

# MP80

## INSTALLATION AND OPERATION MANUAL

**READ THOROUGHLY AND  
COMPLY WITH ALL LOCAL  
CODES AND REGULATIONS**

**MP80 SOLID FUEL FURNACE  
FOR USE AS AN  
ADD-ON TO OIL, GAS OR ELECTRIC FURNACE  
OR AS AN INDEPENDENT FORCED AIR WITH BLOWER**



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# **VALLEY COMFORT SYSTEMS INC.**

## **LIMITED WARRANTY - MP80**

**WARNING: TO VALIDATE THIS WARRANTY YOU MUST COMPLETE AND RETURN THE WARRANTY CARD WITHIN 20 DAYS OF THE DATE OF PURCHASE.**

### **WHAT THE WARRANTY COVERS:**

This warranty contains different terms that cover different parts of the furnace. VALLEY COMFORT SYSTEMS INC warrants the STEEL COMPONENTS including the COMBUSTION CHAMBER and CAST LINERS of the VALLEY COMFORT furnace, which is delivered with this warranty, against defects in material or workmanship to you, the original retail purchaser (hereafter referred to as purchaser), for a period of up to five (5) years following the date of original retail purchase, subject to the provisions of RESPONSIBILITIES OF THE COMPANY below. VALLEY COMFORT SYSTEMS INC warrants the FAN LIMIT CONTROLS, THERMOSTAT, DAMPER MOTOR, DOOR GASKETS, ELECTRICAL RELAYS (if applicable) and the BLOWER MOTOR (if applicable) of the VALLEY COMFORT furnace, which is delivered with this warranty, against defects in material or workmanship, to the purchaser, for a period of one (1) year following the date of original retail purchase, subject to the provisions of RESPONSIBILITIES OF THE COMPANY below. No person is authorized to modify this warranty or to make any additional warranties on behalf of the manufacturer, VALLEY COMFORT SYSTEMS INC.

### **WHAT THE WARRANTY DOES NOT COVER:**

Unless otherwise provided by law or covered by this warranty, VALLEY COMFORT SYSTEMS INC is not responsible for removal, transportation or re-installation of any product repaired or replaced pursuant to this warranty. VALLEY COMFORT SYSTEMS INC shall in no event be liable for special, incidental, consequential, indirect or other similar damages arising from the breach of the warranty, even if VALLEY COMFORT SYSTEMS INC has been advised of the possibility of such damages. Some provinces / states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. VALLEY COMFORT SYSTEMS INC limits all implied warranties, if any, including the warranties of merchantability or fitness for particular purpose, to one (1) year from the date of original retail purchase. Some provinces / states do not allow limitations on how long implied warranty lasts, so the above limitation may not apply to you. Actions for breach of this warranty must be brought within one (1) year of the expiration of this warranty.

This appliance, when installed, becomes part of a system that includes, the fresh air supply, flue and chimney. VALLEY COMFORT SYSTEMS INC. does not warranty this product for performance under operating conditions other than what is specified in the manual. Problems caused by improper air supply, negative pressure or chimney flue system performance, are not covered by this warranty.

### **HOW YOU CAN GET SERVICE:**

If this product requires repair or replacement due to defects in material or workmanship covered by this warranty, contact your VALLEY COMFORT dealer and explain the defect. If the dealer does not repair or replace the product to your satisfaction, contact the Service Department of VALLEY COMFORT SYSTEMS INC at 1-250-493-7444, e-mail: sales@valleycomfort.com or write to 1290 Commercial Way, Penticton, BC, V2A 3H5. Please explain the defect and state the model, serial number, date of retail purchase, and the name and address of your VALLEY COMFORT dealer. VALLEY COMFORT SYSTEMS INC may request that the defective part, parts, or the entire furnace, be shipped to VALLEY COMFORT SYSTEMS INC at the purchaser's expense.

### **RESPONSIBILITIES OF THE COMPANY:**

IF the purchaser has complied with all of the terms and conditions of this warranty and IF the purchaser has notified VALLEY COMFORT SYSTEMS INC of a defect prior to the expiration of the respective warranty period and after shipment to VALLEY COMFORT SYSTEMS INC., the following procedure shall be implemented. VALLEY COMFORT SYSTEMS INC. will upon receiving the product determine if there is a defect, and if the defect falls within the scope of this warranty. If it is determined by VALLEY COMFORT SYSTEMS INC. to be covered by this warranty then, VALLEY COMFORT SYSTEMS INC. will either repair or replace the product, AT ITS ELECTION, or MAY ELECT to refund a portion of the purchase price, based on the formula below. A refund will only be given to the purchaser in the event that VALLEY COMFORT

CONTINUED ....

# VALLEY COMFORT SYSTEMS INC LIMITED WARRANTY - MP80

SYSTEMS INC. cannot provide a repair or replacement within a reasonable time, and the purchaser is willing to accept such a refund. If VALLEY COMFORT SYSTEMS INC. elects to repair or replace the product based on the formula below, VALLEY COMFORT SYSTEMS INC. will ship the product prepaid at their expense to a VALLEY COMFORT dealer nearest the purchaser. If it is determined by VALLEY COMFORT SYSTEMS INC. that there is no defect, or the defect resulted from causes not within the scope of this warranty, then the purchaser must bear the cost of storing and of returning the product to the purchaser.

During the 2nd year ..... purchaser pays 20%  
During the 3rd year ..... purchaser pays 40%  
During the 4th year ..... purchaser pays 60%  
During the 5th year ..... purchaser pays 80%

## MISUSE OF FURNACE NULLIFIES WARRANTY:

The above warranty is conditional upon the proper installation and use of the furnace according to the manufacturer's directions embodied in the Owner's Installation and Operation Instructions published by VALLEY COMFORT SYSTEMS INC and in compliance with the local building or fire codes in the area where it is installed. The Local Building Inspector or Fire Department should inspect the furnace prior to beginning use. A copy of the Owner's Installation and Operation Instructions is provided with each unit, or can be obtained by writing to VALLEY COMFORT SYSTEMS INC at the address shown below. **READ THE OWNER'S INSTALLATION AND OPERATION INSTRUCTIONS BEFORE INSTALLING OR USING THE FURNACE. SAVE THESE INSTRUCTIONS FOR FURTHER MAINTENANCE AND SAFETY PROCEDURES.** Alteration of, abuse of, damage to, lack of maintenance of, faulty repair, OR misuse of the furnace, **VOIDS** this warranty. Use of fuel other than natural untreated wood (such as artificial logs, wood exposed to salt water, or coal that may burn at excessively high temperatures or may release fumes that can explode) will **VOID** this warranty. Burning the furnace with the loading door open (other than during the brief start-up period) will also **VOID** this warranty.

## OTHER LEGAL RIGHTS OF THE PURCHASER:

This warranty gives you specific legal rights, and you may have other rights that vary from province to province. All parts of this warranty are to be interpreted in accordance with the laws of British Columbia, Canada. If you do not agree to the purchase of the furnace on the terms and conditions set out in this warranty, then you must return the furnace to the dealer prior to use or installation, and the purchase price will be refunded.

**THIS WARRANTY ONLY COVERS UNITS INSTALLED IN CANADA OR USA.**



**PLEASE KEEP YOUR RECEIPT, AS PROOF OF PURCHASE.  
ALL WARRANTY CLAIMS SHOULD BE MADE THROUGH THE DEALER YOU  
ORIGINALLY PURCHASED YOUR APPLIANCE FROM:**

## **WARNING**

**TO VALIDATE THIS WARRANTY, YOU MUST COMPLETE AND RETURN THE WARRANTY  
CARD WITH 20 DAYS OF THE DATE OF PURCHASE**

This product is proudly manufactured in Canada by:

**VALLEY COMFORT SYSTEMS INC.  
1290 COMMERCIAL WAY, PENTICTION, B.C., V2A 3H5  
(250) 493-7444  
E-mail: [vcsales@vip.net](mailto:vcsales@vip.net)**





## SPECIFICATIONS

Model	MP80
Rating	80,000 Btu. Nominal
Height	35
Width	21
Length	37
Flue collar	6" ID
Flue pipe center to bottom	26 1/2"
Recommended flue pressure	.03" water column (draft)
Hot air plenum opening	30 5/8" L x 18" W
Fire door opening	12" x 13"
Firebox length	26"
Width	14"
Height	19"
Capacity	4 cu. ft.
Fuel length	24"
Firebox design features	1) distributed draft system with preheated primary air, via cast liner ports. 2) Stainless steel baffle system to retain high combustion efficiency
Construction	14 Ga. Firebox Cast iron liners 12 Ga. heat exchanger 20 Ga. cabinet Stainless steel baffle
Weight	325 lbs.

## **SAFETY PRECAUTIONS**

- Comply with all local codes and regulations.
- Never operate a furnace that has been improperly installed.
- **DO NOT USE CHEMICALS OR FLUIDS TO START OR FRESHEN A FIRE.** Keep all flammable fluids well away from the furnace.
- **DO NOT BURN GARBAGE, GASOLINE, NAPHTHA, OR ENGINE OIL, OR RAGS SOAKED IN THESE FLUIDS.**
- Combustible material including firewood must be stored well away from the furnace, outside of the distances specified for "clearance to combustibles".
- Never operate the furnace unless you are sure the smoke pipe and chimney are in safe condition. Flue gasses may contain carbon monoxide, which is poisonous.
- Keep smoke pipe and chimney clean to prevent a chimney fire. In the event of a chimney fire turn down all thermostats and close off combustion air. Call a fire department if necessary. Have a clearly understood plan to handle a chimney fire.



Congratulations on your choice of a wood furnace from Valley Comfort. We thank you for the confidence you have placed in us.

A word about Valley Comfort -- In 1953 when most folks were excited about getting rid of their wood burning appliances, a determined entrepreneur, Pete Stoopnikoff, was convinced that he could make a better wood heater. After many years of packing "too much wood", as a child and a young man, he was determined to produce a more efficient Canadian heater. He succeeded! That's over 40 years ago and ever since Valley Comfort has researched, designed, produced and marketed an expanding line of fine products. In the late 1970's safety standards were introduced to the industry and our products were some of the first to be approved. Today, all of our heaters and furnaces are tested and approved to the national standards. We have built our reputation on quality and are committed to that end in all of our products.

This instruction booklet will give you some ideas and important instructions that will assure maximum usage and service life from your furnace. Please read this booklet thoroughly and save it for future reference. Carefully follow instructions for installation.

## **OPERATING INSTRUCTIONS**

### **LIGHTING THE FIRE**

#### **NEVER START A FIRE UNLESS THE FURNACE IS CORRECTLY INSTALLED. CHECK THE INSTALLATION INSTRUCTIONS CAREFULLY**

- In a new furnace, spread 1" of sand or ashes in the bottom of the firebox to protect against high heat and prevent warpage
- Your MP80 firebox is lined with quality cast liners. Stresses inherent in the cast process must be neutralized before you build extremely hot fires. The first fire should be small and allowed to go out after 30 minutes; the next five firing times should be extended to normal continuous use after 6 lightings.
- Turn up the thermostat to open the draft
- **NEVER USE FLAMMABLE FLUIDS TO START THE FIRE**
- On top of crumpled paper place split dry kindling and then small wood. After lighting and when the fire grows add larger wood.
- Load the wood only to the bottom of the door.
- The first time you light your furnace, high temperature paints will give off an odor. Open a window to ensure adequate ventilation.
- The damper will close when either the plenum temperature reaches the limit level or the room temperature reaches the thermostat setting.
- The circulation blower should cycle off and on automatically, dependent on plenum temperature.

## WHAT KIND OF WOOD

There is an old idea that you should use some green wood to insure long burn times. **THIS IS WRONG!** Always remember, the dryer the wood the better it is. It takes a great deal of energy to evaporate the moisture contained in green wood and that energy will not be heating your house. Also, green or wet wood greatly increases creosote problems.

In most cases the harder the wood the more heat, but in all cases the dryer the wood the more heat. We recommend at least 12 months drying time for split piled wood, protected from rain.

Your wood burning furnace is not designed to burn coal which is unsafe and voids the warranty.

Never burn salt water drift wood which is very corrosive and will damage the firebox. Burning salty wood also voids the warranty.

This controlled combustion firebox has been designed for high efficiency and long burn times. The proper time to add more wood is when the last charge has been reduced to a glowing charcoal bed stage. There will be very little smoke at this stage in the burn cycle.

**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**

## OPERATIONS

- Draft is created by the heated air rising in the chimney system, and this draft will pull fresh combustion air into the firebox. Recommended draft is .03 in. w.c. Too little draft results in a sluggish fire and smoking when the furnace door is opened. Too much draft (over .06 in. w.c.) is unsafe and wastes fuel. The damper opening has been set at the factory and should not be adjusted.
- Ashes should be cleaned out when they reach a depth of 4" in the firebox. Leave approximately 1" of ashes in the bottom of the firebox. Dispose of ashes in an airtight, metal container and store it outside away from combustibles.
- Adjust the bleed air screw on the draft door to just maintain combustion air during draft closed times.
- **OPEN THE FIRING DOOR ONLY TO RELOAD FUEL.**
- Your appliance must be vented by a chimney system suitable for solid fuel fired appliances and should be checked periodically to insure its safe condition.
- During a power failure, use extreme caution to not overfire. Leave the damper closed. Remove the blower cabinet door, air filter, and open all registers to allow maximum air flow in the duct system. This furnace is not approved for gravity operation, although there is considerable heat available even during a power failure. Without the blower running, high temperature in the system builds up quickly and overfiring will result in permanent damage to the firebox. Maintain a small fire only. Overfiring voids all product warranties.
- If your furnace is operating as an add-on combination unit remember both units will not fire maximum at the same time. If wood is to be your main source, set the wood thermostat at your desired room temperature and set the backup thermostat approximately 5 degrees lower.

## CREOSOTE

In any wood burning appliance, creosote can be a problem. The best way to handle it is to prevent or minimize it by proper firing methods. If it does occur you should understand its nature and have a plan to handle it. Always assure safety by having a clearly understood plan of how to handle a chimney fire, if it ever occurs.

Creosote is a black, ill smelling liquid which results from distillation of wood gases during the combustion process. It solidifies depending on temperature and in either state is highly combustible. The amount of creosote depends on several factors which include:

- 1) Moisture content of the fuel
- 2) Stack or flue temperature
- 3) Amount of draft
- 4) Efficiency of the appliance

At stack temperature below 120°C (250°F), the creosote will condense out of the gasses (smoke). Once a flue pipe becomes heavily coated with creosote, the only safe way to remove it is mechanically with a proper chimney cleaner or brush. A combination of wet fuel and poor operating procedure may necessitate weekly cleaning to remove creosote buildup.

Remember - the hotter the fire the less creosote. Small intense fires therefore cause less creosote than large, low smoldering fires. We recommend that each day, preferably in the morning, a small intense fire be maintained. This daily practice should burn out the small deposits of creosote before they build to a dangerous level. Morning and evening the draft should be opened for at least 20 minutes by turning the thermostat up. NEVER "burn out" large deposits of more than one days accumulation.

In conclusion, creosote can best be controlled as follows:

1. Burn dry split wood.
2. Mix small and large pieces of wood
3. During warm weather use smaller split wood
4. Keep stack temperature up by using double wall pipe on flue runs and protect outside chimney installations in a chase. Minimize elbows and keep flue runs as short as possible and ensure tight connections.
5. Check daily for creosote until experience shows how often cleaning is required. Remember a clean chimney is a safe chimney.
6. Have a clearly understood plan should a chimney fire occur.

**WARNING: FAILURE TO INSPECT AND CLEAN YOUR CHIMNEY SYSTEM REGULARLY CAN RESULT IN A SERIOUS FIRE WHICH MAY DAMAGE YOUR CHIMNEY OR CAUSE A HOUSE FIRE**

## MAINTENANCE

Maintain fire door gaskets to ensure a tight seal. Use 7/8" replacement gasket, glue is not necessary, high density gasket will fit tight and stay secure.

**WARNING:** DO NOT OPERATE THIS WOOD FURNACE IF THE DOOR GASKET IS MISSING OR DAMAGED. DANGEROUS OVERFIRING CAN OCCUR WHICH CAN DAMAGE THE APPLIANCE OR IGNITE CREOSOTE IN THE CHIMNEY, POSSIBLY CAUSING A HOUSE FIRE. IF ANY PART OF THE WOODSTOVE OR FLUE SYSTEM IS GLOWING THE FURNACE IS BEING OVERFIRED.

OPERATE THE ALTERNATE ELECTRIC, GAS OR OIL FURNACE PERIODICALLY TO ENSURE THAT IT WILL OPERATE SATISFACTORILY WHEN NEEDED.

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

Your appliance has been manufactured in the Valley Comfort tradition of high quality. To ensure years of trouble free operation, have your furnace serviced regularly by your Valley Comfort dealer.

After each heating season thoroughly clean the chimney and firebox so your system is ready for next fall. Inspect all parts for signs of abnormal wear or problems.

***Have a warm safe winter!***

# INSTALLATION INSTRUCTIONS

## GENERAL

Please take time to read these instructions thoroughly. You have invested your money in a quality product. However, too much haste now, could result in a faulty installation, and cause serious problems. In addition to these general installation instructions which apply to all installations you must follow the specific instructions which pertain to your particular installation i.e.: add-on to electric, gas, oil or independent installations.

## FREIGHT DAMAGE

This product was carefully inspected before it left Valley Comfort, inspect the unit thoroughly and report any damage to the carrier and then immediately file a freight damage claim. Your local Valley Comfort dealer will assist if required.

## PARTS INCLUDED WITH MP80 (parts inside firebox for shipping)

1. Furnace
2. Fan limit controls, bracket and electrical junction box  
Honeywell L4064R 1027 set at 150° or equivalent  
Honeywell L4064R 1043 set at 220° or equivalent  
Honeywell L4064 1129 set at 250° or equivalent (Manual Reset)
3. Thermostat (Honeywell T822d or equivalent)
4. Poker
5. Ash shovel
6. Instruction book
7. Insulation hold back strips

## OPTIONAL EQUIPMENT

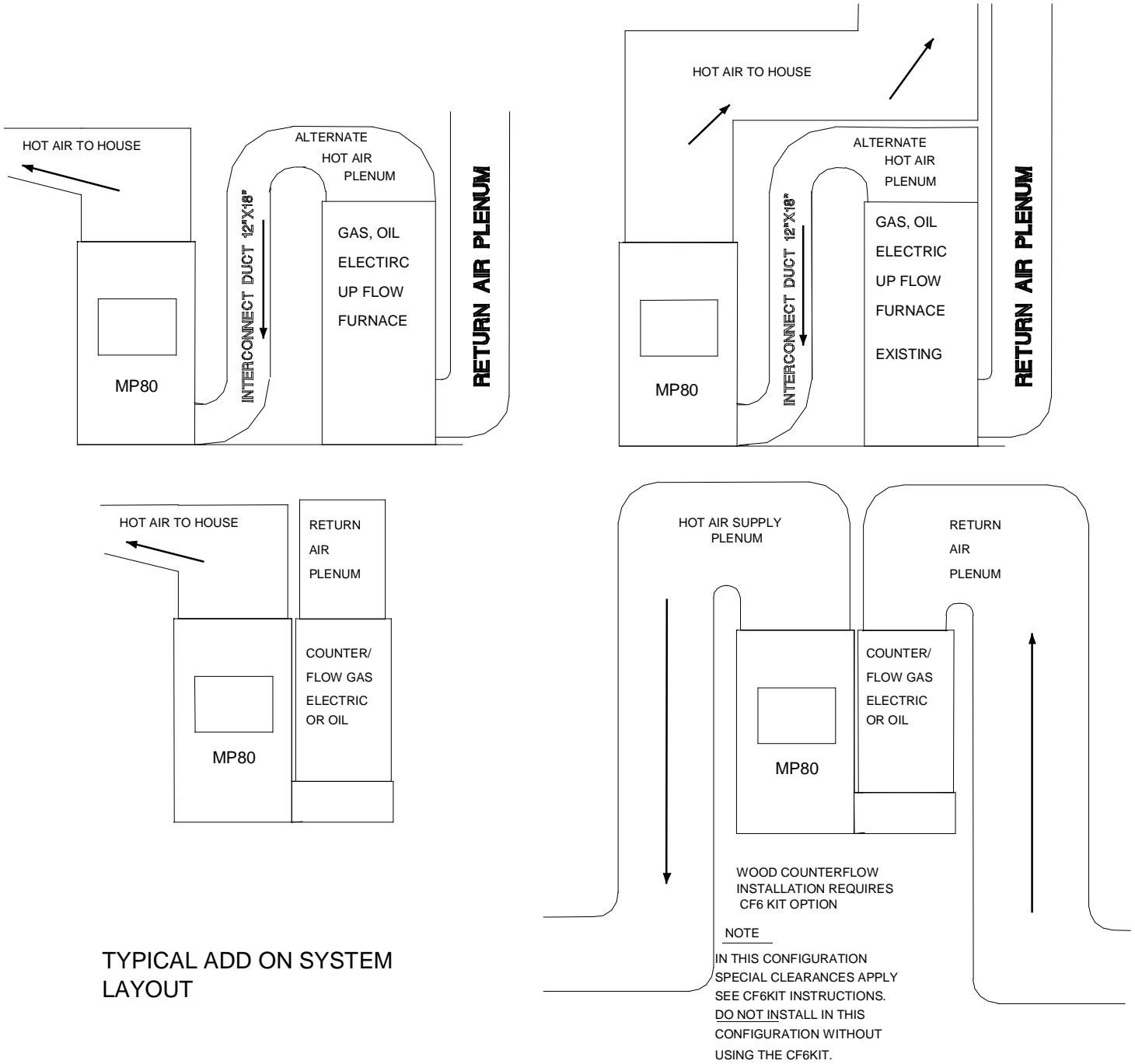
1. Variable Blower and cabinet for independent use from 900 cfm. to 1200 cfm..
2. CF6 kit for use in wood counterflow installations
3. Domestic hot water coil, model DHW80SS

## USAGE

The MP80 may be installed as follows: (Typical Mechanical Drawings on page 8, Fig 1.)

- 1) An add-on to any of the following furnaces:
  - a) An electric forced air furnace rated at 10 kW to 25 kW with a minimum size fan of 900 cfm. Diagrams 8 & 8A (electrical drawing)
  - b) A forced air gas furnace with a maximum output of 120,000 Btu. and a minimum size fan of 900 cfm. Diagram 6 (electrical drawing)
  - c) An oil furnace having an oil input as shown on the nameplate of not more than 1.2 usgph. and a fan capacity of not less than 900 cfm. Diagram 6 (electrical drawing)
- 2) As an independent forced air wood furnace equipped with a blower of not less than 900 cfm. capacity. Diagram 7 (electrical drawing)

**Typical installation illustration Fig 1.**



**TYPICAL ADD ON SYSTEM LAYOUT**

WOOD COUNTERFLOW INSTALLATION REQUIRES CF6 KIT OPTION

NOTE  
 IN THIS CONFIGURATION SPECIAL CLEARANCES APPLY SEE CF6KIT INSTRUCTIONS. DO NOT INSTALL IN THIS CONFIGURATION WITHOUT USING THE CF6KIT.

(80FIG1)

**\*\*\* SEE PAGE 17 FOR STAND-ALONE BLOWER DIMENSIONS \*\*\***

## CAUTIONS

1. All installations must comply with local building safety codes.
2. Installation shall be by a licensed, qualified mechanical installer experienced in heating equipment installations.
3. THE WOOD SECTION MUST BE VENTED INTO A CHIMNEY APPROVED FOR SOLID FUEL USE IN GOOD CONDITION. MOST GAS FURNACES ARE VENTED INTO "B" VENTS, THIS IS UNACCEPTABLE FOR SOLID FUEL APPLIANCES. THE MP80 MUST NOT BE VENTED INTO A CHIMNEY OF ANY TYPE WHICH ALSO SERVES AS A GAS APPLIANCE VENT.
4. DO NOT CONNECT THE DUCT WORK SO REVERSE OR PARALLEL FLOW IS POSSIBLE.
5. DO NOT RELOCATE ANY OF THE CONTROLS ON THE ORIGINAL OR ALTERNATE FURNACE.
6. Ensure that all existing or alternate furnace systems are in good operating condition before installing the add-on.

**Valley comfort Systems Inc. supports the Wood Energy Technology Transfer Inc. This organization provides training and certification for personnel involved in installation and maintenance of wood heating systems across Canada. For your safety and satisfaction your system must be properly installed.**

## MINIMUM CLEARANCES TO COMBUSTIBLES (See label copy addendum)

Wood charging end	48 inches
One side	6 inches
Other side for servicing	18 inches
Single wall flue to combustibles including electric wiring and electric furnace	18 inches
Plenum and first 6 ft. of supply duct	2 inches

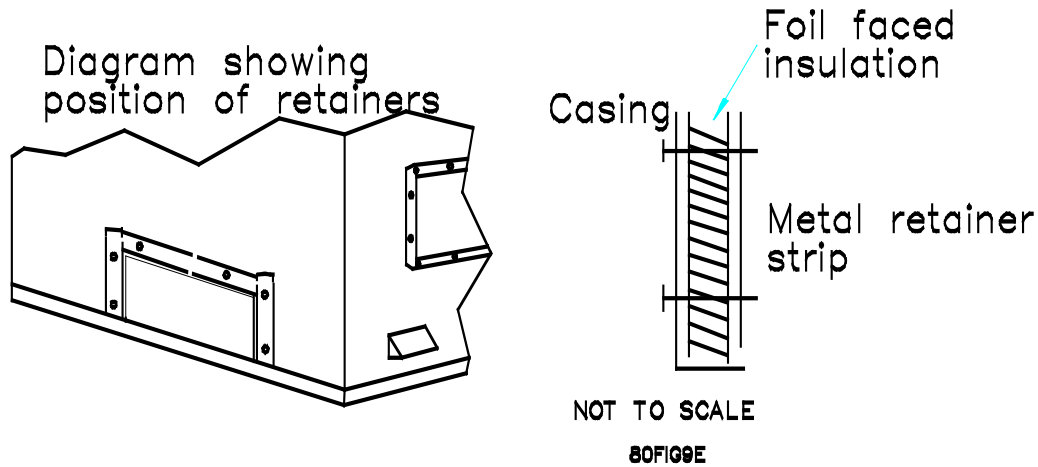
If the furnace sits on a combustible floor, a non combustible shield must be used underneath and extend 6 in. out from all sides and 18 in. out from the charging end. This floor protection is required to prevent sparks from falling onto the combustible floor,(see CSA B365-M87) it is not required to be a heat protective covering.

**This furnace must be installed in compliance with all local codes and regulations.**

## LOCATION RE ALTERNATE FURNACE OR BLOWER

The MP80 can be located on either side of the alternate furnace as space permits, in a series downstream configuration. Minimum size of the interconnect duct is 12 in. x 18 in. DO NOT USE INTERCONNECT DUCT ELBOWS THAT HAVE AN INSIDE RADIUS OF LESS THAN 6" (150mm.).

**NOTE:** After interconnect duct opening has been cut into the side of the MP80, **insulation must be fastened back to the furnace cabinet all around the opening.** Use the metal strips provided to hold the insulation tightly against the cabinet inside, to prevent the insulation from dislodging due to blower induced vibration.



## PRESSURE LOSS

Before any changes are made to the existing furnace system you must establish the working parameters of that system. You can then insure that addition of the add-on has not degraded the operation of the original system, and correct air flow is maintained. Change all filters in the system to insure maximum free air flow. Using an accurate manometer check the static pressure at the end of a typical duct near the exit to the house and then check the static pressure in the plenum above the existing furnace.

$$\text{Pressure drop} = \text{Static pressure at furnace} - (\text{minus}) \text{static pressure at duct exit}$$

Record the pressure drop of the original system.

Addition of the add-on furnace will add air flow resistance in the system. After installation is complete measure the pressure drop in the same run measured before add-on installation. If the air flow has diminished the blower speed should be adjusted to compensate. When using a belted blower the pulley size should be changed or adjusted to speed up the blower. If the pulley size is adjusted measure the blower motor current to insure that it is still within the nameplate rating. It may be necessary to replace the motor with a more powerful motor. If a direct drive blower is used change to a higher speed. Do not change the blower size.

## COMBUSTION AIR

Insure adequate combustion air allowing for all other exhausting type appliances in the dwelling (range hoods, dryers, fireplaces etc....). Introduce outside air if required to the furnace and allow for circulation via two openings. In confined area, provide at least 1 sq. inch minimum free area for each 1000 BTU installed capacity.



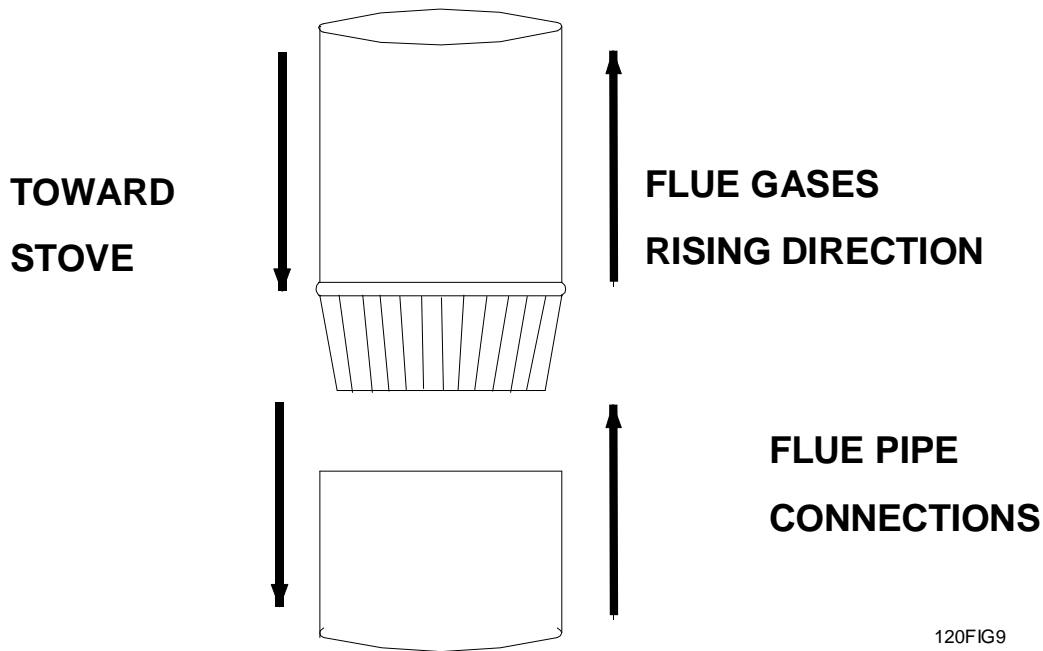
## LOCATION RE FLUE

The Chimney must be an approved chimney for use with solid fuel fired appliances, in good repair, free from leaks and obstructions. If using a masonry chimney, it must meet the minimum standards of the building code of Canada. The wood flue must always enter the chimney below the oil flue. You must comply with the local authority having jurisdiction and CSA installation standard B365-M87. **DO NOT OPERATE THE MP80 WITH A DRAFT OF OVER .06 INCHES WATER COLUMN, HIGHER DRAFT LEVELS MAY CAUSE THE FIRE TO BURN OUT OF CONTROL AND CREATE A FIRE HAZARD.**

Flue pipe between the furnace and the chimney should be as short and direct as possible, rising a minimum of 1/4" per running foot. The chimney connector must be attached to either an approved masonry chimney or one of the listed factory built chimneys suitable for use with solid wood fuel. All joints must be tight and fastened with sheet metal screws. Place the small (crimped) end of the pipe into the furnace collar and into each preceding length of pipe to ensure that any creosote which might form will run back down into the furnace see fig 10 below..

**WARNING: Chimney connector is to be used only within the room, between the stove and ceiling/wall. Never use chimney connector to pass through a combustible ceiling or wall. Always maintain the minimum clearances to combustibles as required by the building applicable codes.**

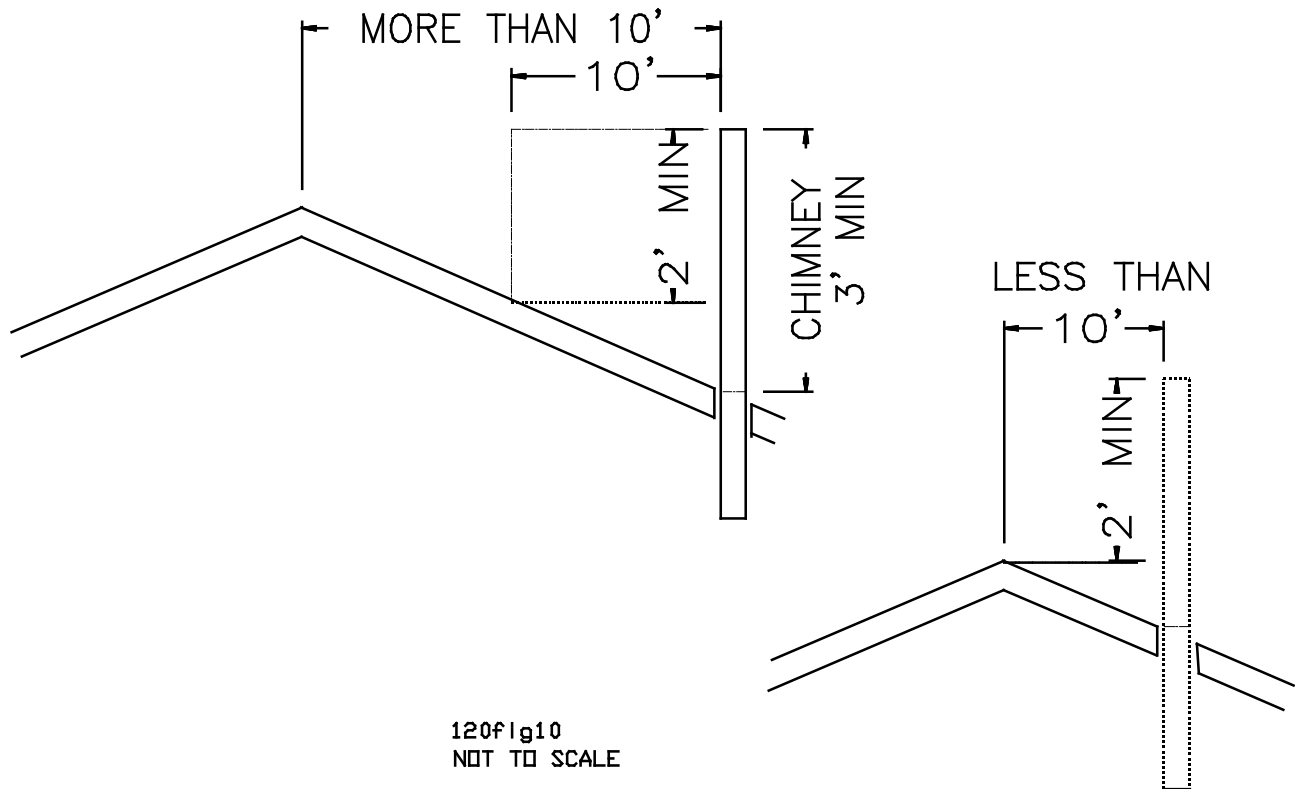
FIG 10



Recommended draft is .03 in. water COLUMN. It is unsafe to operate the furnace with more than .06 in. water column draft, use a barometric control, if necessary, to achieve this.

## CHIMNEY HEIGHT REQUIREMENTS

Regardless of whether you use a masonry chimney or a listed metal chimney, suitable for use with solid wood fuels, it must be the required height above the roof or other obstructions. The minimum requirement is that the chimney must be at least 3 feet higher than the highest point where it is passed through the roof and at least 2 feet higher than the highest part of the roof or structure that is within 10 feet of the chimney, measured horizontally.



The height requirement is necessary in the interest of safety and does not necessarily assure proper flue draft. Use a minimum total system height of 12 feet, measured from the stove flue collar to the top of the chimney, not including the chimney cap.

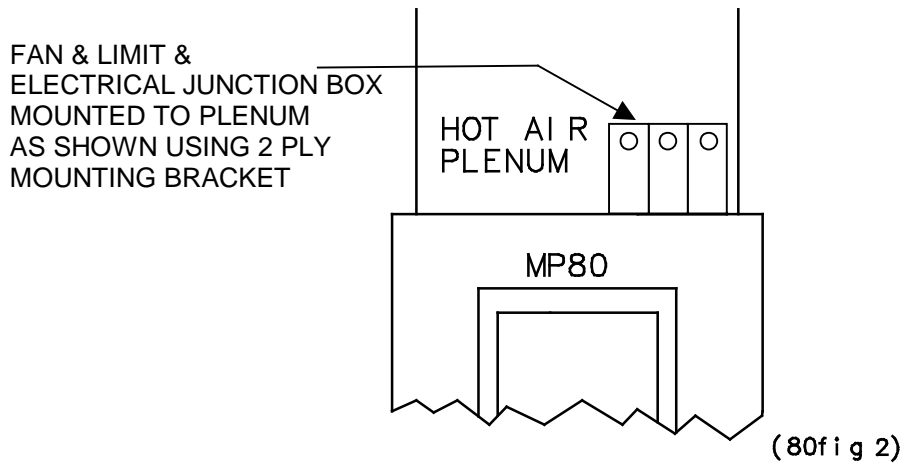
## THERMOSTATS

Stand alone wood furnace installations use one thermostat for the wood furnace. Combination systems using your wood furnace in conjunction with an alternate furnace (gas/oil/electric) will use 2 thermostats, one to control your wood furnace and one to control the alternate furnace. The two thermostats are interconnected via the various limit controls, to prevent simultaneous operation of both furnaces when the hot air plenum reaches 150°F. Thermostats should be mounted side by side on an inside wall out of direct sunlight or other heat sources.

## FAN LIMIT INSTALLATION

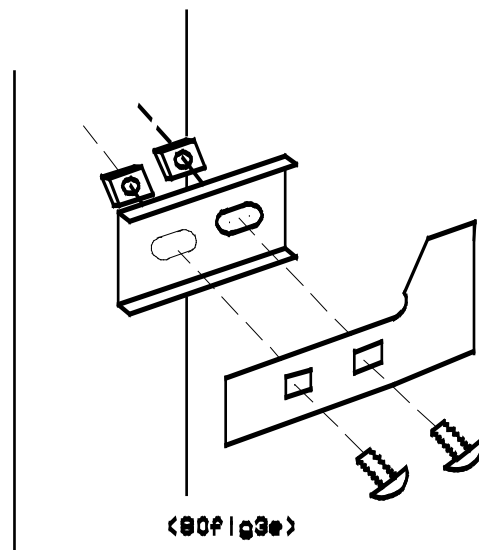
Using the bracket provided, install the fan limit and junction box assembly onto the warm air plenum, above and to the right of the firebox fuel door, as illustrated in Fig 2. All 120vac wiring must be routed on the outside of the cabinet surface. Installation of wiring must be by a qualified electrician. See specific add on type instructions for wiring diagrams which apply. Wire between the junction box and the damper motor should be routed in the outside channel of the bracket, to the right of the firebox door with clips at each end as required. Clips must not compress leads tightly against the surface.

**FIG 2**



## DOOR AND LATCH INSTALLATION

Install the firebox door on the frame hinges. Install the door latch catch on to the frame mounting bracket, as shown below, using the two 1/4" x 3/4" carriage bolts provided. Adjust the door latch catch for a snug fit of the door against the gasket. The door gasket will "seat" after a short time so the initial adjustment should be snug. Advise the homeowner to check the fit of the door gasket from time to time to ensure a seal all around the firebox door. A loose fitting door will allow entry of excess air and result in higher burn rates with less control.



## ADD-ON TO OIL FURNACE

The MP80 may be connected to an oil furnace having a rated input of up to 1.2 USGPH. Minimum blower capacity must be at least 900 cfm.. A regular upflow oil furnace may be used and connected as per fig. 1. The MP80 can be located on either side of the oil furnace. Minimum interconnect duct size is 12" X 18" with minimum 6" inside radius elbows. The wood furnace requires a chimney approved for solid fuel use. Maintain clearances to all combustibles. Refer to general instructions portions of this manual also.

If changes are made to the installation of the oil furnace these shall comply with CSA Standard B139.

An interconnect limit switch system must be included in the control circuitry that prevents the simultaneous operation of both furnaces when the hot air plenum reaches the preset level of 150°F. Typical wiring diagram follows, see Diagram 6.

## ADD-ON TO GAS FURNACE

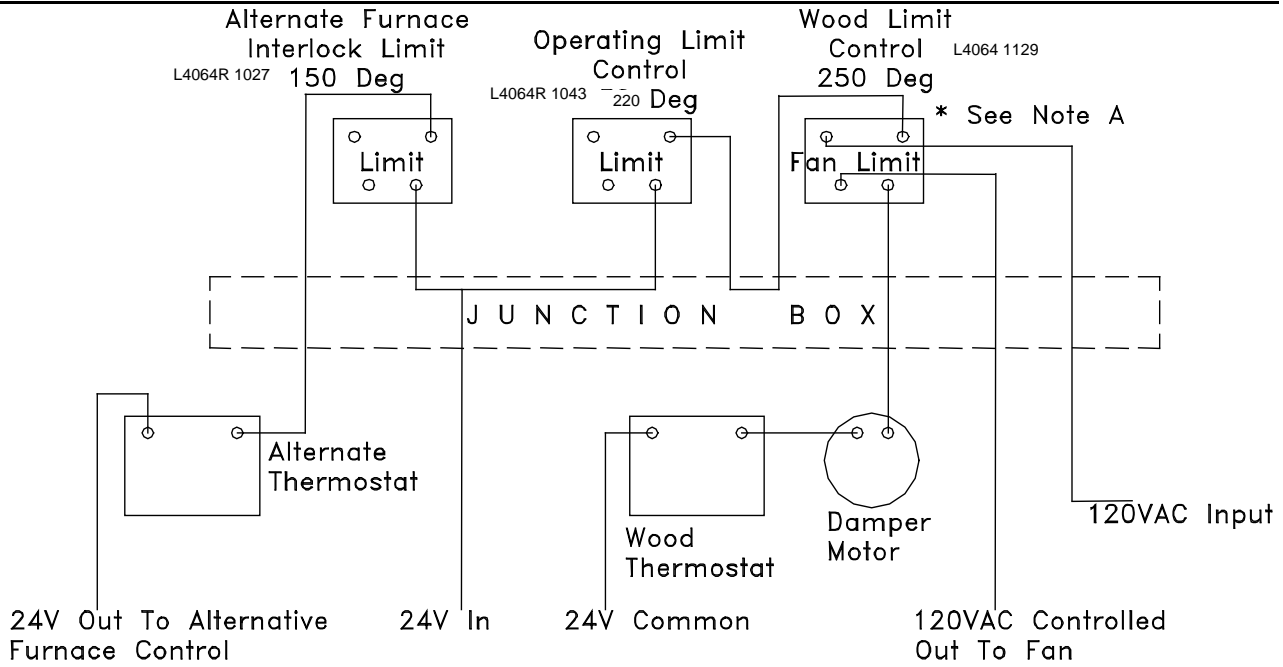
The MP80 may be connected to a gas furnace having a rated input up to 120,000 BTU. Minimum blower capacity must be at least 900 cfm.. A counterflow gas furnace may be used with an interconnect duct as indicated in Fig 1. A regular upflow gas furnace may be used and connected as per Fig 1. The MP80 can be located on either side of the gas furnace. Minimum interconnect duct size is 12" x 18" with minimum 6" inside radius elbows. The wood furnace requires a chimney approved for solid fuel use. Maintain clearances to all combustibles. Refer to general instructions portions of this manual also.

**THE OPERATION OF THE GAS FURNACE MUST BE VERIFIED FOR ACCEPTABLE OPERATION BEFORE AND AFTER INSTALLATION OF THE ADD ON BY A GAS FITTER WHO IS RECOGNIZED BY THE REGULATORY AUTHORITY. DO NOT CONNECT TO ANY FURNACE THAT HAS NOT BEEN CERTIFIED INITIALLY AS COMPLYING WITH CGA STANDARD CAN1-2.3 OR ITS PRECEDENTS. DO NOT CONNECT TO ANY FURNACE THAT IS NOT EQUIPPED WITH AN AIR CIRCULATION BLOWER.**

**DO NOT CONNECT THE MP80 UNDER ANY CIRCUMSTANCES, TO A CHIMNEY WHICH ALSO VENTS A GAS FURNACE OR OTHER GAS APPLIANCE.**

An interconnect limit switch system must be included in the control circuitry that prevents the simultaneous operation of both furnaces when the hot air plenum reaches the preset level of 150°F. Typical wiring diagram follows, see Diagram 6.

**DIAGRAM 6 TYPICAL WIRING FOR WOOD / GAS OR WOOD / OIL COMBINATIONS**



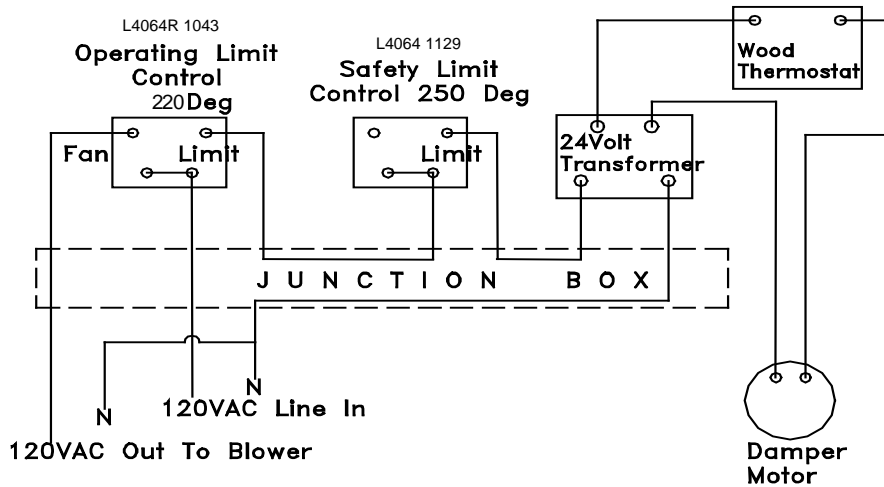
**\* Note A: You must cut or remove the jumper between the Fan and Limit sides of the Wood Limit Control**

Wiring diagram for connection to an alternative gas or oil furnace with 120VAC fan control.

**INDEPENDENT WOOD FURNACE**

When installed with a blower cabinet mounted on either side the MP80 becomes an INDEPENDENT wood only furnace. The blower must have a minimum 900 cfm. capacity. In this configuration the interlock function of the transfer relay is not used. Diagram 7 shows the electrical connections.

**DIAGRAM 7 WIRING AS AN INDEPENDENT FORCED AIR WOOD FURNACE EQUIPPED WITH A VB1000 BLOWER**



**24 Volt Transformer comes with the VB1000 Blower**

When installing in a stand-alone configuration with a VB1000 blower. Only 2 out of the three limit switches are used. The middle limit is the Operating Limit and the right limit with the red re-set switch is the Safety Limit. The left limit is only for use with an alternate furnace. On top of the limit switches there are numbers. L4064 1129 is the safety limit; L4064R 1043 is the Operating Limit Control, L4064R 1027 is the alternate furnaces interlock limit (only used with a second furnace).

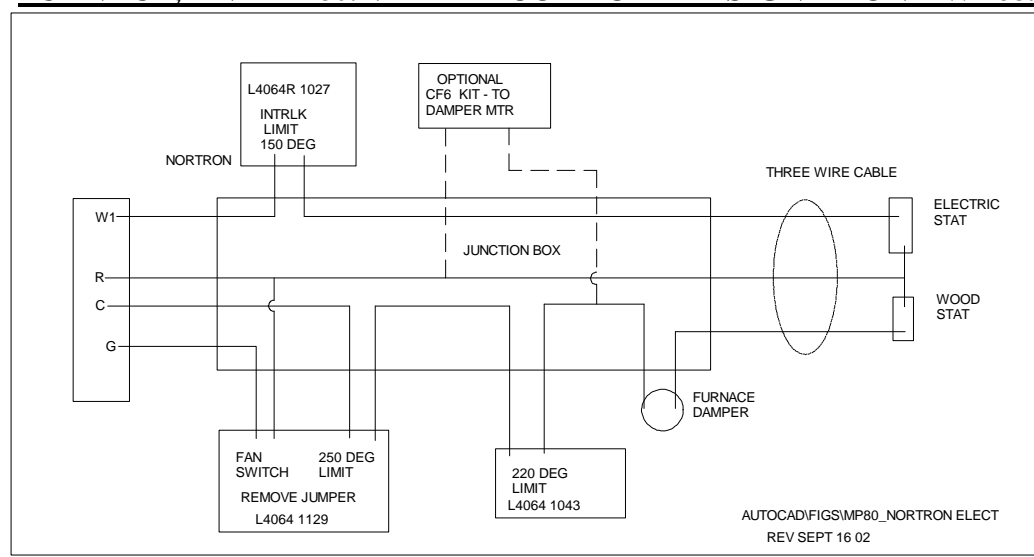
Wiring diagram for connection as an independent wood furnace installed with VB1000 blower unit.

## ADD-ON TO ELECTRIC FURNACE

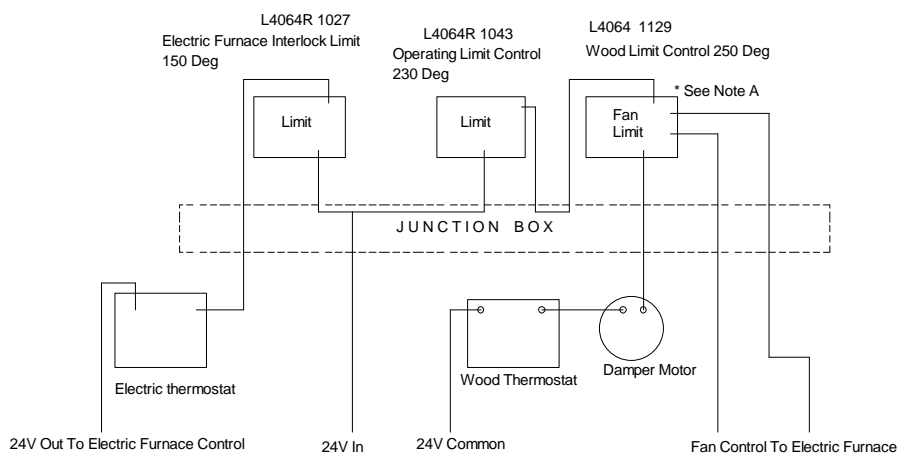
The MP80 may be added to an electric furnace with heating capacity between 10KW and 25 kW. Minimum blower capacity must be at least 900 cfm.. Electric furnaces approved for installation in any position can be inverted and used in a downflow position using an adapter duct between the furnace and the add-on as indicated in fig. 1. The electric furnace may be located on either side of the MP80 but clearances to combustibles must be maintained. Refer to general and pressure loss (pg. 10) instruction portions of this manual also.

If changes are made to the installation of the electric furnace these shall comply with CSA Standard C22.1. An interconnect limit switch system must be included in the control circuitry that prevents the simultaneous operation of both furnaces when the hot air plenum reaches the preset level of 150°F. Typical wiring diagram follows, Diagram 8 and 8A.

### **DIAGRAM 8A WIRING CONNECTIONS WHEN USING NORTON SERIES "B" ELECTRIC FURNACE, AND MP80. VALLEY COMFORT DESIGNATION HWE68.**



### **DIAGRAM 8 WIRING CONNECTIONS TYPICAL WOOD / ELECTRIC**

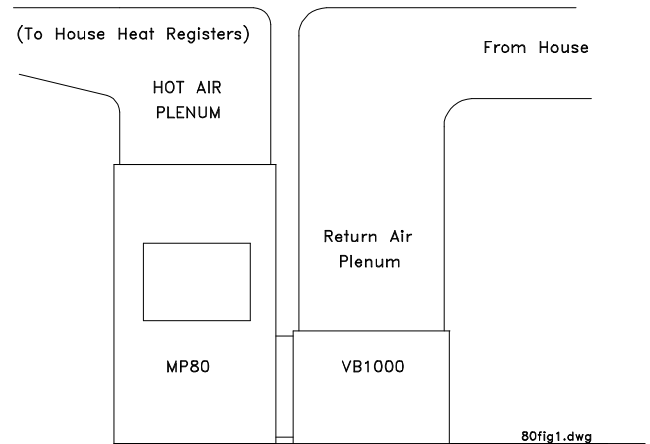
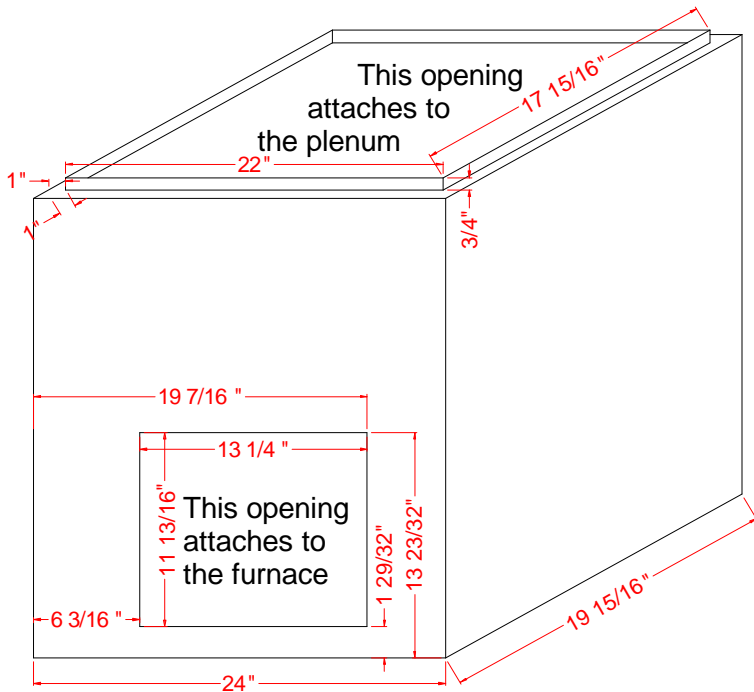


\* Note A: You must cut the jumper between the fan and limit sides of the wood limit control.

Wiring diagram for connection to an electric furnace other than the Norton series "B" furnace. You must connect the electric furnace thermostat through the interlock limit switch to provide interlock lockout of the electric furnace when the wood plenum rises above 150 degrees.

# **VB1000 Valley Comfort Blower Specifications**

**For use with Valley Comfort MP80 & VC120 Wood Furnaces.  
(Stand Alone Applications)**



- 1/3 HP 110V Motor
- Adjustable from 900cfm to 1200 cfm
- 20Ga Steel Cabinet Construction
- High Quality Baked Enamel Finish
- Color matched to Valley Comfort Wood Furnaces
- Complete with 24" X 20" Air Filter

Please check the dimensions on this drawing against the unit you are installing as there may be some slight variation in the dimensions due to manufacturing tolerances and or changes.

Installation instructions begin on page 7 of this manual.

WARNOCK HERSEY



MODEL MP-80 LISTED SOLID FUEL FURNACE
MADE IN CANADA BY
Valley Comfort Systems Inc.

DO NOT REMOVE THIS LABEL

SERIAL WH

1290 Commercial Way, Penticton, B.C. V2A 3H5

TESTED TO / EPROUVE SELON: CSA B366. 1, WH PN008 REPORT / RAPPORT: #4242 (JANUARY 1984)

THIS UNIT MAY BE INSTALLED AS FOLLOWS:

- A) AS AN INDEPENDENT FORCED AIR FURNACE EQUIPPED WITH A HAC 900 CFM FAN AS SHOWN IN DIAGRAM "A" BELOW.
B) AS A DOWN STREAM SERIES DUCT ADD-ON TO ANY OF THE FOLLOWING FURNACES:
1) OIL FURNACE HAVING OIL INPUT AS SHOWN ON ORIGINAL NAMEPLATE BETWEEN .81 USGPH & 1.2 USGPH (MAX.) DIAGRAM "B".
2) A GAS FIRED FORCED AIR FURNACE WITH A MAXIMUM OUTPUT OF 120,000 BTU AND A MINIMUM FAN SIZE OF 900 CFM. DIAGRAM "B".
3) ELECTRIC FORCED AIR FURNACE RATED AT 10 KW TO 25 KW INPUT. MINIMUM FAN SIZE 900 CFM. DIAGRAM "B".

CHIMNEY REQUIREMENTS

ALL FUEL CHIMNEY WITH MINIMUM SIZE OF 29 SQ. IN. (1820 SQ. MM.) DO NOT CONNECT THIS FURNACE TO A CHIMNEY SERVING A GAS APPLIANCE.

ELECTRICAL REQUIREMENTS: 120 V AC 15 A CRKT. FAN CONTROL RATING 2000 VA.

MINIMUM CLEARANCE

Table with 3 columns: Component, Size (inches), Size (mm). Includes Wood Charging End, One Side, Other Side, Flue, Penum & First 6 Ft. of Duct, etc.

MINIMUM INTERCONNECT DUCT SIZE FOR ADD ON USE 12 IN. (300 MM) x 18 IN. (460 MM). NOTE - NOT APPROVED FOR PARALLEL OR SPLIT PLENUM (ADD-ON SERIES ONLY APPROVED)

IF INSTALLED ON COMBUSTIBLE FLOOR THE FLOOR MUST BE PROTECTED 18 IN. (460 MM) IN FRONT OF WOOD CHARGING END.

REFER TO DETAILED INSTALLATION INSTRUCTIONS

INSTALLED BY [Redacted] ADDRESS [Redacted] DATE [Redacted]

OPERATING INSTRUCTIONS:

REFER TO DETAILED MANUFACTURER'S INSTRUCTIONS.

- 1) BURN WOOD ONLY.
2) LOAD FUEL CAREFULLY OR DAMAGE MAY RESULT
3) FILL TO BOTTOM OF DOOR ONLY.
4) DO NOT ATTEMPT TO LIGHT A FIRE WHEN THERE IS OIL OR GAS VAPOUR PRESENT.
5) DO NOT USE CHEMICALS OR FLUIDS TO START FIRE

CAUTIONS:

- 1) DO NOT BURN GARBAGE, NAPHTHA, GASOLINE OR ENGINE OIL UNDER ANY CIRCUMSTANCES.
2) KEEP FIRE DOOR TIGHTLY CLOSED.
3) IN THE EVENT OF A RUNAWAY FIRE OR CHIMNEY FIRE, CLOSE ALL COMBUSTION AIR. THE DAMPER CHAIN CAN BE UNHOOKED FROM THE CAM TO MANUALLY CLOSE THE DRAFT. CALL THE FIRE DEPARTMENT AND BE PREPARED TO EVACUATE THE HOUSE. CORRECT THE PROBLEM BEFORE REFRIGING.
4) CLEAN HEAT EXCHANGER, FLUE PIPE AND CHIMNEY REGULARLY TO PREVENT A BUILDUP OF SOOT OR CREOSOTE. APPLIANCE FLUE MUST BE IN GOOD CONDITION.
5) STORE ALL FUEL OR COMBUSTIBLES OUTSIDE OF THE CLEARANCES LISTED AS "CLEARANCE TO COMBUSTIBLES".
6) IN THE EVENT OF A POWER FAILURE KEEP FIRE LOW - CLOSE DRAFT AIR, REMOVE BLOWER CABINET DOOR AND AIR FILTERS TO ASSIST FLOW - OPEN ALL REGISTERS.
7) SYSTEM SHOULD BE INSTALLED AND INSPECTED ANNUALLY BY A QUALIFIED PERSON.
8) DISCONNECT POWER BEFORE SERVICING.
9) "MAINTAIN COMBUSTION AIR TO BOTH FURNACES - AIR STARVATION IS DANGEROUS".
10) A FRESH AIR OPENING OF AT LEAST 3.3 MM^2w (1 1/2in^2/1000btu/h) SHALL BE PROVIDED.

APPROVED ELECTRICAL COMPONENTS:

Table with 2 columns: Component Name, Model Number. Includes Thermostat, Damper Motor, Fan Limit, etc.

CETTE UNITE PEUT ETRE INSTALLEE COMME INDIQUE CI-DESSOUS:

- A) FOURNAISE INDEPENDANTE A CIRCULATION D'AIR FORCE EQUIPEE AVEC VENTILATEUR HAC 900, COMME MONTRE DANS LE DIAGRAMME "A" EN DESSOUS.
B) FOURNAISE ANNEXE AVEC TUYAUX EN AVAL, MONTES EN SERIE, EMPLOYEE CONJOINTEMENT AVEC N'IMPORTE QUELLE DES FOURNAISES SUIVANTES:
1) FOURNAISE A MAZOUT AYANT UNE CONSOMMATION DE MAZOUT TEL QU'INDIQUE SUR LA PLAQUE SIGNALÉTIQUE DU FABRICANT ORIGINAL, ENTRE .81 USGPH ET 1.2 USGPH (MAX) DIAGRAMME "B".
2) FOURNAISE A GAZ A CIRCULATION D'AIR FORCE AVEC UNE CAPACITE MAXIMUM DE 120,000 BTU ET SOUFFLEUR DE 900 CFM MINIMUM. DIAGRAMME "B".
3) FOURNAISE ELECTRIQUE A CIRCULATION D'AIR FORCE D'AIR FORCE D'USE PUISSANCE MINIMUM DE 10 KW A 25 KW, AVEC SOUFFLEUR 900 CFM MINIMUM. DIAGRAMME "B".

CONDITIONS DE LA CHEMINEE REQUISES

CHEMINEE POUR TOUT MATERIAU COMBUSTIBLE 29 PO. CA. (1820 MM CA) MINIMUM. N'ATTACHER PAS CETTE FOURNAISE A UNE CHEMINEE QUI DEJA FONCTIONNE EN CONJONCTION AVEC UN APPAREIL AU GAS.

CONDITIONS ELECTRIQUES REQUISES

120 V AC 15 A CRKT. CONTROLE DU VENTILATEUR 2000 VA.

DEGAGEMENTS MINIMUMS:

Table with 3 columns: Component, Size (inches), Size (mm). Includes Bout de chargement, D'un cote, Du cote oppose, Tuyau, etc.

BONNET ET 6 PREMIERS PIEDS DE TUYAU 2 PO. (50 MM) DIMENSION DU RACCORDEMENT DES TUYAUX MINIMUM, 12 PO. (300MM) x 18 PO. (460 MM)

NOTE - PAS APPROUVE POUR ANNEXE AVEC BONNET PARALLELE (SEULEMENT EN SERIE). SI INSTALLE SUR UN PLANCHER COMBUSTIBLE ON DOIT METTRE AU MOINS 18 PO. (460MM) D'UN MATERIAU PROTECTEUR SUR LE PLANCHER DEVANT LE BOUT DE CHARGEMENT.

VOIR INSTRUCTIONS D'INSTALLATION DETAILEES

INSTALLEE PAR [Redacted] ADRESSE [Redacted] DATE [Redacted]

INSTRUCTIONS D'OPERATION

VOIR INSTRUCTIONS DETAILEES DU FABRICANT.

- 1) BRULER DU BOIS SEULEMENT.
2) CHARGER LE BOIS AVEC PRUDENCE AFIN D'EVITER LE DOMMAGE.
3) NE PAS CHARGER LE BOIS PLUS HAUT QUE LE BAS DE LA PORTE DE CHARGEMENT.
4) NE PAS ALLUMER UN FEU S'IL Y A DE MAZOUT OU UNE VAPEUR DE GAZ A PROXIMITE DE LA FOURNAISE.
5) NE PAS EMPLOYER DES PRODUITS CHIMIQUES OU DES FLUIDES POUR ALLUMER LE FEU.

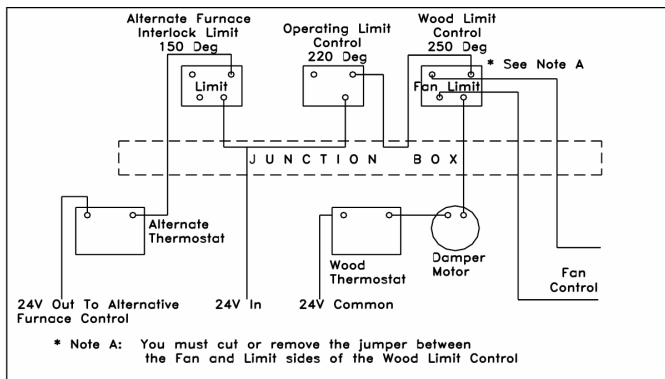
ATTENTION

- 1) NE PAS BRULER DE REBUT, NAPHTHA, GAZ, HUILE MOTEUR EN AUCUN CAS.
2) GARDER LA PORTE A FEU FERMEE.
3) EN CAS D'UN FEU HORS DE CONTROLE OU UN FEU DE CHEMINEE, FERMER TOUTES LES ENTREES D'AIR A LA FOURNAISE. POUR FERMER LE REGISTRE D'AIR A LA MAIN, DECROCHER LA CHAINE DE LA CAME DU REGISTRE APPELER LES POMPIERS ET SE PREPARER A QUITTER LA MAISON AVANT DE COMMENCER UN AUTRE FEU DANS LA FOURNAISE. CORRIGER LE PROBLEME.
4) NETTOYER REGULIEREMENT L'ECHANGEUR DE CHALEUR, LE TUYAU ET LA CHEMINEE AFIN D'EVITER LA FORMATION DE CREOSOTE. IL FAUT GARDER LE TUYAU ET LA FOURNAISE, EN BONNE CONDITION D'OPERATION.
5) GARDER LE BOIS ET TOUT AUTRE MATERIAU COMBUSTIBLE A L'EXTERIEUR DES DISTANCES NOTES COMME "DEGAGEMENTS MINIMUMS DE MATERIAUX COMBUSTIBLES".
6) EN CAS DE PANNE D'ELECTRICITE GARDER LE FEU PETIT - FERMER L'ACCES D'AIR. ENLEVER LA PORTE SUR L'ENVELOPE DU SOUFFLEUR ET LES FILTRES D'AIR POUR AIDER A LA CIRCULATION D'AIR. OUVRIR TOUS LES REGISTRES
7) LE SYSTEME DOIT ETRE INSTALLE ET INSPECTE TOUS LES ANS PAR UNE PERSONNE QUALIFIEE.
8) AVANT LE SERVICE COUPER L'ALIMENTATION DU COURANT A LA FOURNAISE.
9) IL FAUT FOURNIR D'AIR A COMBUSTION AUX DEUX FOURNAISES EN TOUT TEMPS.
10) IL FAUT FOURNIR UNE OUVERTURE D'AIR FRAIS D'AU MOINS 3.3 mm^2w (1 1/2po. ^2/1000btu/h).

COMPOSANTS ELECTRIQUES APPROUVEES:

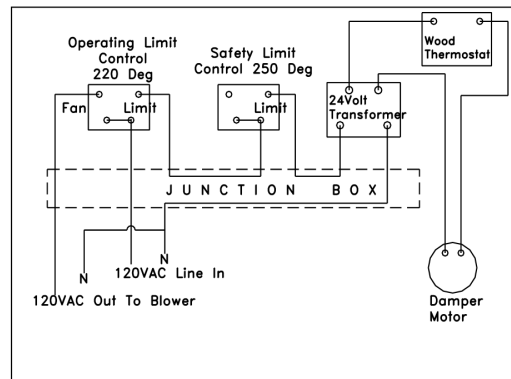
Table with 2 columns: Component Name, Model Number. Includes Thermostat, Moteur du volet, Limite / Ventilateur, etc.

DIAGRAM B



\* Note A: You must cut or remove the jumper between the Fan and Limit sides of the Wood Limit Control

DIAGRAM A



#8052 A