



VC95C

SOLID FUEL-FIRED HEATER

INSTALLATION AND OPERATION
MANUAL

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

VALLEY COMFORT SYSTEMS INC.

1290 COMMERCIAL WAY
PENTICTON B.C. V2A 3H5
(250) 493-7444

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Welcome to the discriminating group of Canadian home owners who have selected Valley Comfort heating units to satisfy their home heating needs.

The product you have bought was made by skilled craftsmen who have given the company an experience of over forty years in providing domestic heating appliances. Your heating unit has been tested to meet rigorous safety standards by a certified independent testing laboratory.

This booklet contains the operating and installation instructions. Unless the installation instructions are followed completely Valley Comfort cannot honour its warranty obligations to you, the owner. Also, unless the installation instructions are followed, you will not be getting the best results from your unit.

"SAFETY NOTICE: IF THIS HEATER IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW THE INSTALLATION DIRECTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA."

VALLEY COMFORT SYSTEMS INC.

LIMITED WARRANTY - VC95

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 which cover different parts of the heater. VALLEY COMFORT SYSTEMS INC warrants the STEEL COMPONENTS including the COMBUSTION CHAMBER and CAST LINERS of the VALLEY COMFORT heater, 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 BLOWER MOTOR, DOOR GASKET and the BI-METAL THERMOSTAT of the VALLEY COMFORT heater, 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 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 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.

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 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 heater, 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, 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, if it cannot readily and quickly provide the purchaser with a replacement, if the purchaser is willing to accept such a refund. The repaired product or replacement will be returned to a VALLEY COMFORT dealer nearest the purchaser at VALLEY COMFORT's expense. IF it is determined by VALLEY COMFORT SYSTEMS INC that there is no defect, or that the defect resulted from causes not within the scope of this warranty, THEN the purchaser must bear the cost of storing the product and of returning the product to the purchaser. For parts of this heater warranted beyond the first year, VALLEY COMFORT SYSTEMS INC will have the same obligations as described in this paragraph, provided, however, that the purchaser shall pay the following percentage of the then-current retail cost of the repair or the replacement, according to the year after purchase in which the defect is brought to the attention of VALLEY COMFORT SYSTEMS INC:

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%

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VALLEY COMFORT SYSTEMS INC LIMITED WARRANTY - VC95

MISUSE OF HEATER NULLIFIES WARRANTY:

The above warranty is conditional upon the proper installation and use of the heater 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 heater should be inspected by the Local Building Inspector or Fire Department 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 HEATER. 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 heater, **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 heater 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 law of British Columbia/Canada. If you do not agree to the purchase of the heater on the terms and conditions set out in this warranty, then you must return the heater to the dealer prior to use or installation, and the purchase price will be refunded.

THIS WARRANTY ONLY COVERS UNITS INSTALLED IN CANADA.

**PLEASE KEEP YOUR RECEIPT, AS PROOF OF PURCHASE.
ALL WARRANTY CLAIMS SHOULD BE MADE THROUGH THE DEALER YOU
ORIGINALLY PURCHASED YOUR HEATER 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
PENTICTON, BRITISH COLUMBIA
V2A 3H5
(250) 493-7444

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INSTALLATION INSTRUCTIONS

EXAMINE THE SHIPMENT

Please inspect this shipment as soon as it arrives. If you discover any parts missing, or any damage, have the carrier make an inspection immediately and make a notation on the freight bill. Should you discover damage after unpacking the crate notify the carrier and have him inspect the heater within fifteen days. Send the inspection report, freight bill and your explanation of the damage to your local Valley Comfort dealer. You will be advised on what parts will be replaced.

MINIMUM INSTALLATION CLEARANCE

It is of great importance that all combustible materials, including firewood, be kept a safe distance from this heater. The minimum distances should be:

| | | |
|-------------------|-------|-----|
| Top of the Heater | | 48" |
| Wood Charging End | | 48" |
| Rear of Heater | | 24" |
| Front of Heater | | 36" |
| Other Side | | 12" |
| Flue Pipe | | 18" |

If the heater is being installed on a combustible floor, a regulation insulating sheet metal covered stove board should be placed under it. This board should extend at least 18" beyond the heater on the wood charging side and 6" on all other sides.

INSTALLATION

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

The installation of this heater shall be in accordance with the regulations of authorities having jurisdiction. It shall be installed where there is an adequate supply of combustion air to assure proper combustion. If necessary, provision must be made to compensate for air drawn from the area by other appliances, such as exhaust fans, clothes dryers or fireplaces.

If the heater is being installed where normal air infiltration does not meet the requirements for combustion and ventilating outside air must be introduced to the heater area.

THE FLUE PIPE

The Flue pipes used should be 6" in diameter and constructed of uncoated steel sheet metal or stainless steel with a thickness of at least 24 gauge. Always fit the small crimped end of the pipe into the large section of the pipe below, beginning with the small end of the flue pipe fitting into the flue collar on the heater. This will allow any creosote that may form in the pipe to run back in to the combustion chamber and burn safely, rather than run out the joints and onto the floor.

Avoid long horizontal runs when installing the flue pipe. It is best if you can obtain at least 1/4 rise per foot to the chimney. If possible avoid using more than two elbows between the chimney and the heater.

Fasten all pipe joints including the heater flue collar with sheet metal screws. Use a bolt on the heater flue collar. On long pipe installations the joints should be sealed with furnace cement.

THE FAN COMPLETE WITH CONTROL

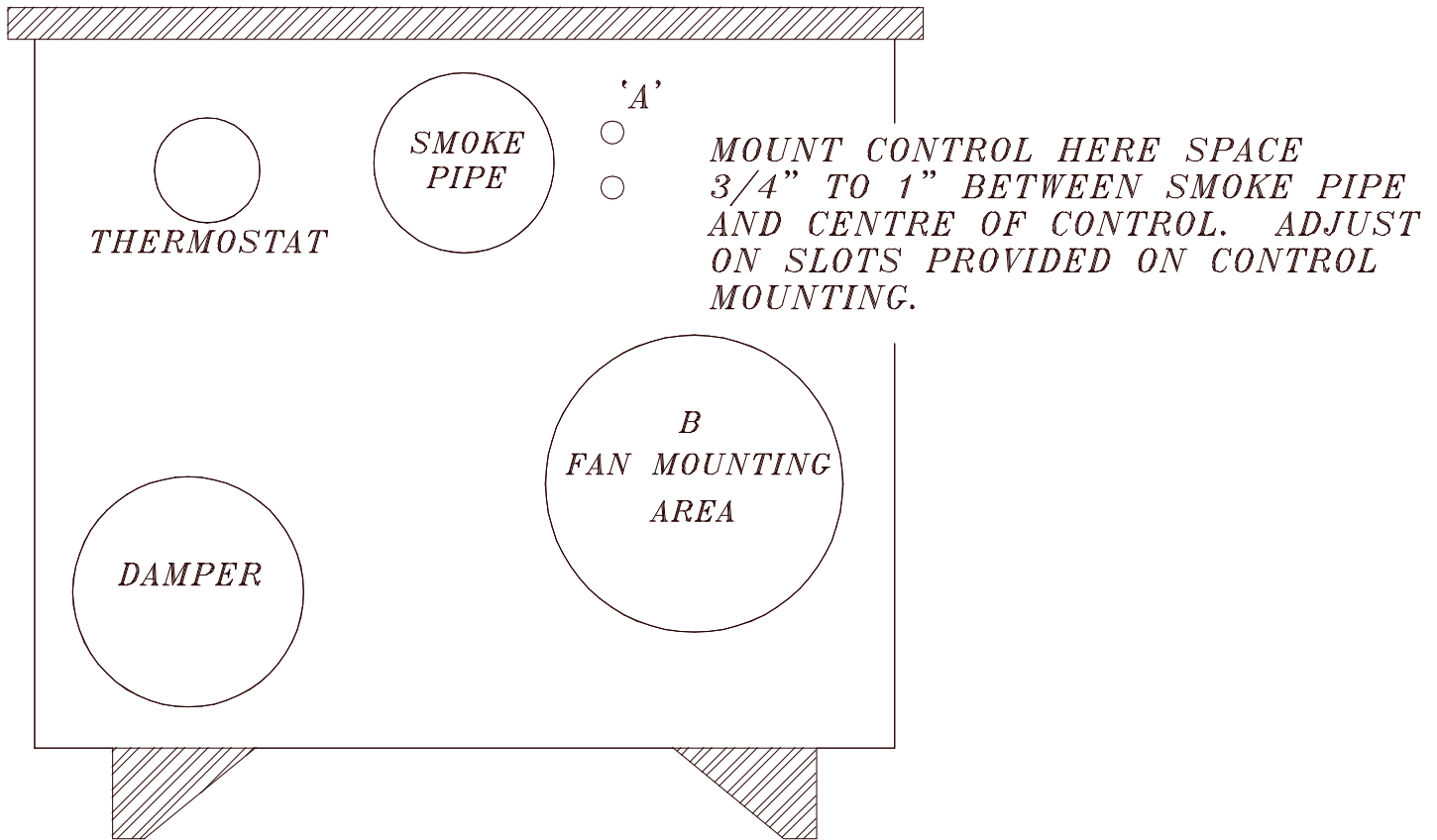
Study the diagram on the next page. Then attach the control with the two screws provided, as shown at "A". Adjust it by moving it to and from the smoke pipe. Moving the control towards the smoke pipe will allow a fast cut-in of the fan, away will provide slower cut-in. The average setting is from 3/4" to 1" from the smoke pipe to the center of the control.

Attach the fan with the four 1/4 x 1/2 bolts provided, making certain that the oiling holes on the motor are facing up. Using a light oil (SAE 20/30), oil the motor at each end of the shaft once a season or every six months when in use. If the fan motor is a sealed bearing type there are no holes, no oiling is required.

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ATTACHING A FAN CONTROL ON THE THERMOSTATIC WOOD HEATER



BAROMETRIC DAMPER & CHIMNEY

If your heater is being connected to a chimney with a consistently high draft install a barometric draft regulator set at .03 inches water column. Do not use a turn damper.

It is recommended that you connect the heater to a nominal 8" x 8" tile lined masonry chimney, which is in good repair, and free from any leaks or obstructions. Alternately, a 6" diameter prefabricated chimney approved for solid fuel can be used.

NOTE: Care should be taken to prevent the products of combustion, in the flue pipe, which may contain carbon monoxide from entering the room where the heater is installed.

Particular care should be paid to the joints to ensure that there are no leaks from the flue pipe.

SPECIFICATIONS

Overall Size

Size of Pipe Collar

Size of Fuel Door

Length of Wood Used

Capacity

MODEL VC95C

34 1/2" wide x 22 1/4" deep x 35" high

6"

10" x 11"

24"

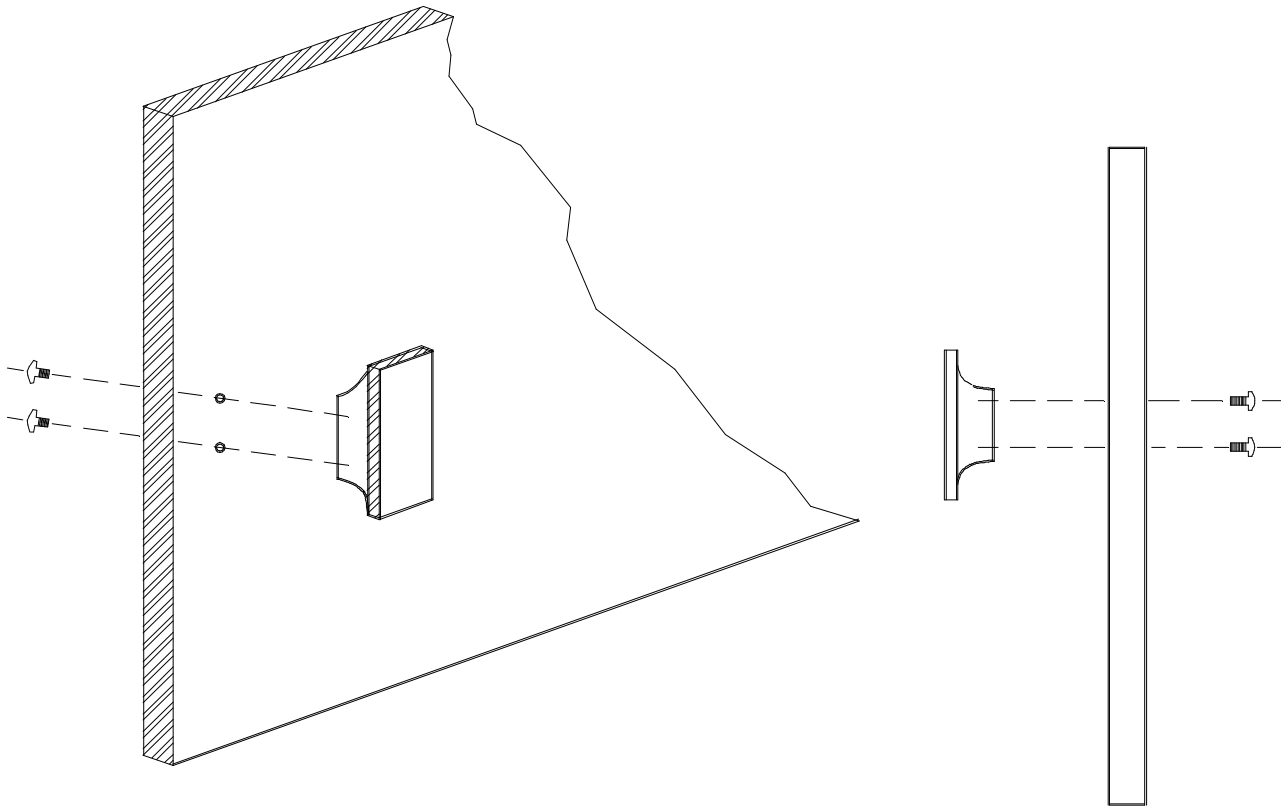
4 cubic feet

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ASSEMBLY OF DOOR HANDLE

The door handle should be assembled as shown in the diagram below.



OPERATING YOUR HEATER

Before firing your new Valley Comfort heater - spread an inch of sand or ashes over the floor of the combustion chamber. This will reduce any danger of warpage due to overheating.

Next. Turn the control knob of the regulator or thermostat to a medium position. This opens the draft damper at the base of the heater.

Place crumpled newspapers in the heater and cover them with kindling and small pieces of wood. Ignite this and as the fire grows, add larger pieces of wood.

Do not be alarmed by fuming or smoke the first time you use your heater. This is caused by the high temperature paint which is simply curing. You may wish to open a few windows to clear the air.

MAKING ADJUSTMENTS

When your home reaches the desired temperature, turn down the knob on the regulator until the large draft damper closes. The small pilot damper will stay open and the temperature should remain the same without anymore adjustments, until the fuel level becomes low. With the heater at room temperature and the control knob at the 2.5 setting, adjust the damper chain (if necessary) so that the damper just closes.

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When the outside temperature changes suddenly, you may find it necessary to turn the control knob to obtain more or less heat. We suggest that you turn the knob no lower than one position at night or you will use more fuel trying to reheat the house in the morning than you saved all night.

When loading the heater keep the wood level beneath the bottom of the wood charging door.

USING THE PROPER FUEL

A dry seasoned hardwood will produce the greatest amount of heat and the least creosote. Using green wood creates a heat loss due to the evaporation of the excess moisture content. This decreases efficiency and can cause a creosote build-up.

Check your flue pipes and chimney periodically during the heating season and clean them if necessary.

IMPORTANT: This heater was designed to burn only wood. DO NOT burn coal, gasoline, kerosene, engine oil, garbage, chemical fire starters, manufactured logs or painted wooden boards. This could result in extremely high temperatures or an explosion. DO NOT use salt water driftwood as it will corrode the heater and will void any warranty.

ADDING FUEL

It is best to add fuel when the previous load has been converted to charcoal, as there is very little smoke at this stage. Rake the ashes lightly to uncover pieces of charcoal trapped where they will not burn. Add a few small pieces of wood to the fire, than larger logs. Weather conditions will determine the firing rate.

DURING MILD WEATHER

When the temperature is warmer you only need to add enough of the driest wood available to last four to six hours. This will cut down on the amount of fuel you use. **DO NOT** use green or wet wood, as the moisture in it will cause the heater to smolder and deposit creosote in the flue and chimney. It is wisest to use small pieces of wood and turn the thermostat control knob up at least once a day for long enough to burn off any creosote which may have built up overnight in a slow fire (about 15 minutes).

REMOVING THE ASHES

When the ashes are within two inches of the bottom of the louvres on each corner of the side liners of the combustion chamber they must be removed. A shovel is provided for this purpose. Leave about one inch of ashes in the chamber to prevent warpage.

This heater has an overfire air duct which allows entry of preheated secondary combustion air over the fire. This ensures complete burning of the gases and minimizes the condensation of them into creosote in the flue pipe and chimney.

USING THE FAN/BLOWER

The ten inch circulating fan with automatic fan control is an optional feature. The single speed blower has a capacity of approximately 400 CFM to circulate the warm air in the hard to heat places.

Twice a year you should oil the motor with a few drops of motor oil (SAE 20/30) being careful not to over oil it, unless your fan is equipped with a sealed bearing type in which case no oiling is required.

UNCONTROLLED FIRES

Uncontrolled fires can be caused by too much fuel, opening the combustion air damper too far or too much flue draft. Should this occur:

CALL THE FIRE DEPARTMENT
DO NOT REMOVE THE FLUE PIPES UNTIL THE FIRE IS COMPLETELY EXTINGUISHED

CREOSOTE

Creosote can be a problem with any type of wood burning equipment, so it is important to know what it is and how to avoid it.

Creosote is an oily or tarry liquid resulting from the distillation of wood during the process of combustion. It is present in the gases given off all types of burning wood, and in its solid and semi-liquid state is highly combustible.

When creosote forms on the inside of flue pipes and chimneys it can build up considerable thickness. As the creosote builds up, the draft opening is reduced. When the build up is permitted to take place over an extended period of time, sufficient creosote may be present in the stack to cause a serious fire if ignited. All users of automatic wood burning equipment should be thoroughly familiar with the causes, control and cure of creosote. When these are well understood, automatic wood burning equipment, properly installed and used, will give less creosote build-up and reduce the fire hazard.

CAUSES OF CREOSOTE FORMATION

Creosote condenses from the flue gases when the stack temperature drops below 250 degrees F (120 degrees C). The amount of creosote deposited in the pipe and the chimney is affected by the amount of moisture in the flue gases, the temperature of the stack, the amount of draft in the stack, and how completely the combustion elements in the flue gases have been consumed in the process of combustion.

REMOVAL OF CREOSOTE

A:) When the flue pipe and chimney become coated because of operation under improper conditions, the only practical way of cleaning is to disassemble the pipe and clean it and the chimney by scraping.
The best way to remove creosote from the chimney is with a two cone-shaped wire brush slightly larger than the chimney. As they are pulled up the chimney, they scrape away the creosote.

B:) The small amounts of creosote that are normally deposited can be kept from accumulating.
1. Open the draft by turning up the thermostat if necessary for 20 or 30 minutes before adding fuel. This will increase the stack temperature and cause any creosote in the pipe to dry. In the process of drying, the creosote shrinks, and the scale falls from the inner wall of the pipe.
2. Remember a fast fire a day will keep creosote away. A small intense fire is preferable to a large smoldering one.

CONTROL OF CREOSOTE

- A) Moisture in the flue gas can be kept low.
1. Use the driest wood obtainable.
 2. Mix small pieces with every charge. These smaller pieces should be placed on the charcoal bed first, when adding fuel.
 3. Never use only large wood during mild weather when combustion is relatively slow. Add small pieces.
 4. Always use dry, split wood in mild weather.
 5. Never add more than a 12 hour supply at a time.
- B) The temperature of the stack can be increased to reduce creosote formation.
1. Insulate smoke pipe extension so that it will be cooled as little as possible before reaching the chimney.
 2. Use an insulated chimney
- C) The amount of draft in the stack can be controlled.
1. Have as few bends as possible
 2. Insure adequate height and diameter
 3. Prevent any air leaks
 4. Eliminate any external obstructions at the chimney outlet.
- D) The rate at which the wood is burned is dependent upon the season of the year and your heating requirements.

Creosote deposits are more apt to occur during mild weather when the draft damper is closed, and the wood just sits in the furnace excreting creosote that does not burn.

During mild weather when little heat is required feed only enough dry wood to last four to six hours.

SUMMER CARE

After your last fire of the season, remove the ashes from your heater and clean it thoroughly inside and out.

Handy Hints

Using cotton gloves when tending the heater will keep your hands clean and prevent any small burns.

Place an open newspaper on the floor in front of the heater when adding fuel to protect the floor covering.

Smoke discharged into the room when the fuel charging door is opened usually indicates that the previous charge has not completely charred or that there is insufficient draft in the chimney.

If your heater is attached to a good chimney with adequate draft and is operated according to our instructions you should have years of trouble free comfort.

If, however, you do experience any trouble contact your Valley Comfort dealer. They will need to know the kind of wood you've been burning, the average size of pieces, the type, condition and size of the flue and whether it is tile lined. Sketch the heater and flue pipe hook-up to the chimney.

NOTE: The flue products can contain carbon monoxide, particularly where the wood fire is being starved for air (made to burn at a slower rate) through closing the damper too tightly.