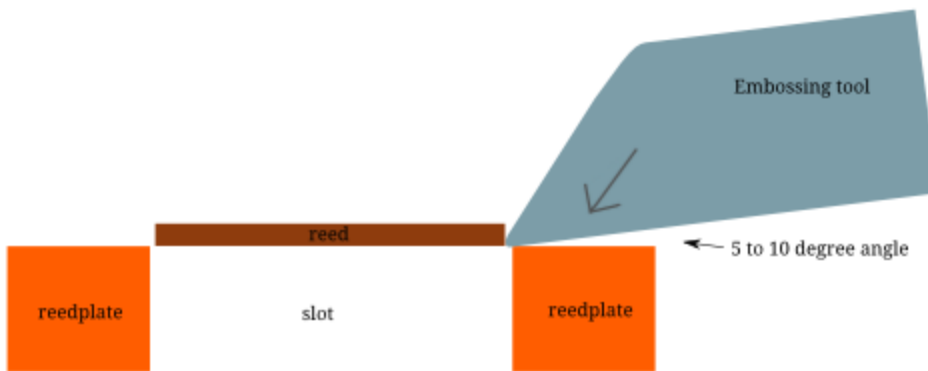


Embossing instructions with images  
Using a sizing tool

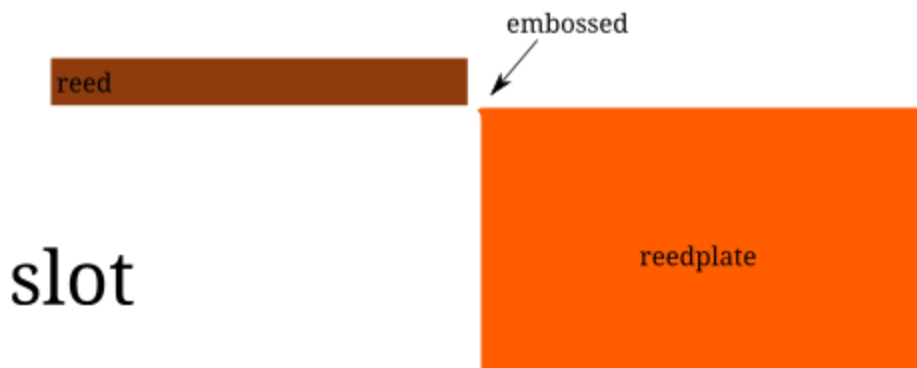
Andrew Zajac  
harp.andrewzajac.ca  
2013/07/28

Embossing the slot of a harmonica creates a small ridge along the inside of the slot. This ridge reduces the space between the reed and the slot which can be beneficial to volume and response.

This is a front view of the tool in use. You will never look at the reed slot from this angle while embossing with a sizing tool. This illustration is meant to give you an idea of the angle you need to hold the tool to be effective.



Here is the slot up close after you have embossed it. A small amount of brass is pushed into the slot.



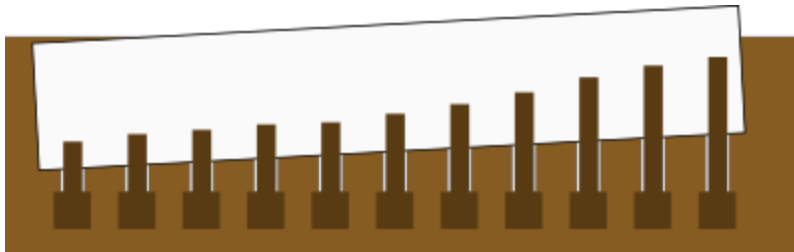
Good lighting is essential. It is beneficial to use direct light from above as well as indirect light from other directions, such as positioning your work space near a light colored wall. Embossing is most efficient when done under direct vision. An efficient way to do this is to look for the change in color of the brass as you emboss it.

Lets get started!

Start by removing the reedplate from the harmonica and place it on a flat surface.

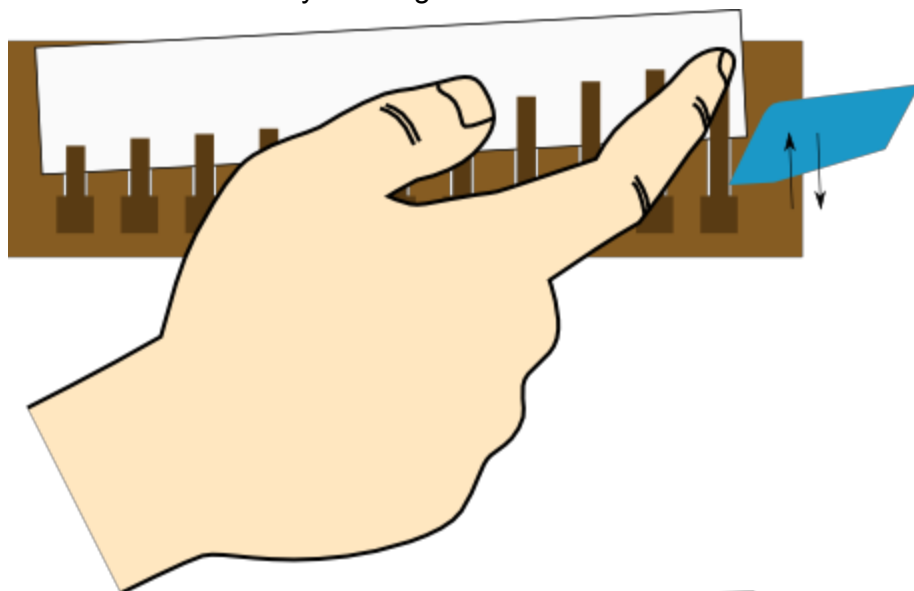


Place a piece of paper under every reed about halfway through for support.

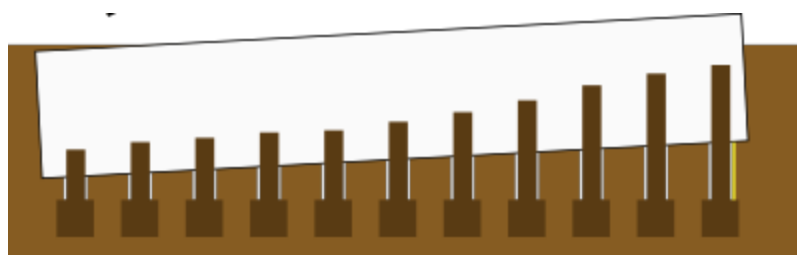


Dip the tip of the embossing tool in mineral oil. Press on the tip of the reed to immobilize it with your other hand.

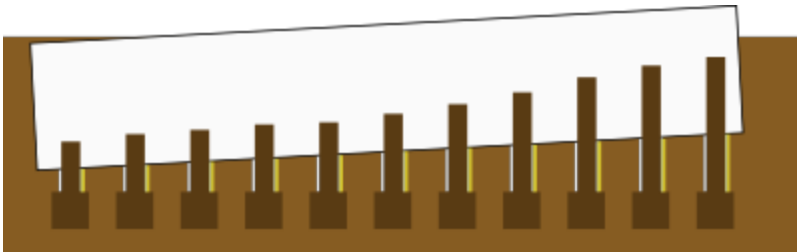
Run the tool back and forth over the part of the slot that is exposed. Press downwards lightly and look at the slot from the side while you are doing this. Adjust your point of view so that you can see the shiny line of embossed brass as it appears. Adjust your tool pressure as you travel back and forth so that you can get a smooth line.



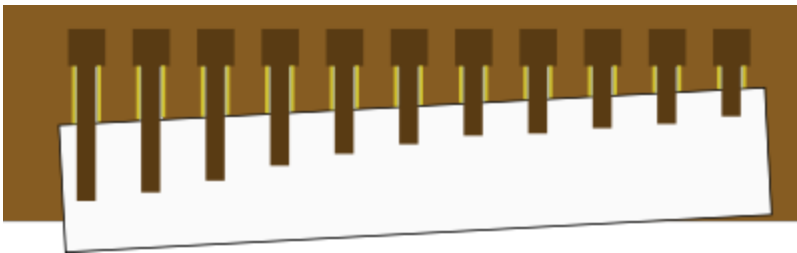
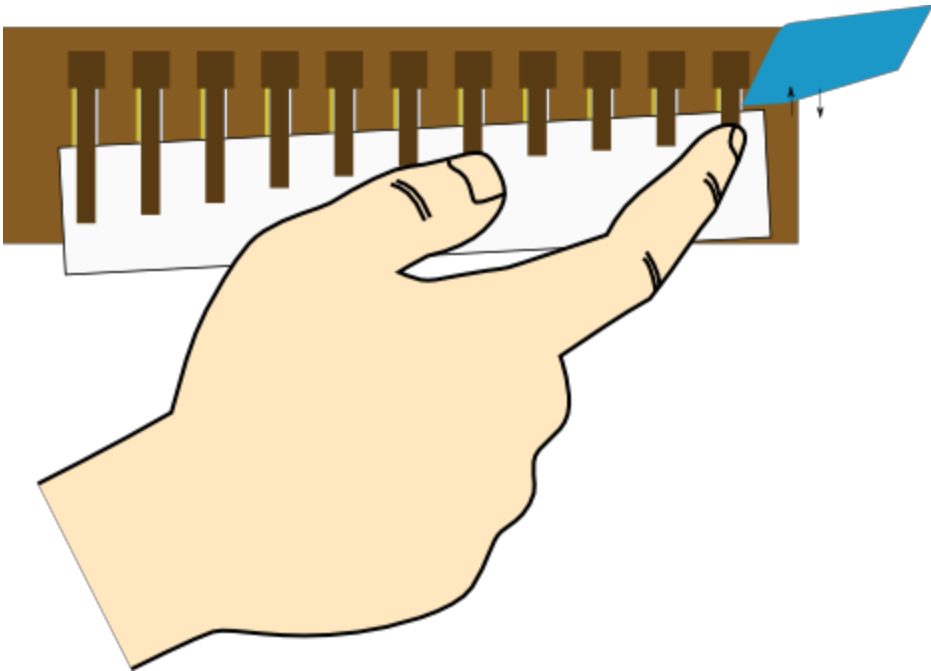
Apply just enough pressure to create a bright line. This will result in light to moderate embossing. For heavier embossing, repeat the process once again after all the reeds have been checked and plinked. The goal is to spend 90 per cent of your time embossing and only 10 per cent of the time freeing up reeds. If you were to apply hard pressure to start with, you will find that most of your reeds will get stuck; it's a lot more efficient to take it in small steps.



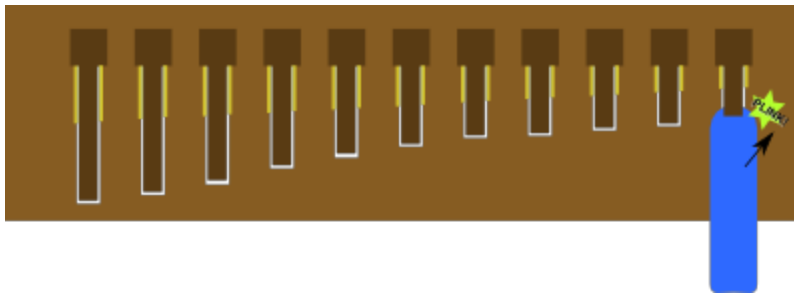
Do the same for the other nine slots. Dip the tip of the tool in oil every time you work on a slot.



Rotate the reedplate 180 degrees and emboss the other side of the slots.



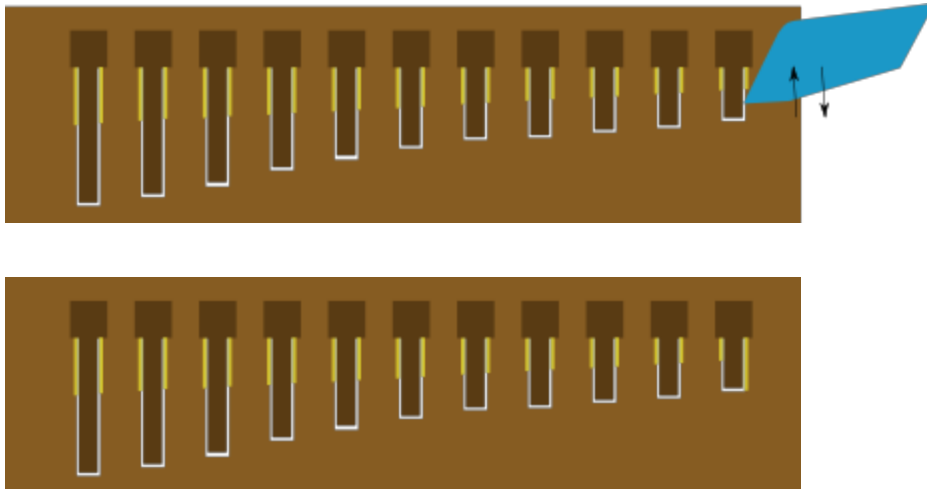
Remove the supporting paper and plink each reed. If a reed doesn't make a bright sound, it is either stuck due to over embossing or it is rotated out of alignment.



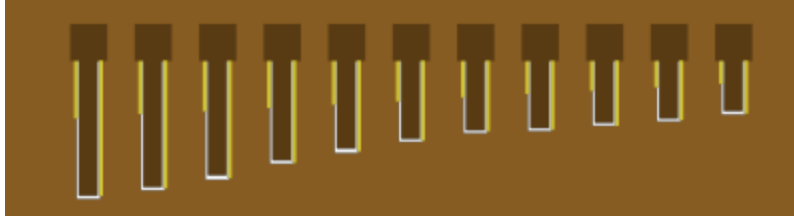
To free a stuck reed, hold the reedplate up to the light and look at the slot. Use a reed wrench to centre the reed. Plink it again. If it still doesn't play, you should see an area where the slot is touching the reed when you hold the reedplate up to the light. Use your 0.001 inch thickness shim to deburr that part of the slot. Plink and repeat the process until the reed is free.

Without supporting the reed, use the tool to emboss the free end of the slot. Start from the point where you left off, somewhere in the middle of the slot. Again, tilt your head so that you can see the reflection of the bright brass and try to create one continuous bright line from the base of the slot to the free end.

You will be pushing the reed into slot as you emboss but that's okay. You are not travelling all the way up to the rivet end so you will not be reshaping the reeds as you apply pressure. You're only going half way up this time.



Do the same for the rest of the reed slots.



Rotate 180 degrees and do the same for the other side of the slots.



Rotate the reedplate 90 degrees and emboss the tips of each slot.



Plink each reed and repeat the centering and deburring process until each reed is free.



I recommend cleaning the reedplate with soap and water to remove any residual oil and debris.