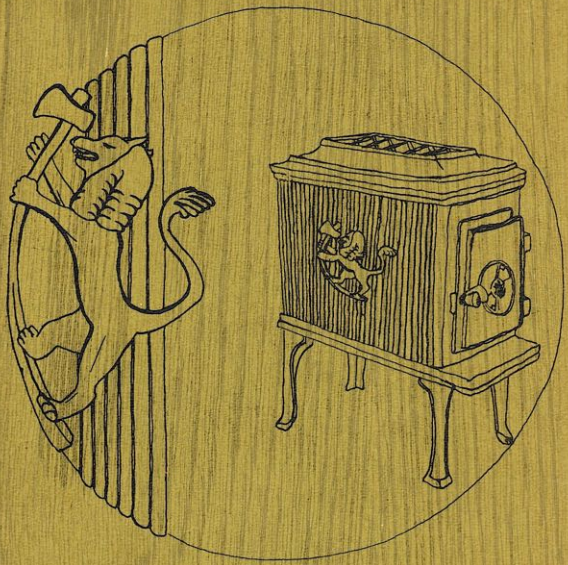
Jøtul



A Resource Book
On The Art Of Heating With Wood

January 1977

One Dollar

KRISTIA ASSOCIATES

IMPORTERS

WOOD STOVES
FIREPLACES
COKE BURNERS
COOK STOVES
ETC.

Jøtul

Printed 1973
Revised 1974
Revised 1975
Revised 1976

Illustrated by Kristin Horton

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wood heaters

no. 118

no. 602

no. 380

kitchen stove and coke stove

no. 404

no. 507

fireplaces

no. 3

no. 7

combi-fires

no. 6

no. 4

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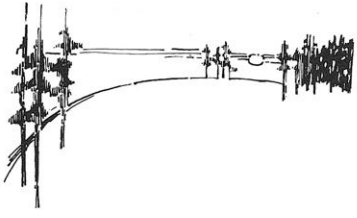
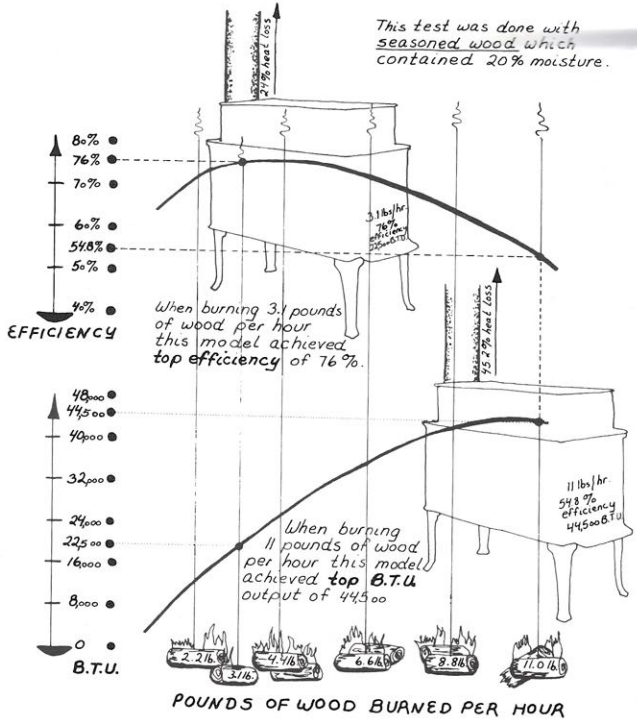


	exterior finish	maximum heating capacity	height	width	length	shipping weight	maximum length of logs	diameter of flue pipe	height to lower edge of flue pipe	outlet for flue pipe	built in ash pan
wood stove No. 606	black	4238 cu. ft.	40.5 in.	11.7 in.	18.75 in.	175 lb.	12 in.	5 in.	37 in.	back or side	no
wood stove No. 602	green enamel / black	4766 cu. ft.	25 in.	12.8 in.	19.3 in.	117 lb.	16 in.	5 in.	19.3 in.	back or on top	no
wood stove No. 118	deep green enamel / black	7060 cu. ft.	30.3 in.	14.2 in.	29.5 in.	231 lb.	24 in.	5 in.	24.8 in.	behind or either side of top plate	no
fireplace No. 3	green enamel / black	2120 cu. ft.	34.5 in.	20 in.	19 in.	183 lb.	14. in.	7 in.	26.2 in.	at the rear	yes
combi-fire No. 4	flat green enamel / black	8825 cu. ft.	41.3 in.	23.6 in.	22.8 in.	286 lb.	14 in.	7 in.	30.1 in.	back, or top purchased separately	no
combi-fire No. 6	black	8000 cu. ft.	43.3 in.	approx. 29 in.	approx. 22 in.	319 lb.	14 in.	7 in.	33 in.	back or top	no
fireplace No. 7	black	2120 cu. ft.	50 in.	31.5 in.	diameter	156 lb.	14 in.	7 in.	41.1 in.	back or top	yes
coke burner No. 507	deep green enamel	5297 cu. ft.	32.5 in.	13 in.	12 in.	183 lb.	8 in. coal	5 in.	26 in.	back	yes
cook stove No. 404	black enamel	2649 cu. ft.	31.5 in.	18 in.	25 in.	222 lb.	coal	5 in.	26.5 in.	back or top	yes
cook stove No. 380	cast iron	—	27½ in.	16 in.	22½ in.	131 lb.	18 in.	5 in.	23.5 in.	top only	no

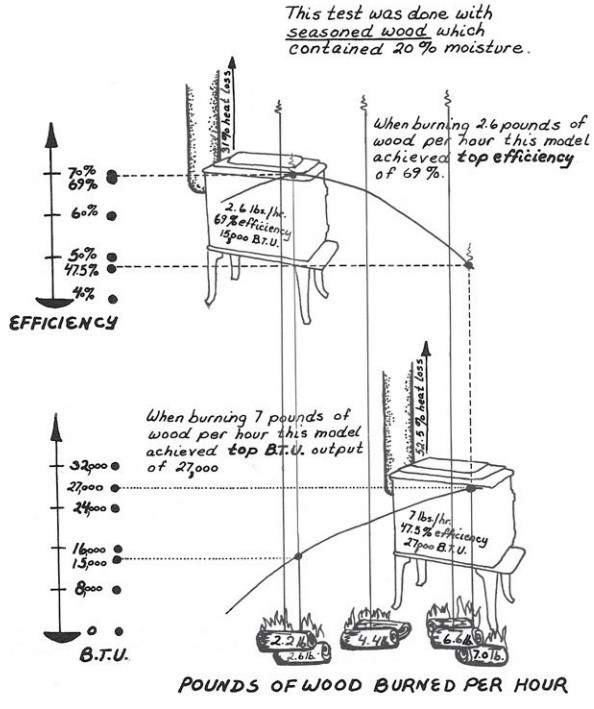
IMPORTERS: KRISTIA ASSOCIATES, BOX 1118, PORTLAND, MAINE

Testing Results on No. 118



These results were given to Kristia Associates by Eilev Granum of Jotul Inc. testing Labratory, Oslo, Norway November 5, 1974. Interpreted by Kristin Horton.

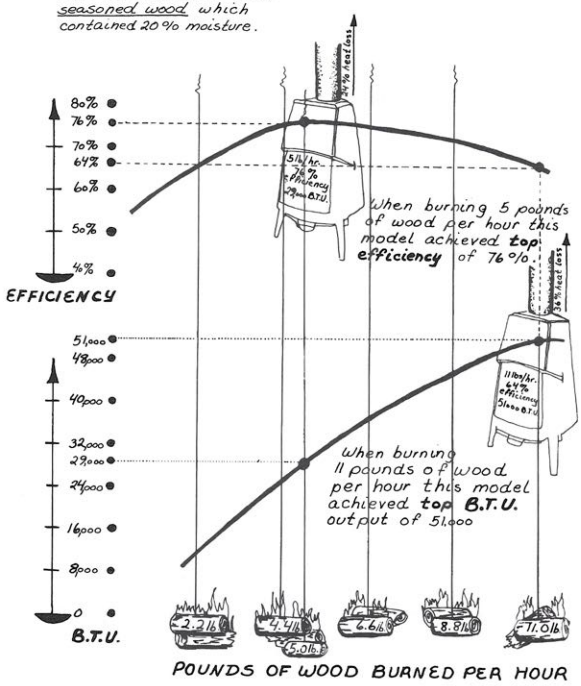
Testing Results on No. 602



These results were given to Kristia Associates by Eilev Granum of Jotul Inc. testing laboratory, Oslo, Norway November 5, 1974. Interpreted by Kristin Horton.

Testing Results on Combi-fire 4

This test was done with seasoned wood which contained 20% moisture.



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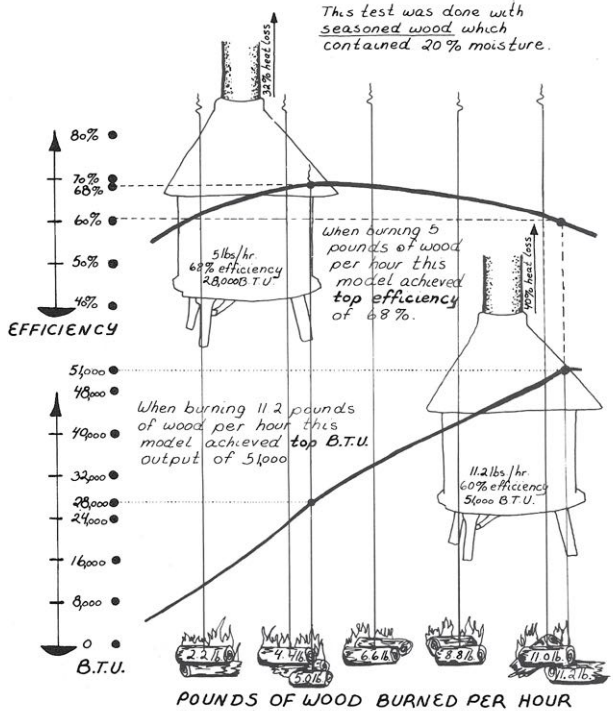
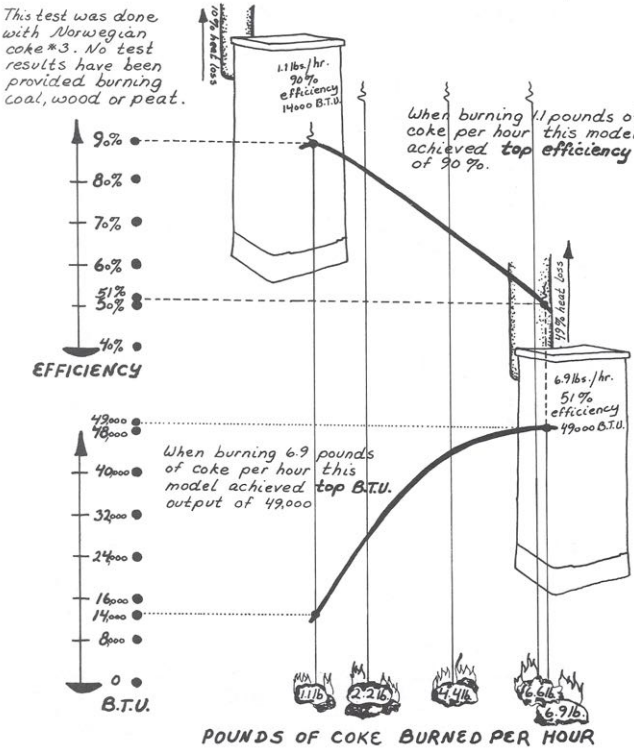
Testing Results on No. 6



These results were given to Kristia Associates by Eilev Granum of Jotul Inc. testing Labratory, Oslo, Norway November 5, 1974. Interpreted by Kristin Horton.

Testing Results on Coke Stove No. 507

This test was done with Norwegian coke #3. No test results have been provided burning coal, wood or peat.



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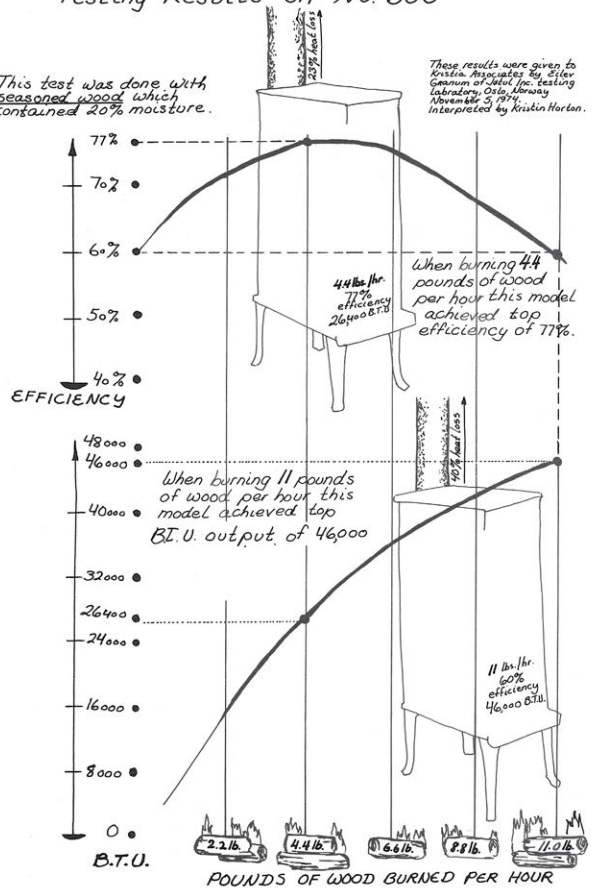
Testing Results on No. 606



What To Look For In A Wood Stove

Wood burning stoves can be classified generally into three kinds: 1) free-standing fireplaces in which the atmosphere of an open fire is the most important feature, 2) enclosed fireboxes which are used primarily as heaters, and 3) cook stoves which are often used for heating as well. Some stoves are combination fireplaces and heaters. In this country, the well-known American Franklin fireplace is the best known example of this type.

The free-standing fireplace that is sold as decorative furniture and for warmth and atmosphere is usually not chosen for utilitarian reasons. However, a room can be warmed by these fireplaces, especially if the fireplace is constructed of metal which will radiate heat into the room. The Franklin fireplace can be closed to improve somewhat the heating capacity. Unfortunately the firebox of the Franklin stove is not tight enough to control the flow of air for efficient wood stove operation.

For efficient and economical heating, three design criteria are important: 1) the stove should have a tight firebox with an adjustable draft to enable the wood to burn slowly, 2) there should be a large mass of cast iron to collect the heat and radiate it into the room, and 3) the stove should be designed so that baffles and heating chambers direct the smoke through the stove to achieve as much heat transfer to the stove surfaces as possible rather than have most of the heat lost up the chimney.

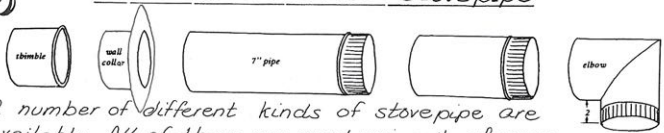
The quality of wood burning stoves is an important criteron. Cast iron stoves are not only better than sheet metal stoves because they give a more even heat, but also because the sheet metal suffers from metal fatigue if stressed by repeated opening and closing of doors and vents. Some stoves are available which are enameled on top of cast iron. The enameling is much easier to clean than is cast iron and it is not necessary to use stove black to keep the stove attractive.

On Installing A Woodstove

Wood stoves and free-standing fireplaces can either be attached to existing chimneys or used with prefabricated chimneys installed through the ceiling or wall. Before installing any stove to an existing chimney, care should be taken that the chimney is sound and that there are no cracks or holes for sparks to enter into partitions. Also, the chimney should be cleaned occasionally since accumulations of creosote and soot can ignite and create chimney fires. When planning to attach a stove or fireplace to an old chimney where there are cracks and loose mortar, the chimney should be inspected by an expert or relined or rebuilt.

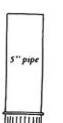
Stoves and fireplaces should not be installed closer than about 30 inches from an uninsulated combustible wall. Asbestos or insulated sheet metal panels are available to permit a stove to be placed much closer to the wall. An asbestos or sheet metal plate should be used under the stove if the stove is not placed on a brick or stone hearth.

A Few Words About Stovepipe



A number of different kinds of stovepipe are available. All of them are used primarily, of course, in passing the smoke to the outside. However, stovepipe can supplement the heat transfer process itself. In Colonial New England, stovepipe was commonly strung the length of the room under the ceiling to give maximum heating. A word of caution however — this will also cool the smoke and, particularly in a cold room, will often cause the smoke to down draft back through the stove into the room.

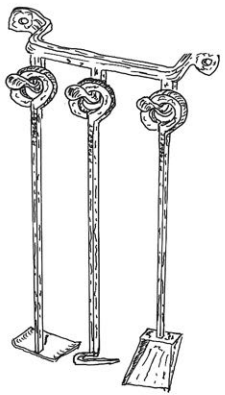
Generally there are two major types of stovepipe: insulated and uninsulated. Insulated stovepipe is a prefabricated chimney. This pipe may be safely passed through floors, partitions, and roof by relatively simple construction methods. There are several different qualities of uninsulated stovepipe. The least expensive and least desirable is the galvanized or galvanized and blued sheet metal pipe. We have found that this type will usually last only a couple of years. Sulfuric acid which forms in the smoke condensate will rust out the pipe, resulting in holes which may be dangerous if undetected.



Heavier grades of sheet metal stovepipe can be made on special order. We have made arrangements with a firm in Westbrook, Maine for the manufacture of heavy gauge stovepipe which is spray painted with a heat resistant flat black or Jøtul green to compliment the Jøtul stoves. Reducers, thimbles, elbows and various lengths of stovepipe are available. To order, write or call: Thompson and Anderson, Inc., 446 Stroudwater Street, Westbrook, Maine 04092, tel(207) 854-2905.

DBA
Donald Horton

A Few Words On Fireplace Tools



About The Tools

These tools are all hand-forged in a rural Vermont blacksmith shop especially for the Jøtul box stoves.

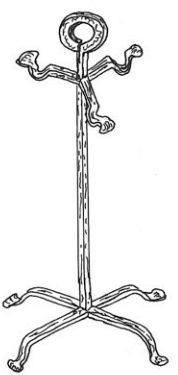
The one-man shop assures the quality of each item for function, reliability and appearance. Every tool is stamped with the blacksmith's name. Finished in dead black the accessories add the finishing touch to a fine heating unit. The tools are available in two (2) lengths, 24" inch or 36" inch, with either a three tool stand or wall hanger.

Pete Taggett
Blacksmith

Tool Use

I use the poker to pull partially burned logs to the front of the stove, or to rearrange the fire as required. I find the hoe is most useful in raking the remaining embers forward to reload the stove, (as in the morning). Removing excess ash from the stove is reserved for the shovel. These tools may be available at your local dealer or by contacting me.

Pete Taggett
The Blacksmith Shop
P.O. Box 15, Mount Holly
Vermont 05758



Hearths And Panels

As a Jøtul dealer in Maine, I am often asked by customers, "What do you suggest to go under my stove as a hearth?," or "What can I put on my wall to protect it?" Looking for answers, we talked with others in the business and learned that there are very few products available fulfilling that need.

Gerhard and Erika Schaefer of Schaefer Construction in Ellsworth, Maine are the Jøtul dealers in that area. Gerhard is a mason who learned his craft in Europe and has a reputation for his excellence. Naturally, we looked to the Schaefers for the solution.

Gerhard worked on the problem but it seemed bulkiness and heavy weight were difficult obstacles to overcome. At the second Jøtul conference he had an idea about using two materials together that had never been combined before. The result is a panel which can be used under a stove or to protect a wall. They are stronger, lighter, easy to install and highly fire resistant. The panels are beautifully finished in four ceramic tile patterns and come in three sizes for a lifetime of service. They are called "Katrina".

Frank Raftery

For further information call or write.
Frank Raftery Distributors
89 High Street
P.O. Box H
Belfast, Maine 04915
tel. (207) 338-4038

We at Kristia Associates also recommend highly the nicely made sheet metal hearths available from our dealer Louis Kashey. For information about these contact Maine Round House.

Box 126 Kennebunkport, Maine 04046
tel. (207) 967-4000

Fireplace Cover Shields

Persuing the tradle I learned as a boy back in my homeland of Norway, I now custom make Fireplace Cover Shields to fit the whole line of JØTUL stoves.

These shields are used by people who have existing open fireplaces in their homes and would like to hook up a woodstove in front of it.

Of course, a standard size fireplace opening does not exist; so, the shields are custom made to fit your fireplace snugly — allowing no heat from the room to be lost up the chimney. The shields I make in my blacksmith shop at the farm are designed carefully to fit. They snap into place and can be removed just as easily. Heavy gauge steel is used for the shields, they are made plain or fancy as desired, and no tools are needed for installation.

For further information you can write to me.

Odd Lyngholm

Odd Lyngholm
Haagaard's Den
Bethel, Maine
tel. (207) 824-2718

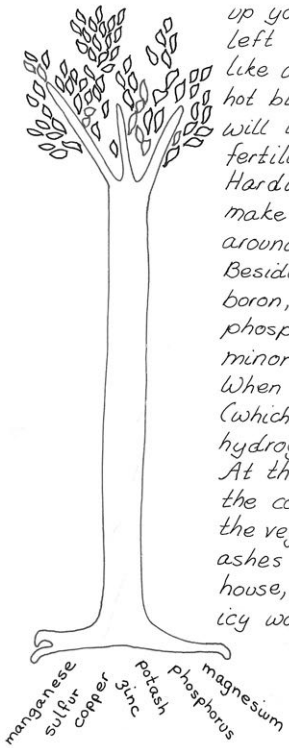
Ashes And Smoke

Whether you burn softwood like alder or pine, or hardwood "sticks" of well seasoned beech or oak, smoke will go up your chimney and ashes will be left behind. So-called "Biscuit wood" like alder, which kindles fast, makes a hot blaze for baking a pan of hot biscuits will leave behind less ashes containing fertilizer for gardening.

Hardwoods like maple, beech and oak make ashes that are excellent to put around shrubs, trees and vegetables. Besides carbon, ashes contain calcium, boron, zinc sulfur, manganese, magnesium, phosphorus, potash, copper and some minor elements.

When burning with wood only carbon (which is what makes smoke dark), nitrogen, hydrogen and oxygen go up the chimney. At the farm we add wood ashes to the compost heap and along the rows in the vegetable garden. We also use wood ashes to keep the odor down in the outhouse, and in the winter we spread it on icy walk ways.

Eva Norton



P.S. Roy Flanaghan tells me that hardwood ashes can be used as a tanning agent for leather.

IMPORTERS: KRISTIA ASSOCIATES, BOX 1118, PORTLAND, MAINE

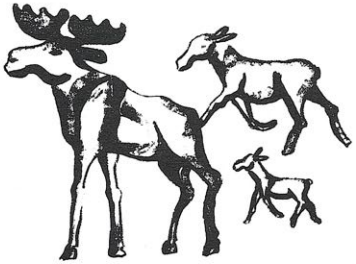
ARE WOODSTOVES SAFE?

According to Washington's newest regulatory commission the following products are considered more dangerous than woodstoves:

The Twenty Most Dangerous

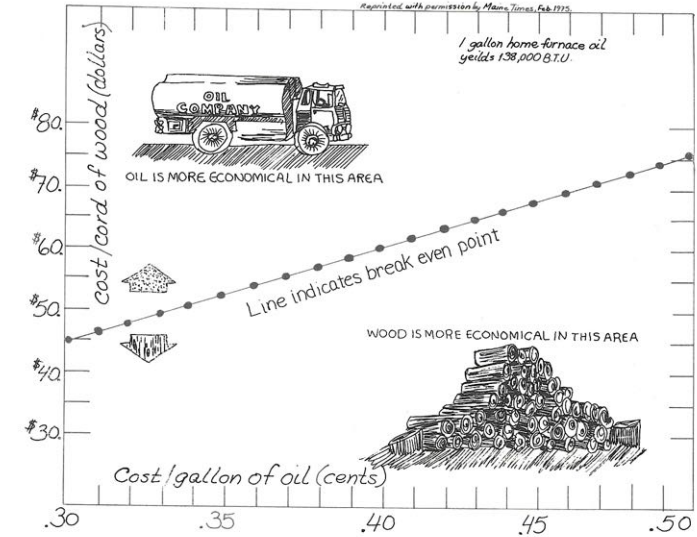
1. bicycles and bicycle equipment
2. stairs, ramps, and landings
3. nonglass doors
4. cleaning, caustic compounds
5. nonglass tables
6. beds
7. football
8. playground apparatus
9. liquid fuels
10. architectural glass

11. power lawn mowers
12. baseball
13. nails, tacks, and screws
14. bathtubs and showers
15. space heaters and heating stoves
16. swimming pools
17. cooking ranges and ovens
18. basketball
19. nonupholstered chairs
20. storage furniture



MOTIF FROM JOTUL WOOD STOVE

Lithograph by Eva Horton



- The graph above compares the cost of available heat units (B.T.U.s) in a gallon of fuel oil, which yields roughly 138,000 B.T.U.s and an average cord of dry hardwood, which yields about 20,900,000 B.T.U.s. The line represents a break-even point between the costs of the two fuels. Any price relationship falling below the line indicates an economic advantage in using wood, while one falling above the line shifts the advantage to oil.

- The graph indicates that wood costing up to 45 dollars a cord is less expensive heating fuel than oil costing 30 cents a gallon. Also, that wood at 75 dollars a cord is still cheaper than oil at 50 cents a gallon or more.

Advantages Of Norwegian Jøtul Stoves

We believe that Jøtul stoves are the best available anywhere. The boxstoves are constructed of cast iron with an enamelled finish for easy cleaning and attractiveness. Above all else, a wood stove must burn efficiently to be used as a practical heater, since the cutting, stacking and carrying of large quantities of wood is so time-consuming. The Jøtul stoves are superior to any other we know of in this regard. The firebox is tight and is designed to burn the wood slowly and completely. Even the hot gases are ignited in this stove rather than being lost up the chimney. Heavy cast iron baffles surround the firebox and a top baffle directs the heat into a chamber for more complete heat transfer.

We have used three sizes of these stoves at our Maine farm for four winters along with a Franklin stove and an Ashley heater. Although the Jøtul stoves do not have the thermostatic control of the Ashley, the Norwegian stove is a more efficient burning stove, requiring less wood and giving much more even heat. There are Jøtul models which combine the advantages of an open fireplace and an efficient wood heater. These have doors which slide over the open fire and clamp shut tightly. A vent on the door can be adjusted for efficient wood burning. Unlike the Franklin fireplace, these stoves actually do convert to efficient heaters.

A Jøtul stove is a lifetime investment, but it will actually pay for itself in a season or two by the quantity of wood fuel saved. The stove is also very rugged and handsome.

DBH

Donald B. Horton

Burn Your Jøtul Stove Around-the-Clock

Most Jøtul stoves are specifically designed to burn wood slowly with only an occasional replenishment required. This means that the stove can be loaded at night before going to bed and, if the vent is turned down, the room will be warm in the morning.

Besides the obvious convenience in not having to rekindle the fire, round-the-clock burning saves wood and gives a more even temperature.

The reason for the fuel saving is that when a room is warmed, the first things that are heated are the walls, floor and ceiling. If you rekindle your fire every day, you must wait until these are heated before the air in the room becomes warm. Also, it is tempting to cause the stove to burn very hot. When you do this, you are burning up more fuel. The extra fuel you use in this way is often equal to the amount you save during the night by letting the fire go out.

If you let the fire go round-the-clock, you retain the heat in the walls and floor and cause the heat distribution around the room to be more even and complete.

We Ask Jøtul's Technical Department

- What about Jøtul's green enamel? It is melted glass, baked in two layers in high temperature kilns. The matte finish enamel contains more quartz and borax. The shiny enamel has a heat tolerance of about 1100°F., the matte finish about 1300°F.

- How will I know if I have fired my stove beyond its heat tolerance? First you will find hairline cracks. After repeated such firings bubbles occur, then peeling. It need not happen if you heat with wood or coals as directed. These stoves are not incinerators.

- What about touch-up paint? Jøtul's black senotherm paint has a heat tolerance of 840° F. Paints with the same heat tolerance are available on the American market for touch-ups. For the enameled stoves, automobile engine paint, with tolerance up to 1200°F. can be used.

- How durable is the asbestos rope used as gaskets? It lasts about 8 to 10 years.

- How many stoves can be hooked up to one chimney? For every 12 sq. inches of chimney opening you can hook up one stove. For example, a 9"x9" chimney opening (81 sq. inches) you can hook up seven box stoves. Never hook up two stoves to the same chimney at the same level.

- How about fireplaces? Preferably only one per chimney. 7"x7" is minimum size smoke outlet. It should never be smaller than 1/12 of the fireplace opening.

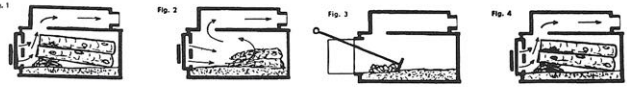
- Why no thermostatic controls on Jøtul stoves? Various forms of thermostatic controls have been tested periodically over the last thirty years at Jøtul's testing laboratories. It was firmly determined that such controls are unreliable and unnecessary.

Read This Before Stoking Up Your Box Stove

- Protect the stove's bottom.
  Protect the bottom with a two inch layer of ashes or sand. This is absolutely necessary in box stoves — to prevent loss of heat and protect the bottom plate.

- Protect the enamel finish — urgent!
  The first few times you build a fire in a stove or fireplace that has been enameled, some condensate will be formed. This condensate contains sulfuric acid. Open the top plate slightly to allow the condensate to escape. In the event that some comes in contact with the enamel finish, the surface should be cleaned immediately, or the condensate will leave a permanent stain. Clean the enamel surface with any scouring cleanser or metal polish. As soon as the stove is thoroughly warmed, the condensate stops forming, and the top plate can be closed.

- Build your first fire in the box stove.
  See fig 1. below. Make a small fire with kindling near the door in the front of the stove. Then place full length logs on top. Allow for ample draft in the beginning. Later regulate the vent down to the desired burning rate.
  See fig. 2. The fire will now spread slowly backward toward the rear of the stove.
  See fig. 3 and 4. Not until the wood is completely burned up, and there are only embers left, is it necessary to reload. Rake the embers up to the front, and reload as shown in Fig. 4.



Read This Before Stoking Up Your Combi-fire

Place a layer of clean sand or ashes on the bottom of the stove before you make your first fire.

Let your first fire warm the stove gradually. Vapors will occur as the "newness" burns out of the iron. This is usual and will stop when the stove is thoroughly warm. If there is any condensation, however, there may be moisture appearing near the joints. This is acidic and can leave a track on the black finish or pit the enamel on enamelled stoves. Any condensation that appears should be wiped off with a cloth to prevent staining. After the stove is warmed up, there will be no further condensation.

After lighting, close the door and open the front damper completely. Make sure the back vent is fully open (perpendicular to the stove). After the fire has caught and the chimney is warmed, close the back vent to the "half-open" position and regulate the rate of burning (and heat) by adjusting the front damper. The stove will produce great heat with the damper fully open, or it can hold the fire all night when open just a half-inch wide. Best for prolonged periods of use is to keep it going at about half speed.

When loading more wood, or if you desire to watch the fire, open the back vent and wait a moment for any collected smoke to be emptied before you open the door. If the stove has been operating at a slow rate, open the front damper to allow the smoldering wood to burn more brightly and let the increased draft carry out accumulated smoke before you open the door.

If the handle of the door gets squeaky, powdered graphite, which comes in a tube, should be moderately applied. The enamelled finish can be cleaned with a cleaner or metal polish and dried with a soft cloth. To renew the black iron finish, use Rustoleum Barbeque Black or similar high temperature spray paint.

These instructions are offered so you can maintain the high quality and enjoyment of your Jotul combi-fire.

Contributed by Ben and Ariel Wilcox

Read This Before Stoking Up Your Cookstove

Before making your first fire with wood, open the firebox door (upper left) and remove the heavy iron gate that blocks the opening. It is for use with coal only and is not used when wood is the fuel. A damper can be installed in the stovepipe as a precautionary measure in case of extensive draft due to high winds, etc.
Before making each fire, use the long handled plate lifter to remove the cookplate that is above the fire box and poke down the ashes that have accumulated in the grate from the previous fire.
Start with crumpled paper, kindling, and small dry wood. Open the dampers on both doors and make sure that the oven damper is turned to the right before lighting the fire.
When starting a fire or cooking on the surface only, the oven damper (lever on cooktop surface) is turned to the right so smoke and heat travel directly across top of stove to the flue. This gives a strong draft, creating a quick, hot fire and transferring heat to the cookplates. After fire is established, if you wish to bake, turn the oven damper to the left — this will direct smoke around the oven on its way to the flue. Oven heat will be more even and baking temperatures more easily maintained. The firebrick lining of the firebox warms gradually, so it takes a little time for the oven to heat up. But once heated, the temperature will be even and long-lasting.
After the fire is started, close the damper on the bottom door and regulate the fire with the upper damper. The stovepipe damper can be closed partially. Closed too much, it will reduce the effeciency of the stove.
Empty the ash pan when it is full. Clean the internal chambers of the stove periodically. There is a cleanout opening under the oven for removal of ashes which may accumulate there. Slide out the sheet metal floor of the oven to reach it.

Contributed by Ben and Ariel Wilcox

IMPORTERS: KRISTIA ASSOCIATES, BOX 1118, PORTLAND, MAINE

Read This Before Stoking Up Your Coal, Coke And Woodburner

With wood:

1. Start fire with paper and a little kindling. When fire is burning briskly add as much wood as you wish.

2. Regulate the air flow only through the middle door vent. The vent in the top door must always be open a little to provide a secondary draft.

With coke:

1. Start fire with a little paper and wood. When a good small fire is going, add a little coke. When this is burning well, fill the stove according to need.

2. Regulate draft only through vent in bottom door. The vents in the middle and top door must be closed when burning coke. The amount of air flow will be learned by trial and error.

With coal and peat:

1. Start fire with a little wood and paper. Add a small layer of coal or peat at a time.

2. Coal and peat requires good draft, both through the vent in the bottom door and middle door. In addition you must add plenty of secondary air through the top door to burn the volatile gases. Regulate all of the three vents by trial and error until you get a satisfactory burning with a clear flame.

Important facts to keep in mind:

- Never burn with the doors open or the vents full open because the stove may become overheated and be damaged.
- Shake the ashes down every morning and evening. Use the handle provided with the stove. It is necessary to turn the handle only a few times to shake down the ashes.
- Empty the ash drawer at least once a day. Prevent the ash drawer from filling up so that the ashes touch the bottom grill. This may eventually cause the grill to become too hot and be destroyed. During extremely cold weather, it may be necessary to empty the drawer more than once a day.
- The handle provided may also be used to remove the front grill and the hot ash drawer.
- When the ash drawer is removed to be emptied and then replaced in the stove, it will scoop up the ashes which have fallen into the stove bottom.

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A Few Words on Firewood and Creosote

— Burn dry and well-seasoned hardwoods. Season wood at least six months, more if you can manage it. I dry my wood a year, and know people who insist on two years or more.

— Seasoned wood will produce less creosote - the stuff that gums up your chimney and can catch fire. Seasoned wood also produces more usable heat - up to 44% more depending on the kind of wood.

— Old timers will tell you to mix green wood with the dry to hold a fire longer. That made sense with the old stoves. It doesn't make sense with modern air-tight stoves like the Jøtul. The older stoves were loosely constructed and consumed wood fairly quickly even with the draft closed. In an air-tight stove the draft controls the rate of burning, and even dry wood will burn overnight.

— Cut the longest pieces of wood that will conveniently fit a Jøtul firebox. The wood burns from one end to the other in a Jøtul. The longer the stick, the longer the fire holds.

— If you cut trees in summer, let them lie a while. Until they wither, the leaves will draw moisture rapidly from the wood, drying it more quickly than a winter-cut tree.

— Once the leaves wither, cut the wood to length and split it. Wood dries more quickly this way than left in longer sections.

— Burn the better hardwoods - you'll get more heat per cord of wood. These would include hickory, oak, sugar maple, yellow birch, ash, black locust, and beech. Apple is good; so are

red maple and cherry. Elm is all right but tough to split.

— Avoid softwoods like pine or spruce - the heat value is low and they will produce a lot of creosote. If you must burn softwoods or green wood, do so with the draft open to minimize creosote accumulation.

— When your stove is newly installed, tap the stove pipe hard with your finger nail. Remember the sound it makes. Tap it again from week to week. If the sound changes - becomes more a "thud" than a "ting" - or as you hear material rattling down inside the chimney, you'll know you're accumulating creosote.

— You can clean the pipe manually. I use a burlap sack wired to the end of a long pole. Or you can buy a product like Chimney Sweep at the hardware store and throw it on a hot fire to clear the creosote. Repeat the process as often as needed to keep a clean chimney.

Like anything else, your skill in running a wood stove is something that improves with time and experience. If you learn to run it well, you should have plenty of heat and very little creosote. I get up on the roof once a year to clean the chimney with my pole and sack. Usually I find it doesn't need cleaning. If you burn good wood, have an adequate chimney and manage your fire with skill, chimney cleaning should be only an occasional chore.

David Lyle