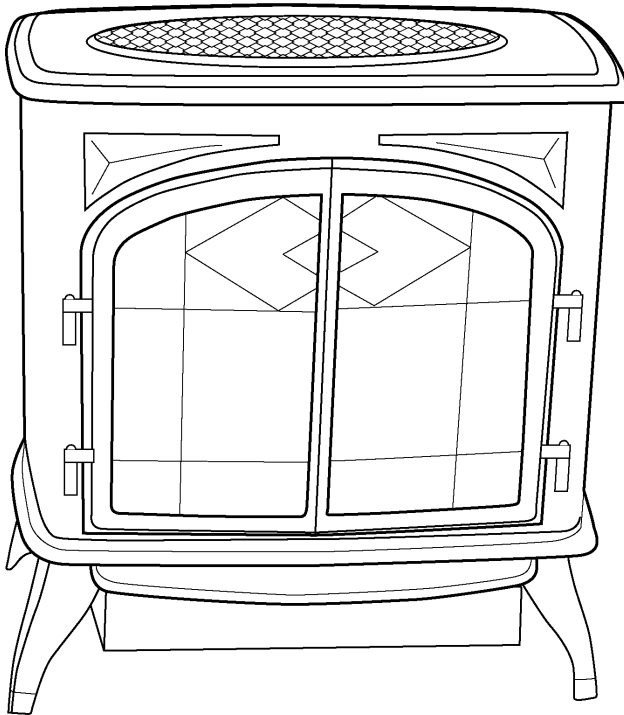

ECHO-COMSTOCK PELLETT E.I. II

Pellet Heater Owner's Manual Installation and Operating Instructions



Made in the USA by:



Please read this entire manual before installation and use of the pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death.

SAFETY NOTICE

- HEATER MUST BE PROPERLY INSTALLED AND MAINTAINED OR A HOUSE FIRE MAY RESULT.
- FOR YOUR SAFETY, FOLLOW THE INSTALLATION INSTRUCTIONS.
- CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION AND PERMIT REQUIREMENTS.
- FAILURE TO COMPLY WITH OWNER'S MANUAL INSTRUCTIONS WILL VOID WARRANTY AND COULD RESULT IN PROPERTY DAMAGE, BODILY INJURY OR EVEN DEATH.

PLEASE LEAVE THIS MANUAL WITH THE OWNER!!


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LABORATORY LISTING LABEL



Intertek
W/N 14139

Model/Modèle: Echo

DATE OF MFG. _____ SERIAL NO. **16010**



THE LIN
HEALTH PRODUCTS
www.thelinco.com
Carson City, NV 89706

DO NOT REMOVE THIS LABEL

Pellet Fuel Room Heater, Also For Use In Mobile Homes/Appareil de chauffage à granulés de bois - Peut également s'utiliser dans les maisons mobiles

Install and use only in accordance with manufacturer's installation and operating instructions. Contact local building officials about restrictions and installation inspection in your area. À installer et utiliser uniquement conformément à la notice d'installation et d'utilisation. Contacter les autorités responsables de la construction sur les restrictions et l'inspection de montage dans votre région.

This pellet fired appliance has been tested and listed for use in manufactured homes in accordance with Oregon Administrative Rules 814-23-900 through 814-23-909, ASTM E1509-04, ULC S627-93 and UL 1432-00. Install per H.U.D. 24CFR Sec. 3290.

Cet appareil à granulés de bois a été testé et certifié pour être utilisé dans des maisons préfabriquées conformément aux règlements - Oregon Administrative Rules- 814-23-900 à 814-23-909, ASTM E1509-04, ULC S627-93 et UL 1432-00.

NE PAS ENLEVER CETTE ÉTIQUETTE

Pellet Fuel Room Heater, Also For Use In Mobile Homes/Appareil de chauffage à granulés de bois - Peut également s'utiliser dans les maisons mobiles

Install and use only in accordance with manufacturer's installation and operating instructions. Contact local building officials about restrictions and installation inspection in your area. À installer et utiliser uniquement conformément à la notice d'installation et d'utilisation. Contacter les autorités responsables de la construction sur les restrictions et l'inspection de montage dans votre région.

Cet appareil à granulés de bois a été testé et certifié pour être utilisé dans des maisons préfabriquées conformément aux règlements - Oregon Administrative Rules- 814-23-900 à 814-23-909, ASTM E1509-04, ULC S627-93 et UL 1432-00.

PREVENT HOUSE FIRES

- Install and use only in accordance with the owner's manual provided with this appliance.
- Contact local building or fire officials about restrictions and installation inspections in your area.
- For use with pelletized wood fuel only. Use of other fuels will cause a hazardous condition.
- Do not connect this unit to a chimney flue serving another appliance.
- Keep venting and ash removal doors tightly closed during operation.
- Input Rating - 3.1 lbs/hr.

CAUTION: Special methods are required when passing chimney through a wall or ceiling. Refer to local building codes. Replace glass only with 5mm ceramic. Operate this unit only with the fuel hopper lid closed. Failure to do so may result in emission of products of combustion from the hopper under certain conditions. Maintain hopper seal in good condition. Do not overfill the hopper.

WARNING: (Mobile Home) An outside air inlet must be provided for combustion and be unrestricted while unit is in use. The structural integrity of the mobile home floor, walls, ceiling, and roof must be maintained.

DANGER: Risk of electrical shock. Disconnect power before servicing unit. Do not run power cord under appliance.

INSTALLATION REQUIREMENTS
Refer to local codes and the chimney manufacturer's instructions for precautions required for passing a chimney through a combustible wall or ceiling. Place on non-combustible floor protection which extends 6-inches to the front, and 2-inches to each side, of the feet opening. See owner's manual for additional clearance information.

VENT TYPE: Use only type "PL" pellet vent and connectors (Size 3"/75mm or 4"/100mm).

ELECTRICAL RATING: 120 Volts/2.0 Amps/60Hz/1 Phase - U.K. 240V

ÉVITEZ LES INCENDIES

- À installer et utiliser uniquement conformément au manuel d'utilisation fourni avec cet appareil.
- Contacter les autorités locales en matière de feu ou de construction afin de connaître les restrictions et les inspections de montage propres à votre région.
- À utiliser uniquement avec des bois de chauffage en granulés. Tout autre combustible causera un danger.
- Ne pas raccorder cet appareil à un conduit de cheminée servant un autre appareil.
- S'assurer que la vitre et la porte de retrait des cendres sont bien fermées lorsque l'appareil est en marche.
- Consommation Thermique - 3.1 lbs/hr.

ATTENTION: Des techniques spéciales sont nécessaires en cas de passage de la cheminée à travers un mur ou un plafond. Consulter les codes locaux du bâtiment. Remplacer la vitre avec un verre en céramique de 5mm uniquement. S'assurer que le couvercle de la trémie est bien fermé lorsque l'appareil est en marche. Il y a un risque d'émissions de produits de combustion de la trémie sous certaines conditions. S'assurer que le joint de la trémie est en bon état. Ne pas trop remplir la trémie.

AVERTISSEMENT: (Maison Mobile) Une arrivée d'air extérieur pour la combustion doit être installée et dégagée lorsque l'appareil est en marche. L'intégrité structurale du plancher, des murs, du plafond et du toit de la maison mobile doit être maintenue.

DANGER: Risque de choc électrique. Débrancher l'appareil avant tout entretien ou réparation. Ne pas acheminer le cordon d'alimentation sous l'appareil.

CONDITIONS D'INSTALLATION:
Consulter les codes locaux et les consignes du fabricant de la cheminée pour les précautions nécessaires en cas de passage d'une cheminée par un mur ou un plafond combustibles. Placer sur un protecteur de plancher qui dépasse de 6 po vers l'avant et de 6 po de chaque côté de l'ouverture du combustible. Consulter le manuel d'utilisation pour d'autres informations concernant les dégagements.

TYPE D'ÉVENT: Utiliser seulement un conduit d'évacuation et des raccords de type "PL" (Taille 3"/75mm or 4"/100mm).

CARACTÉRISTIQUES ÉLECTRIQUES: 120 Volts/2.0 Amps/60Hz/1 Phase - G.B. 240V


Emission of CO in combustion products: nominal heat output <0.04%
Reduced heat output <0.05%

Flue Gas Temperature: 169 Deg. C

Thermal Output: 6.9 kW

Energy Efficiency: nominal heat output 6.9kW 85%
Reduced heat output 3.7kW 80%

Fuel Types: Wood Pellets, 6mm diameter,
12mm to 25mm long



06

EN 14785:2007

Residential Space Heating appliance
fired by wood pellets

Émission de CO dans les produits de combustion: Puissance calorifique nominale <0.04%
Puissance calorifique réduite <0.05%

Température du gaz de cheminée: 169 Deg. C


Puissance thermique: 6.9 kW

Rendement énergétique: Puissance calorifique nominale 6.9kW 85%
Puissance calorifique réduite 3.7kW 80%

Types de combustible: Granulés de bois, 6mm de diamètre,
12mm à 25mm de long


CLEARANCES TO COMBUSTIBLES - FREESTANDING HEATER / DÉGAGEMENT AUX COMBUSTIBLES - APPAREIL DE CHAUFFAGE AUTONOME

A. UNIT TO BACKWALL	3" / 75mm
B. UNIT TO SIDEWALLS	5" / 125mm
C. UNIT TO DIAGONAL WALL	3.5" / 89mm
D. FLOOR PROTECTOR	6" / 150mm
MINIMUM ALCOVE WIDTH	38" / 965mm
MINIMUM ALCOVE HEIGHT	48" / 1220mm



A. APPAREIL AU MUR ARRIÈRE	3" / 75mm
B. APPAREIL AUX MURS LATÉRAUX	5" / 125mm
C. APPAREIL AU MUR EN DIAGONALE	3.5" / 89mm
D. PROTECTEUR DE PLANCHER	6" / 150mm
LARGEUR MINIMUM DE L'ALCÔVE	38" / 965mm
HAUTEUR MINIMUM DE L'ALCÔVE	48" / 1220mm

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.



ATTENTION: L'APPAREIL EST CHAUD. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET LES MEUBLES LOIN DE L'APPAREIL. TOUT CONTACT PEUT CAUSER DES BRÛLURES. VOIR PLAQUE SIGNALÉTIQUE ET CONSIGNES.

U.S. ENVIRONMENTAL PROTECTION AGENCY
Certified to comply with EPA NSPS 2020 emission standards.

FOR USE WITH PELLETIZED WOOD FUEL ONLY

This appliance needs periodic inspection and repair for proper operation. Consult owner's manual for further information. It is against federal regulations to operate this appliance in a manner inconsistent with operating instructions in the owner's manual.

DATE OF MANUFACTURE _____ SERIAL NO. _____

MODEL: PROVIDENCE INSERT/FIREPLACE
EMISSION RATE (G/Hr) 0.88 EFFICIENCY (CSA B415.1) 79%

P/N: 00 0075 0209

WARNINGS

HOT SURFACES! HOT GLASS WILL CAUSE BURNS. SURFACES AND GLASS ARE HOT DURING OPERATION AND DURING COOL-DOWN PERIOD.

DO NOT TOUCH GLASS UNTIL IT IS COOLED.

NEVER ALLOW CHILDREN TO TOUCH GLASS. ALERT CHILDREN TO HAZARDS OF HIGH TEMPERATURES.

HIGH TEMPERATURES MAY IGNITE CLOTHING OR OTHER FLAMMABLE MATERIALS. KEEP CLOTHING, FURNITURE, DRAPERIES AND OTHER FLAMMABLE MATERIALS AWAY FROM HEATER.

FOR USE WITH PELLETIZED WOOD FUEL ONLY

THIS APPLIANCE NEEDS PERIODIC INSPECTION AND REPAIR FOR PROPER OPERATION. CONSULT OWNER'S MANUAL FOR FURTHER INFORMATION. IT IS AGAINST FEDERAL REGULATIONS TO OPERATE THIS APPLIANCE IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THE OWNER'S MANUAL

GENERAL INFORMATION

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

The Echo Pellet Heater has been designed and approved for burning **PREMIUM WOOD**

PELLETS OF HIGHEST BTU OUTPUT AND LOWEST % OF ASH CONTENT ONLY.

Burning biomass fuels in other forms or poor quality pellet fuel is not permitted and will void your warranty and/or could cause a burn back or house fire. **FOR BEST RESULTS THE WOOD PELLET FUEL SHOULD BE ¼" DIAMETER AND APPROXIMATELY 1" LONG.**

Store fuel in a covered, dry area. Pellet bags can absorb moisture and must be kept dry. Never place bags of fuel next to the heater. Keep fuel away from combustible materials and moisture. **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 stove while it is in use.

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

NOTE: During the first few burns (up to 2–4 hours) the high-temperature paint and sealant used in the manufacture will emit some odor and smoke. Open doors and windows to the outside for proper ventilation during the first burn cycle and the curing of the paint. **SEE INITIAL FIRING PROCESS beginning on page 15.**

Under specific test conditions this heater has been shown to deliver heat at rates ranging from *16,800* to *26,800* Btu/hr.

This stove must be electrically grounded according to local codes or, in the absence of local codes, with the National Electrical Code, **ANSI/NFPA 70-2013.**

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

THE ECHO REQUIRES OUTSIDE COMBUSTION AIR ON ALL INSTALLATIONS. NO EXCEPTIONS! (See Figure 2.)

CAUTION: Do not connect this unit to a chimney flue serving another appliance. Do not install flue damper in the exhaust venting system of the unit.

THIS APPLIANCE NEEDS PERIODIC INSPECTION AND REPAIR FOR PROPER OPERATION. CONSULT OWNER'S MANUAL FOR FURTHER INFORMATION. IT IS AGAINST FEDERAL REGULATIONS TO OPERATE THIS APPLIANCE IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THE OWNER'S MANUAL

This wood heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with operating instructions in this manual.

U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel

It is recommended that smoke and carbon monoxide detectors be installed in the area where the heater is to be installed.

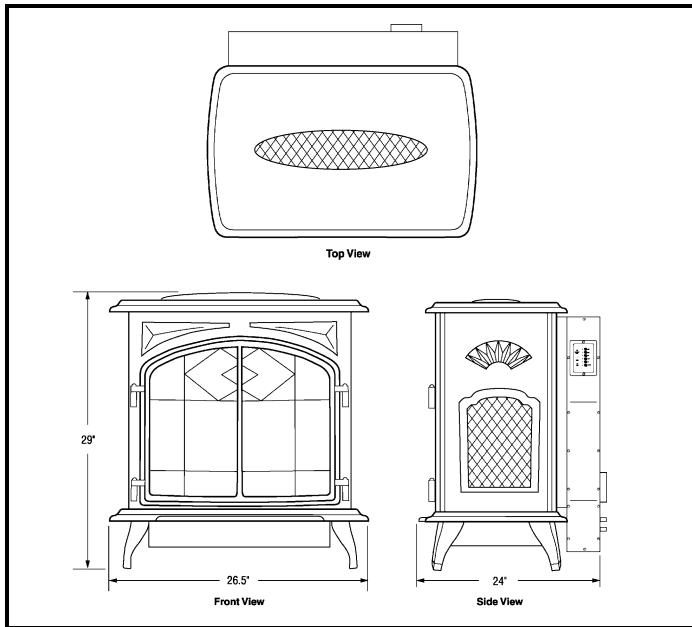


FIGURE 1 - OVERALL DIMENSIONS

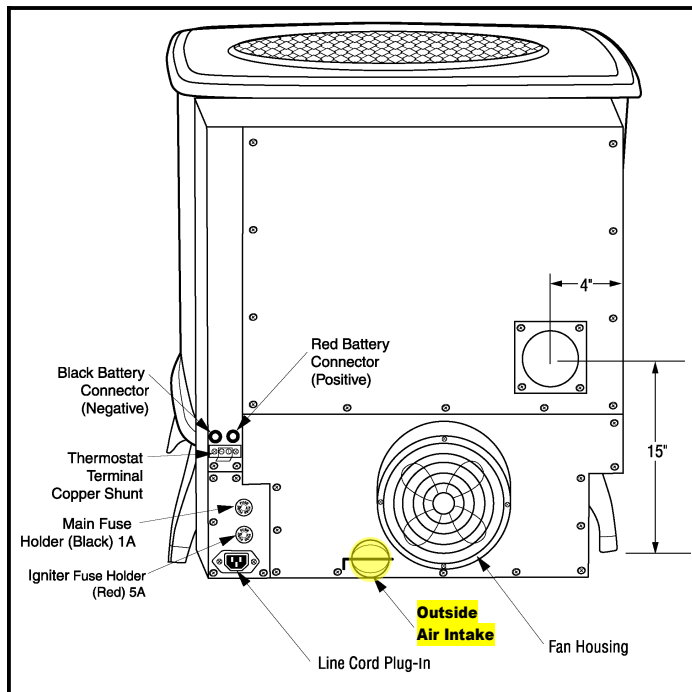


FIGURE 2

CAUTION: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

CLEARANCES

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

Clearance to Combustibles

- Unit to Sidewall..... 5" (125 mm)
- Unit to Backwall..... 3" (75 mm)
- Unit to Diagonal Wall3.5" (87.5 mm)

MOBILE OR MODULAR HOME

Mobile home installation should be in accordance with the Manufactured Home and Safety Standard (HUD), CFR 3280, Part 24.

WARNING: Outside combustion air is mandatory in mobile or modular installations. 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 made at the air intake located on the rear of the stove (see Figure 2). The Outside Air Kit is mandatory for mobile and modular home installations. The kit contains 2" flex tubing (part #43000-270). Outside air kit includes flex tube, hose clamp, and rodent screen/cap. **Do not hook up unit without this kit.** Secure stove to the floor utilizing the holes provided on the bottom of the legs. Unit must be electrically grounded to steel frame of mobile home.

WARNING: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALLS, AND CEILING/ROOF MUST BE MAINTAINED. DO NOT INSTALL IN SLEEPING ROOM.

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

INSTALLATION

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 heater when in operation.
3. **A 3-inch 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 inches away from the pellet vent pipe. If using the Pellet Pro, a 1" clearance is required.
4. A non-combustible hearth pad must be used if installed on a carpet, wood floor, or other combustible material (see Figure 3). Maintain 6" (152mm) beyond the front and beyond each side of the fuel loading and ash removal opening.
5. Keep front door of appliance thirty-six (36) inches from combustibles (drapery, furniture).
6. When installing the exhaust vent into an existing chimney, a clean out tee must be installed behind the heater before going up into the chimney. This is necessary in order to remove the fly ash accumulation.
7. Install vent at clearances specified by the vent manufacturer.
8. Exit termination (distance to openings):
 - a. 3 feet minimum above any forced air inlet located within 10 feet.
 - b. 4 feet minimum below and horizontally or 1 foot minimum above any door, window, or gravity air inlet into any building.
 - c. 2 feet minimum to an adjacent building and 7 feet minimum above grade when located adjacent to public walkways.

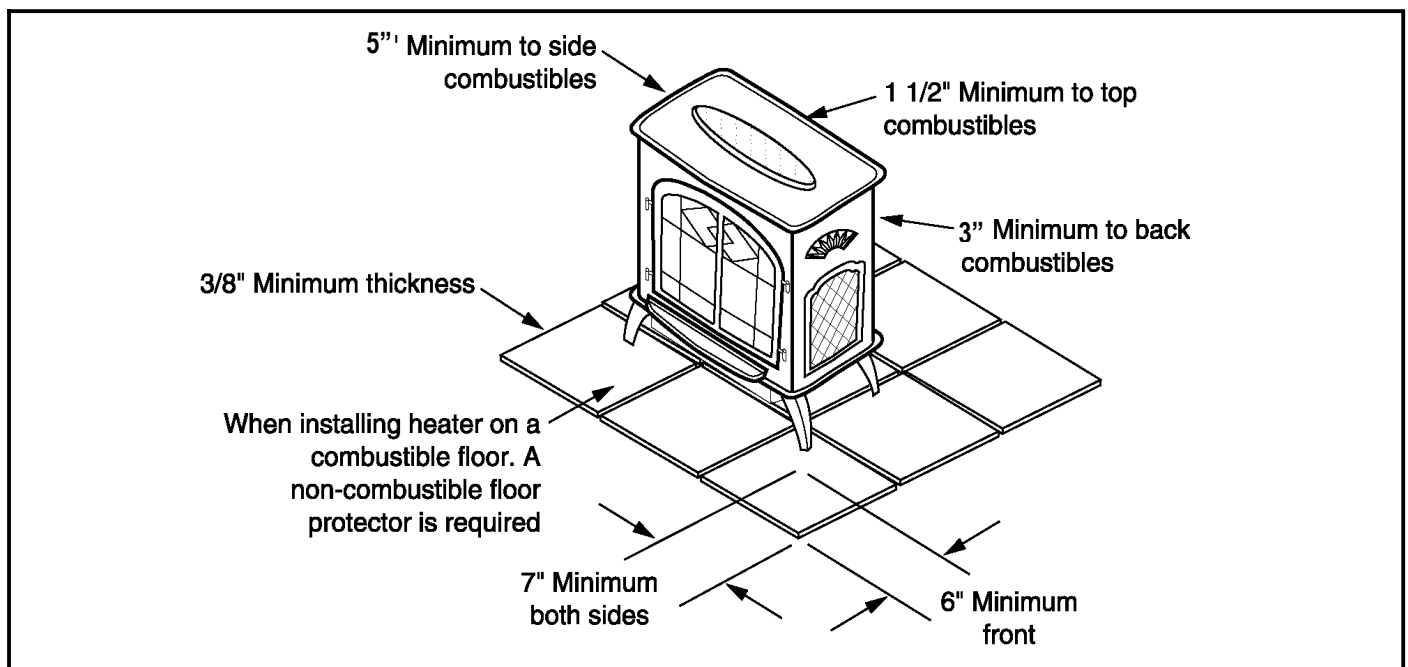


FIGURE 3

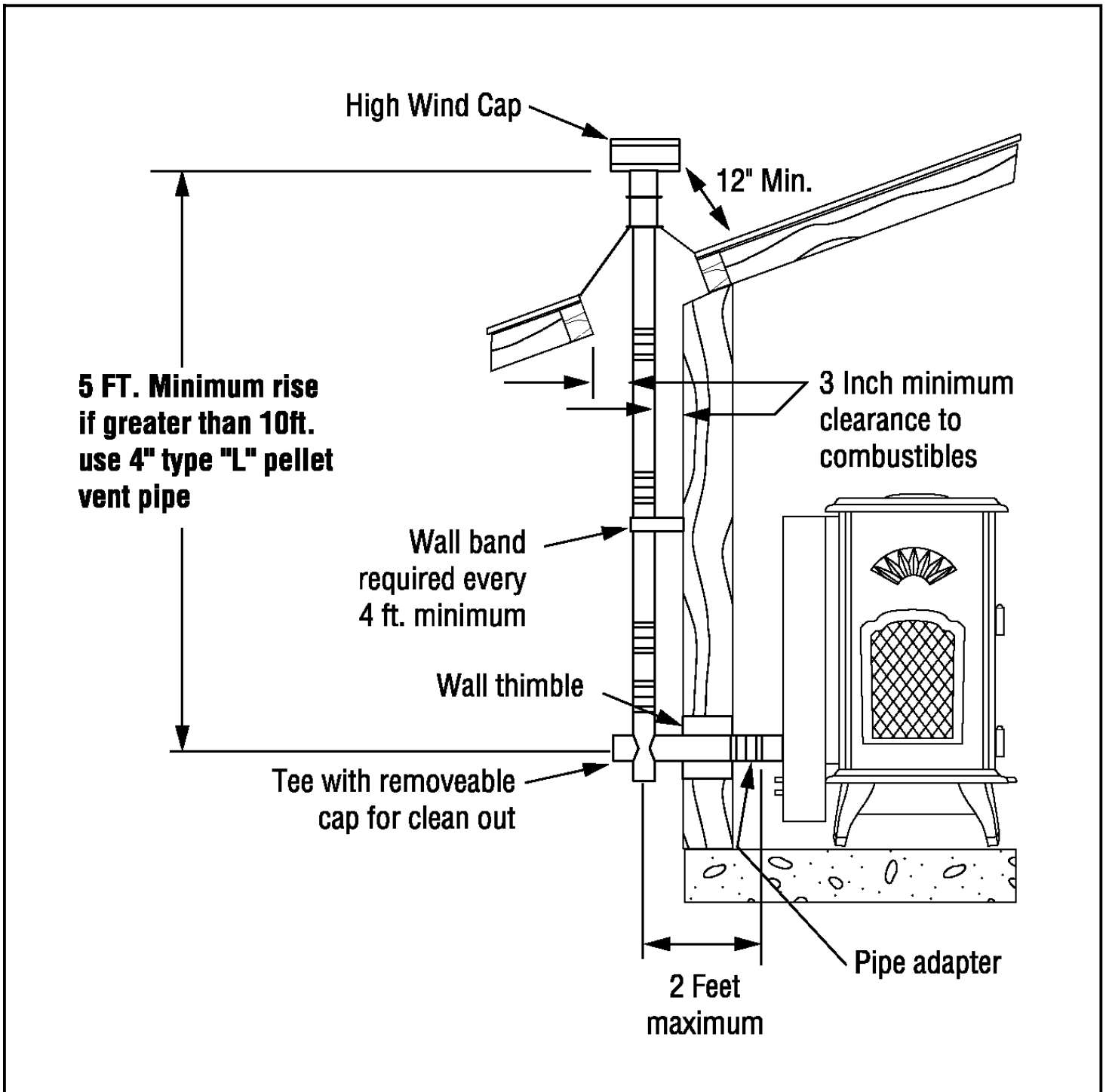


FIGURE 4

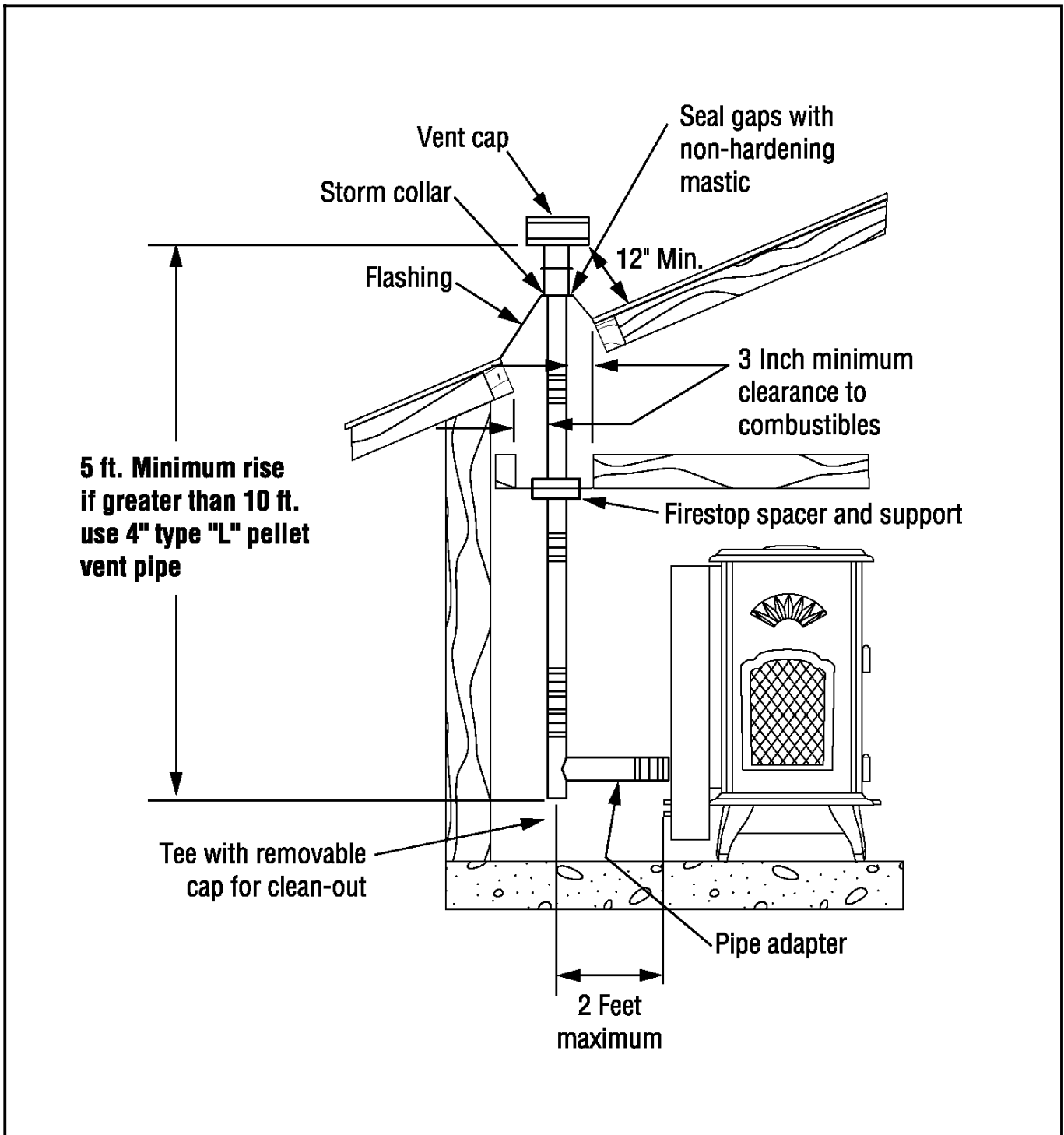


FIGURE 5

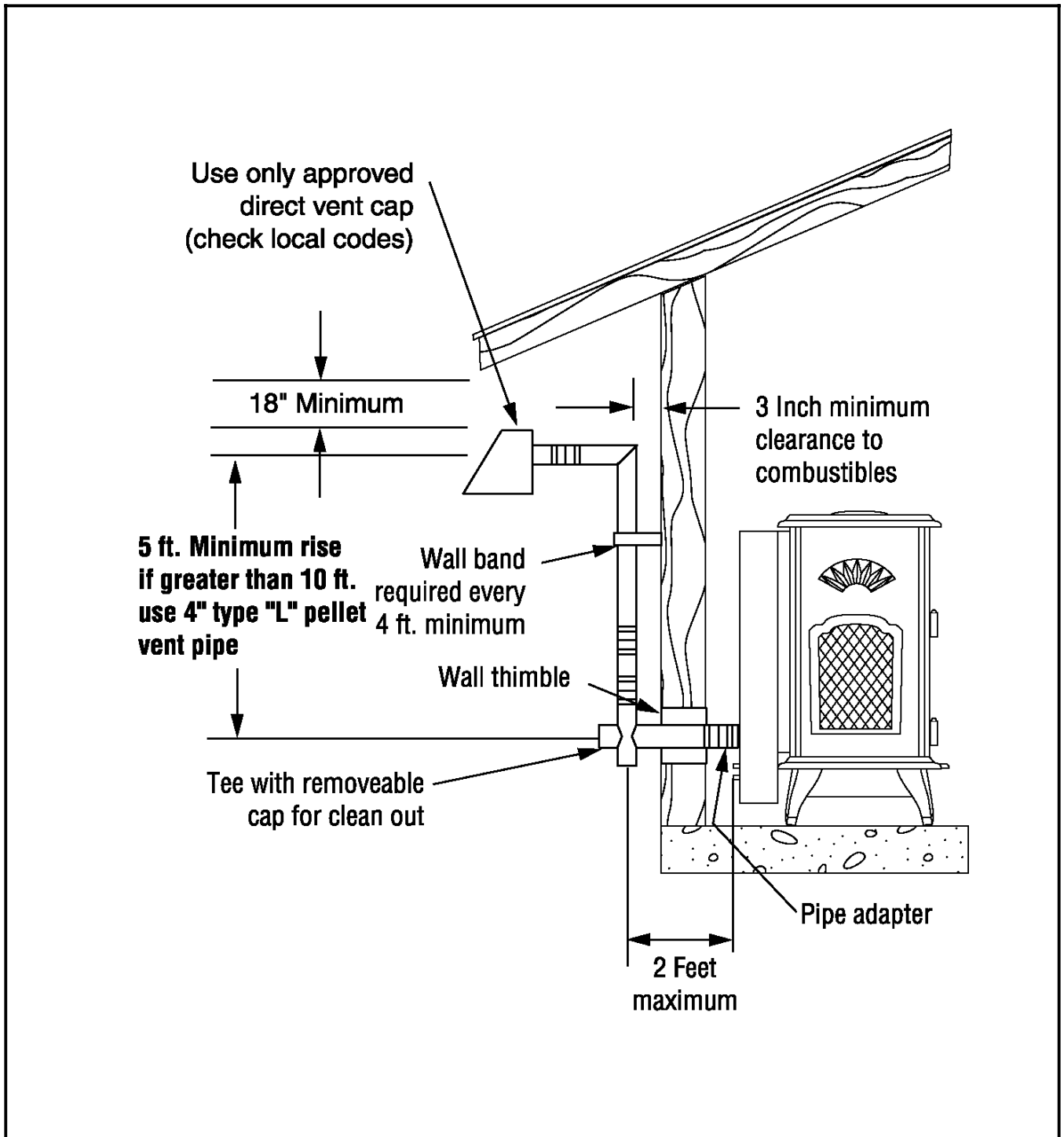


FIGURE 6

9. 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-up system is installed, the heater will automatically switch to the 12-volt power.

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

- a. 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 5 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 (see Figure 4). Whenever the pipe run in any installation is 10 feet or more, the use of 4-inch Type "L" vent pipe is required.

Horizontal runs must be limited to 2 feet. A wall band is required for every 4 feet minimum on a vertical run at an exterior wall.

- b. All pellet vent pipe connections including exit at the rear of the heater should be secured with three screws and sealed with high temperature silicone (450 degrees) 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. This requirement is waived if the new Dura Vent Pellet Pro pipe is used.

- c. Installation per Figure 7 requires 4" pellet pipe.

10. Outside Air Hook-up: Thelin Hearth Products recommends using a Dura Vent Wall Thimble with a built-in outside air hook-up and flex tubing.

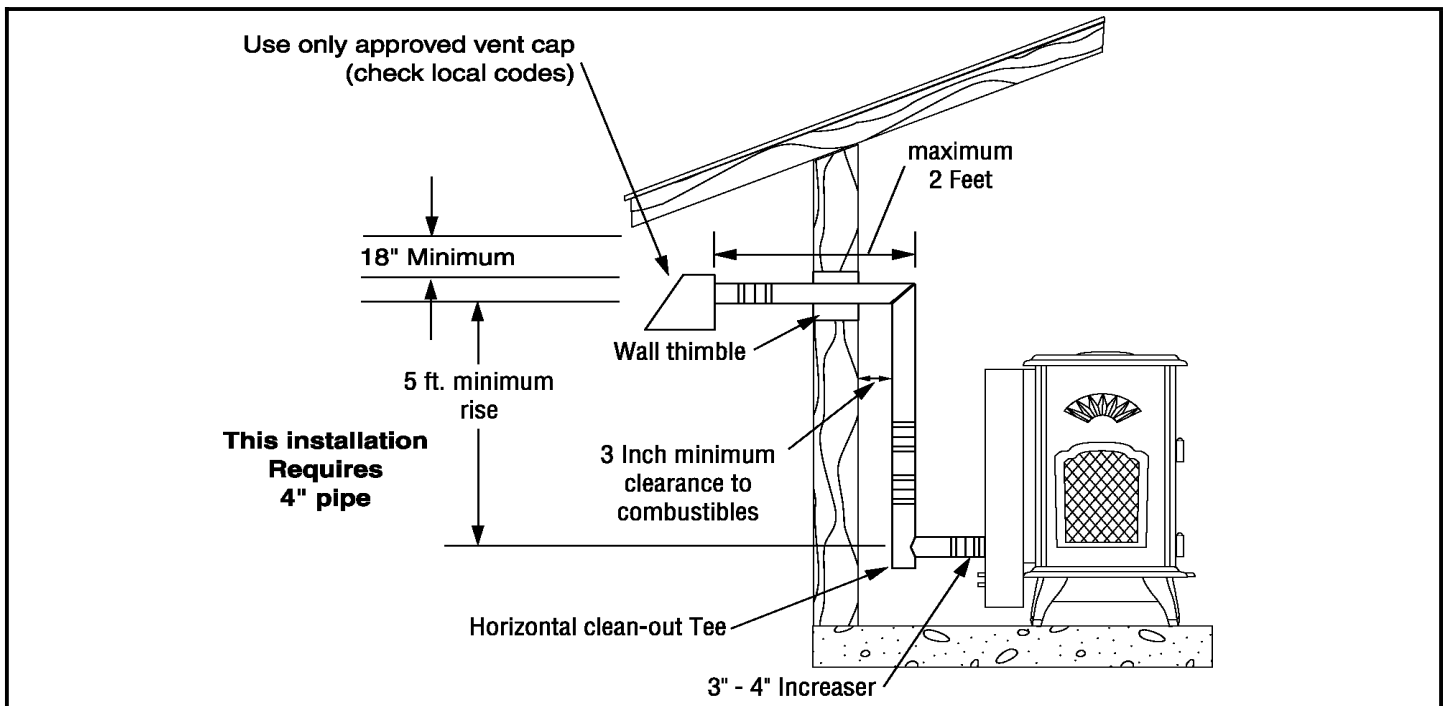


FIGURE 7

WALL & REMOTE THERMOSTAT INSTALLATION FOR ECHO E.I.

The wall thermostat is designed to automatically regulate the room temperature by shutting the stove on and off or changing the output from High to Low. Remember to leave the control knob on the High or Medium position when utilizing the wall thermostat feature.

A wall or remote thermostat can be hooked to run the Echo 3000 E.I. automatically. The following is a step-by-step procedure for installing the optional thermostat. Note connection terminals on the bottom right side of the unit (see Figure 8). Use 18/2 thermostat wire for installation.

1. Unplug heater from the wall outlet!
2. Hook up the thermostat wires to terminals (see Figure 8). Remember to remove copper shunt. Replace shunt if thermostat hook-up is disconnected. If a remote thermostat is used you will have to mount the “receiver” to the bottom of the stove with Velcro and then hook up receiver wires to the terminal (see Figure 8). Follow thermostat manufacturer’s instructions.
3. Locate thermostat approximately 10 to 12 feet from heater or in an area that requires steady temperature. Run thermostat wires from heater to thermostat along wall or under carpet, etc., and hook wires to thermostat terminals. For the remote find a central location that will maintain room temperature and leave remote in that area.
4. Make sure all wiring is complete before plugging the Echo back into the wall outlet.

5. You have the option to have the thermostat run the stove either ON/OFF or Hi/Low. Factory setting is ON/OFF. By changing the Type setting jumper on the circuit board (see Figure 14), you can switch to the Hi/Low mode. This should be done in extremely cold climates so the house will maintain an even temperature and not be cycling on/off constantly.
6. Please be aware that the life of the igniter is affected by the ash build up in the fire pot and the number of times the stove is cycling on/off. If more than four or five times a day, then you should switch to the Hi/Low mode. Check fire pot frequently for ash build up.

IMPORTANT: Any electrical work performed on the Echo should be done by qualified personnel. **Always plug AC cord in before DC battery.**

Notice: First Burn is the Most Important

All Thelin Gas, Pellet, and Wood heaters are finished with high temperature paint that when properly cured provides years of service. We have found properly curing the paint during the initial fire is the single most important factor in preserving a long term finish.

Based on the initial curing process of 15 to 20 minutes and warming up on Low Setting, the stove body will heat and begin to cure the paint as a small amount of smoke is released.

If the unit is not turn off during this initial period and allowed to cool, the paint may become brittle and chip after many heat and cool cycles.

Once completed and 24 hours has passed the first burn should be about 15 minutes long. Start the unit on “Low” setting and once the starts to warm shut it off and allow to completely cool before using.

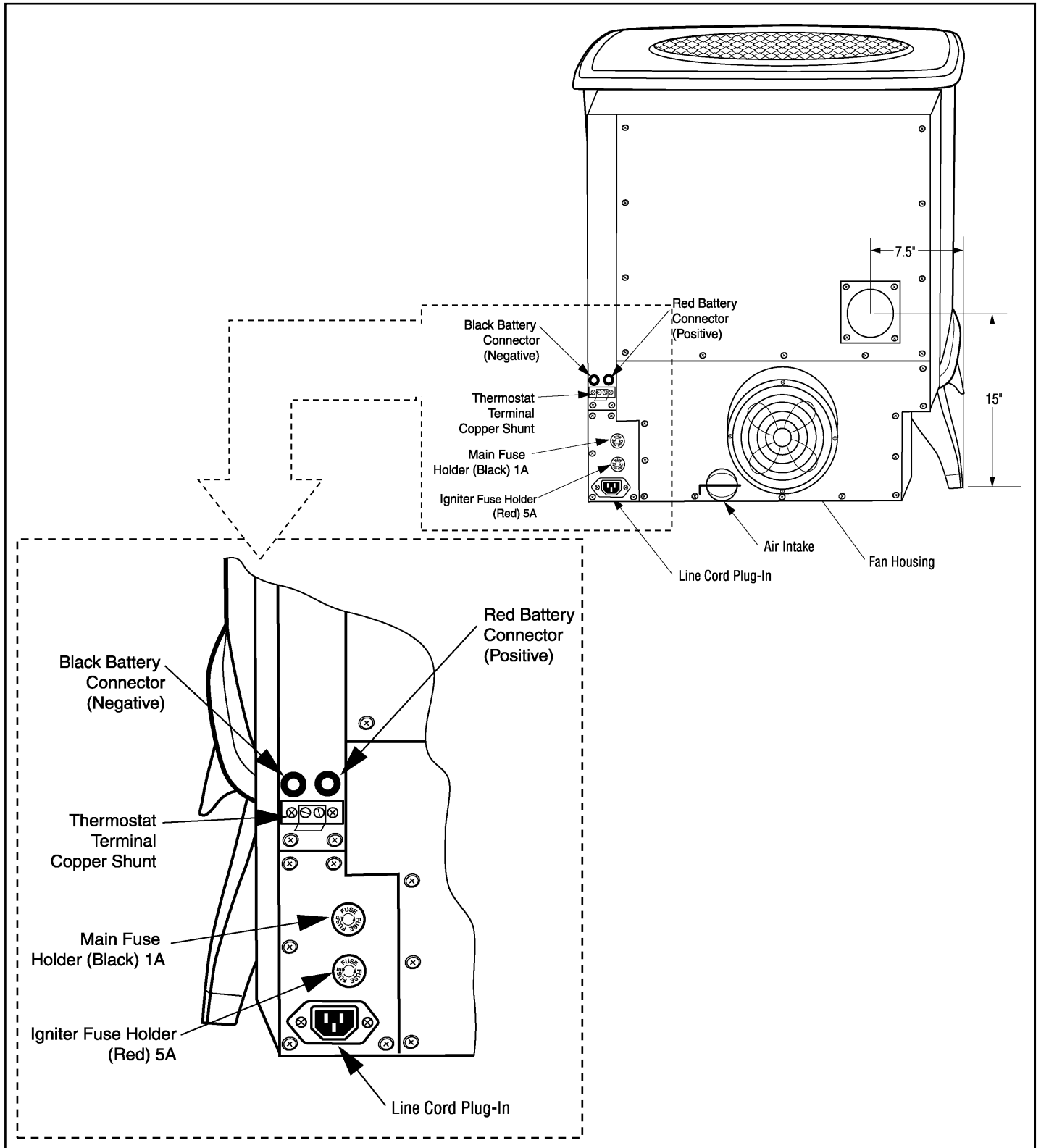


FIGURE 8

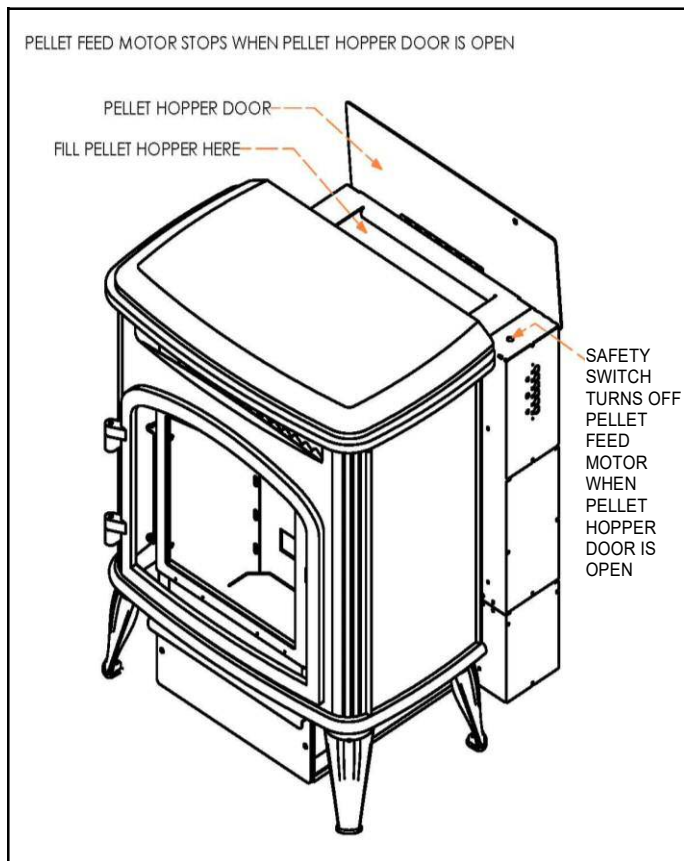


FIGURE 9

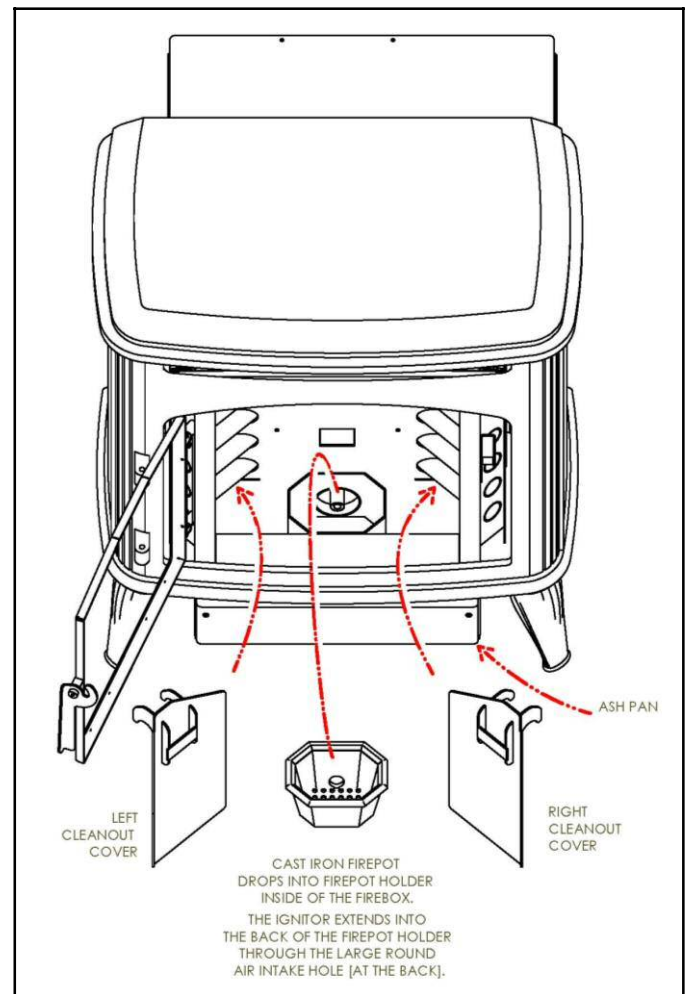


FIGURE 10

START-UP AND OPERATION

A. Filling the Hopper and Start-Up

CAUTION: Fuel hopper lid must be closed before operating the unit. The feed motor will not work if the hopper lid is open. **DO NOT OVERFILL THE HOPPER!** The Echo will hold approximately 50 pounds of pellets.

Open the top cover and fill the hopper with pellets (see Figure 9).

Use good-quality pellets that give you a vibrant, yellow flame with little or no soot. Poor quality pellets will burn rich with black sooty smoke and ash will accumulate quickly.

IMPORTANT: The quality of pellet 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 provides a clean, efficient burn.

IMPORTANT: The fire pot must be seated flush and must sit even in the fire pot tray. Air leakage around the fire pot will create a poor burn (see Figure 10). Light the pellets in the fire pot using any approved lighting fluid.

B. Lighting Instructions

The Echo E.I. has automatic ignition. As a result you simply plug in the stove, fill with pellets and push the low, medium or high button on the control panel. When the button is pushed to low, medium or

high the igniter will come on and in one minute the feed motor will activate and begin feeding pellets. In three or four minutes you should see flame and in six minutes the igniter will shut off. The LED next to the button will blink during the six-minute start-up period. During the start-up period the heater will only run on "Low." If the fire does not reach operating temperature during the start up period the stove will shut down and you will have to repeat the process.

NOTE: Pellets do not feed in the "Fan" position.

If you choose to use a wall or remote thermostat follow the thermostat manufacturers instructions carefully and make sure you use the built in thermostat terminals on the bottom of the stove. (See Figure 8) We recommend you run the heater on "High" for about 30 minutes 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.

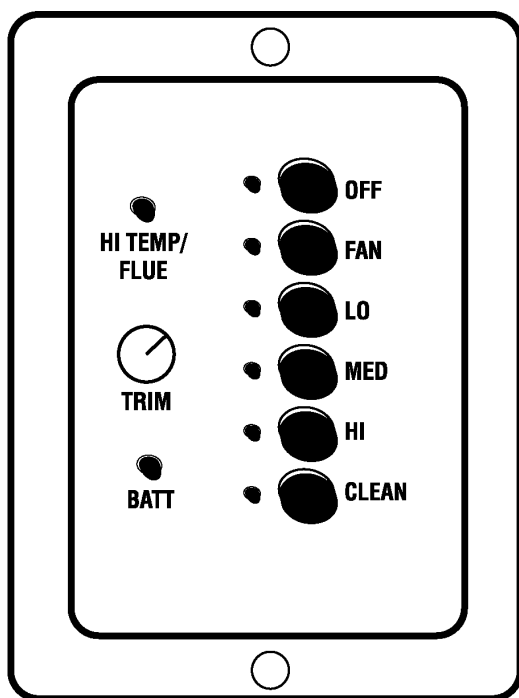


FIGURE 11

C. Control Functions

The control functions on the Echo are as follows: OFF, FAN, LOW, MED, HIGH, and CLEAN (see Figure 11).

1. In the "Low" position, the Echo will feed approximately 1 to 1.5 pounds of pellets per hour. The flame will fluctuate between 1 inch and 6 inches in height.
2. In the "Med" position, the Echo will feed approximately 3 pounds of pellets per hour. The flame will fluctuate from 3 to 8 inches in height.
3. In the "High" position, the Echo will feed approximately 5 pounds of pellets per hour. The flame will fluctuate between 3 inches and a full flame. The fan speed will increase accordingly as the heater automatically adjusts itself based on the temperature inside the heater.
4. The "Clean" position is to be used only when the heater is not burning and you wish to clean out the combustion housing and fan blades. See the "Hopper Clean Out" section under "Maintenance Procedures."
5. After the heater is running for several hours and you wish to turn it off, simply push the button to "Off." If you use a remote or wall thermostat it will turn off the stove automatically when the desired room temperature is reached. **The heater will continue to run until it cools down and it will then automatically shut down at 58 degrees F. or in 25 minutes, whichever comes first.**
6. **REMEMBER:** Each feed position will fluctuate because the microprocessor automatically adjusts 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.

HIGH TEMP/FLUE AND TRIM INDICATORS

High Temp/Flue: There is a small window to the left of the fan button that will blink red if the flue pipe becomes obstructed or there is a high wind condition, creating a back draft. If there is problem with the fan guard becoming blocked due to dust and lint build up then this light will come on and stay steady red. The feed will shut off and the stove will shut down when these two conditions are present. Maintenance is required and thorough cleaning and pipe check must be performed if these conditions persist.

Battery Light: When the green light is blinking the battery is charging. When the green light is steady the battery is fully charged. If this light is red, then the battery terminals are plugged in backward.

Trim Button: On the left side of the control panel there is a small, round button that will turn clockwise and counter-clockwise. This button allows you to control the feed rate in each setting—Low, Med, and High. By turning the button clockwise you can increase the feed rate in each setting. By turning the button counter-clockwise you can decrease the feed rate.

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

BATTERY OPERATION

Always plug AC cord in before DC battery.

1. The battery must be one foot from the stove to ensure that the terminal does not touch any part of stove.
2. The Echo Pellet 12V back-up can be purchased as an option and includes the following components:

- a. Deep cycle sealed 12-volt gel cell battery (available at most battery stores)
 - b. Battery connector cables for hook-up to the heater (available from your dealer or Thelin Hearth Products)
3. To hook up the battery and engage the 12-volt back-up system, do the following:
 - a. Connect the red battery cable to the (+) positive terminal on the battery. Then plug the red banana plug into the red receptacle on the stove. **The red must be plugged in first before the black.**
 - b. Connect the black battery cable to the (-) negative terminal on the battery. Then plug the black banana plug into the black receptacle on the stove. If you hook up the cables correctly the LED light on the control panel come on and glow green. If hooked up improperly, this LED will glow.

WARNING: Make sure the red cable goes to the red terminal (positive connector) and the black cable goes to the black terminal (negative connector).

4. If you decide to purchase your own 12-volt back-up system, we recommend a sealed gel cell battery. **Failure to install the proper battery could cause physical harm to you and/or your property and will also void the heater warranty.**
5. When the battery is properly connected and the heater plugged in, the following will happen automatically:
 - a. The heater will automatically switch to 12-volt 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 will keep a charged battery at maximum performance. **Do not unplug stove for the summer and keep**

battery attached. Battery will drain down and fail to recharge.

6. If you choose to separate the battery from the heater by lengthening the cables, you must make sure the cable 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.
7. The automatic ignition feature will not work on DC power only. The stove can be lit manually with an approved starter material. Call Thelin Hearth Products if you need help with manual lighting.

MAINTENANCE PROCEDURES

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 and let it cool before cleaning.

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

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

- a. Soot and Fly Ash: Formation and Need for Removal: The products of combustion will contain small particles of fly ash. The fly ash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such that occurs during start-up, shutdown, or incorrect operation of the room heater, will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected

at least once every year to determine if cleaning is necessary.

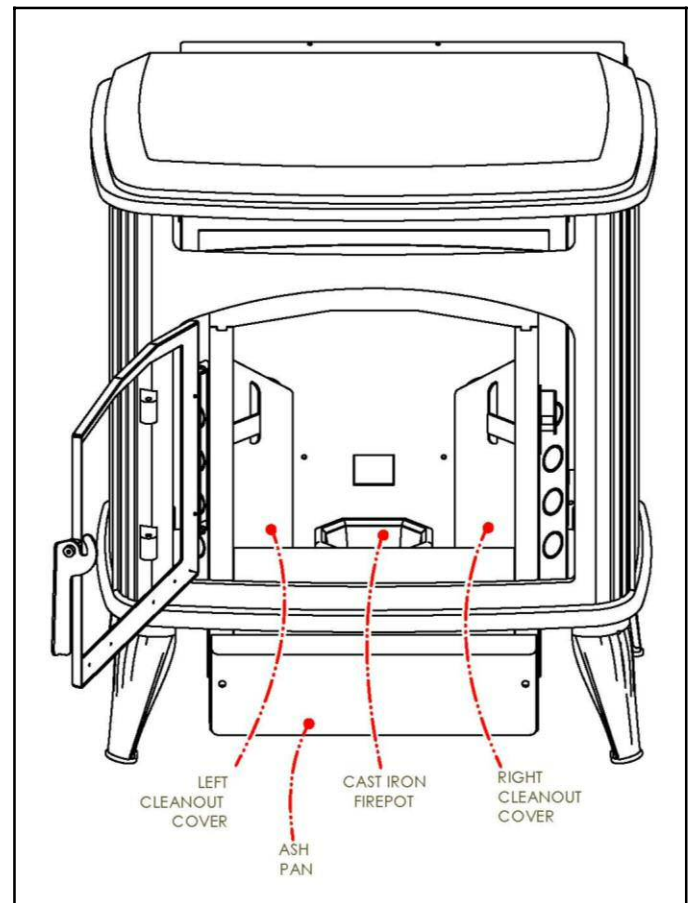


FIGURE 12

Here are some other maintenance procedures that should be performed on a regular basis.

- b. Open door and remove clean out cover screws. To remove, simply unscrew and lift out from each side (see Figure 12). Clean one side at a time. With covers removed, leave the door open and push the “Clean” button. Let heater run 30 seconds, push to “Off,” and replace cover. Remove the remaining clean out cover and repeat procedure for other side.
- c. Vacuum inside stove ash pockets on both sides of fire pot and heat exchange tubes.

- d. Remove fire pot by lifting up and out. It may be brushed out or vacuumed. Fire pot should be cleaned regularly. Make sure slots in pot are not plugged. 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 required for cleaning.
 - e. Scrape pellet feed chute with putty knife to remove hardened material on which sawdust can accumulate.
 - f. 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" mode on the control dial.
 - g. Fly ash can also accumulate in the vent pipe. Inspect the exhaust system frequently to maintain free flow of exhaust fumes. This depends entirely on the quality of the pellets, so you will initially monitor the buildup in the vent pipe. Those installations going into an existing flue must be installed with a tee connector to allow access to clean the ash from the pellet vent pipe.
1. **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 on how often the heater is used. If you burn the heater all of the time, you should do this every eight to ten days.
 2. **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" position with the door open for approximately 45 seconds 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 feature (see Figure 12). **(See Figure 16 for routine stove clean out and maintenance.)**

3. **Cleaning the Fan Guard:** The plastic fan guard on the rear of the stove must be kept free of lint and dust. Check weekly for lint build-up and vacuum as necessary. (See Figure 2)
4. **Keeping the Glass Clean:** If soot deposits accumulate on the glass, clean with window glass cleaner and a paper towel when glass is cold.

This Echo Pellet Heater has been tested and approved by Warnock Hersey Test Labs in Middleton, Wisconsin.

TROUBLESHOOTING

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 did not light.

Solution: Check power cord to see that it is plugged in tightly to the bottom of the stove. Is the LED light blinking when you push the Low, Medium, or High button? If not, check the fuse for the igniter located on the bottom of the stove in the red fuse holder. Remember that the timer on start-up runs about six minutes and if the pellets have not lit, then you may have to repeat the start-up sequence. Also, the stove only runs on one speed until a temperature is reached that activates the run mode. This usually takes 15 to 20 minutes, and in extremely cold climates, you might have to repeat the start-up procedure for the stove to reach this temperature.

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

Solution: Check pellet supply in hopper. If empty, fill and follow start-up procedure. 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 restart the heater. CAUTION: Keep fingers and hands clear of the 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 fire pot air intake holes to be sure they are clear. Check to see if fire pot was properly seated in the pot tray. If you use a low-grade pellet and clinkers (fused ash and dirt) form in the bottom of the fire pot and chock 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 fire pot. 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 heat exchanger tubes (see Figure 12) regularly to ensure a good air to fuel ration, thus allowing the heater to "breathe" properly. You must also check the tee and vent pipe to see that they are not clogged and full of ash.

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

Solution: Black soot forming on the door glass 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 readjusted 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 siphon 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 panel came on. This light is the High Temp/Flue indicator light.

Solution: The High 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 or a high-wind condition. 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 you try another pellet brand. In most climates the pellets and fly ash can 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. High-wind condition may require a high-wind cap. See Appendix A.

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

8. **Problem:** Fan motor speed varies, sometimes running low and sometimes surging. Will run on "High" or "Clean" but not on "Low."

Solution: Fan motor brushes are wearing out. Brushes in fan motor need to be replaced. Contact your dealer or call factory for replacement brushes.

9. **Problem:** Stove shuts off at night when running on low.

Solution: Feed is too low. Adjust feed trim button (turn clockwise) until feed can maintain fire.

10. **Problem:** I see a flashing green light behind the outer shield. What does this mean?

Solution: The flashing green light behind the outer shield means the circuit board is energized. This is okay. "Green means go." All systems are ready and operational.

FIGURE 13 – REPLACEMENT PARTS LIST

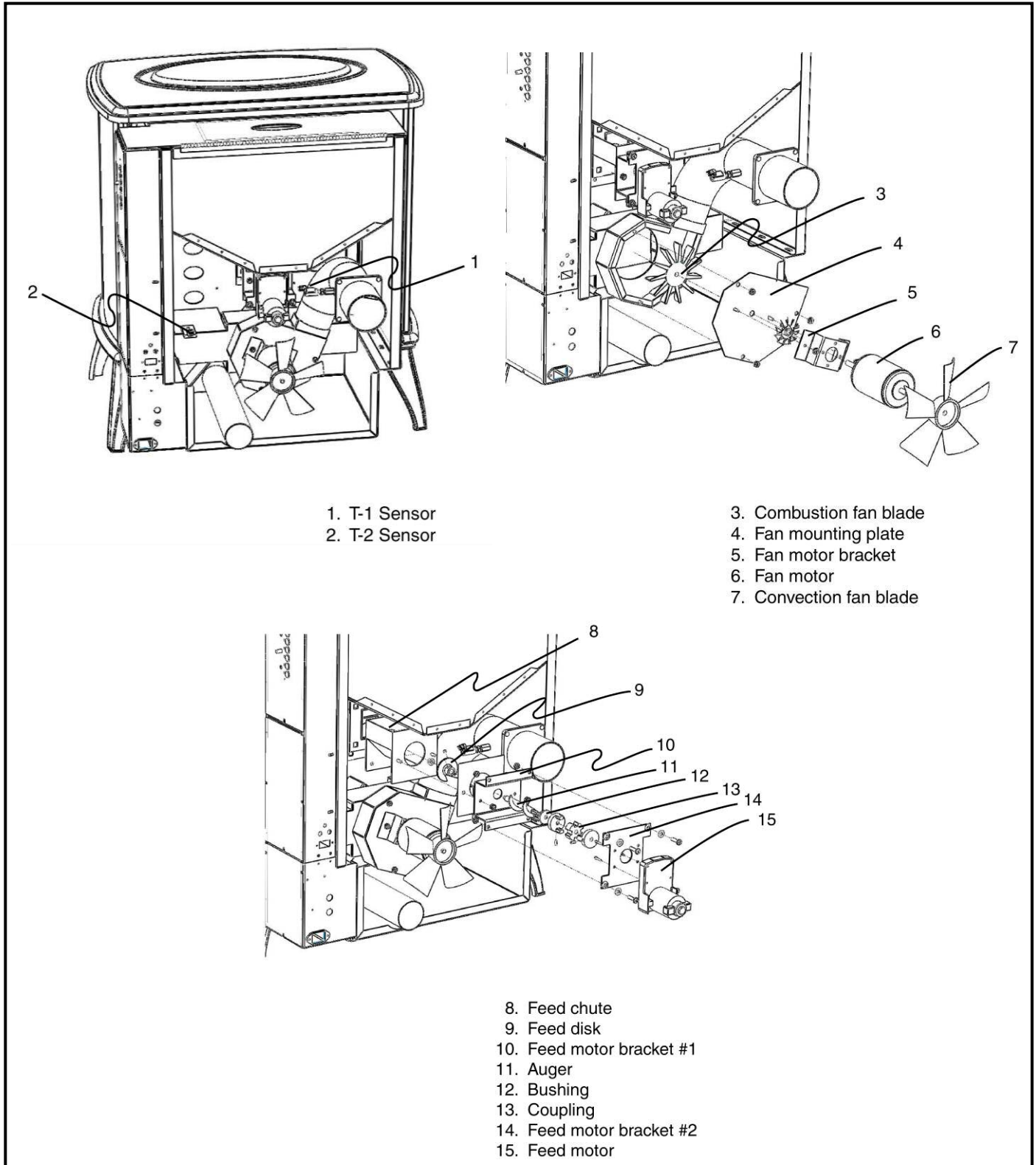


FIGURE 14 - CIRCUIT BOARD DIAGRAM

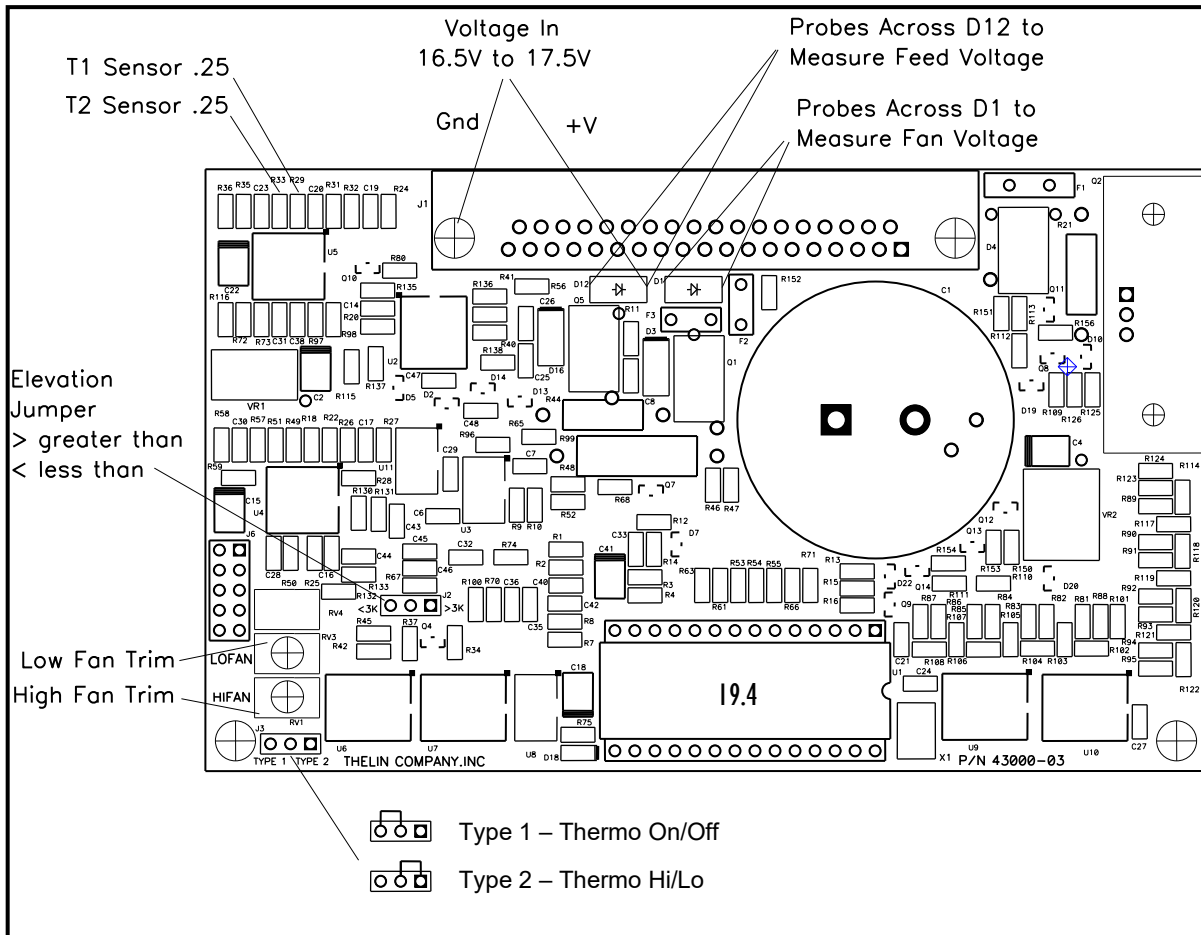


FIGURE 15 - ELECTRICAL SCHEMATIC/WIRING DIAGRAM

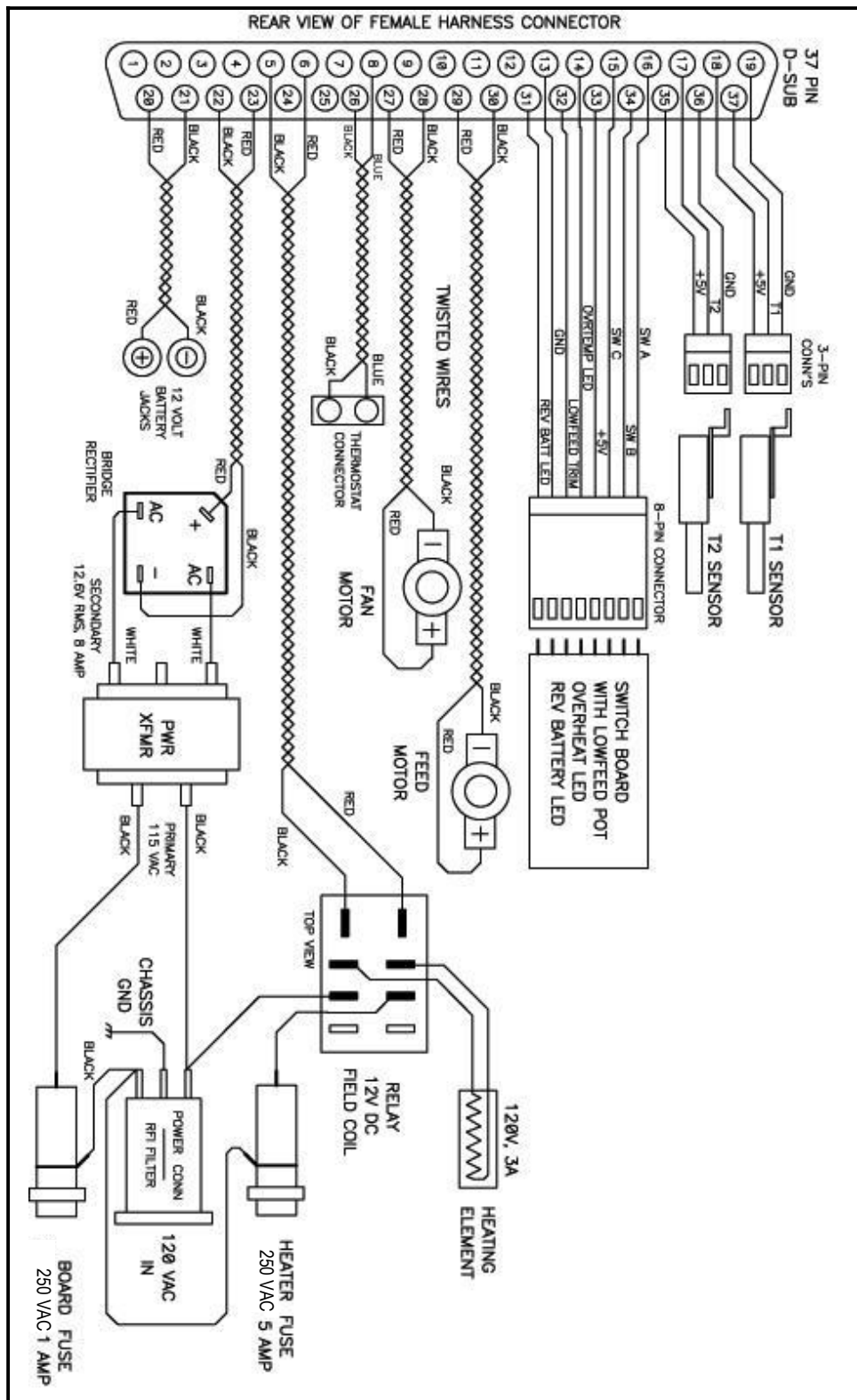
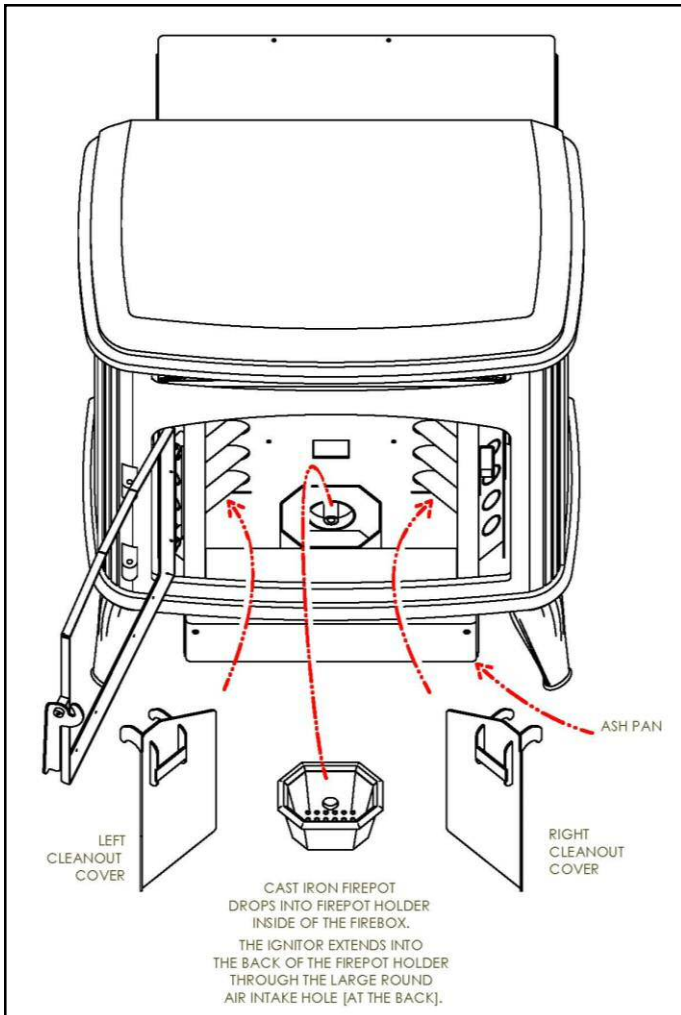


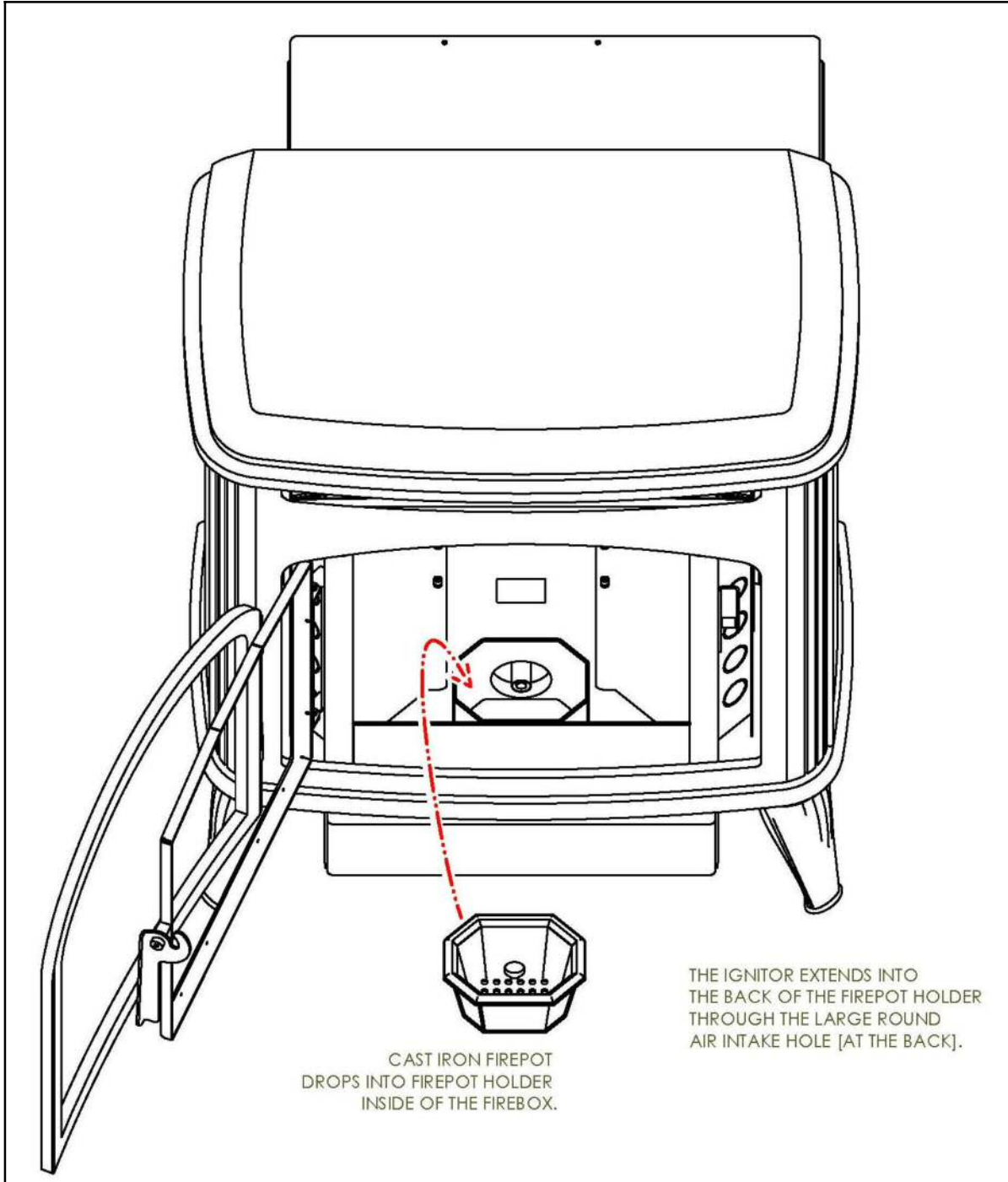
FIGURE 16 – ROUTINE STOVE CLEAN OUT AND MAINTENANCE



The following is a step-by-step procedure to clean out and maintain your pellet stove.

1. **Stove must be shut off and completely cold before performing this maintenance.**
2. Open door; remove fire pot and clean-out covers.
3. Vacuum entire inside area, including heat exchanger tubes (both sides), using a pellet vac or shop vac. **Do not use a household vacuum cleaner!**
4. Connect vinyl clean-out tube to pellet vac or shop vac. (An adaptor must be used to connect to a shop vac. These can be purchased at hardware stores or home centers.) Insert the clean-out tube down between the heat exchange tubes, and vacuum up the debris. Repeat the procedure for the other set of tubes on opposite side.
5. Turn control knob to “clean” position for about 45 seconds.
6. Replace clean-out covers and fire pot. The stove is now ready to use.

APPENDIX B – E.I. FIREPOT ASSEMBLY



APPENDIX C – FINE TUNING

Because of the variability of pellets (i.e., length thickness, density, quality of sawdust), you might have to—from time to time—fine tune your heater to compensate for pellet quality. Following are some suggestions for fine tuning.

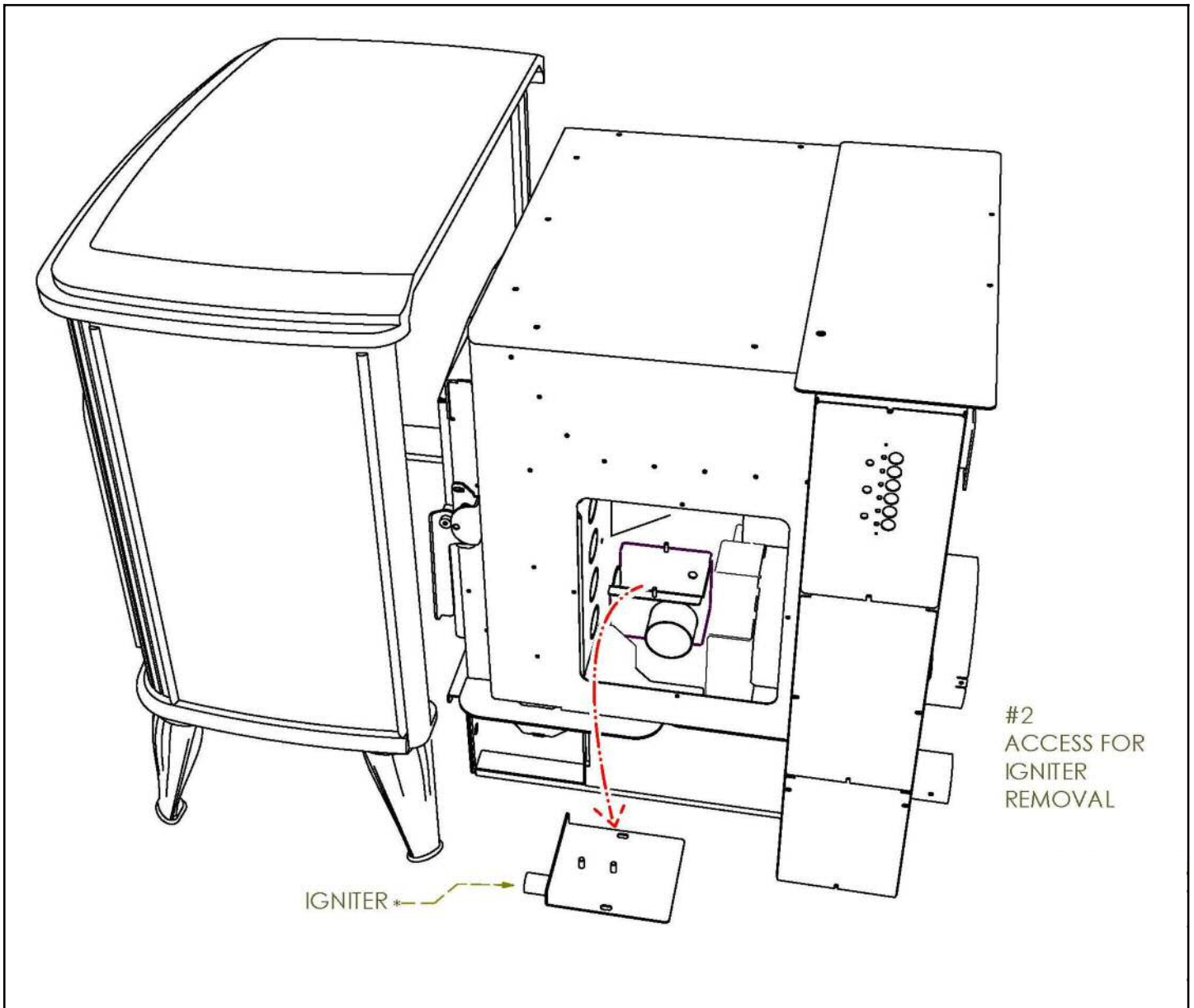
There are three (3) fine-tuning adjustment components:

1. The Trim Button located on the control plate (see Figure 11) will allow you to change the feed rate on each setting (i.e., Hi, Med, Low). By turning the trim button clockwise you can increase the feed rate, and by turning the trim counterclockwise you can decrease the feed rate. For example, if the pellet you are using is a hardwood pellet and longer than 1”, then the stove could go out on the low setting for lack of fuel. Turn the trim clockwise to increase fuel and thus sustain the fire.
2. The Air Intake Damper control located on the air intake damper (see Figure 2) will allow you to regulate the amount of combustion air being fed to the pellet fire pot. If, for example, you have a high vertical

run of pipe (over 10’) then as the pipe warms up the draw can be intense enough to suck more heat out of the stove than is necessary. To make the stove run efficiently you need to close the damper about 60% and see if the heat output increases. If, on the other hand, you feel the pellets are not getting enough air, then opening the air damper could help. You can also increase combustion air utilizing the procedure in #3.

3. The Fan Trim Pot Adjustment is located on the circuit board (see Figure 14). Please note the two fan trim pots marked on the drawing (lower left hand corner). By using a small slot screwdriver you can adjust fan speeds to compensate for poor pellets or airflow. By turning the trim pots clockwise you can speed up the fan speed on both Hi and Low settings. You will have to experiment with the setting to determine the proper burn. A good, brisk flame that is yellow, not orange, is what indicates a good burn.

APPENDIX D – IGNITER REMOVAL



THELIN LIMITED FIVE, THREE, ONE, YEAR LIMITED WARRANTY

Thelin Hearth Products (THP), warrants to the original consumer this stove will be free of defective materials and workmanship for the following periods: Five Years-Outer structure excluding gold or nickel plating, Three Years-Interior metal construction, One Year- Electrical, gold or nickel plated rings & items, from the date of purchase. This warranty does not extend to any parts worn or damaged through normal ware, abuse, accident, or neglect or warpage due to over-firing; nor does it apply if the stove has been repaired or modified unless by THP written authorization. If the stove proves to be defective in material or workmanship within the warranty period, THP will, at no charge, repair or replace (at its option) any defective parts, if the purchaser ships the parts or the stove, freight prepaid, to THP Factory Center. THP may require the consumer to supply reasonable proof of the stoves purchase date.

This warranty is in lieu of any other express warranty. Any implied warranties, including but not limited to any implied warranty of merchantability or fitness for a particular purpose shall not extend beyond one year from the date of purchase.

The purchaser's sale and exclusive remedy shall be for the repair or replacement of defective parts, as provided for in this warranty. No other remedy (including but not limited to incidental or consequential damages for lost profits, lost sales, injury to person or property, or other incidental or consequential loss) shall be available to the purchaser.

Some states do not allow limitations on how long an implied warranty lasts and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

THP's warranty obligation and the purchaser's rights under it can be altered only by a subsequent written agreement between THP and the purchaser.

The remedies provided in this warranty are void unless the attached warranty registration card is received by THP within 30 days from the date of purchase.

If you have a warranty claim or questions about the performance of your stove, you are requested to contact your dealer.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

All warranties are void if the unit is used to burn non-approved materials or not operated in accordance with the EPA Certification and the owner's manual. Refer to the manual for additional information.

Please fill out and return the
bottom half of the page to:
THELIN HEARTH PRODUCTS
63 Laxalt Ave.
Carson City NV 89706

**Fill out &
return within
30 days.**



Thelin Hearth Warranty Card



Model # _____

Serial # _____

Date Purchased _____ / _____ / _____

Name _____ Dealer Name _____

Address _____ City/State _____ Zip _____

City/State _____ Zip _____

Mail form to: Thelin Hearth Products
63 Laxalt Ave.
Carson City, NV 89706
Attn: Customer Service

I have read and understand the above warranty agreement.

Owner's Signature _____



775-241-2586
