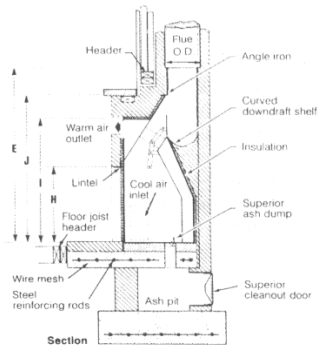
Air Circulating Metal Fireplaces:
Heatforms and Heatilators

By Steve Snyder

What is a 'Heatilator' type fireplace?

Heatilators and Heatforms are double walled, heat circulating fireplaces consisting of a firebox, throat, smoke dome, and a hinged, tight closing damper. Warm air heating chambers surround the fireplace and upper throat. Room air is drawn in through bottom cool air inlets, heated in the hollow air chamber and circulated into the room through upper air outlets. The firebox is built with boilerplate steel for greater strength and durability. Many units have round heat tubes through the fireplace throat to assure greater air contact to hot metal surfaces. Masonry downdraft shelf construction is designed to seal all exposed metal parts against corrosion to avoid rusting. Well, that is the way it is supposed to work... We have all seen rust deterioration in these metal fireplaces. What do you advise your customers to do in that situation?



Heatform "Model A" spec diagram.

Who makes them?

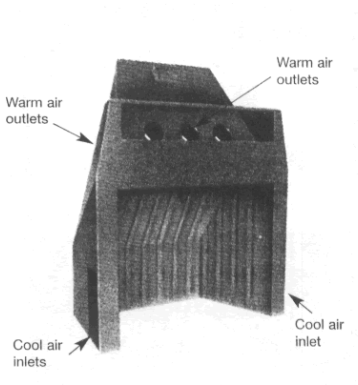
The Superior Fireplace Company (tel. 800-823-6224,714-521-7302, fax 901-885-7880)began manufacturing the Heatform in 1932. Heatilatior Inc. (tel. 800-843-2848,319-385-9211, fax 800-259-1549) began manufacturing their tube-circulating fireplace in 1928 and ceased production in 1996. Majestic and other manufacturing have also made similar style fireplaces.

Sweeping from the top

I prefer to sweep the chimney from the top. The Heatform and Heatilator fireplace dampers usually seal well enough to prevent soot from entering the house while top sweeping. Before sweeping, check for excessive soot buildup and a already full smoke shelf. You want to be sure you will still be able to fully open the damper after you sweep the chimney. Be sure the damper has not warped and will adequately seal. If the damper seal id poor, make a barrier at the front of the firebox to stop soot from entering the room. Some sweeps have a large vacuum running here for dust control while sweeping the chimney.

Sweeping from the bottom

The heat tubes are in the way when trying to sweep and vacuum the smoke chamber. I use a long handled "deluxe smoke chamber brush" to sweep through the tube openings. Specialty brushes like the "noodle" can make sweeping the heat tubes easier. Some sweeps use a toilet bowl brush around the tubes. To vacuum the smoke chamber, stuff a 2" diameter vacuum hose through one of the gaps between the heat tubes. Then, contort your body so your arm can go way up through a gap between the heat tubes at the other side of the firebox. Grab the vacuum hose and use it to "feel" the bottom of the smoke chamber as you vacuum up soot. It is very awkward and you may have to reposition yourself a couple times when vacuuming out a full smoke shelf.



Heatform as it came from the manufacturer.

It is possible to sweep a chimney from the bottom through the openings in the heat tubes. I use an 18" diameter flat wire German "Star" brush when a large tile chimney must be cleaned from the bottom because of an old breakable tile roof. The brush can be forced through the opening in the heat tubes, spring back to size, sweep the chimney and be forced back out through the heat tubes. The Ro-Kleen spinning chains and lighter weight wire loops also work for power cleaning the chimney and smoke chamber from below. A word of caution... several sweeps have reported serious hand injuries from their gloved hands being caught in the rapidly rotating rods. Also, spinning chains and wire loops can get snagged on the metal fireplace parts. Be careful.

Cracks in the metal

Sometimes due to installation error (air inlets/ outlets constricted) or improper use (fire built directly against metal back wall), small distress cracks may develop in the firebox area. Superior's suggested repair is a replacement repair plate, a part made by them from boiler plate steel. The replacement part is attached to the cracked plate are with heat-treated self-tapping machine screws. The part is inexpensive (about $30, call them and ask for the order form for "Heatform Repair Parts''). Superior discourages welding in the firebox saying it could cause warping or damage. Superior also offers stainless steel sleeves to repair rusted heat tubes. Some of these metal fireplaces are so old and deteriorated they are beyond repair. Other fireplaces have only minor damage and can be fixed. Why would you want to repair one of these metal fireplaces? Perhaps you want to provide your customer with the most options: replace the entire Heatform/Heatilator fireplace, repair, tear out rebuild a new masonry fireplace, or install a listed appliance with a liner. Where I live, local clean air requirements do not allow replacement of the entire Heatform fireplace or building a new open face fireplace.

Cutting fireplace for liner installation

The heat tubes are also in the way when installing a stainless steel liner to a fireplace insert. You will probably have to cut out at least one of the heat tubes and part of the metal fireplace to have enough room for a stainless steel liner connecting to the stove insert. An oxy-acetylene cutting torch is often used for the job. Clean the chimney and smoke chamber before you light the torch. The job requires two people: the torch operator and a "fireman" someone to watch outside the firebox and make sure the burning molten metal is not escaping the firebox. Wear non-flammable clothing and protection as little molten metal balls will try to fall in your ears (I wear earplugs...) and everywhere else. Have a fire extinguisher nearby just in case. I like to also have a water pump sprayer—the type used to spray water repellent on chimneys. Some times an unseen, un-cleaned pocket of glazed creosote is igniter in the smoke chamber area. No panic, just a quick spray of water will put it out. The fire extinguisher would be real messy in the house so don't use it unless things get out of hand. Other sweeps have reported using "Sawmill" reciprocating type saws to cut through the steel heat tubes and double wall metal fireplace. You may go through several broken blades and spend more time with that method. Superior and Heatilator do not allow their fireplaces to be torch cut or saw cut and doing so voids the warranty of the unit. Once the fireplace is cut, it can no longer be used as an open fireplace because smoke would be circulated into the room. Some sweeps put a sticker saying that right inside the modified fireplace.

What should you notice in an inspection?

Is there cracking or rusting? You will have to clean the metal surfaces to look. How close is the combustible mantel from the heat outlet? The mantel should be at least 12" above the heat outlet (not the top of the firebox opening). Is the insulation still intact between the steel firebox and the masonry face? Use ceramic wool or equivalent to seal gaps as needed. Are the air inlets/heat outlets provided and big enough? Blocking the inlets/outlets is not allowed and may cause the unit to overheat and deteriorate. If you can't see the inlets/outlets check adjacent rooms for remote air outlet/inlets. Each different sized model fireplace specifies how large the inlets/outlets must be. How close are adjacent combustible sidewalls? Superior requires them to be at least 30" away. If less, a wall shield to their specifications is requires. Where does the gas like entering the fireplace? Both manufacturers forbid drilling/cutting through the side double walls for gas line entry—they want the gas line to enter through the masonry floor of the fireplace. Are fans allowed? Manufacturer approved fans can be installed inside the air intake grilles. Is wood allows to be installed flush with the heat outlet? This is a tougher question... in current models, no, flush wood faces are not allowed. Superior did allow, in their 1955 model Heatform, a warm air outlet through a flush wood face. They required a 1/8" gap between the metal grille and the wood face to be dilled with compressed Rockwell. That same unit was allowed to have a small wood mantel very close to the wood outlet. Those are the kind of exceptions that make inspections difficult.

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