

Paul Unger's Bass: The First Hundred Hours

(in true chronological order)

[November 20, 2009]

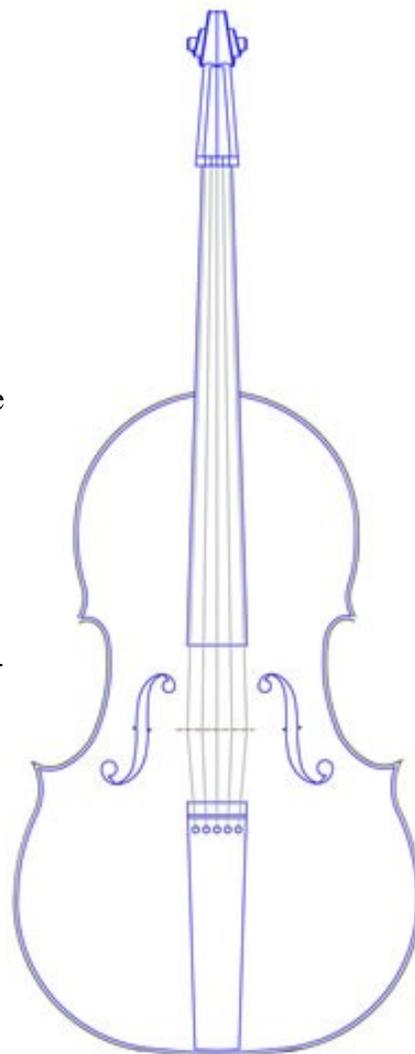
I have received a wonderful and unusual commission for a special contrabass from Paul Unger, assistant principal bass of the Fort Worth Symphony. Paul wanted a standard 3/4-size bass for symphonic work and another, smaller model for chamber playing but was unable to afford two instruments. He asked me to create a bass that would excel at both, but as we swapped emails back and forth, I soon realized that there was more to the story.

Paul tunes his bass in fifths, so he wanted his bass to produce a substantial low C rather than the usual low E. For chamber playing, he requested a high E string, making the bass a five-string model. In effect, the requirements for optimizing this instrument were off in two opposite directions. But, wait! There's more!

To facilitate speed and shifting, and to encourage others to tune in fifths, Paul wanted a string length no longer than 38 inches (a conventional 3/4 bass has a string length of roughly 41.5 -- 42 inches). Now things are getting interesting!

Work is in the very preliminary stages, and I'm going to chronicle the progress of Paul's bass all the way through. You can watch it take shape over the course of the next twelve months right here under its own tab. I plan to enjoy this project, and I hope you will enjoy the narrative, too.

The initial design drawing of the bass is on the right.



[November 21, 2009]

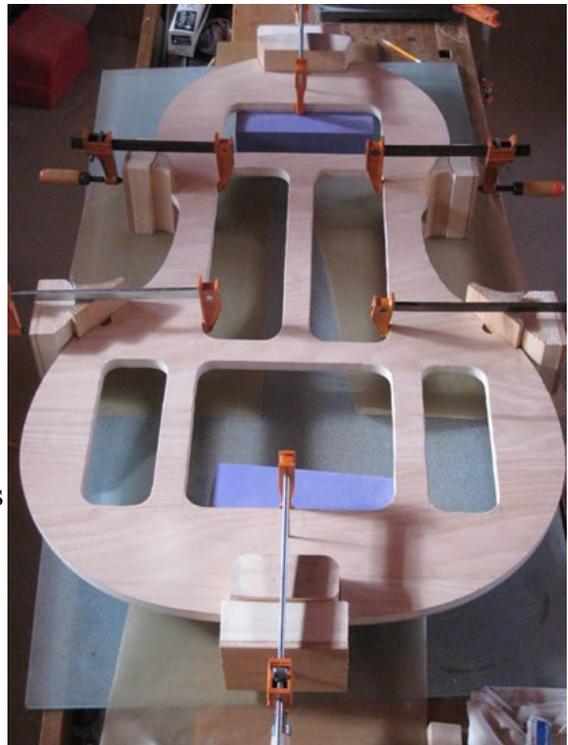
In this photo, a metal template I made earlier was used to create a plywood form (or "mould" as the Brits would call it). Because the ribs of New Family instruments are low, I can use a thin form that is lighter in weight and easier to handle. This is a great advantage when I have to maneuver the form with the blocks, ribs, and liners attached.

I'm using a small steel angle to ensure that the edges of the outline are at exactly 90 degrees to the form's surface. Since the bent ribs will be positioned around the form, square edges help to keep the ribs perpendicular to the form and parallel to each other. The attractive red and black hearing muffs I'm wearing are to mute the noise of some construction in my shop taking place just outside the picture.



[November 29, 2009]

The mold provides a place to which I can anchor the six main blocks. Later, the ribs will be glued to the blocks, but not to the mold. This mold (or "form") is called an "inside mold" because it is inside the ribs, as you will see in the next picture. The form gets removed just before we close the box, so we don't want it glued to the ribs. If you look closely, you'll see that the corner blocks are shaped before they are tack-glued in place. On a small instrument, all the blocks are shaped after they are glued in. The bass form is so unwieldy that at times one easily can knock the blocks off during normal handling. Note how the cutouts are placed to receive the clamps. While the glue is drying, I'll prepare the ribs and liners on another bench. I'll explain what liners are a bit further along. The entire assembly rests on a thick piece of glass plate to keep the underside of the blocks in a uniform plane.



[December 16, 2009]

It's been a slog since my last entry, and I was feeling very much like I was taking one step forward and then one step back. But the work began to flow again during the last couple of days, and I have now reached the point where the ribs are on the mold and the corners have been trimmed to final dimension. There's not much else one can call "final" about most of the work at this stage!

I tried a new (for me) way of fitting the corner blocks that saves material now and should save work later when the liners are put in place. However, the new approach also cost me time at the outset, and I'm not sure that I will actually realize any significant savings overall.

The liners will be bent next (I made them when I made the ribs), and after that we get into preparing the top and back wood for joining.



[December 19, 2009]

Every luthier has to have at least one picture like this in a photo recounting of a project. Everybody gets their psychedelic hit in some way; this is ours. 74 plastic hardware store clamps, color chosen at random.

The clamps are holding liners in place while the glue dries. The liners, which fit inside the ribs at the edge, provide additional gluing surfaces for the top and back. You can't really see them very well under all the clamps, so I've left some of them visible (they'll go on the downward-facing side) so you can have a better idea of what they look like.

The liners stand proud after gluing, so the next step will be to plane them flush with the top edge of the ribs. Then the liners are beveled inside the body and smoothed off. There are 12 liners, one for each inside face of each rib. The remaining six will be set aside and won't be glued in until after the mold is removed. For the curious, total time in the project is about 56 hours to date.



[December 30, 2009] Takin' It To The Mat!

I didn't get a picture of joining the maple boards for the back. I'll try again when I joint the top. The step shown here is one of those that goes unnoticed-- unless you forget to do it. The underside of the joined back plate must be planed absolutely flat. I had to have a special level made long enough to use on contrabasses. It's amazing that for an object with as many graceful curves as a stringed instrument, there are so many flat surfaces and right angles in it. The underside of the back must fit perfectly to the ribs (which you can see in the background). Then a "relief" trough must be gouged out. It's visible under the straightedge. This is awful work; by far the most physically demanding of the process. But if you don't do this, when the plate is turned over and the outside arching is begun, the "wings" of the plate will lift and make everything oh-so-very-much-more difficult. This photo also gives you a peek into a really cluttered, real-world workshop, not those meditative spaces with every little tool neatly arranged as portrayed in the photos of maker's shops you see in *Strad* magazine. I'm about 80 hours into a 400-hour project here.



[January 3, 2010]

Happy New Year!! For those of you who have idealized violin makers as a bunch of ectomorphs working with exquisitely small and refined tools doing precise joinery while listening to obscure early music performances on their local NPR stations, here comes your ugly truth for the day. Bass making isn't for sissies! It comes down to me, a gouge, and a huge table of hard maple big enough to seat three. We meet on a heavy bench in a remote room. None of us comes out alive. Makers have a special and esoteric name for this part of the process. It's called "hogging out," and it's truer than I like to admit. And all we have to look forward to when we finish hogging out one side is flipping the piece over and hogging out the other. I thought you might like to see the tool I use, a 7-sweep fishtail gouge. I'm holding it upright to allow the blade to cool because it starts smoking after a while (just kidding). Using it beats up my hands thoroughly, but not as much as the tool I used to use, which was an electric chain saw! The tingling in my fingers after a few hours of that was enough to convince me that the time saved was not worth the potential neurological damage. Here the rough outline can be seen as well as the beginning of the arching. We're at about 100 hours now.

