

Wood Burning Trail Stove

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The last trail stove you'll ever need! Backpackers, Hikers, Campers and Survivalists are discovering this light weight, powerful, compact camping stove.

Possibly the smallest wood burning stove you'll ever build. At nearly 4 inches Wide x 7 inches High (smaller than a shoe) and weighing only 5 ounces this is the ultimate backpacking trail stove!!!



This powerful little stove can boil 2 cups of water within 7 minutes and runs on burnable solid fuels like paper, dried leaves & grass, twigs, wood, even pine cones. No need to carry gas stoves or heavy propane bottles when you're on the trail. Let nature supply you with fuel, just use any dried twigs or wood you find laying around.

TOOLS & MATERIALS:

Safety glasses.
Center punch or Drill with drill bit.
Can opener.
Bottle opener (church key).
Metal file.
Tin snips or Dremel tool with cutting wheel.

One 46 fluid ounce (1 qt 14 oz) can of Tomato Juice or same size aluminum can. Actual size of the stove is 4-3/16" W x 6-15/16" H.

Cost - Less than \$1.50.
Build time - 15 minutes.

STEP 1. PUT ON YOUR SAFETY GLASSES!!!. Always use eye protection when working with metal. Take your can of tomato juice, remove the label and cut the top out

with your can opener.



STEP 2. Start the exhaust hole. Draw a triangle just below the top rim 4 inches wide by 4 1/2 inches long. For best performance - do not alter these measurements. Also, use your center punch or drill to make starter holes inside each of the three corners of the triangle.



STEP 3. Make the exhaust hole. Using your tin snips or dremel tool cut out the triangle. For best results use a dremel tool with a cutting wheel.



STEP 4. Using your metal file or dremel tool remove any burrs or jagged edges. Note:

To avoid injury, be careful handling the stove after the holes are cut out.



STEP 5. Make the air intake holes. Spin the can around 180 degrees. On the back and bottom of the can, directly opposite the exhaust hole, puncture a hole using your bottle opener. Then puncture 2 more holes on each side of the center hole you just created. There will be a total of 5 air intake holes on the back and bottom of the can. Note: the air intake holes must be on the bottom of the can, directly opposite the triangle exhaust hole.

Note: The air intake holes can also be made by drilling five 1/2" holes using a Uni-bit.



STEP 6. Finished wood burning trail stove. Exhaust hole in the front with 5 air intake holes on the back and bottom of the can.



STEP 7. It's a good idea to make a stoking tube to stoke the fire. It's made out of any small diameter plastic tubing about 3 feet long with a metal or copper tip inserted in one end. The end with the metal tip is inserted into one of the air intake holes on the back of the stove, the other end you'll blow air through using your mouth. This will increase the air flow in the stove (stoking the fire), making the flames larger and the fire burn hotter. Always keep all body parts and clothes away from the stove when stoking. Note: Remove the stoking tube from the air intake after finishing each stoking.



Tip: Buy a battery powered air pump used for fishing to keep bait fish alive. Connect the end of the tube you blow air through to the output of the pump. When you need to stoke the fire, just turn on the air pump. Note: To avoid the plastic tube from melting, make the copper tube inserted in the air intake hole on the stove about 5 inches long. The plastic tube connecting the 5 inch copper tube to the air pump should be about 4 inches long. Here's an example of an air pump stoking the fire ...



Air Pump Off

Air Pump On

HOW TO USE THE STOVE:

To start the stove ...

- 1) Place the stove on a safe, flat noncombustible surface. Place the stove with the air intake holes facing into the wind and the large exhaust hole facing away from the wind.
- 2) Place paper or dried grass or any other small item that can easily ignite, through the

top opening into the bottom of the stove. Follow by adding a few small pieces of dry twigs and wood.

3) Light the stove through the air intake holes on the back and bottom of the stove. For Safety - keep all body parts and clothes away from the stove at all times.

4) As the fire grows add more pieces of dry wood starting with smaller twigs followed by larger pieces of wood.

5) Use the stoking tube to help the fire grow.

6) When the fire is going good, place your cooking pot on the top of the stove.

7) Add additional fuel through the exhaust hole or through the top opening.

IMPORTANT: With this stove less is more. In other words this stove does not need a lot of wood to burn efficiently. If there's too much wood in the stove you'll get a lot of smoke, this is not good. You should only add enough wood so the flames are exiting the exhaust hole with little or no smoke expelled.

EXTINGUISH THE FIRE:

Let it burn out on its own - OR - simply pour water, sand or dirt on the fire until it's extinguished.

TIPS:

1) This stove is designed for use "only" with small backpacking cooking pots!!!

2) Always keep the handle of the cooking pot away from the exhaust hole.

3) Keep all body parts and clothes away from the stove. To avoid flare ups, always remove the cooking pot slowly from the stove.

4) Always remove the cooking pot from the stove when stirring its contents.

5) For easy cleanup spray non-stick cooking spray on the bottom and sides of the cooking pot - OR - wrap the cooking pot with aluminum foil. This keeps the soot to a minimum.

6) Place the trail stove in a plastic bag for packing and storage.

PROBLEMS AND SOLUTIONS:

Problem: Too much smoke

Solution: Too much wood in the stove - OR - the wood is wet. Use only dry wood and increase the air flow in the stove. Remove the cooking pot from the top of the stove and/or stoke the fire. Replace the cooking pot after the fire grows.

Problem: Fire is dying out

Solution: Add more wood and stoke the fire.

After a few test runs you'll get the hang of the proper balance between wood and air needed to produce a good cooking fire.

DISCLAIMER:

Use common sense and safety at all times when using any stove. The author of this web page will not be responsible for any injury or damage resulting from constructing or use of this stove design. If you choose to build, use or experiment with this design, do so at your own risk.