

<http://www.thesodacanstove.com/>

# How to Build a Soda Can Stove

If all you want to do is boil water, consider making the **cat food can stove** instead of the soda can stove. It's even easier to make than the soda can stove—plus it's lighter and acts as a built-in pot support! But if you need to do more than boil water, you're in the right place!

## MATERIALS LIST



Most materials you need are probably already laying about your place. The one thing you might not have is a tape that won't burn when you use your stove! You can find a high-temperature tape in any decent hardware store. It's designed to be used on flues or mufflers or something—I don't really know. But it's made of material that won't burn or melt. A roll should cost under \$10, but you can probably make a hundred stoves from a single roll. You don't need much!

- soda cans — a minimum of two are required, but a few extras for mistakes, simmer rings, and such could be useful. Get a six-pack and have a party! =)
- ruler or measuring tape
- scratch awl or other sharp instrument
- heavy-duty x-acto knife (or something similar)
- Sharpie
- scissors
- **high-temperature tape** (a.k.a. metal tape, aluminum tape, foil tape, muffler tape, or basically any kind of tape that won't burn)

Some people claim that the Pepsi can is the superior soda can option. I've used cans of Coke, root beer, and even grape soda and never noticed any difference, so drink what you like. It doesn't really make any difference!

## STEP 1: CREATE BURNER HOLES

Poke holes along the bottom edge of one of the cans with the scratch awl. Some people say smaller holes are more fuel efficient. Some people like bigger holes since it burns faster and hotter. I like 'normal' holes. The number of holes isn't especially important—just so long as they go around the rim more-or-less evenly. I typically poke two holes on opposite sides, then two more holes halfway between the original holes. Then four more holes between those first four. And then another eight holes between those first eight for a total of 16 holes.



## STEP 2: CREATE MAIN OPENING

Cut out the bottom of the can you just poked the holes in. The can is fairly thick here, so it needs to be a sturdy instrument to do this. An X-acto knife would work, but use one with a heavy-duty blade on it. I'm using a knife from a Speedball linoleum cutting kit. Use whatever you have available. If the edges turn out particularly jagged, you can file them down now. (Or later, or not at all—doesn't matter to me!)



## STEP 3: CUT OUT STOVE TOP

Measure up 20mm (3/4 in) from the bottom of the can and cut. This will be the top of your stove. To get an even cut, I mark a point at 20mm, then keep a Sharpie steady on a table while turning the can around against it. A clean, even mark completely around the can every time! It's easier to get a clean cut if you first do a rough cut to get the end of the can separated, then a second cut directly along the mark where it needs to be.





## STEP 4: CUT TABS ON STOVE TOP

Snip the edges of the stove top several times to form tabs. We'll be fitting the top of the stove into the bottom of the stove and these little tabs help insure it fits! I make eight evenly spaced snips around the stove top, to a point just below where the paint on the can stops.



## STEP 5: CUT OUT STOVE BOTTOM

Now it's time to grab a new can and cut out the bottom of it. Don't poke holes in it or cut out the bottom like you did for the top of the stove. This time, measure 25mm (1 in) from the bottom of the can and cut. If you want to get wild and crazy, you can make your stove as tall or short as you want by adjusting this measurement so it's 10mm *shorter* than the final height you desire for the stove. For your first stove, stick with the standard 25mm. Measure, mark, and cut.



## STEP 6: CUT OUT INNER WALL

And now, the inner wall. Take the left over remains of one of the two previous cans you cut up. If you didn't mangle them *too* badly, you can cut out an inner wall from one of those. Otherwise, you'll have to operate on a third can. You need to cut out a strip that's 35mm (1 1/3 in) wide. (If you're going crazy and making your stove shorter or taller, measure to the desired height of your stove. In this case, our stove will be 35mm in height.)



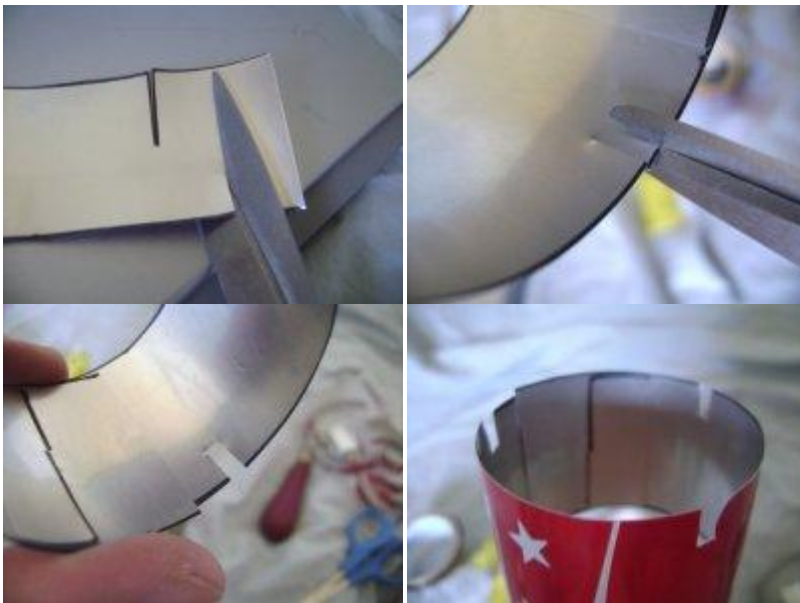
## STEP 7: SIZE THE INNER WALL

Size the inner wall in the stove bottom. You'll cut halfway through the strip on each end on opposite sides of the strip where the ends will lock together. When you lock the ends together, make sure the ends of the strip are *inside* the loop. It's self-locking and more stable that way. I've put a red X with the photo that shows the incorrect way to lock the ends of the inner wall.



## STEP 8: TRIM THE INNER WALL

Trim the inner wall. You can cut a small bit off the ends of the strip off to save a *tiny* smidgen of weight, but it's very important to cut three small notches about equal distance around one side of the strip. This allows the fuel to flow through the inner wall to the outer wall.



## STEP 9: PUTTING THE PIECES TOGETHER

It's time to put the three pieces together. Start by placing the inner wall in the stove bottom, with the notched ends down. Then fit the top of the stove on, tucking the 'tabs' you snipped earlier inside of the stove bottom. A couple of hints to get that top on—it's not as easy as you may think! The sharp edges of the 'tabs' tend to get caught up when putting in the top, so curve the tabs slightly inward before you begin. You can see I've done this in the second photo below where it gives the top piece a ruffled look. The last bit of the top is hardest to squeeze in, so use a knife or some other thin object like a shoehorn to get it pushed in. Check



that the inner wall is fitting into the groove of the stove top properly. Work the top on slowly and evenly, and eventually it'll all fit together like a puzzle.



## STEP 10: TAPING IT ALL TOGETHER

The stove should stay in one piece due to nothing more than the friction of the pieces, but it's not very secure like this. Use the high temperature tape to keep the stove together permanently. Depending on the width of the tape, you may have to cut it in half like I did. Then wrap it around the stove, securing the top and bottom of the stove together.



## STEP 11: CREATE A SIMMER RING (OPTIONAL)

This optional simmer ring comes in handy if you want to bake yourself a treat or if a recipe calls for the food to simmer. It's made from the top of a soda can. Take off the tabs, then cut it out to just where the can curves downward the length of the can. Leave a little too much, then trim a small bit off at a time until it fits snugly over your stove.



## STEP 12: CREATE A SNUFFER (OPTIONAL)

This snuffer, when placed over a stove, will help you put it out. In general, I recommend just letting whatever leftover alcohol simply burn off. Once, while trying to conserve fuel, I tried to put the flame out, knocked the stove into my lap instead, and lit my crotch on fire. Really, let the alcohol burn off! But if you absolutely must conserve fuel, use this optional snuffer. It will starve the stove of oxygen and snuff out the flame. Usually a little oxygen still gets in so you have to tap the lid (not with a finger!) or pour water on it to get the flame completely out, but it will work.

Warnings aside, create the snuffer much like you did with the simmer ring, but use the bottom of a can instead of the top of it. Cut it too high, then trim off thin slices until it fits snugly over the stove.





## THAT'S IT! YOU'RE DONE!

At least, you're done with the soda can stove itself. Now you can **build a pot support** for your stove, find some **denatured alcohol**, and figure out **how to use** your soda can stove. Feel like experimenting with your stove? Check out some of the **reader suggestions** I've gotten—they might give you some more ideas for tweaks or changes to this design. And finally, sometimes, people have reported to me that their stove didn't work for some reason or another, so I've started a new **troubleshooting** page to help out. If you're having soda can stove woes, check it out. It might have the answer to your problem stove! Enjoy!