

SOUTH AFRICA TWO SUNKEN POT ROCKET STOVE WITH OVEN

Dean Still, Lanny Hensen, Peter Scott June 2002



I'm posting a series of pictures showing details of a prototype Rocket stove that Lanny Hensen and Peter Scott built in Rome, Georgia where Lanny lives. This stove is a sheet metal version of a sunken two pot stove with baking oven that Peter is now taking with him to Africa where he is teaching a course on stove making. Although this is only a prototype and we are not sure of its longevity the photos show construction details that follow Larry Winiarski's Rocket design principles. Further testing will determine where in the stove home made refractory ceramic parts need to replace sheet metal.

The great advantage of sunken pot stoves is: greater pot surface area is exposed to heat; therefore there is significantly increased fuel efficiency.

The heat contacts a pot first as it leaves the Rocket internal chimney. The water or food in the pot keeps pot temperatures relatively cool so that pots do not suffer degradation from heat and flame. If the same heat first contacted a griddle it would get very hot and eventually wear away.

If the pot absorbs enough heat then secondary surfaces are not exposed to high heat and last longer.

All smoke is obviously carried through the stove and out the chimney because pots fit tightly into holes in the top of the stove.

In this prototype stove, five pounds of water in the first pot boiled in 9 minutes. Five pounds of water in the second pot boiled in 25

minutes. The amount of heat that goes to each pot is determined by the placement of the Rocket elbow. In this case, quick boiling in the first pot (boils corn) and less heat in the second pot (simmer sauce) was accomplished by directing heat mostly at the first pot.

A guillotine door slides down between the two pots sending heat around the oven in sheet metal ducts. The oven is surrounded by insulation on all sides and has an insulated door. It bakes potatoes in an hour and stays around 350F. A griddle can be placed over the first hole to cook tortillas.

The disadvantage of the sunken pot stove is that only specific pots can be used since the pot has to fit in the hole. Cooks need to be ok with using pots that probably are sold with the stove. The advantage of the sunken pot stove is that a Rocket style two pot stove, depending on pot size, amount of water in pots, etc. will be 30% to 50% fuel efficient.

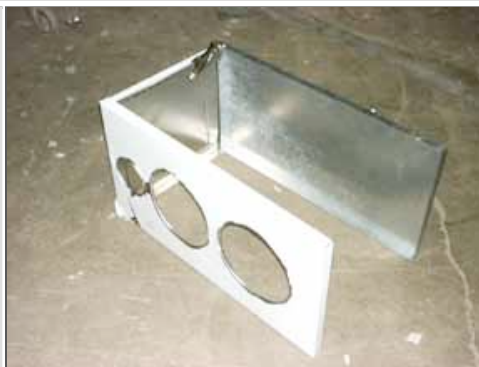
Lanny does such beautiful work. Those of us who think about stoves can imagine the pleasure that having a professionally built model can give. Thanks so much to Lanny for his help on this project! (Both this stove and Lanny's Wok stove will be cooking food at the next ETHOS (Engineers in Technical Humanitarian Opportunities of Service) stove conference, January at Seattle University. All are welcome!)

Best,

Dean
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Top



Shell



Burner



Oven



Guts



Add top



Damper



Cooking



Pete cooking