

8. The underside furniture

General principle

Get the ribs glued right the first time, because if they become loose over time they will rattle and you will have to remove the bottom of the harpsichord to re-glue them. We will begin by gluing the 4' hitchpin rail and then allowing the board to reach equilibrium before attacking the ribs.

Gluing the 4' hitchpin rail

Flip the soundboard upside down on your bench, providing some support for where the 4' hitchpin rail will glue, perhaps hanging your 8' bridge off the bench.

You can use short padded nails to clamp this piece, driving through from the top of the soundboard every so often in the position where the hitchpins will go. One of the pictures in the back of the manual shows this well.

If you prefer, you can use your clamping ingenuity and stack weights all the way along. You must get a good glue join here, but don't glue the board to your bench—protect it with some waxed paper.

Since you are putting glue on the back of the soundboard, it will tend to curl up from the moisture. Lay some weights around the perimeter of the board to be sure the edges of the hitchpin rail are securely glued. Look under

the soundboard to make sure there are no gaps.

Remove the indexing nails at the spine and cheek ends, and replace them with padded nails, remembering that these ones will be hidden by the mouldings. After an hour or two, you can unclamp and allow the board to reach equilibrium. Don't worry too much about cleaning up the drips, unless they are excessive and going to interfere with the hitchpin rail sliding into its location in the case.

Gluing the ribs

You have already located the ribs and the cutoff bar, so now it is time to glue them one by one, beginning with the largest.

This gluing can be a little tricky. Arrange things so that only the portion of the soundboard which you are working on remains on your bench. You could put a board or two of the same height as the bridge underneath, so that the area where you are going to be working is flat and is not rocking on the bridge like a see-saw.

First try a dry run to check your clamping system. Press together with C-clamps whatever you can, and use weights for the rest, perhaps some heavy books. Make certain that everything is making contact and that glue will come out all around the edges. When you feel satisfied with your clamping system, disassemble, apply glue to the parts, and clamp. Allow to dry overnight.

Once dry, the ends of each rib (and the cutoff bar, for that matter) should be scalloped for about 5cm (2"), as seen in a detail on the drawing. This is done so that the ends of the ribs are a little flexible to accommodate themselves to movement in the board—without this flexibility, they would just fall off. The best tool for this work is a sharp chisel. Carefully clamp the upside down board to your bench, because the ribs are tough and will take some pressure to shape. When you are done the ribs should taper at their ends to a thickness of 1.5mm ($\frac{1}{16}$ ").