

## Stove Selection & Use

Light weight stove or heavy steel model ?

If you are hand hauling or using dog team or pack animal think about a lighter weight stove. Other wise the heavy steel Dog models have more user friendly features that greatly out weigh there weight. Light weight items are not always the best way to go if the item might fail no matter what the item !

## Stove Position in tent ?

A lot of that goes by culture use or what your daddy did. I've have found the best position for a stove is as close to the center of tent as possible. Why ! Well the sun is the center of the universe . In the tepee " North America", yurt "Mongolia" or Lavu " Nordic" structures the fire was in the center and once the use's of steel stoves the stoves where in the center. At present the Swedish, Finland and Norway military all use there stoves in the center of the tents. It allows for better draw on the stove pipe, more radiant heat off the metal of the stove pipe before the hot gases leave the pipe and better heat distribution in the tent. Not to hot in the corner and cold in the far corner. Proper clearances from combustibles must always be observed. Min. 24" all the way around !!! If your getting singed inserts or damaged canvas your to close !! Or have poor insert placement.

**YOU CAN'T BE TO SAFE !!**

## Stove designing ?

First the door , it will make or break the stove. To have good combustion of your fuel you must have three things.

1- fuel , the dryer the better, wood does not become fuel till it becomes charcoal, to become charcoal it must first get all the moisture and resin out of the wood, that is why smaller wood burns hotter and more efficiently.

2- air , oxygen that's what lets the wood burn. That is why the door is important. If it warps and you can not control the air as it comes in you can not control your fire ! At best it hurts effiience, comfort. At worse it gets away from you and burns the tent down at 3:00 am when it's 20-. Not good !

3-turbulence, it allows the hot gases to mix and create a cleaner

better burn.

The shell should be made so as not to allow air to enter or smoke to escape, if you close the damper and smoke comes from the seams, not good. That is a sure sign you that you stove will suck air at the worse times , thus creating a safety hazard. YOUR RESPONSIBLE FOR YOUR SAFTY !!

Over all fit and finish ? Is this a item you would trust your life to ! Because you will if you use it in a cloth tent !. Can you sleep with it in operation ? If it looks poorly made why would you trust life to it ? You wouldn't drive a car with out brakes.

Does it have a baffle and or a true air tight door ? Both add to the safety, efficiency and usability of stove. If it does not have high temperature gasket on the door it is not air tight ! A baffle aids in cooking and efficiency as well as safety (no direct flame in stove pipe, built in spark arrester)

#### STOVE USE

THE BEST MADE STOVE WILL SUFER FROM OPERATER FAILURE !!!!

What does that mean ? Well the better you learn your stove and practice sound technique the better the stove will work for you. In this high tech world of today we all like to be able to push a button, point and click and every thing works right now and how hard can burning wood be ? It's a bit of an art with specific laws of physics one must work within. A stove is like a mule the more you tend to its need the better it will work for you and like a mule you must learn it likes and dislike. Also if you treat it rough and with disrespect you don't want to turn your back on it cause it might just kick ya!! So it's up to you to learn the magic to get the stove and the wood to do it's magic! Keeping you warm, cooking your food and yes even possible saving your life.

Now for some facts.

- One pound of dry wood material contains 7,000 btu of energy.

Now that stick of wood will have from low of 16% water if dry and seasoned and up from there. If dead laying on the ground horizontal up 40 to 60% water and or if green. That means you have to take from that 7,000 btu's to make wood in to fuel. The

higher the water  
the lower the btu's from that one pound.

- The larger the wood the more energy used to cure the wood or in other words the harder it is to get the water and resin out of the wood to make fuel.

One pound of dry hardwood contains as much heat value as pound of pine. The difference is in the volume , pine will take twice as much room as oak in volume. So the same fire box filled with oak will give twice as much heat as a charge of pine.

- Blue smoke is a sure sign of a poor burn and technique. You should have only two colors of smoke white and none. Blue smoke is unburnt gases and energy leaving your stove. That's what makes that nasty creosote in the pipe. Its from burning to cool a fire or placing new wood to large on to small a coal base.

- You should never place a stick of wood in a fire box larger the 1/3 width of the fire box less one finger width. Also always rake your coals forward on a new fueling. That will give you the heat you need to make that new wood into charcoal

- White smoke is normal when new wood is added , it is the water vapor leaving the wood.

- No or clear smoke means your burning all the energy being released from the wood before it leaves the pipe.

- Dead standing wood with the bark off is the best fuel to find, any angle on the tree will add 1% water to 1% angle.

- Good starter tree like that at 6-8 in diameter will allow you to get a good fire started thus allowing you to use less desirable wood with a higher water content.

- Efficiency means how much usable energy you extract from your wood, so if you burn your stove at 30% efficiency or at 60% the difference means you must cut , haul and stock the fire twice as much at 30% then at 60% . Twice the work half the fun.

- Small wood good ,big wood bad. The little bit of extra effort to

cut and split the wood pays off with a better burn and less work in the long run.

- Learn and perfect your fire skills, it will help you amaze your friends and family. Who knows it may save your life or that of a loved one and at least it will help you enjoy your time in the woods.
- We can do something wrong for thirty years and do it for another thirty years the same way it still doesn't make it right.

There are only two brands of stoves that have a true airtight firebox.

The Four Dog and the Kwik Kamp.

Those two are very similar in features but the Four Dog is the only one with a baffle built into the stove which keeps the heat and smoke from going directly up the chimney thereby keeping the heat where you need it longer and thus requiring less fuel. It also creates a hot spot on the stove top which will allow you to actually boil water much easier with less fuel. Also the nesting stove pipe goes from 5" to 4" also constricting the escape of heat whereas the others go from 5" to 6" which increases the escape of heat from the firebox.

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Four Dog Stoves

1. AIR TIGHT DOOR AND BAFFLE FIRE BOX ON ALL THE 4 DOG STOVE MODELS MAKES THESE STOVES THE MOST EFFICIENT TENT WOOD STOVES AVAILABLE

Baffle is 2" below stove pipe hole x 8.5" wide + width of stove.

4 Benefits of Baffle

A. More efficient:

20% - 30% more heat efficient, forces flames to go around baffle before exiting firebox. Therefore, baffle keeps the heat in the firebox longer instead of quickly going up the stove pipe.

B. Cooking hot spot.

Baffle creates a hot spot on top of stove for cooking or boiling water. Without the baffle hot spot, on a normal stove a person has to significantly increase stove temperature to cook which sometimes overheats the tent for occupants.

#### C. Safer.

Prevents most sparks landing on tent roof or surrounding area. Spark arrestor is still recommended to reduce chance of spark burning a hole in canvas roof.

#### D. Cleaner Tent.

Almost all ash stays in the firebox due to the baffle plate. The result is almost no ash landing on tent roof.

#### 2. Fiberglass seal on door -

airtight stove is more efficient and requires less wood. The 4 Dog stove is only one of two tent wood stoves that has air tight doors. An air tight door is an important factor when considering which wall tent stove to buy. If you plan on being in a wilderness area you have to cut wood by hand as chain saws are not authorized. You can reduce the amount of wood you cut by hand by using an efficient stove like the Four Dog.

#### 3. Door air intake diverter prevents sparks from popping out through door air intake hole.

Having an air intake diverter on the stove door is a critical requirement if you have a tent floor. Sparks landing on vinyl or non fire proof canvas can possibly start a fire.

#### 4. Quality galvanized steel nesting stove pipe, 5" at stove, 4" at pipe end.

Stove pipes fit inside each other, large to small, for storage and transport in firebox. Total length of assembled pipe, 86" or 77".

#### 5. Four Dog stove door 10 gauge - 1/8" steel

#### 6. Four Dog sides, bottom and top are 13 gauge - 3/32" steel

#### 7. Stove top reinforced with a 3/8" square steel bar, 7" from front and also 7" from rear. 5 Dog also reinforced with 3/8" square bar on sides.

8. Four Dog accessories fit inside firebox

9. Easy installation clip in legs

10. Handles on back and front of stove for easy transport.  
The handles on each of the stoves make the 4 Dog much easier for one person to transport than other stoves. More importantly, handles easily allows 2 people to carry the stove which is quite important when considering the weight of a heavy stove with all accessories stored inside the firebox.

11. Burns coal or wood.

If you plan on burning coal it is best to use a grate to allow air under the coal for the coal to burn better. You should remove the ash daily when using coal. Otherwise the ash will fill up the area under the grate negating the effectiveness of the grate.

S&H:

4 Dog Models: \$50.00, except Oregon, California, Washington which are \$60.00. Stove ships direct to customer from Midwest.  
5 Dog: \$85.00, except Oregon, California, Washington which is \$95.00. Stove ships direct to customer from Midwest in 2 boxes. Hawaii, Alaska and Canada email or call for additional shipping charges. Stove shipped to Alaska and Hawaii are normally shipped priority mail or parcel post to reduce shipping charges.

Recommendations

Put 1/2" - 1" of dirt or sand in firebox to reduce heat on bottom of stove where most burn-outs occur.

NEVER put your stove on a tent floor or other flammable material.

Have a nonflammable area in front of your stove in case sparks or wood falls out of your stove when you open the door.

Always ensure your stove is on a level surface to avoid any possible problems.

Never allow your stove to get so hot that your stove or stovepipe becomes red. A red hot stove will cause the metal to warp. Reduce airflow on your door air intake to reduce the stove temperature.

If you are going camping in the backcountry it is strongly recommended you take a kettle to boil drinking water 5 minutes to prevent *Giardia lamblia*. Water in the water tank normally doesn't boil.

A stove constructed of 3/32" to 1/8" steel is recommended if you are not packing in where weight is a major consideration. The heavier stoves are much more durable and will last much longer.

#### PURCHASE A DAMPER:

A damper in the stove pipe does not allow the heat to escape quickly which increases the stove heating efficiency 10-15%.

#### SPARK ARRESTOR:

When properly used this device reduces the amount of sparks coming out of the stove pipe. Check spark arrestor daily to insure there is no buildup of creosote blocking the smoke from going through the spark arrestor. Although not required, except in certain areas, a spark arrestor is recommended for all stoves.

#### STOVE PIPE ABOVE RIDGE OF TENT:

It is best to have your stove pipe long enough to extend 6 inches or more above the tent ridge. Having the stove pipe above the tent ridge allows the wind coming from any direction to blow sparks away the tent roof thus reducing the possibility of spark holes being burnt in the roof.

#### STOVE AREA REQUIREMENTS IN A TENT:

Non-flammable area around your stove should be a minimum of 2 feet. You must plan on a stove taking up to 7 feet along a wall in your tent. The stove itself is normally around 2 feet in length. There is normally a 3 foot heat standoff distance from the stove before you can place a cot or table. This standoff prevents any flammables from catching fire due to the stove heat, prevents sparks from popping through the air intake openings and catching flammables on fire and also in case sparks pop out when you open the stove door. The closer to the center of the tent you place the stove the more warmth it will provide to your tent.

#### FIRE TREATED CANVAS VS STOVE SPARKS:

Stove sparks will even burn holes in a fire treated roof. A spark

arrestor will prevent most sparks from reaching your roof. However, the only 100 per cent method to prevent spark holes in a tent roof is to use a fly to protect the roof.

#### REDUCE SMOKE ODOR IN YOUR HUNTING TENT:

To reduce smoke in your tent always open the stove door slowly with the damper wide open. If you open the stove door quickly, the smoke is drawn into the tent.

#### CURING THE PAINT ON A NEW WOOD STOVE:

Set your new stove up in your backyard or driveway and burn wood in the stove for 1 - 2 hours to cure the paint. Burning wood in your new stove will cause a burning smell. You will have this burning smell on your hunting clothes if you do not cure the stove at home before hunting season.

#### CREOSOTE BUILD UP IN YOUR STOVE PIPE:

The more you damper the stove pipe down or/and reduce the air intake on the stove door the more creosote build-up you will have in the stove pipe and spark arrestor. If you get too much creosote in the stove pipe you can possibly have a fire in your stove pipe. When breaking camp, remove the creosote in your stove pipe by gently banging the stove pipes together to loosen the creosote. It is normal to periodically clean the spark arrestor every 2-3 days.

#### CAMPING IN WINDY CONDITIONS:

Recommend you secure all sections of stove pipe at the joints and where the pipe attaches to the stove with sheet metal screws. Windy conditions will cause the stove pipe to loosen when the tent roof billows in the wind.

#### WATER HEATER:

Install the spigot in the hole in the water tank. Insure you place the rubber washer on the outside of the water tank and the nut on the inside of the tank. Before starting a fire in the stove attach the water tank to the stove by using the brackets. Fill water tank with water. Always keep the water tank filled. A filled water tank prevents the washer on the spigot from melting and also warping the water tank. It is recommended that you remove the water tank at night to prevent any chance that the water tank might go empty.



#### WOOD FOR STOVES:

Dry hardwoods burn the most efficiently and provide the most heat. If you use soft woods you will have to cut much more firewood and you will have more creosote buildup. Never use flammable liquids to start a fire in your stove.

#### STOVE EFFICIENCY:

It is best to use dry hardwoods. Standing dead trees are usually the driest wood available. However, never cut down a dead tree by yourself. Cut down dead trees at your own risk as it is very dangerous. Always have a spotter watching the top of the tree. Sometimes when a dead tree is about to fall it causes the top 5-10 feet of the tree to break off and can fall on top of you. The result will be a major accident or death.

#### COMPARE THE LISTED STOVE HEATING DURATION:

of each stove you are considering vs. actual size of its firebox. Some stove manufacturers list very long burn times compared to other manufacturers with approximately the same size of firebox.

#### STOVE HEATING CAPACITY VS. STOVE HEATING DURATION:

How long the fire burns at night is more important than tent size heating capability. You may want a stove large enough to burn all night to dry your boots and clothes during hunting season.

#### IF YOU ARE GOING TO CAMP IN COLD WEATHER:

consider purchasing a stove that is one size larger than the stove designed for your size of tent. The one size larger stove will ensure that you stay warmer in very cold or wet conditions. Additionally, you will need a very warm tent to dry out wet boots and clothes.

#### STORING YOUR STOVE:

Always remove all ash from your stove before storing it for the winter. Ash in the stove firebox will draw condensation and cause your stove to rust on the inside.

All Four Dog Stove Model are intended for heavy outdoor cooking and heating use, for hunters, campers, historical reenactors in 100% cotton tents All Four dog items sold are 100 % made in the USA.

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<http://www.fourdog.com>

## Four Dog Stove Models