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PLEASE KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE



PELLET STOVE

Alliance (EF3)

TECHNICAL MANUAL



PLEASE READ THIS ENTIRE MANUAL BEFORE INSTALLATION AND USE OF THIS PELLET BURNING ROOM HEATER. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN PROPERTY DAMAGE, BODILY INJURY OR EVEN DEATH.

Contact your building or fire officials about restrictions and installation inspection requirements in your area.

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INTRODUCTION

RATING LABEL LOCATION:

The rating label is located on the hopper lid.

IMPORTANT SAFETY DATA:

TO PREVENT THE POSSIBILITY OF A FIRE, THIS APPLIANCE MUST BE PROPERLY INSTALLED BY FOLLOWING THE INSTALLATION INSTRUCTIONS. PLEASE READ THIS ENTIRE OWNER'S MANUAL BEFORE INSTALLING OR OPERATING YOUR ENVIRO PELLET STOVE. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR EVEN DEATH. CONTACT YOUR LOCAL BUILDING OR FIRE OFFICIALS TO OBTAIN A PERMIT AND ANY INFORMATION ON ANY INSTALLATION RESTRICTIONS AND INSPECTION REQUIREMENTS FOR YOUR AREA. An ENVIRO dealer will be happy to assist you.

THE STOVE'S EXHAUST SYSTEM WORKS WITH NEGATIVE COMBUSTION CHAMBER PRESSURE AND A SLIGHTLY POSITIVE CHIMNEY PRESSURE.

IT IS VERY IMPORTANT TO ENSURE THAT THE EXHAUST SYSTEM BE SEALED AND IS AIRTIGHT.

SAFETY WARNINGS AND RECOMMENDATIONS:

Fuel: This pellet stove is designed and approved to only burn wood pellet fuel with up to 3% ash content. Dirty fuel will adversely affect the operation and performance of the unit and may void the warranty. Check with your dealer for fuel recommendations.

THE USE OF CORDWOOD IS PROHIBITED BY LAW.

Soot: Operation of the stove with insufficient combustion air will result in the formation of soot which will collect on the glass, the heat exchanger, the exhaust vent system and may stain the outside of the house. This is a dangerous situation and is inefficient. Frequently check your stove and adjust the slider/damper as needed to ensure proper combustion. **See: "Operation - Slider/Damper"**

Cleaning: There will be some build up of flyash and small amounts of creosote in the exhaust. This will vary due to the ash content of the fuel used and the operation of the stove. It is advisable to inspect and clean the exhaust vent annually or every two tons of pellets.

Ashes: Disposed ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be on a non-combustible floor 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 dispensed, they should be retained in the closed container until all cinders have been thoroughly cooled.

Electrical: THE USE OF A SURGE PROTECTED POWER BAR IS RECOMMENDED.

The maximum power requirement is 700 watts (3.1 amp). The stove has a grounded electrical cord and should be connected to a standard 220-240 volt, 50-Hz grounded electrical outlet. Make sure the electrical cord is not trapped under the appliance and that it is clear of any hot surfaces or sharp edges. When installing the stove in a mobile home, it must be electrically grounded to the steel chassis of the home and bolted to the floor in accordance with applicable local, state or federal codes.

INTRODUCTION

Glass: Do not abuse the glass by striking or slamming the door. Do not attempt to operate the stove with broken glass. The stove uses ceramic glass. Replacement glass must be purchased from an ENVIRO dealer. Do not attempt to open the door and clean the glass while the unit is in operation or if glass is hot.

Flammable Liquids: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or “freshen up” a fire in the heater. Keep all such liquids well away from the heater while it is in use.

Smoke Detector: Smoke detectors should be installed and maintained in the structure when installing and operating a pellet burning appliance.

Operation: The ash pan and door must be closed securely for proper and safe operation of the pellet stove. Also ensure all gaskets on the door are checked and replaced when necessary.

KEEP ASH PAN FREE OF RAW FUEL.

DO NOT PLACE UNBURNED OR NEW PELLET FUEL IN ASH PAN. A fire in the ash pan may occur.

Installation: Be sure to maintain the structural integrity of your home when passing a vent through walls, ceilings, or roofs. Check with local building codes.

DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS UNIT.

DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

Fresh air: Must be connected to all units installed in Mobile Homes as well as “Air Tight Homes” (R2000). Fresh air intake is recommended on all installations. Under certain conditions, failure to install intake air may result in poor performance, smoke, property damage, house fire, bodily injury or death.

If you have any questions with regards to your stove or the above-mentioned information, please feel free to contact your local dealer for further clarification and comments.

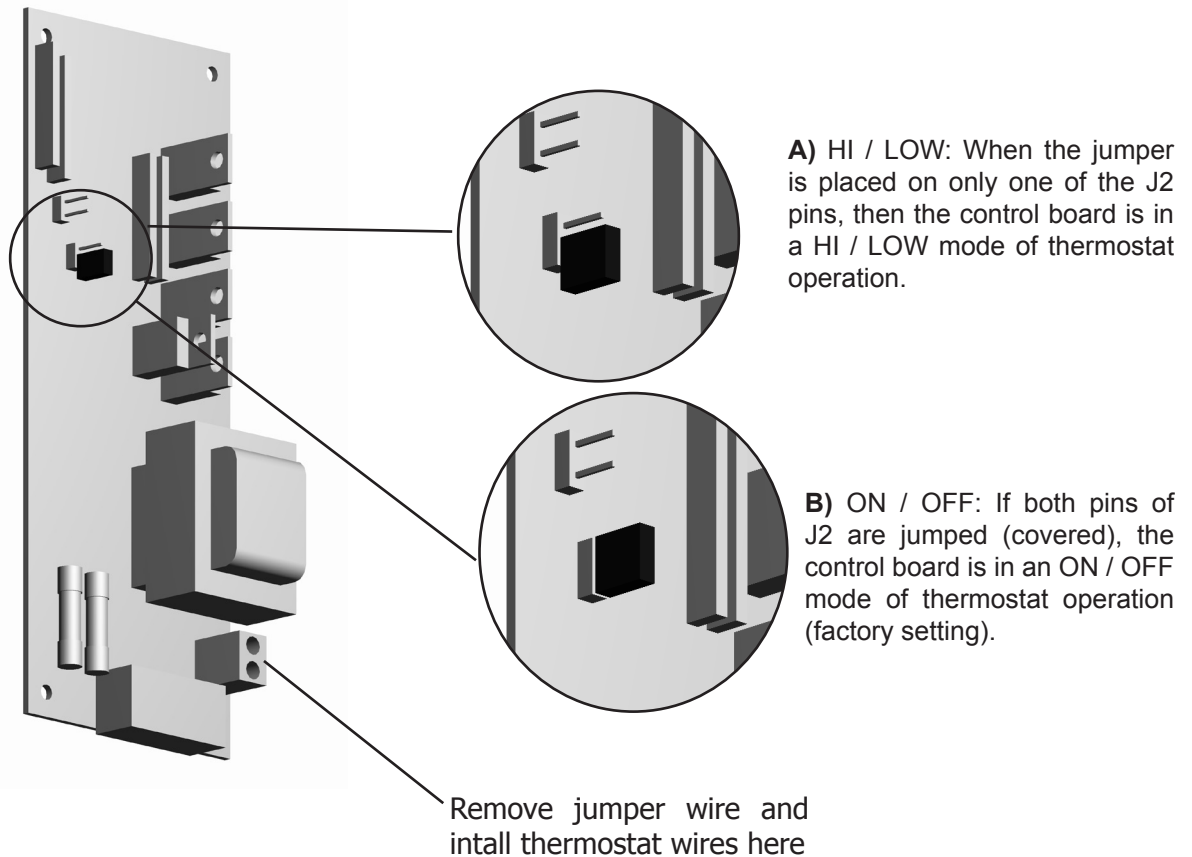
SINCE SHERWOOD INDUSTRIES LTD. HAS NO CONTROL OVER THE INSTALLATION OF YOUR STOVE, SHERWOOD INDUSTRIES LTD. GRANTS NO WARRANTY IMPLIED OR STATED FOR THE INSTALLATION OR MAINTENANCE OF YOUR STOVE. THEREFORE, SHERWOOD INDUSTRIES LTD. ASSUMES NO RESPONSIBILITY FOR ANY CONSEQUENTIAL DAMAGE(S).

SAVE THIS INSTRUCTION MANUAL FOR FUTURE REFERENCE

OPERATING INSTRUCTIONS

THERMOSTAT INSTALLED (CIRCUIT BOARD MODEL ONLY):

This control board can be placed into two different modes: When the jumper J2 is not jumped then the control board is in a HI / LOW mode operation. If the control board is placed with J2 jumped (factory setting) then the control board is in a ON / OFF mode of operation.



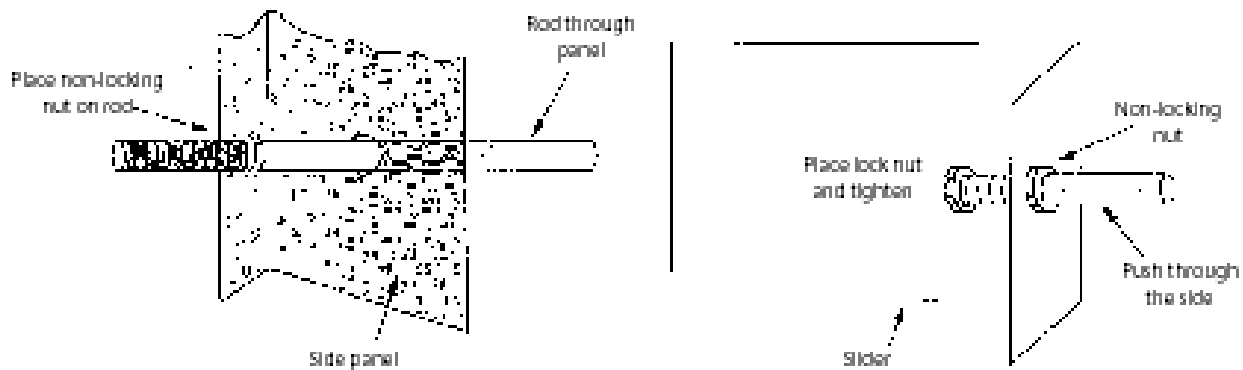
1. Install the thermostat in a location that is not too close to the unit but will effectively heat the desired area.
2. Install a millivolt rated thermostat, or a 12/24 Volt rated thermostat (set to millivolts) using an 18 x 2 gauge wire from the unit to the thermostat.
3. If the unit has been placed in the HI / LOW mode, the unit will be taken to a low or idle setting when the thermostat is not calling for heat. When the thermostat calls for heat, the unit will go to the setting that is displayed on the control board Heat Indicator.
4. If the unit has been placed in the ON /OFF thermostat mode, the unit will shut OFF when the thermostat is not calling for heat. When the thermostat calls for heat the unit will go through an ignition

OPERATING INSTRUCTIONS

OPTIONAL SLIDER/DAMPER INSTALLATION:

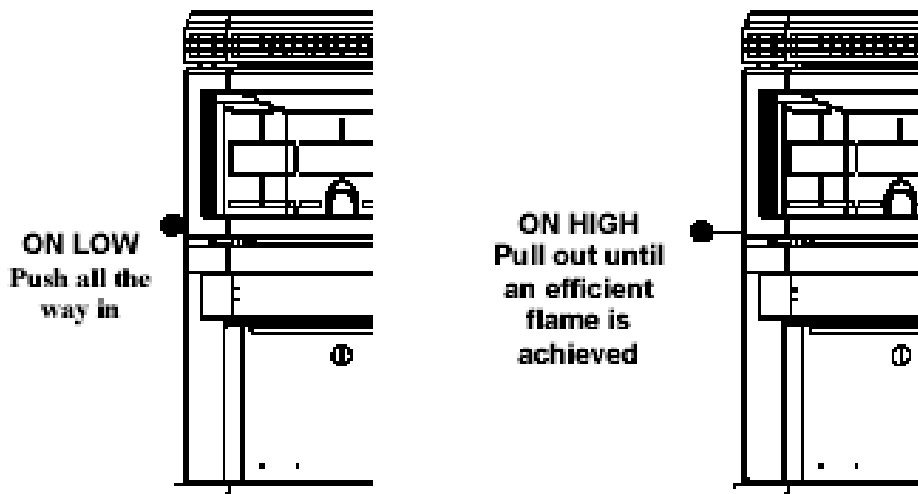
This is used to regulate the airflow through the pellet stove.

1. Remove the slider rod (short rod with knob and nuts) and the two nuts from their package and open the left side panel.
2. Remove the knob and outer nut from the knob. Push the rod through the hole in the slider. Place the lock nut on the rod and tighten, leaving a 1/32" gap between the slider and one of the nuts.
3. Make sure the slider moves freely. Close the side panel and tighten screws after placing the rod through the panel. Screw the knob onto the slider.



SLIDER/DAMPER OPERATION:

- On the low heat output settings, push the slider all the way in.
- On the high heat output pull the slider out or until a good fire is achieved. A good fire is in between a fire with lazy flames black tipped flames and a forced fire (very quick, shorter flames). A good fire is the most efficient and will have a bright and active flame.
- Hot magnetic reading 0.10 – 0.



THE TUBE SCRAPER ROD:

Put the stainless steel rod through the hole in the heat exchanger, thread the rod into the scraper plate.

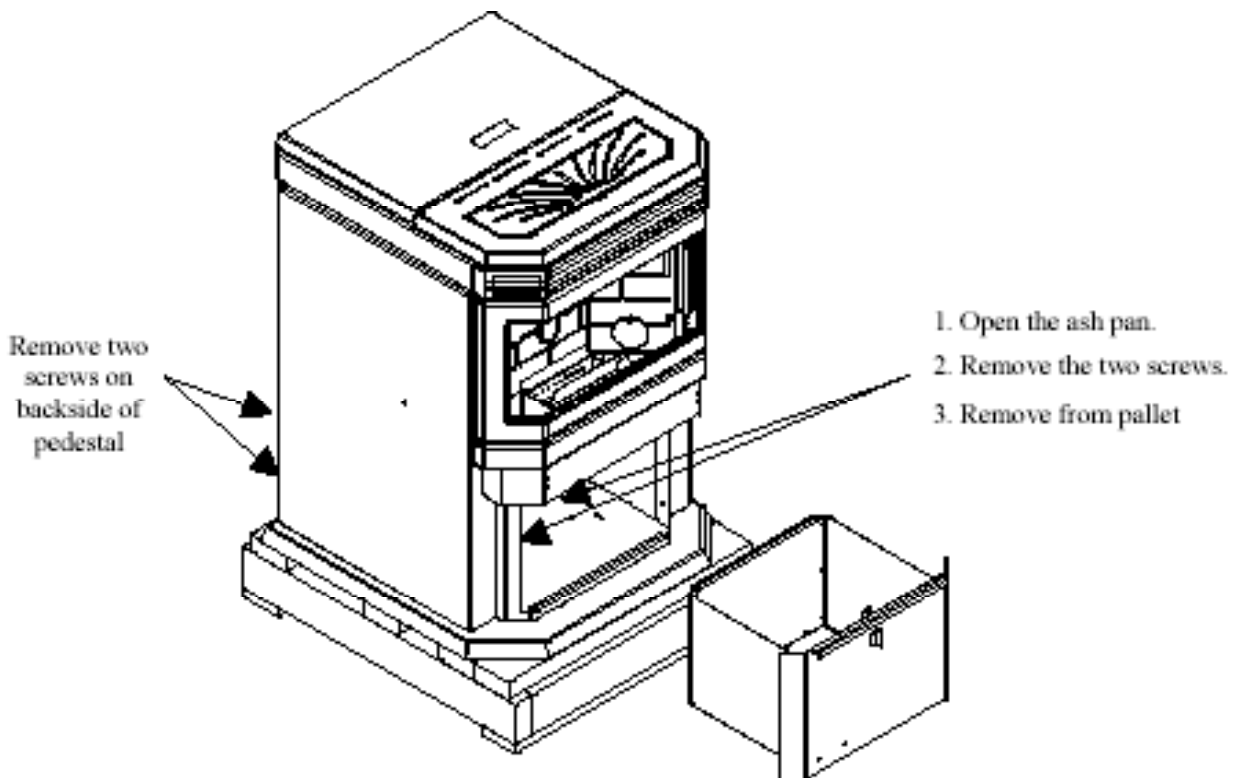
OPERATING INSTRUCTIONS

DECIDING WHERE TO LOCATE YOUR PELLET APPLIANCE:

1. Check clearances to combustibles.
2. Do not obtain combustion air from an attic, garage or any unventilated space. Combustion air may be obtained from a ventilated crawlspace.
3. Do not install the stove in a bedroom.
4. You can vent the stove through an exterior wall behind the unit or connect it to an existing masonry or metal chimney (must be lined if the chimney is over 6" in diameter, or over 28 sq. inches cross sectional area). An interior vent can be used with approved pipe passing through the ceiling and roof.
5. Locate the stove in a large and open room that is centrally located in the house. This will optimize heat circulation.
6. The power cord is 8 feet (2.43 m) long and may require a grounded extension cord to reach the nearest electrical outlet.

REMOVING YOUR NEW STOVE FROM THE PALLET:

To remove your new stove from its pallet, open the ash pan and remove the two (2) screws from inside this area as shown. Also remove the two (2) screws on the back of the pedestal. Remove the unit from the pallet and replace the ash pan.

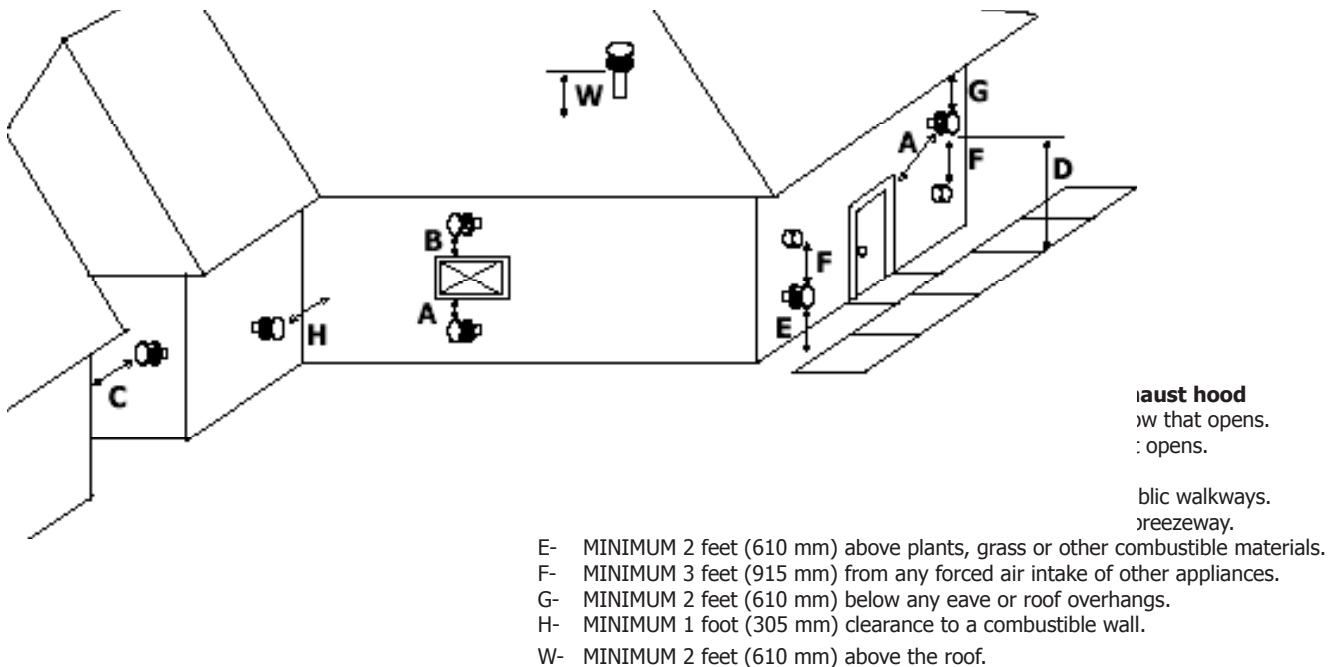


INSTALLATION

VENT TERMINATION REQUIREMENTS:

1. Do not terminate the vent in any enclosed or semi-enclosed areas such as a carport, garage, attic, crawlspace, narrow walkway, closely fenced area, under a sundeck or porch, or any location that can build up a concentration of fumes such as stairwells, covered breezeway, etc.
2. Vent surfaces can become hot enough to cause burns if touched by children. Non-combustible shielding or guards may be required.
3. Termination must exhaust above the inlet elevation. It is recommended that at least five feet of vertical pipe be installed outside when the appliance is vented directly through a wall, to create some natural draft to prevent the possibility of smoke or odor during appliance shut down or power failure. This will keep exhaust from causing a nuisance or hazard from exposing people or shrubs to high temperatures. In any case, the safest and preferred venting method is to extend the vent through the roof vertically.
4. Vent terminal cannot be:
 - less than 4 feet (1.2 m) below
 - less than 4 feet (1.2 m) horizontally from, and
 - less than 1 foot (305 mm) above doors, window openings, or gravity/ventilation air inlet into building
5. Distance from bottom termination and grade –12" (305 mm) minimum. This is conditional upon the plants and nature of grade surface. The exhaust gases are hot enough to ignite grass, plants and shrubs located in the vicinity of termination. The grade surface must not be lawn. Distance from bottom of termination and public walkways is 7 feet (2.1 m) minimum.
6. Distance to combustible materials is 2 feet (610 mm). This includes adjacent buildings, fences, protruding parts of the structure, roof overhang, plants, shrubs, etc.
7. If the unit is incorrectly vented or the air to fuel mixture is out of balance, a slight discoloration of the exterior of the house might occur. Since these factors are beyond the control of Sherwood Industries Ltd, we grant no guarantee against such incidents.

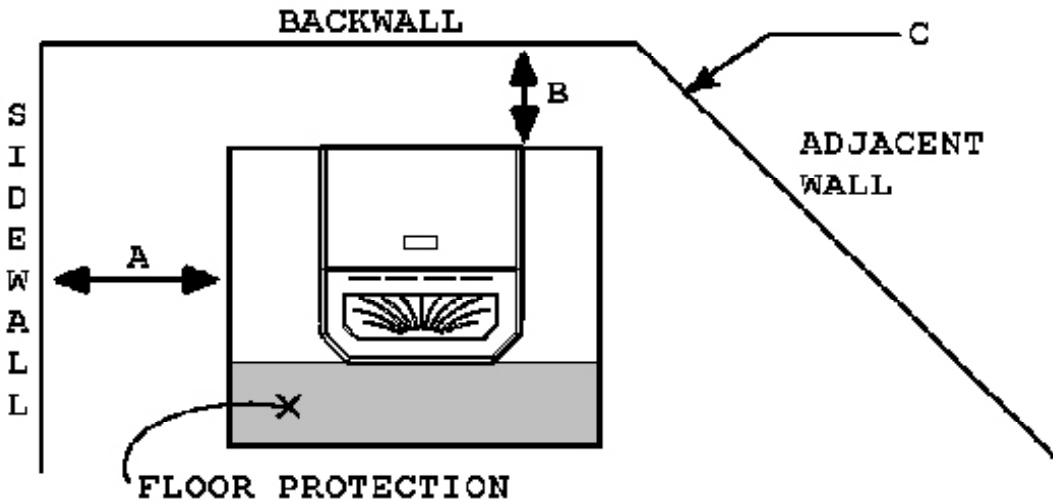
IT IS RECOMMENDED THAT YOUR PELLET STOVE BE INSTALLED BY AN AUTHORIZED DEALER/INSTALLER.



INSTALLATION

CLEARANCES TO COMBUSTIBLES:

This unit can be installed on a combustible floor due to the built in pedestal hearth pad (for example linoleum, hardwood flooring). If combustible flooring is underneath the unit 6 inches (153 mm) on either side and to the front must be protected by non-combustible material. If this unit is to be installed onto a carpeted surface, a hearth pad must be used for stability.



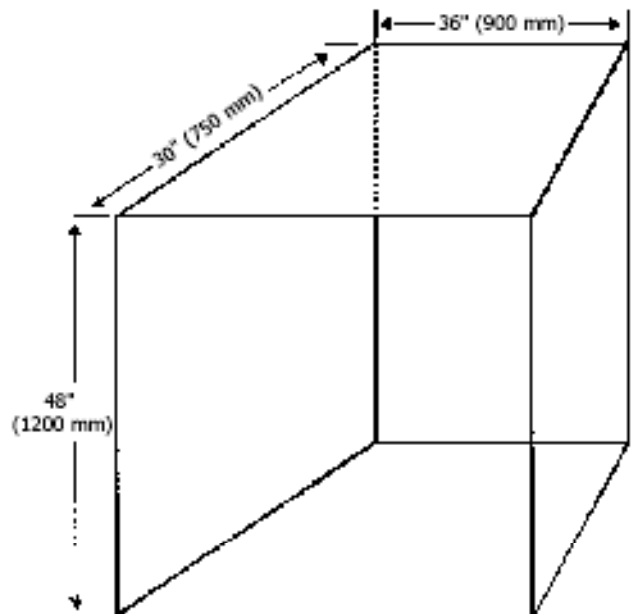
Maintain these clearances to combustibles.

A) SIDE WALL TO UNIT	6 INCHES (153 mm)
B) BACK WALL TO UNIT	1 INCHES (25 mm)
C) ADJACENT WALL TO CORNER OF UNIT	1 INCHES (25 mm)
- MANTLE (HEARTH MOUNT)	8 INCHES (203 mm)

ALCOVE CLEARANCES:

This unit may be installed in an alcove. Maintain clearances to combustibles.

MIN. ALCOVE WIDTH	36 INCHES (914 mm)
MIN. ALCOVE HEIGHT	48 INCHES (1220 mm)
MIN. ALCOVE DEPTH	30 INCHES (762 mm)



Install vent at clearances specified by the vent manufacturer.

INSTALLATION

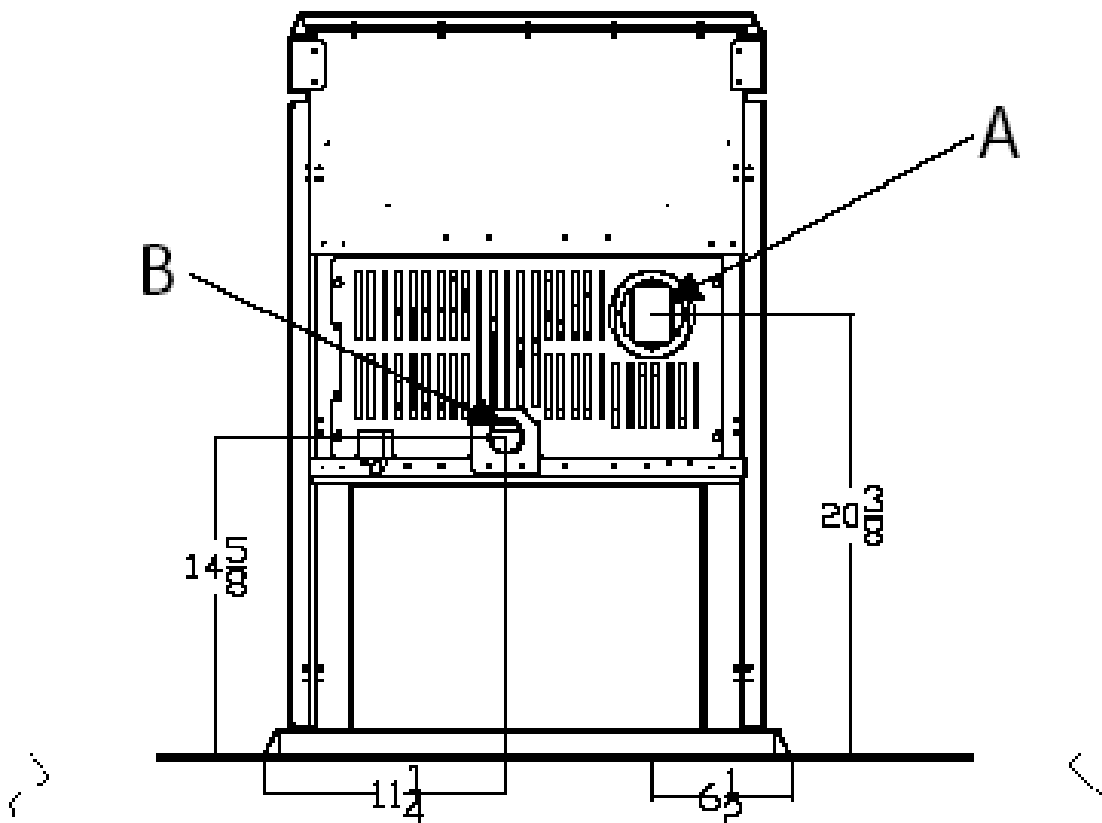
EXHAUST AND FRESH AIR INTAKE DIMENSIONS:

(A) EXHAUST.

Base to center of flue 20 $\frac{3}{8}$ inches (51.75 cm)
Side to center of flue 6 $\frac{1}{2}$ inches (16.51 cm)

(B) FRESH AIR INTAKE.

Base to center of intake 14 $\frac{5}{8}$ inches (37.15 cm)
Side to center of intake 11 $\frac{1}{4}$ inches (28.56 cm)



INSTALLATION

HORIZONTAL THROUGH WALL INSTALLATION:

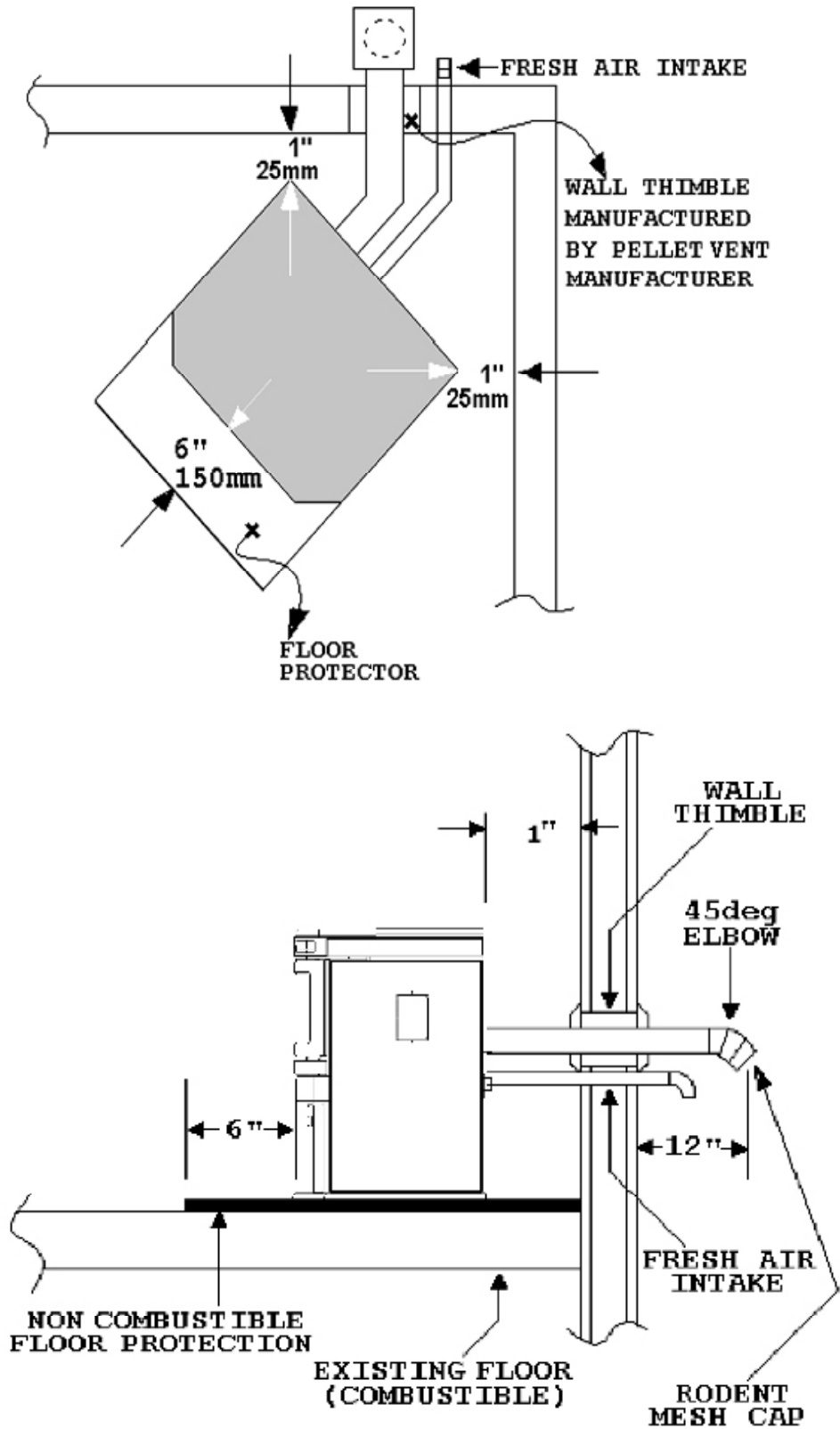
The **ENVIRO Alliance (EF3)** can be vented by a couple of different methods.

1. **NOTE:** Use only listed type "PL" or "L" pellet venting products. Failure to use listed components may cause damage or personal injury or death.
2. Choose a location for your stove that meets the requirements stated in this manual and allows installation with the least amount of interference to house framing, plumbing, wiring, etc.
3. **Install a non-combustible hearth pad underneath the unit extending 6 inches (15 cm) in front of and to the sides.**
4. Place the stove 15" (38.1 cm) away from the wall. If the stove is to be set on a hearth pad, set the unit on it.
5. Locate the center of the exhaust pipe on the stove. Extend that line to the wall. Once you have located the center point on the wall, use a hole saw to cut a 10" (25.4 cm) diameter hole for a 3" (7.6 cm) vent pipe or an 11" (27.9 cm) hole for a 4" (10.1 cm) vent pipe.
6. Install the wall thimble as per the instructions written on the thimble. Maintain an effective vapor barrier
7. Install a 2' or 3' (61 or 92 cm) length of 3" (7.6 cm) or 4" (10.2 cm) listed type "PL" or "L" vent pipe into the wall thimble. The pipe should install easily into the thimble.
8. Install the fresh air intake (see the section entitled FRESH AIR CONNECTIONS).
9. Connect the exhaust vent pipe to the exhaust pipe on the stove.
10. All Joints in the vent system shall be fastened with (3) three screws. Seal the connection with high temperature silicone
11. Push the stove straight back, leaving a minimum of 1" (2.5 cm) clearance from the back of the stove to the wall. Seal the vent pipe to the thimble with high temperature silicone.
12. The pipe must extend at least 12' (30.5 cm) away from the building. If necessary, bring another length of pipe (PL type) to the outside of the home to connect to the first section. Do not forget to place high temperature silicone around the pipe that passes through the thimble.
13. Install a vertical pipe, or if all requirements for direct venting are met, install vent termination. The stainless steel cap termination manufactured by the vent manufacturer is recommended. However, when the vent terminates several feet above ground level and there are no trees, plants, etc. within several feet, a 45 degree elbow can be used as termination. The elbow must be turned down to prevent rain from entering.

NOTE: Some horizontal, through the wall installations may require a "T" and 4-5 feet (1.2-1.5 m) of vertical pipe outside the building to help draft the stove. This may be required if a proper burn cannot be maintained, after the stove has been tested and the airflow set. This is due to back-pressure in the exhaust, caused by the air flow around the house

INSTALLATION

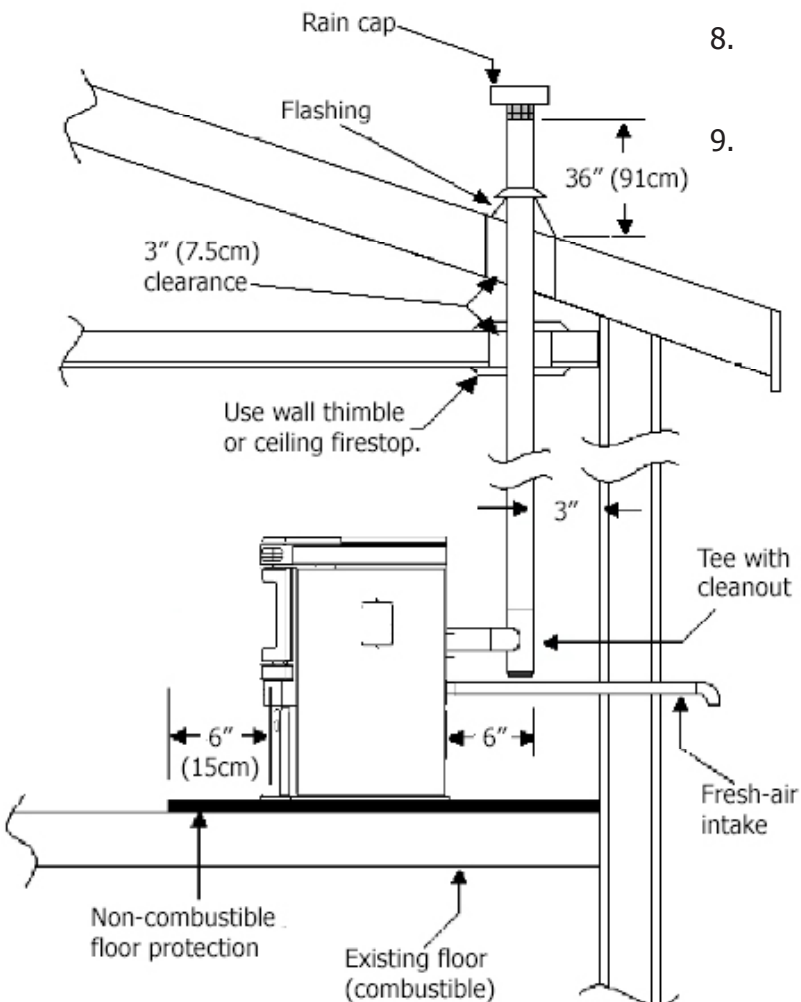
THROUGH WALL INSTALLATION:



INSTALLATION

FREESTANDING INSIDE VERTICAL INSTALLATION:

1. Choose a stove location that is ideal. See the section Deciding Where to Locate Your Pellet Appliance.
2. Place a non-combustible hearth pad where necessary.
3. Place the unit on the hearth pad and space it in a manner so when the pellet vent is installed vertically, it will be 3" (76 mm) away from a combustible wall.
4. Locate the center of the fresh air intake pipe on the unit. Match that center with the same point on the wall and cut a hole about 1 5/8" (41 mm) in diameter.
5. Install the fresh air intake pipe.
6. Install the tee with clean out.
7. Install the pellet vent upward from there. When you reach the ceiling make sure that the vent goes through the ceiling firestop. Maintain a 3" (76 mm) distance to combustibles and keep attic insulation away from the pipe.



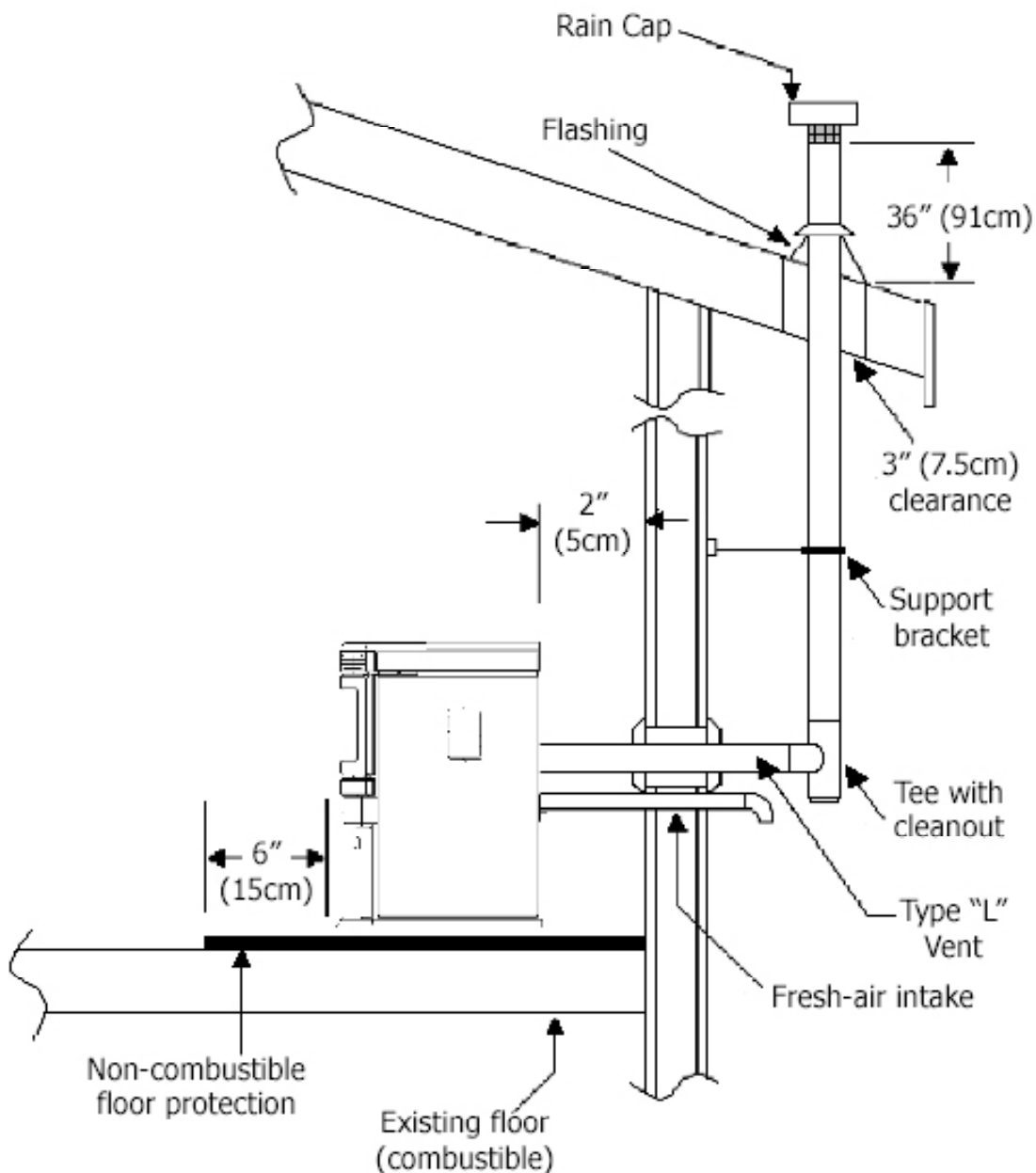
8. Finally, extend the pellet vent to go through the roof flashing.
9. Ensure that the rain cap is approximately 36" (914 mm) above the roof.

INSTALLATION

FREESTANDING OUTSIDE VERTICAL INSTALLATION:

To accomplish a freestanding outside vertical installation, follow steps 1 through 9 in the Freestanding Inside Vertical Installation section and then finish it by performing the following.

10. Install a tee with clean out on the outside of the house.
11. Install PL vent upward from the tee. Make sure that you install support brackets to keep the vent straight and secure.
12. Secure the flashing as you go through the roof.
13. Ensure that the rain cap is approximately 36" (914 mm) above the roof.



INSTALLATION

MOBILE HOME INSTALLATION:

- Secure the heater to the floor using the two bolt holes supplied in the pedestal.

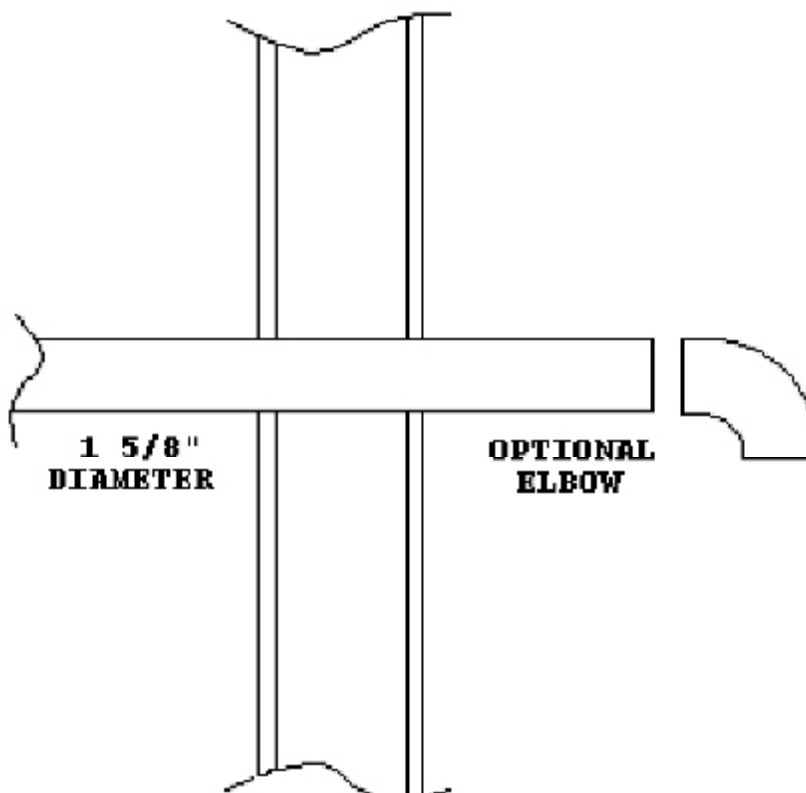
CAUTION: THE STRUCTURAL INTEGRITY OF THE MANUFACTURED HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED.

- Ensure the unit is electrically grounded to the chassis of your home (permanently).
- Do not install in a room where people sleep.
- Outside fresh air is mandatory when installing into airtight homes or manufactured homes.

FRESH-AIR CONNECTIONS:

A Fresh-air intake is strongly recommended. Failure to install Intake air may result in improper combustion as well as the unit smoking during power failures.

NOTE: Fresh air is mandatory on all units installed in "Mobile Homes" as well as in "Air Tight" homes.



When connecting to an outside fresh-air source, do not use plastic, combustible pipe. Only 1 5/8" diameter steel, aluminum or copper pipe should be used. It is recommended, when you are installing a fresh-air system, to keep the number of bends in the pipe to a minimum.

TROUBLESHOOTING

This troubleshooting is for both Timer Control and Circuit Board style Alliance. It will be stated if the troubleshooting relates only to one model.

DO NOT:

Hold the ON / OFF BUTTON down for circuit board model or hold the start-up switch down for timer control. This is a momentary contact switch and can be damaged if held down too long.

Service the stove with wet hands. The stove is an electrical appliance, which may pose a shock hazard if handled improperly. Only qualified technicians should deal with possible internal electrical failures.

Do not remove any screws in the firebox without first lubricating them with penetrating oil.

WHAT TO DO IF:

1. The stove will not start.
2. The stove will not operate when hot.
3. The exhaust blower will not function normally.
4. The convection blower will not function normally.
5. Ignitor : The pellets will not light.
6. The auger motor does not function normally.
7. Control settings (heat level) have no effect on fire (Circuit Board).
8. The Dial-A-Fire has no effect on the fire (Timer Control).
8. The stove will not shut off.
9. The stove keeps going out.

***NOTE: All troubleshooting procedures should be carried out by qualified technicians or installers.**

1. The stove will not start.

General

- ★ Make sure the stove is plugged in and the wall outlet is supplying power.

Timer Control

- ♦ Push the Start-up switch. If the stove fails to start, unplug the unit and open the hinged side panels (held tight with two screws).
- ♦ With the stove unplugged, examine all connections. Make sure they are firmly connected and that there are no exposed wires touching the stove (except the chassis ground wire).
- ♦ Check the continuity and placement of connections against the diagram in the back of this manual.
- ♦ Ensure that the connections to the (15) minute start-up timer are correct.
- ♦ Attempt to bypass the switch by inserting a jumper wire between the red and white wires that attach to the switch. Plug the stove back in. If the stove starts, replace the switch.
- ♦ If this fails, replace the (15) minute start-up timer.

Circuit Board

- ✓ Push the ON /OFF button.
- ✓ If the Control Board has been placed in the ON /OFF thermostat mode, then turn the thermostat up to call for heat.

TROUBLESHOOTING

- ✓ If the unit still does not start, contact your local service dealer for service.

2. The stove will not operate when hot.

General

- ★ Check the hopper for fuel.
- ★ Incorrect air damper setting - Excessive air may consume the fire too quickly before the next drop of fuel, leaving completely unburned fuel in the burn pot liner. Insufficient air will cause build up, further restricting the air flow through the Burn Pot Liner. This in turn will cause the fuel to burn cold and very slowly. Fuel may build up and smother the fire. **(NOTE: Unit may require a change to the vent system or installation of fresh air to correct Air to Fuel ratio problems).**
- ★ Combustion Blower failure - The Combustion Blower is not turning fast enough to generate the proper vacuum in the fire box. Visual Check – is the blower motor turning?
- ★ Check Vacuum levels in the exhaust channel by bypassing the Vacuum Switch, then remove the Vacuum hose from Vacuum Switch. Check exhaust vacuum readings by placing the open end of the Vacuum Hose on a Magnahelic Gauge (readings must be above .10" W.C. on low fire).
Note: If the motor fails to reach a 0.10" w.c. reading, then replace the Combustion Blower.
- ★ Poor Quality Fuel – Insufficient energy in the fuel to produce enough heat to keep the stove burning or operational.
- ★ Exhaust Temperature Sensor failure – Bypass sensor located on Exhaust Blower. If stove now operates properly, the unit may require cleaning or a new sensor. Contact your local dealer for service.
- ★ The unit may require cleaning. Contact your local dealer for service.

Timer Control

- ◆ Unplug the stove, open the left side panel. Jump the two brown leads that are attached to the 140°F (60°C) temperature sensor. If the stove operates replace the 140°F (60°C) sensor.

Circuit Board

- ✓ The third red LED light in the heat level indicator light will flash if a fire is not detected, or if the fire has gone out.

3. The exhaust motor will not function normally.

General

- ★ Open the left side access panel; check all connections against the wiring diagram.
- ★ Contact your local dealer for service.

Timer Control

- ◆ If all the connections are verified and the exhaust blower does not function at all, tap lightly on the exhaust blower's motor end cap, this may loosen a tight motor.
- ◆ Apply 220 V directly to the exhaust blower. If the motor does not run, replace the blower. If the motor runs, have your dealer check the harness.

4. The convection blower will not function normally.

Timer Control

- ◆ Check all the connections between the controller, switch, and the convection blower against the wiring diagram.

TROUBLESHOOTING

- ♦ If the convection motor will not run, apply 220 V to the motor directly. If the motor runs, replace the fan controller. If the motor does not run, the convection blower has failed. Replace the blower.
 - ♦ If the convection blower runs on high at all times (no control with the fan controller), check the connections from the 160°F (71°C) sensor (located on the upper left side of the firewall) and convection fan controller to the blower. Disconnect one of the wires from the sensor; if control of the convection blower returns to the fan controller, replace the sensor.
- If the motor is still on high, re-connect the sensor and replace the convection fan controller.

Circuit Board

- ✓ Clean all grill openings at the back and below unit.
- ✓ Press the fan button. Does the fan come on? Press again to verify that the blower turns on; if not, contact your local dealer for service.

5. Ignitor- the pellets will not light.

Everything else in the stove operates but the ignitor will not light the pellets

Timer Control

- ♦ Check all the electrical connections on the 120°F (49°C) temperature sensor located on the exhaust channel.
- ♦ Check the connections at the ignitor socket.
- ♦ Place a jumper wire between the two leads on the 120°F (49°C) temperature sensor. If the ignitor works, replace the sensor.
- ♦ If the ignitor does not work, replace it.

Circuit Board

- ✓ Make sure the burn pot liner is up tight and square to the ignitor tube (by pushing the burn pot back against the ignitor tube).
- ✓ Check to see if the exhaust blower is operating. If not, contact your local dealer for service.

NOTE: The ignitor should be bright orange in color. If not, replace the ignitor.

6. The auger motor will not function normally.

General

- ★ Check for obstructions in the hopper system.
- ★ Call your local dealer for service.

Timer Control

- ♦ Make sure the exhaust blower is operating.
- ♦ Make sure the dial-a-fire is turned on.
- ♦ Unplug the stove and open the side and back panels.
- ♦ Check all the connections to the auger motor, auger dial-a-fire, vacuum sensor, 200°F (93°C) temperature sensor and the timing control module against the wiring diagram in this manual.
- ♦ Check the condition of the vacuum hose (located on the left side of the stove). It should not be cracked or torn and should be installed on the top air inlet tube on the vacuum sensor.
- ♦ Check the manual reset button on the 200°F (93°C) temperature sensor. If this sensor has been tripped, check for the cause of the over-heating before pushing the red button in. Check auger for movement.

TROUBLESHOOTING

- ◆ If the auger still does not work, then apply 220 V directly to the auger motor. If the auger motor does not work, replace it.
- ◆ By-pass the 200°F (93°C) temperature sensor with a jumper wire; check the auger. If the auger works, replace the sensor.
- ◆ Check the voltage across the load pins of the timing module. It should be around 1-2 V, cycling to line voltage during an auger pulse. If not, replace the timing control module.
- ◆ Check the vacuum sensor by placing a jumper wire between the blue wire and the black wire that are attached to the sensor. If the auger works, test to see if the exhaust blower is producing enough vacuum.
- ◆ To test the exhaust vacuum, place a magnehelic gauge in the sensor end of the vacuum tube. It should read 0.5wc". If the reading is good, replace the vacuum sensor.
- ◆ If the auger motor still does not work, then attempt to by-pass the auger dial-a-fire control by removing the leads from the timing control module's second delay pins and placing a jumper across the pins. If the auger now cycles very quickly, test the dial-a-fire potentiometer. If the auger did not cycle, replace the timing control module.
- ◆ To test the dial-a-fire potentiometer, the potentiometer should have a range of 68K to approximately 850 K ($\pm 10\%$). If the range is not close, replace the potentiometer.

7. Control settings (Heat Level) have no effect on the fire (Circuit Board).

NOTE:

- ✓ If the system light is flashing, the Control Board has complete control of the unit. When the unit's system light becomes solid, then control of the unit is given back to the operator.
- ✓ If there is no control of the Heat Level button, make sure the thermostat is calling for heat.
- ✓ Call your local dealer for service.

8. The dial-a-fire has no effect on the fire (Timer Control).

- ◆ Make sure all connections to the timer control module are secure.
- ◆ Perform a resistance test to the dial-a-fire potentiometer by placing the two test leads from a multimeter into the leads of the potentiometer. The potentiometer should have a range of 68K to approximately 850 K ($\pm 10\%$).

Potentiometer Readings:

Full counter-clockwise (switched off)	= open circuit, overload or infinite resistance
Low fire	800 K to 900 K
High fire	68 K to 82 K

9. The stove will not shut off.

Timer Control

- ◆ Check the connections to the 140°F (60°C) temperature sensor, start-up switch and the start-up timer against the wiring diagram.
- ◆ Check the 140°F (60°C) temperature sensor by removing one of the brown wires from the sensor. The unit should shut down right away as long as the start button was not pressed within 15 minutes of this test. If the stove shuts down within 15 minutes, replace the 140°F (60°C) sensor. If the stove does not shut down within 15 minutes, test the switch.
- ◆ To test the switch, the stove must be cold. Pull the plug, then plug the stove back in. If it fails to start, replace the switch.

TROUBLESHOOTING

Circuit Board

- ✓ If the unit will not shut off, ensure that the thermostat (if equipped) is turned down below the room temperature (thermostat mode in the ON / OFF position).
- ✓ If the unit is in the HI/LOW mode the unit will not shut off but will go to an idle setting (LOW). Press the ON/OFF button to turn the unit off.
- ✓ Disconnect one of the brown wires from the exhaust temperature sensor. If the unit continues to operate, contact your local dealer for service.

10.The stove keeps going out

If the stove goes out and leaves fresh unburned pellets or cigarette-like ashes in the burn pot liner, the fire is going out before the stove shuts off.

General

- ★ Check to see that the Slider / Damper is in the correct position.

Timer Control

- ◆ Turn the Dial-a-Fire up slightly (poor quality pellets will require slightly higher settings).

Circuit Board

- ✓ Turn the Heat Level up slightly (poor quality pellets will require slightly higher settings).
- ✓ Set the auger trim till the #1 and #5 lights are illuminated.

If the stove goes out and there are partially burned pellets left in the burn pot liner, the stove has shut down due to a lack of air, exhaust temperature, or power failure.

General

- ★ Adjust the Slider / Damper.
- ★ Check to see if the stove needs a more complete cleaning.
- ★ Did the power go out?
- ★ Contact your local Dealer for service.

Timer Control

- ◆ Turn the Dial-a-Fire up slightly (poor quality pellets will require slightly higher settings).

Circuit Board

- ✓ Turn the Heat Level up slightly (poor quality pellets will require slightly higher settings).

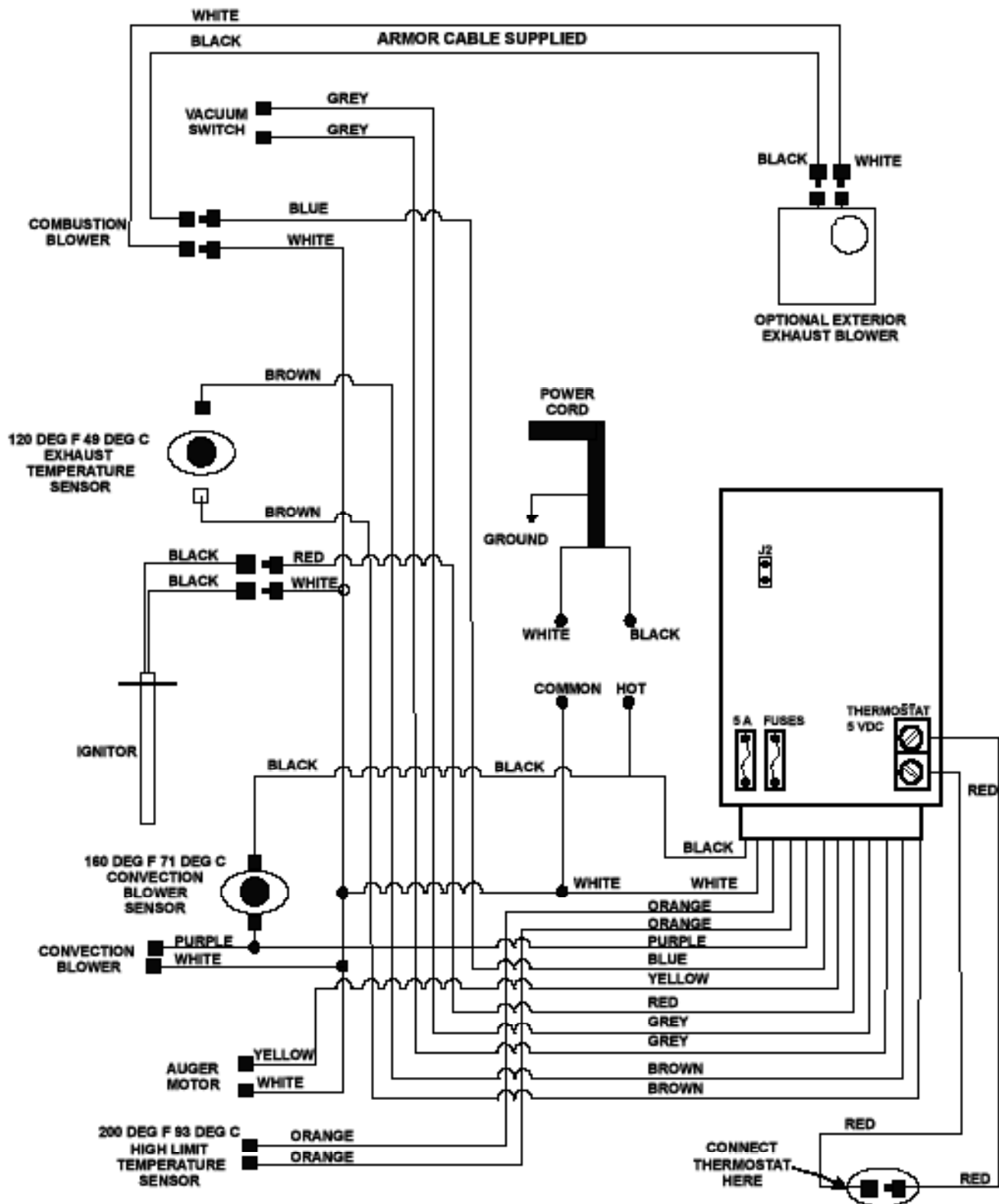
If the stove goes out and there are no pellets in the liner, the auger is stopping.

General

- ★ See “The auger motor will not function normally” and “The exhaust blower will not function normally.”

WIRING DIAGRAM

CIRCUIT BOARD:

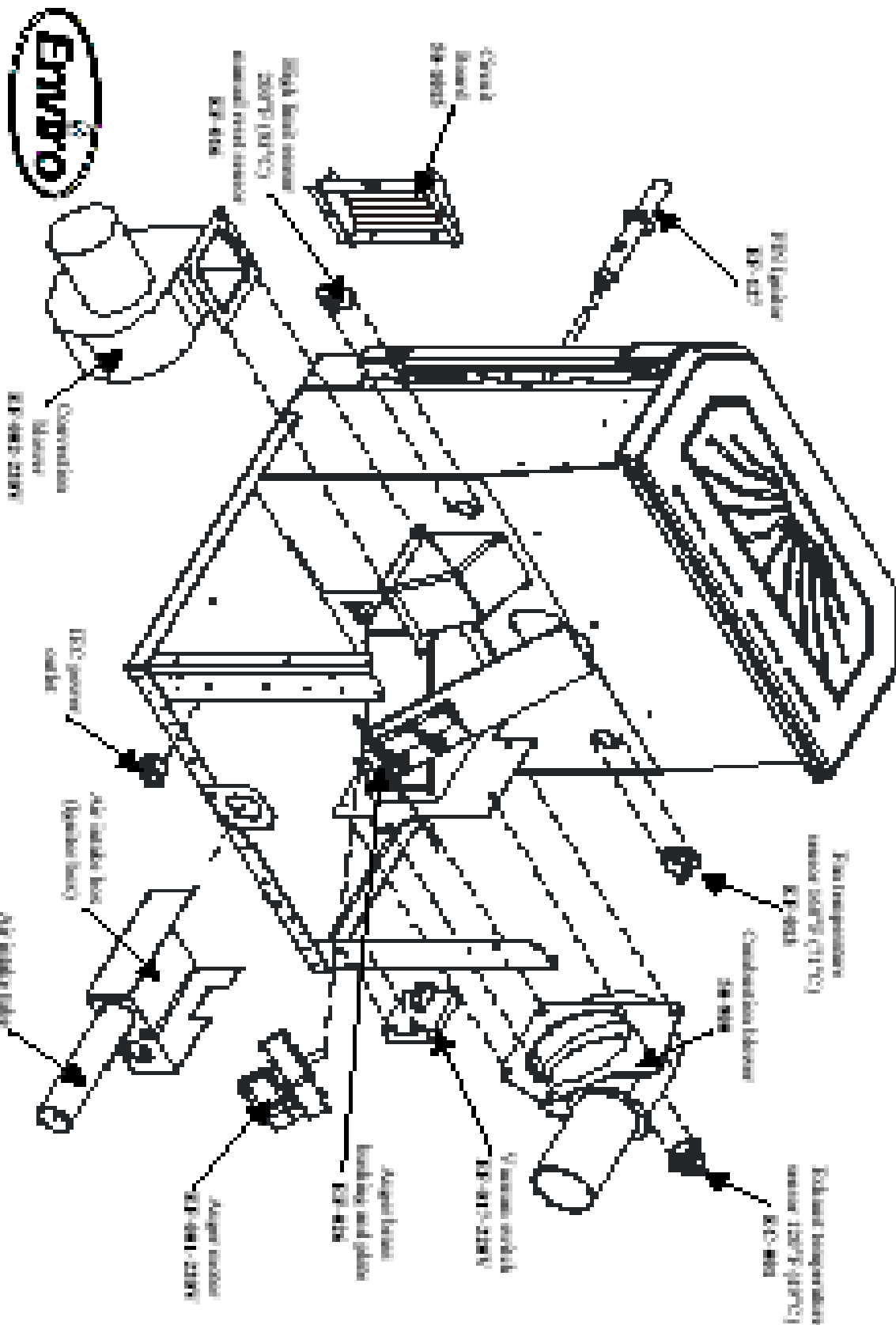


PARTS LIST

Part Number	Description
EF-001-220V	220 Volt Auger Motor
EF-002-220V	220 Volt Convection Blower
EF-004	220 Volt Convection Blower Impeller
50-900	220V Combustion Blower
EF-008	Combustion Main Impeller
EF-009	Combustion Cooling Impeller
EC-001	Exhaust Temperature Sensor 120°F Ceramic
EF-011	Combustion Blower Mounting Gasket
EF-012	Combustion Blower Housing Gasket
EF-013	Fan Temperature Sensor 160°F
EF-016	High Limit Sensor 200°F Manual Reset
EF-017-220V	220 Volt Vacuum Sensor/Switch
EF-018	Silicone Hose
EF-021	Ignition Burn Pot
50-587	EF2i/EF3i SS Burn Pot Liner (Euro)
EF-025	Auger
EF-026	Auger Brass Bushing and Plate
EF-028	EF3Bi Door Handle
EF-029	EF3Bi Door Handle Bolt
EF-047	EF3Bi Firebox Liner with Insulation
EF-050	Slider Damper Rod with Knob
EF-051	Heat Exchanger Rod with Knob
EF-054-220V	Power Cord
EF-088	EF3Bi 5/8" Door Gasket 50"
EF-062	EF3Bi Glass Set
EF-064	Slider Damper Plate
EF-065	Auger Brass Bushing (set of 2)
EF-066	Firebox Liner Top Plate

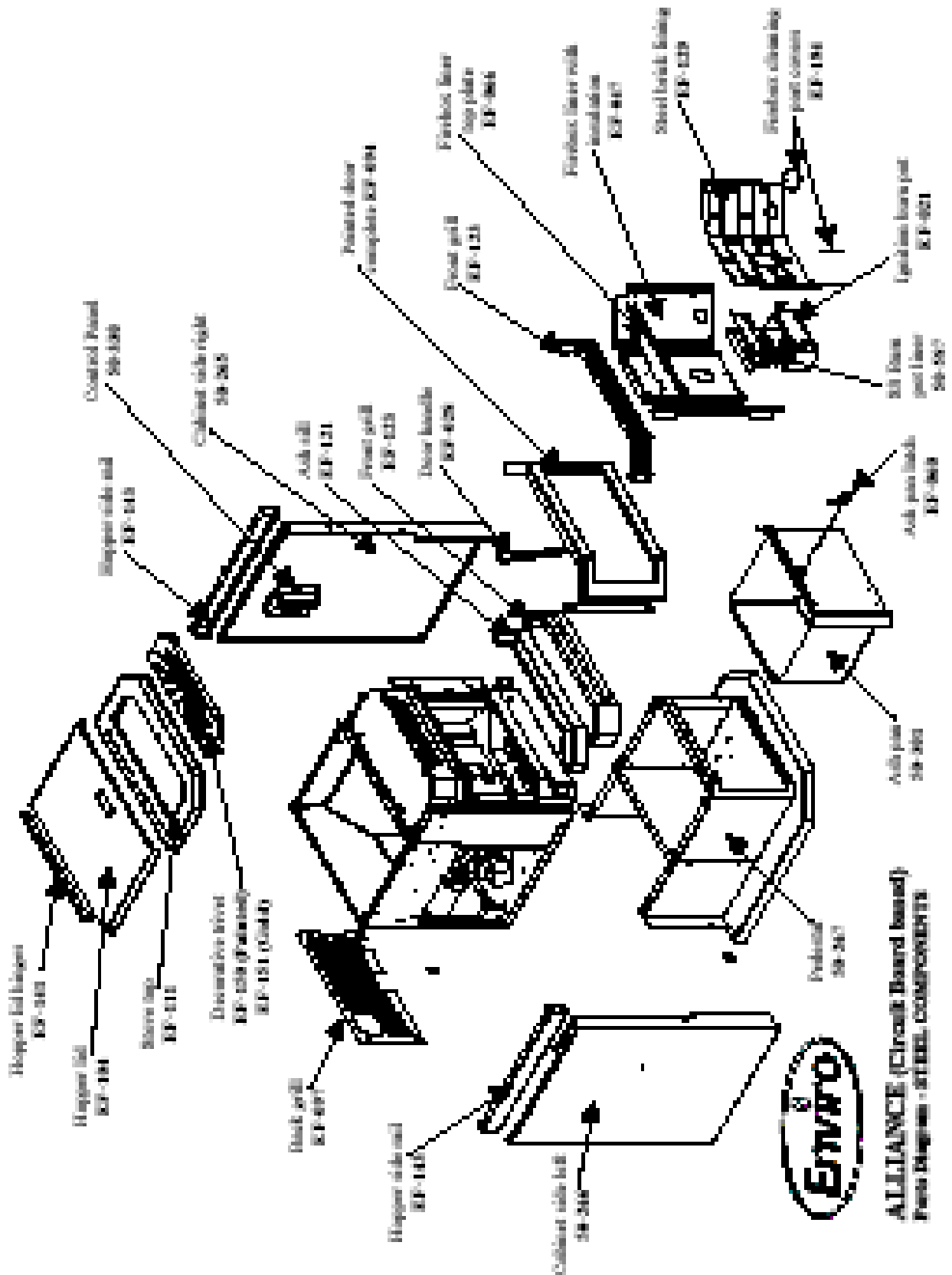
Part Number	Description
EF-068	Heat Exchanger Knob
EF-069	Auger Collar Screw Set
EF-068	Slider Damper Knob
20-036	Log Set
EF-092	EF3Bi Gold Door Complete
EF-094	EF3Bi Painted Door Complete
EF-097	Back Grill
EF-104	EF2/3 Hopper Lid with Handle
EF-111	EF3Bi Stove Top
EF-121	EF3Bi Ash Sill
EF-123	EF3Bi Front Grill
EF-124	EF3Bi Shoulder Bolt, Hrd Bush and Nut
EF-126	Firebox Ceramic Wool Insulation
20-034	EF2/3/4 Halogen Socket
EF-129	EF3Bi Steel Brick Lining
EF-141	Hopper Lid Hinge
EF-143	EF3Bi FS Hopper Side Rail
50-330	Circuit Board Control Panel
EF-150	EF3Bi Decorative Trivet - Painted
EF-151	EF3Bi Decorative Trivet - Gold
50-340	Front Grill Louver Brass (EF3)
EF-185	Ash Pan Louver Brass (EF3- set)
EF-193	Door Hinge Bracket
EF-194A	Firebox Cleaning Port Covers
50-265	Alliance Cabinet Side Right
50-266	Alliance Cabinet Side Left
50-267	Alliance Pedestal
50-1015	Circuit Board 220 Volt Only
50-270	Wire Harness

PARTS DIAGRAM - COMPONENTS



ALLIANCE (Current Board based)
Parts Diagram - COMPONENTS

PARTS DIAGRAM - STEEL



ALLIANCE (Circuit Board based)
 Parts Diagram - STEEL COMPONENTS

WARRANTY

Sherwood Industries Ltd. gives a five-year limited warranty on all steel manufactured parts. A one-year warranty is provided on all electrical components. The above limited warranties are extended only to the original purchaser.

There is no warranty on the following parts:

- Fiberglass rope baskets
- refractory material
- burn pot liner
- paint
- enamel finish or gold plating where it applies
- vacuum hose.

****NOTE:** The paint on the brick firebox lining may peel. This is due to the extreme conditions applied to the paint and is in no way covered under warranty.

WHEN FILING A WARRANTY CLAIM PLEASE COMPLETE THE FOLLOWING INFORMATION ON AN OFFICIAL WARRANTY CLAIM FORM:

TO THE DEALER:

- Name, Address and Telephone Number of purchaser and date of purchase.
- Date of Installation. Name of the installer and dealer. Serial Number of the appliance. Nature of the complaint, defects or malfunction, description and part # of any parts replaced.

TO THE DISTRIBUTOR:

- Sign and verify that work and information are correct.

ENSURE THAT YOU SPECIFY THE NATURE OF THE COMPLAINT, DEFECT, PERIODICAL MALFUNCTION, ETC.

The limited warranty covers defects in materials and workmanship as long as the product has been installed according to the manual's instruction. If the product is damaged or broken as a result of mishandling or misuse, the warranty does not apply. Removal and re-installation costs are not covered under this warranty.

It is the manufacturer's option whether to repair or replace the appliance. The shipping cost to and from the factory is paid by the consumer. All warranties by the manufacturer are set forth herein and no claim shall be made against the manufacturer on any oral warranty or representation.

Sherwood Industries Ltd. assumes no responsibility for damage caused by household power fluctuations or power surges.

For the do-it-yourself Individual

The consumer should be aware that the pellet appliance needs setting, using tools that he/she might not have. Consult an ENVIRO dealer. It is recommended than only an authorized ENVIRO dealer install an ENVIRO unit. There will be no warranty coverage on parts destroyed or burnt out as a result of a consumer installation error or defect.

Sherwood Industries Ltd. reserves the right to make changes without any notice.

INSTALLATION DATA SHEET

The following information must be recorded by the installer for warranty purposes and future reference.

NAME OF OWNER: _____
ADDRESS: _____ _____ _____
PHONE: _____

NAME OF DEALER: _____
ADDRESS: _____ _____ _____
PHONE: _____

MODEL: _____
SERIAL NUMBER: _____
DATE OF PURCHASE: _____ (dd/mm/yyyy)
DATE OF INSTALLATION: _____ (dd/mm/yyyy)
MAGNEHELIC AT INSTALL: _____
INSTALLER'S SIGNATURE: _____

NAME OF INSTALLER: _____
ADDRESS: _____ _____ _____
PHONE: _____

MANUFACTURED BY:
SHERWOOD INDUSTRIES LTD.
6782 OLDFIELD RD. SAANICHTON, BC, CANADA V8M 2A3
www.envirofire.biz
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