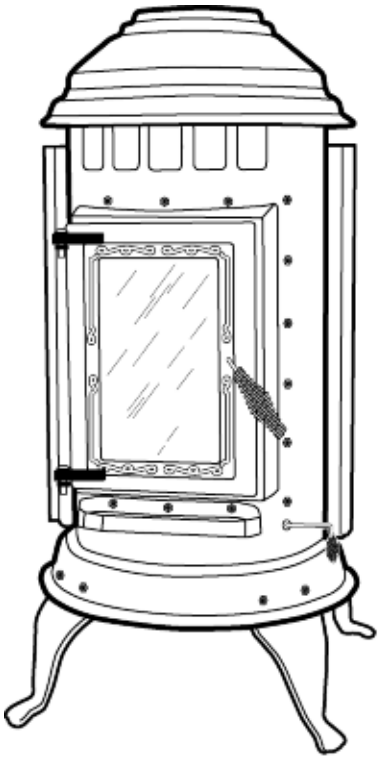
T-4000 WOOD STOVE

Wood Stove Heater Owner's Manual
Installation and Operating Instructions



Made in the USA by:

THELIN
HEARTH PRODUCTS

775-241-2586

NATIONAL FIREPLACE INSTITUTE NFI CERTIFIED

We suggest that our woodburning hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Woodburning Specialists or who are certified in Canada by Wood Energy Technical Training (WETT).

Wood Energy Technical Training

Please read this entire manual before installation.

Save these instructions.

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.
- FAILURE TO COMPLY WITH OWNER'S MANUAL INSTRUCTIONS WILL VOID WARRANTY.

PLEASE LEAVE THIS MANUAL WITH THE OWNER!!

TH-REF-SLS-235 Rev. B 2017

CONTENTS

2-10-3 Rule, 11
Accessories, 7
Air Lever, 19
Ash Disposal, 21
Ash Drawer, 17
Ash Removal, 21
Back Fan, 23
Blower Assembly, 21
Burn Guidelines, 19
  Burn Rates, 20
  Densified Logs, 20
  Fuel Selection, 20
  Overfiring, 20
  Starting a Fire, 19
Burning Process, 17
Chimney
  Connector, 8, 12
  Draft, 11
  Height, 11
  Masonry, 14
  Placement, 11
  Prefabricated Metal, 13
  Support by Ceiling, 13
  System, 8, 12, 13
  Through Outer Wall and Enclosed, 14
  Vacation A-Frame with Steep Pitch Roof, 14
  with Pair of Offset Elbows, 13
Clean Out and Maintenance, 21
Clearance to Combustibles, 6, 10
Clearances
  Combustibles, 6
  Floor Protection, 11
  Mobile Home, 16
  Venting, 9
Connection
  Masonry Chimney, 14
  Mobile Home Installation, 15
  Prefabricated Metal Chimney, 13
Creosote, 21
Dimensions, 7
Exhaust Air Flow, 19
Fire Safety, 8
Floor Protection, 9, 11
Flue Collar, 12
Flue Connection, 12
Glass Cleaning, 22
Glass Replacement, 22
Installation
  Canada, 11
  U.S., 11
Installation and Operating Instructions, 4
Installation Materials, 8
Installation of Optional Blower, 20
Laboratory Listing Label, 6
Maintenance
  Ash Disposal, 21
  Ash Removal, 21
  Creosote Build Up, 21
  Glass Cleaning, 22
Masonry Chimney, 15
Mobile Home
  Clearances, 16
  Installation, 15
One-Story House with Attic, 13
Operating Instructions, 17
Optional Blower
  Installation, 20
  Part Number, 20
Outside Air Kit, 17
  Contents, 17
  Installation, 17
Outside Air Mount, 16
Overfiring, 20
Plated Surfaces
  Cleaning, 22
Primary Air Flow, 18
Procedures
  Mobile Home, 15
Safety and Listing Information, 7
Safety Guidelines, 4
Secondary Air Flow, 18
Termination Cap, 8
Thimble, 8
Venting Systems, 8
Vermiculite Insulation, 22, 23
Warranty Information, 24

FIGURES

Figure 1. Laboratory Listing Label 6
Figure 2. Dimensions 7
Figure 3. Floor Protection 9
Figure 4. Clearance to Combustibles 10
Figure 5. 2-10-3 Rule 11
Figure 6. Chimney Connector and Flue Collar 12
Figure 7. Chimney with Pair of Offset Elbows 13
Figure 8. One-Story House with Attic 13
Figure 9. Vacation A-Frame with Steep Pitch Roof 14
Figure 10. Chimney Through Outer Wall and Enclosed 14
Figure 11. Masonry Chimney 15
Figure 12. Masonry Chimney 15
Figure 13. Mobile Home Installation 16
Figure 14. Outside Air Mount 16
Figure 15. Outside Air Kit 17
Figure 16. Ash Drawer 17
Figure 17. Primary Air Flow 18
Figure 18. Secondary Air Flow 18
Figure 19. Exhaust Air Flow 19
Figure 20. Air Lever 19
Figure 21. Blower Assembly 21
Figure 22. Placement of Vermiculite Insulation 23
Figure 23. Back Fan 23

INSTALLATION AND OPERATING INSTRUCTIONS

This manual contains installation and operating instructions for your new T-4000 wood stove. Correct and proper installation is mandatory. Failure to comply with the instructions will void your warranty and could lead to a house fire, bodily injury, and even death. Please note the following safety guidelines:

Important Safety Guidelines

1. Fire Protection. If this room heater is not properly installed, a house fire may result. To reduce risk of fire, follow the safety instructions. Contact local building of fire officials about restrictions and installation inspection requirements in you area. A permit is required to protect your insurance coverage.

2. Never use gasoline, kerosene, lantern fuel, charcoal lighter, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids away from this heater.

3. During operation do not over fire! Over firing occurs if any part of the heater starts to glow. OVER FIRING VOIDS YOUR WARRANTY. Close the air control completely until the glowing has stopped.

4. Always use a metal container to dispose of ashes. Always allow stove to cool down before disposing of ashes.

5. Store wood fuel in a dry location. DO NOT burn wet or green wood in this heater.

6. This heater is approved for cord wood and densified wood fire logs. Do not burn treated wood, fireplace logs with wax salt, garbage, charcoal, etc. Burning materials other than wood under adverse conditions may generate carbon monoxide in the home and could lead to illness or possible death.

7. Existing chimney systems must be checked throughly before installation. See professional help if installing into an existing metal or masonry chimney.

8. Do not permit creosote or soot to build up in your chimney.

9. **Do not** connect this appliance to a chimney flue already serving another appliance. **Do not** connect to any air distribution duct or system.

10. Note minimum clearance to combustibles. These clearances are shown in Figure 4 and must be complied with.

11. Build fire on firebrick floor of appliance. Do not use grates, irons, or other methods to support the fuel.

12. RISK OF FIRE! Do not operate stove with door open.

13. HOT WHILE IN OPERATION! Keep children, pets, clothing, draperies, and furniture away from heater. Contact can cause skin burns.

14. Do not operate without fully assembling all components. This will void your warranty and could present a serious safety hazard.

15. When in doubt about safety or operation refer to National Fire Protection Code NFPA 211 (US) or CAN/CSA-B365 (Canada)

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

CONSUMER INFORMATION

Model Name: T-4000 Wood Stove

Serial Number: _____

Date Purchased: _____

Dealership Purchased At: _____

Dealer Phone Number: _____

Installation By: _____

Additional Information:

Complete your warranty card and attach sales receipt here for future reference.

FIGURE 1 - LABORATORY CERTIFICATION LABEL

DO NOT REMOVE THIS LABEL / N'ENLEVEZ PAS CETTE ETIQUETTE

Tested & Listed By OTL Portland Oregon USA

Report No. 220-S-01b-2

CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT INSTALLATION AND RESTRICTIONS IN YOUR AREA.
VEUILLEZ CONTACTER VOS AUTORITÉS DE BÂTIMENT OU VOS POMPIERS À PROPOS DE L'INSTALLATION ET DES LIMITATIONS CHEZ VOUS.

ROOM HEATER, SOLID FUEL TYPE, ALSO FOR USE IN MOBILE HOMES
RADIATEUR, CARBURANT DE TYPE SOLIDE, À UTILISER AUSSI DANS LES MOBILE HOMES.

THELIN
www.thelinco.com
Carson City, NV 89403

MODEL/MODÈLE:	TESTED TO / TESTÉ JUSQU'À:	SERIAL NUMBER
T-4000	UL 1482, ULC S627-00 "Room Heater, Solid Fuel Type".	MFG STAMP NO.

PREVENT HOUSE FIRES - Install and use only in accordance with the manufacturer's installation and operating instructions. Contact your local building or fire officials, or the authority having jurisdiction, about restrictions and installation inspection in your area. Refer to local building codes and manufacturer's instructions for precautions required for passing a chimney through a combustible wall or ceiling. Do not run a chimney connector through a combustible wall or ceiling. Do not connect this unit to a chimney flue serving another appliance. Clearances may be reduced by methods specified in NFPA 211, listed wall shields, pipe shields, or other means approved by local building or fire officials. For use with solid wood fuel only (cord wood). Operate with feed door closed - open to feed fire only. Do not use a grate to elevate fire - build fire directly on hearth. Do not operate with the ash door open. Do not obstruct the space beneath the heater.

DO NOT OVERFIRE - If heater or chimney connector glows, you are overfiring.

Inspect and clean chimney frequently - under certain conditions of use, creosote buildup may occur rapidly.

*OPTIONAL BLOWER: Part no. 46000-01.

ELECTRICAL RATING: 12V, 5.9 Watts. Do not route power cord under or in front of appliance.

DANGER: Risk of electrical shock. Disconnect power before servicing unit.

Replace glass only with 8mm ceramic glass.

PRÉVENIR LES FEUX À LA MAISON: N'installez ni utilisez que selon les instructions de l'installation et de fonctionnement du fabricant. Contactez vos autorités de bâtiment ou vos pompiers, ou l'autorité en titre, à propos des limitations et l'inspection de l'installation dans votre région. Voyez les règlements de bâtiment dans votre région et les instructions du fabricant pour les précautions exigées pour faire passer une cheminée dans un mur ou un plafond combustible. Ne faites pas passer un raccordement de cheminée dans un mur ou un plafond combustible. Ne liez pas cette unité à un conduit de cheminée qui alimente un autre appareil. Les espaces peuvent être réduits par des méthodes stipulées dans NFPA 211, des écrans de protection du mur mentionnés, des écrans de tuyau, ou les autres méthodes approuvées par des autorités de bâtiment ou des pompiers de la région. À utiliser avec les combustibles en bois solide seulement. Utilisez avec la porte d'alimentation fermée: n'ouvrez que pour alimenter le feu. N'utilisez pas une grille pour élever le feu–ne faites le feu que sur un âtre. N'utilisez pas avec la porte des cendres ouverte. Ne bloquez pas l'espace sous le radiateur.

NE FAITES PAS TROP DE FEU–Si le radiateur ou le raccordement de cheminée brille, vous faites trop de feu.

Examinez et nettoyez souvent le cheminée–sous certaines conditions d'utilisation, une accumulation de créosote pourrait se passer rapidement.

*SOUFFLEUR EN OPTION: Élément No. 46000-01.

COTE ÉLECTRIQUE: 12 V, 5.9 Watts. Ne faites pas passer le cordon électrique sous ou devant l'appareil.

AVERTISSEMENT: Risque de choc électrique. Débranchez le courant avant de faire réviser l'unité.

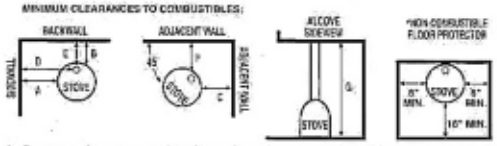
Ne remplacez le verre qu'avec la verre céramique de 8 mm.

FREESTANDING INSTALLATION

STANDARD RESIDENTIAL FREESTANDING INSTALLATIONS REQUIRE: 6" diameter, minimum 24 MSG black or 26 MSG blued steel connector, with listed UL103 HT (ULC S629 in Canada) factory-built chimney, suitable for use with solid fuels or masonry chimney.

CLEARANCE REQUIREMENTS:	SINGLEWALL CONNECTOR RESIDENTIAL INSTALLATION	DOUBLEWALL CONNECTOR RESIDENTIAL/MOBILE HOME INSTALLATION	DOUBLEWALL CONNECTOR ALCOVE INSTALLATION
A. SIDEWALL TO UNIT - USA	14.0"(356mm)	14.5"(368mm)	14.5"(368mm)
A. SIDEWALL TO UNIT - Canada	15.0"(381mm)	15.0"(381mm)	15.0"(381mm)
B. BACKWALL TO UNIT	13.0"(330mm)	13.0"(330mm)	13.0"(330mm)
C. CORNERWALL TO UNIT	10.0"(254mm)	10.0"(254mm)	N/A
D. SIDEWALL TO CONNECTOR	21.5"(546mm)	21.5"(546mm)	21.5"(546mm)
E. BACKWALL TO CONNECTOR	16.0"(406mm)	16.0"(406mm)	16.0"(406mm)
F. CORNERWALL TO CONNECTOR	15.0"(381mm)	15.0"(381mm)	N/A
G. FLOOR TO CEILING	84.0"(2134mm)	84.0"(2134mm)	96.0"(2438 mm)

MINIMUM CLEARANCES TO COMBUSTIBLES:



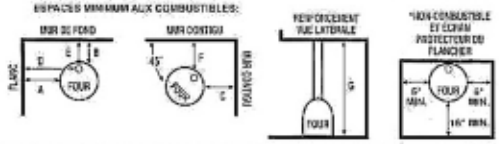
*In Canada, floor protection must extend 18" (450mm) to the front and 8" (200mm) to the sides and back of the unit.

L'INSTALLATION SUR PIED

LES INSTALLATIONS SUR PIED À DEMEURE NORMALES EXIGENT: Un diamètre de 6", 24 MSG noir ou 26 MSG bleu minimum raccordement en acier, avec UL 103 HT classé (UL103 HT S629 au Canada) cheminée fabriquée en usine, à utiliser avec des combustibles solides ou une cheminée en maçonnerie:

EXIGENCES D'ESPACE:	INSTALLATION À DEMEURE RACCORDEMENT A UN MUR	INSTALLATION À DEMEURE/MOBILE HOME RACCORDEMENT A DEUX MURS	INSTALLATION À RENFONCEMENT -RACCORDEMENT A DEUX MURS
A. FLANC À L'UNITÉ - USA	14.5"(368mm)	14.5"(368mm)	14.5"(368mm)
A. FLANC À L'UNITÉ - Canada	15.0"(381mm)	15.0"(381mm)	15.0"(381mm)
B. MUR DE FOND À L'UNITÉ	13.0"(330mm)	13.0"(330mm)	13.0"(330mm)
C. MUR DE COIN À L'UNITÉ	10.0" (254mm)	10.0"(254mm)	N/A
D. FLANC AU RACCORDEMENT	21.5"(546mm)	21.5"(546mm)	21.5"(546mm)
E. MUR DE FOND AU RACCORDEMENT	16.0"(406mm)	16.0"(406mm)	16.0"(406mm)
F. MUR DE COIN AU RACCORDEMENT	19.0"(482mm)	19.0"(482mm)	N/A
G. PLANCHER AU PLAFOND	84.0"(2134mm)	84.0"(2134mm)	96.0"(2438 mm)

ESPACES MINIMUM AUX COMBUSTIBLES:



*Au Canada, la protection du plancher doit s'étendre 18" (450mm) au devant et 8" (200mm) aux côtés et à l'arrière de l'unité.

CAUTION: HOT WHILE IN OPERATION- DO NOT TOUCH. KEEP CHILDREN AND CLOTHING AWAY- CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS. KEEP FURNISHINGS AND OTHER COMBUSTIBLE MATERIALS A CONSIDERABLE DISTANCE AWAY FROM THE APPLIANCE.

ATTENTION: CET APPAREIL EST CHAUD EN MARCHANT- NE TOUCHEZ PAS. TENEZ HORS DE LA PORTÉE DES ENFANTS. NE PERMETTEZ PAS LES HABITS A TOUCHER L'APPAREIL. LE CONTACT PEUT CAUSER DES BRULURES DE LA PEAU. VOYEZ LA PLAQUE ET LES AUTRES INSTRUCTIONS. TENEZ LES MEUBLES ET LES AUTRES MATERIAUX COMBUSTIBLES HORS DE CET APPAREIL.

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

DATE OF MANUFACTURE XX/XX/20XX

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.

DIMENSIONS

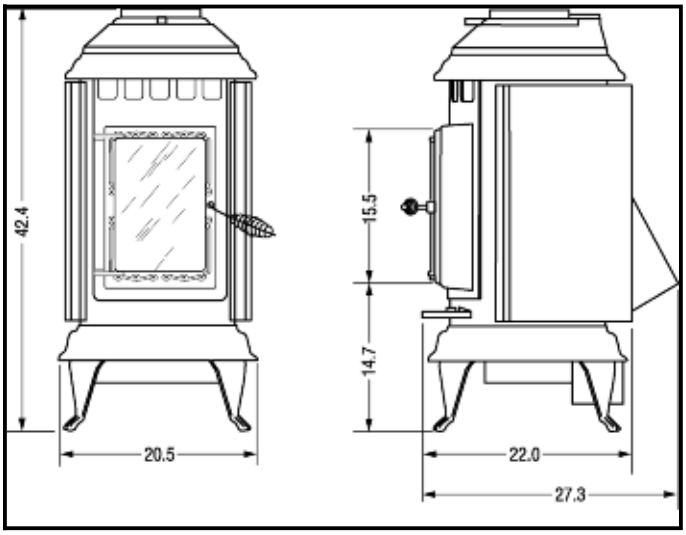


FIGURE 2. DIMENSIONS

Accessories
Fan/Blower Option # 46000-01
Outside Air Kit # 46000-02

WARNING!

DO NOT ATTEMPT TO OPERATE THIS WOOD STOVE WITHOUT READING AND UNDERSTANDING THESE OPERATING INSTRUCTIONS THOROUGHLY. FAILURE TO OPERATE THIS APPLIANCE PROPERLY MAY CAUSE A HOUSE FIRE.

THE OUTSIDE SURFACES OF THIS UNIT WILL BECOME EXTREMELY HOT DURING OPERATION. ALWAYS KEEP CHILDREN AWAY WHILE IT IS IN USE AND DO NOT LET ANYONE OPERATE THIS APPLIANCE UNLESS THEY ARE FAMILIAR WITH THESE OPERATING INSTRUCTIONS.

NEVER DRAW OUTSIDE COMBUSTION AIR FROM A WALL, FLOOR, OR CEILING CAVITY OR FROM ANY ENCLOSED SPACE SUCH AS AN ATTIC OR GARAGE.

SAFETY AND LISTING INFORMATION

These installation instructions describe the installation and operation of the Thelin T-4000 Wood Stove. This stove meets the strictest EPA and Washington State particulate emission standards. The T-4000 is listed by OMNI-Test Laboratories, Inc. to UL Safety Standard 1482 and (UM) 84-HUD. The T-4000 is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air kit (available from Thelin Hearth Products) is provided. The structural integrity of the mobile home floor, ceiling, and walls must be maintained. The stove must be properly grounded to the frame of the mobile home.

Check with local building officials and code agencies before beginning installation to ensure compliance with local codes, including the need for permits and follow-up inspections. Always obtain a building permit to ensure validation of insurance protection. Contact your local dealer for clarification and assistance, if required.

Inspect and clean vent system frequently in accordance with the instructions contained in this manual. Do not connect this unit to a chimney serving another appliance.

When using the optional blower package, route power cord away from the unit. Do not allow cord to lay under or on the appliance.

Do not elevate fire. Build wood fire directly on firebrick fiber (floor of stove).

Do not overfire. If heater or chimney connector glows, you are overfiring.

Operate with the door closed. Open only to add fuel to the fire. Operating with the door open can cause hot embers or sparks to fall out and a fire may result.

MATERIALS NEEDED FOR SAFE INSTALLATION

Fire Safety: To provide reasonable fire safety, Thelin Hearth Products recommends the following:

1. Install at least one smoke detector on each floor of your home. They should be located away from the heating appliance and close to sleeping areas.

2. A Class "A" fire extinguisher should be kept near the stove to contend with any small fires resulting from burning embers, etc.

3. Create a house evacuation plan with at least two escape routes and have all members of the family aware of the plan.

4. Be aware of the possibility of a chimney fire and know what to do, such as:

    a. Notify the fire department

    b. Prepare occupants for evacuation

    c. Close all air openings into the stove

    d. While waiting for the fire department, watch for ignition of adjacent combustibles to stove pipe, i.e., walls, ceiling, hot embers, and sparks from the chimney.

VENTING SYSTEMS

The venting system consists of the following: chimney connector, thimble, chimney system, and termination cap. They are defined as follows:

Chimney Connector

The chimney connector, also known as the flue or stove pipe, joins the stove to the chimney (see Figure 6). It must be 6" (152mm) minimum diameter, 24 MSG black or blued steel, or an approved air-insulated double wall-venting pipe.

Thimble

A manufactured or site-constructed device installed in combustible walls through which the chimney connector passes to attach to the chimney system. It is intended to keep the walls and ceiling from catching on fire.

Chimney System

A. PREFABRICATED 6" (152mm) listed high-temperature (UL103HT or ULC S629M) chimney. Components required by manufacturers for installation such as the chimney support base, firestop (as appropriate), attic insulation shield, insulated tee, etc., are necessary to assure a safe installation. Use only components manufactured for the chimney system being used (do not mix brands). Chimney should meet NFPA 211 standards.

B. APPROVED MASONRY (see specifications in Figure 12 and Figure 13) with at least 5/8" (16mm) fire clay lining joined with refractory cement or other listed system suitable for use with wood stoves.

Termination Cap

The cap on top of the chimney system that protects the pipe from rain, snow, and wind. Some installations will require a special "high wind" cap depending upon location and prevailing wind direction. Check with your local dealer to determine if you need a special cap.

Venting systems get extremely hot during use. Temperatures inside the chimney may exceed 2,000 degrees F (1,100 °C) in the event of a creosote fire. To protect against the possibility of a house fire, the chimney system must be properly installed and maintained. An approved, listed thimble must be used when a connection is made through a combustible wall to a chimney. A chimney support package must be used when a connection is made through the ceiling to a prefabricated chimney. These accessories are absolutely necessary to

provide safe clearances to combustible wall and ceiling materials. All venting and pipe systems come with instructions. Follow these manufacturer's instructions carefully to avoid safely problems later.

The T-4000 may be connected to a lined masonry chimney or a listed high-temperature, prefabricated, approved metal chimney. **DO NOT** connect it to a chimney serving another appliance. Doing so will affect the safe operation of both appliances and will void your warranty.

LOCATING YOUR STOVE

Plan the stove location carefully. It is a good idea to plan on paper, using exact measurements, before cutting any holes in walls or ceiling. Consider safety, convenience, traffic flow, and the fact that the stove will need a chimney and chimney connector. When not using an existing chimney system, place the stove where there will be a clear passage for a factory-built, listed chimney through the ceiling and roof.

Avoid the possibility of fire hazard by maintaining the designated clearance to combustibles (see FIGURE 1). Attic and wall insulation **must not** touch the chimney. Maintain the designated air space clearance around the chimney. Each manufacturer of chimney pipe and venting lists clearances with their pipe. Read instructions carefully. The space around the chimney is necessary to allow natural removal of heat from the area. Insulation in this space will cause heat to build up, and this can ignite the wood framing inside the wall or attic. **NOTE:** Clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

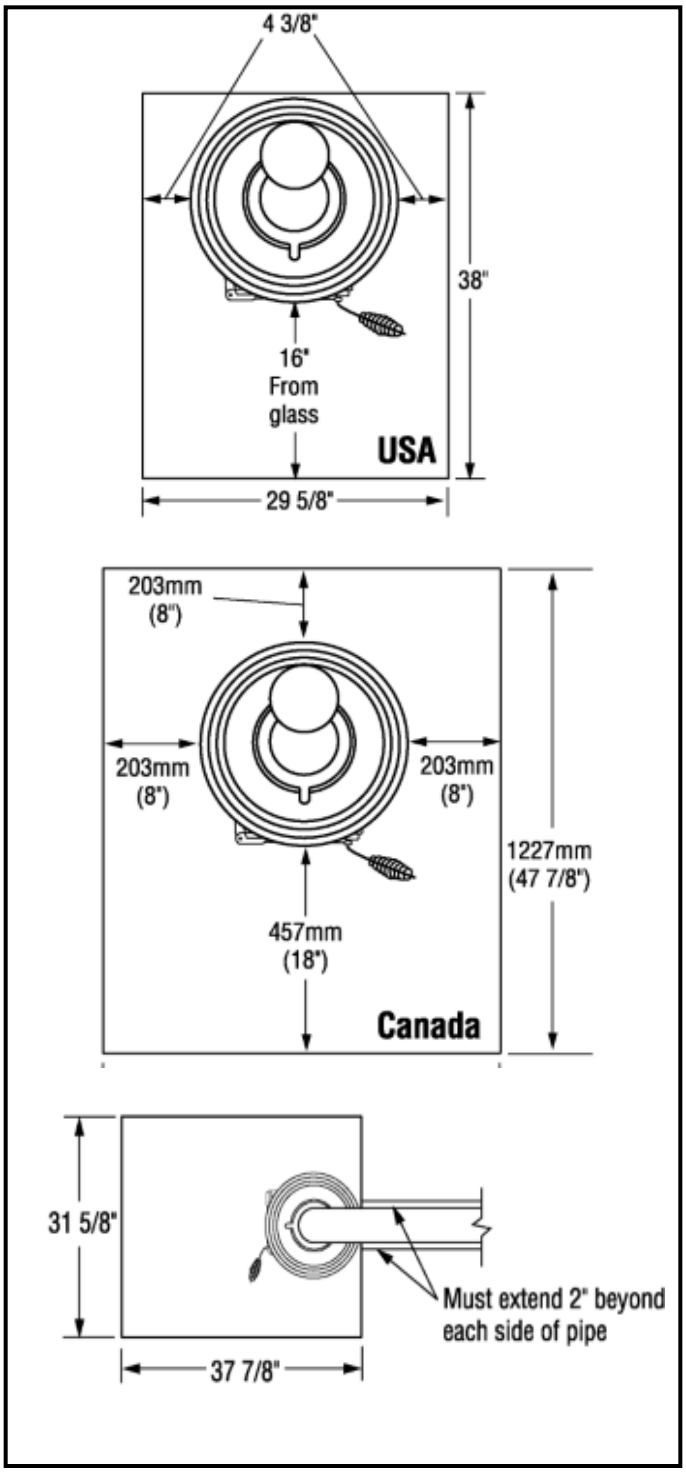


FIGURE 3. FLOOR PROTECTION

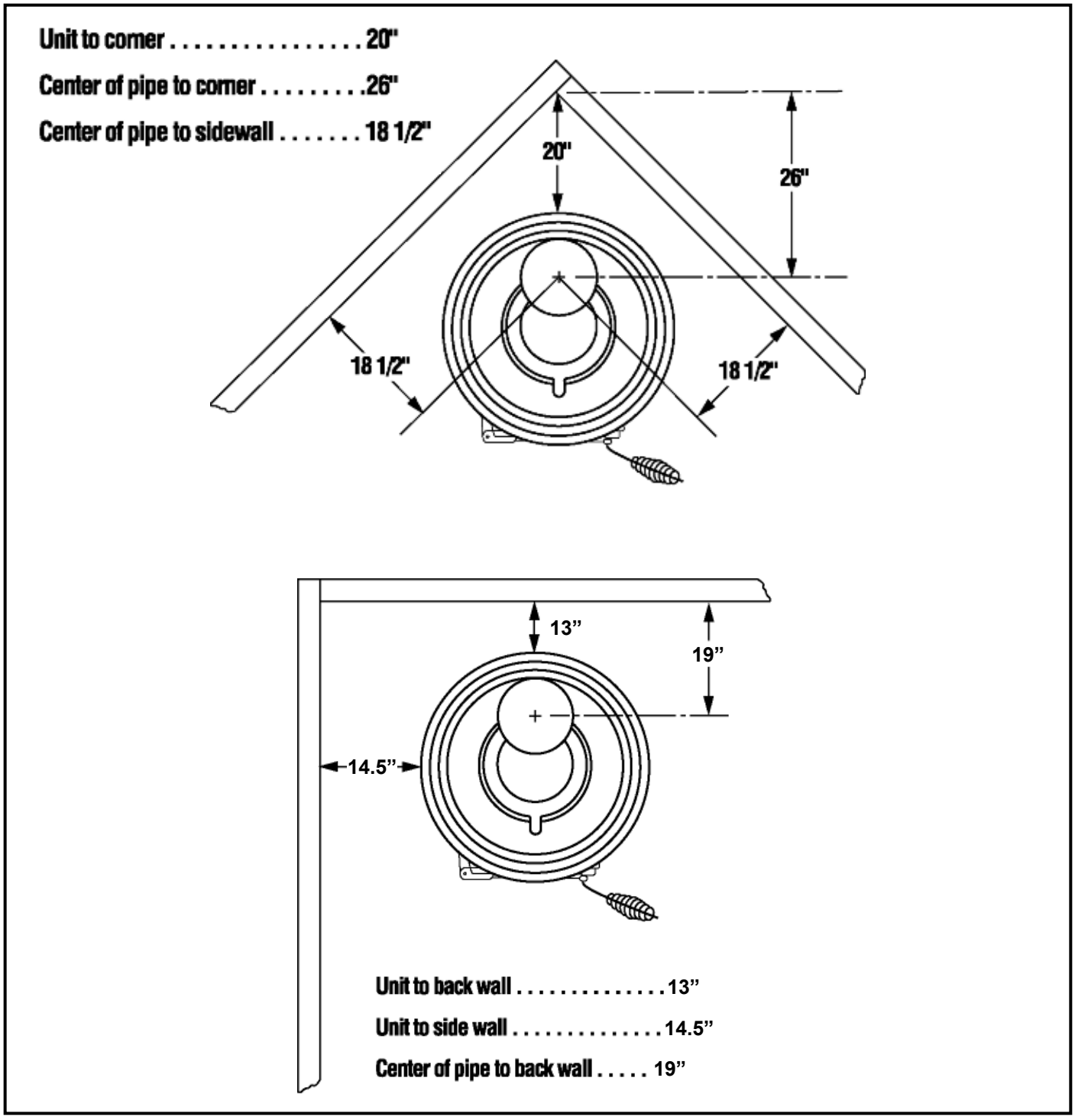


FIGURE 4. CLEARANCE TO COMBUSTIBLES

Please use these diagrams when locating stove in a room.
Please note “Cornerwall” means from the back of the stove to the corner.

FLOOR PROTECTION

The T-4000 requires a non-combustible floor pad extending beneath the heater and to the front and sides as indicated (See FIGURE 3). This protector must be non-combustible, such as wonder board or similar product, which will protect floor from radiant heat given off by the unit and from sparks and falling embers. A thin layer of brick or ceramic tile over a combustible floor is not sufficient and will not meet code.

U.S. Installation

It is necessary to install a floor protector of 3/8" thick metal clad millboard or equivalent at least 16" in front of glass door and 8" to both sides of the door opening. Open the door and measure 8" from the side edge of the opening in the face of the stove.

Canada Installation

Similar floor protection must be provided 18" in front and 8" from the sides and rear of the stove.

Non-combustible floor protection must also extend beneath the flue pipe when installed with horizontal venting and extend 2" beyond each side.

CHIMNEY HEIGHT AND DRAFT

The T-4000 was designed and tested on a 6" (152mm) diameter chimney with a height of twelve (12) to fourteen (14) feet (3.66 to 4.27m) measured from the base of the stove to the top of the termination cap. The performance of your heater could be affected when varying from these measurements. In addition, exterior conditions such as roofline, surrounding trees, prevailing winds, and nearby buildings and hills could affect the draw and stove performance. Your local dealer and/or hearth professional should be able to help in determining the best chimney height for your particular setting.

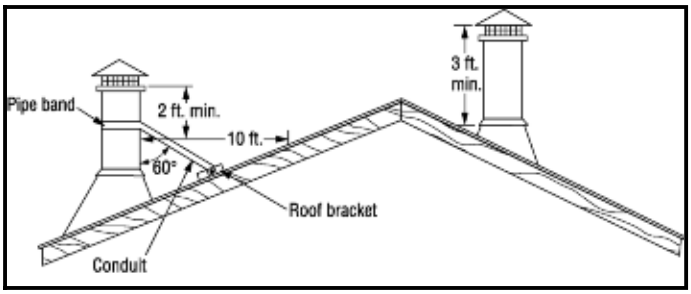


FIGURE 5. 2-10-3 RULE

The 2-10-3 Rule

A masonry chimney or listed factory-built 103HT chimney must be the required height above the roof and any other nearby obstructions. The chimney must be at least 3' (91cm) higher than the highest point where it passes through the roof and at least 2' (61cm) higher than any portion of the roof within 10' (305cm) measured horizontally.

NOTE: This is a safety requirement and is not meant to ensure proper flue draft. The pipe may have to go higher to ensure proper draft. We recommend a minimal total height of 12' (366cm), measured from the flue collar to the top of the chimney (not including the cap).

WARNING!

CHIMNEY CONNECTOR IS TO BE USED ONLY WITHIN THE ROOM BETWEEN THE STOVE AND CEILING OR WALL. THE CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, FLOOR, OR CEILING. MAINTAIN MINIMUM CLEARANCES TO COMBUSTIBLES AS REFERRED TO IN FIGURE 4. ALWAYS FOLLOW CHIMNEY CONNECTOR MANUFACTURER'S INSTRUCTIONS FOR PROPER INSTALLATION.

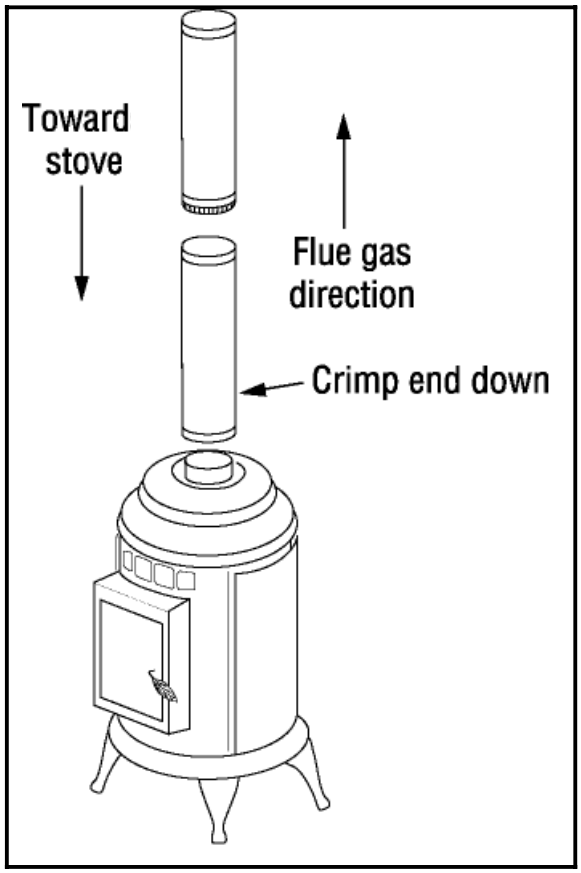


FIGURE 6. CHIMNEY CONNECTOR AND FLUE COLLAR

WARNING!

IF INSTALLING THE T-4000 INTO A MASONRY CHIMNEY, ALWAYS BE SURE THE CHIMNEY IS IN GOOD CONDITION AND THAT IT MEETS THE MINIMUM STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 211. A LICENSED CHIMNEY SWEEP CAN INSPECT TO DETERMINE THE QUALITY OF YOUR CHIMNEY. A FACTORY-BUILT (METAL) CHIMNEY MUST BE 6" UL 103 HT.

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

FLUE CONNECTION

This appliance is made with a 6" (152mm) diameter flue collar connector attached to the stove. Changing the diameter of the chimney connector can affect the draft and cause poor performance. It is not recommended to use offsets or elbows at altitudes above 4,000-foot sea level or when there are other factors that can affect flue draft.

Note: There are two separate and different parts to a flue system: the chimney connector (defined on page 8) and the chimney system itself (defined on page 8).

1. Chimney Connector: This must be at least 24-gauge mild steel or 26-gauge blue steel. The sections must be attached to the stove and to each other with the crimped (male) end pointing toward the stove (see FIGURE 6). All joints, including the connection at the stove collar, should be secured with three sheet metal screws. Make sure to follow the minimum clearances to combustibles (see FIGURE 4). Where passage through the wall or partition of combustible construction is desired, the installation shall conform to CAN/CSA-B365 (check with local building officials).

2. Factory-built Listed Chimney Connector (vented double wall): This type of connector must be used when installing this unit into a mobile home. The listed connectors must be the same brand as the listed chimney system to ensure proper fit and seal.

3. Double wall pipe may also be used above the connector to reduce clearance. Follow pipe manufacturer's instructions in order to reduce clearance to combustibles.

CHIMNEY SYSTEM DIAGRAMS

Connection to a Prefabricated Metal Chimney

There are basically two methods of metal chimney installation. One is to install the chimney inside the room directly up and through the ceiling and roof. The second method is to install an interior and exterior chimney that runs up outside of the house. (See FIGURE 7 and FIGURE 8 for both methods.)

Both methods require special chimney pipe pieces such as ceiling support packages, firestops, "T" section packages, insulation shield, roof flashing, chimney cap, wall pass through device, etc. The components illustrated may not look exactly like the system purchased (brand to brand may vary), but these demonstrate the basic components needed for proper and safe installation.

REMEMBER: Follow the manufacturer's installation instructions and maintain the specified clearance distances.

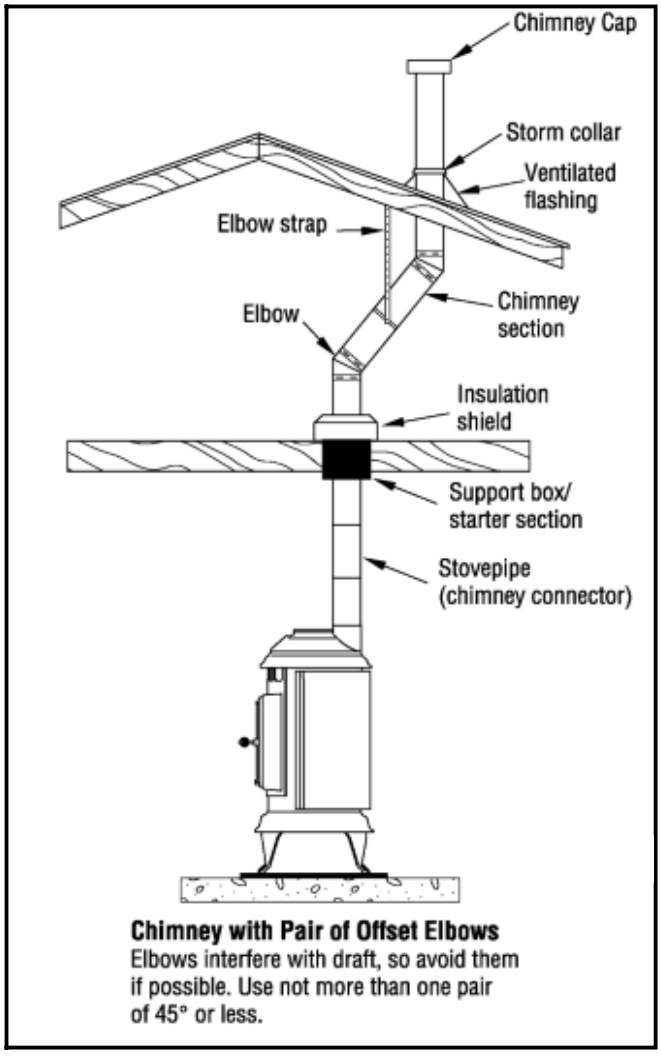


FIGURE 7. CHIMNEY WITH PAIR OF OFFSET ELBOWS

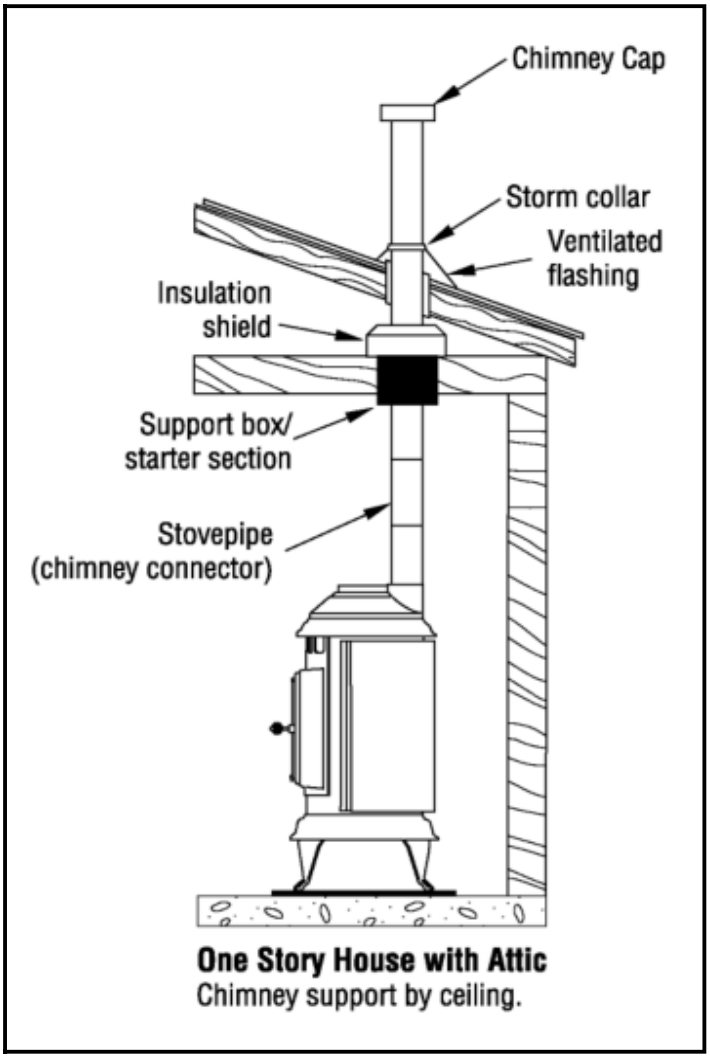


FIGURE 8. ONE-STORY HOUSE WITH ATTIC

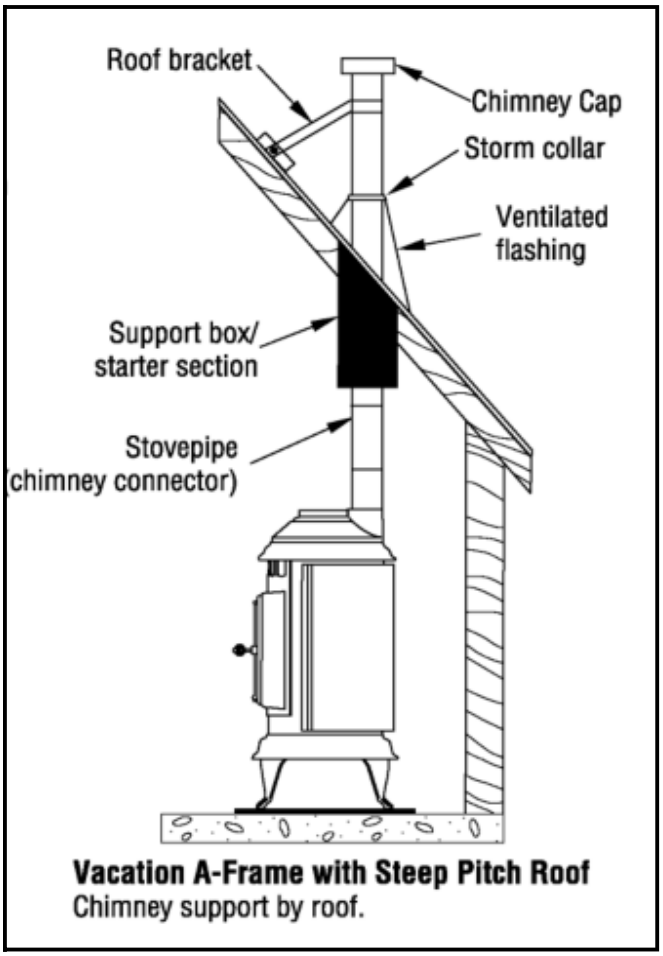


FIGURE 9. VACATION A-FRAME WITH STEEP PITCH ROOF

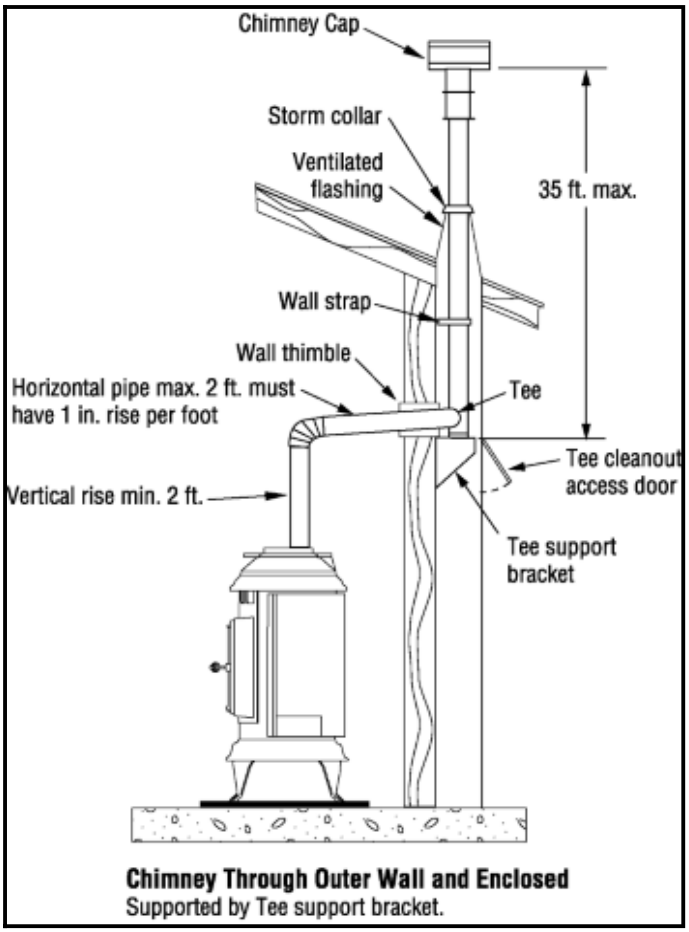


FIGURE 10. CHIMNEY THROUGH OUTER WALL AND ENCLOSED

Masonry Chimney

Have chimney inspected to make sure that it conforms to the NFPA 211 Standard 211. It must have at least a 5/8" (16mm) fire clay liner or a listed chimney liner system. Make sure there are no cracks, loose mortar, or other signs of deterioration and blockage. It is best to have chimney inspected by a professional before the stove is installed to ensure it is not too large for the stove. NFPA 211 allows the cross-sectional area of the flue to be no more than three times the cross-sectional area of the flue collar of the stove (28 x 3 = 84 square inches). It is recommended that a chimney with a larger diameter be relined, since the oversized flue can cause poor performance and contribute to the formation and accumulation of creosote.

When connecting the stove through a combustible wall to a masonry chimney, special methods are needed. There are several ways to make this connection. Refer to the masonry diagrams in Figure 11 and Figure 12, and check with your local building officials to make sure the installation conforms with CAN/CSA-B365.

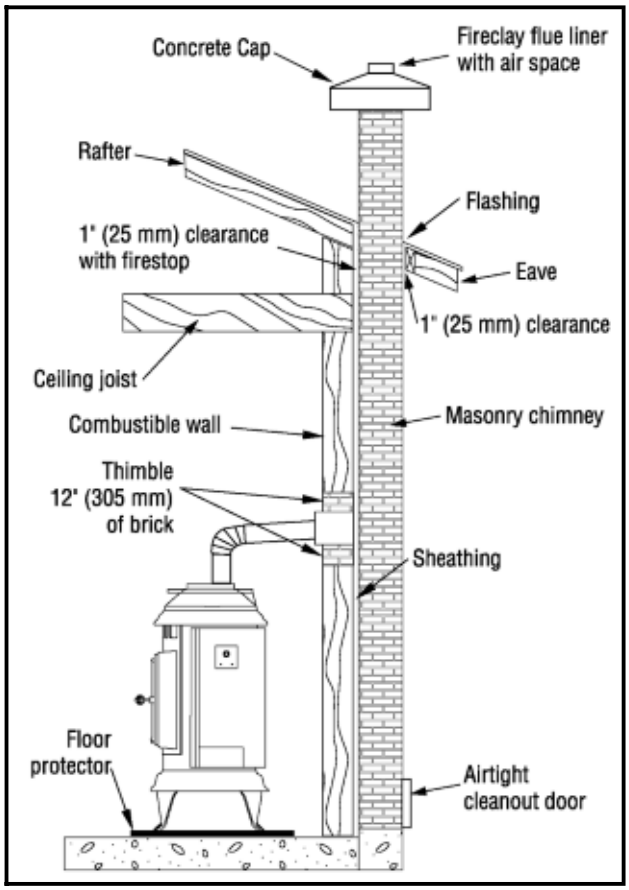


FIGURE 11. MASONRY CHIMNEY

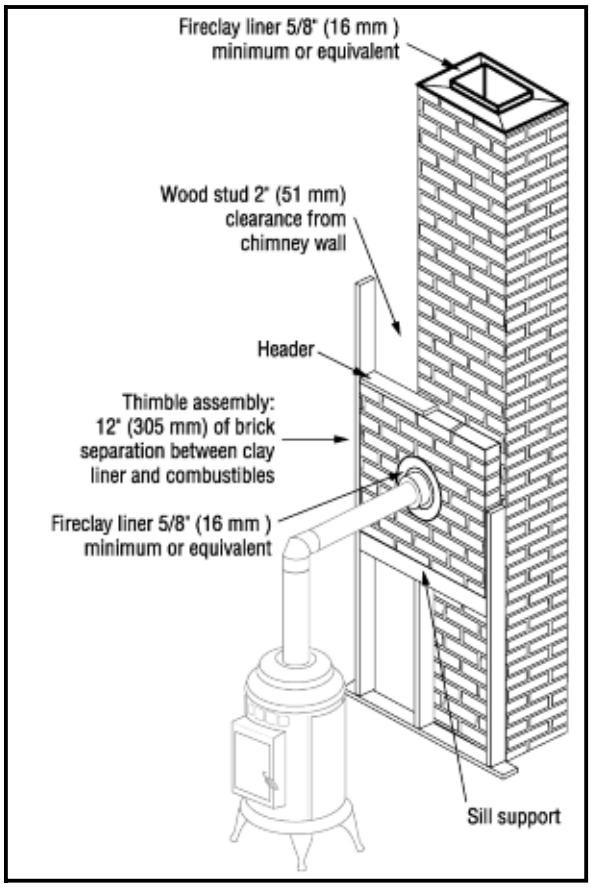


FIGURE 12. MASONRY CHIMNEY

MOBILE HOME INSTALLATION

The Thelin Hearth Products outside air/mobile home kit (Part Number 46000-02) must be used for installation in a mobile home. Use of alternative material will void your warranty.

Mandatory Mobile Home Procedures

1. An outside air inlet must be provided for combustion and must remain clear of debris, leaves, ice and/or snow. It must be unrestricted while the unit is in use to prevent room air starvation which can cause smoke spillage and an inability to maintain a fire. Smoke spillage will set off smoke alarms.

2. Unit must be secured to the mobile home structure by drilling holes in at least two legs and bolting through hearth pad and into floor. Countersink holes in legs and fill with putty for attractive finish.

3. Unit must be grounded with #8 copper grounding wire or equivalent and terminated at each end with N.E.C.-approved grounding device.

WARNING!

DO NOT INSTALL IN A SLEEPING ROOM.

4. Stove must be installed with an approved 103 HT ventilated (double wall) chimney connector, 103 HT chimney, and terminal cap with spark arrestor. **Never** use a single wall connector (stove pipe) in a mobile home installation.

5. Mobile home clearances are listed on the serial number label on the back of the stove.

6. Floor protection requirements are found in FIGURE 3 and must be followed exactly.

7. In Canada, this appliance must be connected to a 6" (152mm) factory-built chimney conforming to CAN/ULC 629M. See FIGURE 3 for Canada floor protection requirements.

8. Use silicone to create an effective vapor barrier at the location where the chimney or other components penetrate to the exterior of the mobile home.

9. Follow the chimney and chimney connector manufacturer's instructions when installing the flue system for use in a mobile home. Offsets from the vertical, not exceeding 45 degrees, are allowed per Section 905(a) of the Uniform Mechanical Code (UMC). Offsets greater than 45 degrees are considered horizontal and are also allowed, providing the horizontal does not exceed 75% of the vertical height of the vent system.

10. Top sections of the chimney must be removable to allow maximum clearance of 13.5' from ground level for transportation purposes.

CAUTION!

THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED. DO NOT CUT THROUGH FLOOR JOIST, WALL STUD, CEILING TRUSS, ETC.

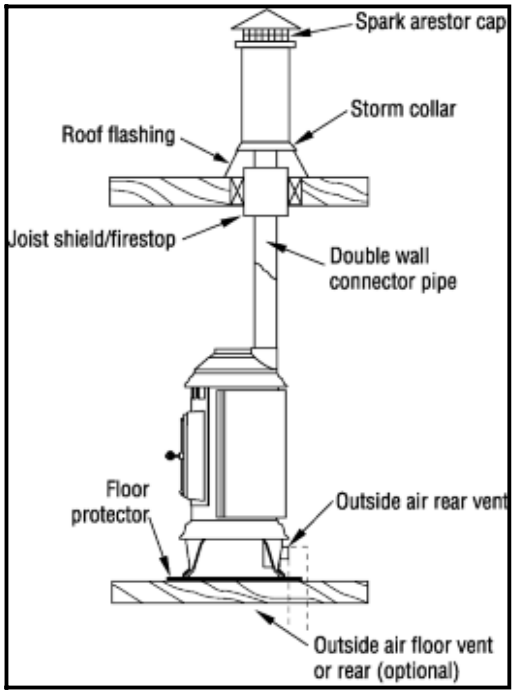


FIGURE 13. MOBILE HOME INSTALLATION

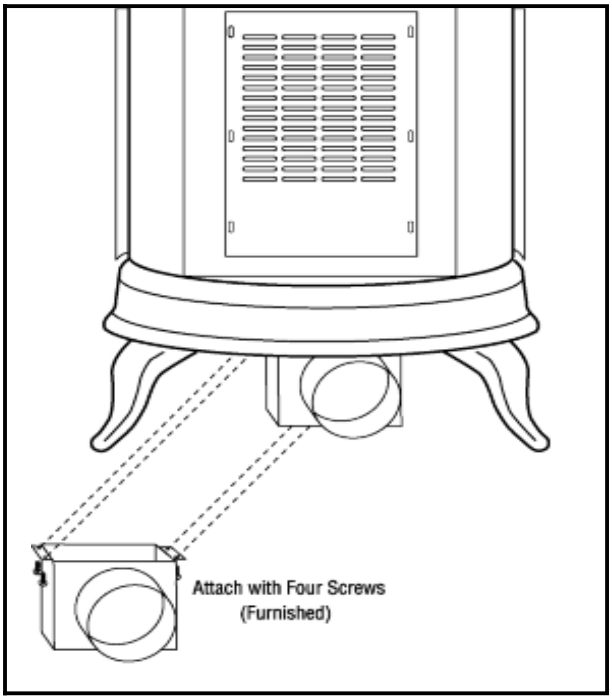


FIGURE 14. OUTSIDE AIR MOUNT

OUTSIDE AIR KIT INSTALLATION

Kit Contents

Outside Air Box, 4 screws, and 1 hose clamp (flex line and termination cap not included).

Items Needed for Installation

4" flex pipe in the length needed for installation (should not exceed 5'), screwdriver, silicone sealant, drill and saw for cutting hole through wall as necessary.

Installation

Cut a 4" minimum hole in wall or floor as necessary. Attach outside air box to bottom rear of stove as per diagram. Attach flex pipe to box with hose clamp. Run flex pipe either through wall or floor into vented crawl space or outside. **Do not** put flex into non-vented crawl space. Attach termination cap with rodent guard to end of flex outside. Seal between wall or floor and pipe with silicone to prevent moisture and air penetration.

WARNING!

NEVER DRAW COMBUSTION AIR FROM A WALL, FLOOR, OR CEILING CAVITY OR FROM ANY ENCLOSED SPACE SUCH AS AN ATTIC OR GARAGE.

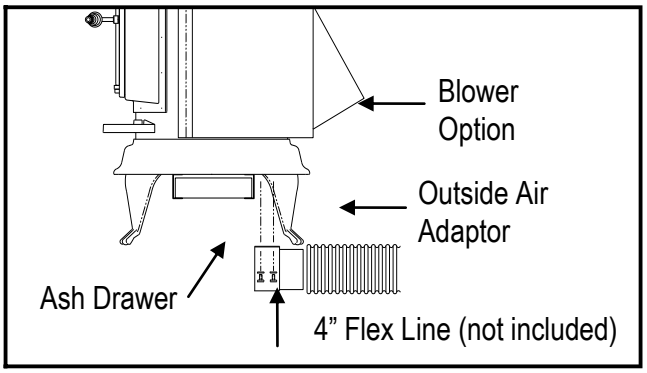


FIGURE 15. OUTSIDE AIR KIT

OPERATING INSTRUCTIONS

The T-4000 Wood Stove is an advanced technology, clean-burning heater that has surpassed all EPA and Washington State (the toughest in the U.S.) emission standards. Because this technology allows wood to burn in a different way than was customary in earlier years, it is important to understand how the stove works in order to achieve maximum performance and efficiency.

Burning Process

The T-4000's secondary burn technology allows for virtually smokeless burns providing the stove is correctly operated. It is helpful to understand this burning process in order to help create a healthy environment and enhance air quality even while burning a wood stove. This can achieve this by burning the heater responsibly. Below is a description of how the technology works:

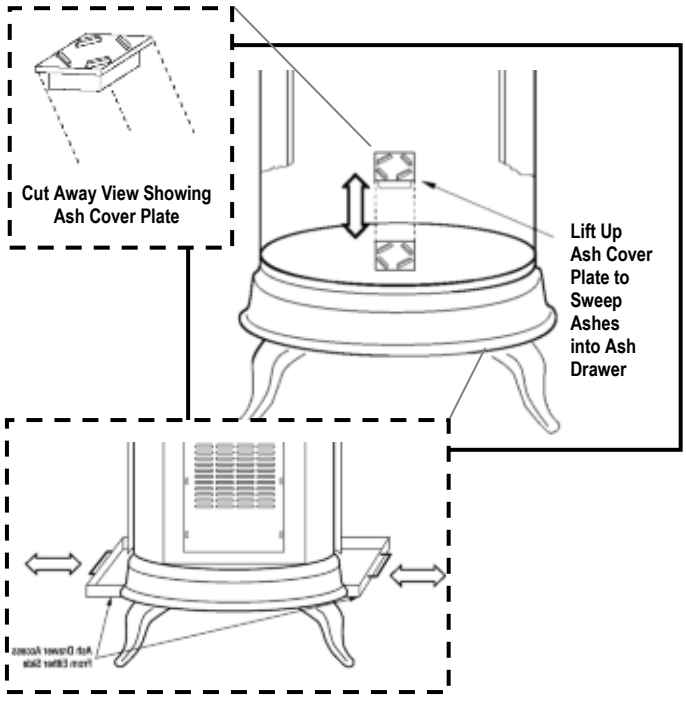


FIGURE 16. ASH DRAWER

Fire requires three things to burn: fuel, air, and heat. On start up, the first stage of burning, the wood is heated to a temperature high enough to boil water (212 degrees F), and it will not get any hotter until the water is evaporated. This process takes heat from the coals and tends to cool the stove. This is also why burning seasoned, dried wood is so important. The secondary state of wood burning occurs when the wood gives off flammable gases that burn above the fuel with bright flames. During the secondary stage it is important that the flames be maintained and not allowed to go out. This will ensure the cleanest possible fire. The final stage of burning is called the charcoal state, this occurs when the flammable gases have been mostly burned and the coals burn with a blue flame. This is a naturally clean burn and new fuel should be deposited while these lively hot coals remain. This will ensure immediate combustion and start the clean burning cycle over again. The T-4000 addresses this burn cycle in the most efficient manner by the following:

On start up, pull the primary air adjustment all the way out (see FIGURE 20), as this will allow for the quickest and hottest initial burn. At this point there is sufficient air to create a hot fire. As the primary air enters the firebox it is preheated and enters the fire chamber in front of the glass door, helping to keep it clean. The preheated primary air allows the temperature to rise to the point where secondary combustion takes place (air mixing with the unburned gasses creates secondary combustion). This usually takes about 15 to 20 minutes. This is demonstrated when the primary air is closed and the secondary air tubes (see FIGURE 18) begin igniting the gases exiting the heater. Look to the top of the firebox and notice the secondary

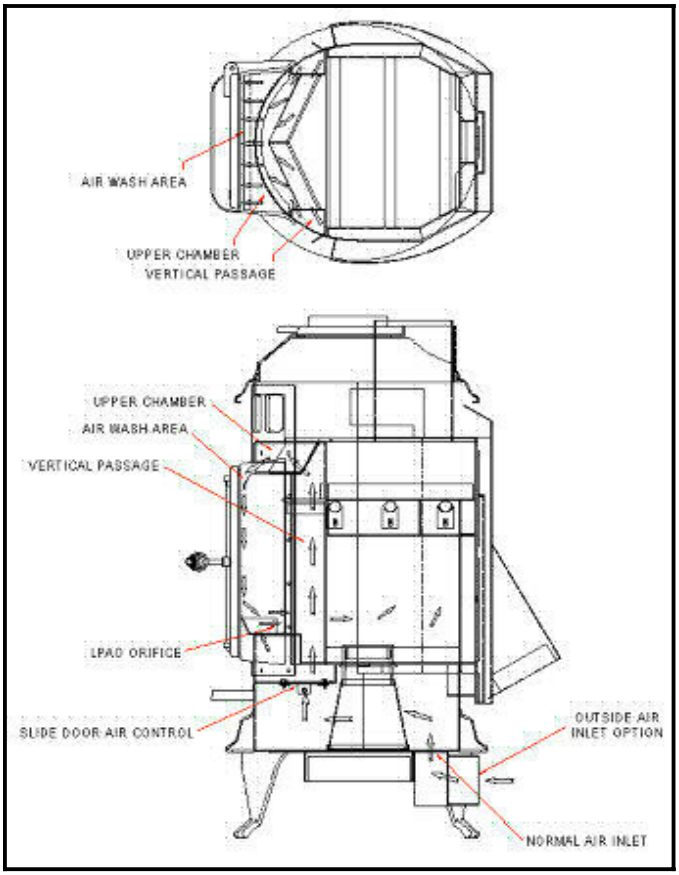


FIGURE 17. PRIMARY AIR FLOW

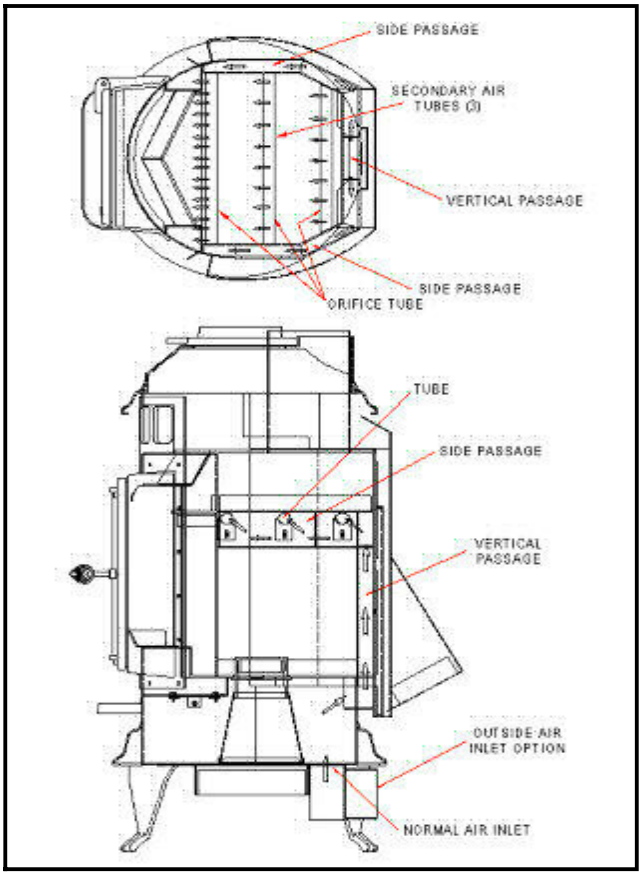


FIGURE 18. SECONDARY AIR FLOW

combustion taking place. At this point close down the primary air as far as possible without losing secondary combustion. This will take some trial and error but it is crucial to monitor and learn this process to ensure the cleanest possible burn. This process can be regulated by simply pushing the primary air control lever in or out. As the load of firewood burns down, open the primary air all the way before opening the door. This will prevent smoke spillage and give the coals a fresh supply of air to ignite the new fuel load. Now, let's get the heater burning!

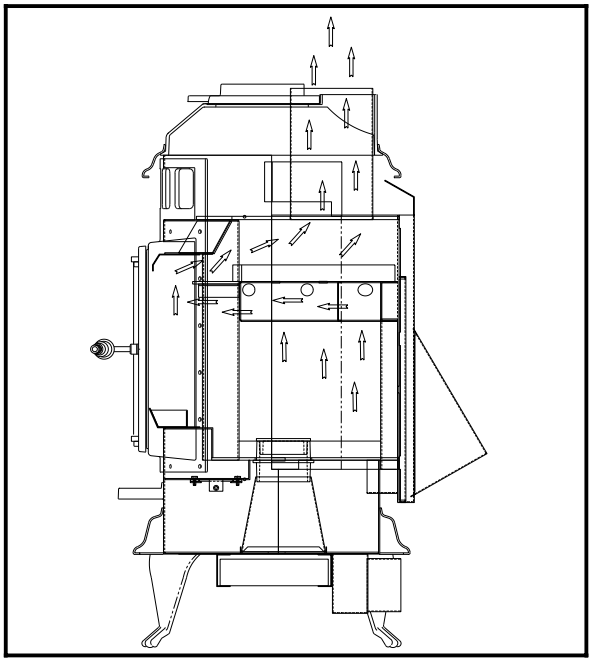


FIGURE 19. EXHAUST AIR FLOW

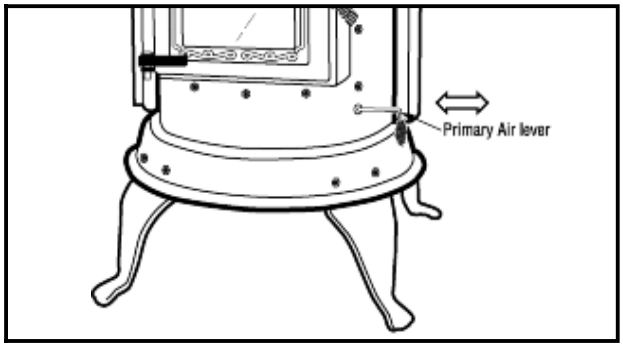


FIGURE 20. AIR LEVER

FIRST BURN AND BURN GUIDELINES

Prior to First Fire

Remove labels from glass. **Clean glass and gold surfaces with glass cleaner and soft cloth to prevent staining from fingerprint oils.**

CAUTION

NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OF "FRESHEN UP" FIRE IN AP PLIANCE. KEEP ALL SUCH LIQUIDS AWAY FROM THE HEATER WHILE IT IS IN USE.

Starting a Fire

1. Pull out primary air lever all the way (see FIGURE 20).
2. Place several wads of crushed paper on the firebox floor and add several small pieces of kindling on top of the paper.
3. Light the paper in the stove. Once the paper and kindling are burning, add several 3" or 4" logs of seasoned, dry wood. Be careful not to smother the fire with the small logs. Stack the logs so there is plenty of airflow between them. Shut the door.
4. As the fire takes off and begins to burn intensely gently open the door and add more wood. When the fire is burning full and the door is full of flame begin the adjustment for secondary combustion.
5. Push the primary air lever in and watch the secondary combustion tubes on the top of the firebox. When secondary combustion occurs, a gentle, rolling flame will emit from the tubes. Keep the lever in the position that allows for secondary combustion but does not allow the fire to go out. This will take some practice—trial and error—but you will quickly learn the best position for the lever in order to achieve the maximum clean burn without wasting wood fuel unnecessarily.

6. Always open the primary air lever before opening the door to refuel. It is a good practice to run the stove with the lever open 10 to 15 minutes per day to keep air passageways clean.

ADDITIONAL BURN INFORMATION

Fuel Selection
It is a waste of energy to burn unseasoned wood of any kind. Burn only dry, seasoned wood. Store wood under cover, out of the rain and snow.

CAUTION

DO NOT PLACE OR STORE WOOD WITHIN CLEARANCE TO COMBUSTIBLE SPECIFIED ON LISTING LABEL (SEE FIGURE 1) OR WITHIN AREA USED FOR STARTING FIRE AND REMOVING ASHES.

Dry, well-seasoned wood will minimize the chance of creosote formation and will give you the most efficient fire. Even dry wood contains at least 15% moisture by weight, and should be burned hot enough to keep the chimney hot for as long as it takes to dry the wood out. Check for smoke coming out of the chimney. Periodically check the smoke coming out of the chimney, in order to determine how clean the stove is burning. The goal is 0% opacity. Opacity is measured by how much can be seen through the smoke (i.e., 100% opacity means no object can be seen through the smoke).

Densified Logs
It is permissible to burn densified wood logs in this heater. **Do not use logs that are treated with wax, paraffin, petroleum bi-products, etc**. Densified logs are composed of compressed sawdust or wood shavings, without any binder added. Read the label carefully before burning.

Burn Rates
Control the rate of burn by moving the primary air lever. The more you can close it and still maintain secondary combustion, the better the burn rate will be. If, more heat is needed, open the control lever. Note: by doing this more heat will be consumed. If more heat is needed when large quantities of wood is being consumed, consider installing the blower option.

NOTE

THE SPECIAL HIGH-TEMPERATURE PAINT WILL CURE AND EMIT SOME SMOKE AND ODORS DURING THE FIRST BURN. THIS IS NORMAL. WE RECOMMEND OPENING A WINDOW UNTIL THE ODOR DISSIPATES AND THE PAINT IS CURED.

Overfiring

DO NOT OVERFIRE. Burning trash in the stove, too much wood, flammable liquids, or too much air can create an overfire situation. This can be dangerous. If the chimney or chimney connector or stove glow red, the stove is overfired. This condition can ignite any creosote build-up in the chimney and cause a house fire. If you overfire, immediately close the air control and door, if open, to reduce the supply of air to the fire. **Overfiring will void your warranty!**

MAINTENANCE OF BLOWER

All Thelin Hearth Products T-4000 stoves are equipped with an blower that will move more heat into the room and thus make the stove more efficient. Please follow the steps for removal and service as outlined here.

Step-By-Step Procedure for Installing Blower (see instruction sheet included at end of manual)

1. Removal and replacement of blower assembly to stove body is shown in FIGURE 21. (See FIGURE 23 for a larger picture.)

2. Unplug all power to blower box. Unscrew the (6) phillips screws securing the blower box to rear of heater

3. Service blower motor by cleaning dust from blades and register. Check fan for loose bearings or slow operation. Replace motor if worn.

4. Re-assemble by reversing previous steps. Tighten screws to prevent fan rattles.

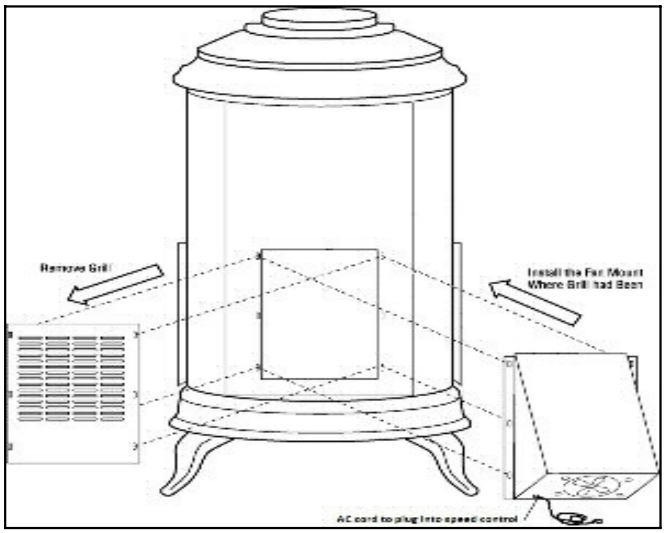


FIGURE 21. BLOWER ASSEMBLY
(See Figure 23)

CAUTION

DO NOT STORE WOOD NEAR THE STOVE WITHIN THE CLEARANCES GIVEN IN FIGURE 1 OR NEAR THE ASH REMOVAL AND STORAGE AREA.

CLEAN OUT AND MAINTENANCE

After several burn days, depending on the density and quality of fuel being used, regular, routine maintenance will have to be performed. Please keep the following in mind when preparing for maintenance.

Ash Removal

The T-4000 is equipped with an ash removal door and ash drawer. Locate these in FIGURE 16.

1. When stove is cool open door and locate ash door. This door lifts out of bottom of the firebox and will allow you to brush accumulated ash into the ash drawer.

Note: There can be more ash in the stove than the drawer will hold; the drawer may have to be filled and emptied several times depending upon the length of time between cleaning. Another method is to place a large, metal container under the ash drawer on the hearth pad and catch excess ash in this pan.

2. The ash drawer can be pulled out from either side, whichever is more convenient. Continue brushing and removing ash until firebox is clean. **Remember** to replace the door before operating the stove again.

Disposal of Ashes

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 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 dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

Creosote - Formation and Need for Removal

When wood is burned slowly, it produces tar and other organic vapors which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire. The chimney and chimney connector should be inspected at least once every two months during the heating season to determine if a creosote buildup has occurred. If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

Disconnect the chimney connector before cleaning chimney as soot and ash will build up in the top of the stove and prevent the gasses from exhausting properly. A plastic bag over the bottom of the pipe works well to collect residue when cleaning the pipe.

Glass Cleaning and Maintenance

The T-4000 is equipped with ceramic, high-temperature glass and can be damaged only by impact or misuse. Do not slam door and impact glass against wood fuel. Make sure logs do not protrude against glass. Clean glass with a non-abrasive cleaner such as Windex. The best cleaner is a spray bottle of "wood stove glass cleaner" which is available from your local dealer. Inspect glass regularly. If a crack or break is found, shut off stove and replace glass.

Glass Replacement

Replace glass with 5mm ceramic glass only. Lift the door straight up off the hinges. With door removed lay door on a table or workbench and remove bolts and nuts that hold the door face. With the door face off lift the glass out of the door and insert new piece of glass **with new gasket material**. Replace the door face, ensure the glass is not impinged by the gasket. Tighten screws enough to hold glass in door. Continue around the door face so the screws are tightened evenly. Do not over tighten! Glass and gasket material are available from your local dealer.

Care and Cleaning of Plated Surfaces

The T-4000 is equipped with either gold- or nickel-plated surfaces. Gold plating must be cleaned thoroughly before the first burn to prevent permanent markings (such as fingerprints) in the gold plating. After the gold plating has cured, fingerprint oils will not affect the finish, and the gold can be cleaned with a mild cleaner such as vinegar or glass cleaner. Always use a soft cloth to clean the gold plating. **Do not use abrasive polishes on gold as it will scratch the surface and permanently damage the gold finish**! The nickel finish can be cleaned with any good chrome polish.

Care and Replacement of the Vermiculite Insulation

The floor, sides, and top baffle of the T-4000 are constructed of high-temperature vermiculite insulation. Both top and bottom are constructed of two pieces of vermiculite that overlap, forming a sealed, insulated surface that is designed to hold heat in the firebox until secondary combustion can take place. The side pieces sit on top of the floor piece and are vertically installed. It is very important that the integrity of these vermiculite pieces is not compromised. **Do not burn the stove without the vermiculite installed**! If degradation or broken pieces of vermiculite is noticed, replace them immediately. See FIGURE 22 for installation of replacement pieces. Follow these steps for removal and installation of new pieces:

1. Remove side pieces first.
2. Remove ash door and lift out bottom piece from ash door hole.
3. Note: Three 7/16 bolts that secondary air tubes in place. Remove these bolts and top piece of vermiculite will fall down in two pieces for easy removal.
4. Install new pieces as suggested in FIGURE 22.

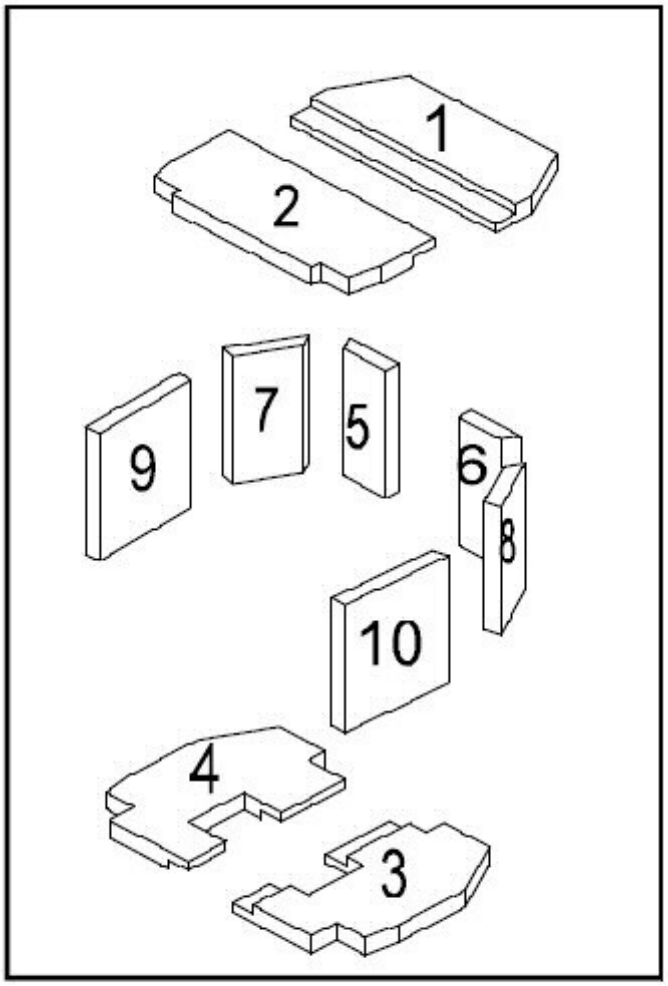


FIGURE 22. PLACEMENT OF VERMICULITE INSULATION

Description

1. Top Rear
2. Top Front
3. Bottom Right
4. Bottom Left
5. Rear Left
6. Rear Right
7. Left Side Back
8. Right Side Back
9. Left Side Front
10. Right Side Front

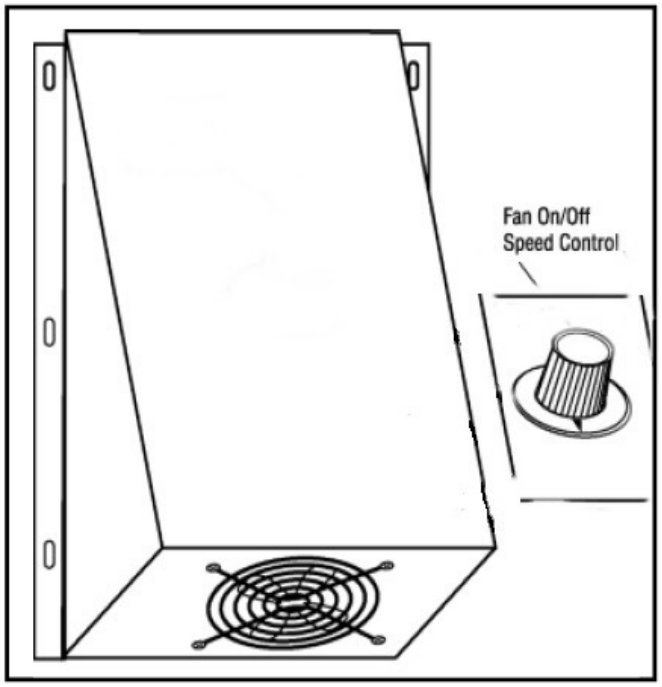


FIGURE 24. FAN MOTOR BACK

ORDER OF PLACEMENT

Begin with number 1 and follow sequence 1 through 10 in order to place ceramic panels into fire box.

Remove the stainless steel tubes in order to install the top ceramic panels.

WARRANTY AND REPLACEMENT PROGRAM

WARRANTY COVERAGE

Thelin Hearth Products warrants for five (5) years from the date of retail purchase the steel stove body, cast iron parts, and secondary air tubes. Warranted for one year from date of retail purchase the glass door, nickel and gold plating, and vermiculite baffles. Covered under this warranty are defective parts and labor and product return charges if returned from factory. **Some Dealers may require you to pay a service call or trip charge for any warranty work.**

CONDITIONS

This warranty is non-transferable and is made to the original purchaser only, provided that the purchase was made through an authorized dealer or factory-authorized sale. The appliance must be installed in accordance with the Installation and Operating instructions furnished with the product, as well as al local, state, and national building codes. Any alteration, abuse, accident, or misuse of the product shall nullify this warranty. After sale service calls, adjustments, regular maintenance, cleaning and temporary repairs do not qualify for a service call or fee and are not covered.

This warranty does not cover the surface finish—either paint or enamel—door gasket and window gasket. It does not cover installation or operational-related problems such as the use of corrosive driftwood (salt), downdrafts or spillage caused by environmental conditions (i.e., wind, nearby trees, buildings, hilltops, mountains, or inadequate venting), excessive offsets, or negative air pressure caused by mechanical systems such as furnaces, fans, clothes dryers, etc. This warranty does not apply to the venting components, hearth components, or accessories used in conjunction with the installation of this product not manufactured by Thelin Hearth Products.

WARRANTY WORK

If you find this appliance to be defective in material and/or workmanship within the period of the warranty, contact your local dealer from whom you purchased the heater. If your dealer is no longer in business, contact Thelin Hearth Products direct. All warranty work must be authorized by the factory in advance of the repair and assigned an authorization number (RMA). A warranty claim form must be completed and signed by both the repair person and the customer. In the event you do not have or live near an authorized dealer, you must do the following: Return product or defective part with proof of purchase and narrative description of defect together with your name, address, and freight prepaid to Thelin Hearth Products, 63 Laxalt Dr. Carson City, NV 89706. The returned part or product will be repaired or replaced at Thelin's option and will be returned to you prepaid as soon as possible, but no later than 30 days after receipt of part or product.

VOIDING WARRANTY

This warranty is void if the stove has been overfired or operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals; the stove is subjected to prolonged periods of dampness or condensation; or there is any damage to the stove or other components due to water or weather damage which is the result of, but not limited to, improper chimney or venting installation.

Thelin Hearth Products may, at its discretion, fully discharge all obligations with respect to this warranty by either repairing or replacing the unit, or refunding the wholesale price of the defective part(s).

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