

A smashed 1951 Martin 0-15 guitar hung on the wall of my guitar instructor's studio. It took me a year or so before I asked about it. Turns out his senior year in high school a friend ran over it. He learned to play on it, his mom's guitar. He's kept it as a wall hanging for 20 years. He was still emotionally attached to the guitar and wanted to be able to play it again. I looked at the guitar nearly every week for a couple more years, considering how I might tackle the repair. During one lesson an idea about a nondestructive way to fix the guitar came to me. So I offered to try and get it playable. He let me take the guitar and have had it.



I wanted to maintain and show the guitar's history after my repair. My starting philosophy for the repair was based on my spouse's interest in kintsukuroi (golden repair) and my travels to world heritage sites. That is keeping and showing as much of the original material, finish, age and history as possible but still have it be a playable guitar. I am a hobbyist luthier, not a repair person and did not have any prior experience for this sort of work. I have built a number of guitars.

Amazingly, after inspecting the guitar I found it was not in "that" bad of shape. The major crack on the top was repairable. There was a small section of the x-brace that lifted cleanly over the crack. One tone bar has completely popped off. Just a thin shim of brace remained. As one could see in the photographs I had no problem with access when repairing the top and back.



I wanted to do a visible but pleasing repair of the missing and cracked parts of the treble side. That is I wanted to only replace the missing wood with new wood. I used hot hide glue for most of the work on the guitar, I used shellac anywhere I needed to touch up the finish.

To start the structural repair I closed the cracks on the top and back with hide glue and installed cleats to keep them closed. With the unintentional access hole it was easy to close the cracks.



I had recommendations to replace the entire side as it would have been easier repair, but I really wanted to maintain the history of the guitar. I ended up making a structural insert that included a tongue to reinforce the intact but cracked area in the sides and kerfed linings to replace the missing linings and to insure a good glue joint to the top and back. To make it I thinned an orphaned side to around 1 mm, bent it to shape, installed the kerfed linings





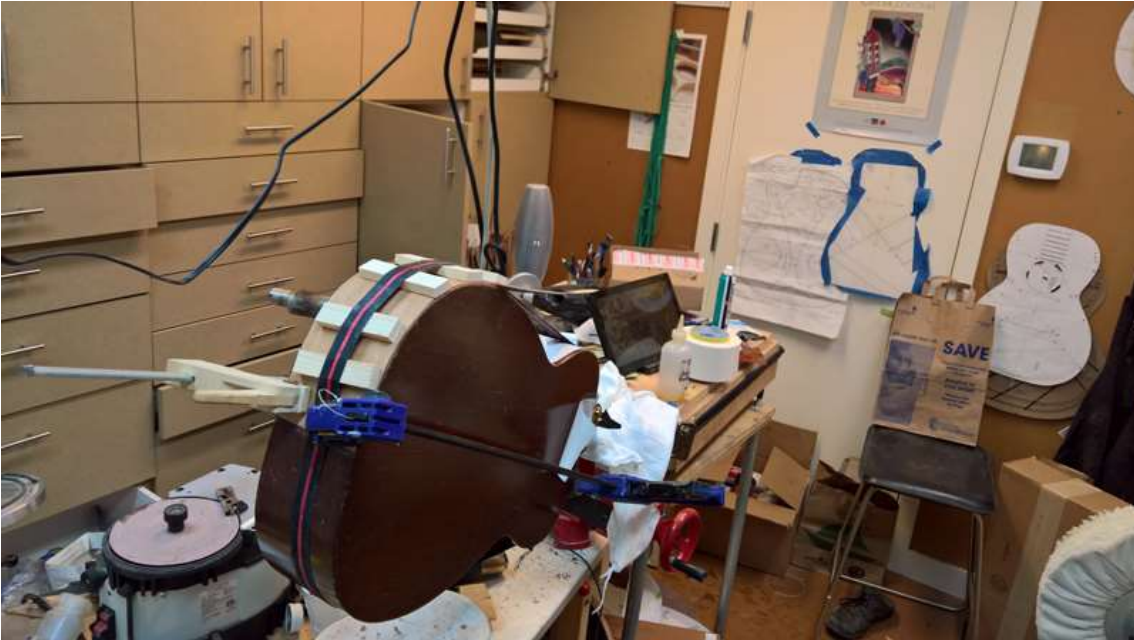
I was able to fit and glued the assembly recessed in about 1.5 mm to allow me to inlay a mahogany veneer. I first used hot hide glue to glue the tongue inside the cracked area. I made special shaped cauls attached to a spreader clamp to some gently provide an internal backing. (Sorry no pictures). I installed a few small cleats inside the guitar on the top and back to help me set the depth of the insert. With the insert installed the guitar was structurally sound; on to making it look OK.



I cut out a rubbed pattern of the repaired area and spend a bit of time getting the pattern to fit the guitar. When ready, I taped the pattern to the inside of the side patch and cut close with a band saw. It took a combination of a plane for the top and back edges, chalk, chisels, files and sanding sticks to fit a cut out mahogany inlay.



I spend a few moments to decide how to clamp it, after a trial run I decided on a belt clamp. I used fish glue to give me a bit more time to fuss around.



Knowing I could not make the joints invisible and with a nod toward kintsukuroi repair I used a knife to widen the gaps a touch and filled them with hide glue and ebony dust, yes I chickened out on gold dust.





I played around with some Stewmac color tone dyes mixed in shellac until I got a reasonable match. It took a couple of tries; sanding off one try that was too red. I ended up with Red Mahogany, Tobacco Brown and a touch of Black. I finished with a thin shellac French polish to make the finish match the overall look of the guitar.



I found a used set of the correct vintage tuners, and made a new bone saddle. Amazingly enough the neck set and an existing ebony nut were fine. After a week or so I strung up the guitar and returned it to the happy owner.



<https://youtu.be/jNUA1VCQIm4>

