



COMFORTMAX

Model #75

OWNER'S MANUAL



This stove meets U.S. Test
Standard UL 391,ETLM78-1
CAN/CSA-366-1



MADE IN USA
By
D.S. MACHINE SHOP

**Before you install or operate a DS Stove,
you must:**

- Read all instructions carefully
- Install smoke and carbon monoxide detectors.





All D.S. Stoves Must Be Installed By A NFI Certified Technician

Safety Instructions

- 1 - Read all instructions carefully before installing or operating any D.S. furnace.
- 2 - You must install smoke and carbon monoxide detectors before you install or operate any furnace.
Check your local codes, this installation must comply with their rulings.
- 3 - Do not open bottom door to increase draft. It is designed only to empty ashes.
- 4 - Never leave furnace doors open when unattended
- 5 - Do not hook up a coal furnace to an aluminum type B gas vent. Use a code approved Class A chimney that is equal or greater than the exhaust on your stove, and a minimum of 20' high.
- 6 - On all new installs connecting to an existing chimney, a level 2 chimney inspection must be done by a Certified Chimney Sweep.
- 7 - Clean chimney before installing furnace. If there is creosote attached to the liner you could create a serious chimney fire.
- 8 - Never leave children unsupervised when they are in same room as stove. Provide a sturdy barrier to keep children and pets a safe distance from the stove, or they could get severely burned.
- 9 - Keep stove area clear from all combustible materials, gasoline, and other flammable vapors and liquids.
- 10 - Use the required floor protection as shown on the UL Listing plate on back of stove.
- 11 - Check the clearance to combustible walls and floors.
- 12 - Do not allow anyone who is unfamiliar with the furnace to operate it.
- 13 - Spend some time with your furnace to become well acquainted with the different settings and how each will affect its burning patterns. It is impossible to state just how each setting will affect your stove because of variations in each installation, and chimney drafts.
- 14 - Be extremely careful when removing the stove ash pan. It can get very hot!
- 15 - Make sure your single wall chimney connectors have at least 3 screws per joint.
- 16 - Do not install this furnace in a mobile home or trailer.

Testing Furnace Before Lighting

To test your draft: Place a piece of newspaper inside of furnace and light it.

Starting A Coal Fire

Open by-pass baffle. Fully open Hot-Air Regulator. Place crumpled paper and kindling wood on grate and ignite with match or lighter. Use a good amount of kindling to get the fire started. Add larger pieces of wood to get a hot fire. Once you have a hot fire, add 2" of coal over the entire grate area. As the coal starts burning and glowing red add another layer of coal. Keep adding coal until you have a 8" body of fire. You can now add larger amounts of coal, close your bypass baffle and adjust draft on Hot-Air Regulator to meet your needs. NOTE: You can also use charcoal briquettes for a fire starter. With new steel there is a small amount of oil or dirt on the metal. You may smell an odor. This is normal during the first operation. You may want to assemble the furnace out of doors and build a small fire in it to "BURN OFF" this dirt and oil before installing the unit.





Locating Furnace

- 1 - The furnace must be placed on a solid none combustible floor. If you have a combustible floor it is required to use a code approved none combustible floor board (Type 1 Board)
- 2 - It is recommended that the stove be centrally located.

Second option is north or west side. This is important in order to save fuel. If you put your stove in the basement, it is recommended to put floor vents in the floor above the stove to help create circulation. NOTE: If it is warmer in the basement than on the first floor, that is a sign of poor circulation. It is important to install return vents. The hot and cold air will not pass through the same vents. (see bottom of page)

Two Options for good circulation from basement to first floor:

A - Run a plenum from stove to 1st floor – recommended 14" x 20" or larger with return vents that equal 12% more in square inches.

B - Install floor vents where needed without plenum. Extend the return vents at least 12" down from the ceiling (see drawing).

- 3 - Locate and read label on stove before installation. The most important consideration in installing your stove is adequate clearance between the stove and any combustible surface. A stove that is placed too close to a wall or to furniture can cause a fire.
- 4 - The base must extend at least 16" beyond the front and back of the stove, 8" to the sides of fuel opening, and must extend under and 2" beyond either side of the single wall chimney connector if it's elbowed towards a wall (see page 4).
- 5 - The stove or furnace must have its own flue. Do not connect this unit to a chimney flue serving other appliances.
- 6 - Connection of the stove to the chimney should be made as directly as possible (6 feet maximum horizontal) and not

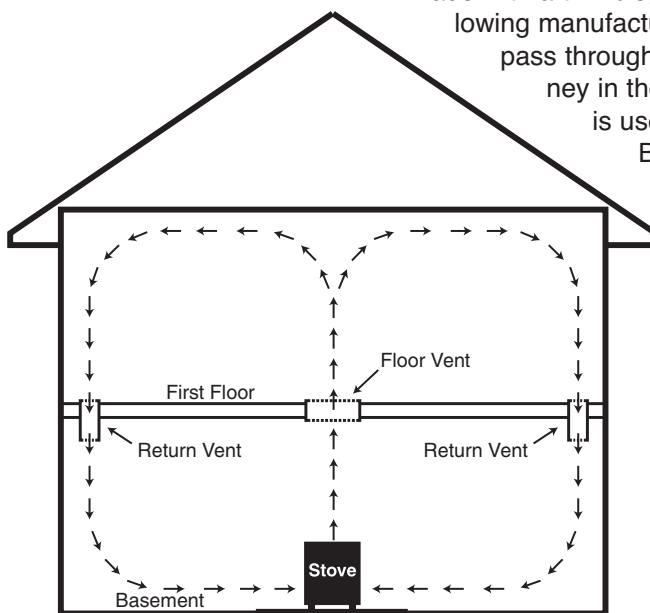
CAUTION:
Keep furnishings and other combustible materials away from the stove.

more than two bends, when needed, should be used. No reduction in flue pipe below 6 inches in diameter should be used. The pipe connecting the stove to the chimney should be at least 24 gauge. Thicker gauges are available and will resist corrosion longer and need fewer replacements. Slope the flue pipe back towards the heater, 1/4" per foot of horizontal run. That way if any condensation forms in the pipe it will be carried back into the heater. The connector pipe should be installed so that the upper pipe section fits inside the lower section. This way any condensation building up inside the pipe will stay inside the pipe as it flows down the inside surface. Horizontal pipe runs should have the pipe seams turned up. Particular attention should be paid to the point where the flue passes through a wall or ceiling. This penetration should always be

made with a thimble, insulated pipe, and then proper accessories following manufacturers instructions. Chimney connectors must not pass through the ceiling, concealed spaces, or enter the chimney in the attic, unless proper clearance or insulated pipe is used following manufacturers instructions. REMEMBER that all pipe sections should be connected

with at least 3 sheet metal screws per joint. A fire in the stack may cause vibration and poorly fastened piping may come apart causing an extreme fire and smoke hazard. Do

not extend single wall chimney connectors past the inside edge of the flue liner. If you have a manufactured Stainless Steel chimney, attach single wall chimney connector to single wall chimney connector adapter. Where the pipe connects to a masonry chimney. The flu to the chimney should be larger than the single wall chimney connectors so you can insert the pipe out to the inside edge of the chimney, but not past. Then seal as tight as possible and cover with a trim collar.



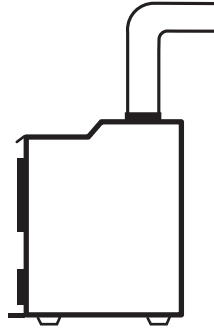
Locating Furnace

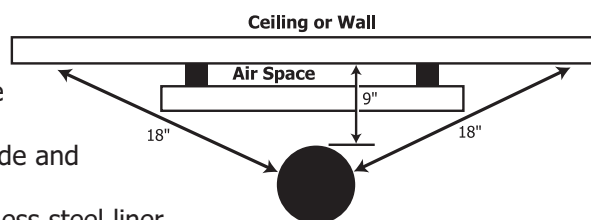
This furnace is to be installed maintaining clearances as shown in illustration.

1. Set the furnace on a solid noncombustible floor.
2. Use a U.L. approved fire retardant material for the floor mat.
3. The material must extend at least 16" in front of and 8" on either side and back, and underneath the chimney connector and extending at least 2" on either side of the chimney connector.

According to NFPA Standards single wall chimney connectors can be within 9" of combustibles provided an approved fire retardant material covered with 28 gauge sheet metal, spaced out 1" on non-combustible spacers is utilized.

1. The furnace should be the only heating appliance using a chimney. One furnace per flue.
2. After heating season, remove firebrick on right side and clean heat exchanger area.
3. A masonry chimney should be a chimtek or stainless steel liner.
4. The masonry chimney should not have any missing mortar or loose bricks.
5. There should be no mortar or parts of the chimney blocking the chimney flue.
6. There should be a two inch clearance between any chimney except chimtek has zero clearance.
7. The chimney should extend at least 2' above the highest point of the house, or 2' above the point at which the chimney is 10' from the roof.

<p>CAUTION: Do not store combustible or flammable material near furnace</p> 	Specifications	#75	Double Wall Chimney Connector
	Sides	12"	12"
	Back	18"	12"
	Front	48"	48"
	Ceiling	36"	36"
	Flue to combustible with single wall chimney connector	18"	
	Flue to combustible with double wall chimney connector	6"	
Corner clearance to combustible	12"		



Operating Notes

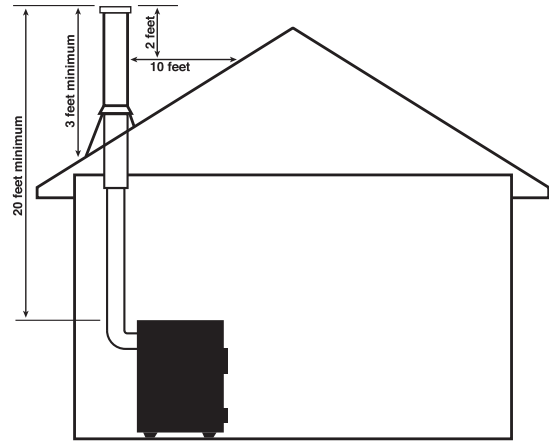
1. The furnace is designed to burn coal at a predetermined firing rate. Over firing could result in damage to the heat exchanger and cause dangerous operation. Over firing occurs when the ash door is left open during operation or a highly volatile fuel, i.e. large amounts of small kindling is used. Do not exceed 600° degrees on top of furnace.
2. When tending the firebox always pull the baffle slide rod out prior to opening load door. Open load door slowly to avoid a "flash back." After closing load door, push the baffle slide rod to the rear.
3. Equip your home with fire extinguishers and smoke detectors appropriately located.
4. Check the fit on the load door. It must fit tightly. If it does not, check for deterioration or wear of the ceramic rope seal. Replace defective seals.
5. Normal burn is when surface temperature of stove is at 400°. **DO NOT** exceed 600°.
6. Inspect and clean your chimney and single wall chimney connectors regularly.
7. In the event of a chimney fire, shut off draft controls and blower and call your fire department immediately. Alert everyone in the house. If the flue is still burning vigorously, throw baking soda into firebox or discharge a fire extinguisher into the firebox. After the chimney fire is over, have a Certified Chimney Sweep complete a level 2 chimney inspection, before farther use of your chimney.
8. Do not burn garbage, gasoline or other flammable liquids.

NOTE: When burning coal, shake ashes every 12 hours if possible. You must keep your ashes cleaned out from under the grates. This may require emptying the ash pan daily. If there is no air space under the grates, the grates will warp and become inoperable.

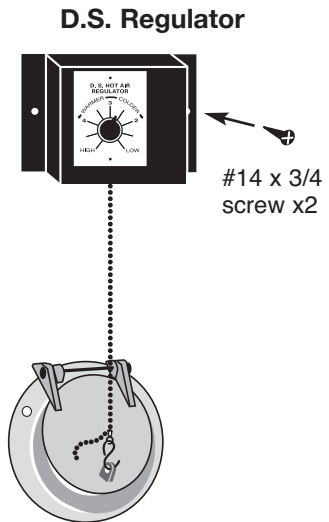
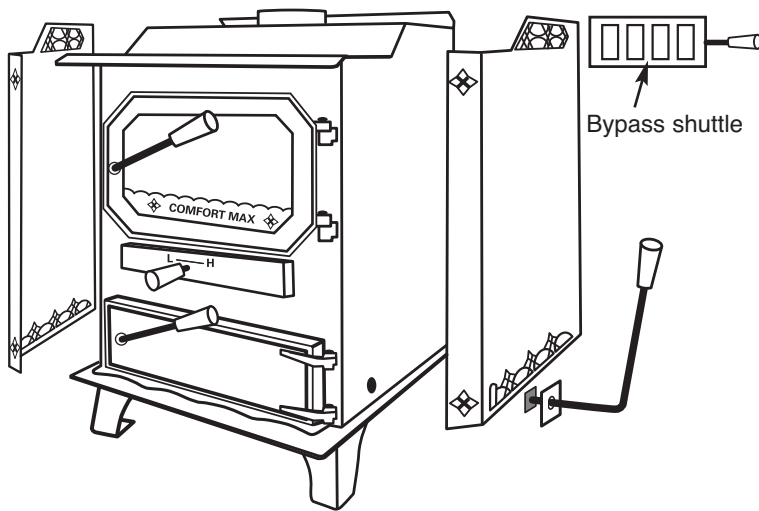
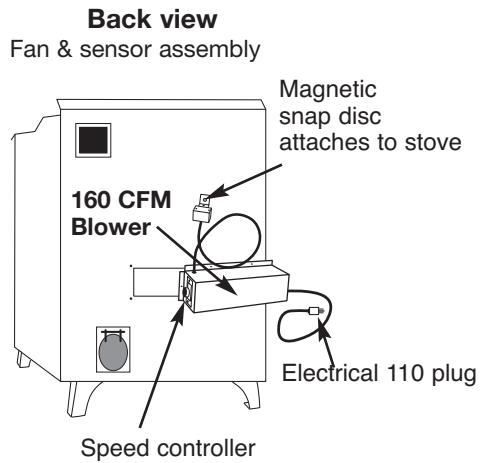
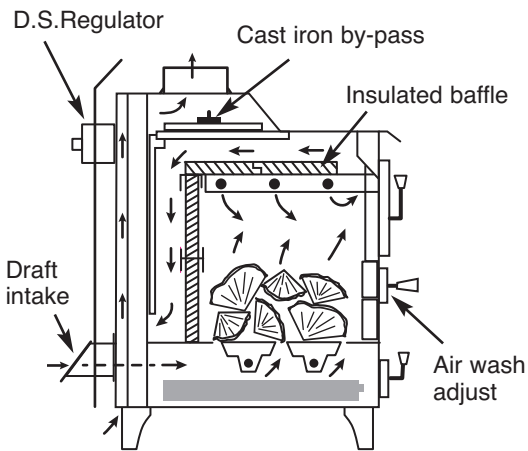


Chimney Requirements

The minimum height of a chimney system for the D.S. Furnace is 20 feet. The chimney must exceed the roof of a house at a minimum of 3 feet at any point of exit. In a pitched roof installation the chimney must be 2 feet higher than anything within a 10 foot radius of the chimney. It is important to have a chimney draft of 0.06 water column. It is required to abide by the manufacturer's instructions on Class A chimneys as well as local building codes. It is not recommended to build a chimney on an addition that is lower than the main part of your house. **Do Not extend the single wall chimney connectors past the inside of a masonry chimney liner. Never connect this unit to a chimney serving another appliance.**



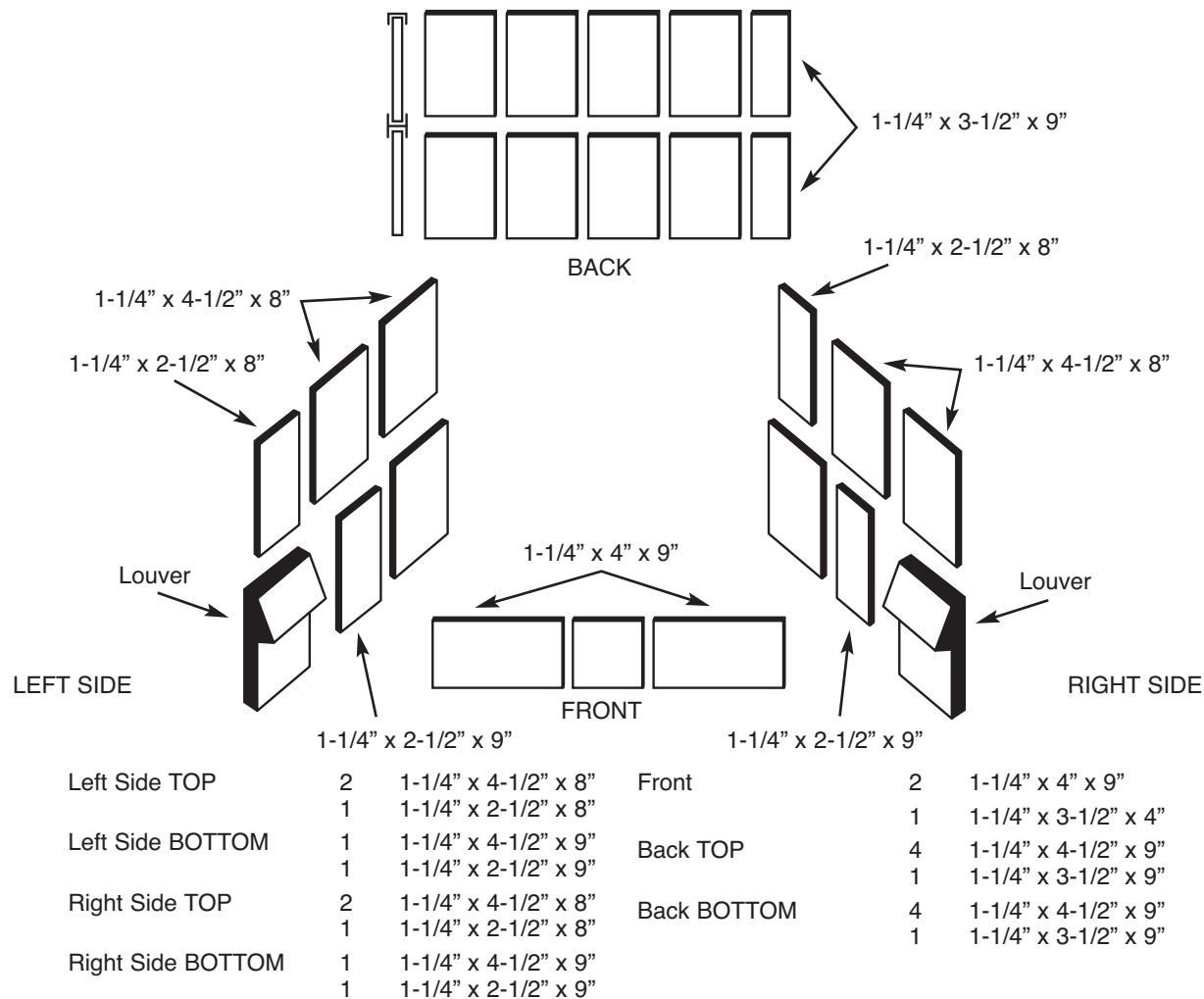
Should you have a problem with inadequate draft you should see page 7.



Parts List - Comfort Max 75

Qty per furnace	Description	Parts#	Qty per furnace	Description	Parts#
1	Left side sheet metal jacket	.75-5L	1	Ash Pan 15" w x 18-1/4" d x 3" h	
1	Right side sheet metal jacket	.75-5R	1	Ash Shaker Bar Assembly	.110-13
1	Back sheet metal	.75-5B	2	Piece Cast Iron Downdraft Baffle fits 75	.CI-75
2	Cast Iron 2-Grate Rail for 2 - 4" Grate	.42-GR	1	Stainless Steel H-Channel Firebrick Holder	.75-HBR
4	Cast Iron 4" x 18" Grates	.4x18-CIG	1	Stainless Steel U-Channel Firebrick Holder	.75-TBR
1	Cast Iron Comfort Max Door	.COM-D	1	Cast Iron Bypass Shuttle	.75-BS
1	Cast Iron Ash Door 20wx6h	.ASHD-206	1	Cast Iron Bypass Retainer	.75-BR
3	Removable Secondary Combustion Pipes (stainless steel)	.75-RT	1	Insulated Baffle 10-5/8 x 20-3/16	.75-InsBaf
3	1/2" Wooden Handle on Ash Door, Fire Door, & Shaker Handle	.12-WOOD	2	Cast Iron Louvers	.CI-FL
2	3/8" Wood Handle on Bypass and Air Wash	.38-WOOD	1	Top Door Gasket 3/4" round x 60"	.34-GR
			1	Window Gasket 7/8" flat x 54"	.78-WG
			1	Bottom Door Gasket 3/4" round x 54"	.34-GR

Firebrick Panels for Comfort Max 75





Trouble Shooting

1. Problem:

Smoke puffs from furnace

Solution:

Open bypass baffle before opening door.

Check chimney draft. Check for blocked chimney or flue pipe. Use mirror to check chimney clearance.

Check ash pit – if it is too full, empty.

Make sure furnace room is not too airtight.

Make sure all of chimney mortar connections are airtight,

Check ash drawer. Make sure it's airtight.

Check chimney for possible down-draft caused by taller surrounding trees or objects. Correct with proper chimney vent cap.

Check the possibility of a cold chimney forcing cool gases backward. Install a code approved insulated Class A chimney liner.

Make sure no other fuel burning devices are connected to the chimney impairing the draft.

Check chimney draft, it should be .06 inches of water column. This service is provided by a certified chimney sweep.

Remove parts on inside back of furnace and clean heat exchange area if necessary.

If bottom door is open it can create more draft than what chimney can handle. Therefore it can smoke out air wash or out the fire door when open.

2. Problem:

Inadequate heat being delivered to your home.

Solution:

Check home insulation – is it adequate?

If furnace room is warm but your home isn't, put vents in floor to circulate heat.

Is furnace the recommended BTU size for your home?

If you have a Bimetal Regulator set at high and furnace does not heat properly, shorten chain one or more notches. Do not exceed 600 degrees on top of furnace. Overheating will damage furnace.

3. Problem:

Excess smoke or flames coming out door when refueling

Solution:

Bypass baffle should be open before opening fire door.

Wait 15 seconds and open door SLOWLY – then refuel.

Check length of flue pipe to chimney. Your unit should be within six (6) feet of your chimney.

Make sure chimney cap is not too close to the top of the chimney.

Check chimney draft – make sure chimney flue pipe is clean and chimney is of adequate height.

Make sure you're not suffocating the fire with excessive amounts of unburned wood.

4. Problem:

Odor from first fire

Solution:

The odor from new steel should disappear in a few hours if burning hot.

If the odor remains, call your dealer immediately. A bad weld can cause a fume leak.





**LIMITED WARRANTY
COMFORT MAX 75**

Please read this warranty carefully!

D.S. Stoves warrants this ComfortMax Furnace against premature failure of any component due to workmanship quality or materials. So long as it is owned by the original purchaser, subject to terms, limitations and conditions herein set out. **Soft coal is prohibited in any DS Furnace or Boiler. This warranty is void if Soft Coal is burned in this unit.**

	Time Period
1 - Firebox	Five Years
2 - All doors - (fire and ash door)	Five Years
3 - Cast Iron Components (grates, grate rails, bypass baffle and firebox retainer)	Five Years

D.S. Stoves will replace, at no charge to the owner, any defective part which D.S. Stoves determines affects the operation of the stove.

The owner is responsible for labor and costs to complete the repair. The owner may at his option and with D.S. Stoves approval, have the stove shipped to the factory for repair. All labor and material costs for repair at the factory will be borne by D.S. Stoves.

The owner is responsible for all shipping costs.

D.S. Stoves door glass, gaskets, paint or enameled parts, firebrick, and furnace cement are not covered by this Limited Warranty.

Failure to follow installation and basic operation recommendations written in this negligence abuse modifications to the stove or over firing 600° maximum, as determined by D.S. Stoves or its authorized dealers.

(US Environmental Protection Agency. The heater is only for burning Coal. Use of other solid fuel except for Coal ignition purposes is a violation of federal law)

This Limited Warranty is in lieu of all other warranties either expressed or implied.

D.S. Stoves is not responsible for accidents due to improper installation or failure to follow instructions.

– D.S. Stoves
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