

Sonerai Seat Adaptation

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Ok, I admit it, I'm old and I like things comfortable. When it came time to think about seats, I wrestled with buying a good heavy duty sewing machine and all the materials necessary to produce my own upholstery. That turned out to be an expensive idea, so it was on to Plan B.



Last year I had bought a office type chair for my computer desk and it has held up pretty well, so it was back to WallyWorld to pick up two more. The price was \$54 each, much less than Plan A.

The parts we want to rework are the seat and back. They are quite heavy components, so we need to lighten them. I also elected to add foam selectively because I want to concentrate on flying the airplane, not thinking about a tired butt. There is room to add about one inch of foam to each component if you choose, though this will make reassembly a bit of a wrestling match.

The first step is to remove all the staples. Not too difficult using a screwdriver to pop them up, and then a plier to pull them. You'll find more staples under the seat backing fabric, and these will also be removed. You will find still more staples holding down the black strings which secure the roll and tuck bars, and these staples are also removed. This upholstery method will reveal itself as we progress.

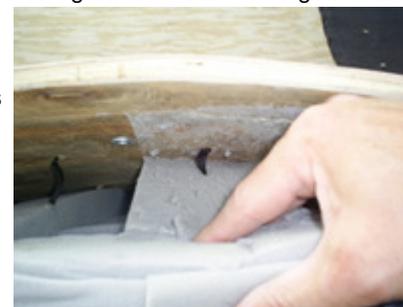


There is a zipper at the bottom, so the leather is easily removed by slipping it off. The only staples to pull are on the strings. The following applies to both the back and the seat base:



Peel the leather back around the outside edges. Now you can get at the foam. The goal is to remove the foam from the plywood. You may be able to peel some of it away, but I found I had to "filet" parts of it off with a knife. Be very careful that you do not cut the little black strings. We don't want to destroy the foam, but a little roughness here won't hurt the final product.

When the plywood has been separated from the foam, remove all hardware which is attached to the plywood. This will remove a lot of needless weight in itself.



Using a black felt tip marker, draw out areas on the plywood which are not necessary. You must leave a "grid" of wood which saves the holes which had the black strings passing through them. You can see one of the holes in the upper left of the photo, circled in red, and the grid lines used as a rough guide for cutting. I used a hole saw at the corners of each cutout section, but a spade bit will also work.



Add foam now, if desired, and put the covering back on the front of the plywood. Bend a small hook on the end of a 6-7 inch piece of stiff wire (1/16" welding rod works great). Feed the black strings back through the foam. Run the wire hook through the hole in the plywood as shown here, and pick up the black string. Pull the string back through the hole. Pull the string up taut, and secure with two staples. Do this for each set

of strings. This re-establishes the roll and tuck style on the front of the seat. Pull the leather



tight as you staple the perimeter.



Attaching the seat to the frame in the Soneraï can be done by a number of methods. It can be bolted in with brackets, mounted with tabs (like the floors), or even attached with velcro. I used tabs and screws for the seat base, and velcro for the seat back, to maintain access to the “cargo” area behind the pilot’s seat.



This process is not absolute. There are other methods which may work better for you and your aircraft. These are designated Experimental Aircraft for a reason, and I would encourage you to adapt the above to your needs. My front seat will need to be reduced in size to provide clearance for my big feet to get onto the rudder pedals. The back of my front seat will be shortened to provide better visibility of the panel.

I hope some of you will find this article helpful and you are able to build your own very comfortable custom seats. Enjoy.

[Tom Mitchell](#)

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