Notched Lining…*Unlocking the Mysteries*

By Jeff Babicz
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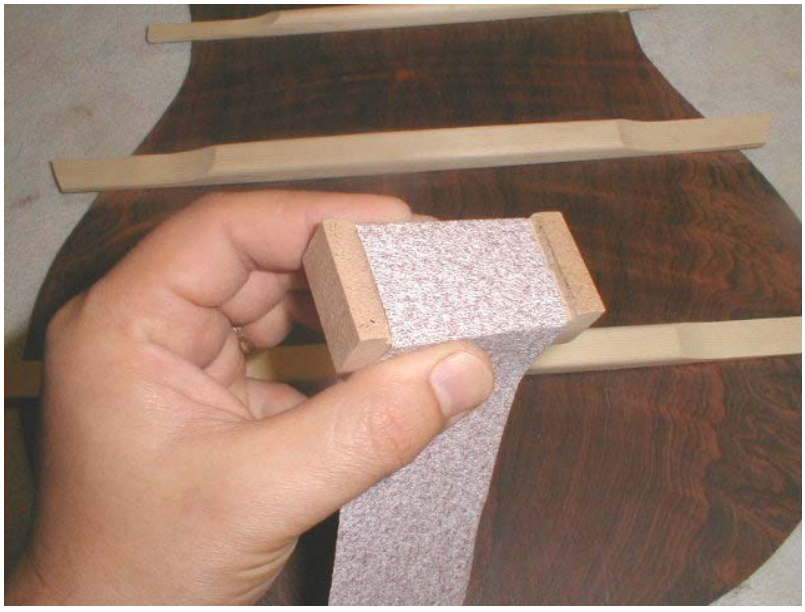
At one time or another, almost every builder out there has experienced unprecedented levels of anxiety when it comes time to notching the top or back braces to the lining of an instrument. Kerfed or un-kerfed, this is a step that is easily 'turned ugly' if one does not have a repeatable fixture or procedure for the notching process. I for one, being a one-at-a-time builder, don't have a fancy jig to help in notching process, so I rely on a simple yet methodically system that I developed for this often-challenging procedure.

To start, you might ask why notch the lining to begin with? Looks, strength, acoustics, tradition? On the soundboard side, the braces are typically 'let' into the lining because there's a strong belief that there is a bracing-to-sides sound transfer advantage. For the back one could argue that a professional looking brace design could be had without compromising strength and sound transfer is debatable, so I would have say that tradition is would more than likely be the reason why a notched lining is expected on the back of the instrument. Extreme subjectivity revolves around the notching personal preference, therefore making a clear explanation why impossible. I for one don't notch my lining for my soundboard bracing, but I do for my backs! You figure…

For this illustration, my focus is on creating the notches for kerfed lining on the back of a guitar. The same steps apply to the soundboard side as well.

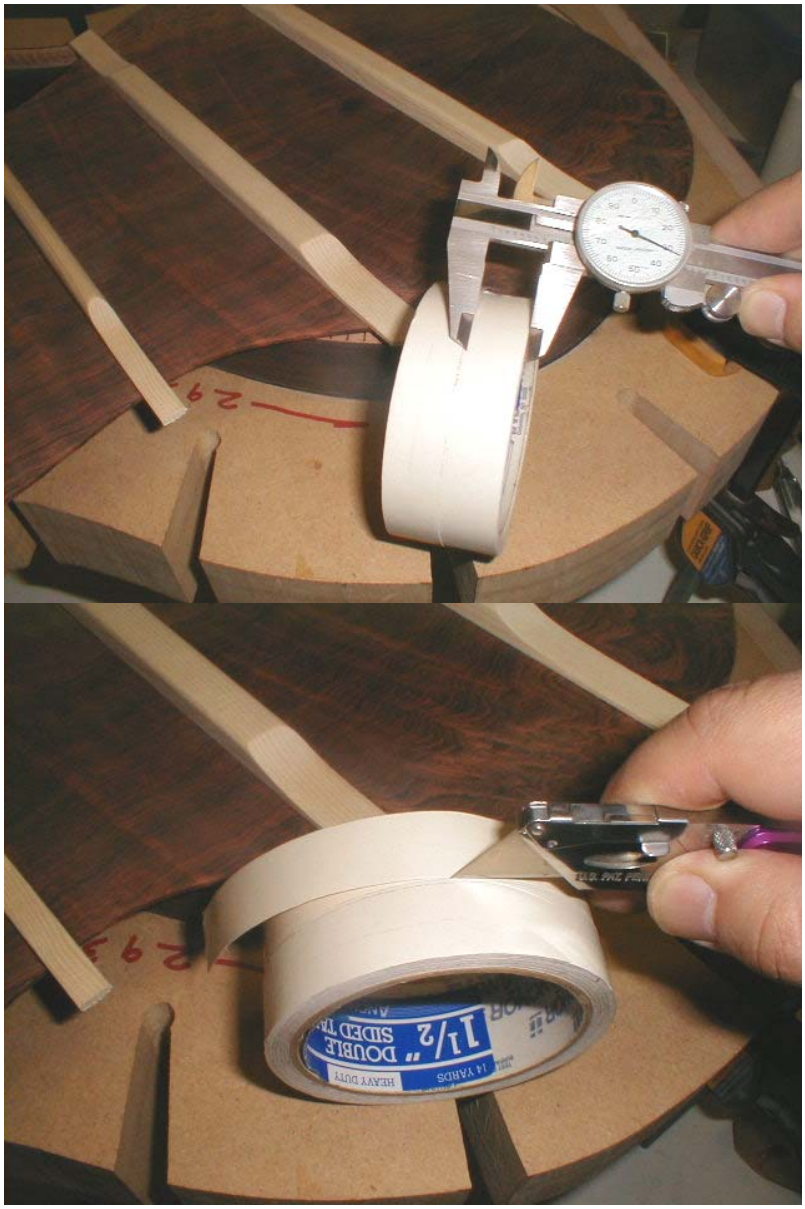
1. Start by deciding how tall you want the scalloped portion of the braces to be. I have seen from almost-no-height to 1/8”or more. I use a nominal .100” tall. This height dimension is cut into a block of MDF with a Dremel in order to create a channel to hold a strip of sandpaper. The block size is not critical but one should keep in mind that this block mostly acts as a sander, so make it comfortable to hold in your hand.

Note: Before I glue my braces to the back, I lay the brace end into the notch of the sanding block and scribe a line. Once glued in place then I rough out the scalloped ends of the braces on the belt sander leaving around .030” for the final ‘sand in’.



2. Cut a strip of 100 grit abrasive that match the width of your notch in you sanding block. Note that the braces are left “long”.

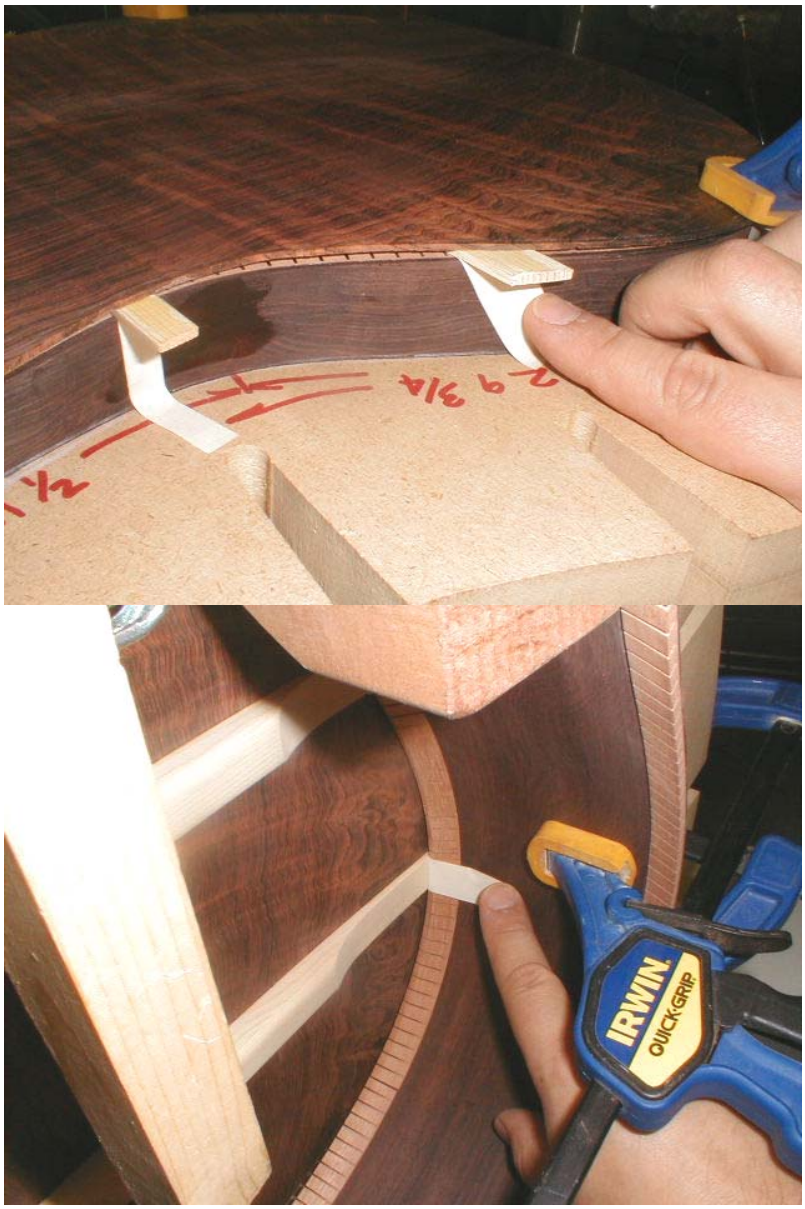
3. Sand the end of each brace until you can sand no more. As you can see, this establishes a consistent brace end height. With the grain of the wood clean up the rough sand line to 220 grit by hand.



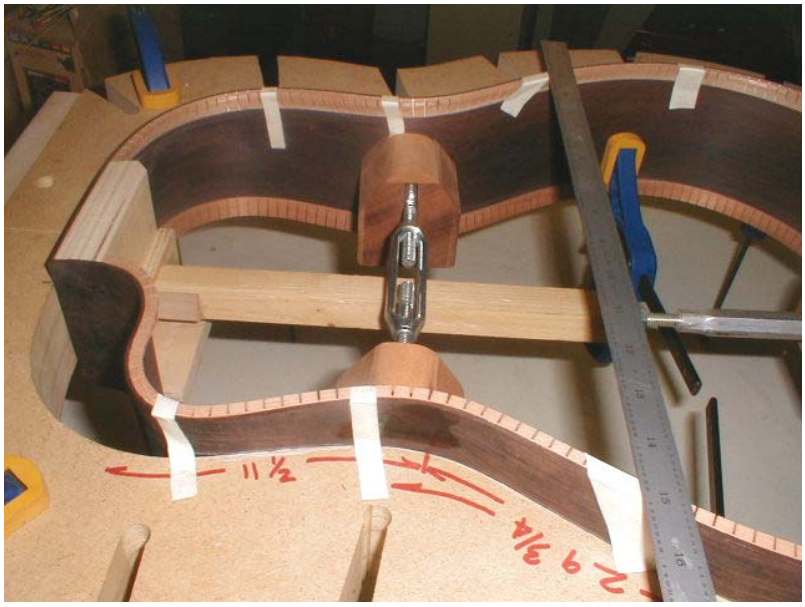
4. Using thin double-sided tape, begin to cut strips that are the exact width as your braces. I use calipers to measure, and scribe to the roll of tape. Once marked, I use a razor to cut the individual strips of tape. The strips should be around 3” long or so. Don’t make the strips too short because thy will be too difficult to work with for the next step.

5. Apply the strips of tape on the ends of the braces and remove the protective backing.

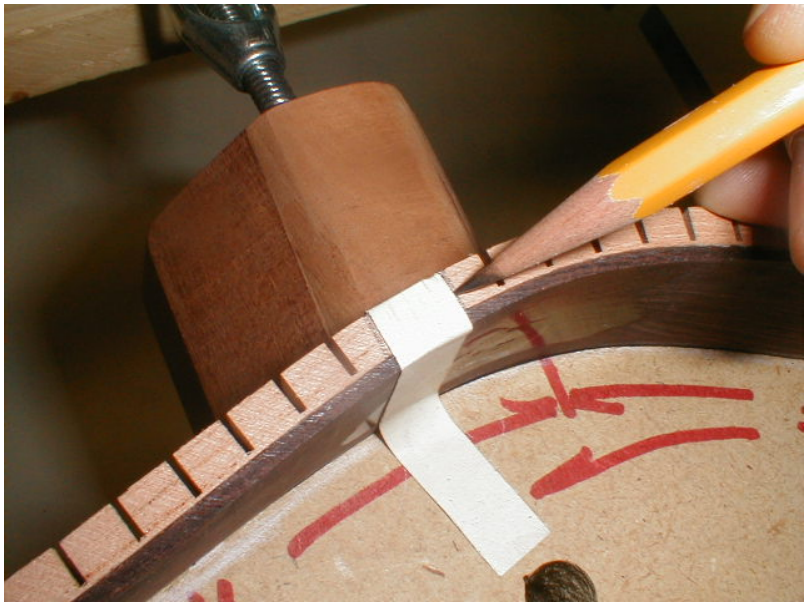
6. Now carefully position the back to the sides, aligning the center points for the final fit of the back and throw on a few clamps to hold it down and in perfect position.

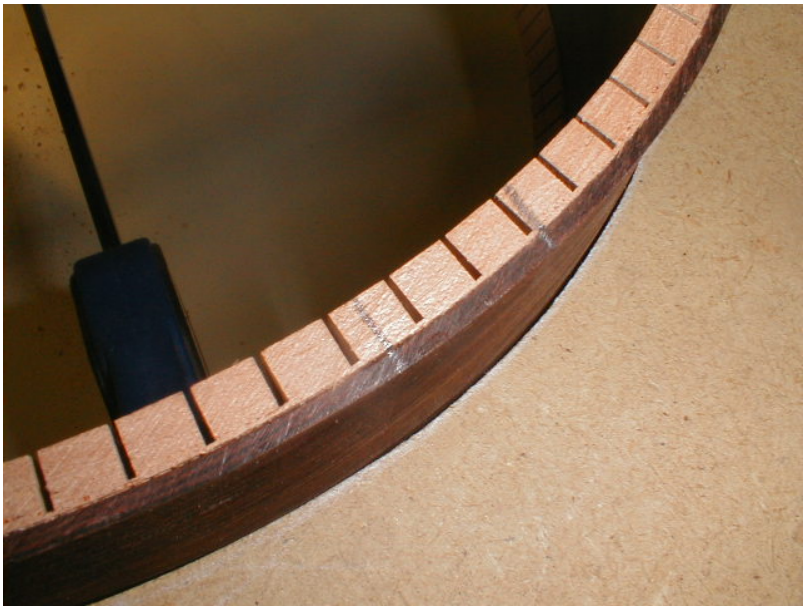


7. Now begin to peel back the tape from the brace ends and stick it to the sides of the guitar. This is repeated inside the guitar.

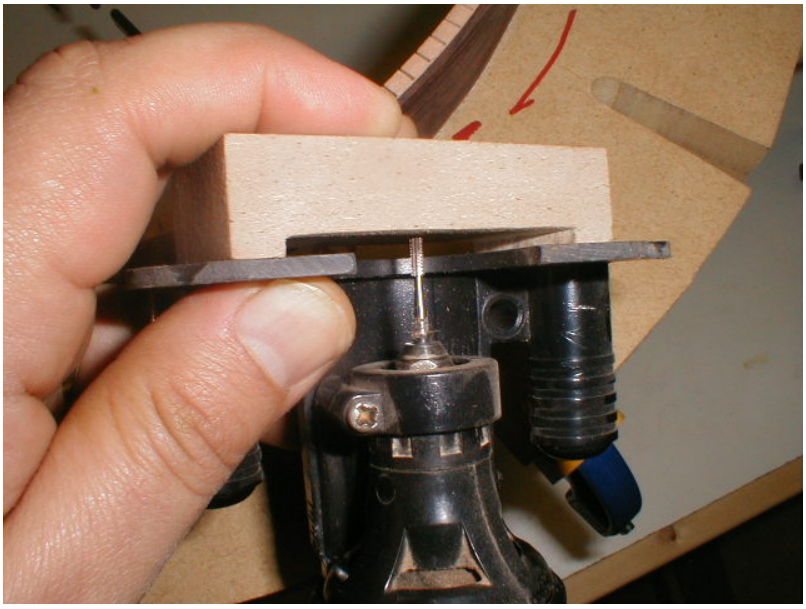


8. Remove the camps and pop off the back. Voila! You have just transferred the exact brace pattern to the sides…ready for notching.

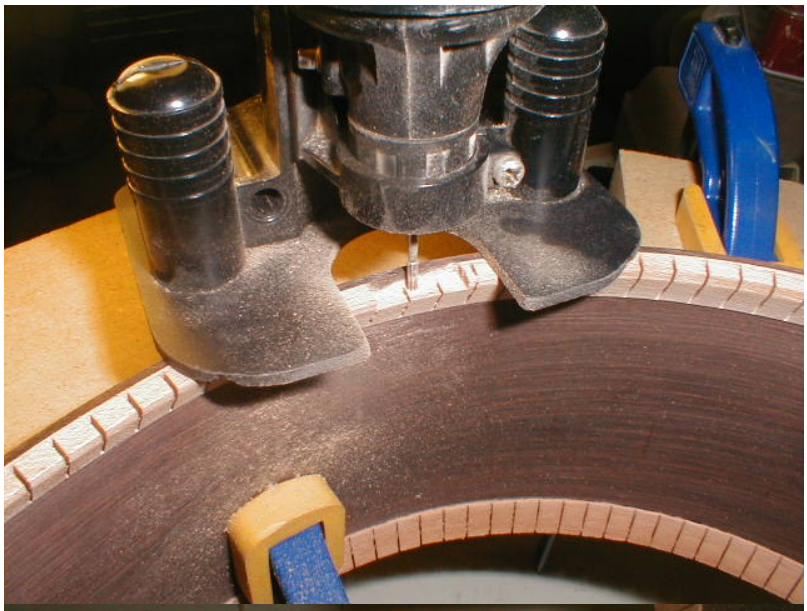


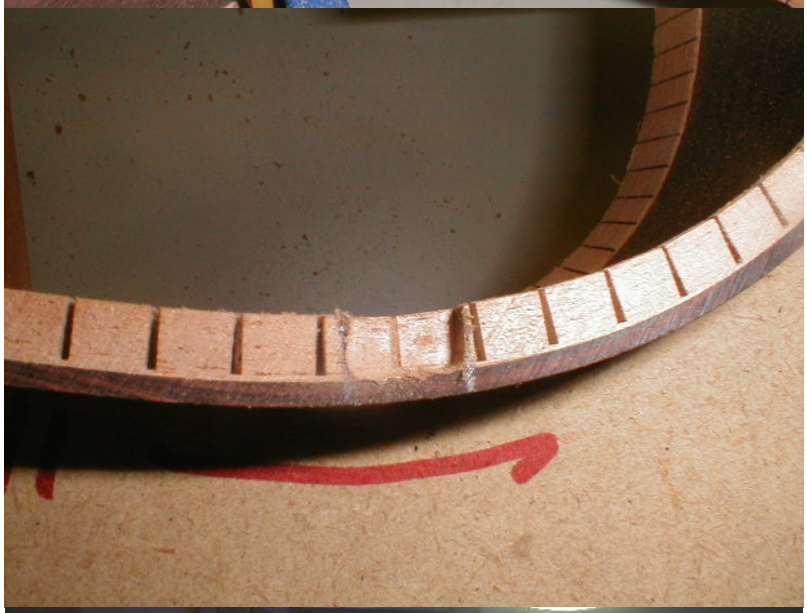


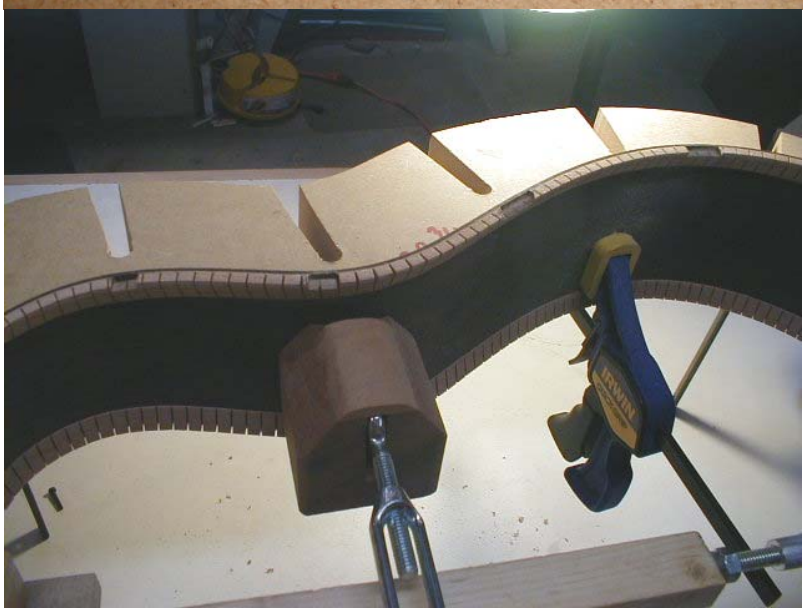
9. Carefully mark the edges of the double-sided tape with a sharp #2 pencil then remove all of the pieces of tape.



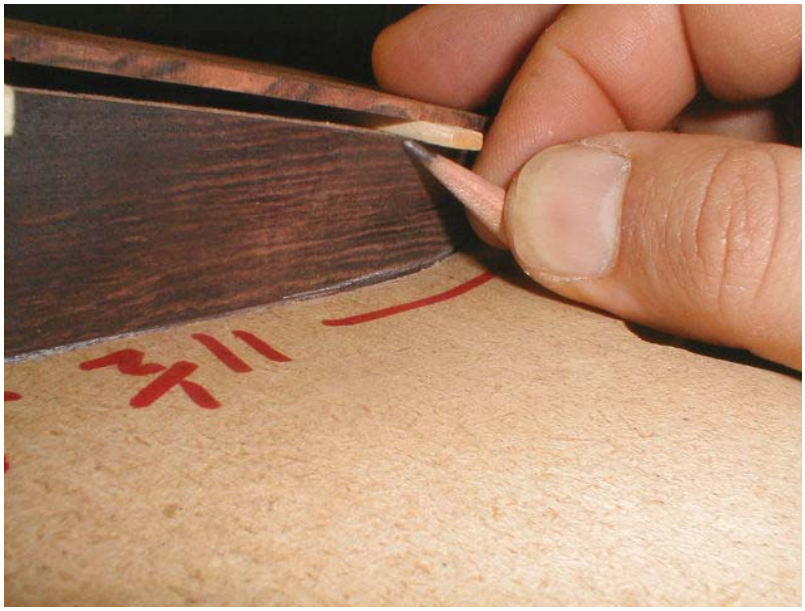
10. Start the notching process by establishing the notch height by placing your Dremel router bit (I use a 3/32” dental burr) into the sandpaper notch of your block. This establishes the notch height for your lining to receive your braces perfectly.







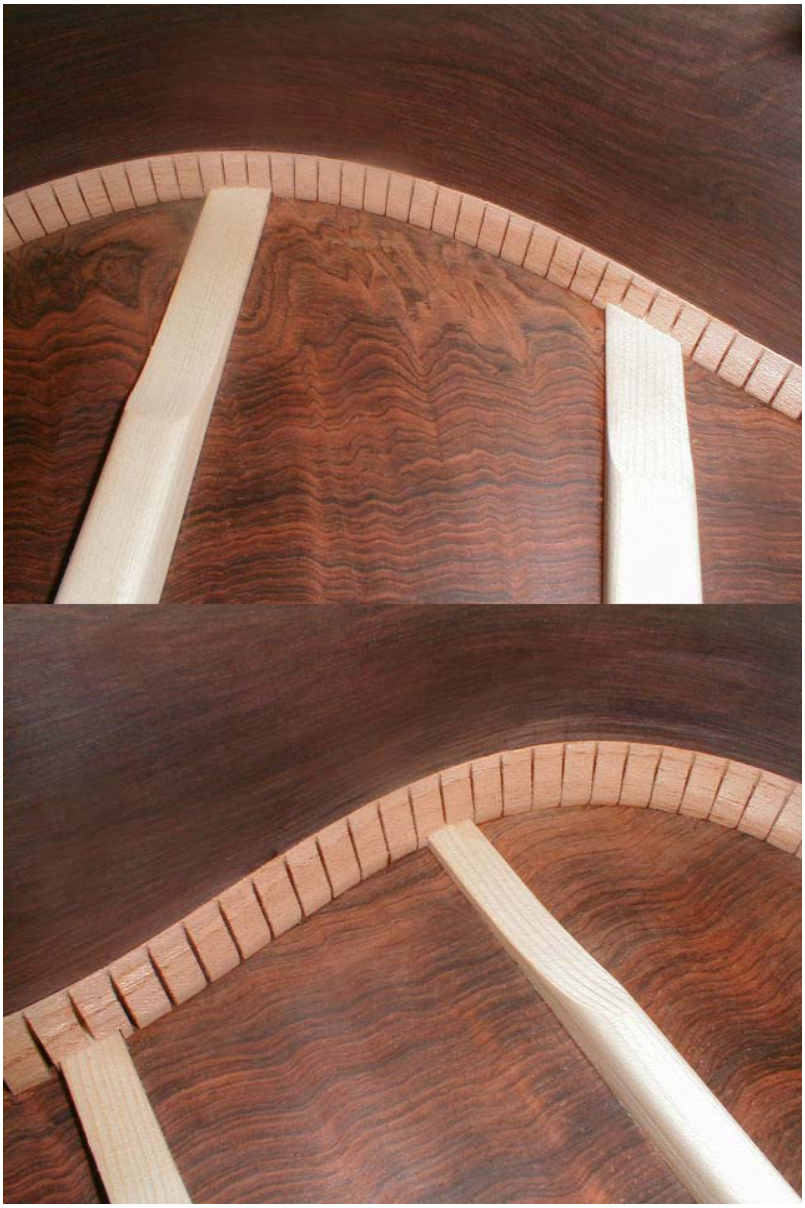
11. Simply route out the brace portion in the lining being careful not cut outside the lines.



12. Lining up the centerlines again and mark the edges of sides to the braces using a cut off pencil tip.

13. Transfer the thickness of the sides of the guitar to the recently marked side profile. Remember to add a little to this dimension for expansion of the braces over time.

14. Cut the excess portion of the braces off and prepare the back for gluing
and test fit the back to the sides - most often there is little to no tweaking necessary.



15. Glue the back to the sides and clean up any glue squeeze out around the lining with water and a bristle brush. You should now have perfectly notched lining without weird gaps or funkiness. Whew- maybe some day I'll make a fixture.