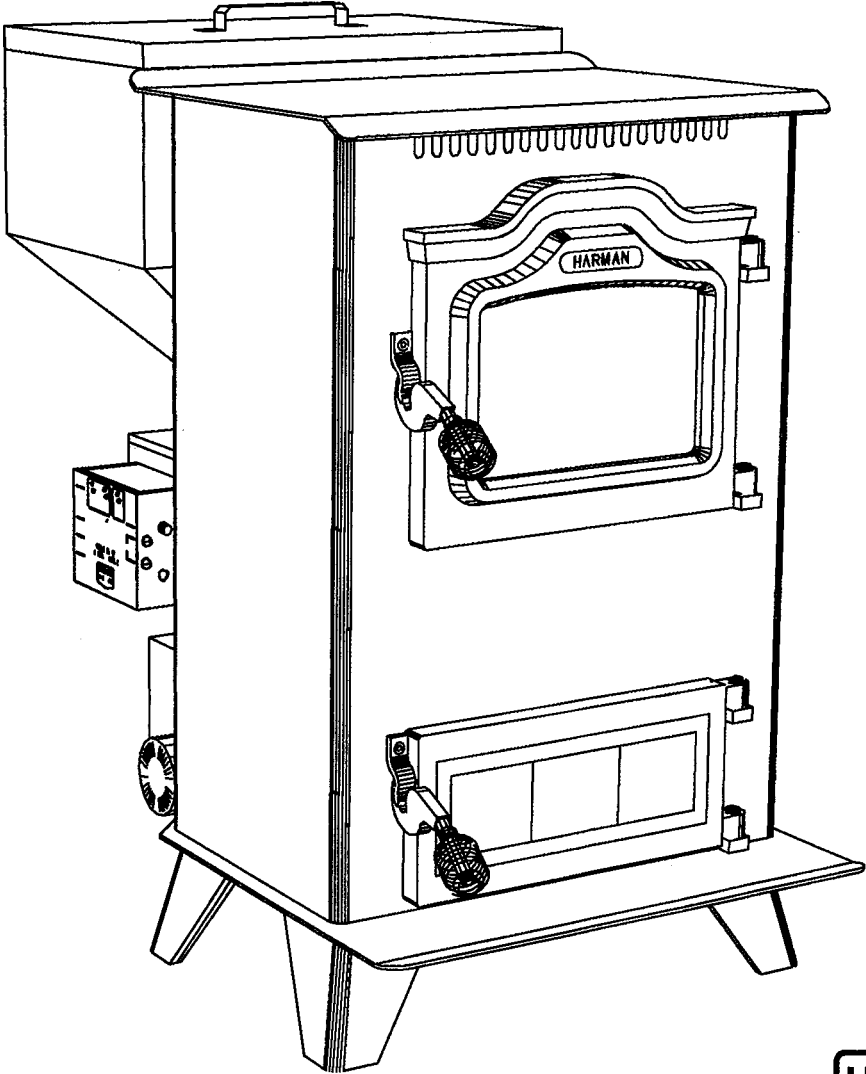


HARMAN

PELLET PRO

MANUAL



Introduction	3
Packing List	4
Assembly	4
Installation	5
Set-up	6
Control Operation	8
Operation	9
Maintenance	10
Warnings	10
Trouble shooting	11
Helpful Hints	11
Wiring Diagram	12

HARMAN STOVE & WELDING, INC.
352 Mountain House Road
Halifax, PA 17032
(717)362-9080

Introduction

Congratulations and thank you for purchasing a Pellet Pro!

Your unit was built in Pennsylvania from the finest American-Made steel by excellent craftsmen and welders. There are many inspections and tests to pass on the way from raw steel to the finished product. Evidence of this is the Quality Control Sheet placed in the hopper which notes the final assembly checks.

The PELLET PRO is designed to last and be virtually maintenance free. The auger rides on dual heavy duty ball bearings. The pusher assembly rides on heavy bronze bearings. The feed motor has needle bearings on the output shaft and ball bearings on the motor. W.W. Grainger, Inc., a nationwide supplier, has made the feed motor and blowers (stock items) used on the PELLET PRO. This means there is more than one source for parts should they ever fail. The Verti-Flow stoker control, which is of our own design, has proven to be super dependable.

HOW IT WORKS

The PELLET PRO has a draft inducer which provides negative pressure in the firebox. This causes primary air to be drawn in through the holes in the burn pot from the outside air source. Secondary air is drawn in at the top and bottom of the glass which also provides an air wash to keep the glass clean.

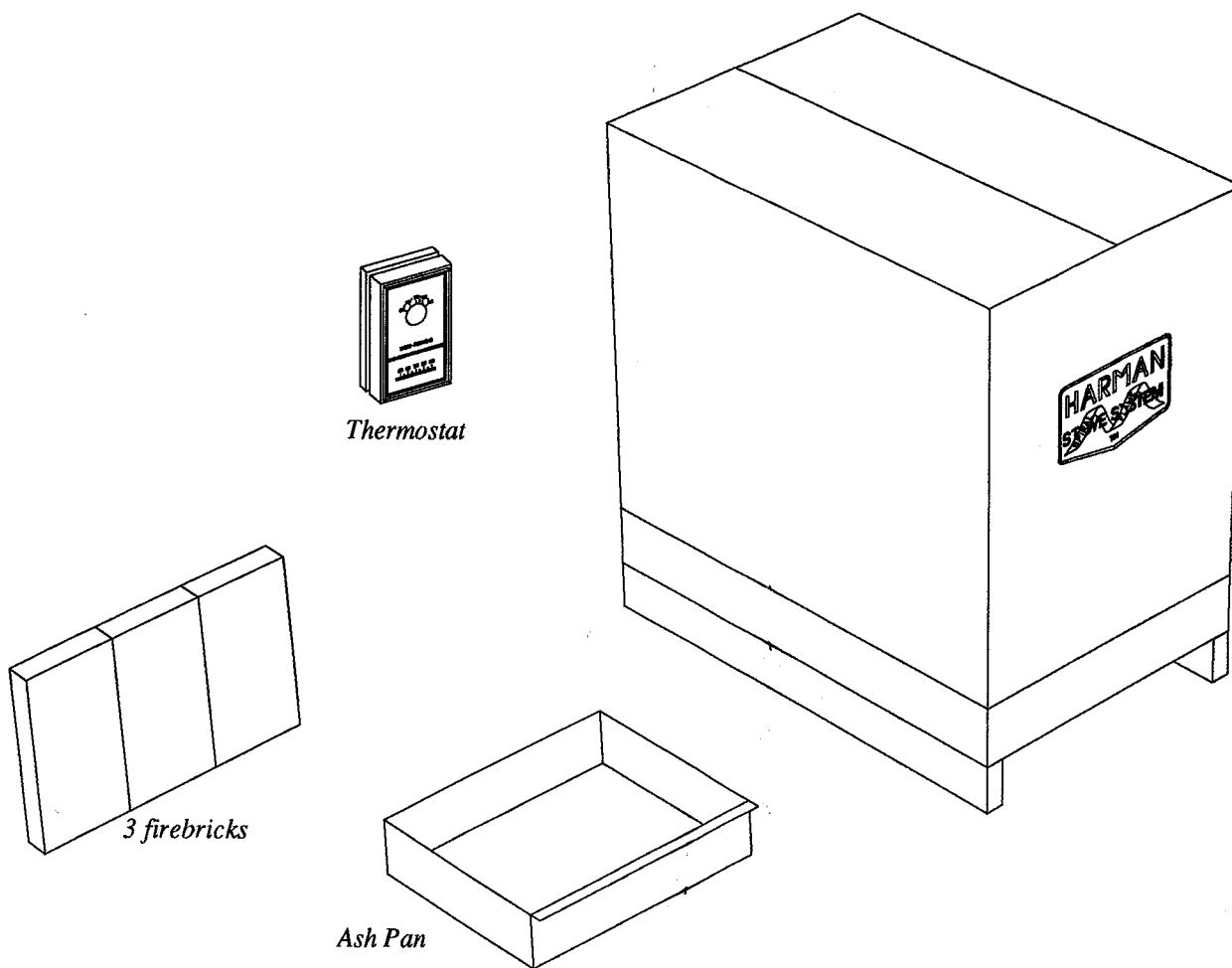
The draft inducer uses a unique rotary disc to regulate the draft from .04 to .24 depending on the rate of burn.

The PELLET PRO feeder takes pellets from the hopper and meters them into the auger with an adjustable stroke pusher block. The auger feeds the pellets into the Verti-Flow Burn Pot where they get air provided by the draft inducer.

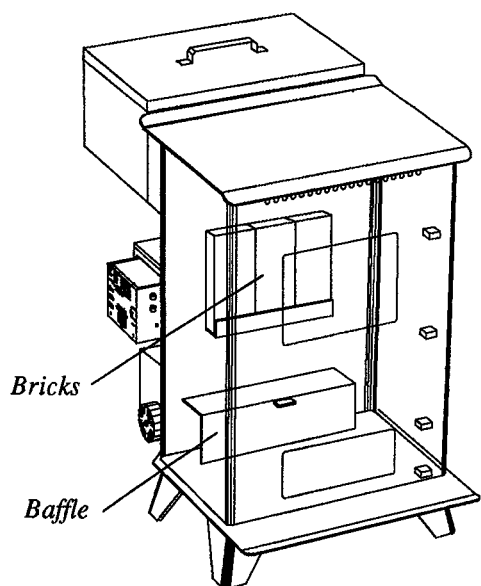
The feeder and draft inducer are regulated by the Verti-Flow Stoker Control. This control varies the pellet flow and air flow to meet the heating demands of the thermostat.

The following manual uses illustration when possible and is designed to be easy to understand.

Packing List



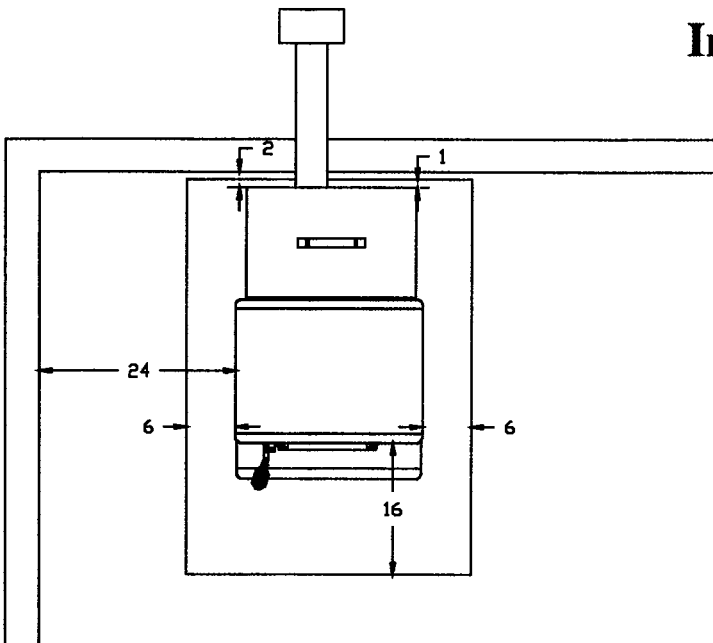
Assembly



For shipping purposes the handle on the hopper lid is bolted inside. Simply unbolt the handle, position it on top of the lid and rebolt.

The three firebricks that are shipped in the ash pan need to be placed across the rear of the firebox just above the burn pot. There is an angle iron holder to set the bricks in. The bricks are held in place by gravity and may come out of position if the unit is moved. It is therefore recommended that the bricks be installed after the unit is in position.

Check baffle plate to see that it is in place and centered.



Place the unit on a noncombustible floor or a noncombustible floor protector. The floor protector should extend from the unit 6" on each side, 16" to the front, and 1" to the rear of the unit as shown.

The clearance to combustible walls is 24" on the sides and 2" to the rear of the hopper. In a corner installation the unit may be placed 2" from the corners of the hopper to the wall.

The vent pipe shall be UL listed and designed for pellet stoves. The diameter of the Pellet Pro vent is 3". The vent may go straight through a combustible wall if the proper thimble is used. We recommend that same brand of thimble and vent pipe be used. It is best if no more than two elbows are used to get through the wall. Outside we recommend that the vent extend 12" beyond the wall. A vertical section of three to five feet may be added to provide some draw in the event of a power failure. In either case a cap must be used to prevent wind from blowing in the pipe.

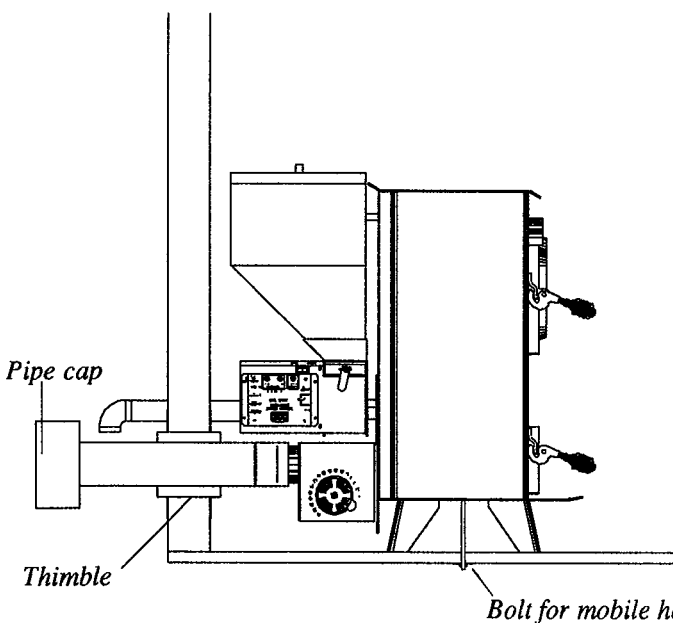
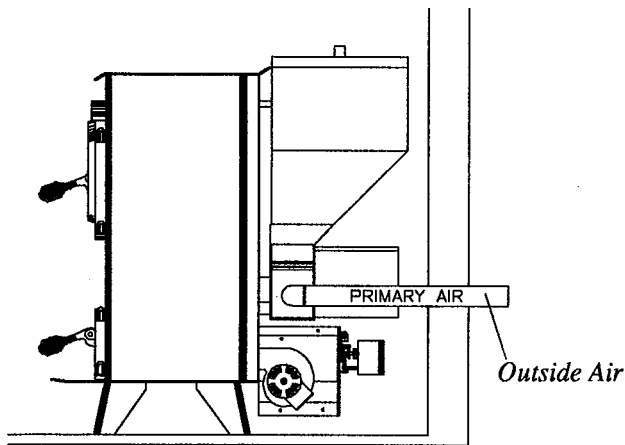
The unit may also be vented into a fireplace flue or a chimney. In the case of a fireplace the vent should extend through the damper area and be sealed so gases cannot come back into the house.

A primary air intake is provided on the side of the feeder. Two inch plastic pipe may be used to run outside. The advantage to this is, air from outside is used instead of warm inside air that you paid to heat.

In a mobile home installation outside air is mandatory. Also in a mobile home the unit must be bolted to the floor. This can be done by drilling a hole in the bottom center of the stove and running a bolt of sufficient length down through the floor protector and floor. Do not over tighten this bolt.

The thermostat should be mounted in a central location. Avoid isolated rooms with poor air circulation. Run thermostat wire from the thermostat to the rear of the unit and up to the thermostat terminals on the control box.

The PELLET PRO has 2 power cords which get connected to 115 AC volt 60 hertz outlet. This is standard in the U.S.A.



Set-Up

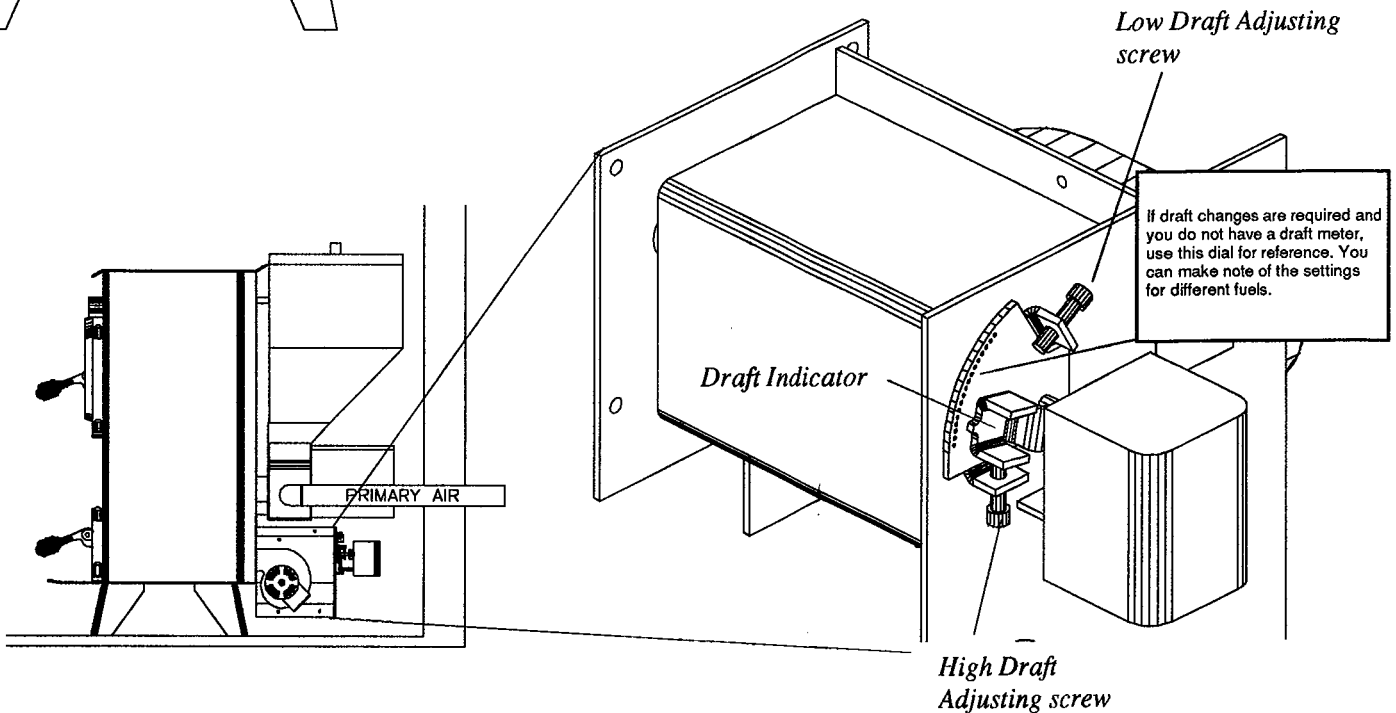
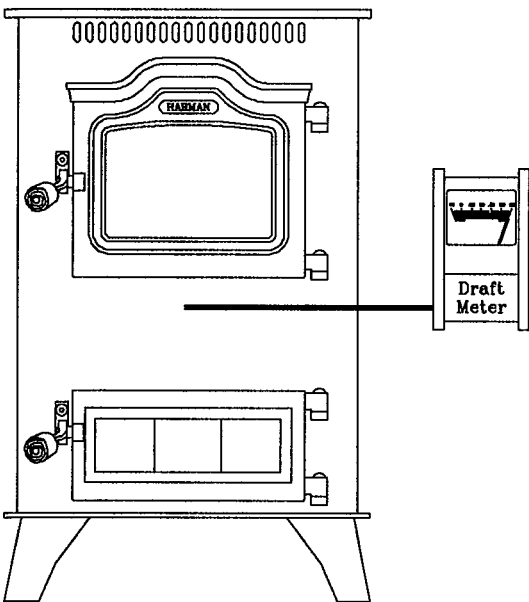
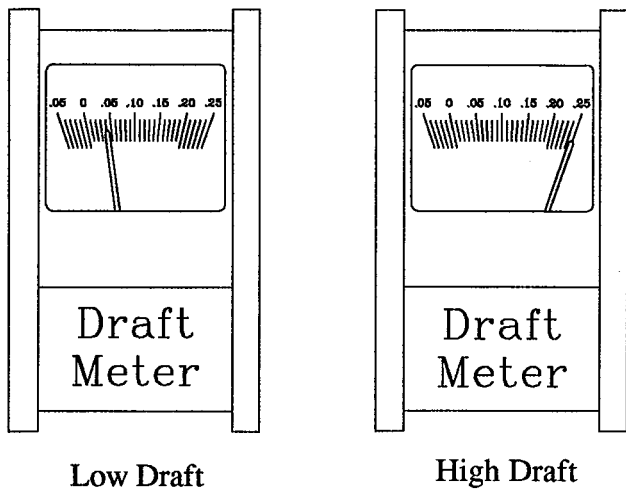
After the unit is installed there are a few adjustments to be made. At the factory, adjustments are set in the ball park for most wood pellets. Altitude, pellets, or personal preference may cause you to make changes.

The draft setting is checked by first removing the plug in the front center of the stove. Next, insert draft meter probe into the hole. Place the meter on a level surface and zero the needle. Now turn up the thermostat to make the draft motor open. This will make the needle on the draft meter go up. Adjust the high burn adjusting screw to make the needle read about -.24. If you make this adjustment when the unit is hot, -.20 is a good setting.

Now turn down the thermostat below room temperature. You will see the needle go down. Adjust the low burn adjusting screw so the needle reads about -.04 to -.05. Remember to tighten the lock nuts on the adjusting screws and replace the plug on the stove.

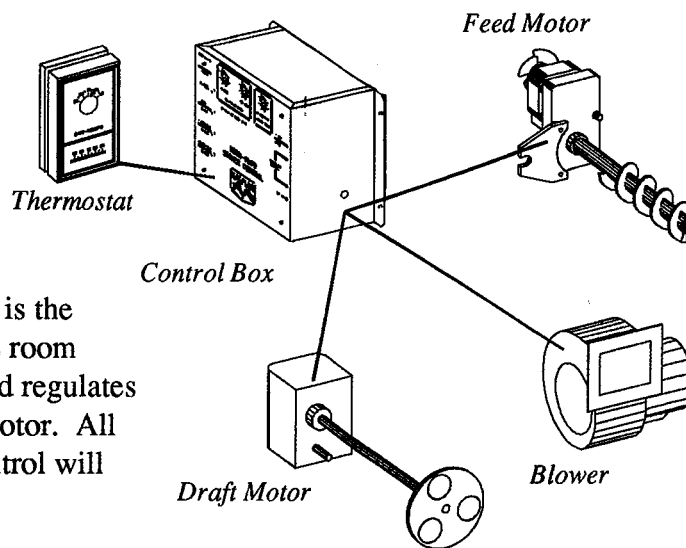
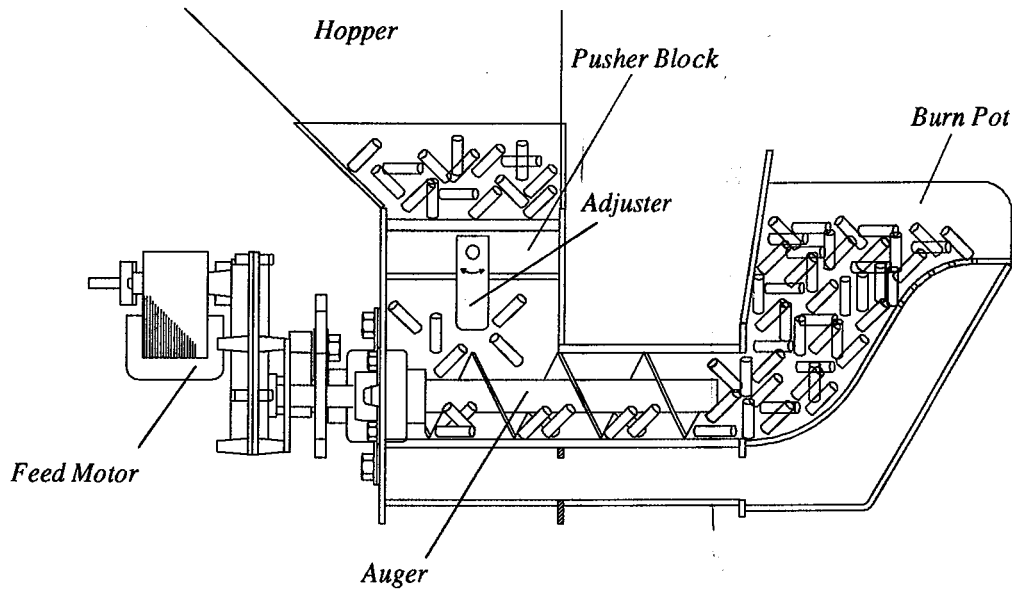
To adjust the feed, turn the feed adjuster clockwise until it bottoms out. Now turn counter-clockwise 5 turns. This is usually a good maximum setting set at the factory.

The control is set to 2 minutes on, 5 minutes off, and 1 minute on the extend timer.

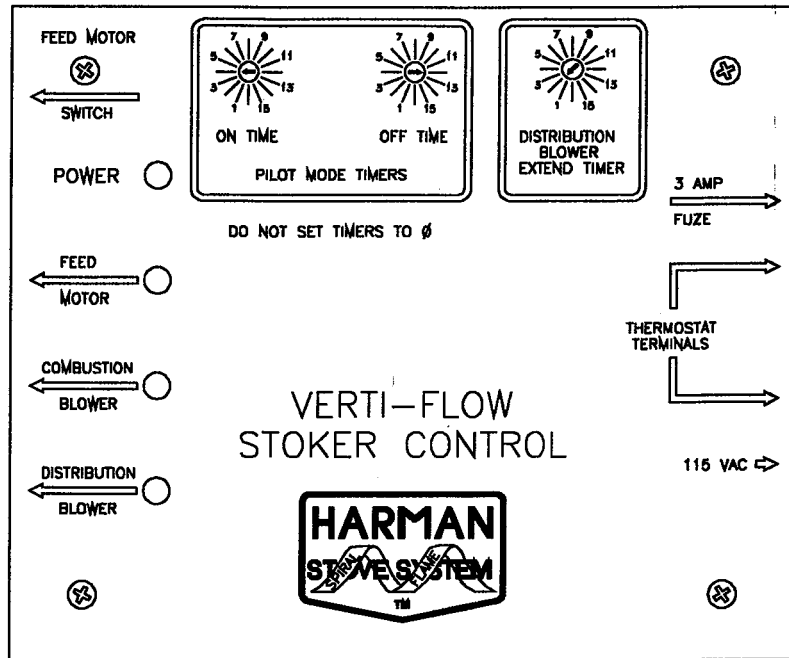


Pellet Pro Feeder

(Patent Pending)



The Verti-Flow Stoker Control is the brain behind the Pellet Pro. It senses room temperature through a thermostat and regulates the feed motor, blower, and draft motor. All you do is set the thermostat, the Control will do the rest.



How to Operate the Stoker Control

There are four operator interfaces on the stoker control. The operator interfaces are one rocker switch and three, 16-position rotary switches.

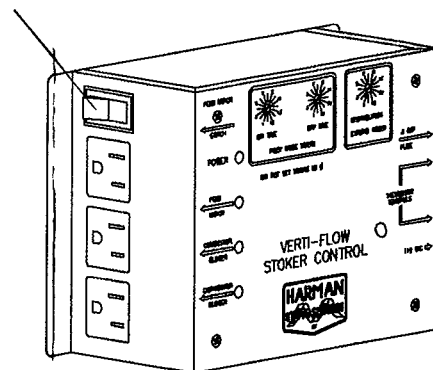
The rocker switch is a power switch that controls only the feed motor. For normal operation, this switch should be placed in the “on” position. This switch’s operation can be verified by a small red light above the feeder receptacle being on when the switch is on.

If the stove needs to be shut down, simply place the rocker switch in the “off” position. The small light above the coal feeder receptacle will turn off.

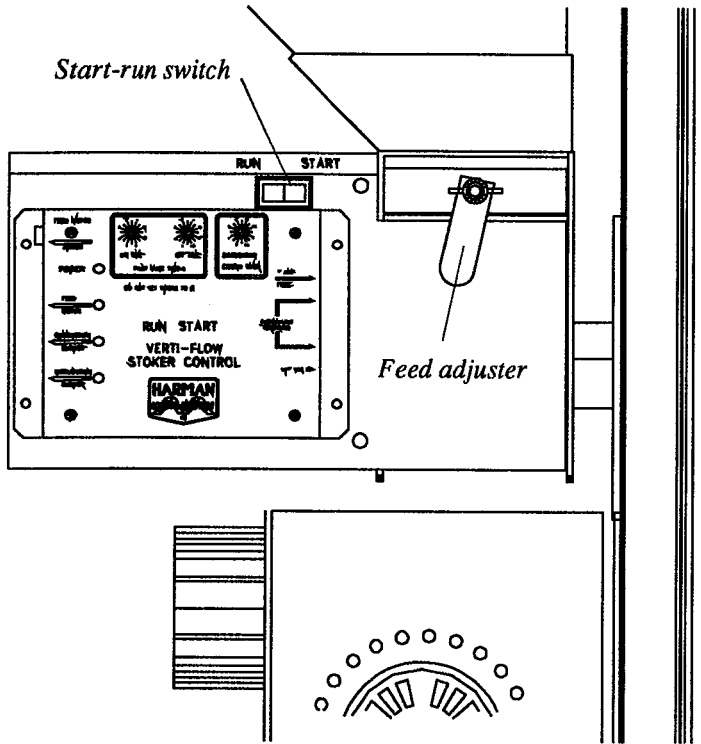
The other three switches are the customer’s adjustments for the timers (on time, off time, distribution blower time). These switches can adjust each timer individually from 1 minute to 15 minutes in 1 minute increments. Do not set timers to 0.

Recommended timer settings to start are, “on” 2 minutes, “off” 5 minutes, extend timer 1 minute. You may find that these settings are not appropriate for the fuel you are using. If so, you can adjust the timers with a small screw driver. However, be aware that you can go too far and have the fire go out. It is best to adjust one minute at a time.

Feed Motor Switch



Operation



Connect power cord to 120V outlet. This will start the draft blower. Set the thermostat higher than room temperature. This will power the feed motor and distribution blower.

Next, fill the hopper with pellets. Make sure the feed motor switch is "on" and the start-run switch is set to "start".

The feed motor switch is located in front of the control box. The start-run switch is located just above the control box.

Pellets can now feed from the hopper to the grate where they are burned. When the grate is about half full of pellets, turn off the feed motor.

LIGHTING A FIRE

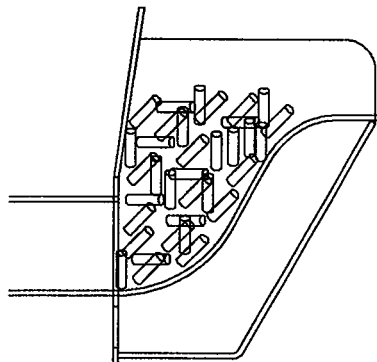
There are several ways to ignite the pellets. The method we recommend is to apply firestarter gel to the pellets and light with a match. Close the door and wait until the pellets are burning well and turn "on" the feed motor.

FEED ADJUSTMENT

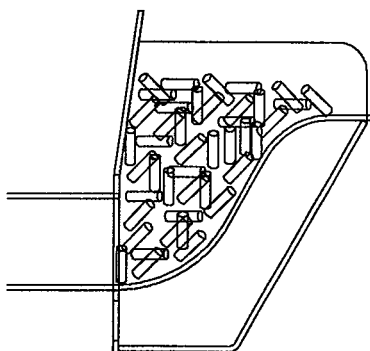
The feed adjuster determines the maximum rate at which the pellets enter the grate. Too high a feed rate will push unburned fuel off the end of the grate. This will waste fuel and cause smoke to come out of the vent due to incomplete combustion. Too low a feed rate may not produce the desired amount of heat.

START-RUN SWITCH

After the fire is well established, turn the start-run switch to the "run" position. This will stop the feed motor if the flue temperature goes below the set point. Some examples would be; the hopper is empty, a power failure or a draft motor failure. In all these cases, with the switch in the "run" position, the hopper will not empty into the fire box. If left in the "start" position, it can. The "start" position is to over ride the system and make it feed when the stove is cold.



Medium feed rate. This also shows a good level of pellets for lighting a fire.



Max feed rate

QUICK START

Turn thermostat up. Put start-run switch to "run". Put pellets in the burn pot by hand. Fill to the level shown on page 9. Put starting gel on pellets and light.

As more pellets start to burn, the flue gas temperature will rise. When the temperature reaches the set point the feeder will automatically start feeding. With this method you do not need to remember to put the start-run switch on "run".

MANUAL MODE

In cases where automatic operation is not desired the Pellet Pro can operate manually. This gives you the ability to have a fixed output and burn time.

There are two ways to operate manually. One is to turn the thermostat all the way up and limit output with the feed adjustment and the high draft adjusting screw.

The other method is to turn the thermostat all the way down and adjust output with the "on" and "off" timers. This makes the Pellet Pro suitable for any heating situation.

Maintenance

The Pellet Pro is designed to be maintenance free.

AS NEEDED

Fill hopper and remove ashes.

Clean burn pot (scrape carbon loose).

ANNUALLY

Oil blower motors with only a few drops of light oil (too much oil is worse than none).

Clean fly ash from heat exchanger pipes in the top of the stove.

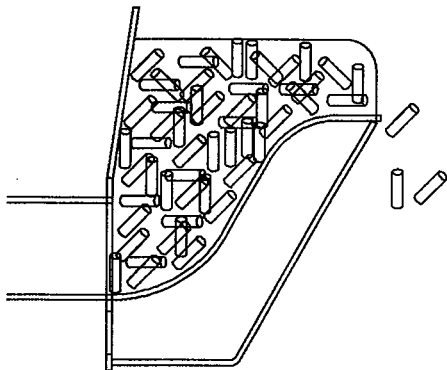
Clean vent pipe by removing fly ash.

ALWAYS

Keep unit clean. Vacuum dust from blower screen and feeder area.

WARNING

FEED RATE TOO HIGH



This condition will cause poor combustion and smoke. Also fuel will be wasted.

WARNING

To shut down unit, put the feed motor switch on the control box in the "off" position. Then allow the fire to go out from fuel starvation before turning off all power to the unit.

WARNING

This unit has been designed and tested to be operated with both doors closed. The top door needs only be opened to start a fire or clean the glass. The bottom door should only be opened to remove ashes. Normally the door open time to remove the ashes is less than 10 seconds and does not pose a problem.

Keep hopper lid closed except for loading.

FEEDER DOES NOT FEED

1. No pellets in hopper
2. Feed motor switch is turned off
3. If the stove is cold the feed motor will not run unless the "start-run" switch is in the "start" position.
4. The thermostat must be set higher than the room temperature or the control box will go into pilot mode.
5. Something is restricting flow in the hopper.

PARTIALLY BURNED PELLETS

1. Feed rate too high
2. Draft too low
3. Combination of both

LOW HEAT OUTPUT

1. Feed rate too low
2. Draft set too low
3. Combination of 1. and 2.
4. Draft motor failure

FIRE HAS GONE OUT

1. Pellets are all
2. Feed motor switch is turned off
3. Something is restricting fuel flow
4. Feed motor or draft motor has failed
5. Power failure

FLAME GOES OUT WHEN STOVE CYCLES FROM LOW TO HIGH

The low burn draft setting is too low for the type of pellets. Example: Walnut shells require more draft than most wood pellets.

SMOKE IS VISIBLE COMING OUT OF VENT

1. Air-fuel ratio is too rich
 - A. Feed rate too high
 - B. Draft setting too low

Helpful Hints

Cleaning Burn pot

Whenever your stove is not burning, take the opportunity to scrape the burn pot to remove carbon buildup. A vacuum cleaner is handy to remove the residue. Be sure the stove is cold if you use a vacuum.

Carbon buildup can be scraped loose with the fire burning using the special tool provided with your stove. Scrape the floor and sides of the burn pot. The carbon will be pushed out by the incoming fuel. Always wear gloves to do this.

Maximum settings are not needed in most cases.

Never adjust the feed and the draft so low that the flame goes out.

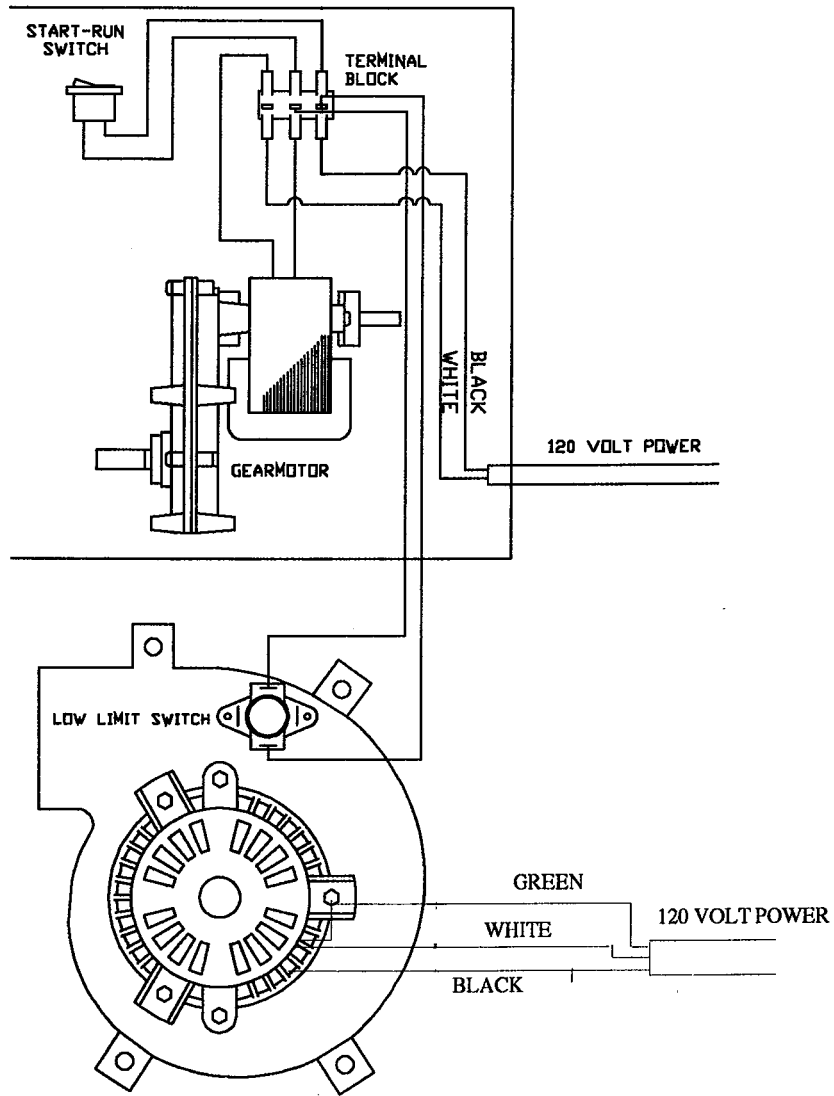
Keep the stove free of dust and dirt.

Fuels

All wood pellets
Cardboard pellets
Walnut shell pellets
Wood nuggets

The Pellet Pro is not limited to these fuels. We are constantly testing new fuels

Wiring Diagram



PELLET PRO

"5 YEAR LIMITED STOVE WARRANTY"

HARMAN STOVE & WELDING, Inc. warrants its products to be free from defects in material or workmanship, in normal use and service, for "5" years from date of sales invoice.

If defective in material or workmanship, and if removed by the owner within 60 months of installation, Harman Stove & Welding, Inc. will, at its option, repair or replace the produce as described below.

The warranty above constitutes the entire warranty with respect to Harman Stove & Welding, Inc. products. HARMAN STOVE & WELDING, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING "ANY" WARRANTY OF MERCHANTABILITY, OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. No employee, agent, dealer, or other person is authorized to give any warranty on behalf of Harman Stove & Welding, Inc. This warranty does not apply if the product has been altered in any way after leaving the factory. Harman Stove & Welding, Inc. assumes no liability for "resultant damages of any "kind" arising from the use of its products. In addition, the manufacturer shall be held free and harmless from liability from damage to property related to the operation, proper or improper, of the equipment. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

THESE WARRANTIES APPLY only if the device is installed and operated as recommended in the user's manual.

THESE WARRANTIES WILL NOT APPLY if damage is caused by abuse, accident, improper installation, negligence, or use beyond rated capacity.

SERVICE LABOR RESPONSIBILITY -- In furnishing replacement parts, Harman Stove & Welding, Inc. assumes no responsibility for any labor expenses, for service removal or reinstallation.

HOW TO MAKE CLAIM -- Any claim under this warranty should be made to the dealer from whom this appliance was purchased. Then contact is made with manufacturer, contact Harman Stove and Welding, Inc., R.D.1, Box 619, Halifax, PA 17032, giving the model and serial numbers, the date of purchase, your dealer's name and address, plus a simple explanation of the nature of the defect.

SHIPPING COSTS -- The transportation charges are as follows:

- (1) Customer prepays freight back to factory.
- (2) Harman Stove & Welding, Inc. prepays the repaired or replaced stove freight charges.

NOTE: Prior approval by phone or in writing shall be made before shipping entire unit to manufacturer.

THIS WARRANTY IS LIMITED TO DEFECTIVE PARTS -- REPAIR AND/OR REPLACEMENT AT OUR OPTION AND EXCLUDES ANY INCIDENTAL AND CONSEQUENTIAL DAMAGES CONNECTED THEREWITH.

WARRANTY EXCLUSIONS

1) Electrical components will be supplied at no charge for 24 months. Defective parts must be returned to Harman Stove; 2) Fire brick; 3) Door packing; 4) Paint; 5) Glass and pressure valves; 6) Units damaged by freezing (hot water models only); and 7) Acts of God. Hopper (1 year).

PLEASE READ THE LITERATURE ENCLOSED BY THE MANUFACTURER WITH THE VARIOUS ACCESSORY DEVICES. THESE DEVICES ARE "WARRANTED BY THE MANUFACTURER" NOT BY HARMAN STOVE & WELDING, INC. FURTHERMORE, THESE ACCESSORY DEVICES MUST BE INSTALLED AND USED ACCORDING TO THE RECOMMENDATIONS OF THE MANUFACTURER.

Some states do not allow the exclusion of limitation 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 which may be enforceable in a Court of Law.

REMEDIES -- The remedies set forth herein are exclusive, and the liability of seller with respect to any contract or sale or anything done in connection therewith, whether in contract, in tort, under any warranty, or otherwise, shall not, except as herein expressly provided, exceed the price of the equipment or part on which such liability is based.

CLARIFY -- The above represents the complete warranty which is given in connection with stoves manufactured by Harman Stove & Welding, Inc. No other commitments, verbal or otherwise, shall apply except by a written addendum to this warranty.