

## Chalameau

The chalameau is a single reed instrument with a cylindrical pipe. Reed instruments are used all over the world and were found in their earliest forms in Asia.



### Materials

Cylindrical tubing,  $\frac{1}{2}$  inch internal diameter, plastic pvc pipe or bamboo works well.

Saxophone reed

Tiny  $\frac{1}{16}$ <sup>th</sup> inch dowel

24" of thin elastic cord

Hack saw

Hand drill

Rat tail file

Sandpaper

1. Cut a length of tubing to 14 inches long.

2. Cut the mouthpiece to an angle of 20 degrees, be as accurate as you can.

3. Find the point on the opposite side of the tube from the mouthpiece opening that is  $\frac{1}{4}$  inch from the end of the opening. Probably about 2 inches from the end of the end of the tube. Drill a tiny hole  $\frac{1}{6}$ <sup>th</sup> of an inch. You will put a  $\frac{1}{2}$  inch piece of the tiny dowel into this hole. It should fit snugly and you should glue it in place. You could also put a small short screw in this hole, but it wouldn't look as nice if you are using bamboo. This tiny post is to hook the elastic cord to when attaching the reed.

4. Get your sandpaper and put it on a table. Drag the cut end of the mouth piece over the sandpaper until it is nice and smooth. Now, keep dragging the mouthpiece over the sand paper and start to curl it up in a swooping motion as you come to the tip. You should try to create a slight curve in the last  $\frac{3}{4}$ <sup>th</sup> inch of the opening. When you lay the reed on the angle of the mouthpiece you'll need a tiny gap of  $\frac{1}{32}$ <sup>nd</sup> to  $\frac{1}{16}$ <sup>th</sup> of an inch. The reed needs to be able to vibrate back and forth over the opening alternately opening and closing the gap. Work slowly and carefully.

5. Tie a small loop in each end of the elastic cord. Loop one end over the tiny dowel and place the reed over the mouthpiece opening. Wrap the elastic cord around the mouthpiece and reed to secure it on, hook

the loop on the other end to the dowel when you've finished wrapping it.

6. With a wet reed of course, test the chalameau to see if you can make a tone. You may have to adjust the lay several times (the lay is the angle and curve of the opening of your mouthpiece.) When you get a good consistent tone, then you can move onto the next step. If you are not familiar with how to play a single reed instrument, make sure you find a friend to help you at this stage. Getting a good sound requires some practice and technique, you may have it cut perfectly and you don't even know it.

7. On the top side of the mouthpiece opening, mark the exact center with a pencil. Measure and mark each of the placements for the finger holes from this marking of the center of the mouth piece hole. The hole should be drilled with a  $\frac{1}{4}$ " bit to start with and may eventually reach as big as  $\frac{5}{16}$ <sup>th</sup> of an inch or a hair larger. You will adjust the size of the holes when you are trying to fine tune it.

These measurements are taken from the book Making Simple Musical Instruments by Bart Hopkins.

Hole 1 10  $\frac{5}{32}$ <sup>nd</sup>"

Hole 2 9  $\frac{1}{8}$ <sup>th</sup>"

Hole 3 8  $\frac{11}{16}$ <sup>th</sup>"

Hole 4 7  $\frac{9}{16}$ <sup>th</sup>"

Hole 5 6  $\frac{21}{32}$ <sup>nd</sup>"

Hole 6 5  $\frac{13}{16}$ <sup>th</sup>"

Hole 7 5  $\frac{3}{8}$ <sup>th</sup>"

Hole 8 4  $\frac{23}{32}$ <sup>nd</sup>"

8. The pitch of the chalameau with all of the holes covered should be C4. It is probably a little flat. Use sand paper on the end of the chalameau to adjust the length

little by little. The final length of the chalameau will probably be  $11 \frac{7}{8}$ ths from the midpoint of the mouthpiece opening. Shorten the pipe slowly and use an electronic tuner to measure the pitch until it is right on.

9. One at a time, try uncovering each hole from the bottom one on up. Each one will probably be a little flat. Use your rat tail file to make the hole a bit larger, this will raise the pitch. Continue with your electronic tuner enlarging the hole until it has accurate pitch. Continue with the holes one at a time.