M2 Stove Plans

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Pot dimensions. Use mm

1. **Input pot circumference**: use a soft tape to measure the *circumference* of the pot at the widest point *below* the handles.

- **Circumference of pot** ☐ **mm**

- **Height of pot (Pot h)** ☐ **mm**
- **Height of pot to bottom of handles** ☐ **mm**

(If the stove does not have a handles, measure to just below the top pot lip)

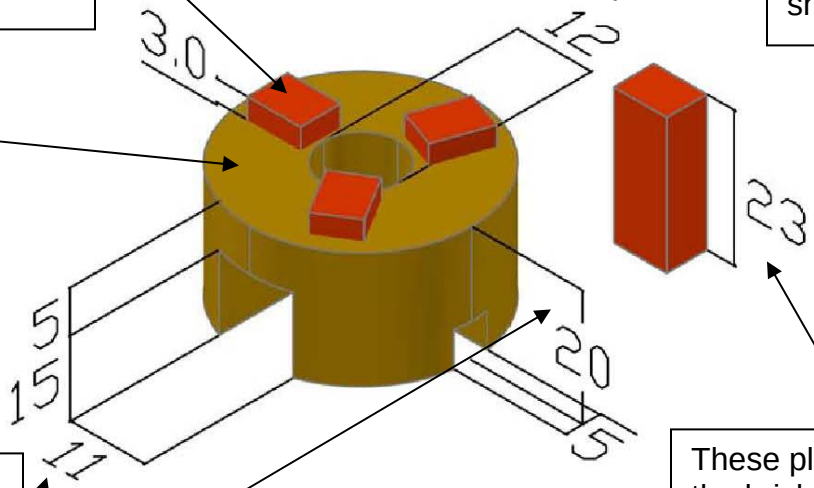
To calculate accurate stove dimensions you need to convert the stove circumference into the stove diameter:

Pot Diameter = Pot Circumference/3.14= ☐

The total diameter of the stove body should be no less than 4 cm larger than the diameter of the largest pot that is used.

The brick pot supports should be embedded in the clay body and they should protrude 3 cm above the top of the stove body

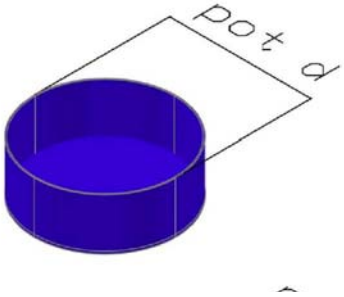
The combustion chamber opening should be 12 cm

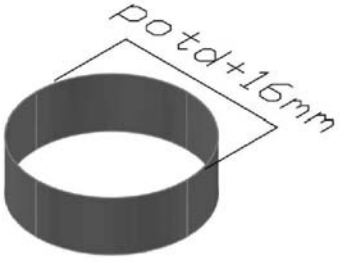


Stove Body should be made from 50% clay, 25% sand, and 25% straw by volume

The feed chamber opening should be 15 cm high by 11 cm wide. The total height of the stove body should be 20 cm

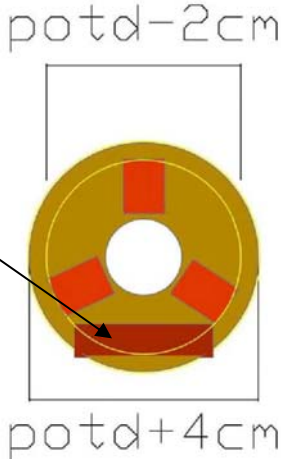
These plans assume that the bricks used are 23 cm long





Pot Skirt The diameter of the skirt should be equal to the pot diameter + 16 mm * see calc on final page.

The pot support bricks should be inset from the edge of the stove body. The diameter of the outer edge of the bricks should be equal to pot d – 1 - 2 cm

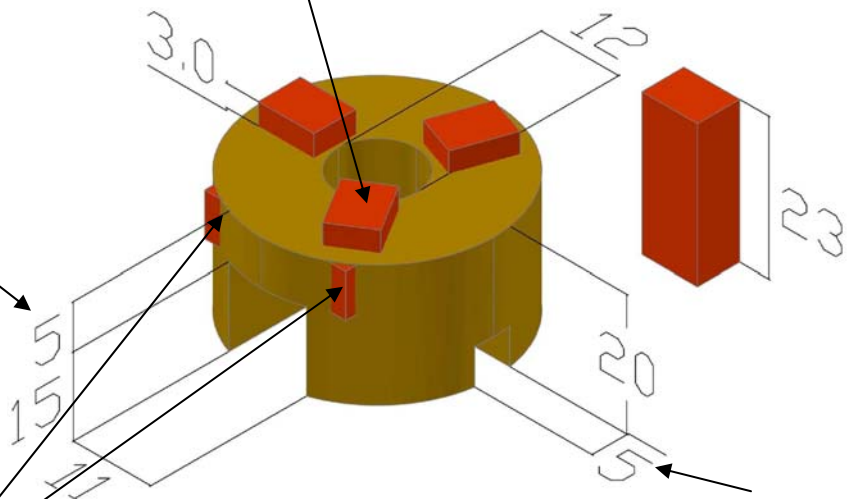


Place the pot supports so as to not interfere with the brick lintel

THE diameter of the stove body should be equal to the pot diameter + 4 cm

Note: I have made a small error in this drawing. One of the pot supports is shown overlapping the lintel for the feed chamber. You should pot supports so they are not interfering with the lintel brick

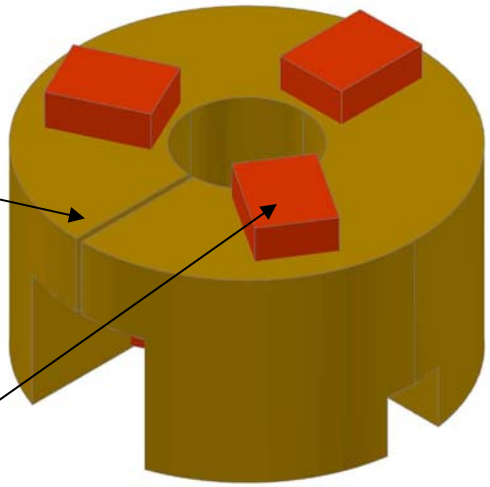
The height of the stove body above the feed chamber should be 5 cm. As this is the weak spot in most stoves there are a couple options for reinforcing it



The 1st option is to use a full brick laid lengthwise to form the lintel of the feed chamber entrance

There should be two 5 by 5 cm air inlets on either side of the stove

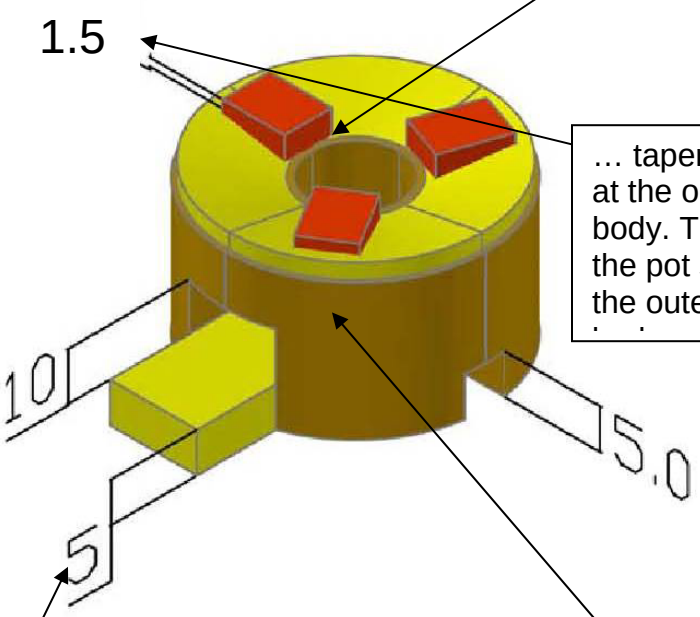
The 2nd option is to split the lintel above the feed chamber entrance (as I've seen in some of the improved stove designs that you are currently using). This will create an expansion joint.



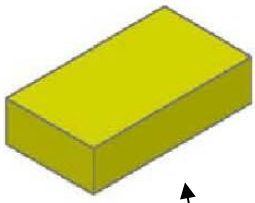
The brick pot supports should be placed so that the bricks are **paralle**l to the flow of the hot flue gases. Do not rotate the bricks as this will impede the flow of the hot flue gases.

It is important to produce a correct slope on top of the stove body/ underneath the pot for ideal heat transfer

The height of the slope should be 0 at the inner edge of the combustion chamber…

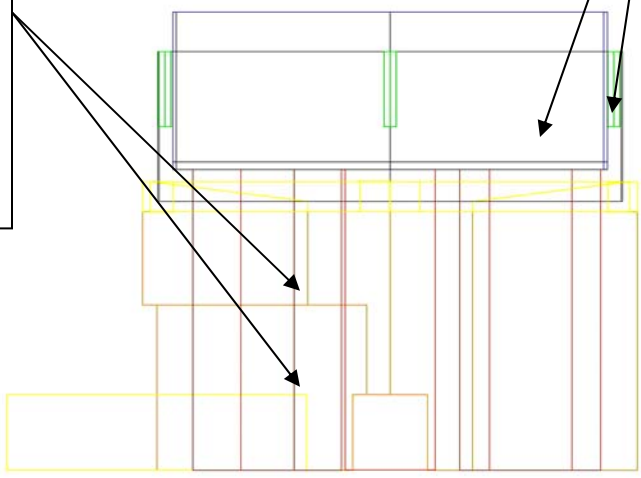


… tapering upwards to 1.5 cm at the outside of the stove body. This will leave 1.5 cm of the pot supports protruding at the outer edge of the stove

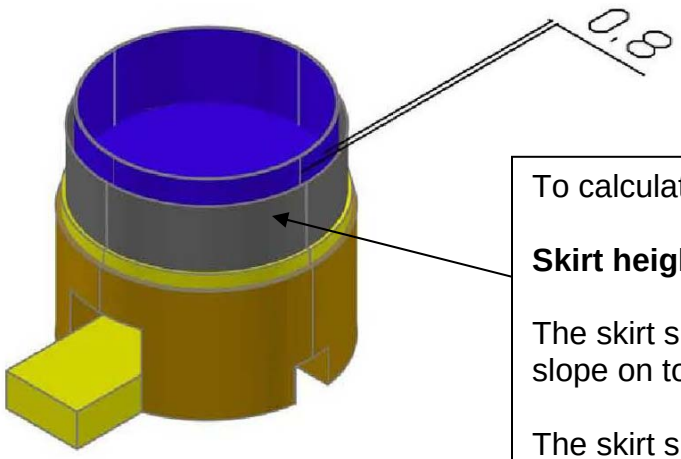


The pot supports must be inset from the outer edge of the stove body by at least 2 cm. This will allow the skirt to rest on **top** of the stove body **outside** of the pot supports. If the pot supports were flush with the outer edge of the stove body then the skirt would sit on top of the pot supports. This would be undesirable as it would allow the hot flue gases to pass between the **bottom** of the skirt and **top** of the slope

To make the shelf, take a ceramic brick or piece of pumice that is 10 cm wide, 5 cm high and roughly 20 cm long. Insert the brick into the feed chamber such that the leading edge of the brick is flush with the edge of the inner combustion chamber



To calculate the correct cut length of the pot skirt use:
Skirt circumference = (pot diameter +16 mm +1 mm) *3.14
Normally tin smiths will add two 5 mm folds to form a lap joint to join the skirt together. These two folds actually add 15 mm to the total length of the skirt, use
Total length= skirt circumference + 15 mm

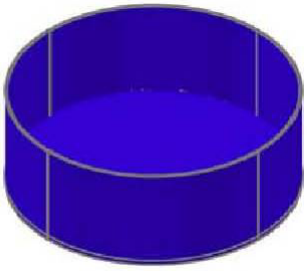


To calculate the correct height of the skirt use:

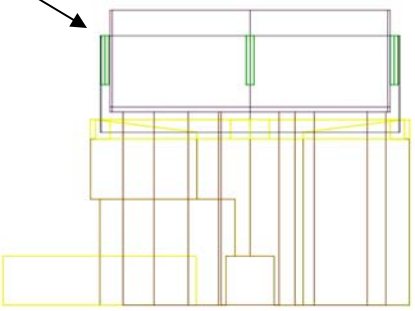
Skirt height = height of pot to bottom of lip or handles

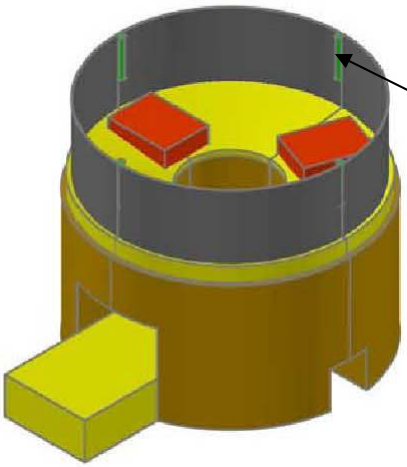
The skirt should then be submerged **2 cm** deep into the slope on top of the stove body.

The skirt should be fixed in place and not removable (as it is for the largest pot there is no need for it to be removed and it will act as wind screen for the smaller pots.



The top of the skirt should lay approx 3 cm below the top of the pot and/or the pot handles.





If possible use 4-8 pot stabilizers inside of the pot skirt. If the gap between the pot skirt and the pot is 8 mm then you will need to use a 6 mm wide pot stabilizer. You can use 6 mm round bar or be creative in how you make the pot stabilizers!

The picture here is accurate except that the brick shelf should be removable.

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