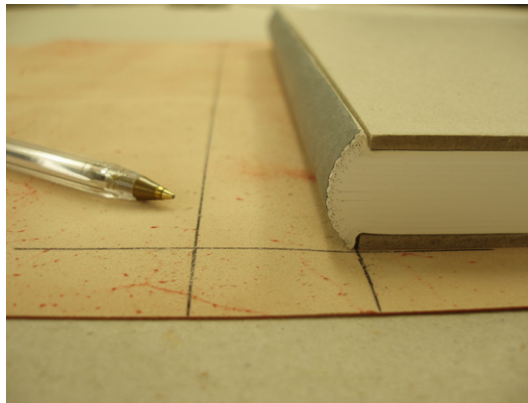


COURSE NOTES

Module 5 : A full leather case binding

(revised november 2012)



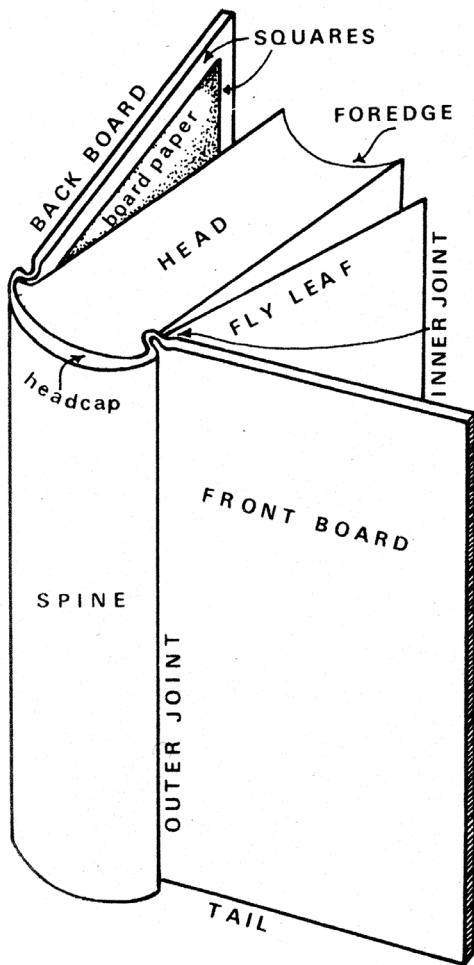
Written by Benjamin Elbel
Proof-read by Diana Illingworth-Cook
Photos : Edward Johansson, Luke Hornus,
Jonathan Powell, Benjamin Elbel
Drawings (except endpaper construction) :
Arthur Johnson



Shepherds Falkiners, 30 Gillingham St,
Victoria, London SW1V 1HN
Telephone +44(0)20 7233 9999

The Daffodil Barn, Nursery Farm, Woodborough, Near Pewsey, Wiltshire, SN9 5PF
+44(0)1672 851979

www.bookbinding.co.uk



In this course a full leather binding is made. Being a case binding (as opposed to a 'fine' binding which has drawn-on leather and laced-on boards), the stages are essentially the same as in module 2 (multi-section case binding), but with plenty of advanced features (highlighted in *italic*):

1. Making the 'bookblock' : the sections are sewn using an *unsupported link-stitched*, and the block is then rounded and *backed*. This stage also includes the making of '*made*' endpapers with decorative paper.
2. Making the case : in order to make a neat leather case, it is necessary to *pare* the leather in the headcaps and corners areas, and *fill-in* the inside of the boards. Participants will also learn how to *divide the spine* into panels and mould the leather around the *raised bands* as well as the *blind headcaps*.
3. The final stage is to glue the bookblock to the case, process known as '*casing-in*'.

Stage 1 - Making the bookblock

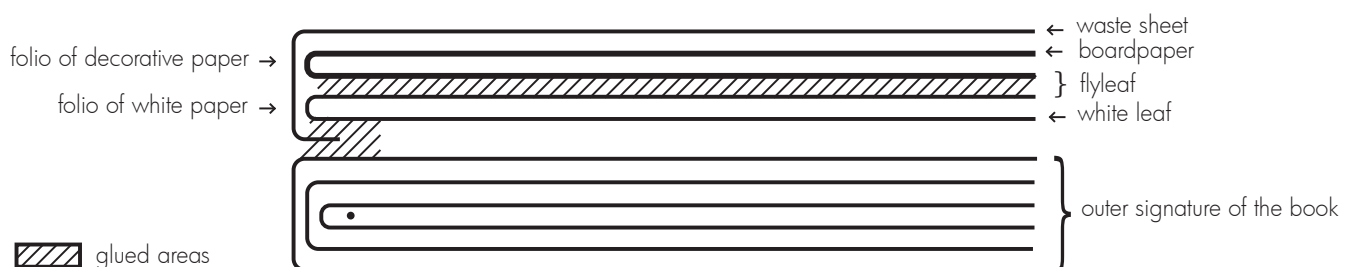
A) Endpapers

Why 'made' ends ?

The backside of decorative papers isn't always very attractive, especially marbled paper which often presents spots and stains, which is why it has to be lined with white paper. In addition to that the resulting stiffness of the flyleaf offers a good protection to the textblock and is a pleasant feature of a more advanced binding.

The following diagram shows the composition of the endpaper, which includes a protective waste sheet. On cutting the papers, great care must be taken to ensure that :

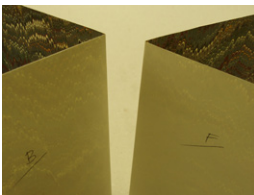
- 1) all papers run from head to tail
- 2) in case of a patterned decorative paper, patterns are the same way up at front and back



LAMINATING THE DECORATIVE PAPER

For this project we will make an A5 book using 100 gsm short grain A4 paper. With these dimensions in mind, the steps to make endpapers are as follows :

- Cut two pieces of decorative paper 5 mm bigger than landscape A4 and fold in half with the pattern inside
- Name each folded piece to ensure that the patterns will be the same way up at front and back (1)
- Fold two pieces of white landscape A4 paper in half
- Line the decorative paper, one piece at a time, by gluing out the white folds with a brush or a roller (2) and sticking them onto the unmarked sides of the decorative paper folds (3). Immediately place between blotting paper and wooden boards and nip in the press for a few minutes.
- After the nipping it might be necessary to carefully open up the white fold with a knife (4). The laminate has been created (5).



1.



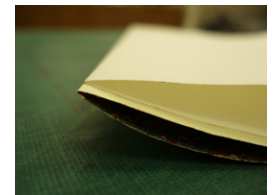
2.



3.



4.



5.

NOTE

The reason why we apply glue to the white paper rather than the decorative paper is to ensure that the flyleaves bend slightly towards the inside of the book rather than the other way around which would be unaesthetic.

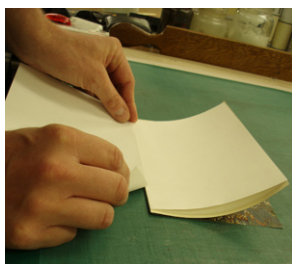
ATTACHING THE WASTE SHEET

Cut a piece of paper same height as the white fold and a bit wider than A5. Apply glue on 3 mm along one of its long edges (1) and tip on the laminate on the side of the white fold (2-3). When dry, slightly score the waste sheet along the fold (4) and fold it over the marbled paper (5-6). Bonefolder down (7) and write F and B on the wastesheet (8)

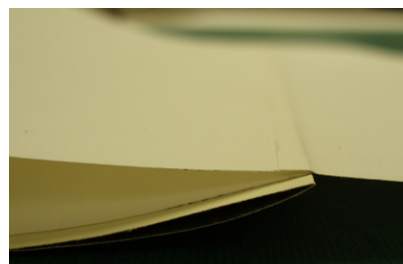
Leave the endpapers open for another 10 minutes to allow most of the moisture to leave, then put back between blotting paper under heavy weights.



1.



2.



3.



4.



5.



6.



7.



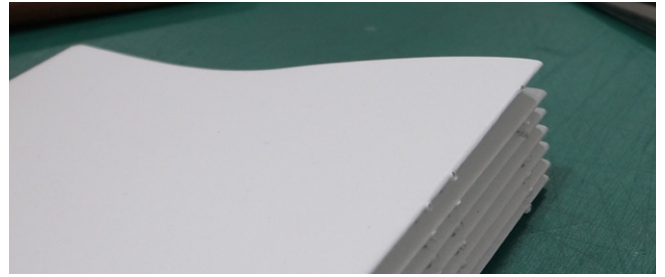
8.

NOTE

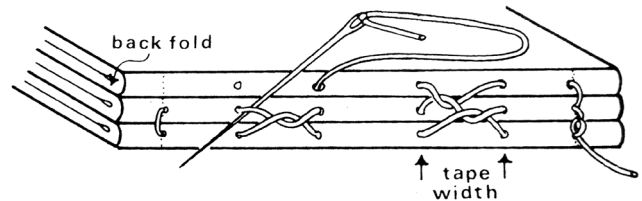
If time allows, it's better to leave the endpapers to dry overnight.

B) Sewing

Fold 8 sections of 4-5 sheets of short grain A4, until a thickness of about 12 mm is achieved. Using a piercing template, pre-pierce all the sections from the inside, allowing for two sewing stations of 15 mm wide, evenly distributed, and kettle stitches, 15 mm away from the head and tail. Each section should have 6 holes.



The sewing is achieved as shown on the diagram : when coming out of a section, at each 'tape' position, pick up the thread immediately below the hole you are about to enter.



NOTES

1. Picking the thread can be achieved by introducing the needle either from above or from underneath the thread . It doesn't matter what you choose as long as you are persistent with one method.
2. Unsupported sewing facilitates gluing up and backing, but for heavier books, tapes should be used.

C) Tipping on endpapers

Tip on the endpapers by applying 4-5 mm of glue on the fold edge. Make sure the white paper is aligned (the decorative paper will overlap on all sides except on the back. Rub down.

D) Gluing up the spine

Place the book between two scrap boards and apply glue with a brush, filling up every gap between the sections. Remove the boards and allow to dry, with the spine 10 mm away from the bench edge, with a board and a weight on top.



E) Trimming

When the spine is dry (that should take about 20 min), tap down the spine with a hammer to reduce any excess swelling. It is then time for trimming, on a guillotine or plough, which evens out the edges. What you are aiming at is to cut the minimum of paper to achieve three smooth edges. Start with the fore-edge, followed by the tail and finally the head.

NOTE ON CUTTING THE HEAD AND TAIL

If any swelling remains (spine thicker than the rest of the book), a few sheets of paper or a board must be placed on top of it, frayed out a few mm away from the spine edge to compensate the spine thickness, and be trimmed with the whole bookblock. Failing to do so will result in curved edges !

E) Rounding

Place the book on your bench with the spine away from you, your left hand flat on it and your thumb on the fore-edge and repeatedly stroke it over length of the spine with a backing hammer. Turn the book over to repeat the process on the side, and repeat the operation on both sides until a nice even round shape is achieved (1)
 To prepare the book for the next step, the backing, we then need to mark the depth of the shoulder. Select a board the same thickness as will be used for the book covers - 2 mm greyboard is suitable for this format. Stand the board upright on its edge on the shoulder of the textblock and draw a line along the inside of the board on the textblock using a thick pencil, to allow for a little more than the board thickness (2-3)



1.



2.



3.

F) Backing

Put the book in a laying press with the backing boards aligned with the pencil lines and begin fanning out the outer sections. Operate carefully with your fingers, or a bonefolder (4) and be very critical about the evenness of the shoulder. At any time you can readjust the position of the book in the press and push the sections back if necessary. Only when absolutely convinced that the shoulders will be even and the depth is correct, close the press very tightly and start using the backing hammer (5-6)

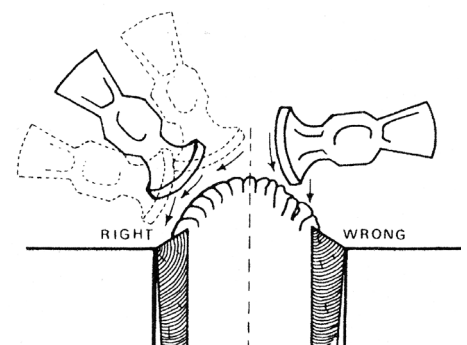
When a 90 degrees angle is reached in the shoulder, take the book out of the press, put the boards against the shoulders and use a bonefolder to sharpen the shoulder against the board edge (7)



4.



5.



6.



7.



8.

NOTE

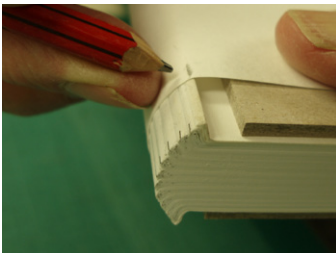
Case bindings, unlike 'fine bindings' usually have their shoulders slightly proud of the boards. This ensures that, when opening the book, the boards will swing nicely around the shoulders without pulling the flyleaves with them.

G) Lining the spine

The aim of this step is to consolidate the spine but also to reinforce the joint of the endpaper, which is effectively the only cover-to-text attachment in a case binding.

Cut a piece of mull wide enough to overlap the bookblock by approximately 25mm on each side and slightly shorter than the length of the bookblock. Measure the width of the spine, from shoulder to shoulder using a piece of paper (1) and prepare a strip of archival kraft paper of that width and slightly longer than the bookblock. Remember to make sure both materials run from head to tail.

Place the book in a finishing press or simply on the bench, spine away from the edge. Brush the spine with EVA (2), making sure you always stroke from the middle to the edges. This way you will not put any glue beyond the shoulders or on the edges. Center the piece of mull and stretch it over the spine (3). Brush the whole spine again, filling up every gap of the mull (4). Position the strip of craft so that one of its short edges is flush with the top of the spine (5). To facilitate this you can previously dampen it on the outside, which will make it curl just the way you want. Thoroughly rub down with a teflon folder (6-7) and finally, trim the overlapping kraft with sheers (8)



1.



2.



3.



4.



5.



6.



7.



8.

Stage 2 - Making the Case

A) Boards

Put an oversized board against the shoulder of the textblock and draw the outline of the board by adding 3 mm from the edges of the textblock. Check that this measurement also suits the other side of the textblock. This should be the case but if not, adopt the widest measurement for both rather than make two different sized boards.

B) Spine stiffener

Cut a strip of manilla measuring the same height as the boards and the width of the spine from shoulder to shoulder (should be the same width as the kraft liner). Make sure the piece is long grain.

RAISED BANDS

Raised bands are attached on the **outside** of the spine stiffener and have a purely decorative function. They can be thin or broad depending on the desired effect. For this project we will use 2.5 mm wide raised bands. The number of raised bands also varies but the most common is 5, which results in 6 pannels. When tooled, lines are usually added at the top and bottom to simulate additional bands. This explains why, in order to maintain the same distance between the bands, the top and bottom pannels are bigger. And last but not least, the bottom pannel is bigger than any other, for optical reasons.

Raised bands can be made out of various materials (cords, vellum, leather, card, etc). For this project we will use leather (two layers of goatskin glued together to achieve a thickness of approximately 1.3 mm) for its flexibility (the stiffener will be rounded in later stages).

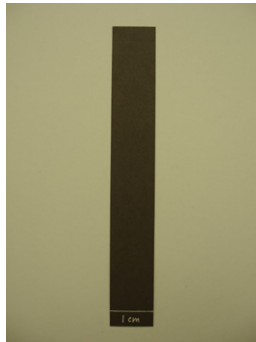
Using a rule and a scalpel, cut 2.5 mm leather thongs (1) and divide into 5 units, wider than the spine stiffener (2). Draw a line, 1 cm from the bottom edge (3). Using a calculator, split the distance between this line and the top edge into 6. Set your dividers on that measurement and walk the dividers starting from the top. Using a carpenter's square, draw lines at each position (4). Glue the bands **under** the lines, except for the bottom one (5). Trim the bands to the width of the spine stiffener (6-7). Finally, chamfer the ends of the bands at a 45° angle (8-9)



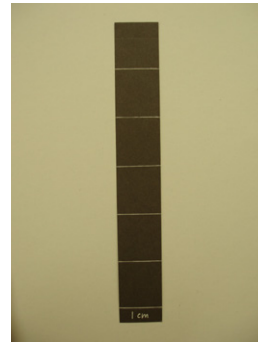
1.



2.



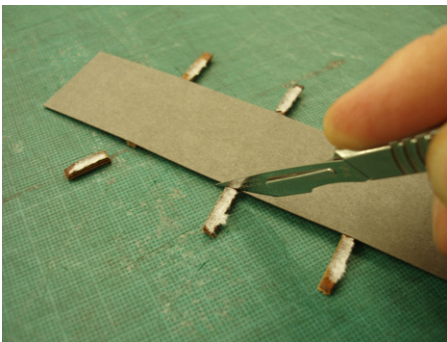
3.



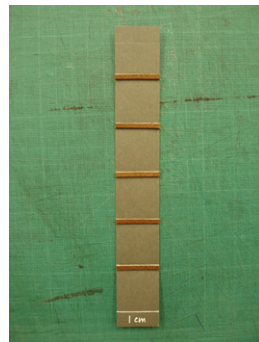
4.



5.



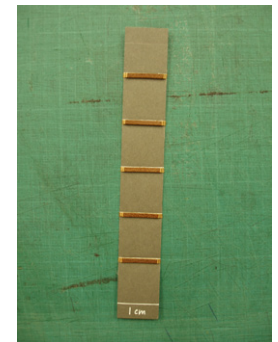
6.



7.



8.

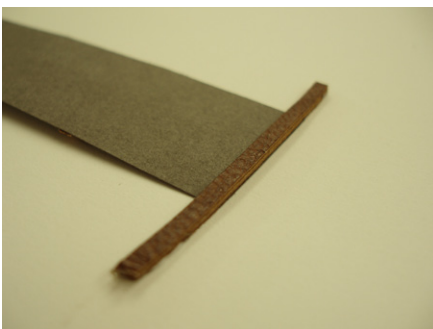


9.

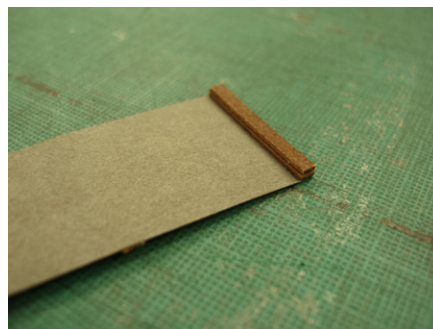
BLIND HEADCAPS

Blind headcaps are an alternative way of forming headcaps, which doesn't require the support of headbands. They are easier to form than traditional headcaps because they have a core attached on the **inside** of the spine stiffener. The core width equals that of the head and tail squares, minus the room necessary for the leather turn-ins. With 3 mm squares, the core width should be around 2.5 mm.

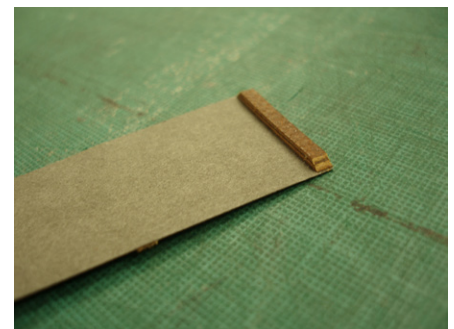
Like previously, cut another two thongs of leather and glue them at both ends of the spine stiffener (10). When dry, trim them to the width of the stiffener (11) and finally, chamfer the edges (12).



10.



11.



12.

C) Leather

Vegetable-tanned leather is, traditionally, the king of bookbinding leathers because when soaked with paste, it can be moulded beautifully to form headcaps. However, this isn't required to form the type of headcaps made in this project. As a consequence, any reasonably supple leather can be used for this binding, including chrome-tanned.

CUTTING

Before cutting into a skin of leather, it is advisable to make a template out of paper. This will help to ensure the correct size and allow you to more conveniently select the best part of the skin.

Put the book into its boards and use it to determine the size of the leather rectangle :

width : board height + 4 cm

length : from front board fore-edge to back board fore-edge + 4 cm

Lay out the template on the skin and cut the leather with a scalpel by laying a ruler on the edges of the template.

Send out the piece to a parer to have it split to 0,5 mm.

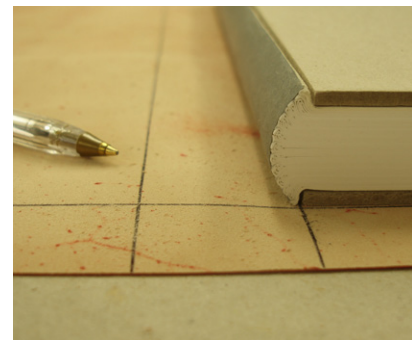


PARING HEADCAPS

Mark out the headcap turn-ins which need paring. Do so by positioning the book in its boards on the leather with even turn-ins. Draw the position of the first board edge (the edge on the shoulder side), then flip the book to draw the other side. Draw two vertical lines by joining the points.

Then draw two short horizontal lines intersecting with the vertical lines using one of the boards as a template. The two small rectangles are the leather turn-ins which are going to be under the spine stifferer. To avoid heavy unaesthetic lumps in this area, these rectangles have to be thinned down. This operation is called 'paring'

Paring is achieved by shaving the flesh side of the leather with the very sharp blade of a paring knife. That's why the first thing to do is to sharpen your knife. To do so, use a piece of suede leather with previously applied metal polish paste and run the blade onto it as shown below :



sharpening the beveled side



sharpening the flat side



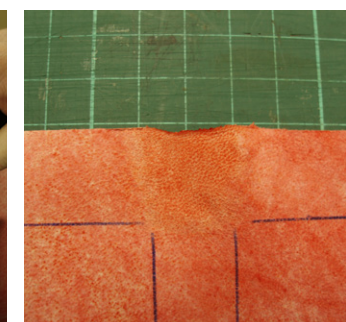
NOTE

Knife sharpening is fundamental for successful paring, before but also during the operation. The blade gets blunt by working and it's necessary to continuously resharpen it. See module 4. Tools and materials.

Paring is done on a 'paring stone', which is a heavy litho stone. The stone must be absolutely flat and smooth so before you start paring it's a good idea to give it a wash. While paring, extra care must be taken to ensure that none of the leather shavings land under the skin, which would result in irregularities in the paring or even holes. To pare, gradually thin down the designated area by scooping out small leather shavings. You know you're done if, when folding over the turn-in and running your finger on the hair side, you can feel almost nothing. The very edge of the turnin must be 'feathered' (pared down to zero)



Paring



The pared headcap

D) Covering with leather

With the headcap turn-ins being pared, it's now time to attach the boards to the leather. The corners also need paring but unlike the headcaps they can be done with the boards in place so we'll worry about them later. First of all, check your boards : sometimes the cutting, especially by hand, generates 'burrs' along the edges. If it's the case, a little sanding can be necessary to level it out. Generally, keep in mind that everything between the boards and the leather will show, even the smallest thing like a brush hair for example. Therefore you need to be very tidy, and to avoid any complication, it is recommended to thoroughly tidy up the workspace before covering, especially the leather shavings and dust left from the paring.

One more detail before starting : name the boards, (even if they are the same size) by writing F and B on the **inside**.

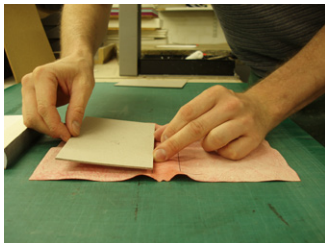
BOARDS

Using a clean foam roller, glue out the **outside** of the **back** board with EVA and stick it onto the leather into the area previously designated (1). Turn over and rub down the leather with the palm of your hands or a teflon folder, taking great care not to dent the surface (2).

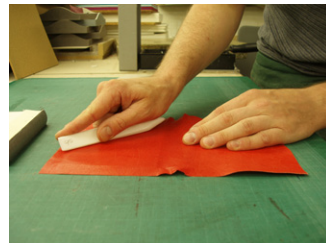
Then put the textblock with the shoulder against the board edge and the top edge of the board aligned with the top edge of the book. Glue out the outside of the front board and place against the shoulder of the book, top edges aligned (3). The glue is now facing up. Hold the front board in place and wrap the leather over it, firmly (4-5-6). Immediately take the book out of the case and rub the leather down on the front board.

SPINE STIFFENER

Glue out the outside of the spine stiffener (the side with the raised bands) with EVA and a brush. Using a stippling action, make sure you put glue everywhere, including the edges of the bands (7). Position the spine stiffener equidistantly between the boards, aligning the head and tail to the boards (8). Then insert the textblock again and close the book (9-10). You will see the bands protruding under the leather : rub down between the bands with a teflon folder, and mould the leather at the base of the bands with a 'band nipper'. Keep doing so until the bands appear nice and sharp.



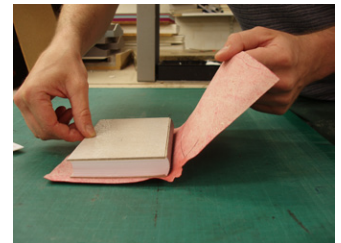
1.



2.



3.



4.



5.



6.



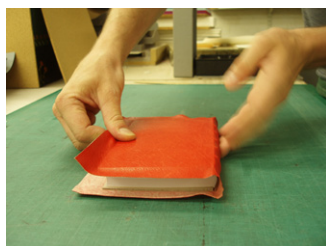
7.



8.



9.



10.



11.

CORNERS

Cut the leather at a distance from the corners of one board thickness plus one mm. Then bevel the last mm of the leather using a scalpel. You can check if the bevel should be longer by trying to overlap the leather, without glue. It should feel reasonably flat.



TIP

To ensure that you cut the 4 corners the same, you can use the edge of a board scrap as a template. For example, if your book boards are 2 mm thick, use a 3 mm thick board.

TURNING-IN

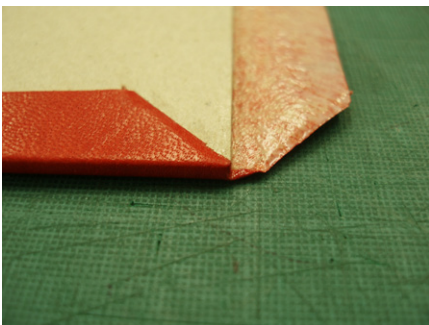
Glue out the turn-ins with a brush (1). You can add a little paste to the EVA to give you extra time for this operation. Start with the horizontal turn-ins, molding the leather nicely around the headcap and on the board edges (2). Then pinch the corner (3) and do the vertical turn-ins (4-5). Shape the corner with a bone folder to eliminate any lumps.



1.



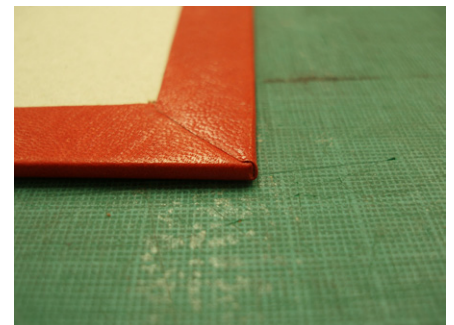
2.



3.



4.



5.

TRIMMING TURN-INS AND FILLING-IN

This last stage before casing-in is not absolutely necessary to the well-functioning of the binding but really gives it a more professional quality. The idea is to raise the inside of the boards to the level of the turn-ins by gluing a card of the same thickness as the leather. This has the effect of hiding the turn-ins and leveling out the whole surface.

Filling-in also offers the opportunity to lower the colour contrast between dark leathers and the pale grey board, which can be a problem if the boardpapers are thin see-through. This is why it can be necessary to use a coloured paper as a filler. (We'll use green in this handout for clarity)

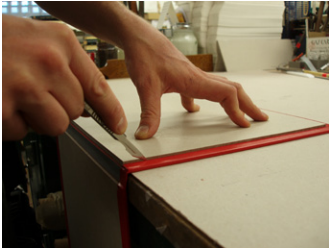
Choose a card of a suitable thickness by butting it up against the leather turn-in and running your finger from the leather to the card. In doubt, use a slightly thinner filler. Make sure you have two pieces running from head to tail.

Cut a piece of board 1,5 cm narrower and 3 cm shorter than the bookboards. Mark up this board with a pencil line : we'll use it as a template to trim the turnins and cut the filler cards.

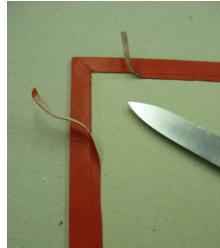
Place the case on the edge of the bench as shown on fig 1: this will prevent from cutting into the joint (leather between the boards and the spine stiffener). Position the template board, lined up with the bookboard along the joint, with evenly distributed head and tail turnins. Cut around with a scalpel (1).

Peel off the leather (2)

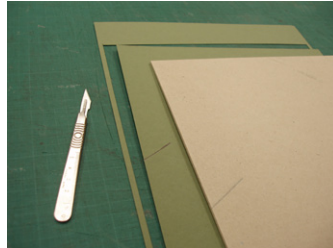
Cut two filler cards using the template board (3) and glue them in (4). It is important that you operate quickly, using undiluted EVA to minimize the pulling of the filler.



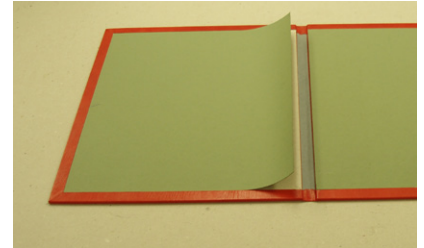
1.



2.



3.

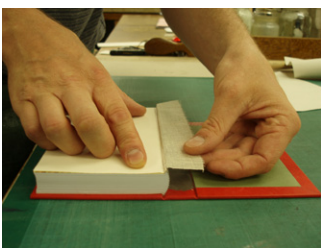


4.

Stage 3 - Casing-in

The case is now completed and if no lettering or decoration is to be applied the bookblock can now be cased-in. Open up the case and place the bookblock on the back board, showing even squares. Pull the mull out of the way (1) and tear off the protective sheet (2). Insert a waste sheet under the pastedown and glue out with EVA (3). Apply glue over the mull, do not be tempted to lift it and put glue between the mull and paper for it could be too much and end up soaking through the endpaper. Carefully lift the endpaper and remove the waste sheet (4). Close the book (5-6) and immediately flip and open to adjust the position of the pastedown (7). Do the other side in the same way but do not open the book more than 90° when adjusting. Insert silicon papers between boardpapers and flyleaves, place the book between two clean wooden boards with the shoulders outside (8) and put in the press with good pressure for a few minutes.

After a few minutes, take the book out, replace the silicon paper with cards or blotting papers and leave under weights for at least one night. The binding is now completed.



1.



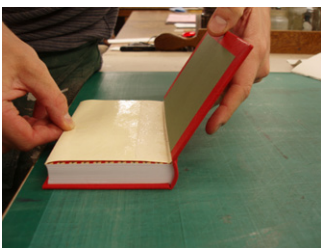
2.



3.



4.



5.



6.



7.



8.