$9.95

Fire Chief

Wood and Coal Burning Furnace
Model 500, 700 and 1100
Owner's Manual

UL391 Tested by PFS

Volume XI

Revised June 2006

Manufactured by: **Victorian Sales**
1808 Larkin Williams Road
Fenton, MO 63026

Congratulations!

You have selected the finest quality wood and coal burning furnace, manufactured with pride in the USA.

Please take a few moments to carefully read the owner's manual. By taking the time to familiarize yourself with your new Fire Chief, you will be able to look forward to years of trouble-free, dependable service.

Installation

First: Check Local Codes. The installation must comply with all local rulings and requirements.

- ***This furnace must not be installed in trailers, modular or mobile homes.***
- ***Always have a properly installed and functioning smoke detector installed in your home.***
- ***To prevent accidental injury, do not allow anyone who is unfamiliar with the furnace to operate it.***
- ***Spend time familiarizing yourself with your Fire Chief Furnace, especially the different settings and the effect they have on burn patterns. It is impossible to state how each setting will affect your furnace due to variations in settings, fuels and temperatures.***

Transportation Damages

Every effort has been made to insure that your Fire Chief will arrive in perfect condition. Any visible damage should be noted on the freight bill at the time of delivery. If upon unpacking your Fire Chief you find damage had occurred during transit, notify your supplier immediately. Your supplier will advise you as to what actions must be taken to correct the problem.

Disclaimer Notice

The listed Btu rating of your new Fire Chief was obtained under ideal laboratory testing conditions. The actual Btu output you experience may vary somewhat depending on the type, condition and moisture of the fuel used; the damper adjustment; chimney type and other variable factors. Therefore, the manufacturer disclaims any guarantee as to the Btu output or capacity of your unit.

Manufacturer's Notice

Please be advised that we periodically make changes to improve our products. Therefore the information in this manual may not be completely compatible with your Fire Chief.

THIS IS A WOOD AND COAL BURNING FURNACE AND SHOULD NOT BE ALTERED IN ANY WAY!

ALWAYS KEEP YOUR WOOD COVERED YEAR ROUND.
DRY WOOD WILL PRODUCE MORE BTU OUTPUT
AND LONGER BURN TIMES.

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ASSEMBLY INSTRUCTIONS

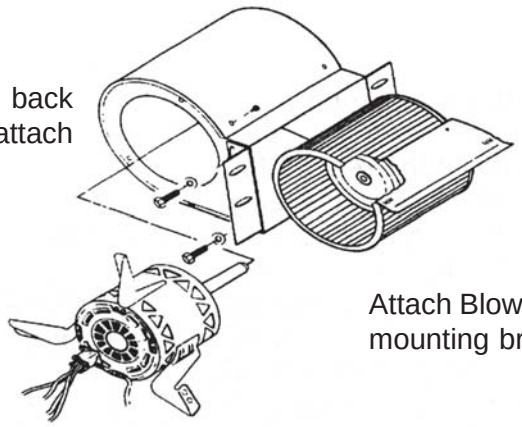
Please review the parts diagram and list contained on pages 6 and 7 of this manual to be assured that you have received all of the required components. If your inspection reveals a discrepancy, contact your supplier for help.

NOTE: for your convenience your Fire Chief has been factory assembled and the electric wiring harness is pre-wired.

BLOWER AND FILTER HOUSING

1. Fasten the right and left side angle brackets to the circulation blower using 4 each 1/4" bolts and nuts.
2. Align main circulating blower into position at the rear of the furnace and bolt securely into place using 4 each 1/4" bolts.
3. Attached forced draft motor to front of furnace using 3 each 1/4" bolts.
4. Position 3/8" conduit straps #32 to the pre-punched hole on the side of the unit as shown in the diagram.
5. Fasten fan limit control #15 to the side shroud with 3 each #10 screws using pre-punched holes.

Align Blower with holes on back side of furnace and firmly attach with the screws provided.



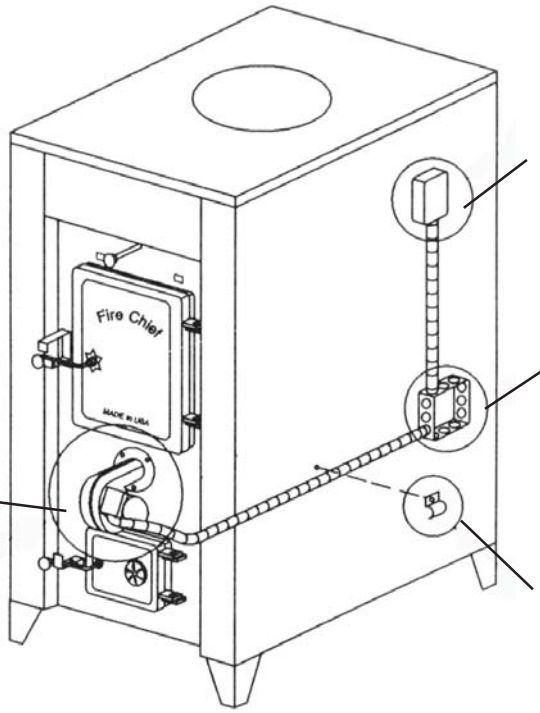
Attach Blower to the left and right mounting brackets.

FILTER BOX ASSEMBLY

Note: Air filter not included with filter box; use filter 18" X 25" X 1".
Inspect the air filter regularly and for optimum performance, replace every 30 days.

1. Position filter box at rear of furnace. Cover rear distribution blower. Raise the filter box approximately 4" off of the floor. Tightly press filter box to the back of the furnace and use 6 each #8 self-tapping screws to attach it to sides of furnace.
2. Run blower motor wires through the electrical conduit to the 3-speed switch (#34) and connect wires as shown in the wiring diagram.
3. Attach the thermostat to the wall using #18 two thermostat wire *(not included)*. It is recommended that you locate the Fire Chief thermostat as near to the original gas or electric thermostat as possible
4. Examine the shaker grate assembly to verify that it has not loosened during transit. It should be positioned to rest evenly on the bottom of the fire chamber. Adjust accordingly if necessary.

FIRE CHIEF FURNACE



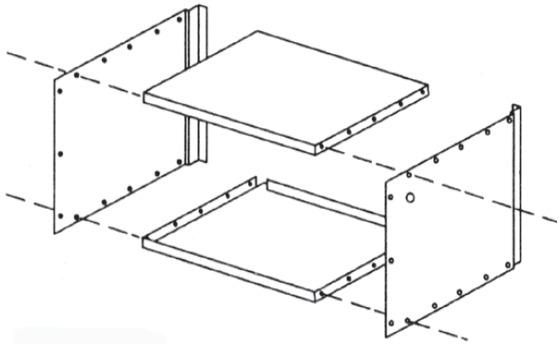
Attach Fan Limit with 3 - #10 screws in the holes provided.

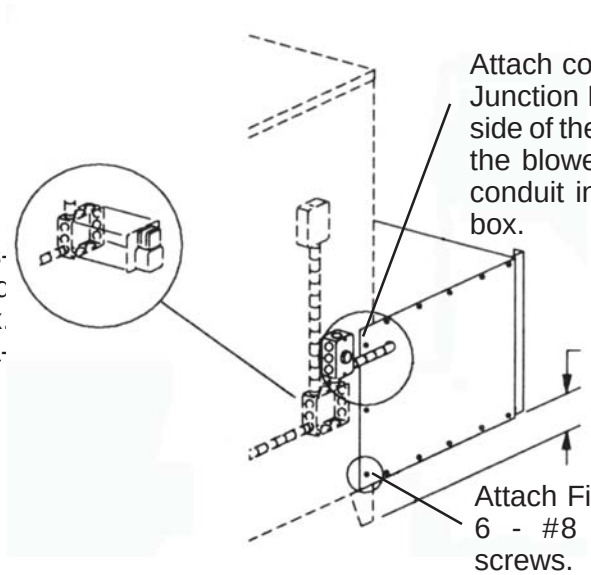
Mount the 4X4 Junction Box with 2 - #10 screws provided.

Mount the Forced Draft Blower with 3 - 1/4-20 X 1/2" bolts provided.

Secure the flex conduit to the side of the furnace using the clip provided *(requires one screw).*

Assemble the Filter Box using the screws provided. **NOTE**: the side with the 1" hole in the corner must be mounted to the right side of the unit.



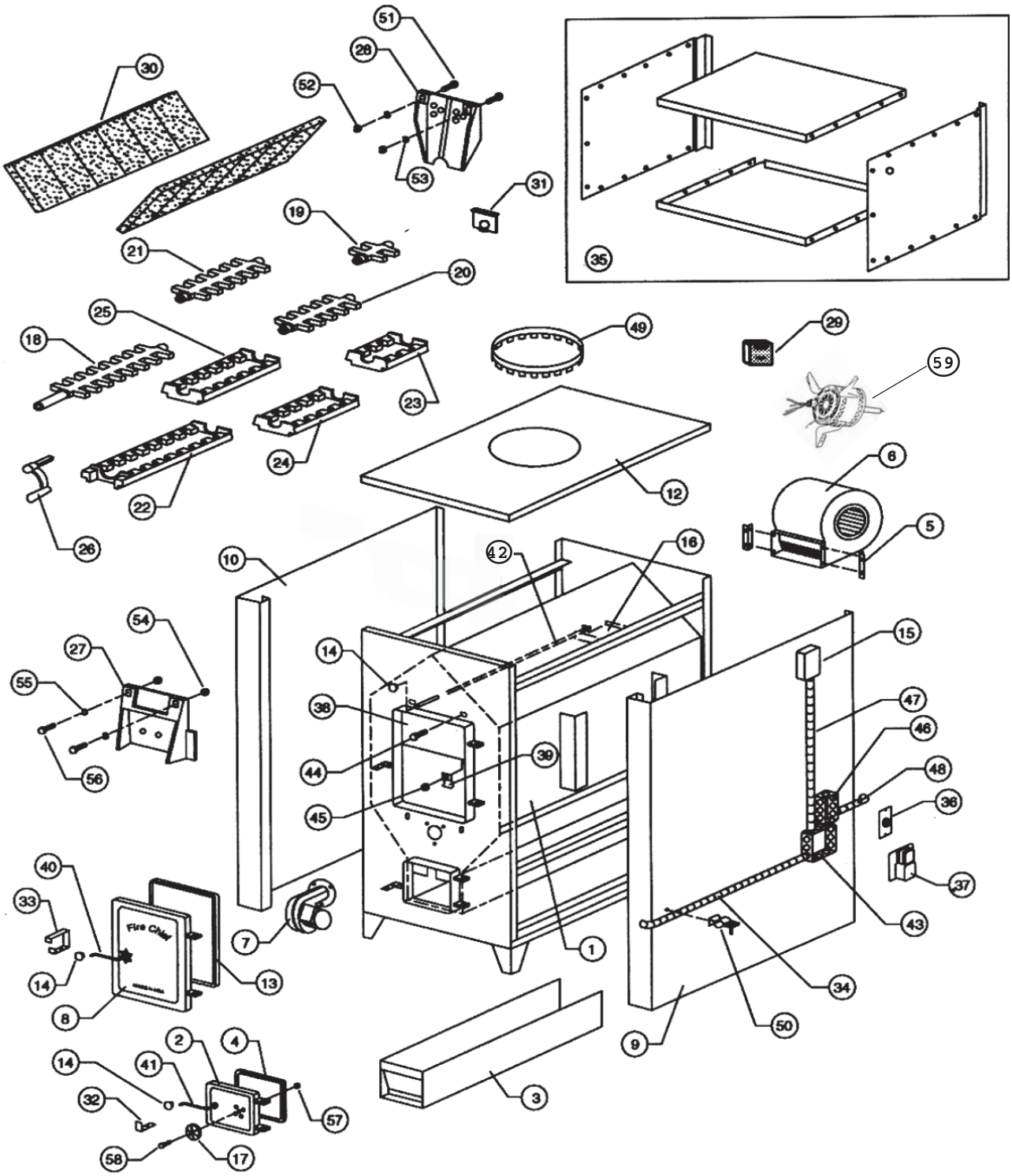


Attach conduit from 2X4 Junction Box to the right side of the filter box. Run the blower wire thru the conduit into the junction box.

Attach the Fan Center using the 4 screws provided on the 4X4 Junction Box. **NOTE**: follow the wiring diagram on page 6.

Attach Filter Box using 6 - #8 self-tapping screws.

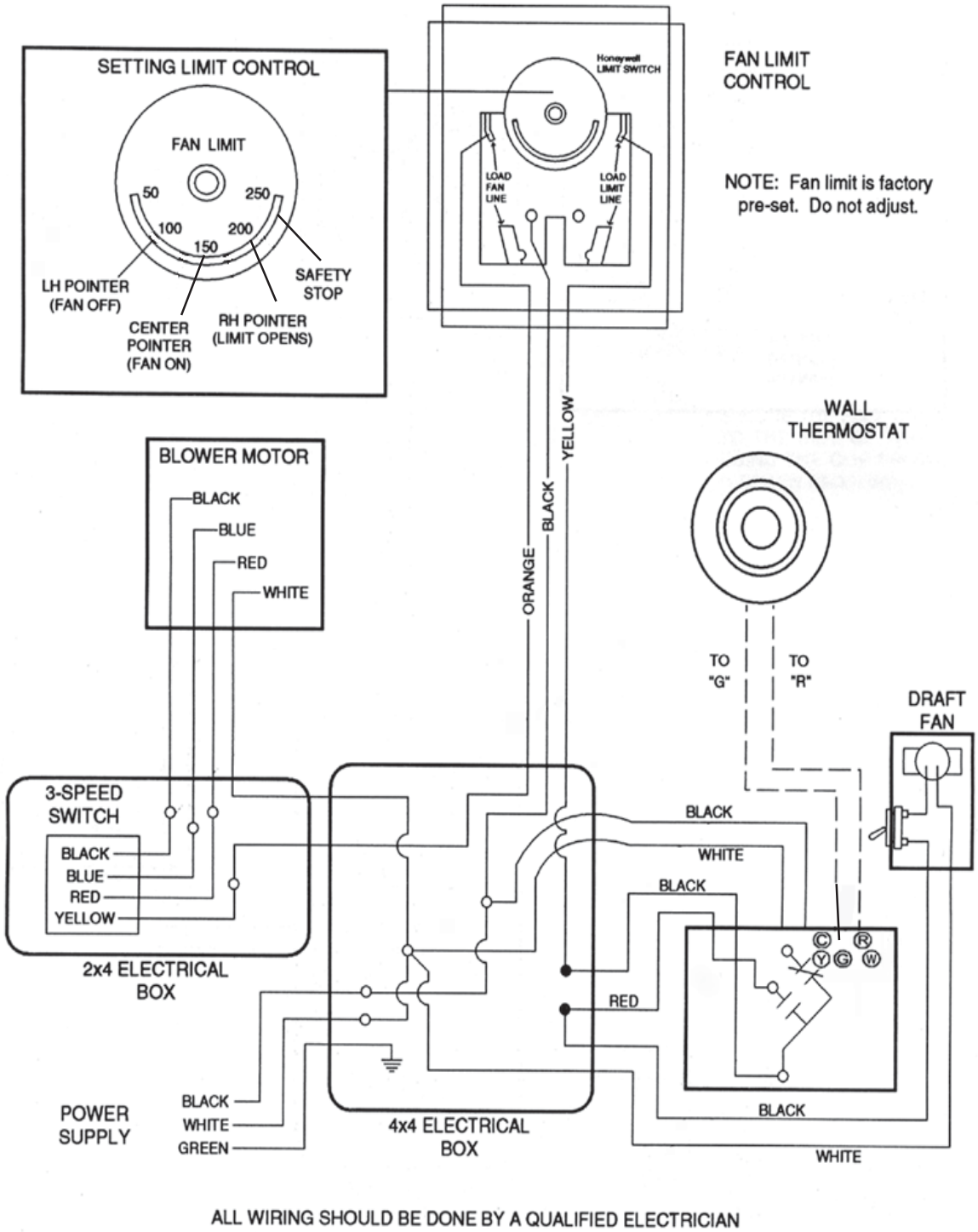
MODELS 500,700,1100
PARTS DIAGRAM



FIRE CHIEF PARTS LIST

ITEM #	DESCRIPTION	PART #	QUANTITY
1	Firebox Assembly		1
2	Ash Door Assembly -		1
3	Ash Pan Assembly - **FC5AP; FC7AP; FC11AP - *By Model***		1
4	Rope Gasket for Ash Door 1/2"		25"
5	Blower Bracket (Right and Left) - **FCBR**		1 ea
6	Circulation Blower Assembly - **FC3SPMOTOR**		1
7	Forced Draft Blower - **FCDB**		1
8	Fuel Door Assembly -		1
9	Right Side Cabinet - **FC5RIGHT; FC7RIGHT; FC11RIGHT - *By Model***		1
10	Left Side Cabinet - **FC5LEFT; FC7LEFT; FC11LEFT - *By Model***		1
12	Cabinet Top - **FC5TOP; FC7TOP; FC11TOP - *By Model***		1
13	Fuel Door Gasket 1/2"		45"
14	Knobs - **FCKNOB**		3
15	Fan Limit - **FCFLC**		1
16	Slider Assembly		1
17	Spin Draft - **FCSD**		1
18	Front Shaker Grate - **FCFG**		1
19	Rear Shaker Grate - **FC5RG - *By Model***		1
20	Rear Shaker Grate, 700 and 1100 - **FC7RG; FC11RG - *By Model***		1
21	Middle Shaker Grate -		1
22	Front Grate Housing		1
23	Rear Grate Housing, 1100 - **FC11RGH**		1
24	Grate Housing, 700 and 1100 -		1
25	Middle Grate Housing		1
26	Shaker Grate Handle - **FCSGH**		1
27	Front Cast Baffle		1
28	Rear Cast Baffle		1
29	Wall Thermostat - **FCTHERM**		1
30	Firebrick - quantity by model: FC500, - 8; FC700 -12; FC1100 - 16		
31	Shaker Grate Retainer - **FCMR**		1
32	Ash Door Latch		1
33	Fuel Door Latch		1
34	3/8” Conduit to Draft Blower		1
35	Return Filter Box Assembly		1
36	3-Speed Blower Switch - **FC3SPSWITCH**		1
37	Fan Relay Center - **FCFRC**		1
38	Smoke Curtain - **FCSC**		1
40	Fuel Door Handle - **FCFDH**		1
41	Ash Door Handle - **FCADH**		1
42	Slider Rod		1
43	4X4 Junction Box		1
46	4X2 Junction Box		1
47	Conduit Assembly		1
48	Conduit Assembly		1
49	12" Duct Collar - **SNGCLR12**		1
50	Conduit Strap		1
51	Hex Bolt, 5/16-18 X 2 3/4"		2
52	Hex Lock Nut, 5/16-18		2
53	Flat Washer, 9/16 ID		2
54	Hex Lock Nut, 5/16		2
55	Washer, 7/16 ID		2
56	Hex Bolt, 3/8 X 1		2
57	Hex Lock Nut, 5/16-18		1
58	Bolt 5/16-18 X 1 3/4		1
59	3-Speed Motor - **FC3SPMOTOR**		1

WIRING DIAGRAM



ALL WIRING SHOULD BE DONE BY A QUALIFIED ELECTRICIAN

Installation of Optional Equipment

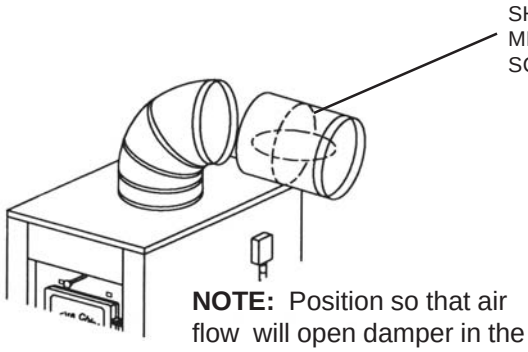
BACK DRAFT DAMPER

OPTIONAL ACCESSORY PART # AMBD-12 Back Draft Damper

The Back Draft Damper may be installed in either a vertical or horizontal section of the 12" round hot air duct. It should be positioned as close to the plenum opening of the Fire Chief as practical. Press the female end of the damper over the Fire Chief Furnace collar or male end of the duct pipe. When properly positioned, the arrows on the air flow decal point ***"away"*** from the Fire Chief Furnace.

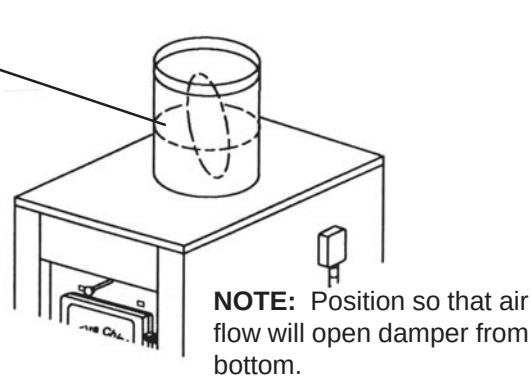
NOTE: The back draft damper may cause the blower to cycle on and off frequently. If this occurs, install a sheet metal screw inside of the damper to prevent the flapper from closing completely. This will allow the heat to rise off of the furnace.

HORIZONTAL INSTALLATION



NOTE: Position so that air flow will open damper in the direction of duct work

VERTICAL INSTALLATION

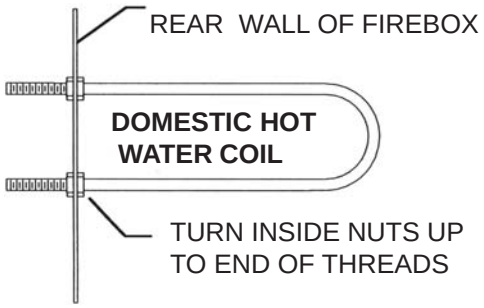


NOTE: Position so that air flow will open damper from bottom.

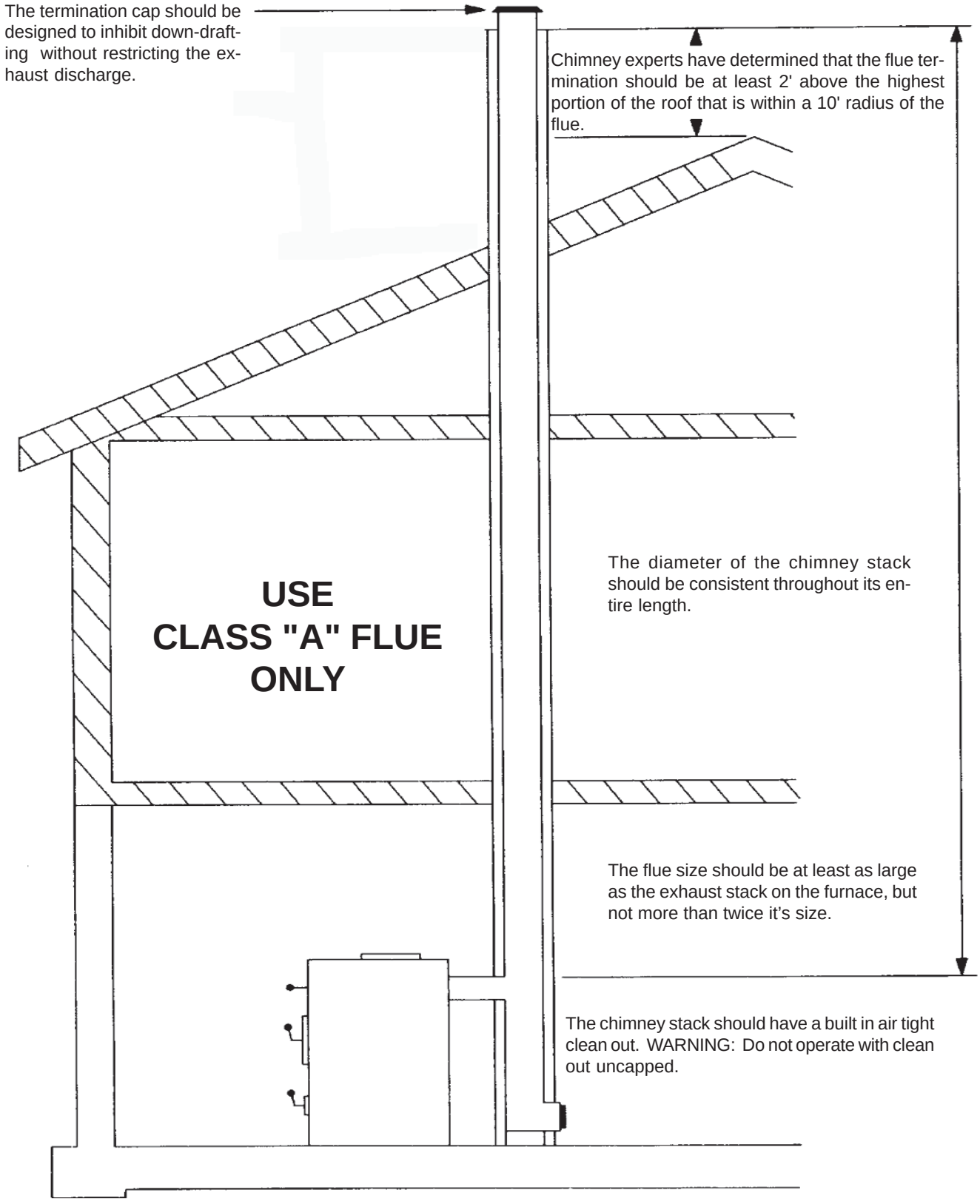
INSTALLING HOT WATER COIL

OPTIONAL ACCESSORY PART #TB-24S WATER COIL WITH HOLE SAW

1. Drill two one inch holes at the rear of the furnace just above the firebrick using the template and hole saw provided in the Water Coil Kit.
2. Place one nut on each end of the water coil and thread each as far as they will go.
3. Open the loading door and insert the coil through the holes at the end of the firebox.
4. From the rear of the furnace, thread on the remaining two nuts and tighten securely.
5. Have a qualified plumber connect your domestic hot water pipe to the coil with the appropriate fittings.



FLUE RECOMMENDATIONS



SPECIFICATIONS:

Laboratory testing has proven that a central solid fuel furnace provides the most viable solution to the on going problem of homeowner utility dependence. In consideration of this fact, the Fire Chief has been engineered to accommodate the heating requirements of the average sized home, even during winter's coldest months. It is constructed with high grade, heavy gauge steel and is continually welded to assure the utmost in structural strength. In addition, the heat exchanger is lined with firebrick to ensure many years of energy efficient service. The design of the secondary combustion chamber increases fuel efficiency by creating a "secondary burn" of smoke and wood gases before they are vented up the chimney. The cast iron doors are custom fitted to provide an air tight seal, greatly extending the burn time and insuring maximum efficiency in fuel consumption. The heavy gauge cast iron shaker grate, designed for maximum heat transfer, features wrap around sides which aid in convenient ash removal and reduces maintenance.

For total comfort and convenience, we added a thermostatically controlled draft and circulation blower system. These fully automatic components furnish rapid heat disbursement to your home, minimizing recovery time when the thermostat demands heat.

We have incorporated all of these features as standard equipment, thereby offering you the most efficient, durable and affordable appliance possible.

LOCATION AND INSTALLATION:

NOTE: ***Before beginning your installation, consult with proper local authorities regarding local codes governing all such applications and installations.***

DO NOT connect your Fire Chief Wood and Coal Furnace to any flue that services **ANY** other appliance. Your Fire Chief Wood and Coal Furnace must be placed on a non-combustible floor and position it as close to the chimney as possible.

Recommendation:

We recommend the purchase of ***Chimfex***™ Dry Chemical Flue Fire Extinguisher. These are readily available at most stove shops and hardware stores. Smoke detectors should be installed on all levels of your home. Finally, we recommend installing a fire extinguisher within the furnace room or area.

FLUE TYPE AND RECOMMENDATION:

Safety requirements demand that your Fire Chief be connected to **"Class A" All Fuel Chimney ONLY**. By definition, ***"Class A"*** refers to either a flue lined masonry chimney or all fuel factory built chimney. Although experts have expressed differing opinions as to which system is superior, we feel it is a matter of what you find most suitable. Regardless of your choice of flue type, it must be a minimum of ***6" diameter*** for the **Models 500** and **700** and a ***minimum of 8" diameter*** for the **1100**. In order to create the most efficient draft, the flue size should not exceed 12 inches with a minimum of .08 inches water column of draft. The stove pipe required to connect your furnace to the flue should be a minimum of 24 gauge thickness. **NEVER USE GALVANIZED PIPE.** Horizontal run should not exceed five feet and should have a minimum rise of two inches per foot. *No installation should have more than two elbows and that a 45° elbow is preferable to a 90° elbow.* As a safety precaution, all pipe sections should be fastened together with a minimum of three sheet metal screws. For your convenience, the male ends of the pipe should point toward the furnace to form drip-free connections, thereby reducing the possibility

of creosote leakage from the joints. Installing a heat reclaimer in the pipe is not recommended because it reduces the stack temperature thus causing creosote formation. Finally, we recommend installing a manually operated cast iron damper in the stove pipe, between the furnace and the chimney flue. The addition of the damper will greatly assist you in regulating your fire and achieving optimum results. Always install a tee with clean-out cap to the flue outlet on the back of the furnace. This allows for easy clean-out of the flue.

WARNING

- **NEVER** use galvanized pipe in your flue connection - it produces poisonous gases when subjected to extreme temperatures.
- **USE** only "Class A" Masonry or manufactured "Class A" All Fuel Chimney for your Fire Chief.
- **INSPECT** flues periodically for structural integrity.
- **CLEAN** the flue regularly to prevent creosote accumulation.
- **NEVER** leave the ash pan in your Fire Chief during operation.

FORCED HOT AIR CIRCULATION:

The plenum size of your Fire Chief must not be reduced to less than 12" (twelve inches) and must provide a minimum of eighteen inches between the top of your Fire Chief and the main trunk connection.

The furnace must maintain the following clearances to combustibles: *(all measurements are in inches)*
Heat Plenum 3"; Chimney Connector 18"; Front 36"; Rear 31"; Side 12"; Main Furnace 12".

These tolerances are minimums and should be strictly adhered to because should a power outage occur, a dangerous level of heat accumulation may develop.

DUCT RUNS:

Duct work should be designed so the external static pressure does not exceed .02 water column inches while developing air velocities of 600 feet to 1,000 feet per minute in the main trunk duct and 400 feet to 600 feet per minute at the registers. The heat outlet area should never be less than 12" round. The Fire Chief **MUST** be installed with a cold air return system. The system should be a minimum of 10% larger than the heat outlet to readily transfer the cold air back to the furnace.

FUEL RECOMMENDATIONS:

We advise using only seasoned hard woods in your Fire Chief rather than highly rosined wood such as pine. *Firewood should be cut at least one full season prior to the time of its intended use. Firewood should be stacked in order to provide a free flow of air between the logs, thus allowing more rapid seasoning.* If wood is to be store outside, it should be completely covered year round to protect it from moisture and exposure to the elements.

WARNING

NEVER fuel your Fire Chief with wet, unseasoned wood or wood that has been exposed to a recent rainfall. *Burning wood with a high moisture content will cause a rapid accumulation of hazardous creosote, which has been proven to be the most common cause of flue fires.*

NEVER burn plastics, any wood product containing glue, paraffin or those treated with chemical preservatives in your Fire Chief. *The combustion of these substances may release harmful, toxic gases.*

DANGER

Due to the risk of uncontrollable fire or explosion DO NOT attempt to use gasoline, flammable liquids, refuse oil or garbage as an agent of combustion your Fire Chief.

PERFORMANCE OF FIRE CHIEF FURNACE:

Your new Fire Chief is classified as having airtight construction. This type of design should enable you to experience. An average fire time of between six and eight hours per full load of fuel. However, abnormally cold weather may reduce the fire time somewhat; therefore if your fire cycle is significantly less, for instance two to four hours, you are over-firing your Fire Chief. This type of occurrence usually symptomatic of heat demands in excess of furnace capacity. Contact an authorized professional to determine if your Fire Chief has been improperly sized for your home.

NOTE:

OVER-FIRING OR DELIBERATE ABUSE CAN READILY BE ASCERTAINED UPON INSPECTION AND WILL VOID YOUR WARRANTY.

FIRING YOUR FIRE CHIEF FURNACE:

First adjust the thermostat to a setting that is higher than the present temperature of your home, turn the manual switch on the draft blower to the "ON" position. Next, remove the ash pan from your Fire Chief, close the ash door, adjust the spin draft and the cast iron flue damper to a fully opened position and pull the by-pass rod out. Crumple a few large sheets of newspaper and place them on the grate. Layer several small pieces of dry kindling or firewood on top of the paper, light the paper and close the fuel door.

It will take about forty minutes to establish a bed of hot embers. When you have achieved the hot ember bed, add larger pieces of firewood and push the by-pass rod all of the way in. Within thirty to forty minutes, adjust the spin draft and the damper to obtain optimum performance. Finally adjust the wall thermostat to a comfortable setting.

NOTE:

Your new Fire Chief is capable of producing a very high output of Btu's. Do not fuel your furnace to capacity upon initial firing. Instead we recommend becoming thoroughly familiar with your Fire Chief before operating at full capacity.

The new steel and metal components in the furnace may have a protective coating or paint on the surface which could produce an odor during the break-in period. Adequate ventilation within the home and furnace room or area is recommended during the initial firing and break-in period to accommodate this possibility.

Caution:

- ***DO NOT*** operate your Fire Chief with the Fuel or Ash Door *OPEN*.
- ***DO NOT*** operate your Fire Chief with the Fuel By-pass Rod *OPEN*, the handle must be pushed all of the way IN except when refueling.
- ***DO NOT*** leave the Ash Pan inside your Fire Chief during operation.

General Operation:
Always pull the By-pass Rod all the way **"OUT"** before opening the fuel door.

When opening the fuel door during operation, wait ten seconds after releasing the first latch, then proceed to the fully open position. The dual latch system has been incorporated as a safety feature designed to eliminate the possibility of gaseous ignition. Laboratory testing has determined that when incomplete combustion occurs the partially spent fuel sometimes concentrates large amounts of potentially hazardous gases within the fire chamber. If the door is opened suddenly under these conditions, the oxygen may combine with these gases and cause ignition referred to as backflash.. Use **EXTREME CAUTION** when opening the loading door.

When reloading a Fire Chief, spread the embers evenly over the grate. Place smaller pieces of wood or coal on the hot embers and layer larger pieces on top of them. Finally, due to the wide variety of temperature ranges during the winter, you may experience periods when it is not necessary to fully load the fire chamber in order to maintain an overnight burn. Your Fire Chief will operate at the highest efficiency by adding fuel in amounts to maintain comfortable temperatures in your home.

WARNING:
In the event of a chimney fire, take the following actions immediately:

1. Activate and toss a **ChimFex**™ Dry Chemical Flue Fire Extinguisher into the Fire Chamber.
2. Close the Ash Door, Fuel Door and Spin Draft.
3. Alert the ***ENTIRE*** household and prepare to evacuate if necessary.
4. Call your local Fire Department.

ASH REMOVAL:
In order to remove ashes from your Fire Chief, open the Ash Door and slide the Ash Pan to the rear of the furnace. Remove the Ash Pan from the furnace and dump the ashes into an ***AIRTIGHT METAL*** container. **HOT** ashes must always be placed into an airtight metal container. Always place this metal container on a ***NON-COMBUSTIBLE*** surface. Emptying hot ashes into a combustible container is an extreme fire hazard.

NOTE:
1. As previously mentioned, the Ash Pan should be removed from your Fire Chief during operation. We recommend this precautionary measure because if the Ash Pan is allowed to remain inside the furnace during operation, it will become dangerously hot to touch and block the flow of air under the grates.

2. We advise removing ashes at least once a day or as often as necessary to ensure that the ashes never accumulate to the level of the grates. If ash build-up is allowed at the grate level, it will cause premature failure of the grates, voiding the warranty on the grates. Unacceptably high temperatures will result because the ashes have restricted the flow of cooling air beneath the grate. This flow of air was designed to not only cool the grates, but to also provide the combustion chamber with warmed air for combustion. If the ash level is improperly maintained the fire box will be starved for combustion air, greatly reducing the efficiency and heating capability of your Fire Chief.

3. Wood ash is an especially potent fertilizer.

CREOSOTE PREVENTION

1. To help prevent the formation of creosote within the flue, **ALWAYS BURN DRY SEASONED WOOD**. *Dry wood burns hotter, allowing flue gases to maintain temperatures above 212°F which should prevent the formation of creosote in the flue.* If the flue gas temperature falls below 212°F, condensation occurs causing the formation and accumulation of creosote within the flue.

As an added precaution, periodic flue inspections are recommended during the heating season to determine if creosote formation has occurred. *For safety and efficiency, it is recommended that the venting system be inspected and cleaned prior to each heating season.*

Always keep your wood covered year round. Dry wood will produce more Btu output and a longer burn time.

For your convenience, you may which to record the following information:

Fire Chief Model Number: _____

Purchase Date: _____

Serial Number: _____

Dealer where purchased: _____

Additional Service Information: _____

_____

_____

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED REMEDY
1. Bugs found in wood.	• Wood has rotted or has been laying around for an extended period of time.	Inspect the wood for obvious signs of insect infestation such as burrows or holes and avoid using if possible. Do not store indoors.
2. Draft Blower will not run. ***NOTE**: Please verify switch is in the "ON" position.*	• Defective toggle switch on draft blower.	Replace toggle switch.
	• Defective wall thermostat.	This can be checked by turning the thermostat to a temperature setting that is higher than the temperature in your home. If the draft blower does not operate, the thermostat may be defective. Replace if necessary.
	• Defective fan relay.	Replace fan relay switch.
	• Defective draft motor.	Replace draft motor.
	• Improper wiring.	Review wiring diagram. If wired correctly, seek professional assistance.
3. Draft blower runs continuously.	• Defective wall thermostat.	Check by turning indicator to a lower setting than the temperature in your home. If the draft blower continues to run, the thermostat may be defective. Replace if necessary.
	• Thermostat wire is short circuited.	Check for defective wiring.
	• Defective fan in relay center.	Replace fan relay center.
	• Home is not being supplied with a sufficient amount of heat to satisfy the wall thermostat.	Have a professional heating contractor determine the proper size unit and insulation factor of your home.
4. Circulation blower will not turn on.	• Defective fan limit control.	Check by moving "ON" position indicator to temperature position where the blower should turn on. If the blower fails to run, replace the fan limit.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED REMEDY
4. Circulation blower . . . *CONTINUED*	• Defective Blower.	Contact your supplier for replacement.
	• Improper wiring.	Review wiring diagram. If wired correctly, seek professional assistance.
5. Circulation blower runs continuously.	• "OFF" setting on fan limit control is low.	Remove cover on fan limit and check for the proper setting. The point indicators should be set at 100° "OFF" and 150° "ON". DO NOT attempt to adjust the fan limit by manually adjusting the dial.
	• Defective fan limit.	Check by moving "ON" or "OFF" point indicator to a temperature position where blower should turn off. If the blower continues to run, replace the limit.
	• Improper wiring.	Review wiring diagram. If unit is wired correctly, seek professional assistance.
6. Circulation blower vibrates during operation.	• Screw on squirrel cage is not tight.	Check squirrel cage alignment and position so that it does not drag on the housing during rotation; then tighten the screw sufficiently to fasten the squirrel cage securely to the shaft.
	• Balance weights on squirrel cage have become dislocated.	You may attempt to adjust the weights yourself to obtain an acceptable balance. If you are unsuccessful, contact your supplier.
	• Defective main bearings	Return the blower to your supplier for replacement.
7. Odor detected in home during initial firing.	• There is an oily film that remained on the steel after the manufacturing process. Firing the unit has raised the temperature of the firebox to a level that	This odor should disappear after a few hours of usage.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED REMEDY
7. Odor detected . . . *CONTINUED*	• is sufficient to vaporize the residue.	
8. Smoke from the fire chamber is puffing back through forced draft motor.	• Unit is not connected to return air and is drawing smoke fumes from the flue.	Connect to return air duct system.
	• Excessively long run of stove pipe from furnace to flue.	Relocate the furnace so that the horizontal run does not exceed five feet (5') and has a two inch (2") rise per foot.
	• Too many elbows.	The run should not contain more than two (2) elbows.
	• Insufficient flue size.	Replace with a larger flue providing a minimum of fifty square inches of draft area but not more than 100 square inches of draft area. If flue is within these specifications, check the draft with a gauge. Your flue should provide a minimum of .08 water column inches.
9. Down draft on chimney caused by one or more of the following:	• Cast iron damper in "CLOSED" position.	Open damper.
	• Flue has a cold spot which inhibits exhaust discharge from rising properly. This symptom may occur in factory built flues because the insulation has settled or a seam has ruptured. In masonry flues, mortar loss may be causing the aspiration of cooler outside air into the stack.	Check entire flue for structural integrity and leakage. Correct or repair as needed.
	• There is an obstruction outside the chimney, such as a tree.	Remove obstruction.
	• Flue is located to close to the peak of the roof or does not rise above it to provide the proper draft.	Relocate flue termination or increase height as required.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED REMEDY
	• Flue is located too close to another building.	Relocate Flue termination.
	• Obstruction in chimney.	Check entire chimney system including stove pipe run. Utilize chimney cleaning device to remove any foreign matter.
	• Excessive ash accumulation.	Remove if necessary..
10. Excessive smoke discharge from fuel door during reloading.	• Exhaust by-pass rod in "CLOSED" position.	Always pull the exhaust by-pass rod completely forward before opening the loading door.
	• Cast iron damper in "CLOSED" position.	Open damper.
	• Excessively long stove pipe run from furnace flue.	***SEE #8***
	• Too many elbows.	***SEE #8***
	• Insufficient draft.	***SEE #8***
	• Obstructed flue or clogged chimney cap.	***SEE #9***
	• Excessive smoke accumulation.	***SEE #9***
11. Flames discharging from fuel door during reloading.	• Opening the door has provided additional oxygen which has ignited accumulated gases from partially spent fuel.	Always open the door cautiously and allow the safety latch system to perform its designed function of containing ignite gases within the fire chamber.
	• Cast iron damper in "CLOSED" position.	Open damper.
	• Insufficient natural draft or an obstruction in the flue system.	***SEE #8 AND #9***
	• Fire chamber filled to capacity with unburned fuel.	Do not attempt to overload furnace.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED REMEDY
12. Excessive dirt accumulation surrounding air registers in the home.	• Smoke discharge from loading door during reloading	Always pull exhaust by-pass rod completely forward before opening loading door.
	• Furnace is not connected to return air duct and is drawing dirt from furnace room floor and disbursing through the home.	Connect to return air duct system. Check for proper draft with gauge. If inadequate see #8.
13. Home does not achieve comfortable temperature.	• Improper connection to existing furnace.	Refer to information in the manual relating to the proper installation procedures or contact your local heating and cooling contractor.
	• Improperly sized ducting.	Refer to information in the manual relating to proper ducting procedures or consult your local heating and cooling contractor.
	• Excessive dirt accumulation in air filter.	Check and replace filter if necessary.
	• Combustion chamber not receiving an adequate amount of oxygen.	Furnace room may be too airtight. We recommend installing an aperture to the outside consisting of a minimum of twelve square inches or 4" round.
	• Inadequate insulation in the home.	Provide additional insulation.
	• Your furnace is of inadequate size for you home.	Consult a professional heating and cooling contractor to determine correct sizing.
14. Rapid accumulation of creosote in furnace and flue.	• Fueling furnace with wet or unseasoned wood.	Completely avoid using if at all possible. If circumstances necessitate the use of wet or unseasoned wood, then fuel the furnace with smaller loads. This will call for the thermostat to call for heat more often, which will initiate the running of the draft blower. Consequently, the fires will be hot-

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED REMEDY
14. Rapid accumulation . . . *CONTINUED*		ter, thereby reducing the accumulation of creosote.
	• Use of highly resined wood, such as pine.	Completely avoid using if at all possible. If hardwoods are not available then fuel the furnace with smaller loads. This will cause the thermostat to call for the heat more often, which will initiate the running of the draft blower. Consequently, the resultant fires will be hotter, thereby retarding the accumulation of creosote.
	• Underfiring the furnace has caused low flue gas temperature.	Install a flue gas thermometer and maintain stack temperatures between 200° and 300° F.
	• Insufficient flue draft.	SEE #9
	• Using uninsulated stove pipe for the chimney flue, especially if the construction is on the exterior of the home.	**DANGER**: Never use uninsulated stove pipe as chimney. It must not be used on the inside of your home due to high stack temperatures create an extreme fire hazard. Uninsulated pipe can not be used as an outside flues as it causes rapid cooling of the stack gases, thereby causing them to condense as creosote on the inside of the flue.
	• Improper connection in stove pipe causing air leakage or a structural defect in the chimney itself.	Inspect entire flue run - from the exhaust stack of the furnace to the termination cap. Repair as necessary.
	• Firebox not receiving adequate amount of oxygen.	Furnace room may be too airtight to supply sufficient amount of oxygen for combustion. We recommend installing an aperature to the outside consisting of a minimum of fifteen square inches.

CERTIFICATE OF LIMITED WARRANTY

Extent of Coverage: ***This warranty covers any Fire Chief Furnace sold in the United States. This warranty applies only if the Fire Chief Furnace is installed, maintained and operated in accordance with the instructions in the owner's manual and local codes. This warranty applies to the original purchaser/owner of the Fire Chief Furnace and is not transferable. Replacement or repair parts are warranted for the remaining period of the original part.***

All warranty claims must include: **date of purchase, model and serial number of furnace, proof of purchase** (*dated invoice, bill of sale, cancelled check or payment record*) and **the name and address of the dealer** from whom you purchased the furnace.

Victorian Sales warrants the ***firebox*** to be free of defects in material and workmanship for ***five (5) years*** from date of purchase. The ***cast iron grates, fuel door, ash door, cast iron front and rear baffle*** are warranted from breakage for the ***life*** of the Fire Chief Furnace so long as the furnace may be operated safely in accordance with the owner's manual. Cast iron grates and air baffle are not covered by warranty for burn through caused by the accumulation of ash build-up. The manufacturer warrants all electrical components ***one (1) year***. Please be advised that the firebrick and door gaskets are excluded from this warranty. Over firing the furnace will cause the front face of the furnace to expand and contract which may cause the face to crack and therefore is not covered by warranty. Furthermore, some aesthetic deterioration can be expected as the result of normal operation, therefore the physical appearance is not guaranteed to remain unchanged.

In order to exercise the aforementioned warranty, a certified professional must determine the appliance/part to be defective. He or she must submit a written statement to Victorian Sales detailing his assessment of the problem. This assessment **must** be accompanied by substantiating proof of purchase (dated *invoice, bill of sale, cancelled check or payment record*), model and serial number. Victorian Sales will then authorize repair or replacement as warranted by the submitted claim. Victorian Sales will not honor expenses incurred from any action that was not expressly consented to in writing. The owner is hereby notified that he will be obligated to assume liability for removal, reinstallation, shipping and labor cost involved in servicing/repairing or replacing the part/unit. The merchandise in question must be shipped via ***"PREPAID"*** freight to Victorian Sales. Victorian Sales will return the repaired or replacement part to the purchaser on a ***"Freight Collect"*** basis.

This warranty will be rendered null and void if this part/unit exhibits symptoms of obvious overfiring, deliberate abuse or negligence, improper installation or is used for commercial purposes.

Finally, Victorian Sales will not be responsible for any claim not stated in our warranty nor does any implied warranty extend beyond the limits stated above.

If you are unable to receive satisfactory service from your local dealer, write Victorian Sales and include all pertinent information, including a daytime phone number and a detailed description of the type of problem you are having and Fire Chief Technical Service will contact you.

Mail To: Victorian Sales 1808 Larkin Williams Road Fenton, MO 63026