

Three Simple Book Structures

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Accordion Fold Book

This is the simplest and least traditional of the three books in this workshop. A single long sheet of paper is folded into an accordion-like structure. Then a separate piece of paper is folded to make a cover. No sewing is needed. This type of book can slowly reveal a story or set of pictures while allowing the whole to be viewed if fully opened.

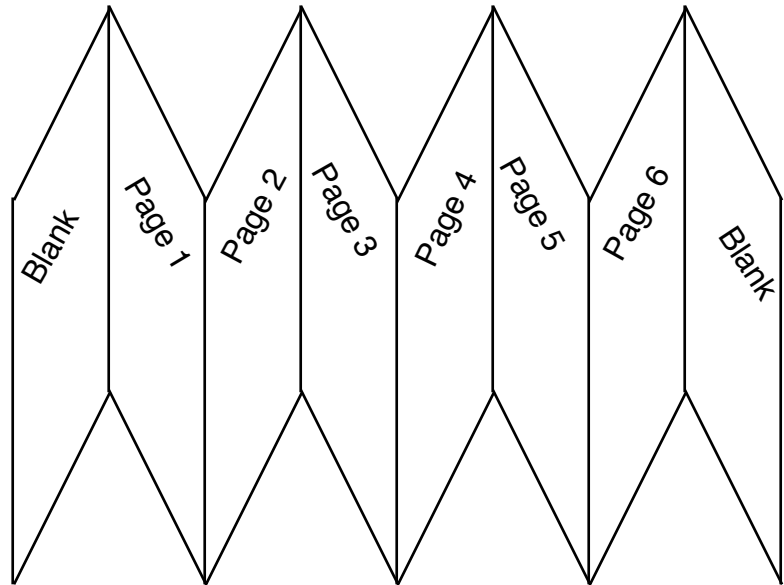
Directions:

Pages:

1) Determine height of book and the final width. Multiply width by number of pages desired for size of paper. The accordion should always have an even number of pages. The first and last pages (see diagram below) will be concealed by the cover. Cut out paper to this size.

2) Fold paper in half. Then fold in half again. Continue this until the correct size and number of pages is reached.

3) Unfold paper. Some of the folds will be folded in the right direction. Others will have to be back-folded so they fold the right way. Make sure as you refold that the right side will be out.

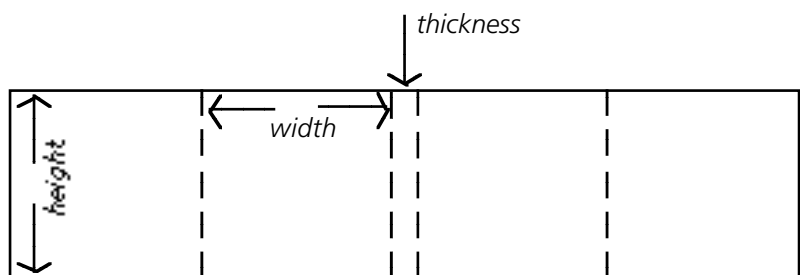


Cover:

1) Cut heavier stock of paper to height of accordion by 4 times the width plus the thickness.

2) Starting at one edge, measure and fold as in the diagram below.

3) Fold outer flaps onto outer pages of accordion. Flaps may have to be trimmed a little bit to fit properly.



Variations:

Accordion fold books do not have to be square. The only rule is they have to follow the principle of paper dolls: Each page must connect to the adjacent pages by the folds. It also makes a stronger book if they are connected in at least two places.

Text and/or images can be placed on both sides. Either the cover doesn't have to be used, or the reader can discover a hidden text on the back side.

To make a longer accordion, two sheets of paper can be glued together after folding.

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Single Signature Pamphlet

This style of sewing is useful to sew a small quantity of folded pages together. Care must be taken when laying out the book to make sure that the pages will be in the right order (e.g. in an eight page pamphlet, the first folded leaf will contain pages 1, 2, 7, and 8) and the paper grain is running parallel to the spine (see **Notes**). Any size paper can be used, but for sizes larger than 10" tall, more sewing holes should be used (see *Variations below*).

Directions:

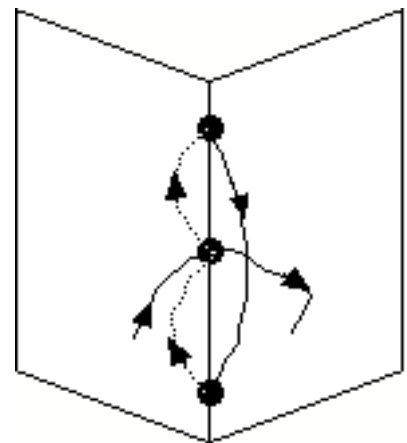
1) Determine number of pages and size and if you want a different paper for the sewn on cover. This type of book structure can support up to 8 folded sheets (for a total of 32 pages). Cut paper to the height of the pages by two times the width of pages.

2) Fold paper in half. Fold all the sheets for each pamphlet at the same time, except for papers of different weights, such as a heavier cover.

3) Put pages in proper order. Clip pages together with paper clip and pierce three holes for sewing. One is in the middle, the other two no closer than 1/2" from the top and bottom.

4) Cut length of thread 2 to 3 times the height of the book. Sew book. (See diagram: solid black lines are on the outside; dotted gray lines are in the inside.)

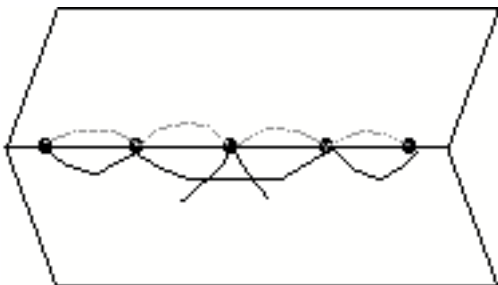
- a) middle hole outside to inside
- b) along inside to top hole and then out
- c) along outside (past middle hole) to bottom hole and then inside
- d) along inside to middle hole and then outside
- e) tie square knot on outside



Variations:

By reversing the sewing (i.e. starting on the inside) the knot will be hidden.

After tying the square knot, a bow knot or beads can be added to the thread ends. Ribbon can be used rather than thread.



For larger pamphlets, use a five-hole sewing. The pattern is the same, but an extra loop is made to reach the very top hole before heading past/to the center hole. (See diagram.)

For a decorative effect, instead of using a fifth hole, the thread can be brought over the head (top) and tail (bottom) of the book. The pattern is the same as in the five-hole variation.

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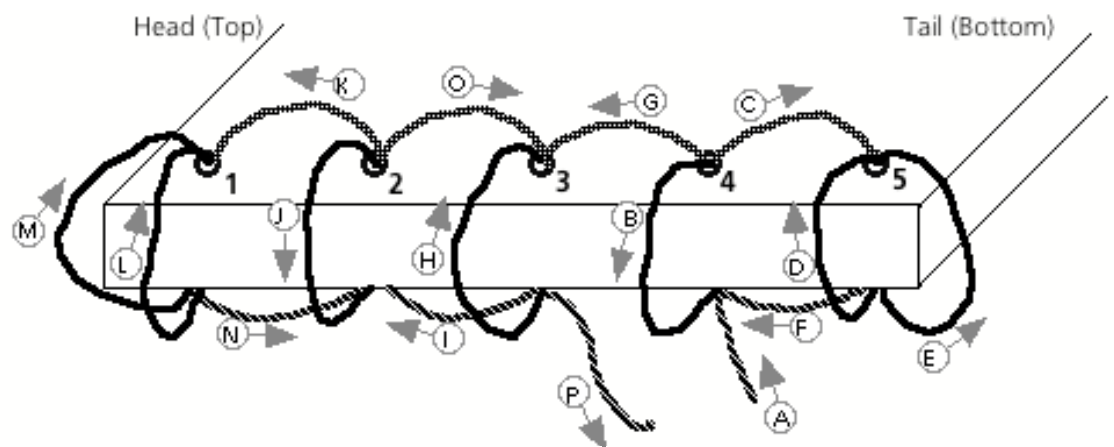
Japanese-style Side Sewn Book

Side sewing is an effective way of sewing loose (unfolded) sheets of paper together. Prior planning of collation is not as important in this method, since pages are loose and can be rearranged as needed. It is important when planning a side sewn book to use flexible paper and to make sure the grain is running parallel to the spine. Depending on the number of holes and color of the thread(s) used, beautiful designs can be created to accent the cover or character of the book. For variations on sewing patterns look at Shereen LaPlantz's *Cover to Cover* or Kojiro Ikegami's *Japanese Bookbinding*.

Directions:

- 1) Gather pages and covers together (in correct order), jog even, and clamp with a bull dog clip.
- 2) Punch holes along binding edge in desired pattern. The holes should be no closer than $\frac{3}{8}$ " from the edge (so they do not rip out). We will use 5 holes for the book we do today.
- 3) Cut length of thread 4 to 6 times the height of the book (depending on thickness of book and number of sewing holes) and thread needle.

- 4) Sew book making sure to keep the thread tight as you sew (use the diagram and the instructions which follow):



- a) begin sewing in the second hole from the bottom (#4) from *back* to the *front*; leave 4 inches of thread
 - b) around edge of the spine and then back through #4, again from *back* to the *front*
 - c) from hole #4 to #5, then through #5 from *front* to *back*
 - d) around edge of the spine and then back through #5, again from *front* to the *back*
 - e) around tail, then through #5 from *front* to *back*
 - f) from #5 to #4, then through #4 from *back* to *front*
 - g) from #4 to #3, then through #3 from *front* to *back*
 - h) around edge of the spine and then back through #3, again from *front* to the *back*
 - i) from #3 to #2, then through #2 from *back* to *front*
 - j) around edge of the spine and then back through #2, again from *back* to the *front*
 - k) from #2 to #1, then through #1 from *front* to *back*
 - l) around edge of the spine and then back through #1, again from *front* to the *back*
 - m) around head, then through #1 from *front* to *back*
 - n) from #1 to #2, then through #2 *back* to *front*
 - o) from #2 to #3, then through #3 *front* to *back*
 - p) on *back*, wrap end of thread around thread in hole #4, then tie square knot with two ends of thread; poke knot into hole with awl
- 5) Score and fold cover $\frac{1}{8}$ " from the sewing (for thicker papers or heavier books, this should be done before sewing).

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Notes:

Tools and Materials:

- bone folder (or something flat to make sharp creases, such as ruler or your fingers)
- needle
- awl (use a sculptor's pick for a cheap substitute)
- scissors
- paper (using different color, textures and weights makes the books visually more interesting)
- thread (or ribbon or twine or...; use a heavy weight thread, not the standard button-sewing weight)

Other useful and fun things:

- ruler
- X-acto knife (or equivalent)
- beads and/or feathers
- markers, crayons, paints
- rubber stamps
- glue stick

Paper Grain:

All machine-made papers have what is called a grain, which is the way the fibers line up when the paper was made. Handmade papers often will not have a perceptible grain, but it is best to always check. Making sure that the grain runs parallel to the spine will ensure that the pages open easily (especially on a side-sewn volume) instead of snapping shut. While paper grain is not as important in the accordion fold book, if the paper is heavy, it will fold easier with the grain than against it.

To find the grain of a sheet of paper, cut a corner from the paper (making sure to tell which direction you cut it) and wet it with water. The direction the paper curls is parallel to the grain. Also note that paper, when wetted with water or glue, will expand perpendicular to the grain.

Holding Difficult Knots:

If the knot on either one of the sewn bindings does not seem to be holding, a dab of white craft glue (such as *Sobo*) can be used to hold the knot. Elmer's and carpenter glues are not recommended for books since they do not dry flexible. Rubber cement is also not recommended since its adhesion is not permanent and will discolor over time.

Web Resources

Book Arts Web: <http://www.philobiblon.com/>

Links to almost every available book arts web page in the world.

Guild of Book Workers: <http://palimpsest.stanford.edu/byorg/gbw/>

The largest book arts organization in the country. Information on membership is available online.

Book Arts Listserv: <http://palimpsest.stanford.edu/byform/mailling-lists/bookarts/>

Communicate with over 1,500 book artists from around the world.