
Smooth surfaces make smooth sound. Sand the inside of the barrel with a flap sander.

My Final Check List

Described later.

	Voice Flute
	Start Finish
	Smooth Flue
	Finish Bird
	Rough Tune
	Sand Barrel
	Seal Barrel
	Seal SAC
	Seal SAC
	Seal SAC
	Wood Burn Markings
	NestBirdFlat?
	Final Tuning
	Final Finish

Start finish before you take it off the lathe.

Smooth and seal the flue, should be done as part of the voicing process.

Sand the barrel again with fine sand paper (320). after the rough tuning and then seal it with poly.

Seal Slow Air Chamber with 3 coats of Poly. This may be done anytime during the finishing process

Seal the nest before the rough tuning. Make sure the bird sits flat on the nest.

Described later.

2 to 5 coats of rub on poly, on the outside. You can put the flute on a dowel

Build a bird to set on the nest.

Flue width + ¼ inch,
Or 5/8 for the Am flute.

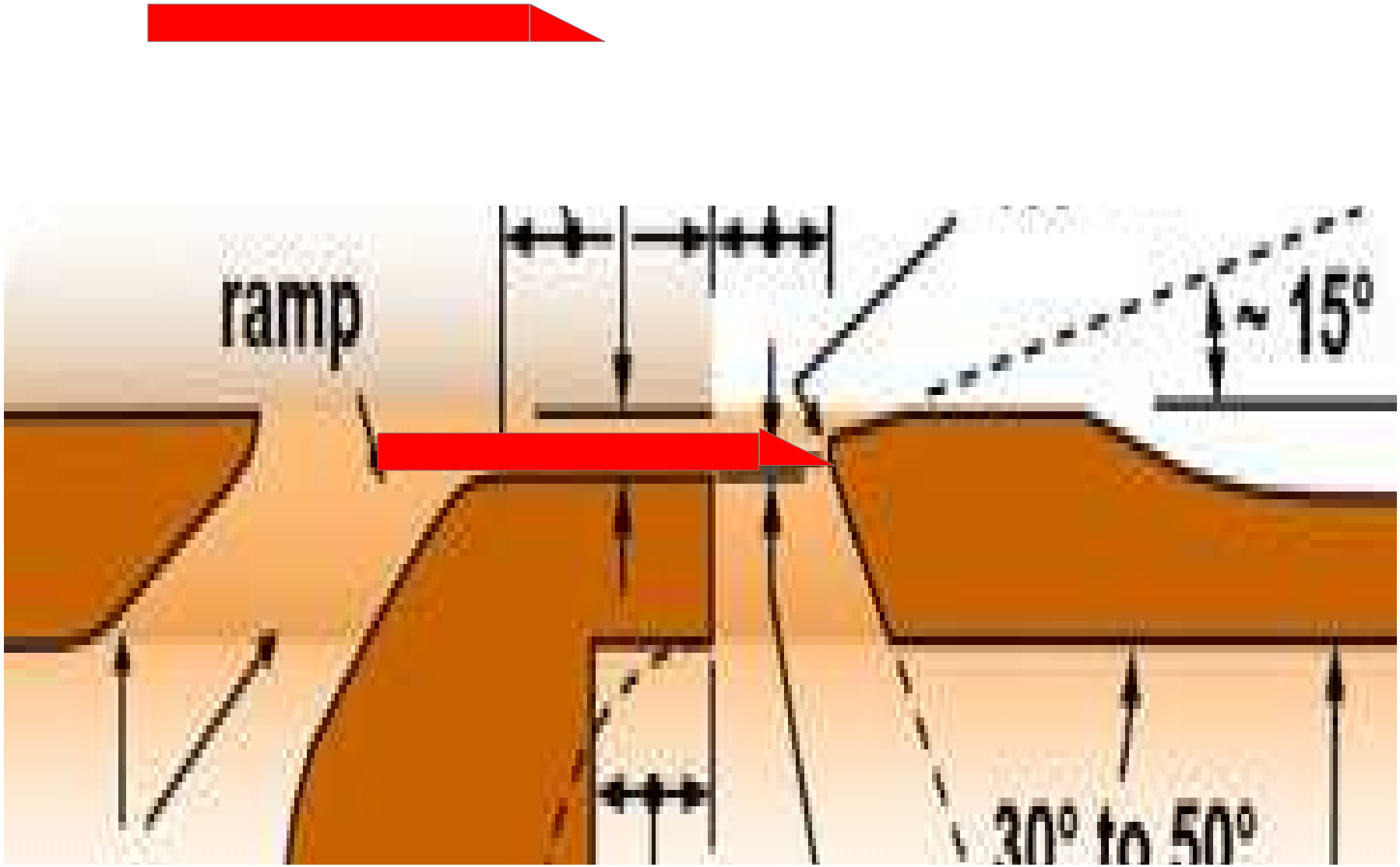
Length from the back of the TSH to the end of the SAC exit + at least ¼ inch

¼ inch to ¾ inch

Bottom surface very smooth and water proof.

I usually make two birds, that way I can experiment and make little steps on each bird.

Make this tool from a small piece of wood. Use it to determine if the flue points at the proper place just under the flat portion of the splitting edge.



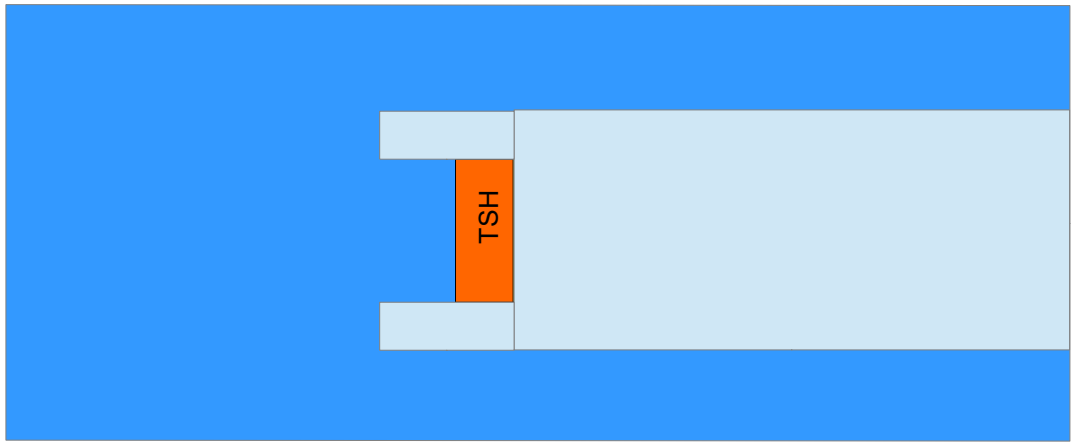
Cut the flute off to about 100 cents of A. The meter will read about G#. One inch is approximately 100 cents. Sneak up on this, a little at a time.

Chop saw?

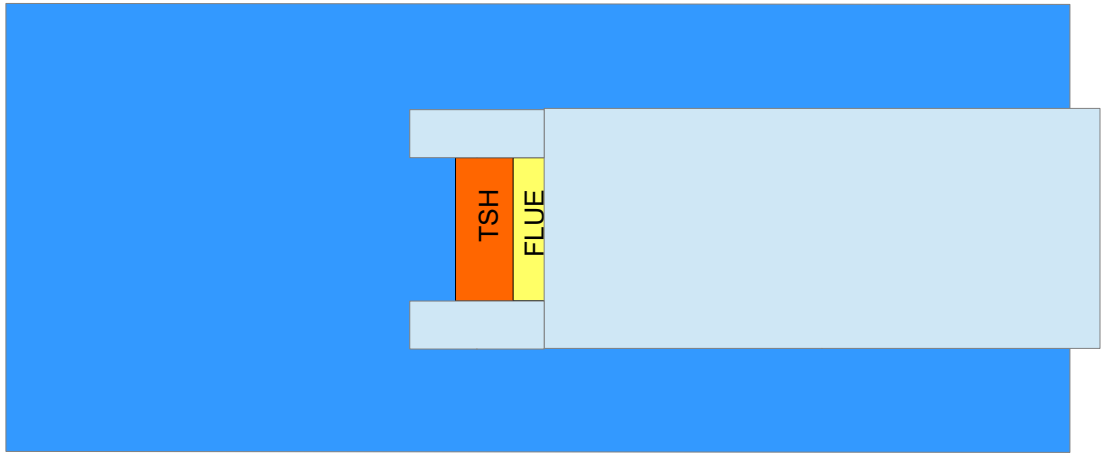

A little blue tape can reduce splintering
when cutting off the end.

Now round the bird a little and put it on the flute and listen to the sound that it makes. Keeping rounding it until you like the sound.

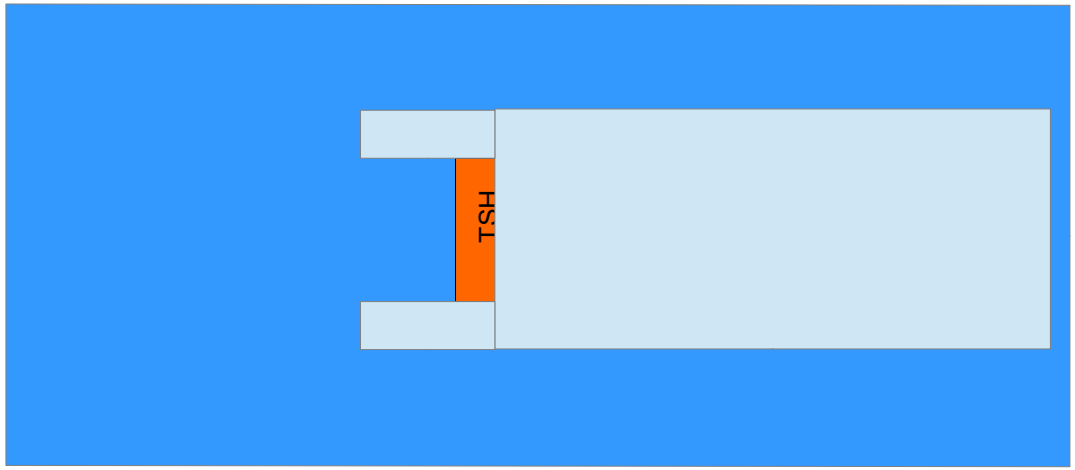
The next steps can be repeated several times until the voicing is complete.



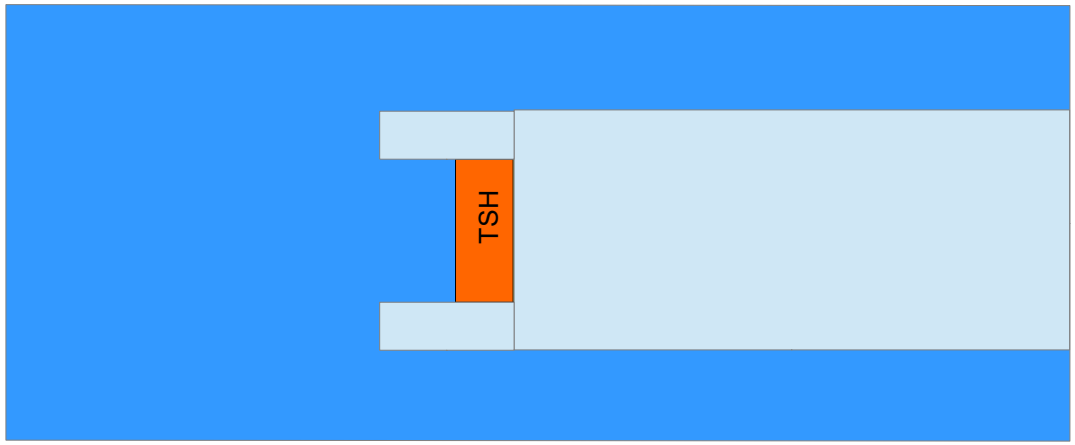
Place the bird in the proper positions. Do you like the Sound?



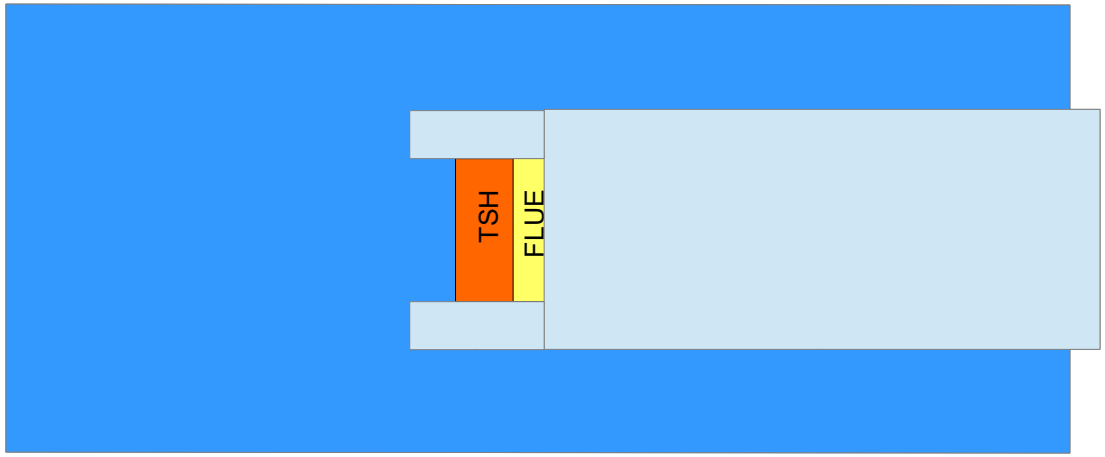
If not, back the bird up an 1/8 of an inch. Is that sound better?



Move the bird forward an 1/8 of an inch is that sound better?



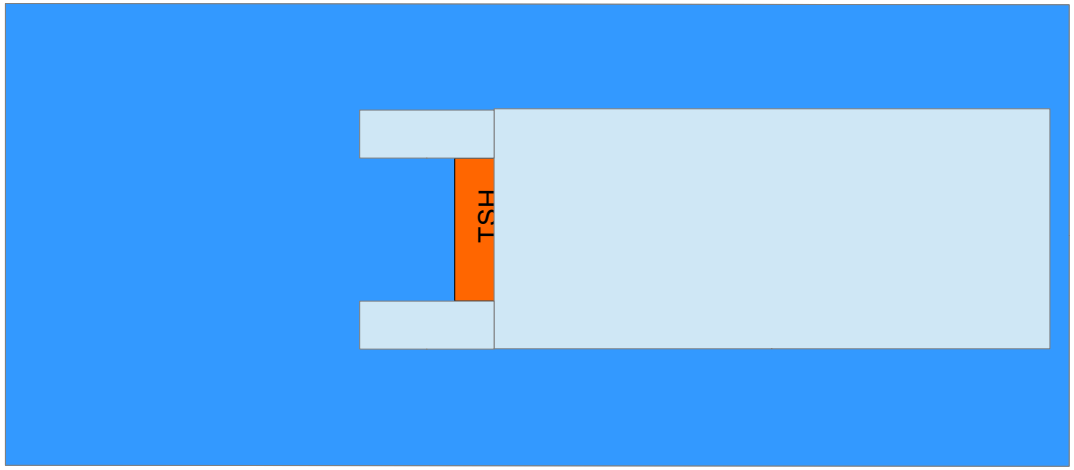
If this has the best Sound skip to reducing the length. Two slides

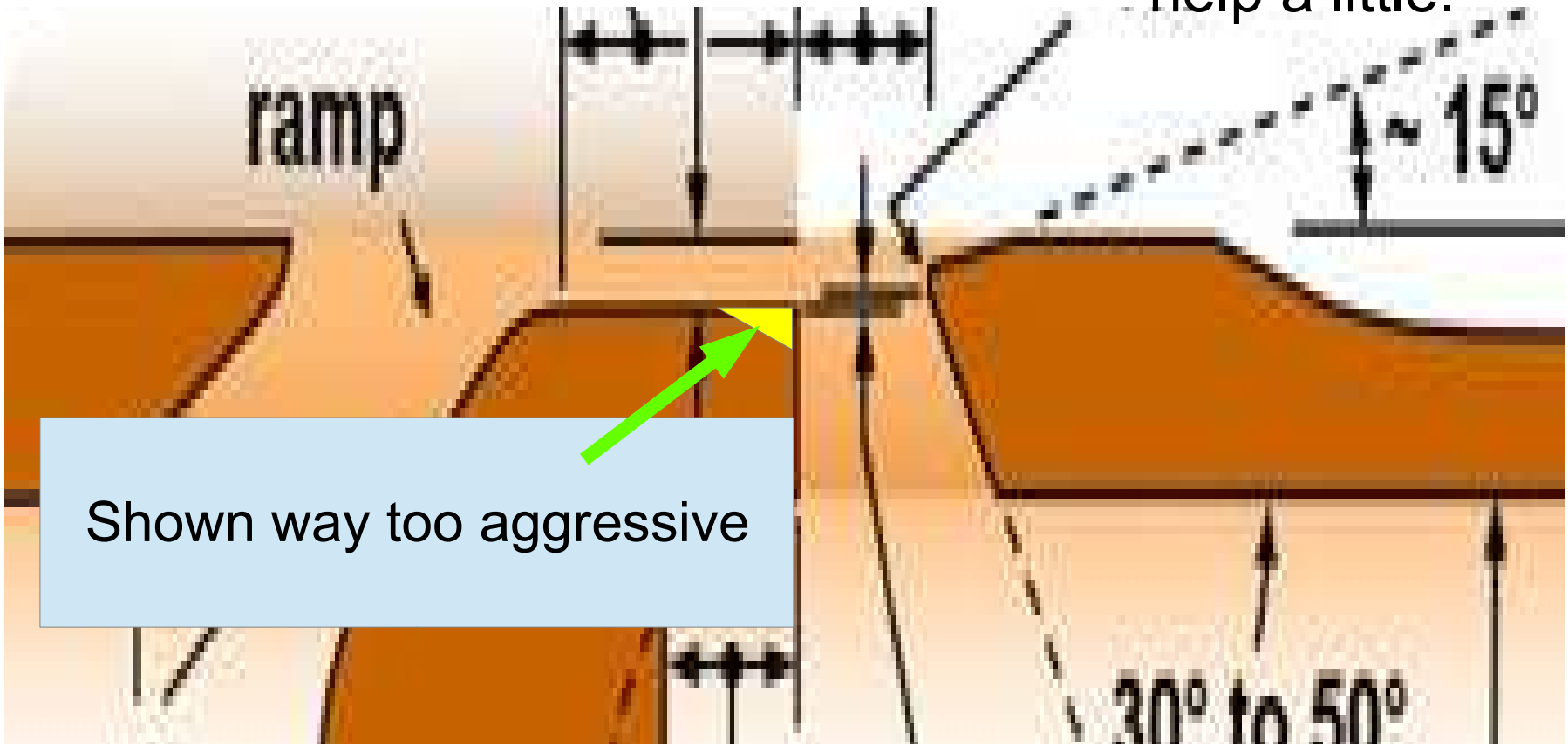


If this has the best sound then try beveling the underside of the bird or beveling down the splitting edge. Slight and easy no big steps.

This is shown way to aggressive.

If this has the best sound then insure that the flue is pointing at the proper spot and rounding the flue into the TSU may help a little.





If you are happy the way the flute sounds them cut off the end so it plays an A. Sneak up on it!

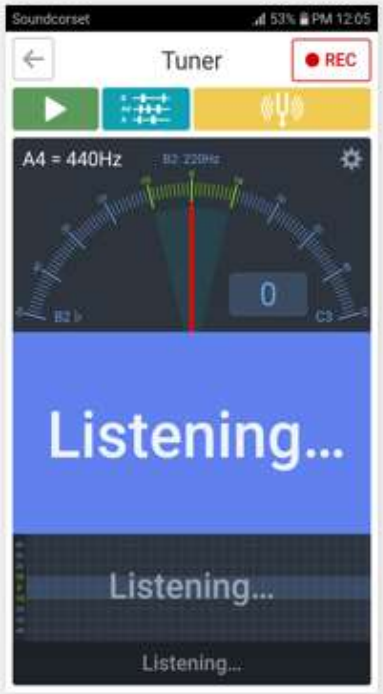
After you have tuned the A only very minor voice adjustments may be made.

If you have a smart phone you have a tuner.
I use soundcourset.
www.soundcorset.com/

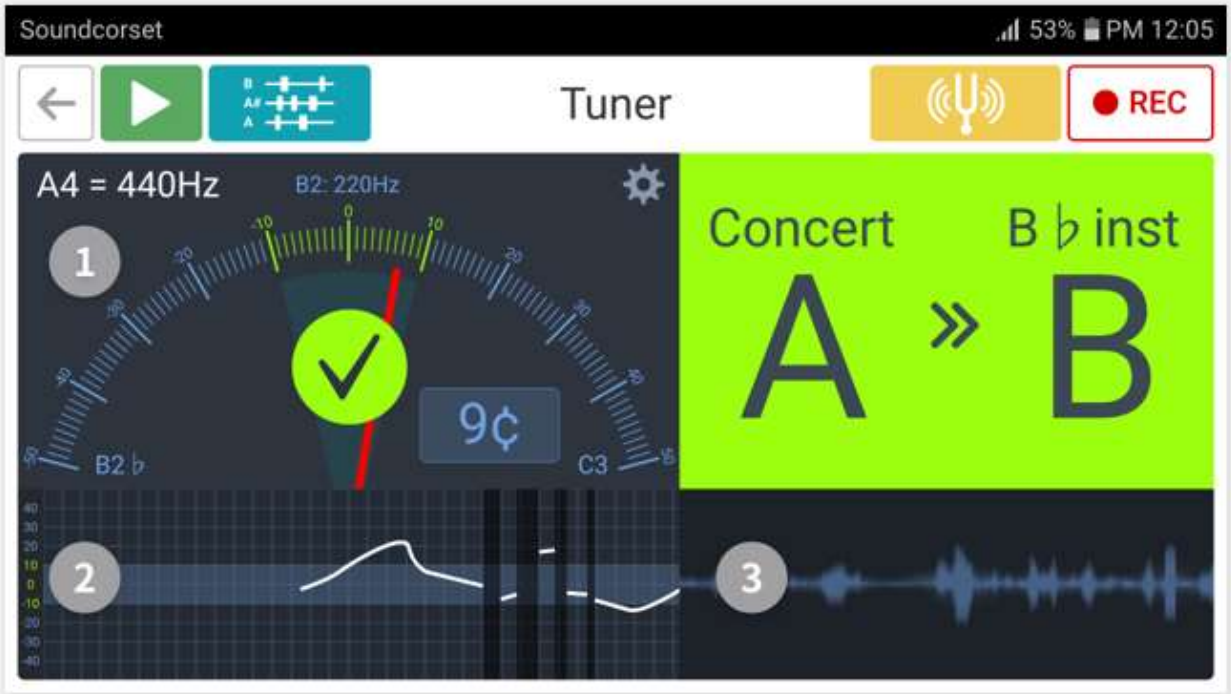
Tuner

The most scientific method to improve your performance.

[Vertical]



[Horizontal]



Flutes are tuned at 72 degrees F.

There are 100 cents between notes: A to A# is 100 cents, E to F is 100 cents.

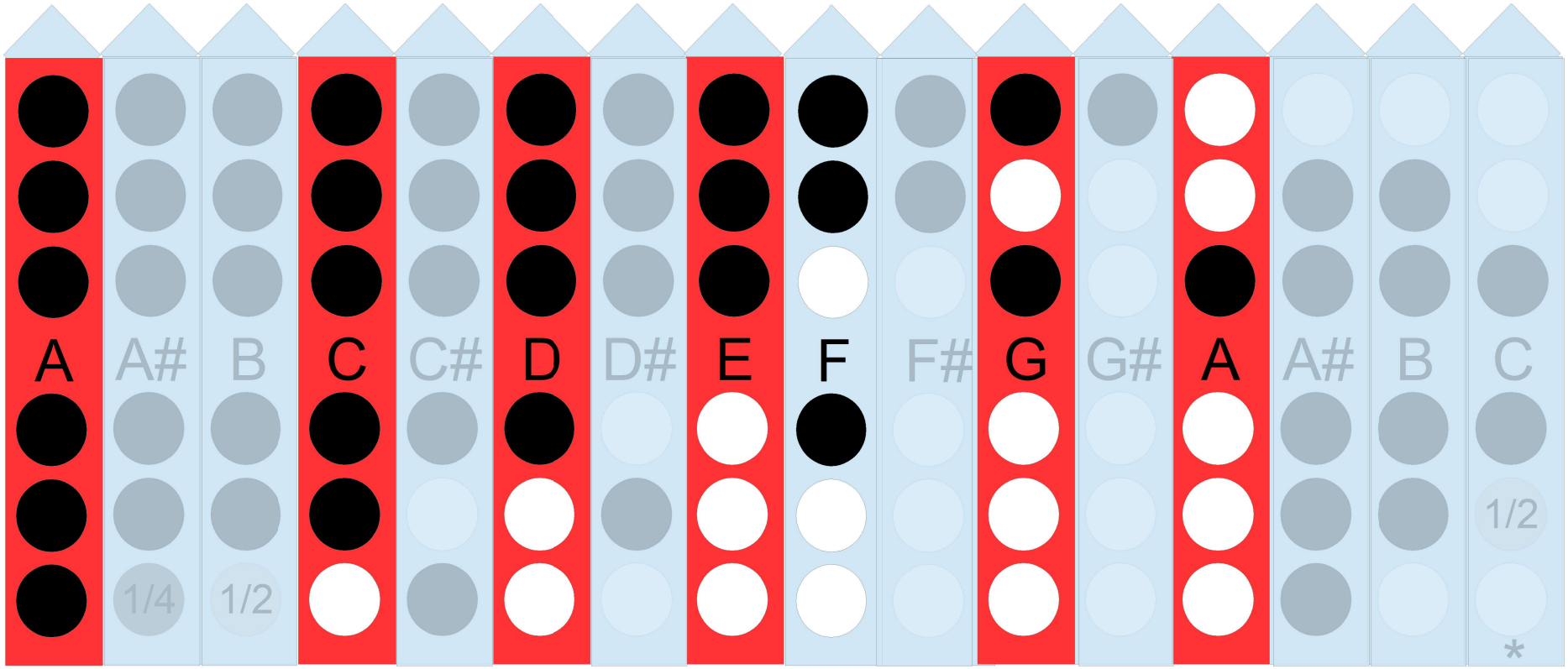
The flute changes pitch 1.3 cents per degree F. If the flute is tuned at 72 degrees and it is 82 degrees then the flute will be 13 cents sharp.

An approximate value is 100 cents per inch of barrel. So if the flute is playing a C note and you remove 1 inch of the barrel the note will be C#. This is an approximation, sneak up on it.

I always try to tune the flute at 72 degrees +/- 5 degrees. If my shop is at 77 then I will tune the flute sharp by 6.5 cents (5 times 1.3). In our case it will be A + 6.5 cents

Humidity affects the pitch also, but not as much a temperature.

Air pressure also affects the flute. It is a breath instrument, you do not blow it like a horn. The important thing is you use the same breath pressure each time you tune the flute. More on this when we do the tuning.



These are the notes that we will tune for.
The A on the left is tuned by shortening the barrel.
All the other notes are tuned by opening the holes.
For the C we will open the white hole a little bit. Black holes are covered by your fingers.
For the D you will open up the top white hole a little bit, and so on.

Special thanks for Flutopedia.com and Cherry Cows flutes for the tuning information that follows. If the wall is close to 3/16 of an inch then layout the holes in the following manner.
http://www.flutopedia.com/hole_placement_equal.htm

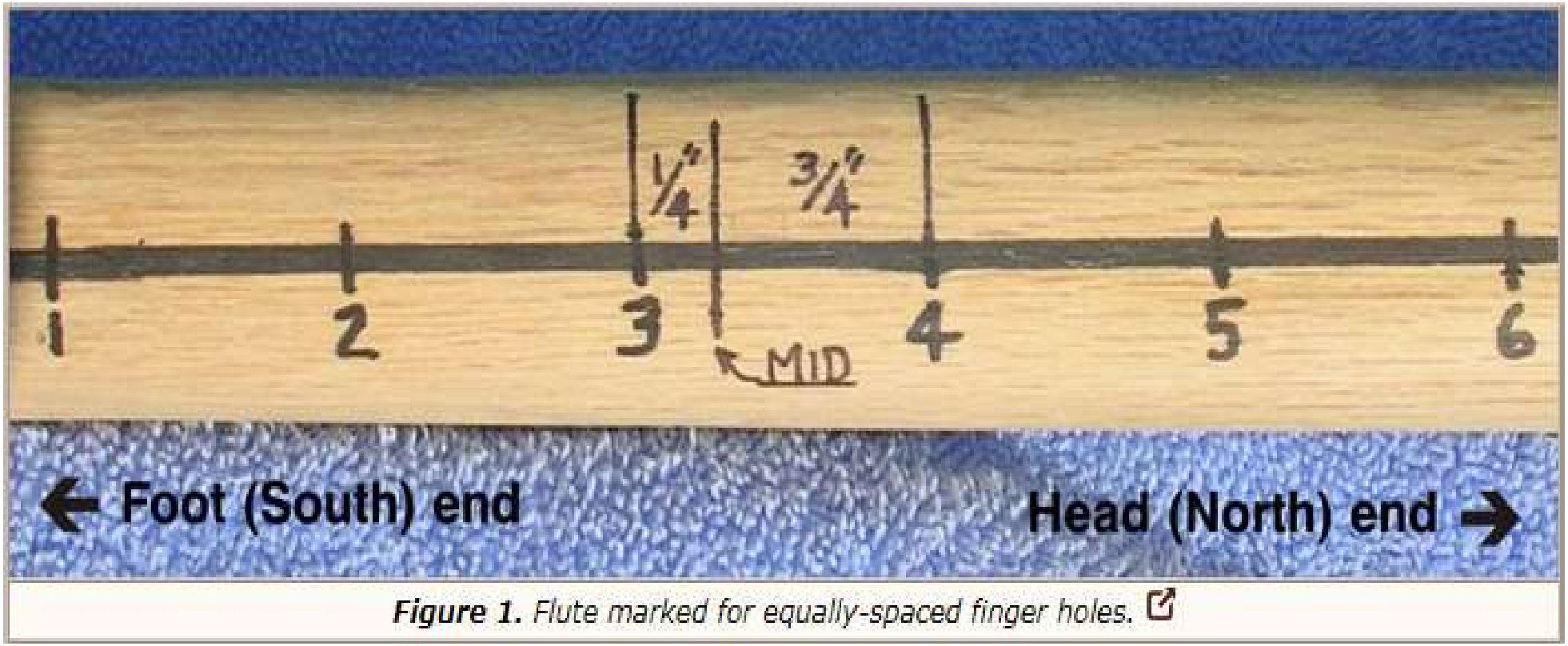
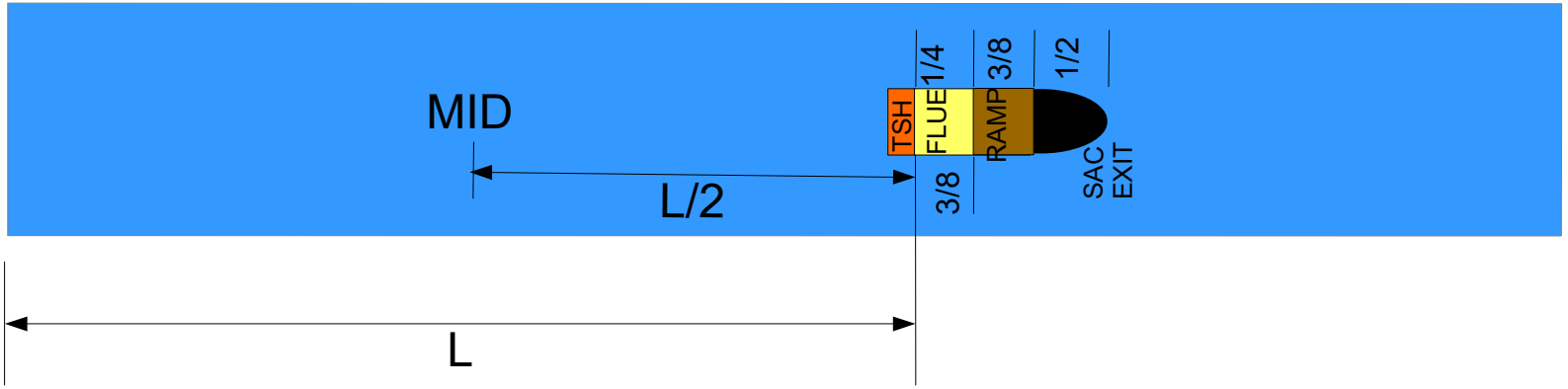
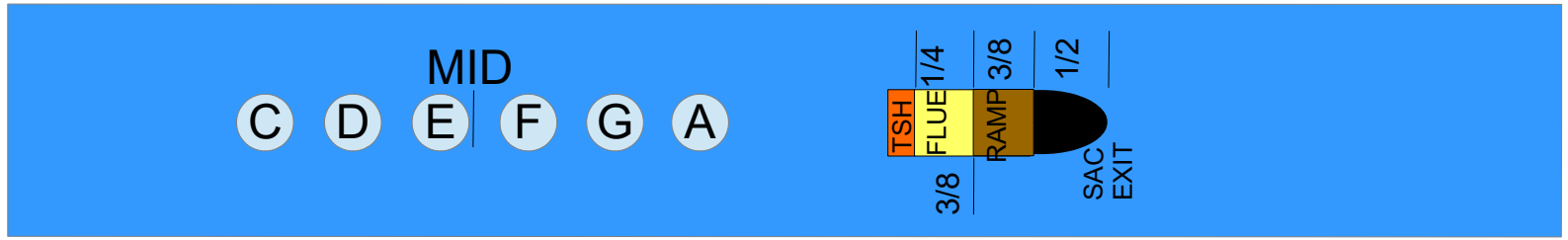


Figure 1. *Flute marked for equally-spaced finger holes.*

Measure from the back of the TSH to the end of the flute. Cut this measurements in half and mark it on the flute as MID.
Next slide.

Diagram the shows how mid point is determined on the previous slide





Drill the above hole with a 1/8 or 3/16 drill bit.
Exact placement is shown on the previous slide.
There is 1 inch between the playing holes.
.

I put blue tape so that I can mark on the flute without marring the surface.

Never tune a flute that is wetted out.

How to tune follows. I have found that it is easy to take off too much wood too fast. It is hard to put back the wood once it has been removed.

I tune all six holes to be within 50 cents and then stop. This make me go slower and allows the wood to cool down and readjust.

The next round, usually the next day, I will go with-in 15 cents. Again wait. This completes the rough tuning step.

I will then sand and seal the barrel and then finish the tuning with hand tools.

Sand the barrel with 320 of finer sand paper to remove any wood that is hanging off the holes.

Now using hand tools complete the tuning of the flute. Adjust so it matches the fundamental as close as possible. In our case the fundamental is the A with all holes closed.

You have tuned the A by cutting of the end of the flute.

Use steps to tune the C.

Play the A with a constant breath pressure and note how many cents flat or sharp the note is. Say it is a A -10 cents (- indicates flat).

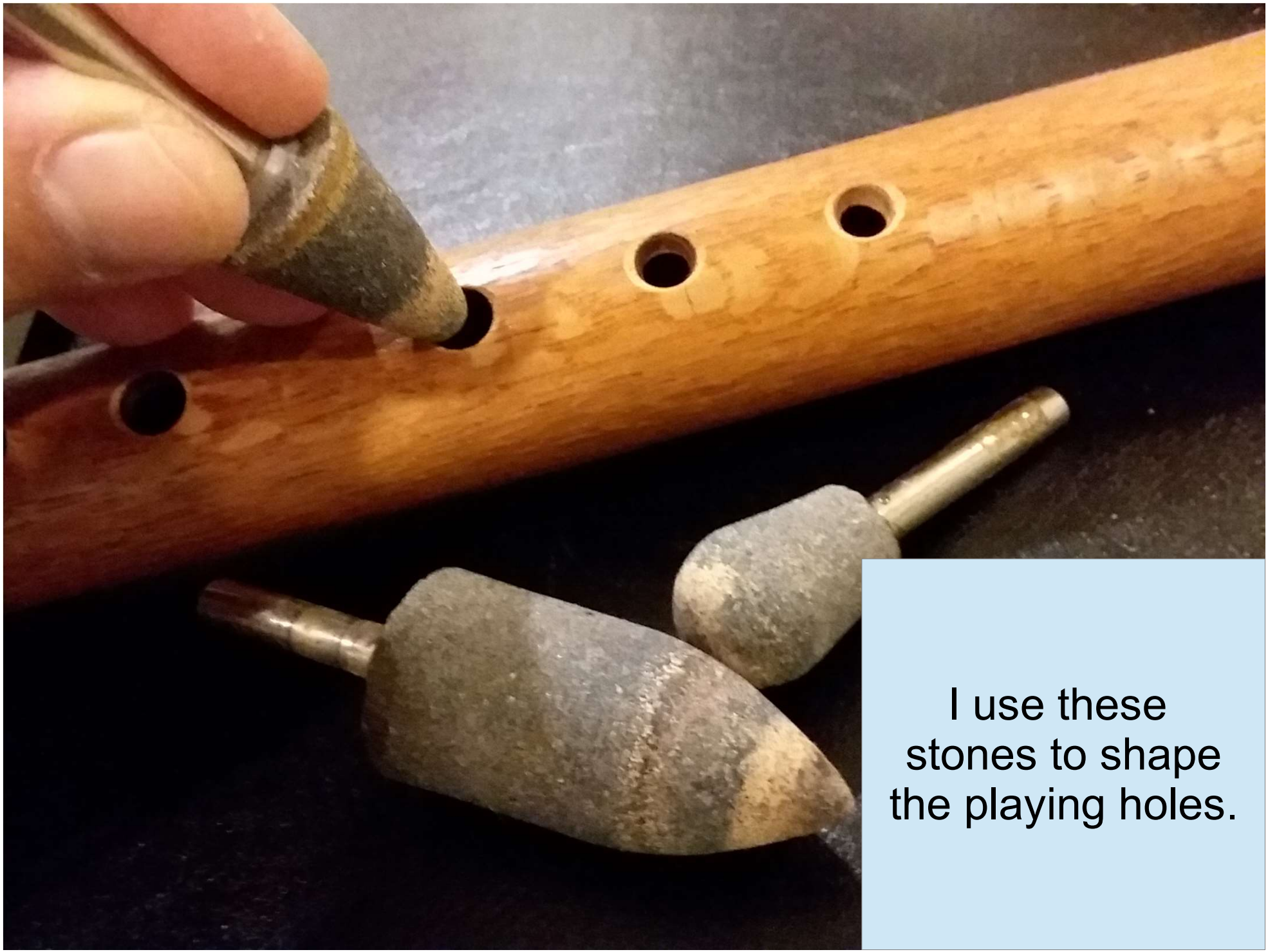
Now turn away from the meter, finger the C, focus on keeping your breath at the same pressure. Now look at the meter and see what note it being played and how many cents off it is. These two measurements should be done in one breath.

Now adjust the hole size and repeat.

This is a very important step when you are doing the final tuning it is very important.

So lets say you have just completed the final tuning on the C note.

To check it you play the A, A -10, now look away, change to the C fingering, and the meter reads C -15. This is close enough, you could touch it up a little is you want.
If the C read C +1 you have made the hole a little too big, again I think that this is close enough. Sneak up on the tuning!



I use these stones to shape the playing holes.

http://www.flutopedia.com/

http://lopingwolf.com/

http://www.sierraflutes.com/

FACEBOOK GROUP:
Native American Flute Making Forum

Http://groups.yahoo.com/neo/groups
/nativeflutewoodworking/info

https://groups.yahoo.com/neo/groups/nativeflutewoodworking
/files/For%20Beginners/