 ft. minimum below and horizontally or 1 ft. minimum above any door, window or gravity air inlet into any building.
- c. 2 ft. minimum to an adjacent building and 7 ft. minimum above grade when located adjacent to public walkways.

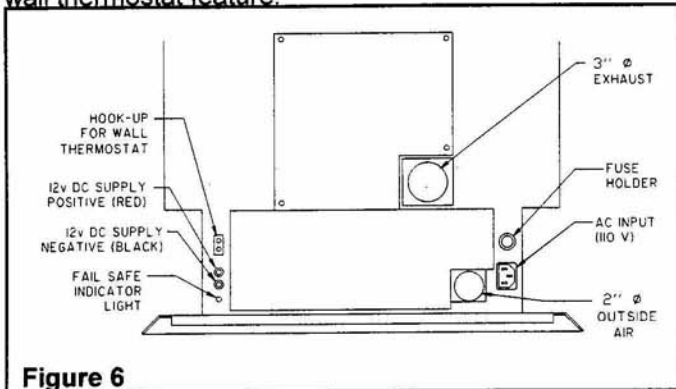
INSTALLATION

Route the power supply cord so that it does not touch any of the exterior components of the heater.

1. When exiting through the wall with your type L Pellet vent pipe, you may go straight out through a wall thimble. You must connect a pellet vent tee at this point and extend the vent pipe at least 3' (three feet) vertically outside to provide good draft and allow the gases to exit. The tee must have a clean out cap for inspection and regular cleaning (Figure 3). Whenever the pipe run in any installation is 10' or more, the use of 4" type L pellet vent pipe is required. Horizontal runs must be limited to 2' (two feet). A wall band is required for every 4' (four feet) minimum on a vertical run at an exterior wall.
2. All pellet vent pipe connections including exit at the rear of the heater should be sealed with high temperature silicone (450°) or metallic duct tape. This prevents smoke and soot leakage into the living area. If this is not done, there is a possibility that the room fan will pick up any leakage and blow it into the room.

Wall Thermostat Installation:

The wall thermostat is designed to automatically regulate the room temperature from the High setting to the Low setting based upon room temperature. Remember to leave the control knob on the "High" position when utilizing the wall thermostat feature.



1. The following is a step by step procedure for installing the optional wall thermostat. Note connection terminals on left side of unit at rear (see Figure 6). Use 18/2 thermostat wire for the installation.
 - a. Unplug heater from wall outlet!
 - b. Hook up thermostat wires to terminals (see Fig.6).
 - c. Locate thermostat approximately 10 to 12 feet from heater or in area that requires steady temperature.
 - d. Run thermostat wires from heater to thermostat along wall or under carpet etc. and hook wires to thermostat terminals. On new construction you can, of course, run wire in the walls before sheet rock or paneling is done.
 - e. Make sure all wiring is completed before plugging the EASYFIRE Heater back into the wall outlet.

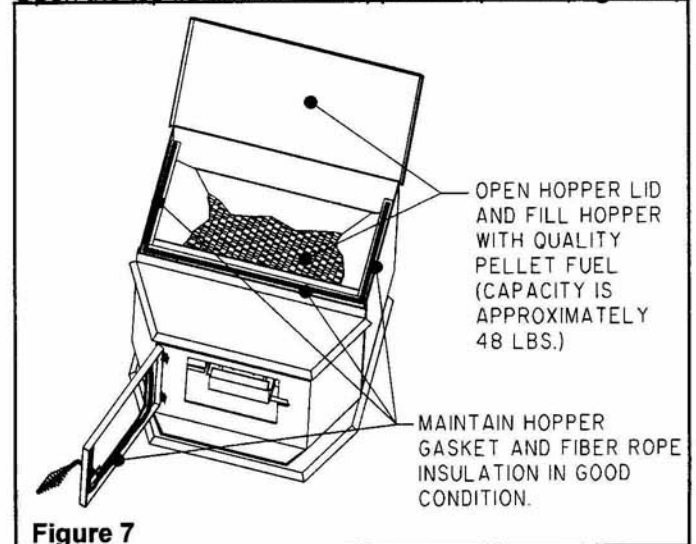
IMPORTANT - Any electrical work performed on the EASYFIRE Heater should be done by qualified personnel.

START-UP AND OPERATION

1. Filling the Hopper and Start-Up:

CAUTION: Fuel hopper lid must be closed before operating unit. Maintain hopper seal in good condition. **DO NOT OVERFILL HOPPER!** The EASYFIRE will hold about 53 lbs. of pellets.

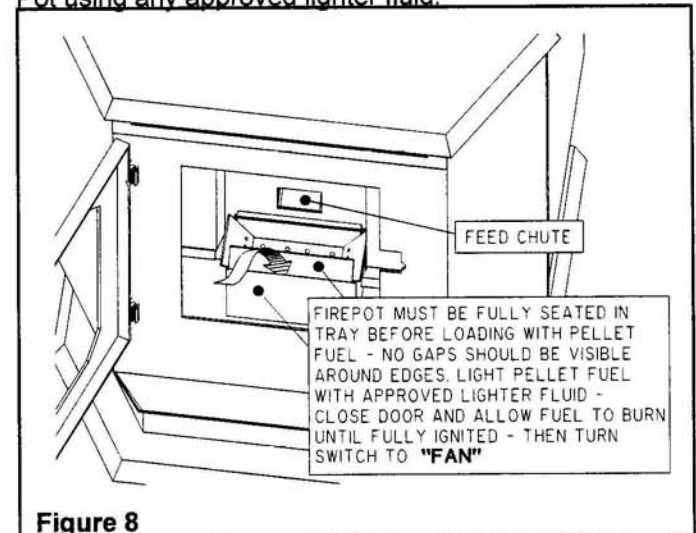
Open the top lid and fill the hopper with pellets (Figure 7).



The quality of pellet fuel varies from brand to brand. This will affect the efficiency of your heater. We suggest that you try several brands until you find one that gives you a clean efficient burn. Poor quality pellets will burn rich with black soot and ash will accumulate quickly. Quality pellets will burn clean and ash build up will be minimal.

Make sure hopper lid is fully closed. Open the front door. Fill the Fire Pot with pellet fuel.

IMPORTANT: The fire pot must be seated flush and must sit even in the pot tray. Air leaking around the fire pot will create a poor burn (Figure 8). Light the pellets in Fire Pot using any approved lighter fluid.



Allow pellets to burn for approximately 1 minute, or until pellet ignition has been achieved. Close door and turn the control knob to the "FAN" position. When the pellets are well lit, turn the control knob to "LOW" or "HI". We recommend that you run the heater on "HI" for about 30 minutes in order to get the heat exchanger hot before turning it to "LOW". You will need to burn the heater for a few hours before deciding which setting is best for your particular needs.

Note: Caution must be taken when installing burn pot or operating door not to damage ceramic glass. Do not attempt to operate heater if glass becomes damaged in any way!

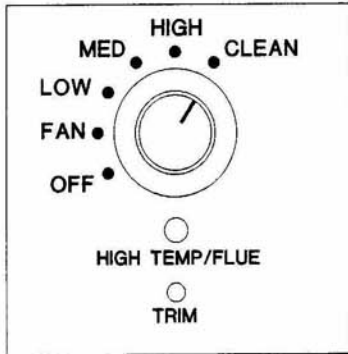


Figure 9

2. Control Functions: Control functions on the Easyfire are as follows: OFF, FAN, LOW, MEDIUM, HIGH, CLEAN. Here is how each function works:

- A. When the Control Knob is turned to **FAN**, a timer is activated and you will have about ten (10) minutes to get the pellets lit and reach a minimum temperature. Should the pellets not light in the 10 minutes simply turn the knob to **OFF** and begin again. This will give you another 10 minutes to get the pellets lit. The reason for the timer function is so that the heater will automatically shut down if the fire goes out. Pellets do not feed in the FAN position.
- B. In the **LOW** position, the EASYFIRE will be feeding approximately 1 to 1½ lbs. of pellets per hour and the flame will fluctuate between 1" and 6" in height.
- C. In the **MEDIUM** position the EASYFIRE will be feeding approximately three (3) pounds of pellets per hour and the flame will fluctuate between 3" and 8" of fire.
- D. In the **HIGH** position the EASYFIRE will be feeding approximately 4 lbs. per hour and the flame will fluctuate between 3" and a full flame. The fan speed will increase accordingly as the heater automatically adjusts itself based on temperature inside the heater (see G below).
- E. The **CLEAN** position is to be used only when the heater is not burning and you wish to clean out the accumulated ash in the front of the fire area. See **CLEAN OUT** section of maintenance instructions.
- F. After the heater is running for several hours and you wish to turn it off simply turn the knob to **OFF**. **The heater will continue running until it cools down and then will automatically shut itself down.**

G. REMEMBER: Each feed position will fluctuate because the microprocessor is automatically adjusting the feed and air based on temperature. This means the pellet feed rate and flame height will change accordingly based on quality of pellet and heat loss of dwelling.

OPTIONAL 12V HOOK-UP & OPERATION

1. The EASYFIRE 12V back up can be purchased as an option and includes the following components:
 - a. Deep cycle sealed 12V battery.
 - b. Battery connector cables for hook-up to the heater.
2. In order to hook-up the battery and engage the 12V backup system simply connect red cable to red terminal on the heater (see Figure 4) and to positive connector on battery [the terminal marked (+)] and connect the black cable to the black terminal on the heater and to the negative connector on the battery (the terminal marked (-)). If you hook up the cables backwards the red LED light above the terminal receptacles will come on. If hooked up properly this LED will glow green.

WARNING - MAKE SURE RED CABLE GOES TO RED TERMINAL (POSITIVE CONNECTOR) AND BLACK CABLE GOES TO BLACK TERMINAL (NEGATIVE CONNECTOR).

3. If you decide to purchase your own 12V back up system we recommend a sealed gel cell battery. Failure to install the proper battery could cause physical harm to you and your property and will also void the heater warranty.
4. When the battery is properly connected and the heater plugged in, the following will happen automatically:
 - a. The heater will automatically switch to 12V power if there is a power failure, and switch back when power is restored.
 - b. The battery will be trickle charged as long as the heater is plugged into 110 AC wall outlet. Do not use extension cords. The trickle charge will not recharge a low or dead battery but it will keep a charged battery at maximum performance.
5. If you choose to separate the battery from the heater by lengthening the cables you must make sure that the cable wire used will carry the current to the heater. For example, if the distance is 10 to 20 feet then 12 gauge wire must be used. Check with your local electrical professional to make sure you have used the proper gauge wire/cable.

MAINTENANCE PROCEDURE

CAUTION: Moving parts may cause injury, DO NOT operate with rear cover removed.

WARNING: Risk of electrical shock, disconnect all power before servicing.

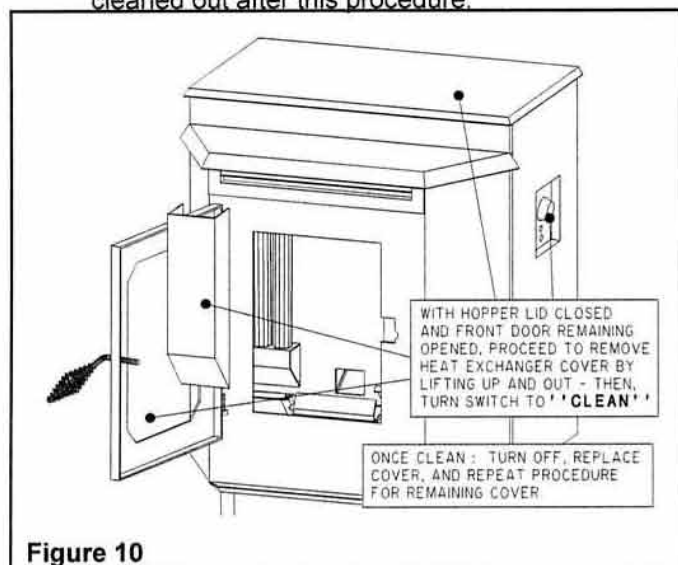
ALWAYS TURN YOUR Heater OFF & LET IT COOL BEFORE CLEANING.

Your EASYFIRE Pellet Heater requires routine maintenance for maximum performance and is mandatory for the warranty to remain in effect.

The following procedures should be studied carefully and performed regularly as indicated:

1. Fly Ash: Some ash will accumulate in the heat exchanger, firepot and flue and should be cleaned out on a regular basis for best efficiency and safety. When the heater is shut down and cold, you should:

- a. Open door and remove clean out slide cover. To remove, simply slide up and out from retaining angle bracket (**Figure 10**). Clean one side at a time. With one slide cover removed, leave door open and turn control knob to the "**CLEAN**" position. Let heater run until ash in fire pot area is vacuumed out by heater fan. Turn off and replace cover. Remove remaining cover and repeat procedure for the other side. The tee cap on the vent pipe should be cleaned out after this procedure.



- b. Remove firepot by lifting up and out, it may be brushed out or vacuumed. Firepot should be cleaned daily. Make sure holes in pot are not clogged. The area around and below the pot should be checked every five or six days depending on how many hours a day you are burning your heater and the quality of the pellets being burned. (After a few days you will be able to determine the frequency needed for clean out.)

The important thing to remember is that excessive fly ash accumulation will affect the efficiency of the burn.

- c. Scrape pellet feed chute with putty knife to remove hardened material on which sawdust can accumulate.
- d. The tee connector on the vent pipe must have a clean out cap and this must be checked every four to six weeks or whenever you utilize the clean out mode on the control dial.
- e. Fly-ash can also accumulate in the vent pipe. Inspect exhaust system frequently to maintain free flow of exhaust fumes and fly-ash. The frequency of clean-out depends entirely on the quality of the pellets, so you will have to initially monitor the buildup in the pellet vent pipe. Those installations going into an existing flue must be installed with a tee connector (**Figure 2 & 3**) to allow access to clean the ash from the pellet vent pipe.

2. Hopper Clean Out: Vacuum the accumulated saw dust in the hopper weekly. Keep free of debris and foreign material. **AN ACCUMULATION OF SAW DUST CAN CAUSE IRREGULAR PELLET FEED.** For best results this should be done on a regular basis depending upon how often the heater is used. If you burn the heater all the time you should do this every eight to ten days.

3. Cleaning the Exhaust Fan Blade & Heat Exchanger: The exhaust blower should be checked for excessive fly ash buildup. Regular and routine maintenance utilizing the **CLEAN OUT** feature will keep the exhaust blower housing and fan blades clean. This cleaning can only be done when the heater is **NOT** burning. For best results run the fan in the **CLEAN OUT** position **with the door open** for approximately one minute or until ash is no longer being picked up by the fan. Remember, you must always check the clean out cap on the tee after utilizing the **CLEAN OUT** feature.

4. Keeping the Glass Clean: If soot deposits accumulate on the glass, clean with window glass cleaner and a paper towel when the glass is cold.

5. Polishing the Gold and Chrome: All chrome and gold plating used on the EASYFIRE heater can be cleaned with a soft cloth and non-abrasive cleaner.

6. Cleaning & Polishing Gold Plated Parts: Gold is a soft metal and therefore a fragile surface. Prior to the first burn it is important to use Windex or comparable product and a soft clean cloth to wipe any marks off all gold surfaces or the heat will cause the marks to remain in the surface permanently. Always clean the gold surface when the heater is **COOL**.

7. Door glass replacement: Should the door glass become broken it may be replaced by scraping the sealer from around the outer edge of the glass. Carefully pry glass from door frame then clean all sealer from frame. Obtain a replacement glass from your local dealer and attach glass to door using High Temperature Silicon Sealer (min. 400 deg.F). Apply sealer to all four corners of the glass and set glass into frame. Apply sealer to mating edge of glass and frame. Allow two hours dry time before installing door onto heater. **Note: Replace with Corning Pyro-Ceramic Glass only. Refer to parts list for specifications.**

TROUBLE-SHOOTING

The following scenarios are provided in order to help you locate a difficulty if the heater performs in a manner which would seem to indicate a malfunction:

1. **Problem:** I loaded the heater for start-up, lit the fire starter and pellets but the fire didn't keep going.

Solution: Check power cord to see that it is plugged in. Remember that the timer on start up runs about 10 minutes and if the heater has not heated up enough to deactivate the timer you will have to start over by turning the knob to off and then back to FAN or LOW.

The EASYFIRE will automatically switch to 12 volt backup provided you have the 12 volt option installed.

2. **Problem:** The heater was lit and burning properly, then suddenly it stopped feeding pellets.

Solution: a) Check pellet supply in hopper. If empty, fill and follow start-up procedure as outlined in the beginning of this manual. b) Occasionally, a foreign object, debris or an excessive amount of sawdust can enter the feed mechanism and jam the feed chute. If this happens, you must empty the hopper and check the feed chute to see what is causing the jam. Remove any foreign material or object and re-start the heater. **CAUTION:** Keep fingers and hands clear of feed mechanism when heater is on.

3. **Problem:** The fire was burning well and then it began to overfeed pellets and started backing up into the pellet feed chute, smothering the fire.

Solution: When the pellets are overfeeding, it usually means that the air flow has been reduced. Check the firepot air intake holes to be sure they are clear. Check to see if firepot was properly seated in pot tray. Check to see if the manifold may have filled with fly ash. If you use a low grade pellet, and clinkers (fused ash and dirt) form in the bottom of the firepot, it will choke the air intake (you might consider changing the brand of pellets to one that burns cleaner). You must let the fire go out before removing and cleaning the firepot.

Never vacuum out the heater when the heater is in operation! The hot ashes can lodge in your vacuum cleaner and cause a fire!

You must clean the manifold regularly in order to insure a good air to fuel ratio, thus allowing the heater to "breathe" properly. You must also check the vent pipe and tee to see that they are not clogged and full of ash.

4. **Problem:** Heater was burning well and then soot began forming on the glass door.

Solution: Black soot forming on the glass door means that the combustion is not right and the heater needs a good clean out. Some brands of pellets burn much richer than others and you might have to change brands of pellets and/or have the air/fuel settings re-adjusted by your dealer. It is normal to have the glass cloud up after several hours of burning but it should wipe off with a good window cleaner. If the glass turns black quickly, then the heater needs a good clean out.

5. **Problem:** We had a power failure and the heater emitted smoke for about five minutes.

Solution: If the heater emits smoke during a power failure, and you have frequent power failures then we suggest you purchase the battery back-up system. If the vent pipe is installed according to these instructions the smoke will syphon out of the pipe in most instances.

6. **Problem:** After several weeks of outstanding performance, the heater suddenly stopped and the red light under the control knob came on. This light is the Hi Temp/Flue Indicator Light.

Solution: The Hi-Temp/Flue Indicator light indicates that fly ash has built up in the exhaust system and/or there is a restriction in the exhaust/flue system. Check the pipe system for excessive ash and clogging, particularly the vent cap. Remove the clean out cap on the tee and make sure that ash has not blocked the exhaust air flow. This automatic shut down in case of flue clogging is a safety feature and if the shut down occurs it means you have a problem and should consult a service technician and/or clean your pipe and heater thoroughly. If you feel the fly ash build up is excessive, we suggest that you try another brand. In moist climates the pellets and fly ash can actually absorb moisture from the air and create creosote and a severe clogging problem. Keep this in mind when you store and handle your pellets. The heater warranty does not cover the quality of the fuels used or the way they may be handled either before or after you've purchased them.

7. **Problem:** I turned off the switch and the heater kept running.

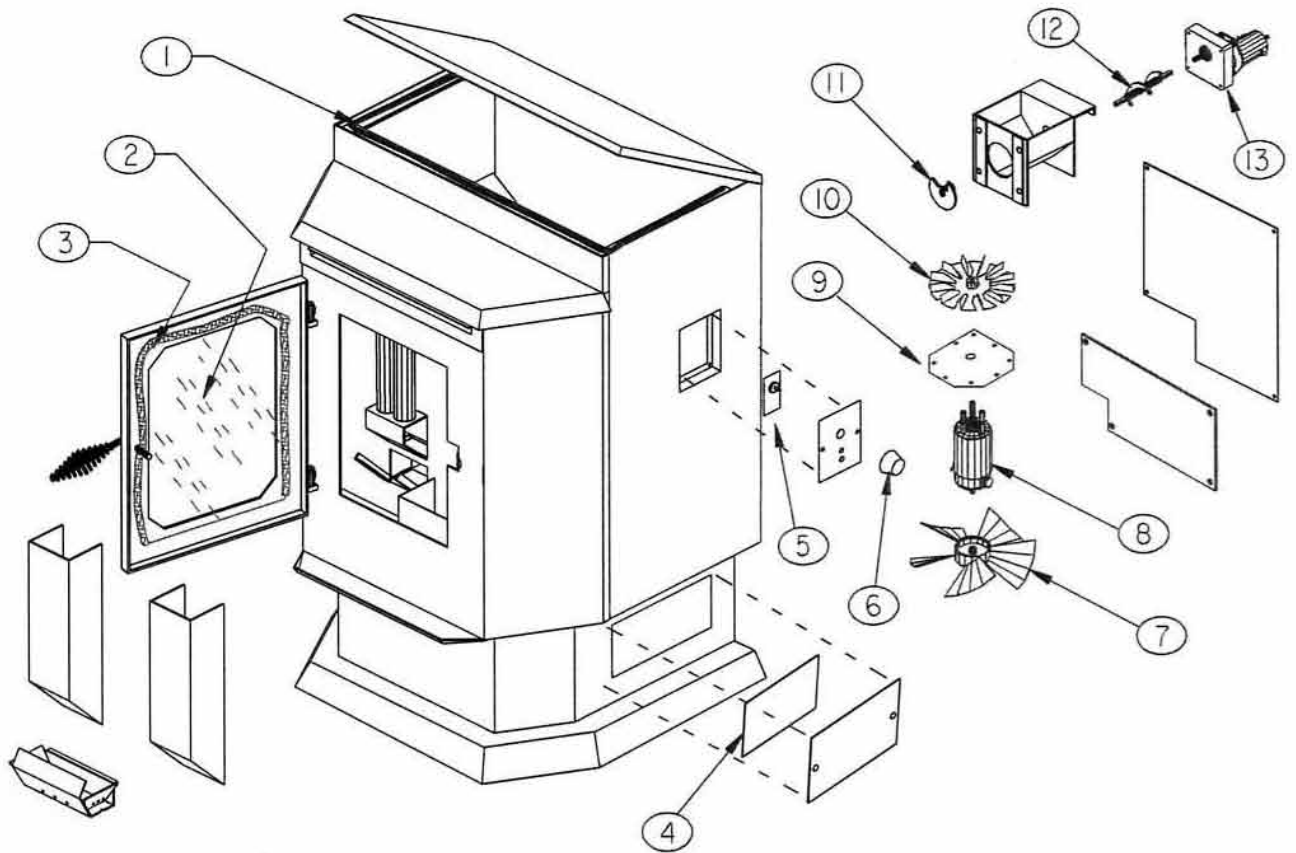
Solution: This is normal. The exhaust blower will keep running until it cools down and then it will automatically turn off. This can vary by the temperature the exhaust has reached and the temperature of the cooling air.

HI TEMP/FLUE AND TRIM INDICATORS:

When the Hi-Temp/Flue indicator light comes on (red lite beneath control knob) it means that the flue is obstructed or you have a reverse draft and gases cannot exit properly. Maintenance is required and a thorough cleaning and pipe check must be performed.

TRIM button : Underneath the control knob you will find a small round button that will turn forward and reverse. This button can control the feed motor in the LOW position only. By turning the button clockwise you can increase the feed on LOW and by turning it counterclockwise you can decrease the feed in the LOW position.

Move this button carefully! It is designed to fine tune your LOW setting in the event you change brands of pellets and/or live at a higher elevation.



ITEM No.	PART NUMBER	DESCRIPTION
1	100126	HOPPER LINER GASKET
2	110074	DOOR CERAMIC GLASS (Corning ceramic glass 9"x12"x5mm)
3	100125	DOOR FIBER ROPE GASKET
4	120038	CONTROL BOARD
5	120039	CONTROL SWITCH
6	110058	CONTROL KNOB
7	110070	CONVECTION FAN BLADE
8	110067	BLOWER HOUSING
9	110068	FAN MOTOR HOUSING
10	110070	COMB. FAN BLADE
11	200303	FEED SYSTEM DISK
12	300086	FEED SYSTEM AUGER
13	110059	FEED MOTOR

Empire
PRODUCTS, INC.

www.empireproductsinc.com

5061 Brooks St. Montclair, CA 917
Phone 1-909-399-3355 Fax 1-909-399-33
P/N 140155r1 8/

**EasyFire
Pellet Heater
Warranty Claim Form**

Customer Information:

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____

Unit Information:

RMA Number: _____
Model Number: _____
Serial Number: _____
Date of Purchase: _____

Dealer Information:

Name: _____
Address: _____
City/State/Zip: _____

Date: _____
Mileage: _____
Serviceman: _____

Describe Defect:

Describe Repair:

Customer Verification:

I verify that the above repairs were made to my EasyFire Heater and that I am the original owner of the above model.

Customer Signature: _____

Service Person Verification:

I verify that the above repairs were made to the above EasyFire Heater.

Service Person Signature: _____

Distributor Authorization: _____



EasyFire Pellet Heater Warranty Replacement Program

EFFECTIVE DATE: APRIL 1, 1993

NOTE: PLEASE READ THIS WARRANTY REPLACEMENT PROGRAM CAREFULLY BEFORE APPLYING FOR WARRANTY REPLACEMENTS OR CREDIT.

WARRANTY COVERAGE:

Warranted for five years from the date of retail purchase against defects in workmanship to include heater cabinet and body. Warranted for one year from date of retail purchase to include drive mechanism, electronic components, door glass, plating, and gasket. Solely for the benefit of the original purchaser. (Retain your dated sales receipt as proof of purchase.)

COVERED: Replacement of defective parts and labor, and product return to consumer.

NOT COVERED: Damages caused by abuse or failure to perform normal maintenance. Any other expense. This warranty shall not apply to any defect, malfunction or failure to conform with the warranty provisions if caused by damage (not resulting from defect or malfunction) due to unreasonable use by purchaser. **Consequential damages, incidental damages or incidental expenses, including damage to property. Some states do not allow the exclusion or limitation or incidental consequential damages, so the above limitation or exclusion may not apply to you.** This warranty gives you specific legal rights which vary from state to state.

QUALIFICATION FOR WARRANTY PERFORMANCE: Return product or defective part with proof of purchase and narrative description of defect together with your name and address, freight prepaid, to Empire Products, Inc., Warranty Division, 10803 Fremont Ave., Ontario, California 91761. Returned part or product will be repaired or replaced at Empire Products' option and will be returned to you, freight prepaid, as soon as practical, but not later than 30 days after received.

WARRANTY WORK:

All warranty work must be authorized by the factory in advance of the repair and an authorization number assigned. A warranty claim form must be completed and signed by both the repair person and the customer. For prompt warranty service, please contact the authorized dealer in your area. Have the following information available to assist the repair person.


HEATER PURCHASE INFORMATION:

DATE PURCHASED _____

MODEL NUMBER _____ SERIAL NUMBER _____

DEALER/RETAILER WERE PURCHASED _____

INSTALLER/CONTRACTOR USED FOR INSTALLATION _____

 **Empire**
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P/N 140155r1 8/01