

**ECONO 100 & 200 RENEWABLE ENERGY  
OUTDOOR FURNACE  
OWNER'S MANUAL**



The Econo 200 Outdoor Wood Furnace  
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**VERY IMPORTANT**  
**SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE**

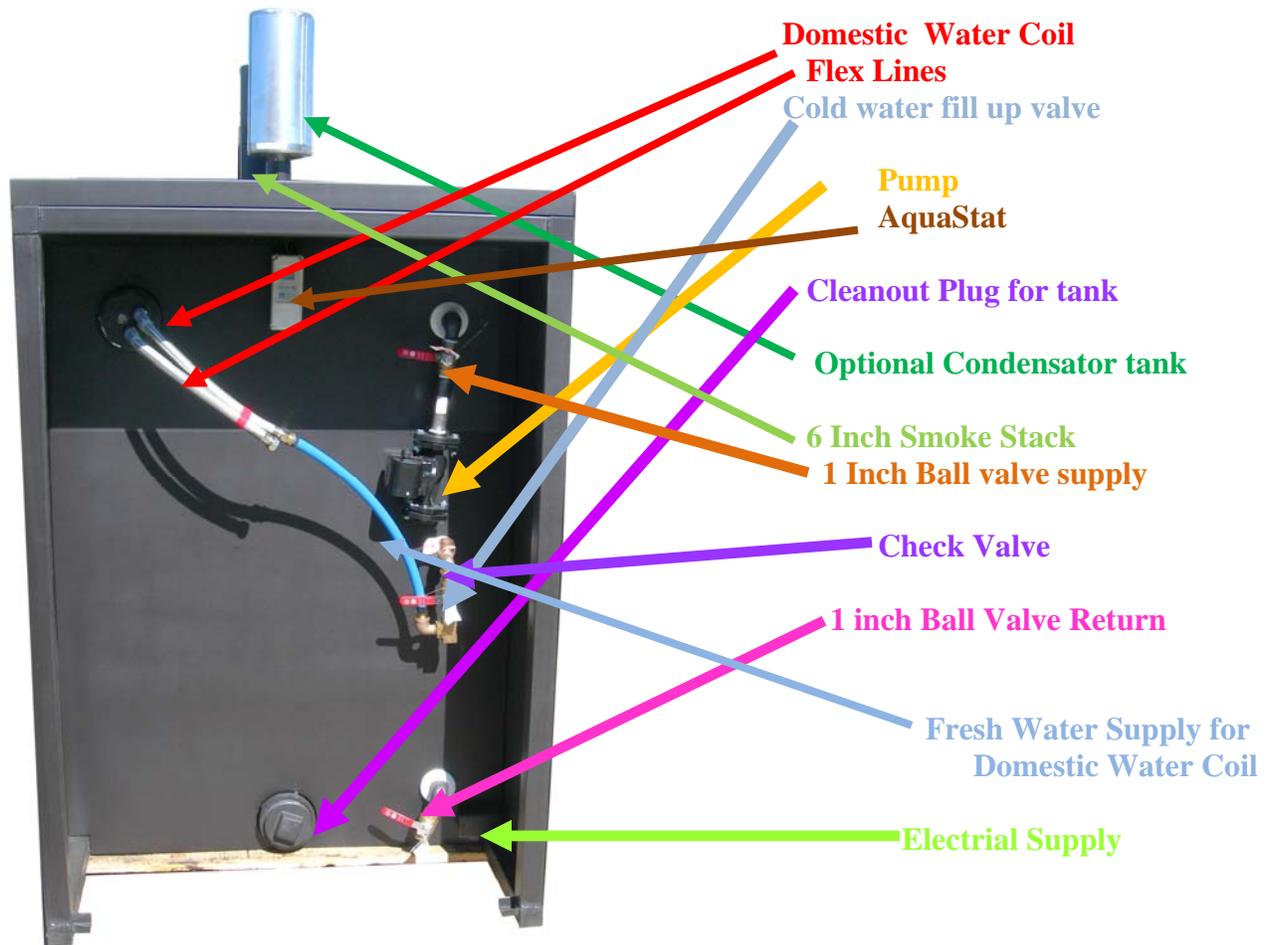
1. This product should be installed in accordance to local electrical and building codes. Authority having jurisdiction should be consulted before installation.
2. Sizes & Ratings: Econo 200 Renewable Energy Furnaces are manufactured in the following sizes and BTU/hr ratings. Voltage rating on all models is 120 V one phase, 60 Hz.
3. Econo E-200 BTU 150,000
4. The following precautions must be adhered to for the safe operation of this product:
  - a. No makeshift compromises during installation
  - b. Do not use chemicals or fluids to start fire
  - c. Do not burn flammable fluids such as gasoline, naphtha, engine oil or garbage
  - d. Keep children away from this product while it is in operation
  - e. Do not store solid fuel within clearance to combustible materials shown on label within the space required for charging and ash removal
  - f. Ensure that the vent pipe is kept open at all times to insure the stove does not become pressurized and that the condensation tank is placed on vent pipe to help prevent water loss.
  - g. When unit is not in use drain the system of all water to prevent freezing in cold weather
  - h. Make sure sufficient amount of water treatment is kept in unit at all times while unit is filled with water
  - i. Unit must be filled with at all times to insure safer operation otherwise unit will be damaged

**SET UP**

Your The Econo 200 Outdoor Wood Furnace should be set on a cement pad and have at least 1 4 inch solid concrete block at each corner.

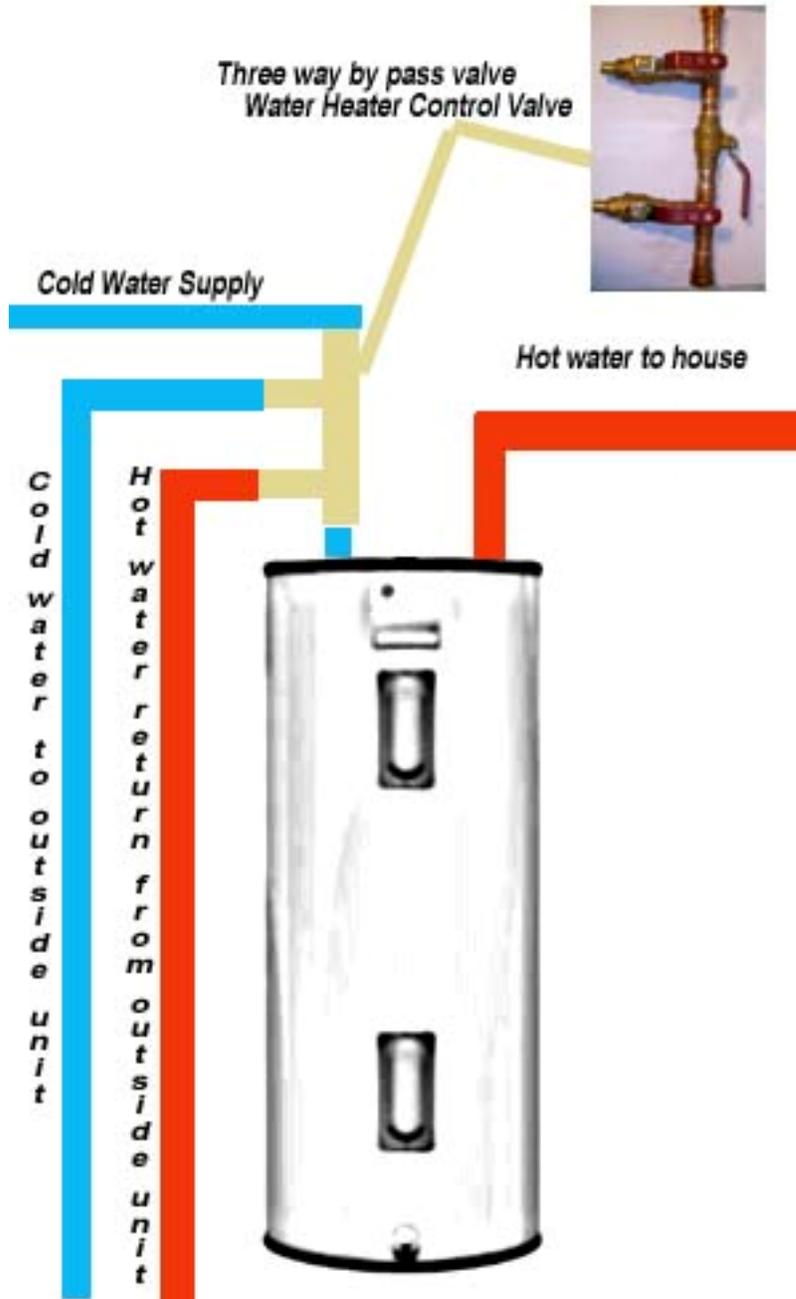
The area around your ECONO 200 RENEWABLE ENERGY unit should be covered with non-combustible material (gravel, concrete, patio stones) at least one foot on either side and back and front.

## ON THE BACK OF THE ECONO 200 OUTDOOR WOOD FURNACE



While furnace is in use valve above pump should be opened, valve on return line should be opened. The cold water fill up valve should be shut except while filling up furnace tank.

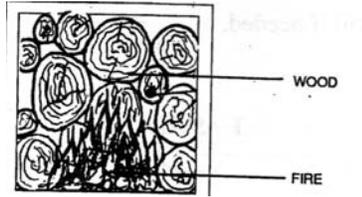
## Operation of Domestic Water



When side valves are opened and middle valve is shut your outside furnace will heat your water. Reverse for water heater only.

## FIRING DIRECTIONS

Start your fire just as you would for any other wood burner. Stack your wood at the front of the firebox, laying it lengthwise in the firebox. See Figure 30.



When you go to add wood to your ECONO 200 RENEWABLE ENERGY Furnace you should always rake the coals to the front of the firebox and stack your wood at the front also.

The blower on the ECONO 200 RENEWABLE ENERGY will make it easier to start your fire. Note: When you first fire the furnace up the cold water in the tank will cause a tremendous amount of condensation inside the firebox and flues. It should stop in a few hours.

After starting fire shut the fire box door turn fan switch on. If it is dark outside you can turn on your outside light to assist you in loading.

## BLEEDING THE SYSTEM

Turn off the ball valve on Heat Inlet and turn on the ball valve on Heat Outlet. If you have cut off flanges on your pump, make sure that they are open. Take the pex pipe loose from Heat Inlet. Leave it loose until you get a good flow of water, then turn on the pump. A steady flow with no gurgles, burps, or spruts signals that no air is coming through the line. Cut off the pump, hook the pipe back up and open the ball valve.

If the coil is mounted at a point as high or higher than the water level in the heater, it may be necessary to bleed the system in sections. Take the pex pipe loose from the outlet side of the pump and make sure that you have water through the pump. Hook that pipe back up at the pump and go to the top (highest) outlet on the coil and loosen that fitting. Turn on the pump and let it run until you stop getting air out of that fitting. Turn off the pump and open the ball valve on Fitting (make sure that the pex pipe has been re-attached). You may get some more air out of the top fitting on the coil at this point. When all air is out, tighten your fittings. The system should now be bled.

# INSTALLATION OF THERMOSTAT

The basic concept is to start your circulating pump and air handler simultaneously as there is not time delay for heat strips to warm. Your existing thermostat may be utilized or an additional unit may be installed to exclusively control your new ECONO 200 RENEWABLE ENERGY Furnace.

## Service Tip:

Econo 200 Renewable Energy Manufacturing recommends installing an electrical receptacle near the wire controlling the circulating pump which is controlled by the thermostat. This will enable a service technician to check the circulating pump without necessitating access to the thermostat.

If you have any questions please contact your Econo 200 Renewable Energy Dealer.

## Wiring diagram for forced air application



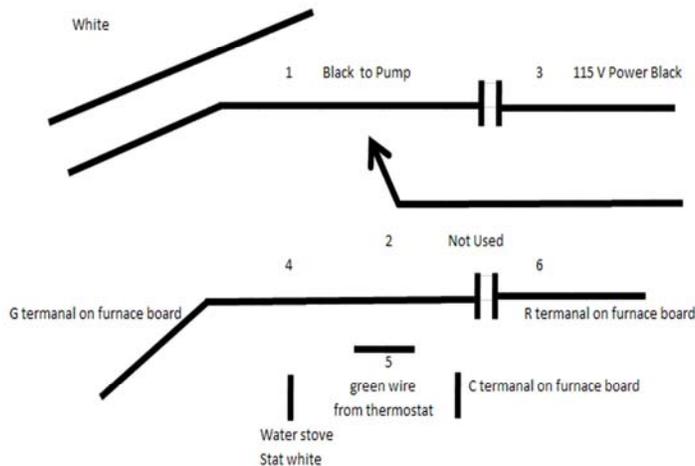
### Thermostat

**Red - Red wire or on board (Power)**

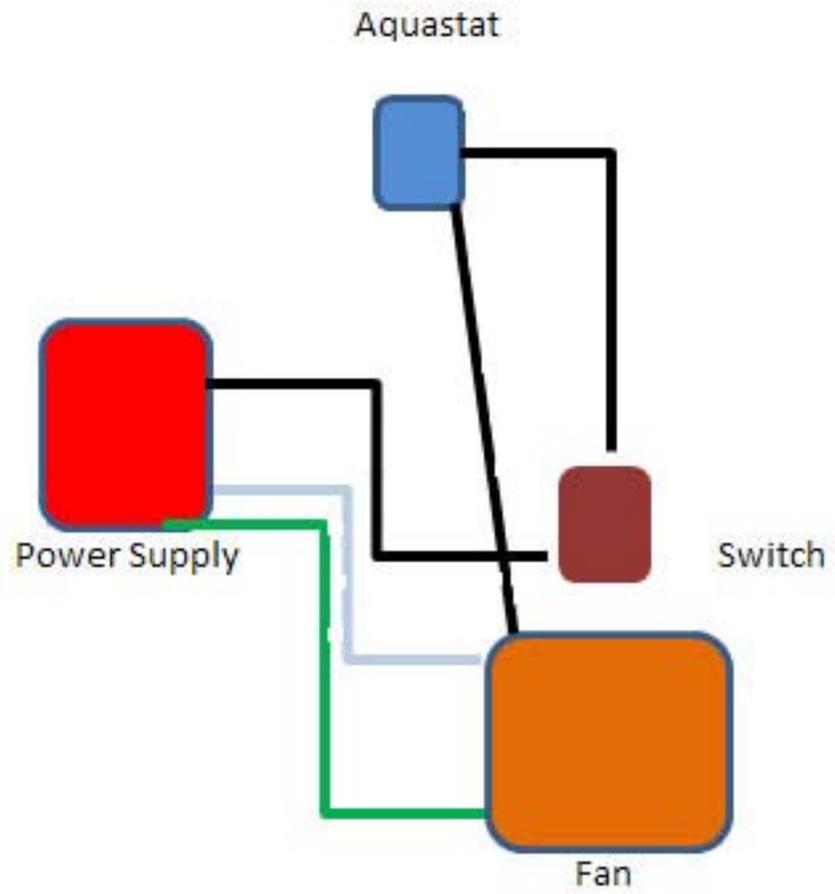
**Green - Goes to relay to control fan**

**White - Goes to (w) on board or whatever for heat**

**Yellow (or blue) is A/C**



# Wiring On The Outside Unit



## **MAINTENANCE**

Your Econo 200 Renewable Energy Furnace requires maintenance regularly to allow proper performance and efficiency. Requirements include checking all flue pipes, ensuring there is no internal creosote build up. When build up occurs, the scrapers and flue brush in you clean out kit will allow you to remove the burnt materials from the flue pipes here also. Your Econo 200 Renewable Energy furnace tank should be flushed annually and Econo 200 Renewable Energy Chemical replaced after the tank is cleaned.

We recommend checking the pipes at least once a month and more often if the wood is of high sap content.

After the first full year of operation you ECONO 200 RENEWABLE ENERGY furnace should be drained and inspected for sediment deposits. Econo 200 Renewable Energy Chemical should always be used when refilling the tank after it has been drained. Flush with clean water to wash out all of the sediment deposits. The furnace should be drained and flushed with clean water and the Econo 200 Renewable Energy Chemical replaced every year or as needed. You will need to caulk around the base of the condensation tank and flue once a year with high temperature caulk.

### **Cleaning Out Flues**

Run six inch brush through vertical flue until clean.

### **IMPORTANT**

It is important to keep the flues free of a creosote build up to avoid a creosote flue fire. Should a creosote flue fire develop it is best to let the fire burn itself out. Even though the creosote fire is very undesirable because of excessive smoke it is much safer to let the flue fire burn itself out. Do not open doors or remove flue covers during a creosote fire because there is a danger of flames leaping out at the newly exposed opening causing severe burns. Remember, the best way to handle a creosote flue fire is prevention. Inspect your flues once a month and keep them clean.

### **ASH REMOVAL**

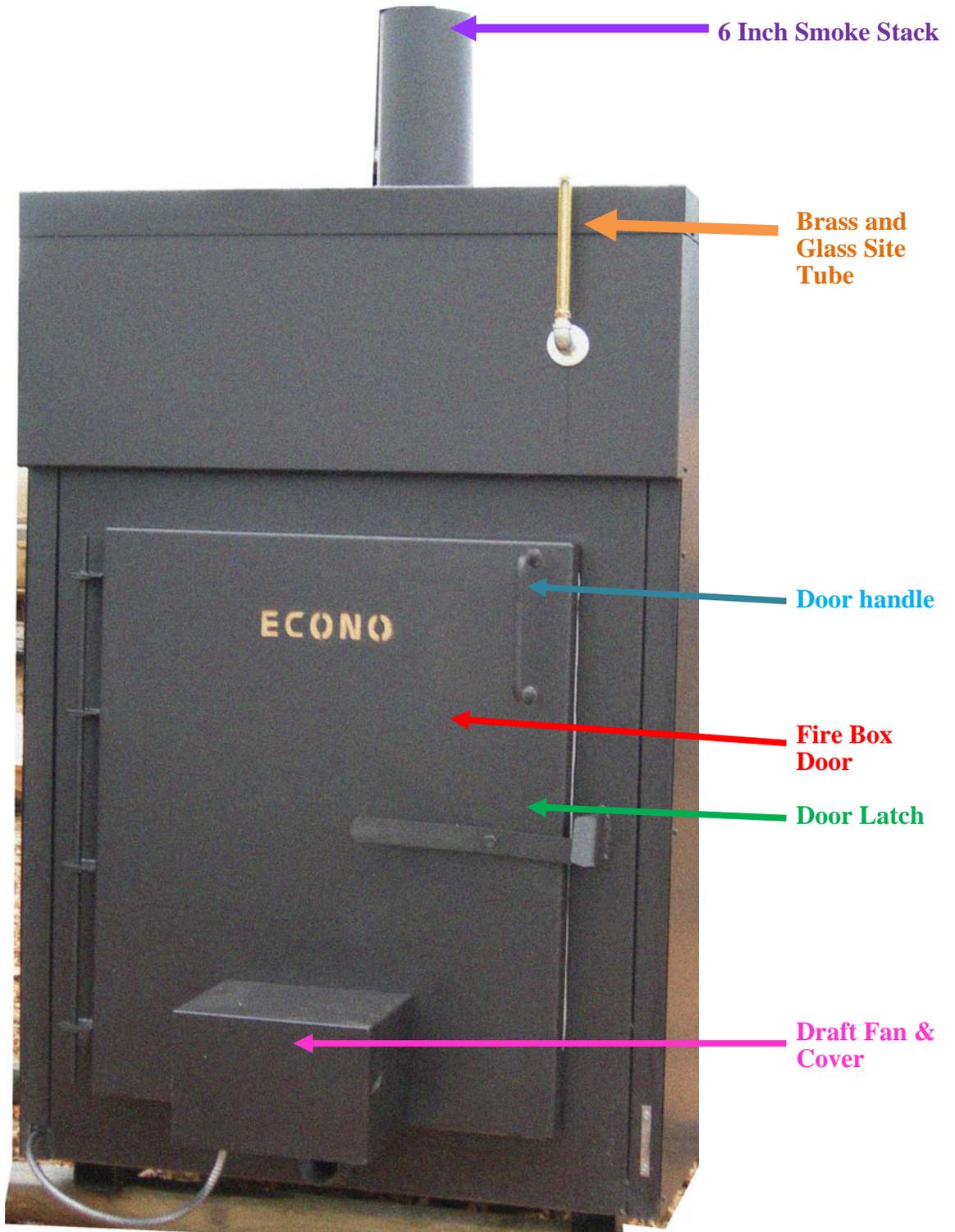
You do not have to take the fire out of the unit to remove the ashes. Here are two ways this can be accomplished.

1. The fire in you Econo 200 Outdoor Wood Furnace burns from front to back. If you like, you may periodically remove ashes from the front of the firebox before you put wood in it.
2. When you put wood in your unit and the fire burned down to just a bed of coals, you can take your flat-nosed shovel and rake the coals to one half of the firebox. Repeat this process for the other side of the firebox.

### **\*\*\*CAUTION\*\*\***

Dispose of the ashes away from other combustible material. For safety, the ashes can be disposed of in a steel container.

Parts on the front of your furnace.



## TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	HOW TO CHECK	PROBABLE SOLUTION
House Too Warm	Thermostat May Be Defective		Replace Thermostat
	Relay May Be Defective		Replace Relay
	Improper Wiring		Check All Wiring
	Pump Not Shutting Off Properly		Check The Wiring - In Particular Where It Connects To The Relay
Stove Will Not Heat Up Properly	No Wood In The Unit	Examine	Fill Stove With Wood
	Flues On Stove Pipe Clogged Or Obstructed	Examine	Clean Flues And/Or Stove Pipe
	Aquastat Not Working	Switch To Manual	Replace Aquastat
	Draft Fan Not Working	Check To See If It's Getting Current, If Yes, Fan Is Bad	Replace Fan
	Draft Damper For The Draft Fan Is Hung Shut	Move Flapper Rod By Hand	Clean And Lubricate With WD-40 OR Equivalent. Do Not Do This With A Fire In The Unit. WD-40 Is Flammable.
Not Enough Heat In The House	Aquastat Set Too Low	Draft Fan May Be Cutting Off At Around 140 Instead Of 180	Turn Aquastat Up
	Pump On But Not Circulating	Pipe Is Hot To The Pump And Cold Going Out Of The Pump; Or Pipe Is Hot Going To The Coil And Cold Leaving The Coil.	Bleeding Air Out Of The System
	Pump Will Not Come On Because Of: 1. Bad Thermostat 2. Bad Relay 3. Improper Wiring 4. Bad Pump	Call an electrician.	Solution To: 1. Replace Thermostat 2. Replace Relay 3. Check The Wiring 4. Replace Pump

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>HOW TO CHECK</b>	<b>PROBABLE SOLUTION</b>
Burn  Too  Much  Wood	Flues Clogged Up	Examine	Clean Flues
	Aquastat Is Operating On Too Large Of Differential	Look Inside The Aquastat Cover. The Adjustment Points Should Be As Close Together As Possible.	Squeeze Them Together
	The Return Duct On A Forced Air System Is Allowing Cold Air To Be Sucked In Through Holes And Improperly Sealed Joints.	A Close Inspection Of The system. This Is The Most Common Problem.	Seal The Ductwork
<b>No Domestic Hot Water</b>	Stove Is Not Hot	Look At Thermostat	See "Section 2"
	Aquastat Is Set Too Low	Draft Fan May Be Cutting Off Around 140° Instead of 180°	Turn Aquastat Up
	Stove Too Far Away		Put On A Re-circulating System
Stove  Too  Hot	Aquastat Set Too High	Draft Fan May Be Trying To Attain Temperature Exceeding 212°	Turn Down Aquastat
	Switch Is On Manual	Turn Aquastat Control Down Below Current Stove Temperature And Flip Switch	Turn Switch To Automatic
	Weather Is Too Hot		Tape Over Most Of The Air Inlet On The Fan and Use More Hot Water. As Long As The Stove Is Full Of Water You Can't Hurt It.



## WHO GETS THE WARRANTY?

The The Econo 200 Outdoor Wood Furnace limited warranty is extended to the original purchaser only. This limited warranty is only extended on furnaces purchased new from a certified The Econo 200 Outdoor Wood Furnace dealer or direct from factory. This warranty is not transferable.

Requirements for warranty:

1. Installation must be inspected and signed by a certified The Econo 200 Outdoor Wood Furnace dealer.
2. Customer must complete, sign, and return warranty to The Econo 200 Outdoor Wood Furnace, PO Box 50, Falcon, Mo 65470 within 30 day of purchase to be valid. Return registration along with the purchase agreement from the dealer.

## WARRANTY

**The Econo 200 Units have a 3 year limited warranty. The warranty does not cover accessories or components** on your The Econo 200 Outdoor Wood Furnace. Those components have their own manufacturer's warranty. Warranty does not cover the domestic hot water coil stopping up with lime. If you have hard water you will need a softener, have your water checked.

Front door and door gasket has 1 (one) year warranty.

If your The Econo 200 Outdoor Wood Furnace fails while in normal use and operated while maintaining strict factory standards of routine service, care, and cleaning due to a manufacturing defect in materials and or workmanship within warranty period from the date of delivery, The Econo 200 Outdoor Wood Furnace will repair the product. The repaired product will be warranted under the terms of this limited warranty for the remainder of the warranty period mentioned above. You should understand that company representatives may include replacement of the product part or components with functionally equivalent reconditioned products parts or components.

All warranty work is done at factory in Lebanon, Missouri, USA. It is the responsibility of customer to unhook, for freight to and from manufacturing facility and reinstalling of the unit. The Econo 200 Outdoor Wood Furnace is also not responsible for loss of use while repairs are being made. The Econo 200 Outdoor Wood Furnace is also not responsible for labor costs.

### **Your Responsibilities:**

Your The Econo 200 Outdoor Wood Furnace must have adequate water-treatment at all times. Every 6 (six) months The Econo 200 Outdoor Wood Furnace needs a sample of water to verify sufficient water-treatment is in unit at all times. You must buy The Econo 200 Outdoor Wood Furnace water treatment or Control 200 from your authorized dealer or directly from The Econo 200 Outdoor Wood Furnace. You must keep flues and firebox clean. Don't let ash, soot, and creosote build up in unit. Keep clean all the time.

You must clean furnace out annually flushing all water out of tank, replace with fresh The Econo 200 Outdoor Wood Furnace water-treatment or Control 200 water treatment. You must caulk around the base of the condensation tank and flue once a year with high temperature caulk.

Use of other products voids warranty. Do not use other chemicals. Do not mix chemicals.

Negligence, modifications, abuse, or unauthorized repairs are not covered under warranty. All The Econo 200 Outdoor Wood Furnace units must be maintained properly.

### **What is NOT covered:**

This warranty does not cover unhooking, reinstalling, freight to and from Econo Outdoor Wood Furnace nor loss of use while repairs are being made.

The Econo 200 Outdoor Wood Furnace is not responsible for loss due to water leakage or failure of any part of the system. Hot water burns are not a liability of The Econo 200 Outdoor Wood Furnace. The Econo 200 Outdoor Wood Furnace does not warranty parts of tank from freezing, overheating, pressurization or the use of unauthorized fuels. **DO NOT PRESSUREIZE** your The Econo 200 Outdoor Wood Furnace or it will explode. **DO NOT LET YOUR** The Econo 200 Outdoor Wood Furnace run out of water, that will damage unit; The Econo 200 Outdoor Wood Furnace is not responsible for falling into or on your The Econo 200 Outdoor Wood Furnace, back problems or any injuries associated with lifting wood and domestic disputes are not the responsibility of The Econo 200 Outdoor Wood Furnace and not covered by warranty. Nor is The Econo 200 Outdoor Wood Furnace responsible for fires from sparks or hot ashes. Hot ashes must be put in proper and safe places, in a metal can or put out and cooled off by water.

The Econo 200 Outdoor Wood Furnace specifically disavows any other representation, warranty, or liability related to the condition or use of this product.

These units are built to burn wood, hay, stubble or coal only. The burning of petroleum based products, tires, roofing materials, paints, solvents, naphtha, and other fuels is dangerous and in most instances illegal and could damage your unit your property, not to mention cause serious injury or death to yourself or others, and void your warranty. Do not burn aerosol cans, old cigarettes lighters, propane or map gas bottles, gun powder, black powder, ammunition, fireworks, light bulbs, batteries, or anything that can be explosive. Econo 200 renewable Energy Furnace is not labial for property damage, personal injury or death, fires, explosions, civil suits, domestic disputes, back or head injuries from fueling stoves or for any fines for illegal burning of domestic waste or other.

The unit's door could get hot enough to burn and should be approached with caution, but normally does not. The handle should be safe to touch, gloves are recommended when fueling. There is a shut off switch which should be shut off during fueling and be sure to turn it back on after the door is shut. Children should never fire this unit. The flue on the back of the stove also gets very hot when fired and will burn if touched and should be approached with caution. The Econo 200 Outdoor Wood Furnace is not labial for any person or persons getting burned while touching the flues or hot doors, or the fire box, or the fire in the fire box, or falling into the fire box.

Your The Econo 200 Outdoor Wood Furnace should be set at least 25 feet from any structure. It can also be as far as 400 feet. But up to 100 feet you will experience the least amount of heat loss. It should be placed in your yard where it is convenient for you and for fueling; in an area where wind is less likely to blow into your house or neighbors homes. The flue can be extended above the roof lines and a cap can also be used to prevent sparks in cases where dry wood and trash is frequently burned or in areas where a lot of dry grass and leaves exist. These areas should be cleaned to prevent brush fires.

# The Econo 200 Outdoor Wood Furnace Warranty Registration

To validate this warranty, your registration must be completed within 30 (thirty) days of purchase date and sent by certified mail. To:

The Econo 200 Outdoor Wood Furnace  
PO Box 50  
Falcon Missouri 65470

## Registration

Please Print

Purchaser's Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Model # \_\_\_\_\_ Serial # \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Dealer Name \_\_\_\_\_

Dealer Signature \_\_\_\_\_

Copy of Dealer Invoice attach

I have read and understand the terms of this warranty and will retain possession of and will abide by them and the accompanying maintenance guide.

Purchaser's Signature \_\_\_\_\_ Date \_\_\_\_\_

You will receive an acknowledgement from The Econo 200 Outdoor Wood Furnace regarding the receipt of your warranty and registration forms. Please retain the acknowledgement in your records.