

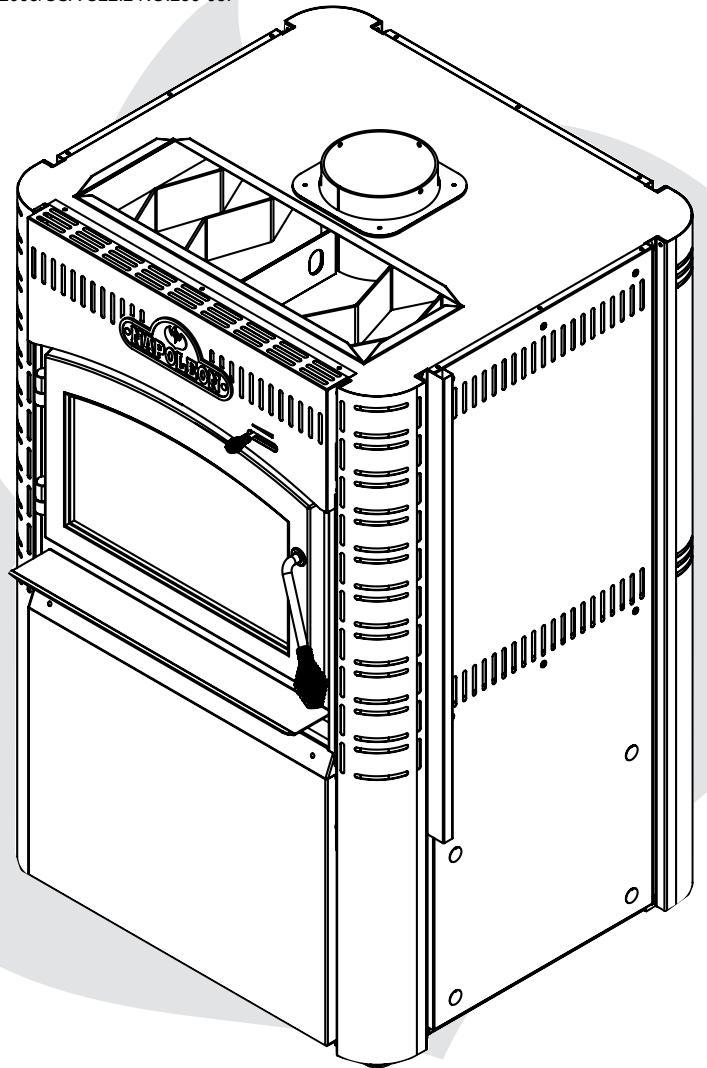
INSTALLER: LEAVE THIS MANUAL WITH THE APPLIANCE.
CONSUMER: SAVE THESE INSTRUCTIONS



INSTALLATION AND OPERATING INSTRUCTIONS

CERTIFIED UNDER U.S. ENVIRONMENTAL PROTECTION AGENCY (E.P.A.) JULY 1992 40 C.F.R. PART 60 AND THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (D.E.Q.) PARTICULATE EMISSION STANDARDS BY E.E.M.C. CERTIFIED UNDER CANADIAN AND AMERICAN NATIONAL STANDARDS: UL 391-2010, CSA-B366.1-11, UL1995-2005/CSA C22.2 NO.236-05.

HYBRID 100 HMF100 MULTI-FUEL FURNACE



SAFETY INFORMATION

WARNING

If the information in these instructions are not followed exactly, a fire or explosion may result causing property damage, personal injury or death.
Please read entire manual before you install and use your heater.

- This heater can be very hot when burning.
- Combustible materials such as firewood, wet clothing, etc. placed too close can catch fire.
- Children and pets must be kept from touching the heater when it is hot.
- The chimney must be sound and free of cracks. Before installing this unit, contact the local building or fire or other authority having jurisdiction and follow their guidelines.
- Operate only with the doors tightly closed.
- Do not use an elevated grate or otherwise raise the fire.
- This heater is designed to burn natural wood only. Higher efficiencies and lower emissions generally result when burning air dried seasoned hardwoods, as compared to softwoods or to green or freshly cut hardwoods.
- Do not start a fire with chemicals or fluids such as gasoline, engine oil, etc.
- Do not burn treated wood, coal, charcoal, coloured paper, cardboard, solvents or garbage.
- Do not let the heater become hot enough for any part to glow red.

Tested &
Listed By

US
OMNI-Test Laboratories, Inc.
RPT# 415-S-10-2



Quality System Certified To
ISO
9001-2008

APPLY SERIAL NUMBER LABEL FROM CARTON



Wolf Steel Ltd., 24 Napoleon Rd., Barrie, ON, L4M 0G8 Canada /
103 Miller Drive, Crittenden, Kentucky, USA, 41030
Phone (705)721-1212 • Fax (705)722-6031 • www.napoleonheatingandcooling.com • ask@napoleonproducts.com

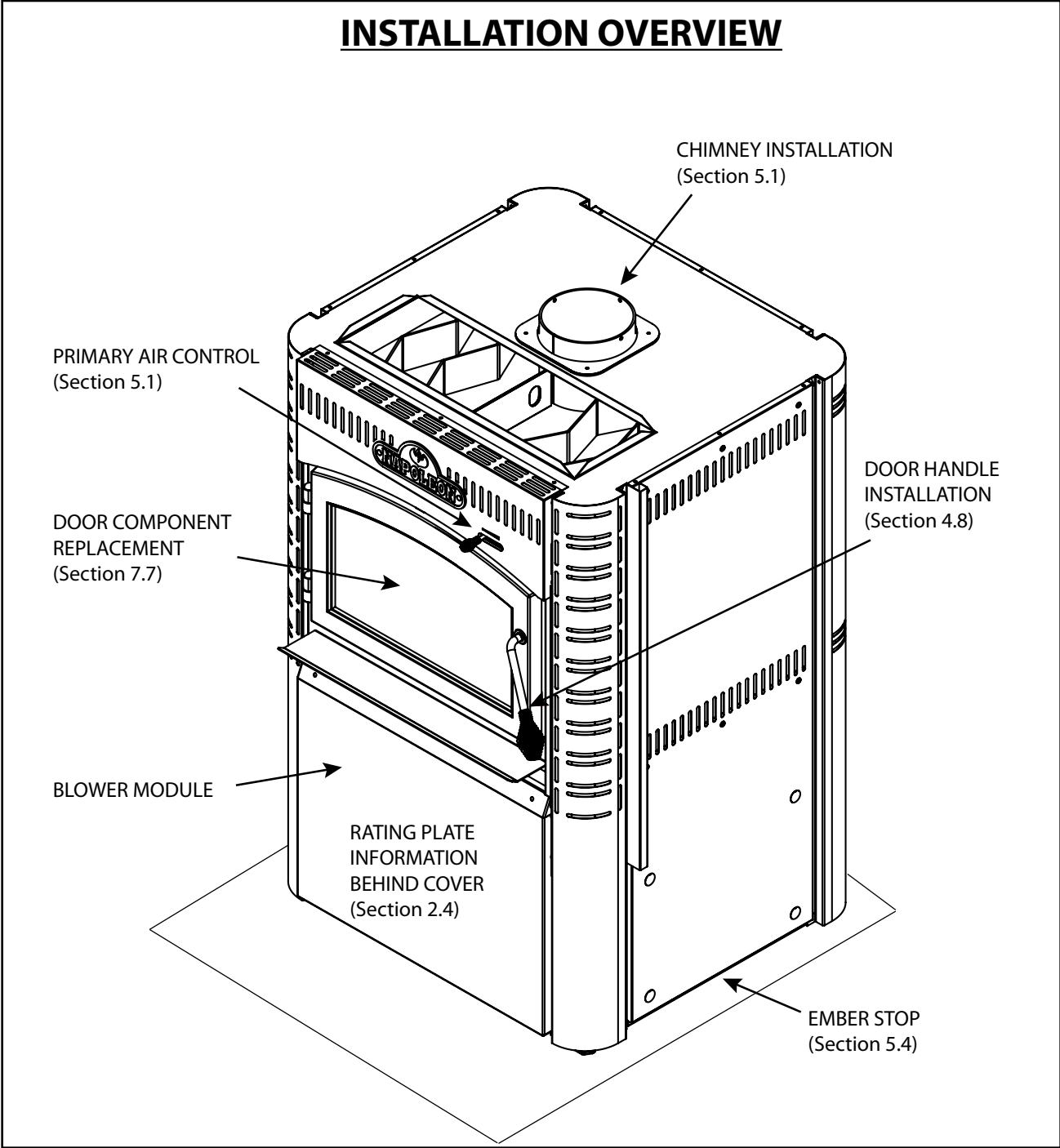
TABLE OF CONTENTS

1.0	INSTALLATION OVERVIEW	3
2.0	INTRODUCTION	4
2.1	DIMENSIONS	5
2.2	GENERAL INSTRUCTIONS	5
2.3	GENERAL INFORMATION	7
2.3.1	FEATURES	7
2.3.2	HEATING SPECIFICATIONS	7
2.3.3	ELECTRICAL SPECIFICATIONS	7
2.3.4	OPTIONAL MODULES	7
2.3.5	APPLICABLE STANDARDS	7
2.3.6	CALIFORNIA PROP65	7
2.4	RATING PLATE INFORMATION	7
3.0	INSTALLATION PLANNING	8
3.1	LOCATION AND CLEARANCES	8
3.2	OUTSIDE COMBUSTION AIR	8
4.0	INSTALLATION	11
4.1	CRATED UNIT CONTAINS	11
4.2	RECOMMENDED STEP	11
4.3	REMOVAL OF FURNACE FROM BASE OF SKID	12
4.4	LOCATING RETURN AIR FILTER	13
4.5	ELECTRICAL LOCATIONS AND CONNECTIONS	14
4.5.1	SUPPLY LINES	14
4.5.2	LIMIT HARNESS	17
4.5.3	MOUNTING AND WIRING THE FAN/LIMIT SWITCH	18
4.5.4	SECURING WIRE HARNESSES	20
4.6	SECONDARY AIR TUBES/BAFFLES INSTALLATION	21
4.7	BRICK OVERVIEW	21
4.8	DOOR HANDLE INSTALLATION	21
4.9	OPTIONAL ELECTRIC BACK UP FURNACE	22
5.0	CLEARANCE TO COMBUSTIBLE MATERIALS/ PLENUM AND VENTING INSTALLATION	26
5.1	FLUE / CHIMNEY FOR HMF100 IN CONFIGURATIONS	26
5.1.1	CONTROLLING DRAFT	26
5.1.2	MEASURING DRAFT	26
5.2	MINIMUM CLEARANCE TO COMBUSTIBLES	27
5.3	GENERAL PLENUM AND DUCTING - CLEARANCE TO COMBUSTIBLES	27
5.3.1	MINIMUM CEILING HEIGHT REQUIREMENTS	27
5.3.2	INSTALLATION WITH RETURN/SUPPLY PLENUMS AND COMPLETE DUCT SYSTEM	27
5.3.3	INSTALLATION WITH THE HMFK-DP DIFFUSION PLENUM	28
5.4	EMBER STOP	29
6.0	GENERAL OPERATING INSTRUCTIONS	30
6.1	DRAFT CONTROL	30
6.3	POWER OUT OPERATION	31
6.2	CONTROL SYSTEM - SECONDARY FURNACE "WOOD/ELECTRIC" CONFIGURATION	31
6.4	CONTROL SYSTEM - SUMMER FAN	32
6.5	OPERATING SOUNDS AND SMELLS	32
6.6	STARTING A FIRE	32
6.7	FUEL LOADING AND BURN CYCLE	34
6.8	RE-LOADING THE APPLIANCE	34
6.9	FLASH FIRES	35
6.10	ASH REMOVAL PROCEDURES	35
6.11	INSPECTION OF FLUES AND CHIMNEYS	36
7.0	MAINTENANCE	37
7.1	RUN-AWAY OR CHIMNEY FIRE	37
7.2	CREOSOTE FORMATION AND REMOVAL	37
7.2.1	CHIMNEY MAINTENANCE	37
7.3	FIRE EXTINGUISHERS AND SMOKE DETECTORS	38
7.5	SELECTING WOOD	38
7.4	GLASS AND GASKET REPLACEMENT	38
7.6	FIREBRICKS AND BAFFLES	38
7.7	GLASS REPLACEMENT	39
7.9	FILTERS	39
7.8	CARE OF GLASS (IF EQUIPPED)	39
8.0	REPLACEMENTS	40
9.0	TROUBLE SHOOTING GUIDE	41
10.0	WARRANTY	42
11.0	SERVICE HISTORY	43
12.0	NOTES	44

NOTE: Changes, other than editorial, are denoted by a vertical line in the margin.

1.0 INSTALLATION OVERVIEW

! WARNING
THIS APPLIANCE AND ITS COMPONENTS ARE DESIGNED TO BE INSTALLED AND OPERATED AS A SYSTEM. ANY ALTERATION TO OR SUBSTITUTION FOR ITEMS IN THIS SYSTEM, UNLESS ALLOWED BY THESE INSTALLATION INSTRUCTIONS, WILL VOID THE OMNI LISTING AND MAY VOID THE WARRANTY. IT MAY ALSO CREATE A HAZARDOUS INSTALLATION. READ THROUGH THESE INSTRUCTIONS THOROUGHLY BEFORE STARTING YOUR INSTALLATION AND FOLLOW THEM CAREFULLY THROUGHOUT YOUR PROJECT.

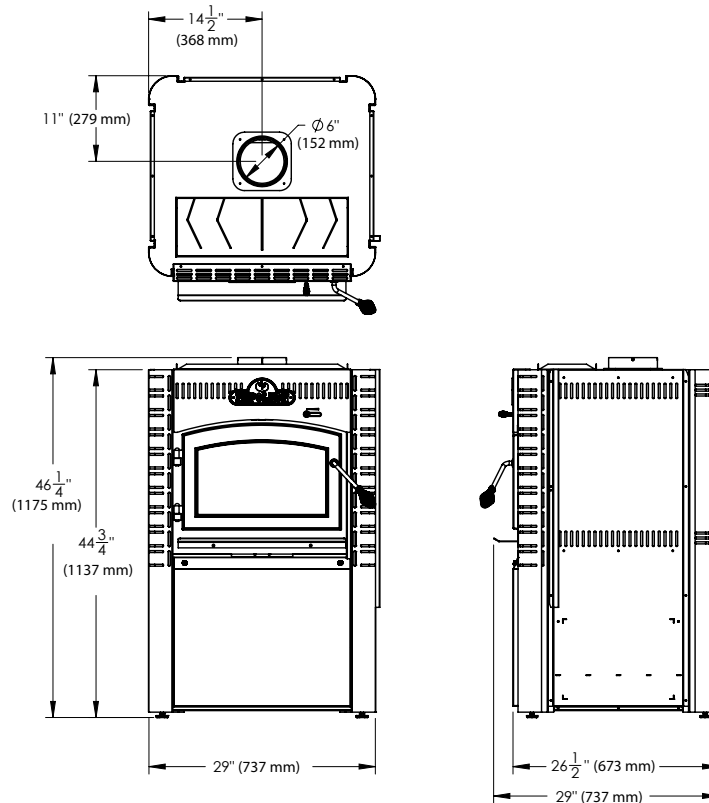


2.0 INTRODUCTION

WARNING

- **THIS APPLIANCE IS HOT WHEN OPERATED AND CAN CAUSE SEVERE BURNS IF CONTACTED.**
- Do not operate appliance before reading and understanding operating instructions. Failure to operate appliance according to operating instructions could cause fire or injury.
- Risk of burns. The appliance should be turned off and cooled before servicing.
- Do not operate without fully assembling all components.
- Do not install damaged, incomplete or substitute components.
- Risk of cuts and abrasions. Wear protective gloves and safety glasses during installation. Sheet metal edges may be sharp.
- Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at risk individuals in the house. To restrict access to an appliance or stove, install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces.
- Clothing or other flammable material should not be placed on or near the appliance.
- Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- Ensure you have incorporated adequate safety measure to protect infants/toddlers from touching hot surfaces.
- Even after the appliance is out, the glass and/or screen will remain hot for an extended period of time.
- Check with your local hearth specialty dealer for safety screens and hearth guards to protect children from hot surfaces. These screens and guards must be fastened to the floor.
- Any safety screen or guard removed for servicing must be replaced prior to operating the appliance.
- It is imperative that the control compartments, burners and circulating blower and its passageway in the appliance and venting system are kept clean. The appliance and its venting system should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. The appliance area must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.
- Under no circumstances should this appliance be modified.
- Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.
- Do not operate the appliance with the glass door removed, cracked or broken. Replacement of the glass should be done by a licensed or qualified service person.
- Do not strike or slam shut the appliance glass door.
- Only doors / optional fronts certified with the unit are to be installed on the appliance.
- Keep the packaging material out of reach of children and dispose of the material in a safe manner. As with all plastic bags, these are not toys and should be kept away from children and infants.
- If the appliance is not properly installed, a house fire may result. Do not expose the appliance to the elements (ex. rain, etc.) and keep the appliance dry at all times. Wet insulation will produce an odour when the appliance is used.
- The chimney must be sound and free of cracks. Clean your chimney a minimum of twice a year and as required.
- The appliance is designed to burn natural wood only. Do not burn treated wood, coal, charcoal, coloured paper, cardboard, solvents or garbage. This appliance has not been tested with an unvented gas log set. To reduce risk of fire or injury, do not install an unvented gas log set into the appliance.
- Do not start a fire with chemicals or fluids such as gasoline, engine oil, etc.
- Operate only with the doors tightly closed.
- Do not let the appliance become hot enough for any part to glow red.
- Higher efficiencies and lower emissions generally result when burning air dried seasoned hardwoods, as compared to softwoods or too green or freshly cut hardwoods. Burning wet unseasoned wood can cause excessive creosote accumulation. When ignited it can cause a chimney fire that may result in a serious house fire.
- Do not use elevated grate or otherwise raise the fire.
- Do not store the wood within appliance installation clearances or within the space required for re-fueling and ash removal.
- Your appliance requires periodic maintenance and cleaning. Failure to maintain your appliance may lead to smoke spillage in your home.

2.1 DIMENSIONS



2.2 GENERAL INSTRUCTIONS

! WARNING

BEFORE INSTALLING THIS APPLIANCE, CONTACT THE LOCAL BUILDING OR FIRE OR OTHER AUTHORITY HAVING JURISDICTION AND FOLLOW THEIR GUIDELINES.

THIS APPLIANCE MUST BE INSTALLED BY A QUALIFIED INSTALLER. FOLLOW THE INSTALLATION DIRECTIONS. DO NOT OPERATE WITHOUT FULLY ASSEMBLING ALL COMPONENTS.

IF THIS APPLIANCE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT.

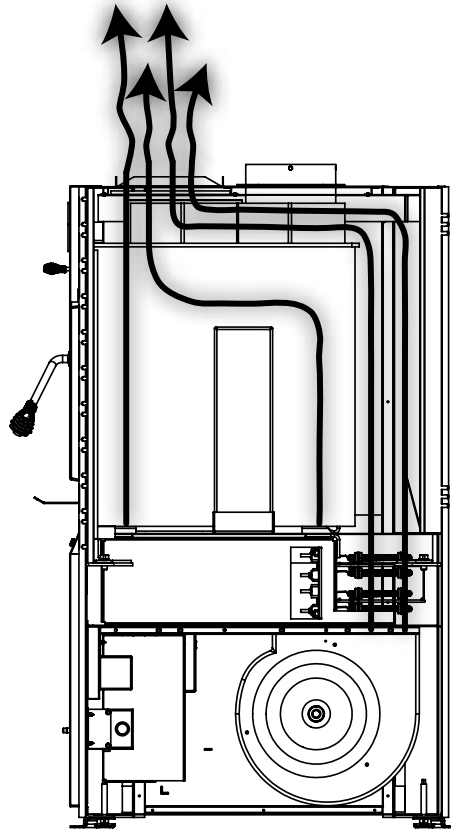
DO NOT EXPOSE THE APPLIANCE TO THE ELEMENTS (EX. RAIN, ETC.) AND KEEP THE APPLIANCE DRY AT ALL TIMES. WET INSULATION WILL PRODUCE AN ODOUR WHEN THE APPLIANCE IS USED.

THIS APPLIANCE IS HOT WHEN OPERATED AND CAN CAUSE SEVERE BURNS IF CONTACTED. CHILDREN AND PETS MUST BE KEPT FROM TOUCHING THE APPLIANCE WHEN IT IS HOT. CONTACT YOUR LOCAL AUTHORIZED DEALER / DISTRIBUTOR FOR SAFETY SCREENS THAT MAY BE AVAILABLE FOR THIS PRODUCT.

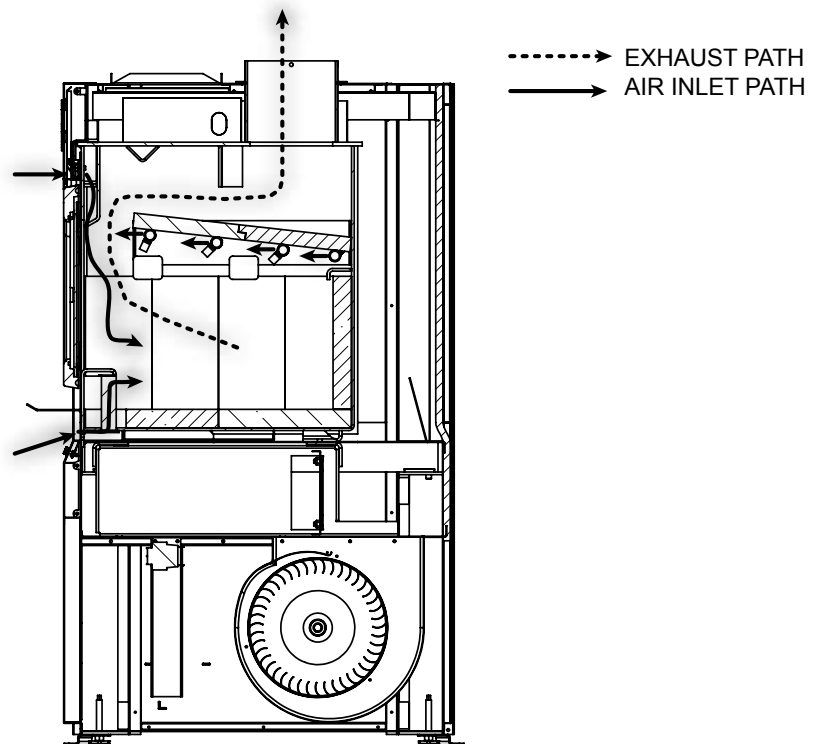
COMBUSTIBLE MATERIAL SUCH AS FIREWOOD, WET CLOTHING, ETC. PLACED TOO CLOSE CAN CATCH FIRE. OBJECTS PLACED IN FRONT OF THE APPLIANCE MUST BE KEPT A MINIMUM OF 48" (1219 mm) FROM THE FRONT OF THE APPLIANCE.

ALL WIRING SHOULD BE DONE BY A QUALIFIED ELECTRICIAN AND SHALL BE IN COMPLIANCE WITH LOCAL CODES AND WITH THE NATIONAL ELECTRIC CODE ANSI/NF NO. 70-CURRENT (IN THE UNITED STATES), OR WITH THE CURRENT CSA C22.1 CANADIAN ELECTRIC CODE (IN CANADA).

AIR FLOW CIRCULATION AND HEAT TRANSFER



COMBUSTION AIR FLOW



2.3 GENERAL INFORMATION

2.3.1 FEATURES

- Maximum log length of 18" (457 mm)
- Long burn time - up to 8 hours
- Automatic control with thermostat
- Built in 1/6 HP blower
- Firebrick lining for firebox creates kiln like temperatures for maximum efficiency and low emissions
- Manual switch for summer fan operation

2.3.2 HEATING SPECIFICATIONS

WARNING

DO NOT LET THE APPLIANCE BECOME HOT ENOUGH FOR ANY PART TO GLOW RED.

IMPORTANT

Differences in chimney height and draft may lower overall burn times.

Approximate Heating Capacity up to 1,800 square feet (167 m²) for HMF100 (Will vary with the home's floor plan, insulation and outside temperature).

Maximum burn time up to 8 hours.

Maximum BTU Output per hour 65,000 BTU.

Electric furnace up to 10 Kw.

2.3.3 ELECTRICAL SPECIFICATIONS

Fully configured furnace 6.5 amps, 120 V.
(Optional electric furnace module's up to 40 amps.)

2.3.4 OPTIONAL MODULES

Optional Modules Available:

- 10 Kw Electric Furnace Module HMFK-EF10
- Napoleon® Diffusion Plenum HMFK-DP

2.3.5 APPLICABLE STANDARDS

Certification Standards and Installation Codes:

UL391-2010

CSA B366.1-11

UL1995-2005/CSA C22.2 NO.236-05

U.S. Environmental Protection Agency (E.P.A.) certified to comply with July 1992 Particulate Emission Standards

2.3.6 CALIFORNIA PROP65

Use of this product may produce smoke which contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

2.4 RATING PLATE INFORMATION

Rating plate is located on the inside of the front lower cover of the furnace.

3.0 INSTALLATION PLANNING

! WARNING
WEAR GLOVES AND SAFETY GLASSES FOR PROTECTION.
KEEP HAND TOOLS IN GOOD CONDITION, SHARPEN CUTTING EDGES AND MAKE SURE TOOL HANDLES ARE SECURE.
DO NOT USE MAKESHIFT COMPROMISES DURING INSTALLATION. DO NOT BLOCK OR RESTRICT AIR. DO NOT IMPEDE AIR MOVEMENT ZONES MARKED "CLEARANCE TO COMBUSTIBLES".
BEFORE INSTALLING THIS APPLIANCE, CONTACT THE LOCAL BUILDING OR FIRE OR OTHER AUTHORITY HAVING JURISDICTION AND FOLLOW THEIR GUIDELINES.
THIS APPLIANCE MUST BE INSTALLED BY A QUALIFIED INSTALLER. FOLLOW THE INSTALLATION DIRECTIONS. DO NOT OPERATE WITHOUT FULLY ASSEMBLING ALL COMPONENTS.
IF THIS APPLIANCE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT.

3.1 LOCATION AND CLEARANCES

! WARNING
DO NOT INSTALL INTO ANY AREA HAVING A CEILING HEIGHT LESS THAN THE MINIMUM CEILING HEIGHT REQUIREMENTS LISTED IN SECTION 5.3.1.
THIS APPLIANCE, CONFIGURED WITH ALL MODULES, WEIGHS: 480 LBS (218 KG). ENSURE THERE IS ADEQUATE FLOOR SUPPORT FOR THE APPLIANCE.

For detailed clearance to combustibles, plenum and venting considerations, see Section 5.0.

3.2 OUTSIDE COMBUSTION AIR

! WARNING
DO NOT DRAW OUTSIDE AIR FROM GARAGE SPACES. EXHAUST PRODUCTS OF GASOLINE COMBUSTION ENGINES ARE HAZARDOUS.
DO NOT DRAW OUTSIDE AIR FROM ATTIC SPACES, BASEMENTS OR ABOVE THE ROOFING WHERE OTHER HEATING APPLIANCES OR FANS AND CHIMNEYS EXHAUST OR UTILIZE AIR. THESE PRECAUTIONS WILL REDUCE THE POSSIBILITY OF APPLIANCE SMOKING OR AIR FLOW REVERSAL.
NEGATIVE PRESSURE WITHIN YOUR HOME MAY INADVERTENTLY AFFECT YOUR APPLIANCE. EXHAUST FANS SUCH AS BATHROOM FANS, RANGE HOODS AND CLOTHES DRYERS CAN STRONGLY INFLUENCE NEGATIVE PRESSURE IN THE HOUSE.
AIR INLET TERMINALS MUST BE INSTALLED WITH ADEQUATE GROUND CLEARANCE AND BE SUFFICIENTLY SHIELDED FROM PREVAILING WINDS TO PREVENT FROM REVERSING IN THE VENT SYSTEM.

The Napoleon HMF100 draws combustion air from the room and the installer must ensure adequate make up air is available.

Fresh air makeup for solid fuel furnaces must follow criteria set out in installation standard CAN/CSA-B365-01 Annex D "Outside Combustion Air" (see pages 9 and 10).

Exhaust fans within the house must not create negative pressures within the room where the furnace is operating.

Annex D (informative)

Outdoor Combustion Air

Note: *This Annex is not a mandatory part of this Standard.*

D1.

Requirements and recommendations for the provision of combustion air from outside the dwelling have been changed significantly in this edition from previous editions of the Standard. This Annex provides the rationale for the changes.

D2.

In the 1980s, it was thought that smoke spillage from wood-burning systems could be reduced or eliminated by providing a supply of outdoor air to the appliance. This outdoor air was supplied either directly to the combustion chamber of the appliance or indirectly in the form of a make-up air supply linked to, or in close proximity to, the appliance. Underlying the concept of outdoor air supplies was the belief that most combustion spillage was the result of wood-burning appliances not receiving sufficient combustion air from inside the dwelling. However, research conducted in the late 1980s by Canada Mortgage and Housing Corporation revealed that flawed wood appliance venting system design and not inadequate combustion air was the major factor in combustion spillage. Other research showed that outdoor air supplies were not a simple or effective cure for spillage, and that some designs could create a fire hazard. The following clauses provide a summary of the research findings.

D3.

Indirect, make-up type air supplies respond mainly to the house pressure relative to atmospheric pressure outside, not just to the air requirements of the combustion appliance. An indirect air supply functions simply as a hole in the house envelope and its principal effect is to change the leakage pattern of the building. Therefore, an indirect outdoor air supply is not an effective strategy for resolving combustion venting problems, because it cannot reliably prevent or reduce combustion spillage nor provide protection from depressurization.

D4.

Air supplies routed from outside directly to the appliance combustion chamber do not isolate the appliance from room pressure as was originally thought. Direct air supplies can reverse flow direction if the outdoor weatherhood is exposed to wind-induced negative pressure in excess of chimney draft. The flow reversal of hot exhaust gas through such a duct can create a fire hazard. Also, if the house is depressurized to a level greater than chimney draft, spillage will occur from any available opening in the appliance and venting system, so no protection from depressurization is provided by direct outdoor combustion air supplies. In other words, the negative house pressure at which an outdoor aired appliance will spill smoke is about the same as the level at which an appliance that takes its combustion air from the room would spill. It is now generally agreed, based on research findings, that protection against depressurization can best be provided by evaluating and, if necessary, adjusting the pressure in the house by supplying make-up air from outdoors so that the pressure remains within the limits tolerated by the appliance, as is set out in Clause 4.1 of this Standard and its referenced documents.

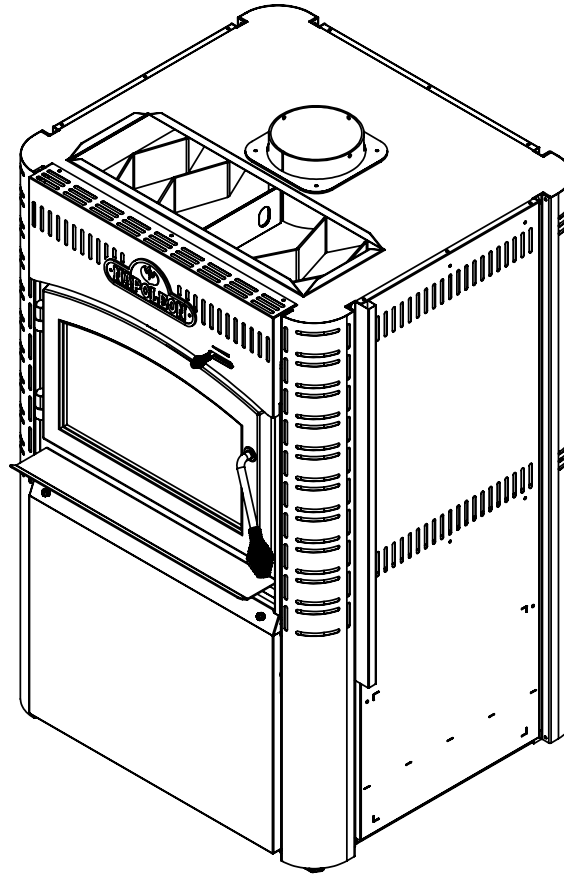
D5.

Good wood appliance venting system design, component selection, and proper operation have been shown to be more reliable in ensuring successful venting and in preventing spillage problems than

supplying combustion air from outdoors. Although the 1990 edition of the *National Building Code of Canada (NBCC)* included mandatory requirements for outdoor air supplies for fireplaces, those provisions were removed from the 1995 edition of the *NBCC* and replaced with a caution regarding the fire hazard posed by outdoor air supplies connected directly to combustion chambers. However, provincial building codes may still require the installation of outdoor air supplies for all fireplaces. If provincial regulations require the installation of outdoor air supplies, the technician should be aware that the possibility of reverse flow exists in air ducts routed directly to the combustion chamber, and that it is advisable to leave some clearance from the air duct to combustible material in case a reversal does occur.

January 2001

37

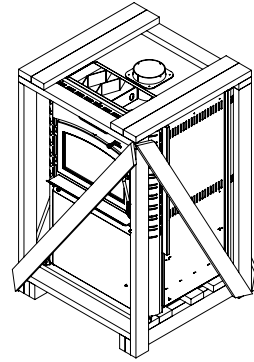
**! WARNING**

WHEN INSTALLING A SYSTEM FOR MAKE UP FRESH AIR, THE INSTALLER MUST TAKE INTO ACCOUNT A SATISFACTORY AIR MAKE UP RATE IN THE LIKELIHOOD THAT MORE THAN ONE FUEL-BURNING FURNACE IN A MULTI FURNACE CONFIGURATION MAY OPERATE AT THE SAME TIME.

4.0 INSTALLATION

4.1 CRATED UNIT CONTAINS

- Electrical Harness (1 pc.)
- Bricks (25 pcs.)
- Baffles (2 pcs.)
- Secondary Air Tubes (4 pcs.)
- Installation and Operating Manual
- Limit Switch and Mount Bracket (Plenum) (2 pcs.)
- Pleated Filter and Frame (2 pcs.)
- Painted Black Cast Door and Handle (2 pcs.)



4.2 RECOMMENDED STEP

CAUTION

MANOEUVRING AND PALLET REMOVAL REQUIRES A MINIMUM OF TWO PEOPLE.

CAUTION

HIGH CENTRE OF GRAVITY! THIS UNIT IS VERY TOP HEAVY! USE CAUTION WHEN MANOEUVRING OR REMOVING THE FURNACE FROM THE BASE PALLET.

! WARNING

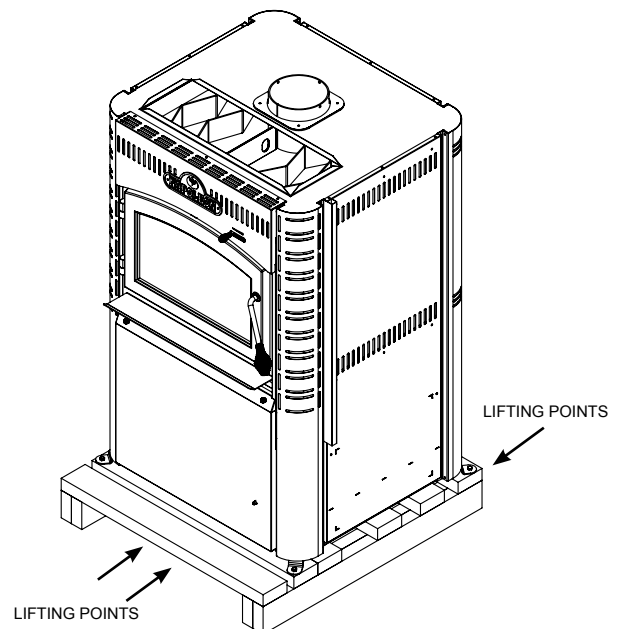
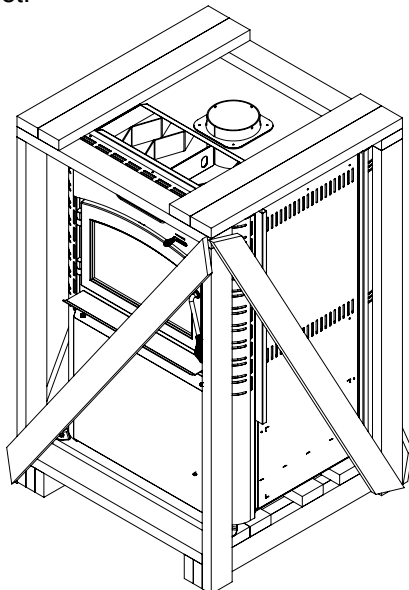
THE BASE PALLET IS SECURED TO THE FURNACE BY ADJUSTING THE LEGS AT THE BOTTOM OF THE FURNACE.

THE BASE PALLET SHOULD NOT BE REMOVED UNTIL THE FURNACE IS PLACED CLOSE TO ITS FINAL INSTALLATION LOCATION!

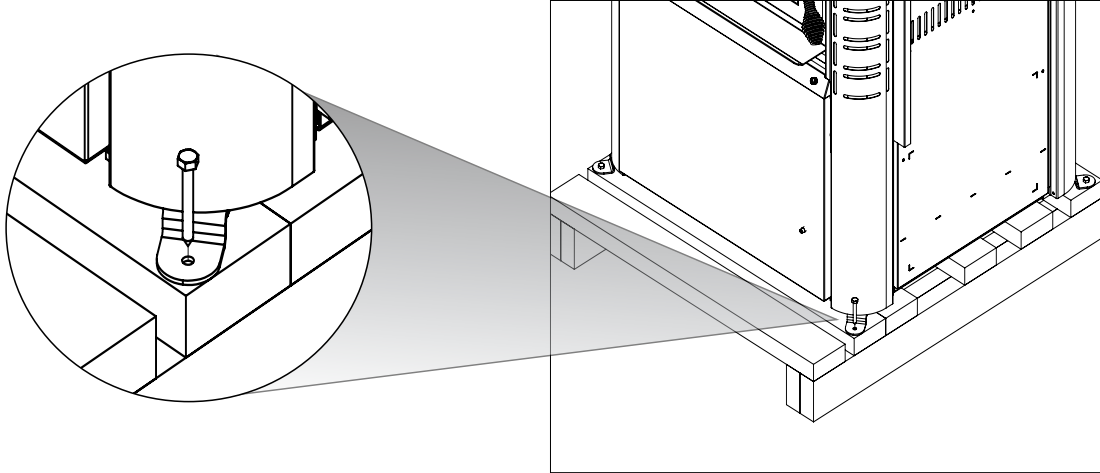
LIFTING OF THE FURNACE SHOULD BE THROUGH THE BASE PALLET - LIFTING OF FURNACE BY METAL BASE HOUSING CAN RESULT IN DAMAGE

THE INSTALLATION OF THE FURNACE MUST BE DONE IN ACCORDANCE WITH RULES OF AUTHORITIES HAVING JURISDICTION AND THE CAN / CSA B365-01 (R2006) STANDARD FOR SOLID FUEL BURNING APPLIANCES AND EQUIPMENT.

If the crating is too large for maneuvering in the doorways and staircases, remove the crate verticals, diagonals and top pallet.



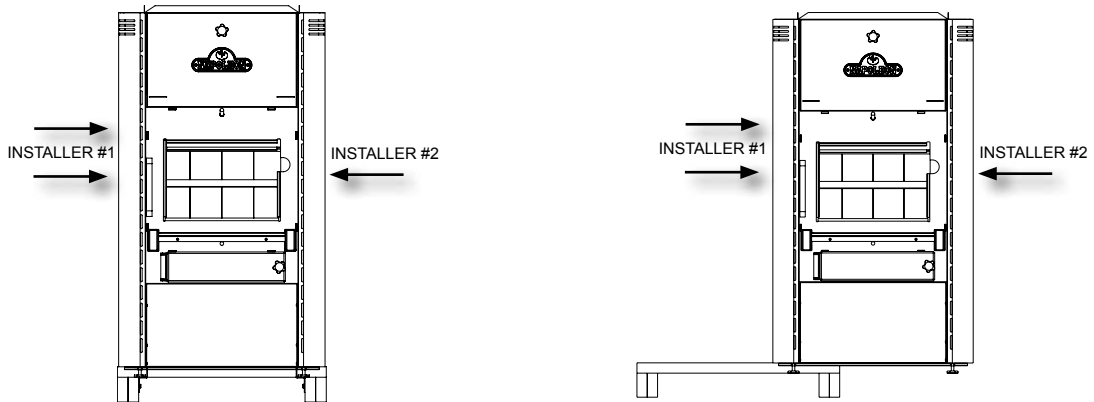
4.3 REMOVAL OF FURNACE FROM BASE OF SKID



CAUTION
HIGH CENTRE OF GRAVITY! USE EXTREME CAUTION TO AVOID TOPPLING OF THE FURNACE
"CRUSH HAZARD"!

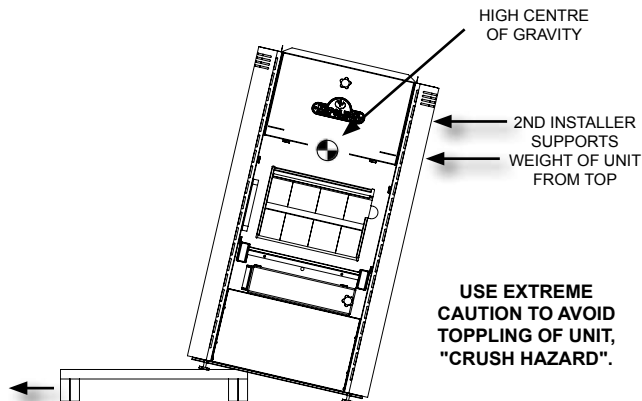
STEP #1:

Push the furnace to one side until close to the weight tipping the skid.



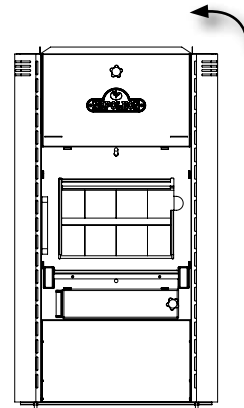
STEP #2:

Firmly support side of the furnace (near top) to prevent furnace toppling, when the skid/furnace are tilted.



STEP #3:

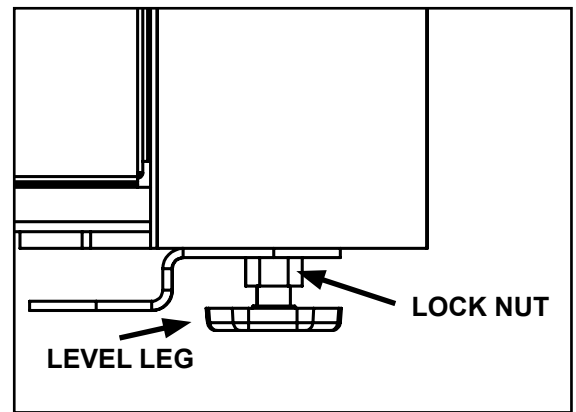
Pull the skid from under the unit, and gently tilt the furnace upright onto the levelling feet.



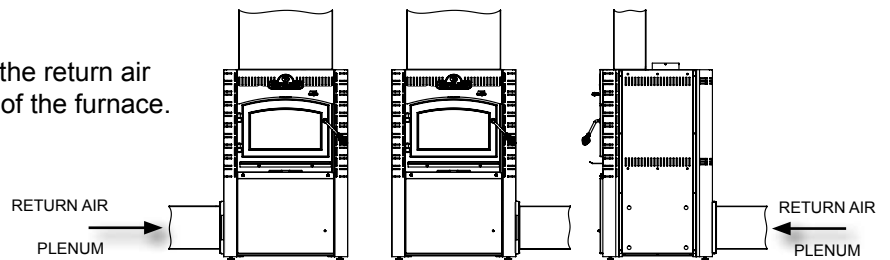
NOTE - HMF150 MODEL SHOWN

STEP #4

- Locate and level the HMF100.
- Use levelling the legs to compensate for uneven floor and snug lock nuts up to the furnace base to prevent movement through vibration.

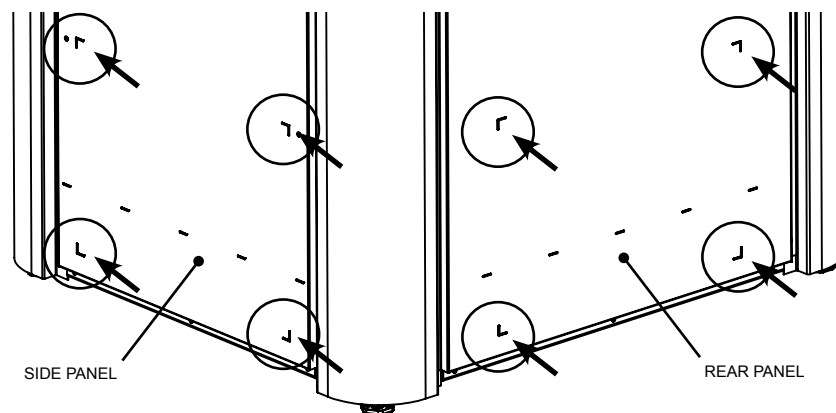
**4.4 LOCATING RETURN AIR FILTER**

The HMF100 can be installed with the return air entering from the left, right, or rear of the furnace.



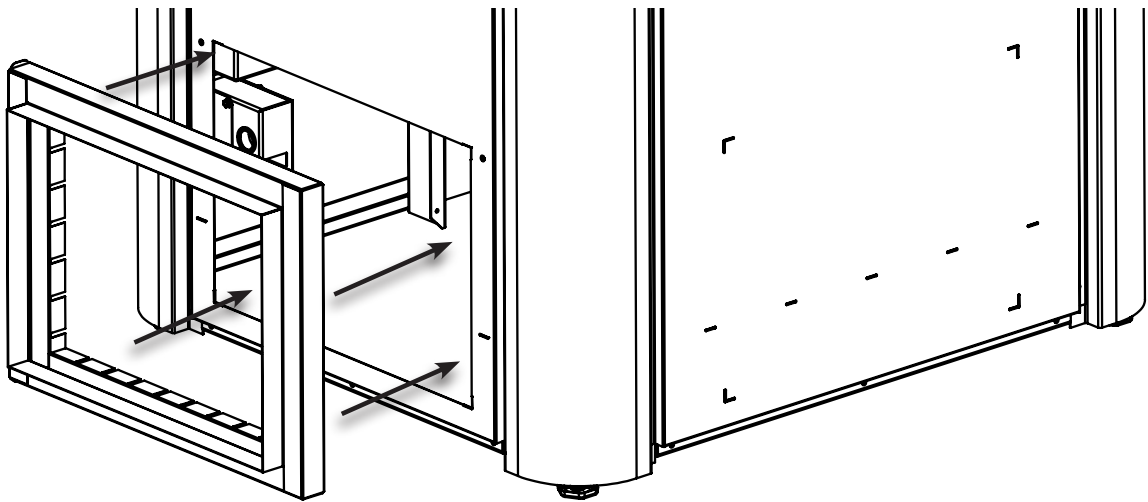
Refer to Section 5.0 for Clearance to Combustibles/Plenum and Venting Installation.

The HMF100 can be configured to receive the return air plenum of the forced air system on either the left or right side of the furnace. The furnace is shipped with an air filter and air filter frame, but there are no precut knockouts in the furnace panels that would receive the air filter frame. Instead the side and rear panels are pre-punched with four (4) sets of "L" shape hash marks, which identify the four corners of the rectangular cut out the installer will be required to make to receive the air filter frame.



In this manner the installer can decide which of the three surfaces is most suitable to receive the return air plenum.

After cutting rectangular hole in chosen panel insert the air filter frame and bend tabs of inner flanges of air filter frame back to lock frame in place.



The return plenum and related ducting can then be built on the air filter rack.

4.5 ELECTRICAL LOCATIONS AND CONNECTIONS

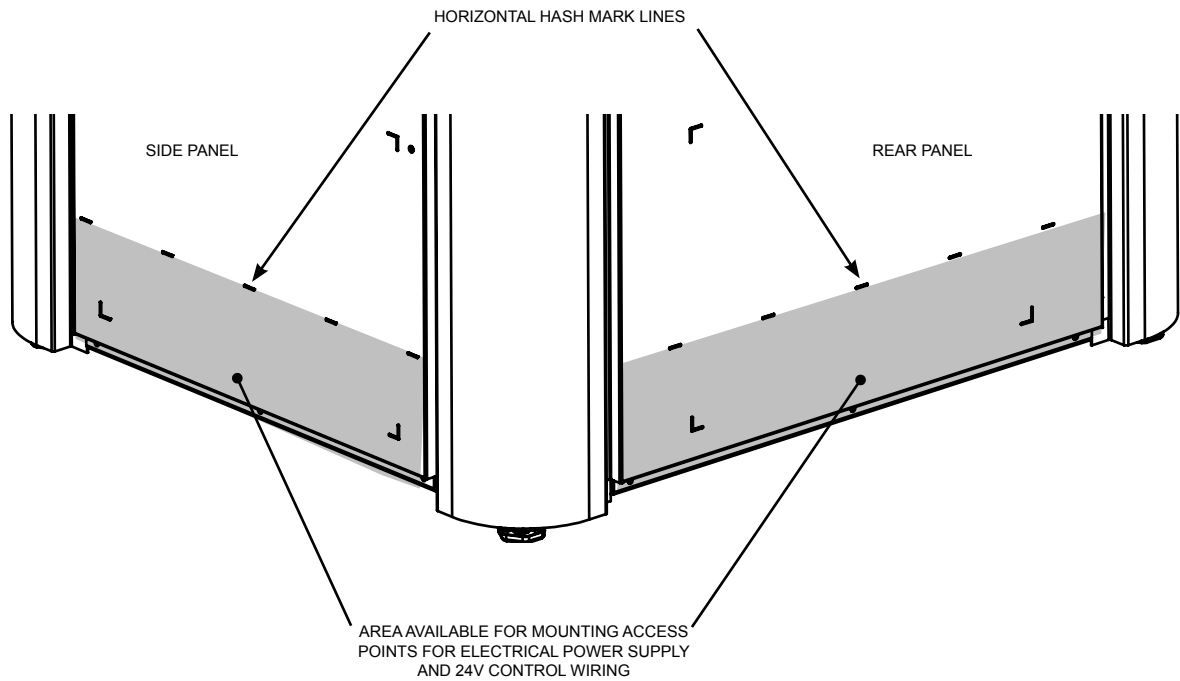
! WARNING
USE COPPER CONDUCTOR ONLY.
ALL 115 VOLT ELECTRICAL PRE ASSEMBLED HARNESSSES MUST BE INSTALLED AS PER INSTRUCTIONS AND ELECTRICAL CODES.
INSTALLATION REQUIRES WIRING BY A CERTIFIED ELECTRICIAN. ALL WIRING TO CONFORM TO CSA 22.1.
FAILURE TO COMPLY MAY RESULT IN ELECTRIC SHOCK, FIRE, PROPERTY DAMAGE OR PERSONAL INJURY.
THE ELECTRICAL INSTALLATION MUST SATISFY ALL RELEVANT ASPECTS OF CSA 22.1 AND IN PARTICULAR CAN/CSA-C22.2 NO. 0-M91, NO. 3-M1986.
DISCONNECT POWER FROM BOTH ELECTRIC FURNACE MODULE AND WOOD FURNACE BEFORE SERVICING.
ALL WIRING BRINGING 120V OR GREATER TO THE HMF100 AND ITS MODULES, SHALL BE AS SPECIFIED IN ELECTRICAL CODE BUT MUST HAVE WIRE INSULATION VALUE OF NO LESS THAN 194°F (90°C).
EXCEPT FOR AREA'S DESCRIBED IN SECTION 4.5.1 (LOCATION AREA'S FOR BREACHING FURNACE WALL WITH SUPPLY CONDUITS) ALL SUPPLY LINES CARRYING 120V OR GREATER SHOULD MAINTAIN A MINIMUM CLEARANCE OF 6" (152 mm) TO FURNACE/PLENUM AND DUCTING SURFACES.
MAINTAIN MINIMUM 18" (457 mm) CLEARANCE BETWEEN ALL FURNACE EXHAUST COMPONENTS AND ELECTRICAL WIRING CARRYING 120V OR GREATER.
MAINTAIN A MINIMUM OF 4 FEET (1219 mm) CLEARANCE BETWEEN CONDUCTORS CARRYING 120V OR GREATER AND THE FRONT OF THE FURNACE.

4.5.1 SUPPLY LINES

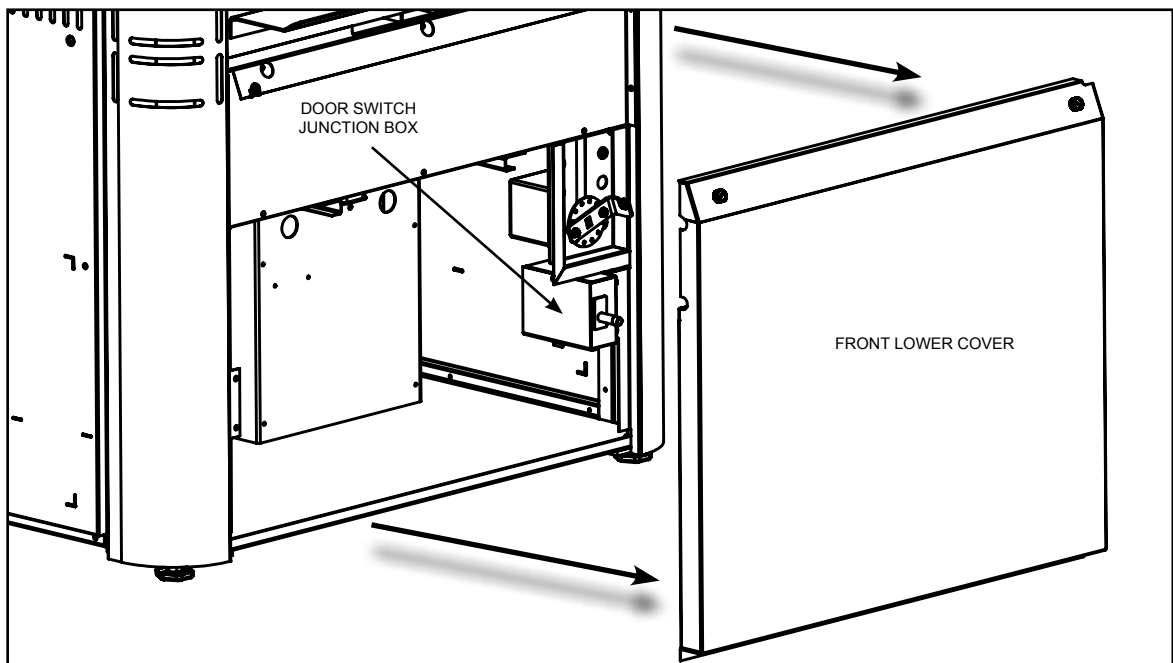
Access Points for bringing electrical power into the HMF100, are defined as the rectangular area between the horizontal hash mark line and the bottom of the panel (see diagram) the electrical supply can be brought in through either left, right, or rear panel.

NOTE

When return air filter bracket is mounted to either the left or right side panel, do not feed electric supplies (120V Main Furnace, 240V Electric Heater) or 24V Control Wires thru the same panel.



Remove the front lower cover of furnace (wiring schematic located on backside of cover). Bring supply conductors through outer panels (using electric conductor feed through connectors and strain relief as required by electrical code) and route wires to the door switch junction box located at the front of the furnace.

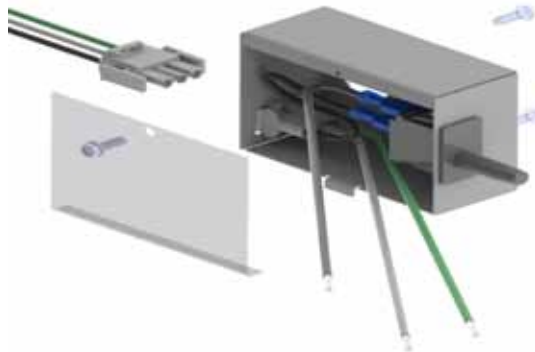


NOTE

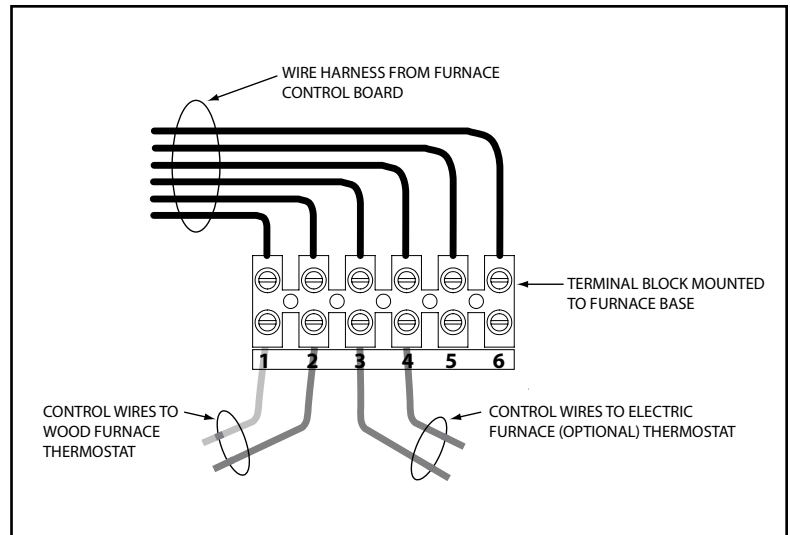
The front door switch junction box can be relocated to the left front corner post if the supply conductors are brought in through the left side panel.

The function of the door switch is to stop the flow of electrical power to the control board and blower when the front lower cover of the furnace has been removed.

Remove access cover of the door switch junction box and route supply conductors into box via plastic grommet at the rear of the box.
 Connect conductors together, using a twist on wire connector as per picture.

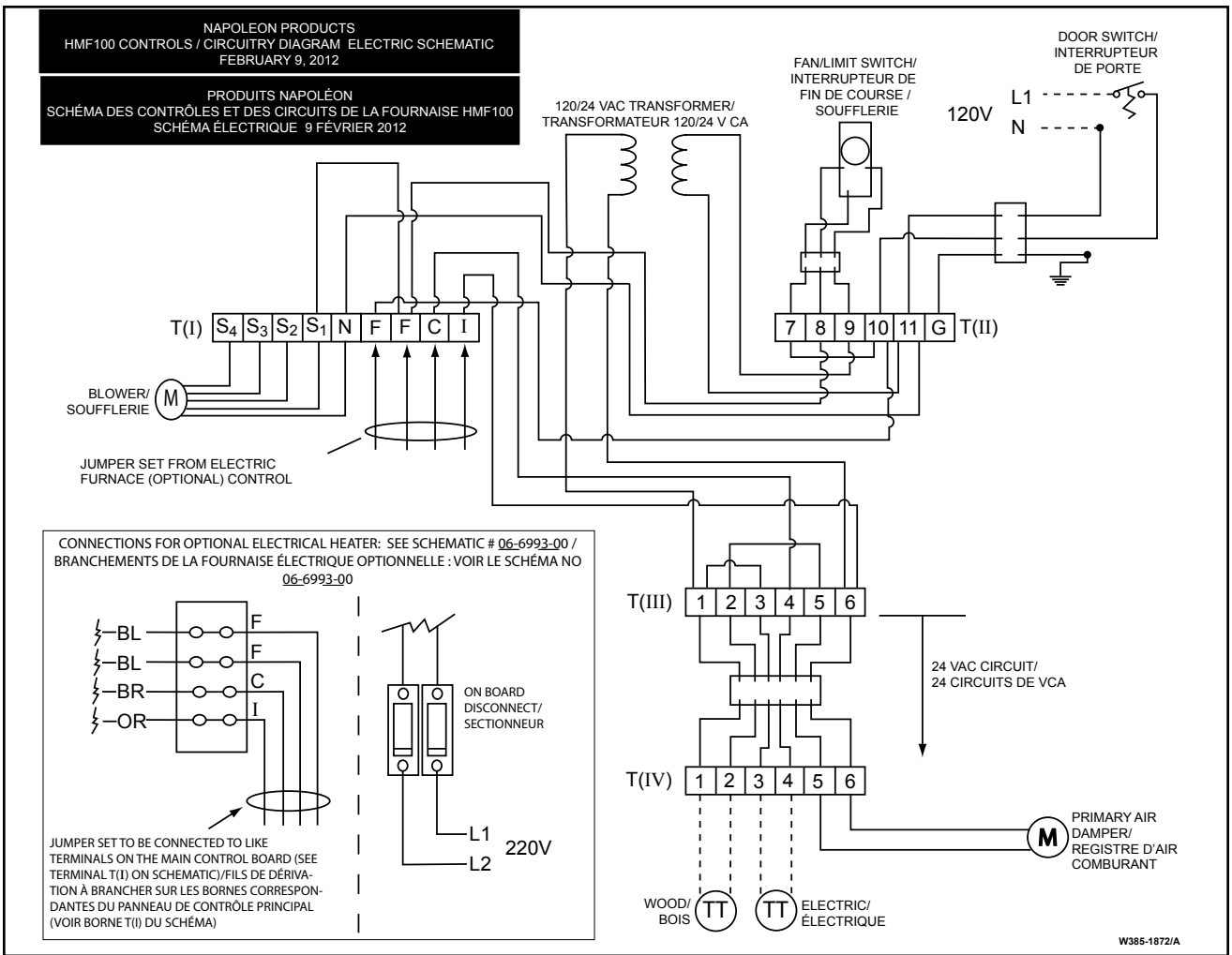


Push wiring back into door switch junction box, replace and secure switch box cover. Connect 24V control wires from wood furnace thermostat to terminal #1 and #2 on 24VAC terminal block affixed to the base of the furnace.
 Replace front lower cover of furnace and secure using pair of thumb screws. Energize electrical circuit and HMF100 is ready for use.



▲ CAUTION ▲

Review Section #6 - General Operating Instructions.



----- FIELD WIRE

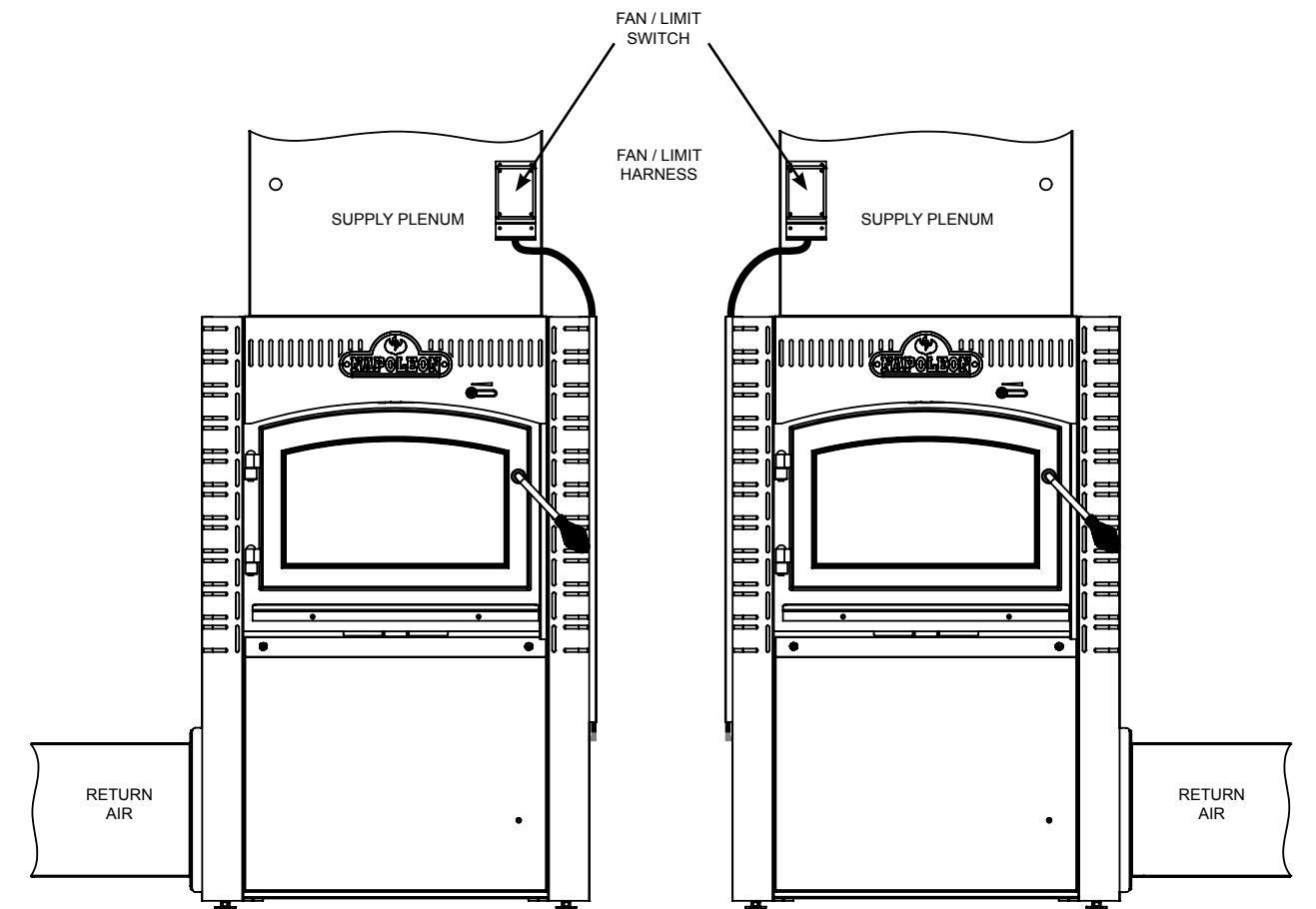
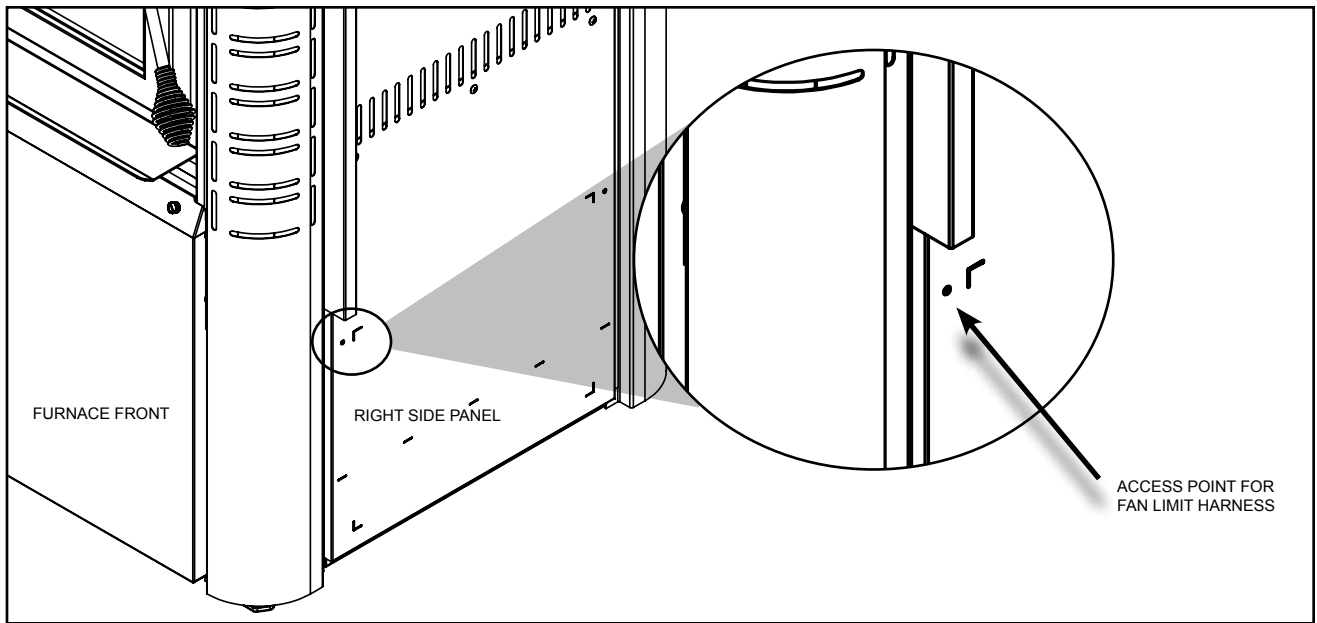
4.5.2 LIMIT HARNESS

The installer will have to mount the fan/limit switch to the supply plenum. Run the wiring harness from this switch down one of the sides of the furnace and thru the chosen side panel at a location marked by a punched dimple.

NOTE

The dimple chosen as the access point, is always the one located closest to the front of the unit. When the return air filter bracket is mounted to either the left or right side panel the fan/limit switch and harness are always mounted on the other side of the furnace. If the air filter bracket is mounted in the rear panel the fan/limit switch and harness can be mounted on either right or left hand sides of the furnace.

Use 7/8" hole saw or punch set centered on appropriate dimple to make access hole for harness.

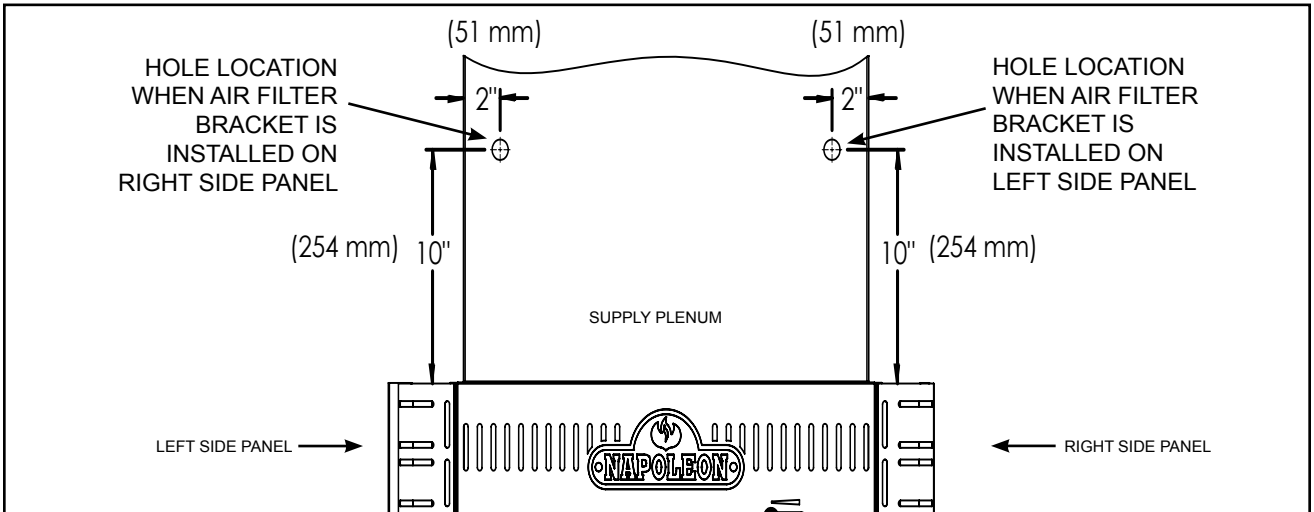


4.5.3 MOUNTING AND WIRING THE FAN/LIMIT SWITCH

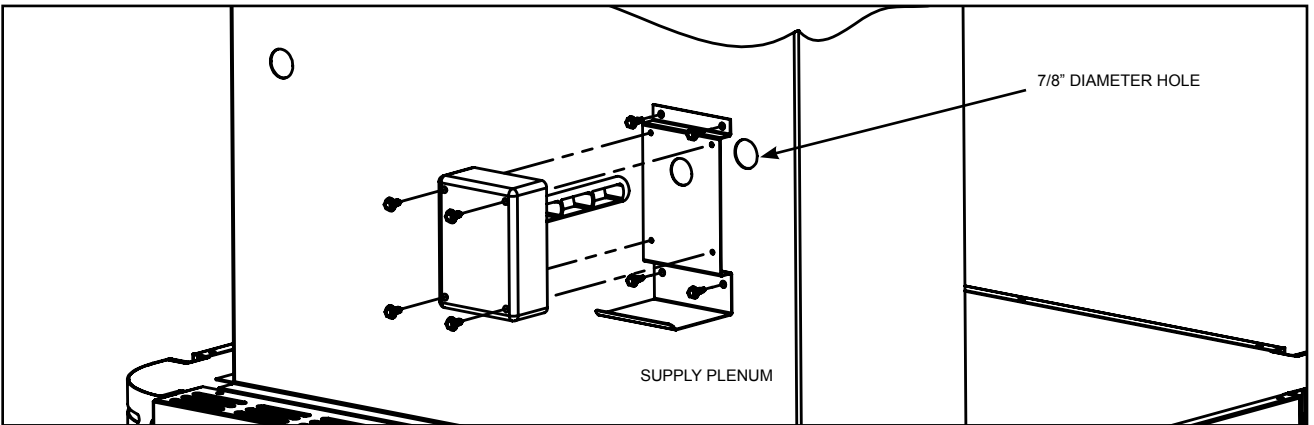
- Choose left or right side of the front or rear of the supply plenum based on where the return air filter bracket is being mounted, and use diagram to locate and drill 7/8" (267 mm) diameter hole.

NOTE

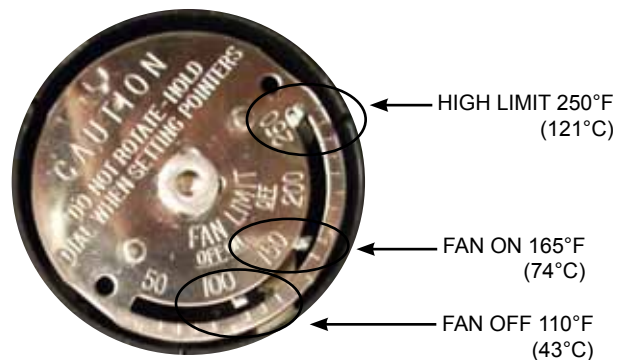
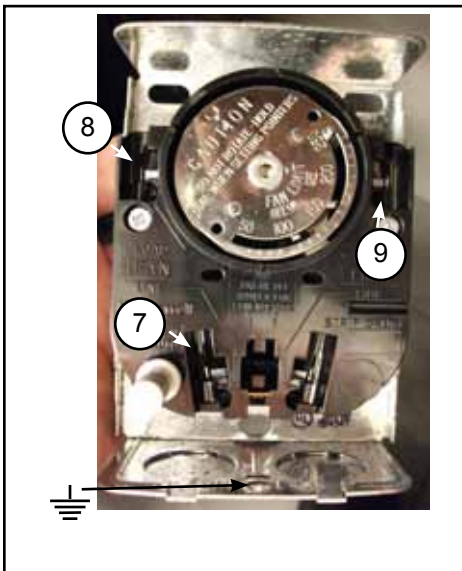
If rear installation is chosen for the fan/limit switch, 24" (610 mm) service clearance is required at the side of the unit the fan/limit switch is located on.



- Using the self drilling screws, mount switch and bracket as per diagram.



- Connect harness wiring to switches as per picture:



CAUTION

THE PRESET VALUES ON THE FAN LIMIT CONTROL MUST NOT BE CHANGED FROM THE FACTORY SETTING.
 ANY ADJUSTMENT TO THIS CONTROL WILL AFFECT THE OPERATING EFFICIENCY OF THE FURNACE AND WILL VOID THE WARRANTY COVERAGE.

- Remove the harness cover from the right side panel (remove three (3) screws). Run harness down side panel of furnace and into 7/8" diameter access hole.
- From the inside of the furnace thread the end of the limit harness through the reducing washer (supplied with the harness). Move the washer up the harness until it reaches the furnace wall, the reducing washer and the 90° elbow of the harness will form a "snap fit" sandwiching the furnace panel between them.
- If wire harness is on right side panel encase with harness cover and replace three (3) mounting screws. If wire harness is on left side panel replace mounting screws into right side panel and remove equivalent three (3) screws from left side panel. Encase harness with harness cover and fasten using three (3) screws from left side panel.
- Connect the plastic 5 pin pentagonal harness connector to its counter part on the right side of the electric control panel.

4.5.4 SECURING WIRE HARNESES**! WARNING**

WIRING TO BE ROUTED AND SECURED TO PREVENT CONTACT WITH MOVING PARTS IN THE APPLIANCE.

Power and fan/limit wire routing location for right side return air option. Secure wires to the two locations as seen in picture.



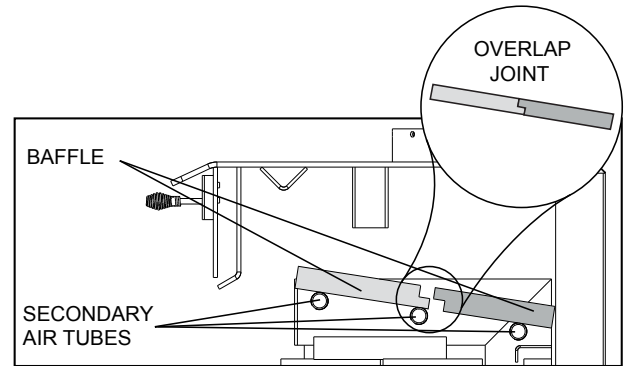
Power and fan/limit wire routing location for left side return air option. Secure wires to the right wire tie location as seen in picture.



4.6 SECONDARY AIR TUBES/BAFFLES INSTALLATION

The four secondary air tubes have been factory installed. The front most tube has larger holes than the rear three tubes.

- Carefully pivot the fibre baffles (F) up onto the secondary air tubes as illustrated. Ensure that the top baffles are pushed all the way to the rear of the firebox, leaving a minimum of 1 inch (25 mm) gap along the front. This will allow the flue gases to escape the firebox. Ensure overlap joint is tight as illustrated.

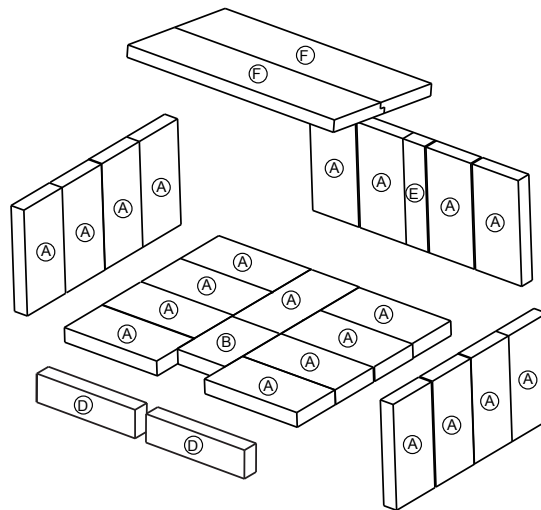


4.7 BRICK OVERVIEW

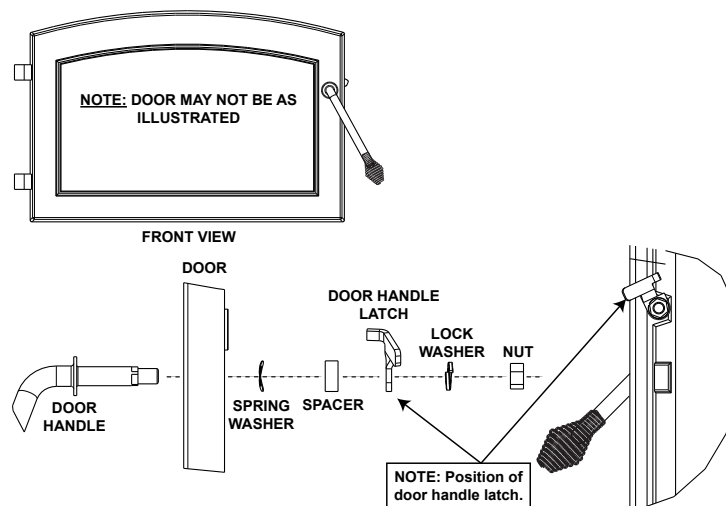
! WARNING

OPERATION OF THE APPLIANCE WITHOUT THE BAFFLES CAN RESULT IN EXCESSIVE TEMPERATURES THAT COULD DAMAGE THE APPLIANCE, CHIMNEY AND THE SURROUNDING ENCLOSURE.

BRICK OVERVIEW:



4.8 DOOR HANDLE INSTALLATION



! WARNING
BURNING YOUR APPLIANCE WITH THE DOORS OPEN OR AJAR CREATES A FIRE HAZARD THAT MAY RESULT IN A HOUSE AND OR CHIMNEY FIRE.
DO NOT STRIKE OR SLAM DOOR.
NEVER REMOVE THE DOOR WHEN THE APPLIANCE IS HOT.

4.9 OPTIONAL ELECTRIC BACK UP FURNACE

! WARNING
ALL 120 VOLT ELECTRICAL PRE ASSEMBLED HARNESSSES MUST BE INSTALLED AS PER INSTRUCTIONS AND ELECTRICAL CODES.
INSTALLATION REQUIRES WIRING BY A CERTIFIED ELECTRICIAN. ALL WIRING TO CONFORM TO CSA 22.1.
FAILURE TO COMPLY MAY RESULT IN ELECTRIC SHOCK, FIRE, PROPERTY DAMAGE OR PERSONAL INJURY.
THE ELECTRICAL INSTALLATION MUST SATISFY ALL RELEVANT ASPECTS OF CSA 22.1 AND IN PARTICULAR CAN/CSA-C22.2 NO. 0-M91, NO. 3-M1986.
DISCONNECT POWER FROM BOTH ELECTRIC FURNACE MODULE AND WOOD FURNACE BEFORE SERVICING.
ALL WIRING BRINGING 120V OR GREATER TO THE HMF100 AND ITS MODULES, SHALL BE AS SPECIFIED IN ELECTRICAL CODE BUT MUST HAVE WIRE INSULATION VALUE OF NO LESS THAN 194°F (90°C).
EXCEPT FOR AREA'S DESCRIBED IN SECTION 4.5.1 (LOCATION AREA'S FOR BREACHING FURNACE WALL WITH SUPPLY CONDUITS) ALL SUPPLY LINES CARRYING 120V OR GREATER SHOULD MAINTAIN A MINIMUM CLEARANCE OF 6" (152 mm) TO FURNACE/PLENUM AND DUCTING SURFACES.
MAINTAIN MINIMUM 18" (457 mm) CLEARANCE BETWEEN ALL FURNACE EXHAUST COMPONENTS AND ELECTRICAL WIRING CARRYING 120V OR GREATER.
MAINTAIN A MINIMUM OF 4 FEET (1219 mm) CLEARANCE BETWEEN CONDUCTORS CARRYING 120V OR GREATER AND THE FRONT OF THE FURNACE.

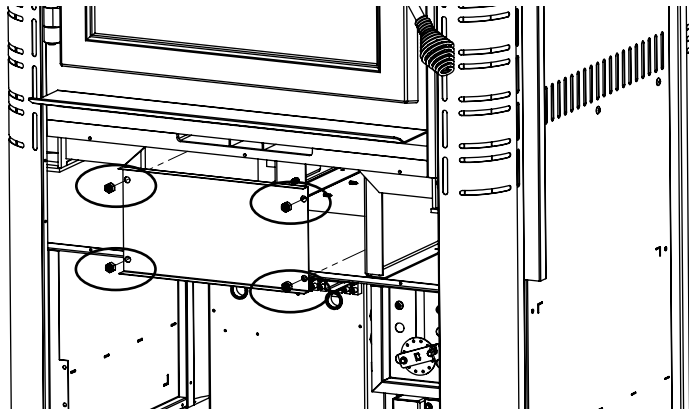
Open HMFK-EF10 module carton and check items in box:

- Control Board (1 pc.)
- Electric Element Assembly (1 pc.)
- Controls Cover (1 pc.)
- Voltage Warning Sticker (1 pc.)
- Electric Schematic Sticker (1 pc.)
- #8-18x1/2 Hex Head Sheet Metal Screws (8 pcs.)

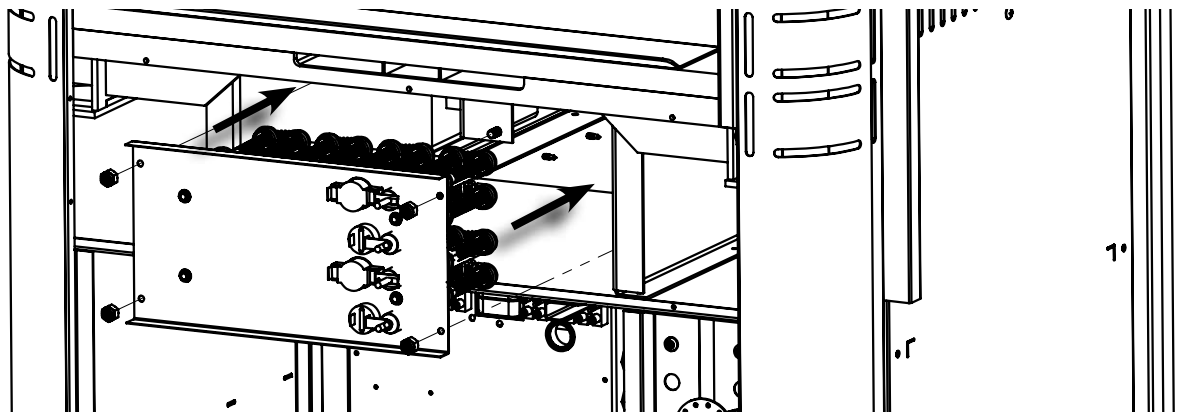
Disconnect power to furnace.

Remove the blower door and blower division cover from HMF100.

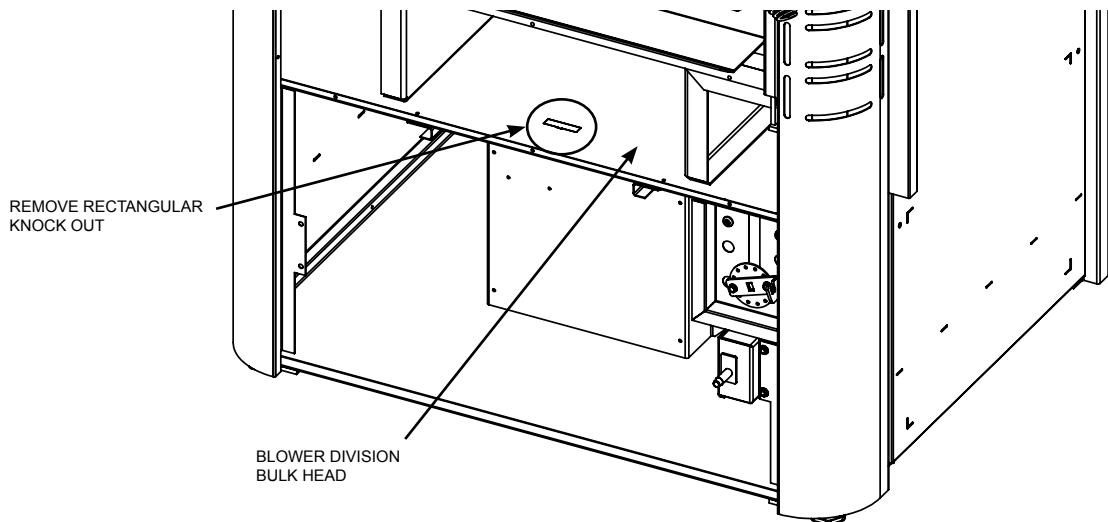
Remove four (4) nyloc lock nuts and blocking panel from inside the upper blower division cavity.



Orientate electric element assembly and slide into upper blower division cavity. Push support panel of electric element assembly over internal weld studs and secure using four (4) nyloc lock nuts.



Remove rectangular knock out from blower division bulk head.



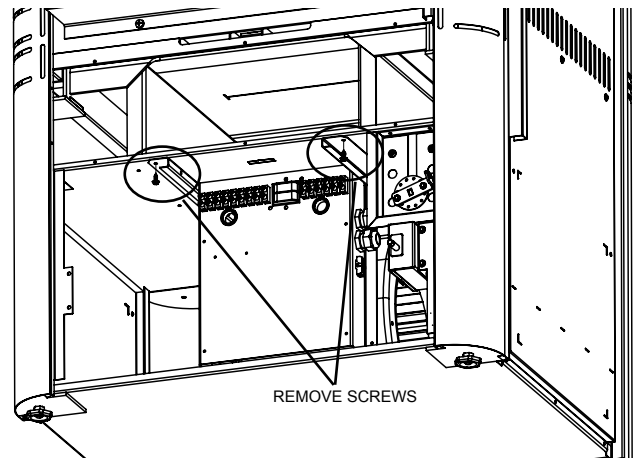
Take wiring harness from electric element assembly (installed in previous step) and bring forward to front of furnace. Take the plastic bulk head end connector that terminates the wiring harness and push down **through** the blower division bulk head.

NOTE

The connector is not symmetric and can only fit into the knock out in one orientation.

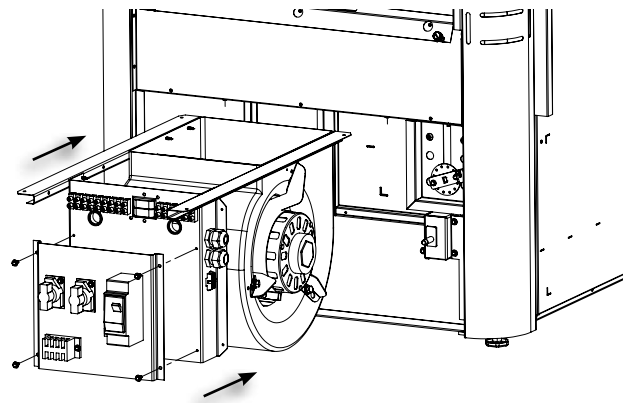
Push connector down until it “locks” into bulk head.

The second part of the installation requires removing the blower assembly to allow easy installation of the electric furnace control board to the main electric control board. Start by removing the hex head securing screws that fasten the blower assembly guide rails to the bottom of the blower division bulk head.



Disconnect the (3) electrical quick connects from the main electrical control panel.

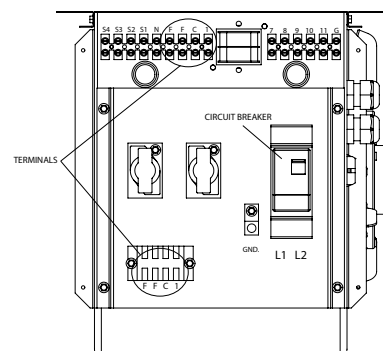
Gently slide the blower assembly out the front of the furnace. Locate and secure the electric furnace control board to the main electrical control board using four (4) hex head screws supplied with the HMFK-EF10 kit.



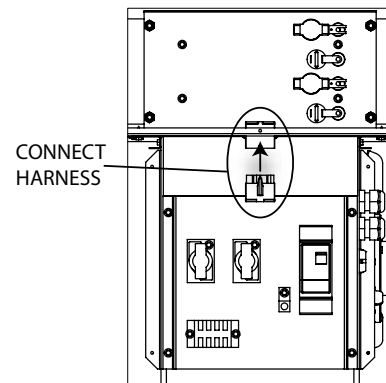
Take the (4) wires (F, F, C, 1) from the electric furnace control board and connect them to the corresponding terminals (F, F, C, 1) on the main electric control board.

Connect the 240V supply to the circuit breaker on the electric furnace control board.

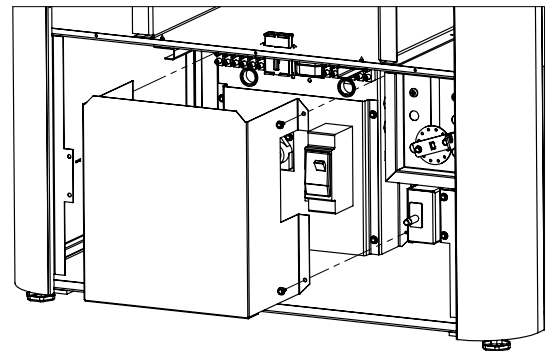
Slide the blower assembly back into the furnace and re-attach the guide rails to the blower division bulk head with the hex head screws. Reconnect the (3) wire harnesses that were disconnected to pull the blower assembly out.



Connect the plastic harness connector of the supply harness coming off the electrical control board to the mating bulk head connector protruding thru the bottom of the blower division bulk head.



Turn the circuit breaker switch on the electric control panel to the “ON” position. Fasten the controls cover to the main electrical control panel using hex head screws supplied with HMFK-EF10 kit.



Mount the thermostat for the electric furnace beside the wood furnace thermostat. Run 24V control wire to the HMF100 and feed the wire back to the furnace. Drill feed thru the hole into the panel beside location of feed thru for wood thermostat control wires. Install grommet into feed thru hole before pulling wires thru panel (grommet should provide both abrasion protection and strain relief for the control wires).

Connect control wires to terminals #3 and #4 of terminal strip (IV) (terminal strip mounted on furnace floor). See wiring diagrams in Section 4.5.4, on page 20.

Locate and fasten the blower division cover and the blower door onto the furnace and energize both 120V and 240V power sources at the resident disconnect.

NOTE

The electric furnace thermostat should be maintained approximately 3°F (-16°C) lower than the wood thermostat, so if the wood furnace cannot maintain the required temperature the electric furnace will come on when the room temperature drops.

5.0 CLEARANCE TO COMBUSTIBLE MATERIALS/ PLENUM AND VENTING INSTALLATION

WARNING

ALL PLENUM DUCTING AND VENTING INSTALLATION MUST CONFORM WITH CAN/CSA B365-01, AND NFPA 211. THE WARM AIR SUPPLY DUCT SHALL BE CONSTRUCTED OF METAL IN ACCORDANCE WITH NFPA 90B, 2-1.1. PLENUM INSTALLED TO FURNACE SHALL BE CONSTRUCTED OF METAL IN ACCORDANCE WITH NFPA 90B, 2.1-3. ALWAYS CHECK LOCAL BUILDING AND FIRE CODES, AND AUTHORITIES HAVING JURISDICTION.

ALL PLENUM, DUCTING AND VENTING MUST BE INSTALLED BY A QUALIFIED/LICENSED INSTALLER.

DO NOT USE MAKESHIFT COMPROMISES DURING INSTALLATION. DO NOT BLOCK OR RESTRICT AIR. DO NOT IMPEDE AIR MOVEMENT IN ZONES MARKED "CLEARANCE TO COMBUSTIBLES".

MINIMUM CLEARANCE TO COMBUSTIBLE DIMENSIONS MUST BE IMPLEMENTED.

5.1 FLUE / CHIMNEY FOR HMF100 IN CONFIGURATIONS

WARNING

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

USE CHIMNEY CERTIFIED TO 2100°F (1149°C) FOR WOOD BURNING APPLIANCES, LISTED AS UL103HT(USA), ULCS629(CANADA) MINIMUM 6" (152 mm) DIAMETER LISTED RESIDENTIAL CHIMNEY. SEE AND FOLLOW CHIMNEY MANUFACTURES INSTRUCTIONS.

CHIMNEY DRAFT GREATER THAN -0.06" W.C. (-15 Pa) MAY CAUSE AN UNCONTROLLABLE FIRE AND DAMAGE THE FURNACE.

5.1.1 CONTROLLING DRAFT

- Use of inclined manual dampers are forbidden.
- Barometric dampers can be installed to maintain normal operating draft between 0.04" and 0.06" W.C (10 Pa and 15 Pa).

WARNING

IF OPERATING DRAFT RANGE IS EXCEEDED IT CAN CAUSE SOLID FUEL FIRE TO BURN OUT OF CONTROL CREATING OVER FIRE CONDITION, SEE SECTION 7.1 RUN-AWAY FIRE OR CHIMNEY FIRE.

STRICTLY ADHERE TO ALL IDENTIFIED INSTALLATION CLEARANCES.

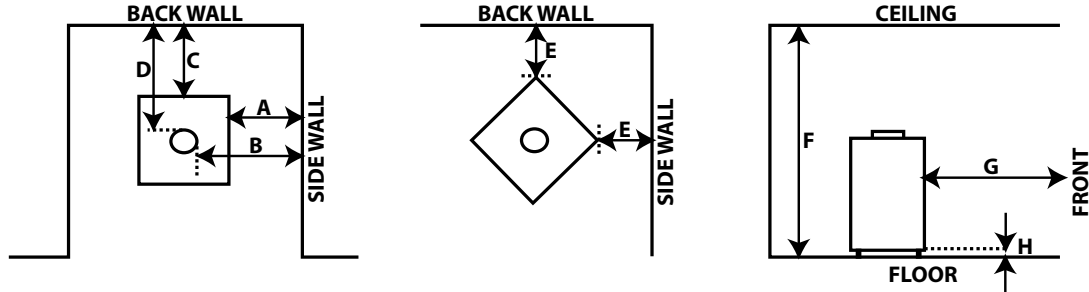
5.1.2 MEASURING DRAFT

Using a manometer with appropriate scale range connect testing tube between manometer and chimney connector. End of testing tube should be inserted in chimney connector so approximately 1" (25 mm) of tube protrudes into and perpendicular to exhaust stream. This measurement shall be taken approximately 12" (305 mm) above elbow/T attached to the furnace flue. Any hole made in the chimney connector for insertion of manometer tube shall be adequately sealed with high temp materials when testing is complete. Chimney draft to be a minimum -0.04" W.C. (-10 Pa) to maximum -0.06" W.C. (-15 Pa).

5.2 MINIMUM CLEARANCE TO COMBUSTIBLES

! WARNING

DO NOT INSTALL INTO ANY AREA HAVING A CEILING HEIGHT LESS THAN THE MINIMUM CEILING HEIGHT REQUIREMENTS LISTED IN SECTION 5.3.1.



PARALLEL & CORNER	SINGLE WALL CONNECTOR	DOUBLE WALL CONNECTOR
SIDEWALL (A)	6" (152 mm)	6" (152 mm)
SIDEWALL TO FLUE (B)	18" (457 mm)	17¼" (438 mm)
BACKWALL (C)	6" (152 mm)	6" (152 mm)
BACKWALL TO FLUE (D)	18" (457 mm)	14" (356 mm)
CORNER (E)	6" (152 mm)	6" (152 mm)
CEILING (F)	Refer to Section 5.3.1	
FRONT (G)	48" (1219 mm)	48" (1219 mm)
FLOOR (H)	⅞" (22 mm)	⅞" (22 mm)

Clearances can be reduced with shielding acceptable to local authorities. Reduced installation must comply with NFPA 211 or CAN/CSA-B365.

5.3 GENERAL PLENUM AND DUCTING - CLEARANCE TO COMBUSTIBLES

5.3.1 MINIMUM CEILING HEIGHT REQUIREMENTS

(measured from the base of the HMF100)

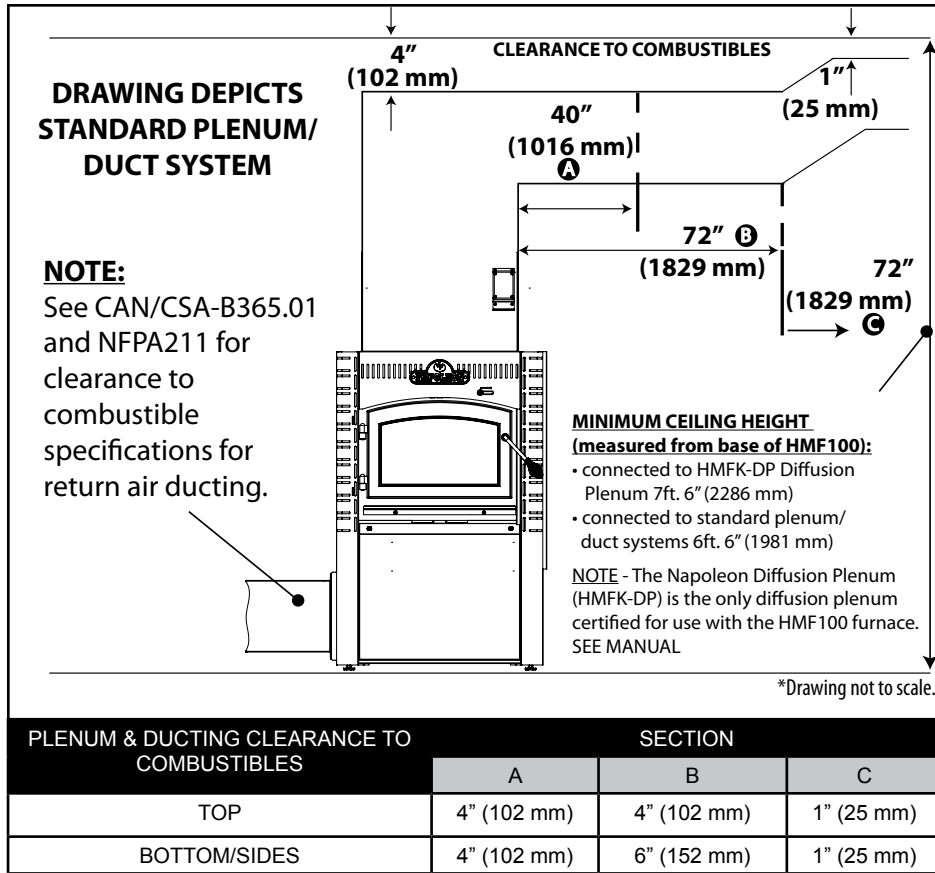
- Option A - 7 foot 6 inches (2.29 m) is the minimum ceiling height required when the HMF100 is configured with the Napoleon HMFK-DP (Napoleon Diffusion Plenum).
- Option B - The ceiling height required can be reduced to 6 foot 6 inches (1.98 m) when the HMF100 is connected with both supply and return air plenums and a complete ducting system. See section 5.3.2 for clearance to combustible requirements for the supply/return plenum and ducting system.

5.3.2 INSTALLATION WITH RETURN/SUPPLY PLENUMS AND COMPLETE DUCT SYSTEM

! WARNING

ALL PLENUM/DUCT SYSTEMS CONNECTED TO THE HMF100 (WITH THE EXCEPTION OF THE NAPOLEON DIFFUSION PLENUM "HMFK-DP") MUST HAVE A RETURN AIR PLENUM AND DUCTING. RETURN AIR MUST NOT BE TAKEN FROM THE FURNACE ROOM (SEE LOCAL CODES). AS WITH ANY COMBUSTION APPLIANCE HAVING A COLD AIR RETURN IN THE SAME ROOM AS THE APPLIANCE CAN CREATE A NEGATIVE PRESSURE AND RESULT WITH THE SPILLAGE OF COMBUSTION PRODUCTS INTO THE LIVING AREA.

- All plenum and ducting clearances must satisfy specification set forth in CAN/CSA-B365.01 and NFPA211.



- The first 72" (1829 mm) run of horizontal ducting coming off the supply plenum must maintain a cross sectional area of 110 square inches (710 cm²) (total sum of main duct and branch ducts cross sections). Use the following chart when connecting round ducting directly to supply plenum:

MIN. # OF DUCTS REQUIRED	DUCT DIAMETER
9	4" (102 mm)
6	5" (127 mm)
4	6" (152 mm)

⚠ CAUTION ⚠

The initial run of horizontal duct branching off the supply plenum shall maintain a cross sectional area of minimum 110 square inches (710 cm²).

5.3.3 INSTALLATION WITH THE HMFK-DP DIFFUSION PLENUM

The HMF100 may be installed without a return air plenum and duct system only when the HMF100 is configured with the Napoleon Diffusion Plenum (HMFK-DP).

⚠ WARNING

ONLY USE KITS OR ACCESSORIES TESTED AND APPROVED FOR USE WITH THE HMF100. USING NON APPROVED KITS VOIDS WARRANTY AND INCREASES RISK OF PROPERTY DAMAGE AND PERSONAL INJURY.

When installing an HMF100 without a return air plenum the filter rack and filter must be installed on the rear panel of the furnace behind the blower. Failure to comply with this requirement may result in smoke and ash being drawn in through the intake and distributed out through the blower.

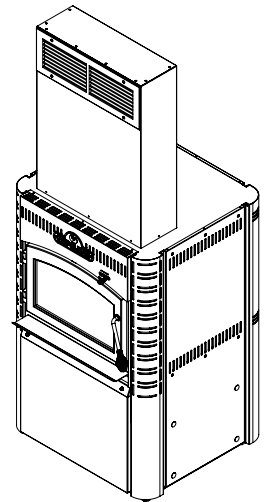
! WARNING

NEVER INSTALL A FILTER RACK AND FILTER ON THE FURNACE SIDE PANELS WHEN CONFIGURING FURNACE WITHOUT A RETURN AIR PLENUM. SPILT EMBERS FROM THE FUEL LOADING AREA COULD BE DRAWN INTO THE FILTER, FURNACE AND DUCT SYSTEM CAUSING A POTENTIAL FIRE, PROPERTY DAMAGE AND PERSONAL INJURY.

! WARNING

DO NOT OBSTRUCT THE AREA IN FRONT OF THE DIFFUSION PLENUM GRILL FOR A MINIMUM DISTANCE OF 5 FEET (1.52 M). NEVER HANG OR PLACE COMBUSTIBLES SUCH AS FABRICS OR CLOTH MATERIALS WITHIN THE MINIMUM 5 FEET (1.52 M) CLEARANCE AREA.

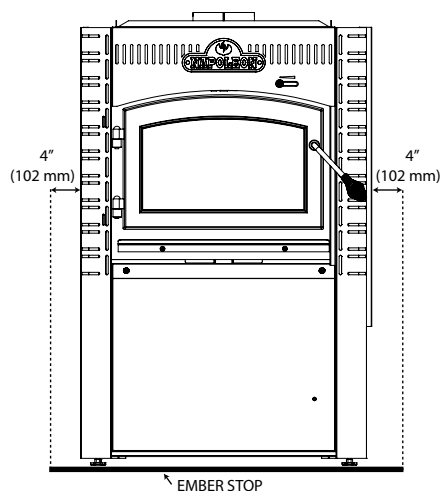
Diagram depicts HMFK-DP mounted to HMF100: a diffusion plenum is defined as a supply plenum with a diffusion grill on one side. HMFK-DP is the only diffusion plenum certified to be installed on the HMF100.



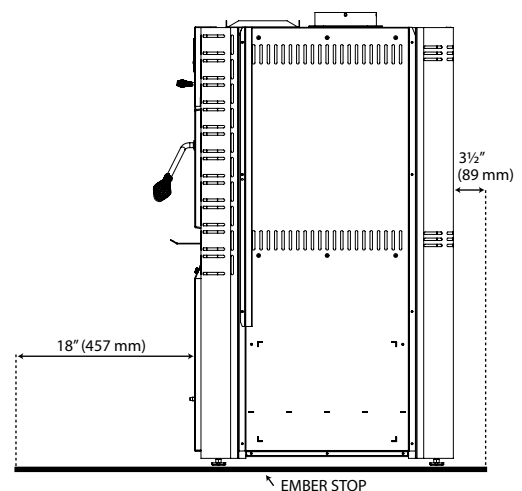
5.4 EMBER STOP

- For installations on combustible flooring an ember stop protective floor covering must be installed.
- An ember stop of minimum 0.015" (0.381 mm) thick sheet steel extending 18" (457 mm) in front of firebox door and a minimum of 4" (102 mm) from both sides and rear of the furnace. Maintain minimum clearance of 7/8" (22 mm) between bottom of furnace and ember stop.
- If a section of horizontal chimney connector is used, floor protection is required under the chimney connector and 2" (50 mm) beyond each side.
- Carpet or other floor covering shall be removed before placement of ember stop sheet.
- Refer to Section 7.1 of CAN/CSA-B365-01 for complete details of floor protection.

EMBER STOP: SIDE DIMENSIONS



EMBER STOP: FRONT AND REAR DIMENSIONS



6.0 GENERAL OPERATING INSTRUCTIONS

6.1 DRAFT CONTROL

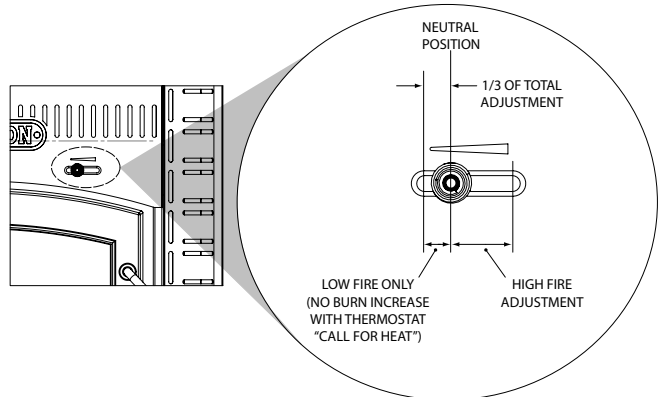
! WARNING

IN NO WAY SHALL THE PRIMARY AIR CONTROL SYSTEM BE ALTERED TO INCREASE COMBUSTION AIR FLOW GREATER THAN THE FACTORY PRESET MAXIMUM.

ALWAYS OPERATE THIS APPLIANCE WITH THE FIRE BOX DOOR CLOSED AND LATCHED EXCEPT DURING START-UP AND RE-FUELING.

Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other forces. Adjusting the draft control regulates the temperature. The draft can be adjusted via the thermostat from a low burn rate with the air control on the low setting to a fast burn rate with the air control on the high setting.

The HMF100 is also equipped with a manual air control lever located on the right side of the front top furnace panel. The damper has a neutral position approximately 1/3 of the maximum opening position (see diagram below). To the left of the neutral position the air control lever adjusts the intensity of the low burn only (even with a call from the thermostat for heat the furnace will remain a low fire burn). Moving the air control lever to the right of the neutral position will adjust the intensity level of the high fire burn when the thermostat calls for heat.



Inadequate draft may cause back-puffing into the room and may cause plugging of the chimney. Too much draft may cause an excessive temperature in the appliance, glowing red appliance parts or an uncontrollable burn which can all lead to a chimney fire or a permanent damage to the appliance.

Roll up some newspaper, light it and place it near the appliance flue until the chimney begins to draw. When a fire is burning, open the door slowly to avoid drawing smoke into the room.

A properly installed Napoleon appliance should not smoke.

If yours does, check the following: Has the chimney had time to get hot? Are the air intake hoods blocked closed? Is the smoke passage blocked anywhere in the appliance or chimney? Is the smoke flow impeded by too long a horizontal pipe or too many bends? Is it a weak draft perhaps caused by a leaky chimney, a cold outside chimney, too short a chimney, or a chimney too close to trees or a higher roof?

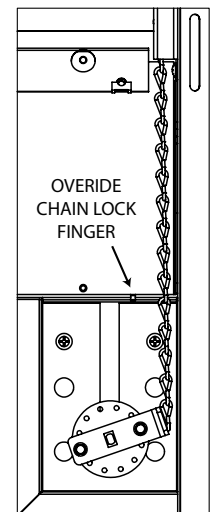
NOTE

Differences in the chimney height and draft may lower overall burn times.

6.3 POWER OUT OPERATION

! WARNING
DURING A POWER OUTAGE DO NOT CREATE A FLASH FIRE CONDITION (SEE SECTION 6.9), DAMAGE TO FURNACE AND PROPERTY MAY RESULT.
DURING A POWER OUTAGE DO NOT LOAD FIREBOX MORE THAN ONE HALF FULL.
DURING A POWER OUTAGE MAINTAIN VIGILANCE OF FURNACE TO INSURE NO OVER FIRING.
HIGH TEMPERATURES CAN BUILD IN THE DUCT WORK, TO ENSURE AIR CIRCULATING IN A GRAVITY METHOD REMOVE AIR FILTER FROM FURNACE. ENSURE ALL SUPPLY AND RETURN AIR GRILLS ARE FREE FROM HOUSEHOLD OBJECTS OR DEBRIS, AND ENSURE ANY MANUAL DAMPERS IN THE DUCT NETWORK ARE FIXED IN A FULL OPEN CONDITION.
WITH THE MANUAL DAMPER LOCKED IN OPEN POSITION, THE FURNACE MUST BE MONITORED TO PREVENT OVER FIRING.

- In the case of a power outage it is possible to increase the output of the firebox by manually adjusting the primary air control shutter. Remove bottom cover from front of the furnace. Gently pull down on the vertical chain attached to servo motor, until it stops. Latch the nearest chain link into protruding chain lock finger, situated just above servo motor. This will continuously maintain the maximum combustion air being fed into the fire box (furnace must be monitored to prevent over firing). The burn rate can then be adjusted using the air control lever located on the top front panel of the furnace. Although the blower fan will be inoperable in a power out situation, convection air flow through to the house will move under gravity circulation.
- The air filter must be removed from the filter rack when operating in a power out condition to help promote gravity circulation and prevent excessive heating of the duct work.
- Do not load firebox more than half full and never create a flash fire in a power outage.
- When electrical power returns, remove the draft control chain from the chain lock finger for automatic draft control.



6.2 CONTROL SYSTEM - SECONDARY FURNACE "WOOD/ELECTRIC" CONFIGURATION

- Control of the secondary heat source (electric) is done by a second thermostat located beside and at the same height as the wood furnace thermostat. The thermostat for the electric furnace should be set 4°F (2°C) to 5°F (3°C) below the setting for the wood thermostat. Thus once the heat from the wood section starts to decline, the corresponding decline in room temperature will cause the second thermostat to call heat from the electric furnace. Note that interlocks in the control system will force the secondary heat source to shut down if the temperature in the supply plenum of the wood furnace exceeds the set value of the "High Limit" switch (250°F) (121°C).

! WARNING
THE ELECTRIC FURNACE HAS BOTH AUTOMATIC AND MANUAL RESET CONTROLS. THE MANUAL RESET IS A FUSIBLE LINK AND SHOULD BE REPLACED BY A QUALIFIED INSTALLER/SERVICE PERSON, AS A CAUSE AND REPAIR MUST BE DETERMINED BEFORE THE UNIT CAN BE RESTARTED. FAILURE TO FOLLOW THIS STEP COULD RESULT IN PROPERTY DAMAGE, INJURY OR DEATH.

6.4 CONTROL SYSTEM - SUMMER FAN

- A manual fan switch has been added to the fan speed/limit control located on the furnace plenum. This will provide air circulation during the summer time when the furnace is not being used.

PUSHED IN = MANUAL FAN OPERATION
 PULLED OUT = AUTO FAN OPERATION
 (PLENUM TEMPERATURE DEPENDANT)



! WARNING

ENSURE THE MANUAL SWITCH REMAINS PULLED OUT INTO THE "AUTO" POSITION DURING THE HEATING SEASON. FAILURE TO COMPLY WITH THIS WILL RESULT IN EXCESSIVE CHILLING OF THE EXHAUST PRODUCTS AS THEY PASS THROUGH THE FURNACE FLUE AND THE CHIMNEY SYSTEM. THIS CHILLING WILL RESULT IN THE CONDENSATION OF EXHAUST PRODUCTS IN THE CHIMNEY RESULTING IN CREOSOTE BUILD UP. THE CREOSOTE BUILD UP SUBSTANTIALLY INCREASES THE RISK OF A CHIMNEY FIRE.

6.5 OPERATING SOUNDS AND SMELLS

Expansion / contraction noises during heating up and cooling down cycles are normal and to be expected.

When first installed, the furnace brick and metal are cold and must become hot before the appliance will function well. During the break-in period (the first 2 or 3 fires) create only small, hot fires using kindling; this will allow the firebrick to cure. Do not be alarmed if small hairline cracks develop in the firebrick. This is a normal occurrence and does not pose a safety hazard. The paint may also smell a little for the first few fires as it cures and you may wish to open a door or window to alleviate the smell.

There are many different ways to start a fire, review the hints and warnings in this section to ensure the fire is started properly.

6.6 STARTING A FIRE

! WARNING

ALWAYS OPERATE THIS APPLIANCE WITH THE FIRE BOX DOOR CLOSED AND LATCHED EXCEPT DURING START UP AND RE-FUELING. ALWAYS WEAR GLOVES TO PREVENT INJURY. DO NOT LEAVE THE FIRE UNATTENDED WHEN THE DOOR IS UNLATCHED AS UNSTABLE WOOD COULD FALL OUT OF THE FIRE CHAMBER CREATING A FIRE HAZARD TO YOUR HOME.

NEVER LEAVE CHILDREN UNATTENDED WHEN THERE IS A FIRE BURNING IN THE APPLIANCE.

DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

DO NOT OPERATE WITH FLUE DRAFT GREATER THAN -0.06" W.C. (-15 Pa).

DO NOT STORE FUEL OR OTHER COMBUSTIBLE MATERIAL WITHIN MARKED INSTALLATION CLEARANCES OF THE APPLIANCES OR WITHIN THE SPACE REQUIRED FOR FUELING, ASH REMOVAL, AND OTHER ROUTINE MAINTENANCE OPERATIONS.

INSPECT AND CLEAN FLUES AND CHIMNEY REGULARLY.

HOT SURFACES - DO NOT TOUCH DURING OPERATION.

FREQUENTLY EXAMINE DOOR SEAL/GASKET, REPLACE IF WORN. FAILURE TO SHUT DOOR TIGHTLY AND IGNORING LEAKING GASKET CAN RESULT IN EXTREME OVER FIRING CONDITIONS.

RISK OF FIRE OR EXPLOSION - DO NOT BURN GARBAGE, GASOLINE, DRAIN OIL, NAPHTHA, ENGINE OIL OR OTHER FLAMMABLE LIQUIDS.

Make sure the air control lever is in "Full Open" position and thermostat has a call for heat. You may also open the doors 1" (25 mm) to 2" (50 mm) during the first five minutes of start-up, for additional information see Section 3.2 "Outside Combustion Air".

Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or freshen-up a fire in this appliance. Keep all such liquids well away from the appliance while it is in use. If using a firestarter, use only products specifically designed for appliances - follow the manufacturer's instructions carefully.

Remove all source of gasoline or other flammable vapors and liquids in the vicinity of this or other appliances prior to lighting.

Use plenty of newspaper and kindling to ensure the appliance reaches a proper temperature. Once the kindling is burning rapidly, place a few larger pieces of wood onto the fire.

Tips:

When first lighting a fire, if the smoke is not quickly drawn into the chimney, there may be a downdraft or cold air in the chimney. By first burning large amounts of crumpled newspaper, the chimney will get heated and the smoke will quickly vent up the chimney.

- Create a large fire to heat up the appliance before adjusting to a slower burn.
- To create a large, quick burning fire, use small pieces of wood (observe Flash Fire Warnings in Sections 6.1 and 6.9).
- For a lower, but extended burn, stack larger pieces of wood close together.
- For long burns, leave a 1-2" (25 - 50 mm) bed of coals.
- Burn dry wood only.
- **Closing the door too quickly after refuelling will reduce the firebox temperature and may result in an unsatisfactory burn.**
- As soon as the door is closed, you may (if glass door is installed) observe a change in the flame pattern. The flames will get smaller and lazier because less oxygen is getting into the combustion chamber. The flames, however, are more efficient. The flames will remain lazy but become larger again as soon as the firebricks have been heated thoroughly and the chimney becomes heated and provides a good draft.
- With the doors opened the fire is wastefully drawing heated room air up the chimney, certainly not desirable. Always operate with the doors fully closed once the medium sized logs have caught fire.
- You can now add larger pieces of wood and operate the appliance normally. Once the appliance is entirely hot, it will burn very efficiently with little smoke from the chimney. There will be a bed of hot coals in the firebox so you can safely fill the firebox with wood to the bottom of the secondary air tubes.
- **Can't get the appliance operating?** Use more kindling and paper. Assuming the chimney and vent are sized correctly and there is sufficient combustion air, the lack of sufficiently *dry* quantities of *small* kindling is the problem. *Thumb size* is a good gauge for small kindling diameter.
- **Can't get heat out of the appliance?** One of two things may have happened. The appliance door may have been closed prematurely and the appliance itself has not reached optimum temperature. Re-open the door and/or draft control to re-establish a brisk fire. The other problem may have been wet wood. The typical symptom is sizzling wood and moisture being driven from the wood.

6.7 FUEL LOADING AND BURN CYCLE

WARNING

BURN WOOD DIRECTLY ON THE FIREBRICKS. DO NOT USE ELEVATED GRATE OR OTHERWISE RAISE THE FIRE.

DO NOT STORE WOOD WITHIN APPLIANCE INSTALLATION CLEARANCES OR WITHIN THE SPACE REQUIRED FOR RE-FUELING AND ASH REMOVAL.

The bricks will be nearly all white and the glass mostly clear. The whiteness of the bricks and the cleanness of the glass (if equipped) are good indicators of your operating efficiency.

Not enough heat is produced when only one or two pieces of wood are burned.

A minimum of three pieces are needed to encase a bed of coals that sustains the fire. Loosely stacked wood burns quicker than a tightly packed load.

Wood burns in cycles rather than giving a steady output of heat. It is best to plan these cycles around your household routine so that only enough coals are left to start the next load. In the evening, load your appliance, at least, a half-hour before bed to ensure the fire is hot enough to close the draft control for an overnight burn.

Burn only dry seasoned wood. It produces more heat and less soot or creosote. Do not burn ocean beach wood. Its salt content can produce a metal eating acid.

6.8 RE-LOADING THE APPLIANCE

When refuelling slowly open the door to prevent smoke spillage. Use a pair of long appliance gloves when feeding the fire. Keep a small steel shovel nearby to use as a poker and to remove ashes. Do not store wood within 4 feet (1 m) of the appliance.

Follow the directions below to minimize smoke spillage while re-loading the appliance.

- A. Open the door slightly.
Allow the airflow inside the firebox to stabilize before opening the doors fully.
- B. Load wood to the bottom of the secondary air tubes - loading above this point could dislodge or damage fire box baffles leading to dangerous over firing.

WARNING

ALWAYS ENSURE THE DOOR IS COMPLETELY SEALED WHEN HANDLE IS ROTATED CLOCKWISE. DO NOT ALLOW FURNACE TO RUN WITH A SLIGHTLY AJAR DOOR. THIS CAN RESULT IN OVER FIRING, AS WELL AS A POTENTIAL FIRE HAZARD.

- D. Close fire box door.

WARNING

BURNING WET, UNSEASONED WOOD CAN CAUSE EXCESSIVE CREOSOTE ACCUMULATION. WHEN IGNITED IT CAN CAUSE A CHIMNEY FIRE THAT MAY RESULT IN A SERIOUS HOUSE FIRE.

6.9 FLASH FIRES

WARNING

DURING A POWER OUTAGE DO NOT CREATE A FLASH FIRE CONDITION, DAMAGE TO FURNACE AND PROPERTY MAY RESULT.

A flash fire is a small fire burned quickly when you don't need much heat. After your kindling has "caught", load at least 3 pieces of wood, stacked loosely. Burn with the draft control fully open or closed only slightly.

A flash fire is created by igniting a very loosely stacked pile of kindling (typically but not restricted to wood with a cross section less than 1" X 1" (25 mm X 25 mm)). A major characteristic of a flash fire is that the wood is piled in such a way that the volume of the fuel pile can consist of as much if not more air space as there is wood fuel. The intensity of the flash fire can be greatly increased if supply of combustion air is increased (firebox or ash doors left open during fire). Although small flash fires are a part of developing a charcoal bed when starting the furnace up from a cold start they can create unsafe operating conditions, damage to the furnace and void all warranties. Flash fires may only be used when starting the furnace from a cold start and the fuel stack should never occupy more than 1/3 of the firebox volume. Do not create or maintain flash fires once the furnace is capable of sustaining operating using regular full size wood in tightly packed bundles. Never create a flash fire during a power out condition, damage to the furnace is likely and all warranties will be void. Typical symptoms of flash fires which have caused over firing include glowing furnace components and melted exterior paint.

6.10 ASH REMOVAL PROCEDURES

WARNING

IMPROPER DISPOSAL OF ASHES RESULT IN FIRES. DO NOT DISCARD ASHES IN CARDBOARD BOXES, DUMP IN BACK YARDS, OR STORE IN GARAGES.

IF USING A VACUUM TO CLEAN UP ASHES, BE SURE THE ASHES ARE ENTIRELY COOLED. USING A VACUUM TO CLEAN UP WARM ASHES COULD CAUSE A FIRE INSIDE THE VACUUM.

A bed of ashes approximately 1" (25 mm) deep should be left on the firebox bottom to help maintain a hot charcoal bed. When the fire has burned down and cooled, remove any excess ashes. To remove the ash, follow the directions below.

- A. After the last coal has extinguished, let the appliance cool at least two hours.
- B. Open the firebox door.
- C. Use fireplace shovel to scrape ashes off firebox floor. Place the ashes into a steel, container with a tightly fitting lid. Other waste shall not be placed in this container. Cover the container with the lid and move the container away from the appliance onto a suitable non-combustible surface outdoors where the ashes can safely cool away from any combustibles. Dispose of the ashes.

6.11 INSPECTION OF FLUES AND CHIMNEYS

IMPORTANT:

- Establish a routine for the storage of fuel, care of appliance, and firing techniques.
- Check daily for creosote build up until experience shows how often cleaning is necessary.
- Be aware that the hotter the fire, the less creosote is deposited, and that weekly cleaning may be necessary in mild weather, even though monthly cleaning may be enough in the coldest months.
- Have a clearly understood plan to handle a chimney fire.

WARNING

INSPECT FLUE PIPES, FLUE PIPE JOINTS, AND FLUE PIPE SEALS REGULARLY TO ENSURE THAT SMOKE AND FLUE GASES ARE NOT DRAWN INTO, AND CIRCULATED BY THE AIR CIRCULATION SYSTEM.

CAUTION

THE FLUE PIPE AND CHIMNEY MUST BE INSPECTED FREQUENTLY AND CLEANED REGULARLY TO REMOVE ACCUMULATED CREOSOTE AND ASH. UNDER CERTAIN CONDITIONS OF USE, CREOSOTE BUILD UP MAY OCCUR RAPIDLY. THE APPLIANCE, FLUE PIPE AND CHIMNEY MUST BE MAINTAINED IN GOOD CONDITION.

CLEANOUT OF THE HEAT EXCHANGER, FLUE PIPE, CHIMNEY, AND DRAFT INDUCER (IF USED), IS ESPECIALLY IMPORTANT AT THE END OF THE HEATING SEASON TO MINIMIZE CORROSION DURING THE SUMMER MONTHS CAUSED BY ACCUMULATED ASH.

7.0 MAINTENANCE

7.1 RUN-AWAY OR CHIMNEY FIRE

WARNING

A CHIMNEY FIRE CAN PERMANENTLY DAMAGE YOUR CHIMNEY SYSTEM. THIS DAMAGE CAN ONLY BE REPAIRED BY REPLACING THE DAMAGED COMPONENT PARTS. CHIMNEY FIRES ARE NOT COVERED BY THE LIFETIME LIMITED WARRANTY.

Run-away fires can be the result of FOUR major factors:

CAUSES:

1. Using incorrect fuel, or small fuel pieces which would normally be used as kindling.
2. Leaving the door ajar too long and creating extreme temperatures as the air rushes in the open door.
3. Improperly installed or worn gaskets.
4. Creosote build up in the chimney.

SOLUTIONS:

1. Do not burn treated or processed wood, coal, charcoal, coloured paper or cardboard.
2. Be careful not to over fire the appliance by leaving the door open too long after the initial start-up.
3. Replace worn, dried out (inflexible) gaskets.
4. Have chimney regularly cleaned.

WHAT TO DO IF A RUN-AWAY OR CHIMNEY FIRE STARTS:

1. Close the draft fully (lowest position) by shutting off thermostat, move air control lever fully to the left, and make sure firebox is closed tightly.
2. Call the local fire department.
3. Examine the chimney, attic and roof of the house, to see if any part has become hot enough to catch fire. If necessary spray with a fire extinguisher or water from a garden hose.
4. Do not operate the appliance again until you are certain the chimney has not been damaged.

7.2 CREOSOTE FORMATION AND REMOVAL

When wood is burned slowly, it produces tar and other organic vapors which combine with expelled moisture to form creosote. These vapors condense in the relatively cooler chimney flue of a slow burning fire and when ignited, make an extremely hot fire. Check your chimney from creosote and soot build-up daily, until a safe frequency for cleaning is established. The chimney connector and chimney should be inspected at least twice monthly during the heating season to determine if a creosote build up has occurred. Be aware that the hotter the fire, the less creosote is deposited, and weekly cleaning might be necessary in mild weather, even though substantially longer period without cleaning may be sufficient in colder months.

Also note that small intense fires are preferable to large smoldering ones to reduce the amount of creosote deposited.

If accumulation is excessive, clean the chimney. You may want to call a professional chimney sweep to clean it. Both the chimney and the appliance have to be cleaned at least once a year or as often as necessary. Have a clearly understood plan to handle a chimney fire.

7.2.1 CHIMNEY MAINTENANCE

The most efficient method to sweep the chimney is using a hard brush. Brush downwards so soot and creosote residues will come off the inner surface and fall at the bottom of the chimney where they can be removed easily.

The chimney must be checked regularly and if creosote has accumulated, it must be removed without delay. Cleaning on a monthly basis should be sufficient during the coldest months.

Smoke Flue Inspection

- The smoke flue should be inspected regularly during the heating season.
- If possible, the smoke flue should be dismantled and cleaned.
- The flue should be inspected for possible damage.
- If it is in good condition, put the flue back in place; otherwise, it must be replaced.

7.3 FIRE EXTINGUISHERS AND SMOKE DETECTORS

All homes with a solid fuel burning appliance should have at least one fire extinguisher in a central location, known to all, and at least one smoke detector in the room containing the appliance. If it sounds an alarm, correct the cause but do not de-activate or relocate the smoke detector.

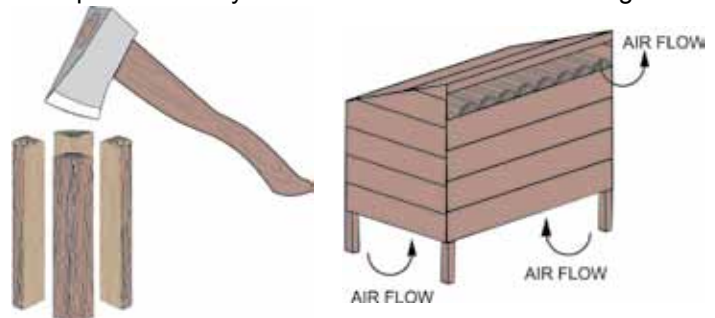
7.5 SELECTING WOOD

! WARNING
THIS APPLIANCE IS DESIGNED TO BURN NATURAL WOOD ONLY. DO NOT BURN TREATED WOOD, COAL, CHARCOAL, COLOURED PAPER, CARDBOARD, SOLVENTS OR GARBAGE.
HIGHER EFFICIENCIES AND LOWER EMISSIONS GENERALLY RESULT WHEN BURNING AIR DRIED SEASONED HARDWOODS, AS COMPARED TO SOFTWOODS OR TOO GREEN OR FRESHLY CUT WOODS.
BURNING WET UNSEASONED WOOD CAN CAUSE EXCESSIVE CREOSOTE ACCUMULATION. WHEN IGNITED IT CAN CAUSE A CHIMNEY FIRE THAT MAY RESULT IN A SERIOUS HOUSE FIRE.

Burn only dry, clean unpainted wood that has been seasoned. It produces more heat and less soot or creosote. Freshly cut wood contains about 50% moisture while after proper seasoning only about 20% of the water remains. As wood is burned, this water boils off consuming energy that should be used in heating. The wetter the wood, the less heat is given off and the more creosote is produced. Dry firewood has cracks in the end grain.

Both hardwood and softwood burn equally well in this appliance but hardwood, which is denser, will weigh more per cord and burn a little slower and longer.

Firewood should be split and stacked in a manner that air can get to all parts of it and covered in early spring to be ready for burning that fall.



7.4 GLASS AND GASKET REPLACEMENT

! WARNING
BURNING YOUR APPLIANCE WITH THE FIREBOX DOOR OPEN OR AJAR CREATES A FIRE HAZARD THAT MAY RESULT IN A HOUSE AND OR CHIMNEY FIRE.
FREQUENTLY EXAMINE ALL DOOR SEALS/GASKETS, REPLACE IF WORN. FAILURE TO SHUT FIREBOX DOOR TIGHTLY AND IGNORING LEAKING GASKETS CAN RESULT IN EXTREME OVER FIRING CONDITIONS.

At the end of each burning season inspect the firebox door gasket ensuring that it is not worn or loose. Replace with proper fiberglass rope. The purpose of door gasketing is to seal the firebox. If the door is not sealed, air leaks into the firebox, creating a quick burning fire. This situation is not desirable for overnight or extended burns.

Replace cracked or broken glass immediately. When re-installing the glass, be sure that the glass and gasket create a solid seal around door frame. Follow the instructions in Section 7.7 for Glass Replacement.

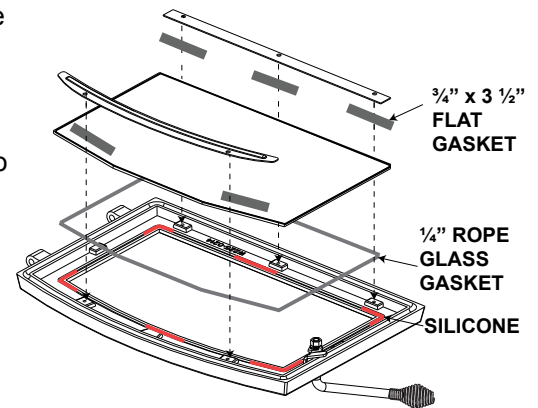
7.6 FIREBRICKS AND BAFFLES

Inspect and replace all broken firebricks and baffles. Refer to Section 4.7 for Brick and Baffle Installation.

7.7 GLASS REPLACEMENT

! WARNING
DO NOT SUBSTITUTE MATERIALS.
GLASS MAY BE HOT, DO NOT TOUCH GLASS UNTIL COOLED.
CARE MUST BE TAKEN WHEN REMOVING AND DISPOSING OF ANY BROKEN DOOR GLASS OR DAMAGED COMPONENTS. BE SURE TO VACUUM UP ANY BROKEN GLASS FROM INSIDE THE APPLIANCE BEFORE OPERATION.
DO NOT STRIKE, SLAM OR SCRATCH GLASS. DO NOT OPERATE APPLIANCE WITH GLASS REMOVED, CRACKED, BROKEN OR SCRATCHED.

- A. When the appliance is cool, remove the door and place it face down on a soft surface. Be careful not to scratch the paint.
- B. Remove the 5 screws securing the glass retainers.
- C. Remove all broken glass.
- D. Cut the 3/4" flat gasket into 3 1/2" (89 mm) lengths and affix to glass retainers as illustrated, ensure the gasket extends past the ends of the retainers by 1/4" (6 mm).
- E. Apply small beads of silicone in the gasket groove, as shown.
- F. Place the rope gasket in the gasket groove, on top of the silicone.
- G. Place the glass on the door. Re-install the glass retainers.



NOTE: For replacement glass, size, thickness and specifications see "REPLACEMENTS" section.

7.9 FILTERS

The furnace must not be operated without filters. In order to efficiently and safely operate a slow combustion heating system, you have to ensure a regular maintenance. This means that the chimney, the joints and the flue must be kept in good condition and the air filters must be replaced regularly; use standard capacity pleated air filters (16" x 12" x 1") (406 mm X 305 mm X 25 mm).

7.8 CARE OF GLASS (IF EQUIPPED)

If the glass is not kept clean permanent discolouration and / or blemishes may result. Normally a hot fire will clean the glass. The most common reasons for dirty glass include: not using sufficient fuel to get the appliance thoroughly hot, using green or wet wood, closing the draft so far that there is insufficient air for complete combustion.

If it is necessary to clean the glass, buff lightly with a clean dry cloth and non-abrasive cleaner.

DO NOT CLEAN GLASS WHEN HOT! Clean the glass after the first 10 hours of operation with a recommended appliance glass cleaner. Thereafter clean as required.

The glass is very strong but do not let burning fuel rest or fall against it and always close the door gently. **NEVER FORCE IT SHUT!**

If the glass should ever crack or break while the fire is burning, do not open the door until the fire is out and do not operate the appliance again until the glass has been replaced, available from your Authorized dealer. **DO NOT SUBSTITUTE MATERIALS.**

! WARNING	
	<p>HOT GLASS WILL CAUSE BURNS.</p> <p>DO NOT TOUCH GLASS UNTIL COOLED.</p> <p>NEVER ALLOW CHILDREN TO TOUCH GLASS.</p>

8.0 REPLACEMENTS

Contact your dealer or the factory for questions concerning prices and policies on replacement parts. Normally all parts can be ordered through your Authorized dealer / distributor.

FOR WARRANTY REPLACEMENT PARTS, A PHOTOCOPY OF THE ORIGINAL INVOICE WILL BE REQUIRED TO HONOUR THE CLAIM.

When ordering replacement parts always give the following information:

- Model & Serial Number of appliance
- Installation date of appliance
- Part number
- Description of part
- Finish

WARNING

FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THIS MANUAL OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS APPLIANCE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

APPLIANCE AND ACCESSORY REPLACEMENT PARTS	
PART NUMBER	DESCRIPTION
W010-2325	REPLACEMENT GLASS & GASKET
W010-2572	TRANSFORMER, 120V/24V/40VA
W010-2758	FAN & LIMIT CONTROL ASSEMBLY
*W018-0118	FIBRE BAFFLE "F"
W020-0043	GASKET DOOR KIT
W020-0563	GASKET GLASS KIT
W010-2325	ASSY, REPLACEMENT GLASS AND GASKET
*W090-0015	FIREBRICK "A" 1.25"x4.5"x9"
*W090-0018	FIREBRICK "D" 2.25"x1.250"x9"
*W090-0168	FIREBRICK "B" 4.50"x6.250"x1.25"
*W090-0179	FIREBRICK "E" 2.750"x9"x1.250"
W225-0214	BLACK DOOR
W250-0007	FILTER, 12" x 16" x 1" PLEATED
W325-0042	SPRING HANDLE - SMALL BLACK
W325-0043	SPRING HANDLE - LARGE BLACK
W435-0003	PRIMARY AIR SERVO MOTOR
W435-0049	BLOWER MOTOR, 1/6 - 1/12 HP PSC D164
W580-0008	COMPLETE BRICK SET
W710-0054	ASH LIP
W720-0155	REAR SECONDARY AIR TUBE
W720-0156	FRONT SECONDARY AIR TUBE

*NOTE: • See Section 4.7 for firebrick placement.

9.0 TROUBLE SHOOTING GUIDE

! WARNING
TURN OFF THE ELECTRICAL POWER BEFORE SERVICING THE APPLIANCE.
APPLIANCE MAY BE HOT, DO NOT SERVICE UNTIL APPLIANCE HAS COOLED.
DO NOT USE ABRASIVE CLEANERS.

SYMPTOM	PROBLEM	TEST SOLUTION
Smoke enters the room during start-up.	Cold air blockage in chimney.	- Burn a piece of newspaper to establish a draft.
	Close the doors.	- If the flame is not getting enough air, first make sure the air control is open. If additional air is needed, open the doors a small crack only.
Kindling does not start - fire smolders.	Cold air blockage in chimney.	- Burn a piece of newspaper to establish a draft.
	Not enough starter paper.	- Use additional newspaper if necessary.
	Not enough air.	- First make sure the air control is fully open. If additional air is needed, a small crack in the doors is all that is needed.
Smoke enters the room while re-loading.	Insufficient draft.	- Chimney height and outside conditions can negatively affect draft. In these cases a small amount of smoke may enter the home. Adding more pipe or a draft-inducing cap may help.
Appliance does not burn hot enough.	Wood is wet.	- See the section on "Selecting Wood" for details.
	Insufficient draft.	- Chimney height and outside conditions can negatively affect draft. In these cases a small amount of smoke may enter the home. Adding more pipe or a draft-inducing cap may help.
	Primary air control is not functioning.	- With the electric power confirmed to the furnace and the thermostat turned up full: <ol style="list-style-type: none"> 1. Check to see if the manual damper can be opened any further to allow more combustion air into the firebox. 2. Remove front lower panel and examine servo motor and chain linkage. <ul style="list-style-type: none"> • Does the servo motor rotate approximately 1/4" rotation when the thermostat calls for heat? • Does the chain between the servo motor and damper plate remain taught but move freely when servo motor rotates?
Blower does not run.	Appliance is not up to temperature.	- This is normal. The blower will come on when the furnace supply plenum is heated up enough to turn on fan limit.
	Electricity is cut to the blower.	- Check the household breaker or fuse to make sure it is operable.
Appliances does not burn overnight.	The doors are not sealing.	- See the section "Door Glass / Gasket Replacement" for details. - Demand from thermostat constantly exceeding output of the furnace. - Primary air shutter always in the full open position.
Appliance smoking.		- Has the chimney had time to get hot? - Is there adequate supply of combustion air? - Is the outside air damper opened? - Is the smoke passage blocked anywhere in the appliance or chimney?

10.0 WARRANTY

NAPOLEON® products are manufactured under the strict Standard of the world recognized ISO 9001 : 2008 Quality Assurance Certificate.

NAPOLEON® products are designed with superior components and materials, assembled by trained craftsmen who take great pride in their work. The complete appliance is again thoroughly inspected by a qualified technician before packaging to ensure that you, the customer, receives the quality product that you expect from NAPOLEON®.

NAPOLEON® BIOMASS FURNACE PRESIDENT'S LIFETIME LIMITED WARRANTY

The following materials and workmanship in your new NAPOLEON® biomass furnace are warranted against defects for as long as you own the appliance. This covers: weld defects in the combustion chamber and heat exchangers, ceramic glass (thermal breakage only), ash drawer and iron castings.* Perforations caused by metal scalings for a period of five years.

Electrical (110V) components and wearable parts such as blowers, thermal switch, switches, wiring, firebrick, stainless steel baffle retainer, secondary air tubes, and gasketing are covered and NAPOLEON® will provide replacement parts free of charge during the first and second year of the limited warranty.*

Labour related to warranty repair is covered free of charge during the first year. Repair work, however, requires the prior approval of an authorized company official. Labour costs to the account of NAPOLEON® are based on a predetermined rate schedule and any repair work must be done through an authorized NAPOLEON® dealer.

Note that metal scaling is a normal occurrence during the lifetime of the firebox, but is greatly accelerated by the exposure to moisture, over firing and lack of preventative maintenance. Evidence of either of these conditions voids warranty.

Parts such as firebricks, gaskets and baffles should routinely be removed by the operator as part of the regular service and therefore, any warranty replacement of these parts does not qualify for any labour allowances.

* Construction of models vary. Warranty applies only to components included with your specific appliance.

CONDITIONS AND LIMITATIONS

NAPOLEON® warrants its products against manufacturing defects to the original purchaser only. Registering your warranty is not necessary. Simply provide your proof of purchase along with the model and serial number to make a warranty claim. NAPOLEON® reserves the right to have its representative inspect any product or part thereof prior to honouring any warranty claim. Provided that the purchase was made through an authorized NAPOLEON® dealer your appliance is subject to the following conditions and limitations: Warranty coverage begins on the date of original installation.

This factory warranty is non-transferable and may not be extended whatsoever by any of our representatives.

The biomass furnace must be installed by an authorized service technician or contractor. Installation must be done in accordance with the installation instructions included with the product and all local and national building and fire codes.

This limited warranty does not cover damages caused by misuse, lack of maintenance, accident, alterations, abuse or neglect and parts installed from other manufacturers will nullify this warranty. Warranty does not cover installations in commercial or industrial settings.

This limited warranty further does not cover any scratches, dents, corrosion or discoloring caused by excessive heat, abrasive and chemical cleaners nor chipping on porcelain enamel parts, nor any venting components used in the installation of the appliance.

This warranty extends to the repair or replacement of warranted parts which are defective in material or workmanship provided that the product has been operated in accordance with the operation instructions and under normal conditions.

After the first year, with respect to the President's Lifetime Limited Warranty, NAPOLEON® may, at its discretion, fully discharge all obligations with respect to this warranty by refunding to the original warranted purchaser the wholesale price of any warranted but defective part(s).

After the first year, NAPOLEON® will not be responsible for installation, labour or any other costs or expenses related to the reinstallation of a warranted part, and such expenses are not covered by this warranty.

Notwithstanding any provisions contained in the President's Lifetime Limited Warranty, NAPOLEON's responsibility under this warranty is defined as above and it shall not in any event extend to any incidental, consequential or indirect damages.

This warranty defines the obligations and liability of NAPOLEON® with respect to the NAPOLEON® biomass furnace and any other warranties expressed or implied with respect to this product, its components or accessories are excluded.

NAPOLEON® neither assumes, nor authorizes any third party to assume, on its behalf, any other liabilities with respect to the sale of this product. NAPOLEON® will not be responsible for: over-firing, downdrafts, spillage caused by environmental conditions such as rooftops, buildings, nearby trees, hills, mountains, inadequate vents or ventilation, excessive venting configurations, insufficient makeup air, or negative air pressures which may or may not be caused by mechanical systems such as exhaust fans, furnaces, clothes dryers, etc. Any damages to appliance, combustion chamber, heat exchanger, plated trim or other component due to water, weather damage, long periods of dampness, condensation, damaging chemicals or cleaners will not be the responsibility of NAPOLEON®.

All parts replaced under the President's Limited Lifetime Warranty Policy are subject to a single claim.

NAPOLEON® will provide replacement parts at a prorated value of the current retail price.

All parts replaced under the warranty will be covered for a period of 90 days from the date of their installation.

The manufacturer may require that defective parts or products be returned or that digital pictures be provided to support the claim. Returned products are to be shipped prepaid to the manufacturer for investigation. If a product is found to be defective, the manufacturer will repair or replace such defect.

Before shipping your appliance or defective components, your dealer must obtain an authorization number. Any merchandise shipped without authorization will be refused and returned to sender.

Shipping costs are not covered under this warranty.

Additional service fees may apply if you are seeking warranty service from a dealer.

Warranty labour allowance is only for the replacement of the warranted part. Travel, diagnostic tests, shipping and other related charges are not covered by this warranty.

ALL SPECIFICATIONS AND DESIGNS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE DUE TO ON-GOING PRODUCT IMPROVEMENTS. NAPOLEON® IS A REGISTERED TRADEMARK OF WOLF STEEL LTD. PATENTS U.S. 5.303.693.801 - CAN. 2.073.411, 2.082.915. © WOLF STEEL LTD.

REV. 02.07.12

11.0 SERVICE HISTORY

Appliance Service History

This heater must be serviced annually depending on usage.

Date	Dealer Name	Service Technician Name	Service Performed	Special Concerns

