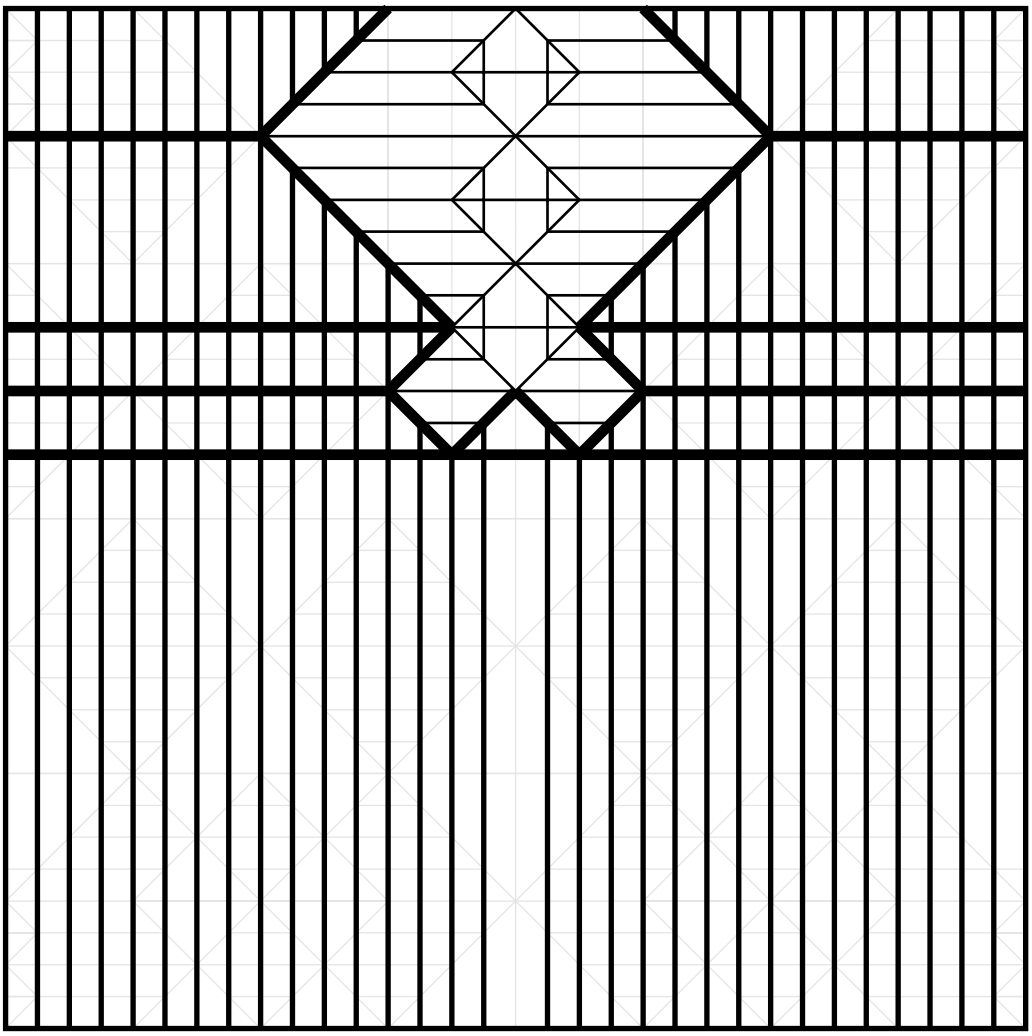
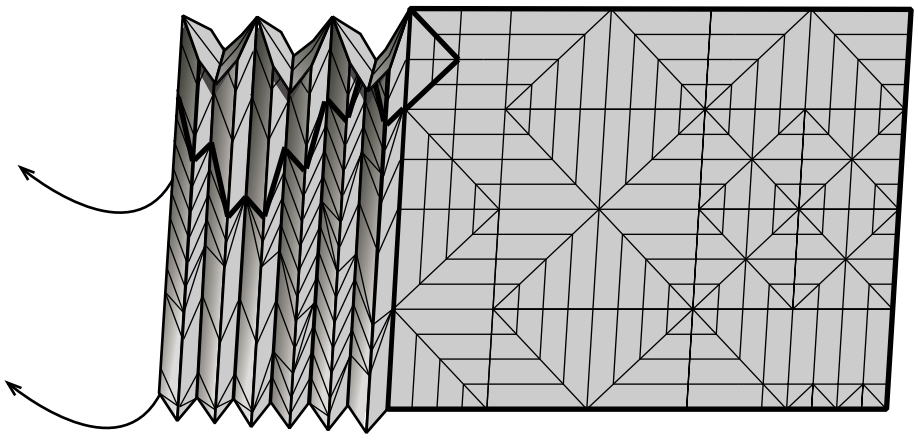
How to fold Box Pleated CPs

Part III - Collapsing 2

Starting where we left the CP in the last part we are now going perform a sort of Elias stretch that goes all the way across the square, i.e. we are going to make the stretch up until where we reach the shown diagonals. Those diagonals will be our reference lines for the Elias stretch and will be displayed thicker in all the drawings.

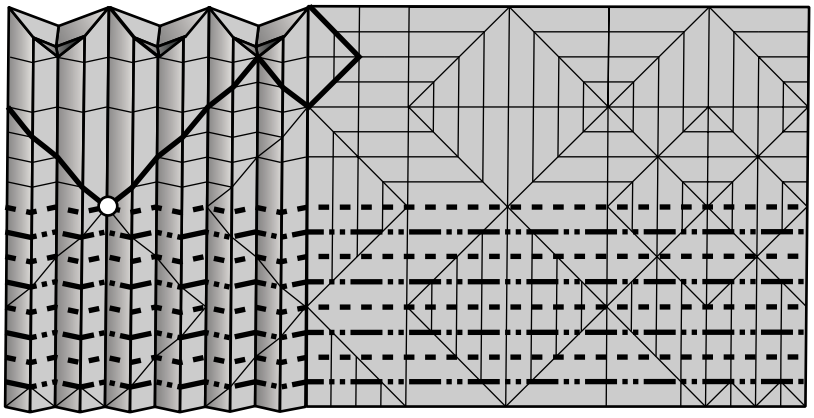


I will show this Elias stretch in several steps.
As was explained in the last part, to start with the Elias stretch, we first pull the layers apart a bit. Note that in the following drawings I will only show the front half of the model to make things less confusing (and easier for me to draw).

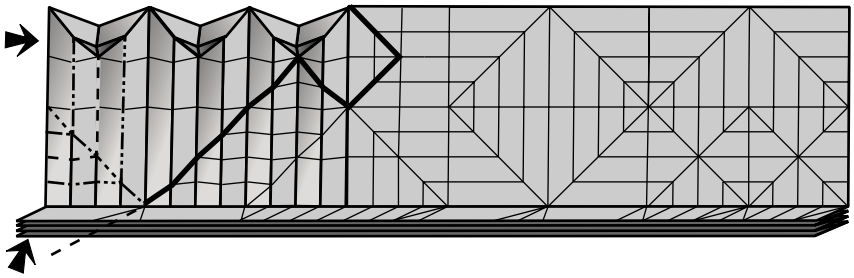


Guide by Gerwin Sturm (2007/02)
Porcupine 1.2 designed by Gerwin Sturm (2007/01/23)

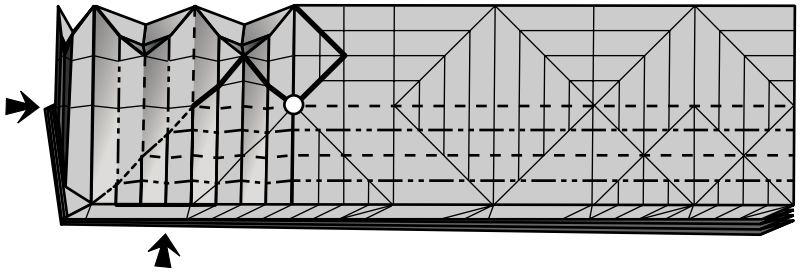
Starting from the bottom, pleat horizontally over the whole length of the square, until you reach the marked intersection of the reference diagonals.
The uppermost valley fold is not folded completely. The pleated layers should be left standing up from the rest of the model so that is looks like in the drawing on the right when viewed from the side.



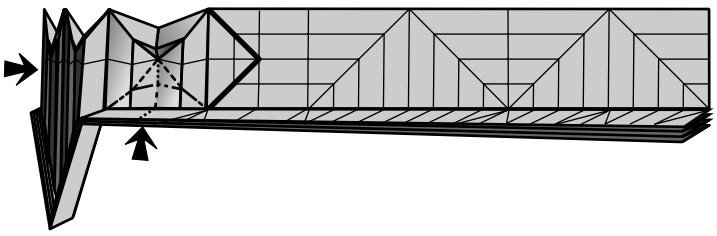
Close up the left side of the model using the shown creases to complete this part of the Elias stretch.



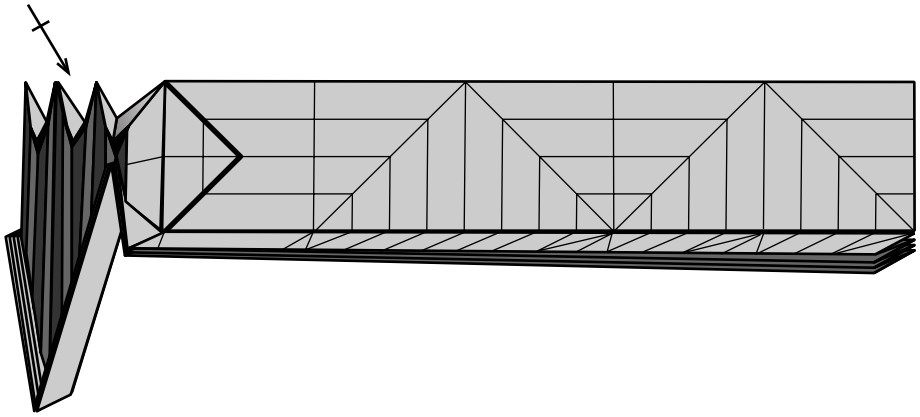
Continue to pleat upwards along the diagonal until you reach the marked intersection of the reference diagonals. Close the model from the left while doing so.



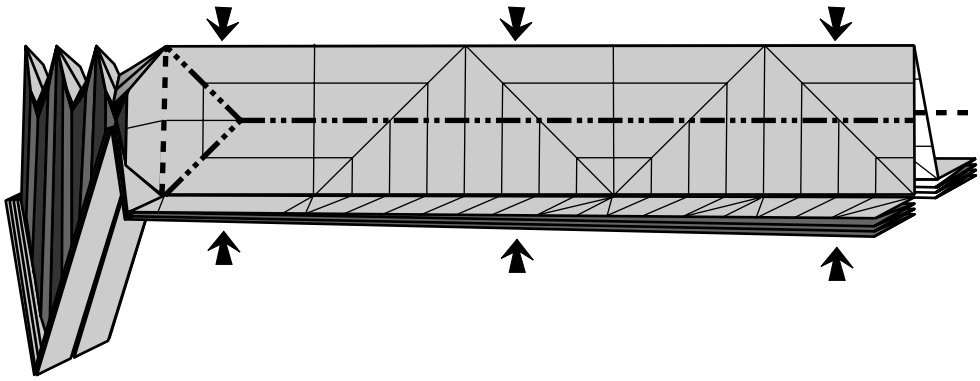
Push in where shown and close the model up further.



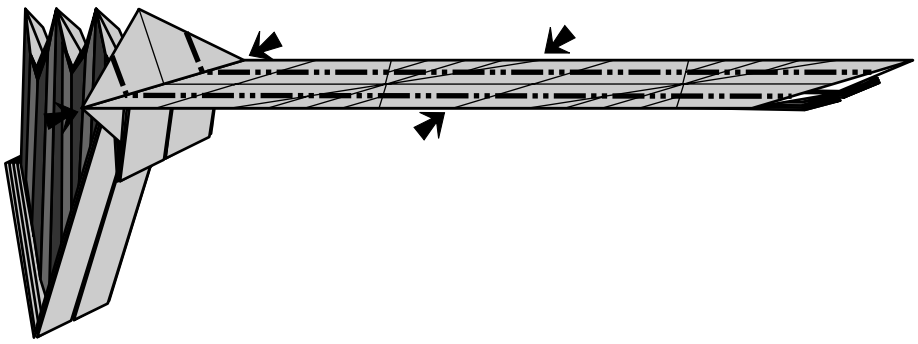
Before finishing this step we need to repeat what we have done so far on the back side.



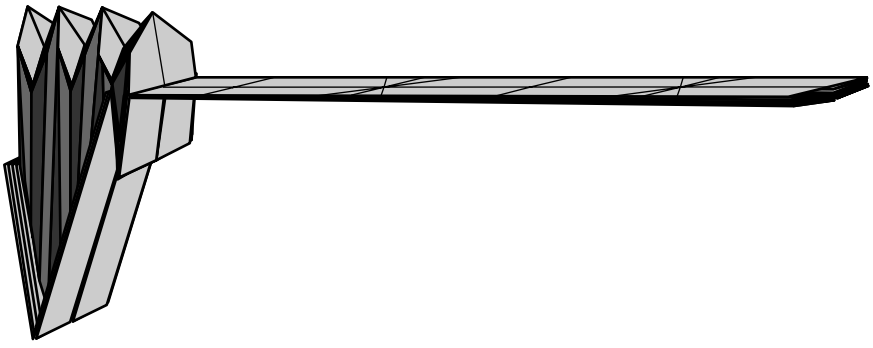
The whole model is shown again from here on.
Make a sort of double rabbit ear.



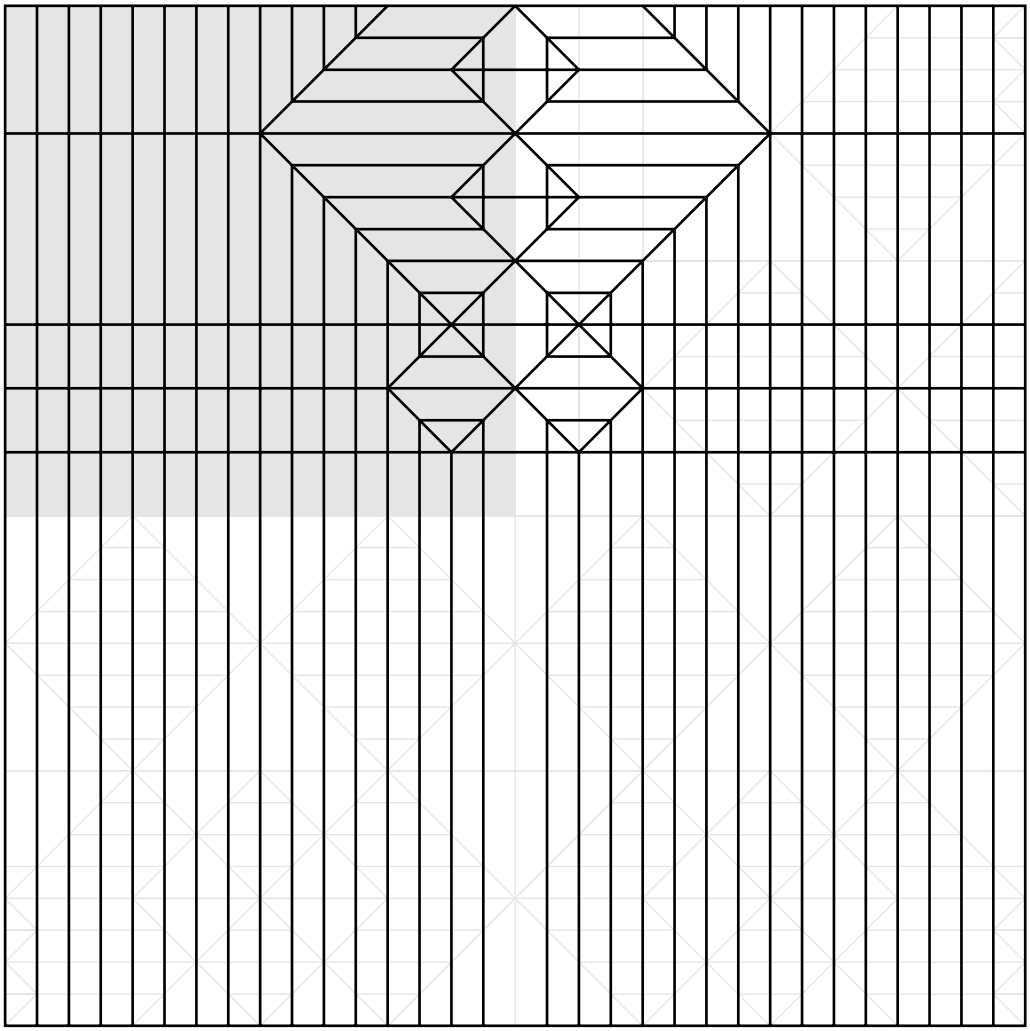
Open sink the sides so that everyhing has the same width.



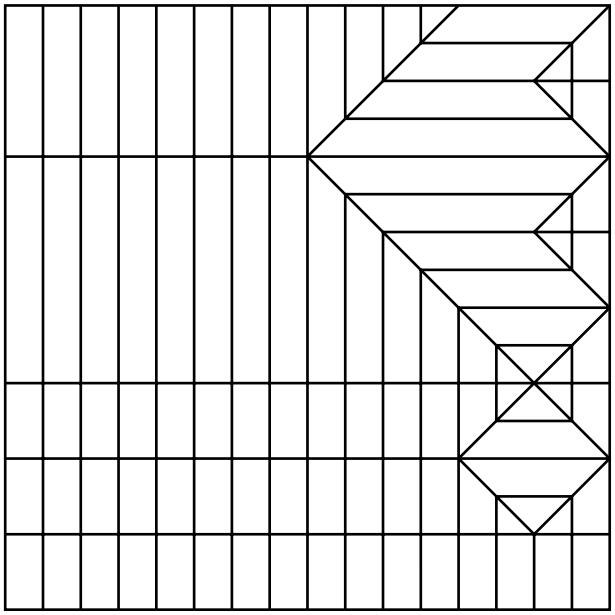
With this we are done for now.



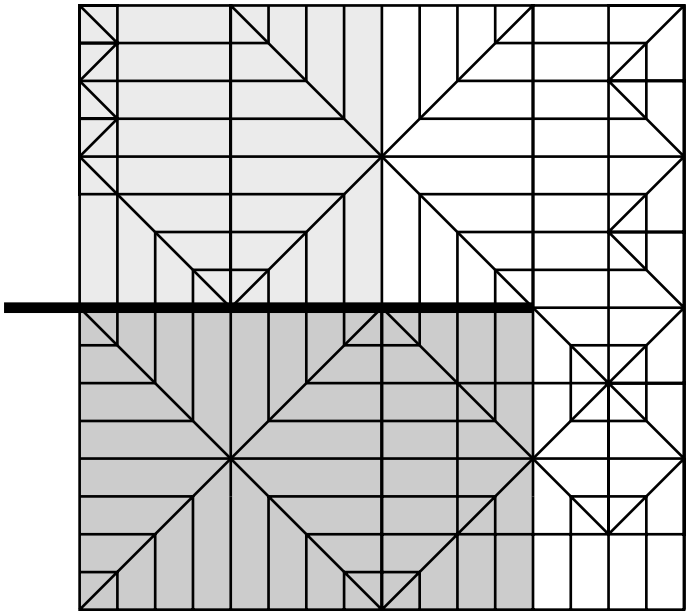
Now, after this extended Elias stretch, let's lean back for a bit and take a look at the CP to check our progress. We're only interested in the shaded part for now.



Current CP



Intended CP



The two shaded areas still need some fixing. In the square packing those two areas are divided by a continuous horizontal line. As I explained in the last part a division like this means that those two areas can be folded independently from each other. The Elias stretch we just made separated those two areas from each other.
In general when folding a box pleated CP you should attempt a Divide-and-Conquer approach like this working from the symmetrie line outwards instead of trying to collapse everything at once.

In the next part we'll see how to finish the two shaded areas.