

The Beaner Camp Stove

Congratulations on your purchase of WorldStove's **Beaner**! We hope that you will enjoy it for years to come, and that you will take pride in carbon-negative camp cooking! We at WorldStove thank you for helping our planet!

The Beaner is a pyrolytic, multi-fuelled camping stove. 'Pyrolytic' means that rather than burn the fuel directly the Beaner's design converts the fuel to a combustible gas. This gas is then consumed to provide heat for cooking.

When using biomass (wood shavings, pine needles, wood pellets, sticks & twigs, nut shells, etc.) the Beaner will pyrolyze the fuel, consuming anything that can be turned into a gas, but leaving charcoal behind.

As a plant grows, it removes carbon dioxide from the atmosphere and builds its cell structure. If the plant is burned in a camp-fire eventually most of the carbon will be re-released back to the atmosphere as carbon dioxide, a greenhouse gas. However if the plant is pyrolyzed (like in the Beaner Stove) then about half of the carbon will be left behind as charcoal. When buried in the ground charcoal will last for thousands of years, and will not make its way back to the atmosphere as carbon dioxide – which makes this process is carbon-*negative*!

Safety Warnings

DO NOT USE GASOLINE OR ANY FUEL NOT LISTED BELOW. NEVER USE INDOORS OR IN TENT. USE IN WELL VENTILATED AREAS. NEVER OPERATE NEAR FLAMMABLE OBJECTS. DURING AND AFTER USE STOVE IS HOT - USE CARE TO AVOID BURNS. DO NOT HANDLE STOVE WHEN IN USE OR WHEN STOVE IS HOT.



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Assembly

You will need the following:

- Your Beaner
- A typical 12 oz (330 ml) beverage can
- Knife (serrated works well)
- Awl or nail
- Pencil or screwdriver of about 5mm (1/4 inch) diameter
- Marker
- Ruler



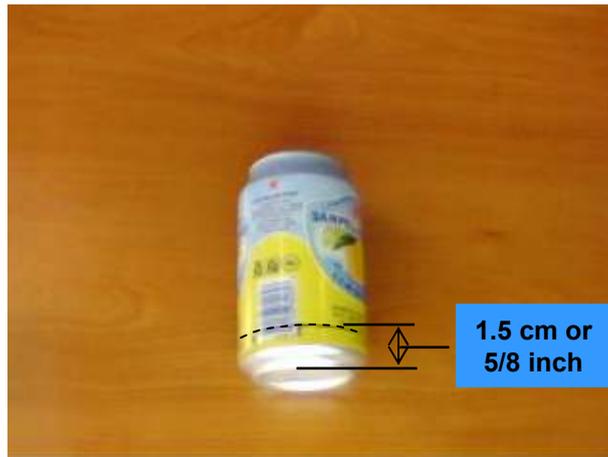
Assembling the Beaner Stove

1. Using the knife, carefully cut the top off the standard can. Work carefully: the cleaner and more even the cut edge created, the better the can will seal to the Beaner. (Tip: A great way to do this is to use a dull 'cafeteria' style dinner knife with the serrated edge, and to 'saw' away slowly at the top of the can. Work your way around the can top a few times. As the can begins to weaken, it will make little 'crinkling' noises as cracks begin to develop. Eventually, the can top will separate from the can, leaving a very clean edge.)



Assembly (cont.)

2. Measure from the bottom of the can approximately 1.5 cm (5/8 inch). Draw a line around the can with the marker.

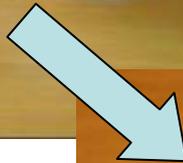
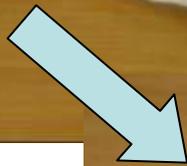


3. Using the nail or awl, punch approximately 20 evenly spaced holes on this line. (A few more holes or a few less will not make much difference.) Widen the holes with the pencil or screwdriver to about 5mm (1/4 inch) diameter.



Assembly (cont.)

4. Insert the Beaner tube into the can, so that only the 3 large holes on Beaner are visible. Be sure the Beaner is inserted as far into the can as it can go. The small bulge on the bottom of the can should sit inside the Beaner tube.



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Solid Fuel Lighting Instructions

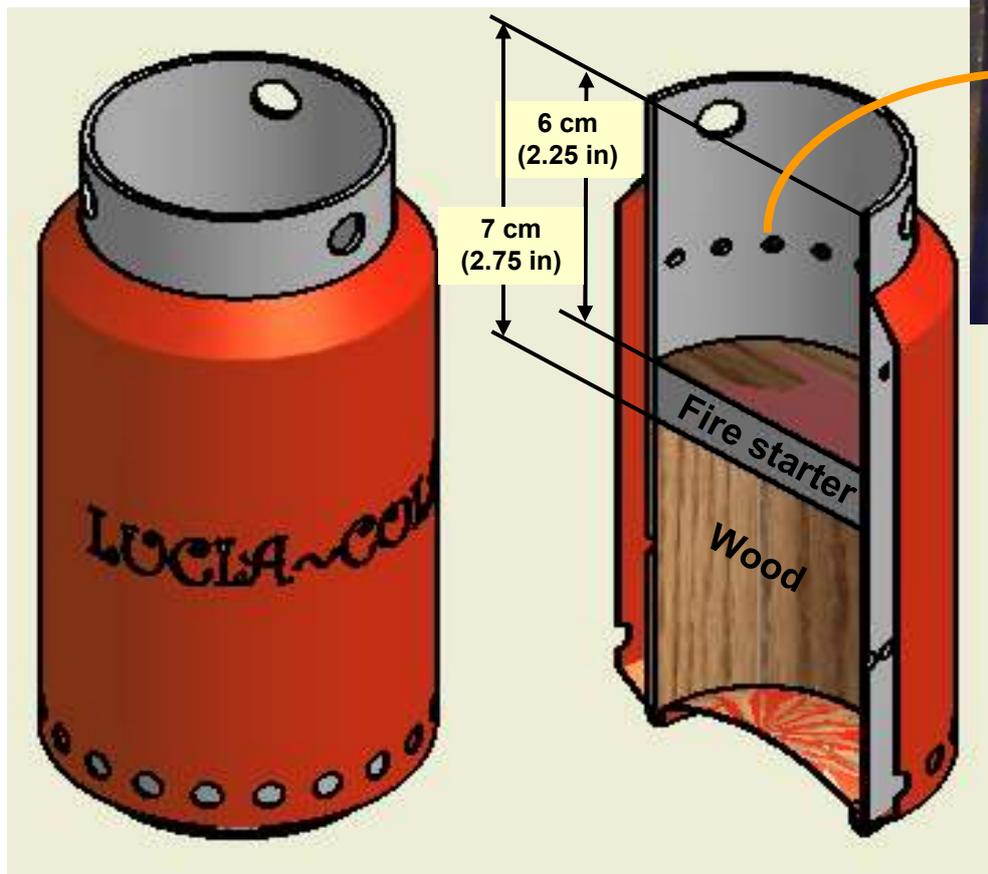
Note: Remove carabineer if attached. For faster startup, crumple a sheet of paper into stove and light. After it is finished burning the stove will have been preheated. Continue to light as per the following procedure.

Starter: Esbit, HEET, cotton ball with Vaseline or soaked in alcohol, etc.

Solid Fuel: Dry biomass, wood chips, twigs, dried dung, wood shavings, pellets, etc.

1. Fill Beaner with fuel to 7 cm (2 3/4 inch) below the top edge. (Suggestion: use wood pellets until proficient with stove operation)
2. Add enough fire starter to cover fuel completely, but do not fill beyond 6 cm (2 1/2 inch) from top edge.
3. Light fire starter with match. Wait until small flames develop at 12-hole line.
4. Begin cooking, leaving a 5 cm (2 in) gap between stove and pot. After cooking, cooling and burying remaining charcoal is a carbon-negative activity.

Jetting at 12 hole line



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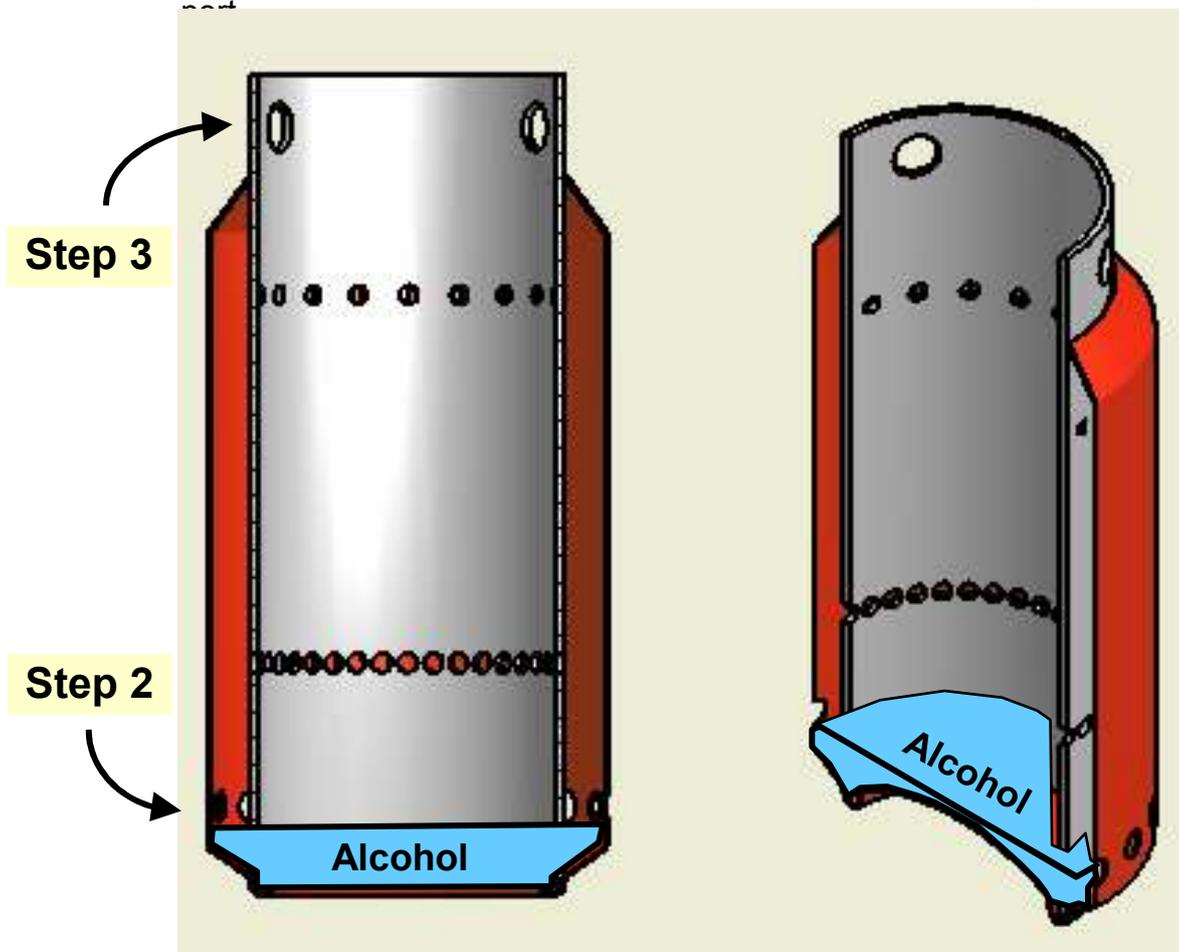
Liquid Fuel Lighting Instructions

Note: Remove carabineer if attached.

Liquid Fuel: Approx. 20mL (or 1.5 tbsp) of denatured alcohol, Grain alcohol, rubbing alcohol, etc.

1. Slowly pour 20 mL (1.5 tbsp) of liquid fuel down the inside of the Beaner stove, rotating to coat as much of the wall as possible.
2. Light stove near air holes cut into can. Wait until small flames develop at these holes. This will turn the alcohol into a vapour.
3. Wait 20 seconds. **KEEP FACE AND HANDS AWAY FROM STOVE TOP.** Place lighter near three-hole ports to ignite.
4. Begin cooking, leaving a 5 cm (2 in) gap between stove and pot.

Note: For a simmer mode, place pot directly on top of lit stove. Re-light at three-hole



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