

Collections Care Section: General Manual

B. Intermediate Treatment II

7. Forwarding

Time Requirements:

Forwarding is the preliminary step in several treatments (recase, recase new spine, recase line original spine, new case, and new case / tight joint). Forwarding on its own is not a treatment, but should not take more than approximately 30 minutes per book.

Purpose and Background:

Etherington and Roberts define forwarding as the “processes or steps involved in binding a book. It has been variously defined as: 1) all of the binding processes following gathering, including covering; 2) the processes following sewing and up to covering; and 3) the processes following sewing and including covering.”

Considerations:

Was the book originally rounded and backed? If it was, it is appropriate to round and back the spine during forwarding to restore the book’s original shape. If the textblock was never rounded and backed, leave the spine flat.

Procedures:

1. Remove the case (spine and boards) and the endsheets.
2. Remove spine material mechanically – book cloth, paper spine lining and cloth lining (super).
3. If necessary, use methyl cellulose to remove remaining spine lining and adhesive. Apply the poultice over the entire spine and cover with a deli wrap. Allow to sit for at least 15 minutes and remove. Repeat if necessary.
4. Re-attach any loose pages at the front or back of the books with Japanese paper hinges with wheat starch paste. Resew any loose sections. Any sections where a page has become loose or that is no longer a full folded signature but rather individual sheets should be reattached to their corresponding page in the signature. This is called guarding and is done with Japanese tissue paper strips and wheat starch paste adhesive.
5. Select endsheets. Trim endsheets sized to the textblock: height and width (plus at least one inch) longer than the fore edge of the front and back of the textblock. Attach endsheets with Japanese paper hinges (with wheat starch paste).
6. If needed, round and back the book to obtain the book’s original shape.

Tips:

Pull the flyleaves off to reveal the lining cloth (super) in the hinge area. The lining cloth can be cut with your scalpel / knife. Save the sewing supports, (tapes or cords) if they are intact and sturdy to be used later.

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Remove spine material carefully, without harming the sewing thread. Scrape off methyl cellulose with a book knife or microspatula, taking care not to soak into the textblock and create tidelines.

Measure the front endsheet against the front of the textblock and the back endsheet to the back of the text block.

If the textblock has been rounded and backed, the shoulder or the joint at the spine gutter should be placed over an edge (bench, shelf, or wooden board) with a weight placed on top next to the shoulder to maintain the new shape of the textblock.

7. Apply a thin layer of wheat starch paste to the spine. The first spine lining will be constructed from Uso Mino or similar Japanese paper cut to 2mm shorter than the height of the book and overhanging the spine width by ~1cm.

8. Allow the reversible layer to dry for ~30 minutes. After drying, apply the security strip to the spine. This Japanese paper spine lining creates the reversibility layer, the barrier between the textblock and the less reversible linings that will be attached with PVA.

9. Cut the cloth spine lining (cambric) to 2mm less than the height of the book and overhanging the spine by 2.5 cm on each side. Attach to the spine with PVA; use a damp cloth to moisten the cloth spine lining then use the Teflon bone folder to mold the cloth spine lining to the spine.

10. Thicker books will benefit from a paper spine lining created with Mohawk 60 lb. paper and cut to the height and width of the textblock.

11. Trim the endsheet fore edges to the width of the textblock using a metal ruler and scalpel / knife.

Protect the rounded shape of the textblock throughout the process by placing the spine edge over the edge of your workbench

Mind the grain direction on your paper spine lining! Grain direction always = parallel to the height of the book.

Preparing the Textblock for adhesive bound books

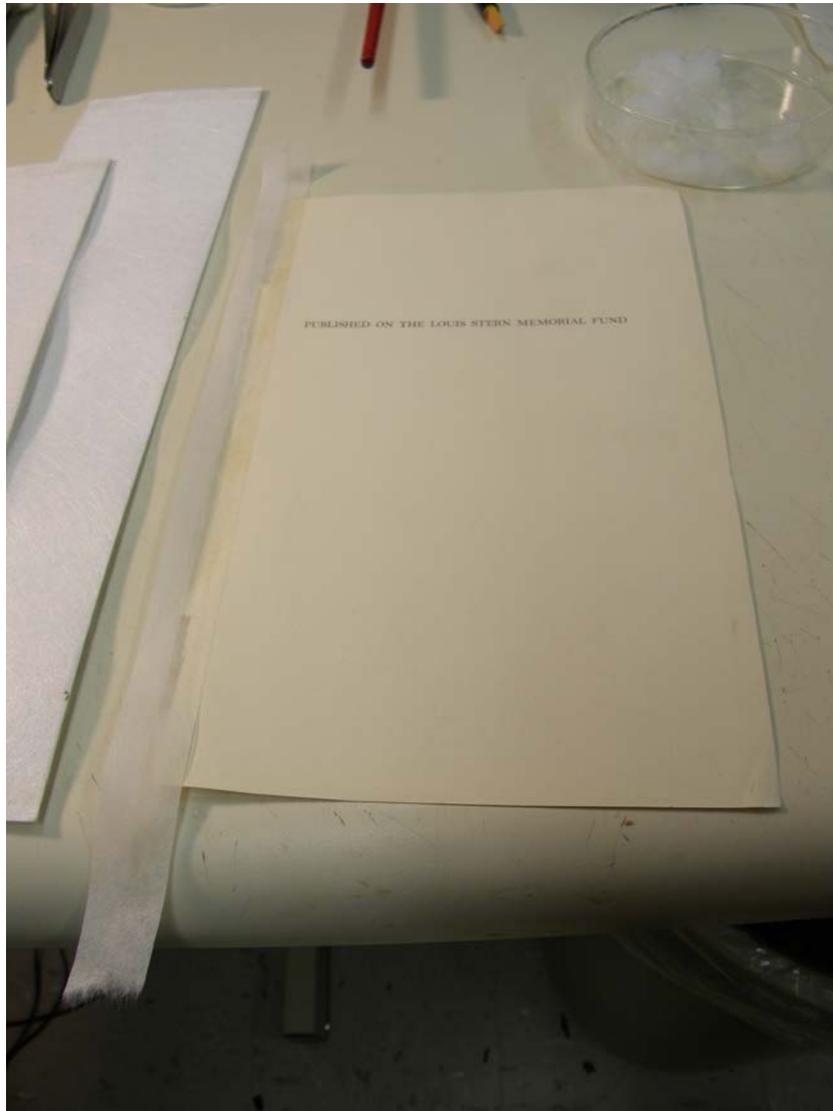
An alternative method to sewn-in endsheets, particularly when the textblock paper of a sewn textblock is too brittle to support sewing on endsheets

1. Attach Japanese tissue hinges to the folds of the new endsheets using the PVA/methyl cellulose mix. The tissue hinges should be about 16mm wide and longer than the endsheets. Apply the mix to 8mm of each endsheet on the folded edge. Then, place each tissue hinge so that half of it is stuck to the endsheet along the folded edge.

Place each hinged endsheet between blotter/spun polyester (Remay® or Hollytex®) sandwiches to dry. Place a Plexiglas weight on top. Turn each endsheet over after a few minutes to keep it from sticking to the spun polyester.

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2. Complete all necessary page repairs and tip-ins.
3. Remove the case from the textblock. This is sometimes easier if you gently pull the flyleaves off to reveal the lining cloth (super) in the hinge area. The lining cloth can be cut with small scissors, a scalpel or the edge of a microspatula. Save sewing supports (tapes or cords) if they are intact and sturdy.
4. Attach Japanese tissue hinges to the spine edge of any loose first or last pages. Use the technique for attaching Japanese paper hinges to endsheets.



5. Pull off and discard any blank tipped on pages at the front and back of the text. Leave blank pages in place that are sewn on as part of the first or last signature.
6. Clean the spine of the textblock. Remove the paper spine lining and the super. Remove as much as possible mechanically first. Then, apply methyl cellulose and gently scrape the remainder off with a microspatula or book knife taking care not to damage the signature folds.

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7. When the endsheet hinges are dry, fold the Japanese tissue hinge along the fold of the endsheet. The hinge should fold around the endsheet fold.
8. Using the board shear, square one end of the endsheets, super and paper spine lining.
9. Mark the endsheet to the height of the textblock. Place the endsheet on the board shear and set the gauge to the height, and trim both endsheets. Re-set the gauge 5 mm closer to the blade and trim the inlay. Re-set the gauge again, or visually estimate, 5 mm closer to the blade and trim the super.
10. Using a scalpel and a metal straightedge, trim the inlay to the width of the spine. Next, trim the super to the width of the spine plus 60-80 mm.
11. Attach separated pages from Step 4. Trim the hinge even with the edge of the page at head and tail. Glue out approximately 1/2 of the hinge, place the page on the textblock and wrap the hinge over the edge of the spine.



12. If the textblock has a rounded shoulder, mold the endsheets to the shoulder with a Teflon/bone folder. Apply PVA/methyl cellulose mix to the back half of the unattached portion of the Japanese paper hinge. Scoop the hinge into place against the edge of the shoulder. Quickly and delicately, smooth out the wet hinge with your finger or a Teflon folder, and place a sheet of wax paper between the hinge and the endsheet.

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Carefully, lift the textblock by holding onto the shoulder of the textblock and the wet hinge, turn it over and attach the second endsheet in the same manner.

If needed in order to avoid endsheets slipping out of place when learning to prepare the textblocks, attach one endsheet to each book in the batch, and then attach all the second endsheets. This will allow each endsheet time to set before moving onto the next. However, it is not necessary to wait for each endsheet to completely dry before attaching the second endsheet or moving on to attaching the spine linings. Eventually, the former procedure should replace the latter in order to improve production.

For those textblocks with fragile paper, or for 19th century books, attach the Japanese tissue hinges of the endsheet using wheat starch paste. Wrap the hinge around the spine of the text block rather than tipping them to the first and last pages.

For signature sewn textblocks, line the spine with Japanese tissue (cut to width of spine, and approximately 4-5 mm shorter than the height of the textblock from head to tail.) attached with wheat starch paste. This creates a reversible barrier between the textblock and the less reversible linings attached with PVA.

13. Again by holding onto the shoulders and wet hinges, place the textblock on the edge of the bench. Fold the lining cloth in half the long way. Apply PVA/methyl cellulose mix to the spine of the book and center the fold in the middle of the spine. Smooth the cloth onto the spine of the book using a Teflon/bone folder. Trim any excess from each cloth flap. The width of each flap should be approximately 25 mm from the edge of the shoulder.

14. Apply PVA/methyl cellulose mix to the paper spine lining and attach it to the super. Smooth the inlay onto the book's spine with a Teflon/bone folder. Be sure both linings are firmly attached to the spine with no gaps or bubbles.

Re-shape the textblock and weight until dry. If the textblock has been rounded and backed, the shoulder should be placed over an edge (e.g. a bench, shelf or wooden board) with a weight placed on top next to the shoulder. This will help to maintain the shape of the textblock.

15. When the textblock is dry, trim the endsheet fore edges to the width of the textblock using a metal ruler and scalpel.

8. Casing In

Time Requirements:

This step should take no more than 10 minutes to complete.

Purpose and Background:

To adhere the textblock to its original, treated, or newly constructed case.

Considerations:

Casing in on its own is not a treatment; it is the final step in the recase, recase/ new spine, recase/ lined original case, and new case treatments to form a cover to text attachment.

Procedures:

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1. Place the textblock in its case. Make sure it is right side up. Place the text block's spine against the spine of the case. Adjust the text block to make it sit equal at head and tail.

The book's square, the part of the board that shows beyond the textblock at head, tail and fore edge, should be about 3mm.

2. Place the book on your bench with the spine to your left. Open the cover. Place a folded sheet of wax paper between the endsheet and the hinge that attaches it to the textblock.

Place a flat sheet of wax paper between the flyleaf and the new pastedown. The wax paper must be larger than the pastedown.

Place a sheet of waste paper on top of the wax paper. The waste paper must be larger than the wax paper.

3. Apply PVA to the pastedown with a roller or brush, lifting the flap of the cloth lining out of the way. Start at the center of the pastedown and brush or roll outward toward the edges. Replace the cloth lining flap. Apply PVA to the cloth lining flap.

4. Remove the waste paper sheet. Leave the wax sheets in place.

5. Hold the end of the pastedown and the fore edge of the textblock with your right hand to keep it from slipping. Lift the board off the table and place it on the new pastedown making sure that the case will fit as close to the textblock spine as possible. Once you have placed the board on the pastedown, do not open the book.

6. Set the front hinge with a bone folder.

7. Turn the book over. Repeat the procedure to secure the back pastedown.

8. Place the book between brass edged boards and place it in the press for thirty minutes. After you remove the book from the press, leave it weighted between boards on the drying table for at least three hours.

9. Recase

Time Requirements:

This treatment should take no more than 90 minutes per item.

Purpose:

Reattach text block to its original case.

Considerations:

Before beginning treatment, examine the case thoroughly. The Recase treatment is most successful when the original case is in a strong, whole, and fully functional condition. If the hinge area is so thin you can see light

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through it, or if holes and/or tears are present, the preferred treatment is a Recase/Lined Original Case (RLOC).

Original cases that are in good or like-new condition oftentimes belong to new books. Check the date of the item and the textblock's paper quality. Also determine if the case contains information that is not printed elsewhere, or if it showcases notable aesthetic qualities. Post 1950s materials that are in good condition, with no remarkable design or information features, may be recased at the contracted commercial bindery.

Procedures:

1. Forward the textblock as previously described.
2. While the textblock is drying, prepare and clean the case. Remove book plates, the edges of the old pastedowns and the original super. Minimal amounts of methyl cellulose may be used to soften the edges of the original pastedown. If the original pastedown is a bright color that might show under the new pastedown, try to remove all of it, or sand the remnants down to remove the surface color. The white or cream remnant of an old endsheet need not be removed. Sand the boards and pastedown remnants until they are smooth.
3. Place the textblock in its case. Make sure it is right side up. Seat the textblock's spine against the spine of the case. Adjust the textblock to make an equal square at head and tail. The book's square, the part of the board that shows beyond the textblock at head, tail and fore edge, should be about 3mm.
4. Place the book on your bench with the spine to your left. Open the cover. Place a folded sheet of wax paper between the endsheet and the hinge that attaches it to the textblock.
5. Place a flat sheet of wax paper between the flyleaf and the new pastedown. The wax paper must be larger than the pastedown.
6. Place a sheet of waste paper on top of the wax paper. The waste paper must be larger than the wax paper.
7. Apply PVA to the pastedown with a roller or brush, lifting the flap of the cloth lining out of the way. Start at the center of the pastedown and brush or roll outward toward the edges. Replace the cloth lining flap. Apply PVA to the cloth lining flap.
8. Remove the waste paper sheet. Leave the wax sheets in place.
9. Hold the end of the pastedown and the fore edge of the textblock with your right hand to keep it from slipping. Lift the board off the table and place it on the new pastedown making sure that the case will fit as close to the textblock spine as possible. Once you have placed the board on the pastedown, do not open the book.
10. Set the front hinge with a bone folder.

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11. Turn the book over. Repeat the procedure to secure the back pastedown.
12. Place the book between brass edged boards and place it in the press for thirty minutes. After you remove the book from the press, leave it weighted between boards on the drying table for at least three hours.

10. Recase / line original case

Time Requirements:

This treatment should take no more than 120 minutes per item.

Purpose and Background:

The purpose of this treatment is to reinforce the most vulnerable area of the book: the joints and spine.

Considerations:

The same considerations for the recase/new spine treatment can be applied to the recase/lined original case treatment with a couple additions: How fragile are the joints? Are there major losses to the spine? If there are major losses or the spine is detached from the case or could become detached easily during treatment, it is better to perform the recase/new spine treatment.

Procedures:

1. While the textblock is drying, clean the case. As with the recase/new spine treatment, if the endsheets are decorative or informative in any way, try to save them by lifting the pastedown to approximately 30mm from the interior of the board. If they are plain, remove book plates, the edges of the original pastedowns and the original super. Minimal amounts of methyl cellulose may be used to soften the edges of the original pastedowns. If the original pastedown is a bright color that might show under the new pastedown, try to remove all of it, or sand the remnants down to remove the surface color. The white or cream remnant of an old endsheet need not be removed. Sand the boards and pastedown remnants until they are smooth.
2. With the inside of the cover facing up, make a shallow diagonal cut through the turn-ins approximately 30 mm from inner (spine-side) edge of each board. (See New Spine [Reback] section for detailed images of this procedure)
3. Lift the turn-in covering material away from the board between the cut and the inner/spine-side edge of the board.
4. Peel the covering material away from each board starting at the hinge. Peel the cloth back to the cuts you made in the turn-ins (approximately 30mm). Be careful not to severely stretch or tear the cloth.
5. Thin the original inlay using a microspatula or knife by carefully peeling away any loose edges and/or layers. Lightly sand the original inlay to create a smooth surface for the reinforcing material.

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6. Sand the exposed board to allow room for the thickness of the lining paper or linen. Also, gently sand the lifted covering material.

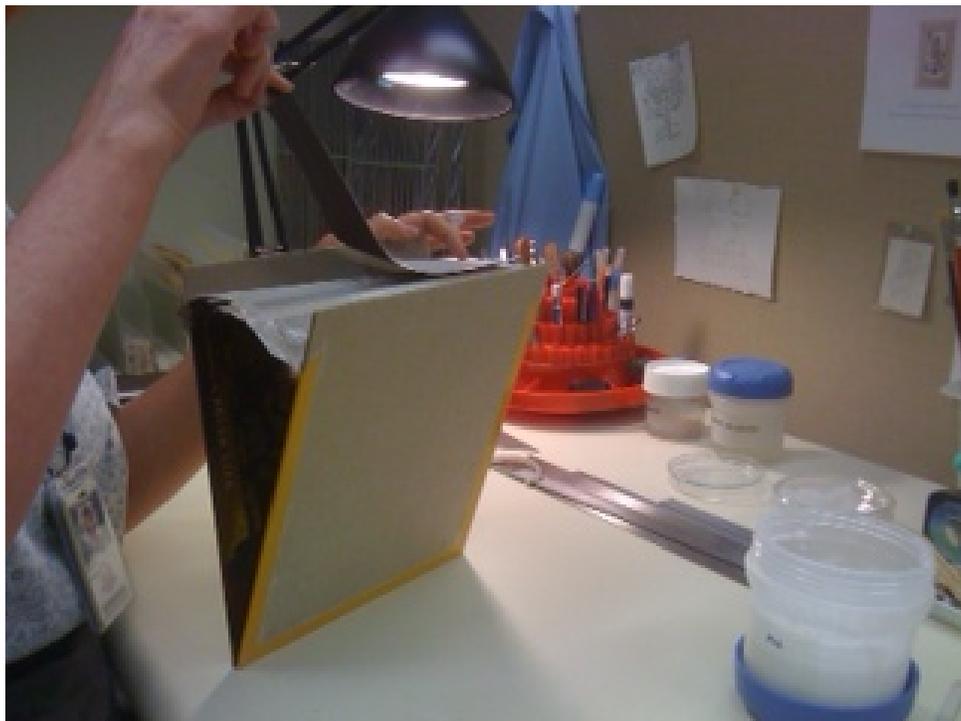


7. Cut the paper or linen lining to slightly less than the width of the exposed area of cloth lifted from the board. Apply PVA to the whole surface of the cloth that has been pulled away from the boards. Center the lining paper or cloth on the glued surface and smooth it with a Teflon folder.
8. Apply PVA to each exposed inside board edge and re-adhere it to the new covering material. Turn the case over to check the appearance of the lining on the outside of the case. Use a Teflon folder to smooth the cloth and to remove any excess adhesive.

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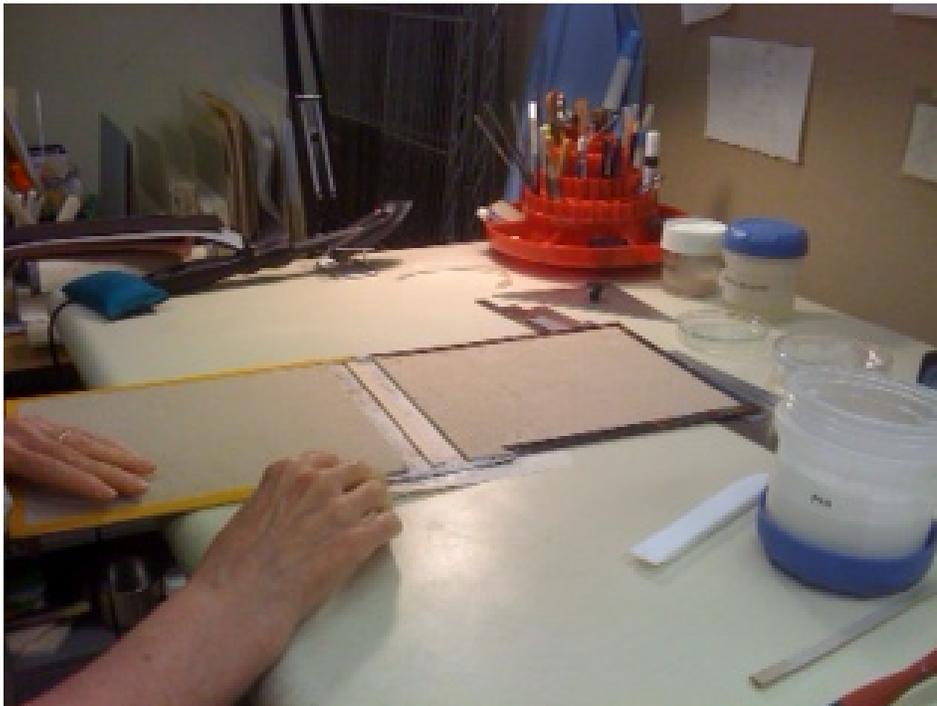


9. Make a new spine inlay using the 80 lb. Mohawk paper. Note that the 80 lb. inlay is made from heavier paper than the 60 lb. Mohawk used for the spine lining. The new spine inlay should be the height of the boards and the width of the textblock spine. Apply PVA to the new spine inlay and smooth it into place.



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10. Trim any excess lining material overhanging from the case's head and tail.
11. Place a security strip nearer the head of the case than the tail. This will help you remember which end is the head.
12. Place the cotton tying tape reinforcement at the head of the case along the top edge of the spine inlay. The tape should be long enough to extend across 5 mm onto each board, and across both hinges and the inlay. Apply PVA to the turn-ins at the head and tail of the case and fold them in place. There should be no gap between the two sides of each diagonal cut in the case cloth.



13. If the textblock spine is rounded, round the spine of the case on the edge of your bench. This will help the new materials conform more easily to the shape of the book.
14. Case in as previously described.

Special Considerations

If the lined case is very damp, use the blotter/wax paper liners on each side of the book while pressing to keep the book from sticking to the pressing boards.

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11. Recase / new spine

Follow the procedures for "Forwarding: Preparing the Textblock."

Time Requirements:

This treatment should take no more than 120 minutes per item.

Purpose and Background:

The purpose of the recase/new spine treatment is to repair the case of a book where the spine has become detached, or where the spine is missing altogether. Additionally, the treatment addresses cases that have detached from the textblock and allows for the retention of decorative or informational endsheets.

Considerations:

Can this item be safely sent for library binding or must it be treated in-house? Typically, post-1950 publications with covers that can be replaced without the loss of significant bibliographic information are "repaired" via an efficient and effective library binding. Alternatively, if the item in question is needed back quickly or if the loss of case and/or endsheets would impede bibliographic value, in-house treatment may be optimal.

Check if the paper is brittle -- if so, the item is better served in a new housing or reformatting than by a repair that may only cause additional damage.

The recase/new spine treatment is different from the new spine (reback) treatment in a very important way: candidates for the recase/new spine treatments typically have text blocks that are tenuously attached to (if not completely detached from) their case. The recase/new spine treatment is different from the recase and recase/line original case treatments as the case of a recase/new spine candidate are not intact -- i.e., there is significant damage to the case, typically at the spine, such that new material that matches the original case must be used to repair the case.

The grain direction of all materials for the repair should run head to tail, parallel to spine of the book.

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Procedures

1. Choose a book cloth that is an appropriate color, texture, and weight to match the original cloth. At times, it may be more appropriate to use airplane linen or Japanese paper toned with acrylics to match the color, weight, and texture of the original cloth.



2. If the boards are still connected to the textblock and/or the spine of the case, separate the boards using either a scalpel or a knife. Cut ~2mm of cloth from the spine edge of each board. Make this cut from head to tail on the outside surface of the board.
3. Place one of the boards on the textblock leaving the appropriate square at the head, tail, and fore edge. Often, you will be able to gauge the appropriate size square from the original pastedown. Generally, the hinge width should be 5-7 mm from shoulder to board. If you change the shape of the textblock's spine through rounding and backing, you may need to cut some width off the original boards.



4. Holding the board in place with a weight, place a piece of waste paper at the edge of the textblock shoulder. Use a bone folder to contour the waste sheet to the hinge and spine edge of the board. Add 1mm. Mark that distance on the waste sheet; this distance is the appropriate distance to allow for the hinge on the new spine.
5. If the endsheets are decorative or informational in any way, lift the interior edge of the pastedowns to approximately 3cm from the interior edge of the board. Using the underlying super as a guide and support is a great method for lifting pastedowns. If the endsheets are plain, remove book plates and the edges of the original pastedowns and the super underneath. Methyl cellulose can be used to soften the edges of the original pastedowns. If the original pastedown is a bright color that might show under the new pastedown, try to remove all of it, or sand the remnants down to remove the surface color. The

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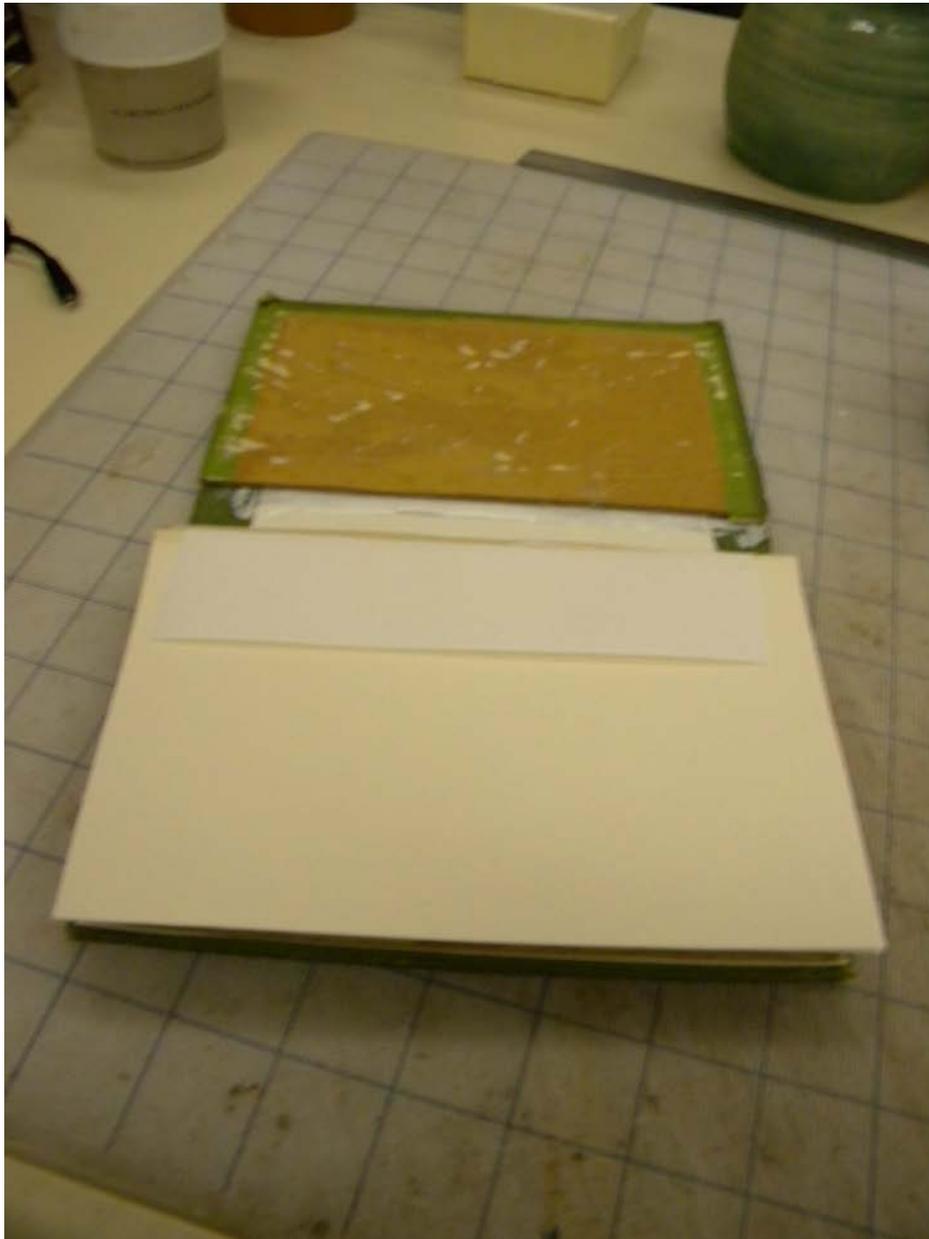
white or cream remnant of an old endsheet need not be removed. Sand the boards and pastedown remnants until they are smooth.

6. With the inside of the cover facing up, make a shallow diagonal cut through the turn-ins approximately 2 cm from the inner (spine-side) edge of the board. (See New Spine [Reback] for detailed images of the following steps).
7. Lift the turn-in covering material away from the board between the cut and the inner/spine-side edge of the board.
8. Using a spatula with the outside of the cover facing up, gently lift the covering material away from the board taking care not to severely distort or tear the cloth.
9. Occasionally, the new material (cloth, linen, or Japanese paper) to be used in the new spine will need reinforcement. This is particularly necessary if the new material is thin or if the book is thick or heavy. Line the new spine material with the same cambric used in the forwarding process as the cloth spine lining; apply using PVA.
10. Make a spine stiffener (for the case) using the 80 lb. Mohawk paper. (Note that this weight is thicker than the 60 lb. Mohawk paper used for the spine lining for the textblock.) The new spine stiffener should be the height of the boards and the width of the textblock spine.
11. Apply PVA to the spine stiffener and place it in the middle of the new spine.

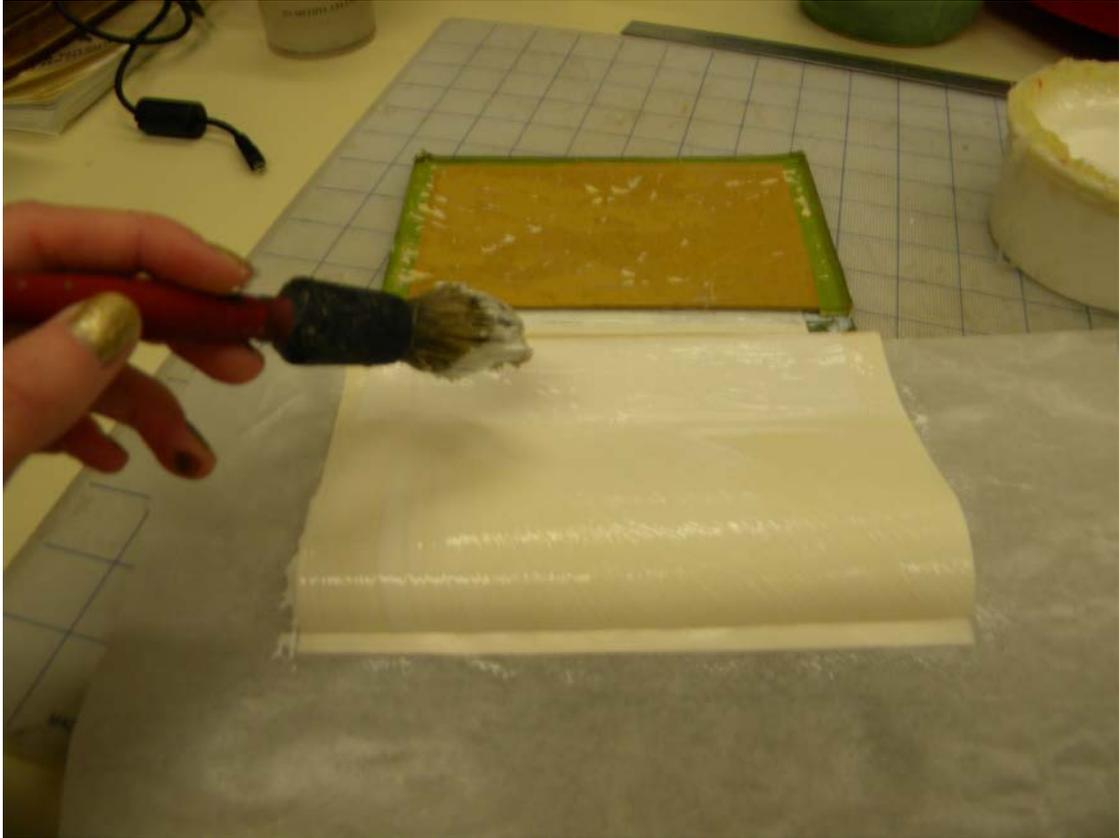


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12. Measure 2.5 cm from the edge of the spine stiffener on each side. Cut the excess book cloth away on both sides using a scalpel/knife. Use the mark you made on the waste sheet to measure the hinge from the edge of the spine inlay. Make two pencil marks on each side of the lining cloth and draw a pencil line to connect them.
13. Draw a pencil line across the top and bottom edges of the inlay and lining cloth using a straight edge. Cut away the excess cloth approximately 2 cm above and below the top and bottom edge of the spine stiffener. The intersection of the horizontal and vertical pencil lines on each side of the spine stiffener will be the guide for placing the boards.
14. Apply PVA to the new spine book cloth, covering up to the pencil lines. Do not apply PVA to the spine stiffener.
15. Attach the new spine to the section of board exposed when you lifted the covering cloth/leather. Place the board on the new spine cloth using the intersecting pencil lines as a guide.
16. Once the board is properly placed, use a Teflon folder to smooth down the edge of the new cloth.
17. Apply PVA to the lifted original cloth, blot it with a strip of waste paper, and adhere it to the new spine cloth. Use a Teflon folder to smooth the cloth over the new material and Remay® or HollyTex® to lift any residual PVA.
18. Repeat steps 15-18 to the opposite side.
19. Reinforce the top of the new spine where future damage is most likely to occur (due to pulling of the book from a shelf at this location). Place a narrow strip of cambric (the material used as the cloth spine lining) the cotton tying tape reinforcement at the head of the case along the top edge of the spine stiffener, across the hinges, and extending 5 mm onto each board.
20. Apply PVA to the turn-ins at the head and tail of the case and fold them in place. There should be no gap between the two sides of each diagonal cut in the case cloth.
21. Round the case on the edge of the bench if the textblock spine is rounded.
22. Case in as previously described.



This image shows step 3 of the recase procedure.



This image shows step 7 of the recase procedure.

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This image shows step 9 of the recase procedure.

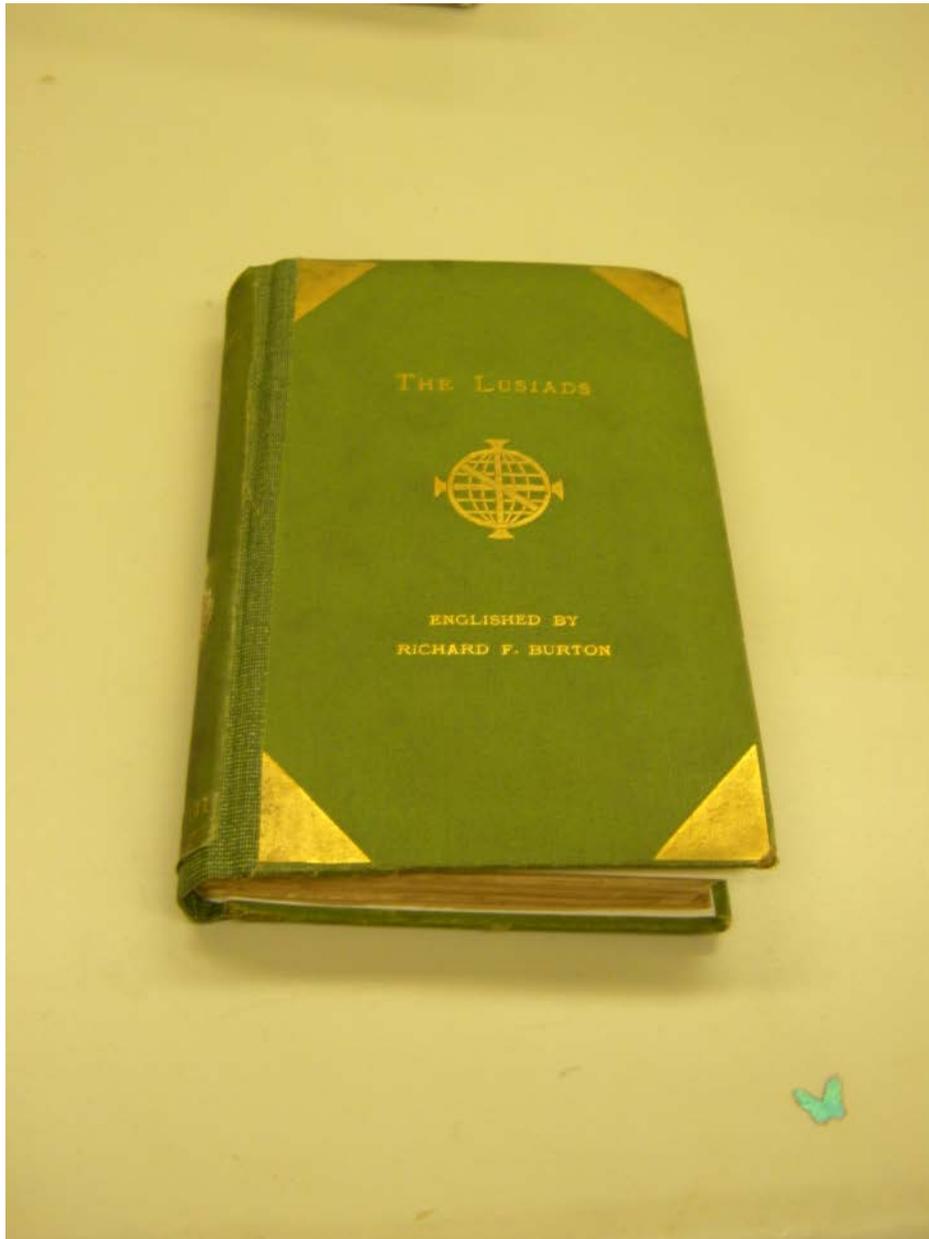


Finishing

1. Clean the original spine as much as possible mechanically, and then use a minimal amount of methyl cellulose to remove any remaining inlay taking care not to stretch or distort the original material. Place the cleaned spine between blotter/Remay® sandwiches and underweight so that it will dry flat.
2. Trim the original spine of the case along the left and right edges, leaving the head and tail length (to turn in at the head and tail, if possible). Try to save the author, title, publisher and call number label.
3. After the book has been pressed and the repairs are dry, place the book in a finishing press, between two bricks, or allow it to lie flat slightly hanging over the edge of the bench. The edges of the original spine should

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not mold around the sides of the book. If they do, further trim the original spine to fit the spine of the book. Apply PVA to the original spine and place it on the book. Make sure the edges are completely adhered.



4. If the original spine does not adhere immediately, place a piece of wax paper on the newly adhered spine and wrap the book with an ace bandage to encourage the original spine to stick to the rounded spine.
5. If the spine from the original case is no longer legible or is too damaged to be used, make a paper label using 60 lb. Mohawk Superfine paper.

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12. New case

Time Requirements:

This treatment should take no more than 90 minutes per item.

Purpose and Background:

The purpose of this treatment is to create a new case for items with missing or severely damaged original cases.

Considerations:

Are the original boards in a serviceable condition? If so, recase / new spine may be a more appropriate treatment.

Do the covers have decorative/informational value that should be preserved? If so, new case in-set is a more appropriate treatment.

Can this item be safely sent for library binding or must it be treated in-house? Typically, post-1950 publications with covers that can be replaced without the loss of significant bibliographic information are “repaired” via an efficient and effective library binding. Alternatively, if the item in question is needed back quickly or if the loss of case and/or endsheets would impede bibliographic value, in-house treatment may be optimal.

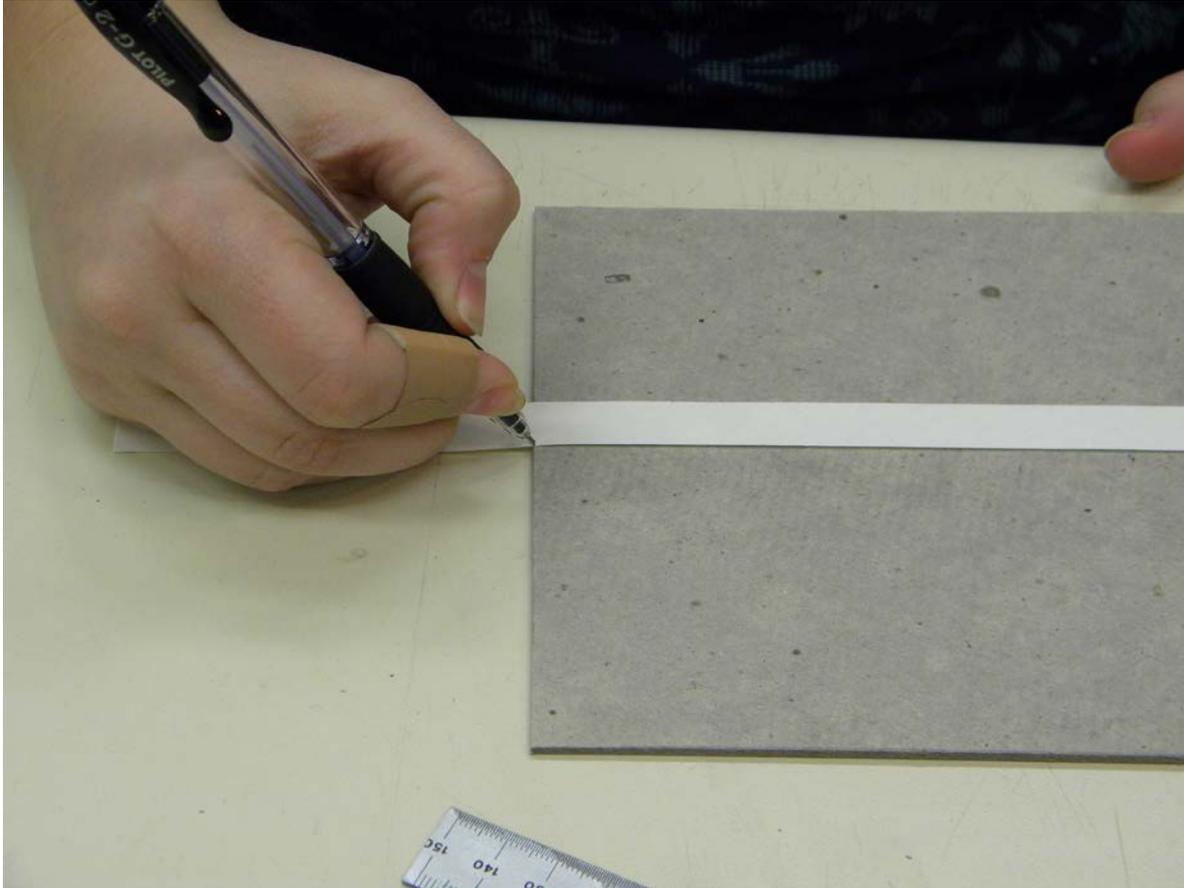
Check if the paper is brittle -- if so, the item is better served by housing than by a repair that may only cause additional damage.

Procedures:

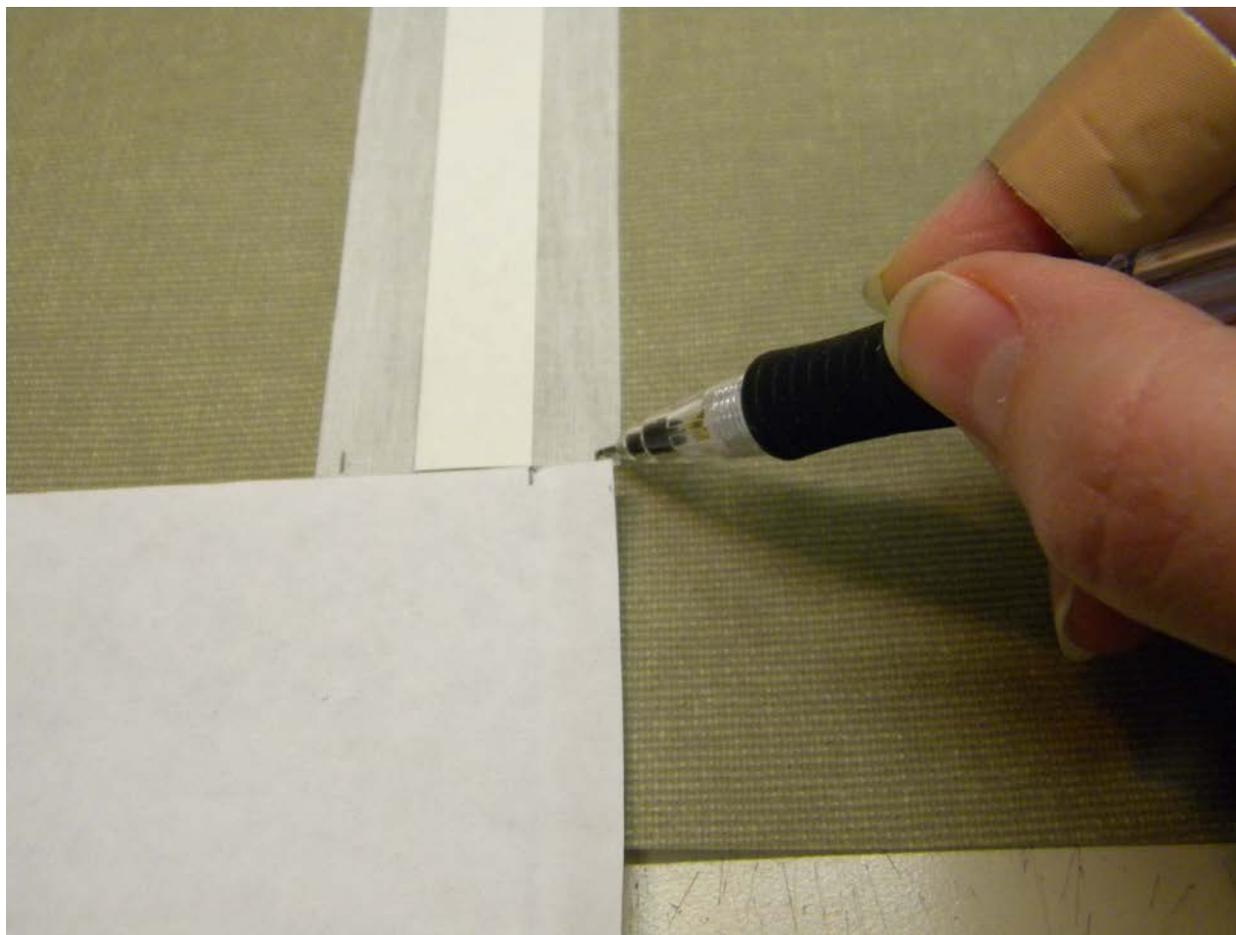
1. Forward the textblock as previously described.
2. Choose a book cloth that is an appropriate color, texture, and weight to match the original cloth. Make sure the cloth is large enough to wrap around the book with at least 5cm extra on all sides. The grain direction of the cloth should run head to tail on the book.
3. Choose a board thickness appropriate for the size of the book. Consider the depth of the shoulder created by backing the book and the size of the book. The deeper the shoulder and larger the book, the thicker the board should be.



4. Measure the boards and square one corner of the board with the board shear. Be sure that the grain direction of the board will run head-to-tail on the book. Place the textblock onto the square, leaving 3-4mm of board below the tail of the textblock. Position the textblock on the board so that it allows for a comfortable hinge along the edge of the spine. The hinge is usually 5-7mm. However, consider the size of the book and the depth of the shoulder. The larger the book and the deeper the shoulder, the larger the hinge you will need.
5. Mark cutting lines on the board 3-4mm above the head of the book and 3-4mm beyond its fore edge.



6. Use the board sheer to cut the boards as marked. Use your first board as a guide to cut a second board of the same size.
7. Mark the hinge width while checking the fit of your boards. Place one of the boards on the textblock leaving the appropriate square. Holding the board in place with a weight, place a piece of waste paper across the shoulder, through the hinge and onto the board. Using a folder, contour the paper to this area. Make pencil marks on the waste sheet that represent the distance from the top of the shoulder to the board edge + 1mm. As stated earlier, the hinge is usually 5-7mm.



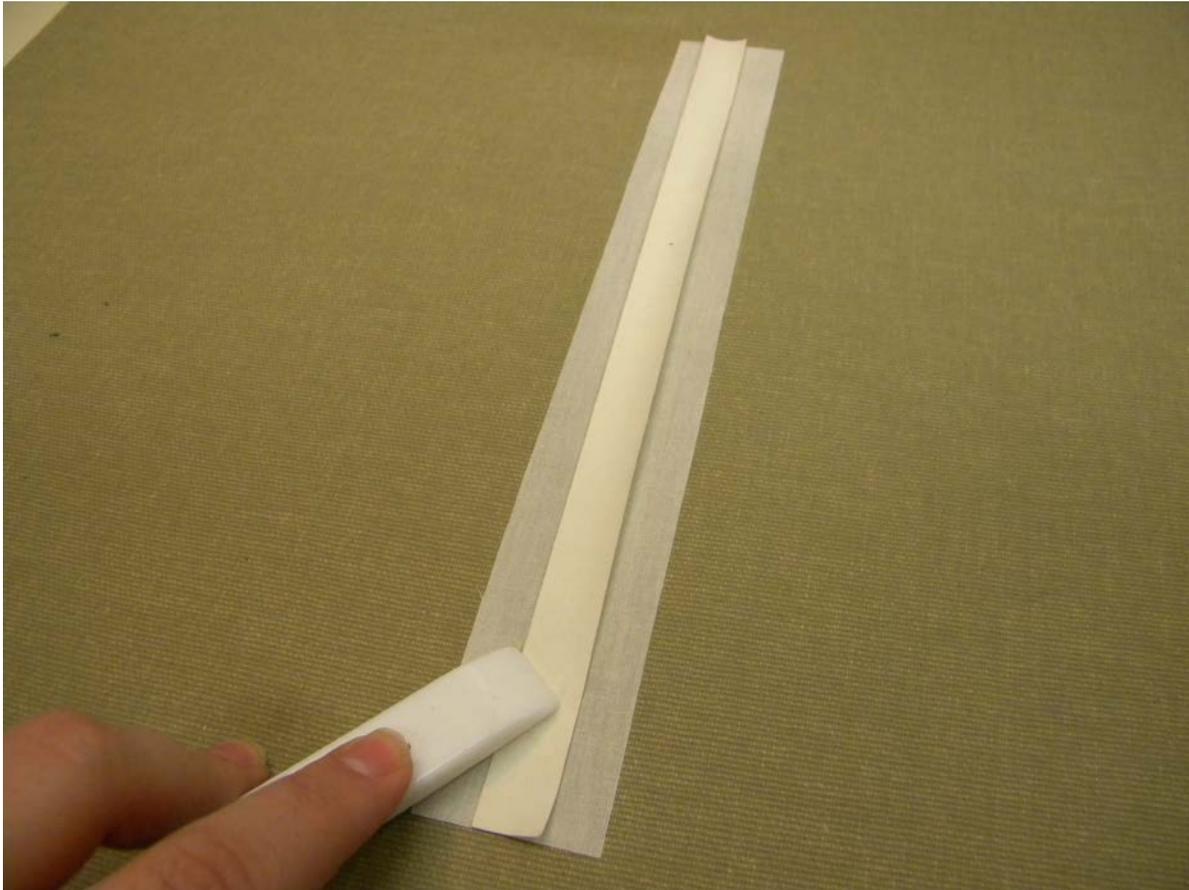
8. Make a spine inlay/stiffener. The spine inlay should be the height of the boards and the width of the textblock spine.

The paper or board selected for the spine inlay depends on the size and weight of the book. Small to regular sized books will require an endsheet weight spine inlay (80 lb. Mohawk, for example, or endsheet scraps). Larger volumes will benefit from 10 pt. Bristol board.

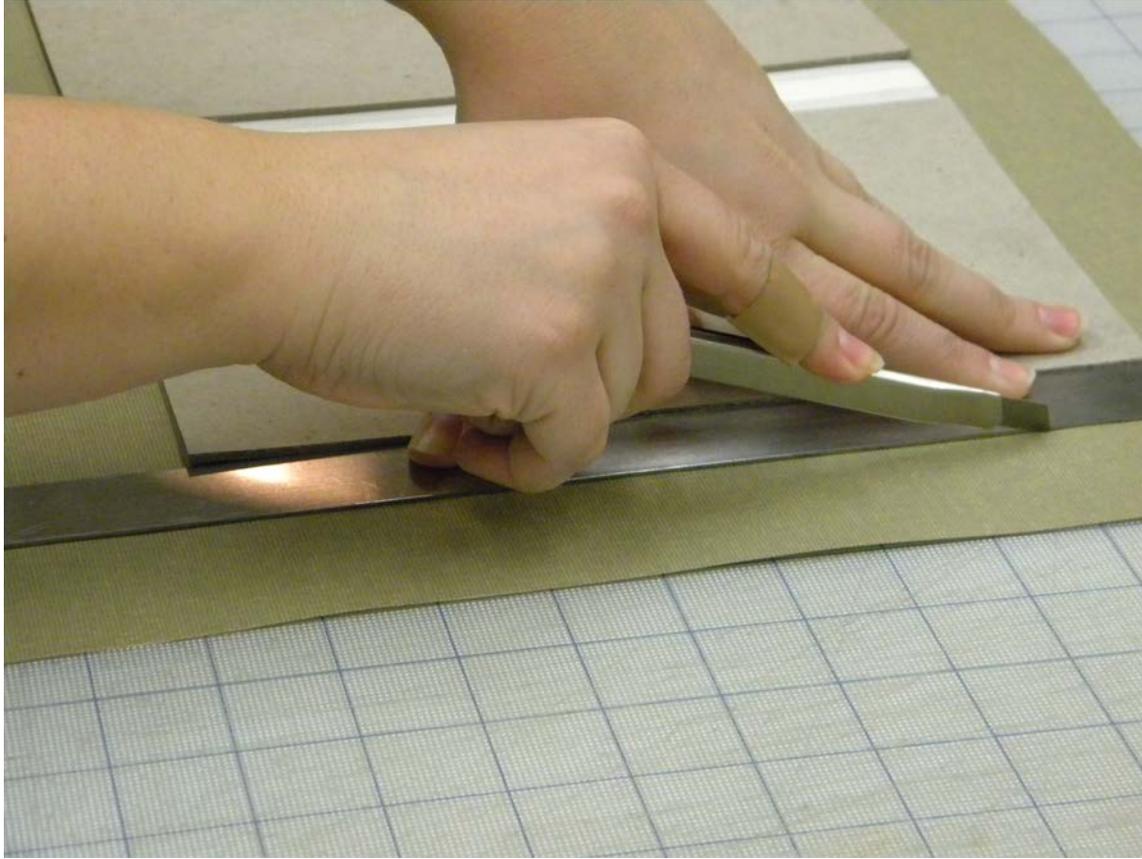
9. Make a cloth lining for the case using cambric or a similar material. This cloth lining will help protect the spine and hinge areas of the case. The height of the cloth lining is the height of the boards. The width of the cloth lining should be the hinge measurement x 2 (from step 7), plus the spine inlay width., plus about 2mm x 2 extra (2mm + hinge width + spine inlay width + hinge width + 2mm).
10. Spread out the book cloth chosen in step 2. The side that will be the inside* should be face up on the work bench. (*the uncolored side of C-cloth or linen; the smoother side of buckram)
11. Apply PVA to the cloth lining and place it at the center of the cloth. Smooth it out with a Teflon folder and/or your hand. Try to avoid air bubbles or pockets of excess PVA.

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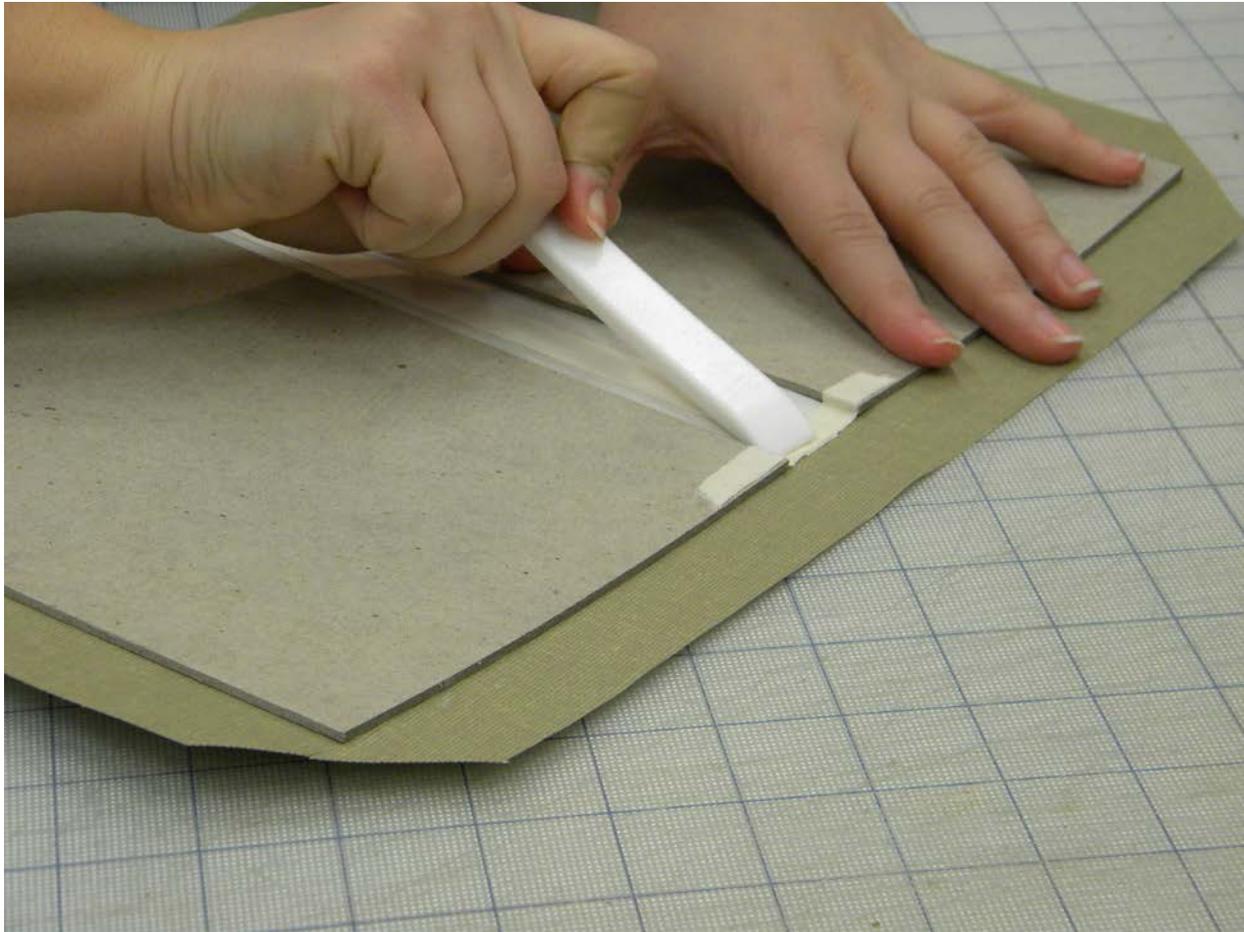
12. Apply PVA to the spine inlay and place it in the middle of the cloth lining. Again, smooth it out with a Teflon folder and/or your hand, avoiding air bubbles and pockets of excess PVA.



13. Use the hinge measurement (from step 7) to mark the hinge width from the edge of the inlay on each side. Place one mark near the tip of the inlay and one near the bottom of the inlay.
14. Place a metal triangle at the head/top of the inlay with a weight on it to hold it in place. This will serve as a guide to place the boards.
15. Soften the corners of both boards by tapping each corner lightly with a bone folder or very slightly sanding.
16. Adhere both boards to the book cloth with PVA, using the pencil marks and triangle as guides.
17. Trim the excess book cloth on all four sides of the case using a 20-25 mm turn-in jig or ruler.



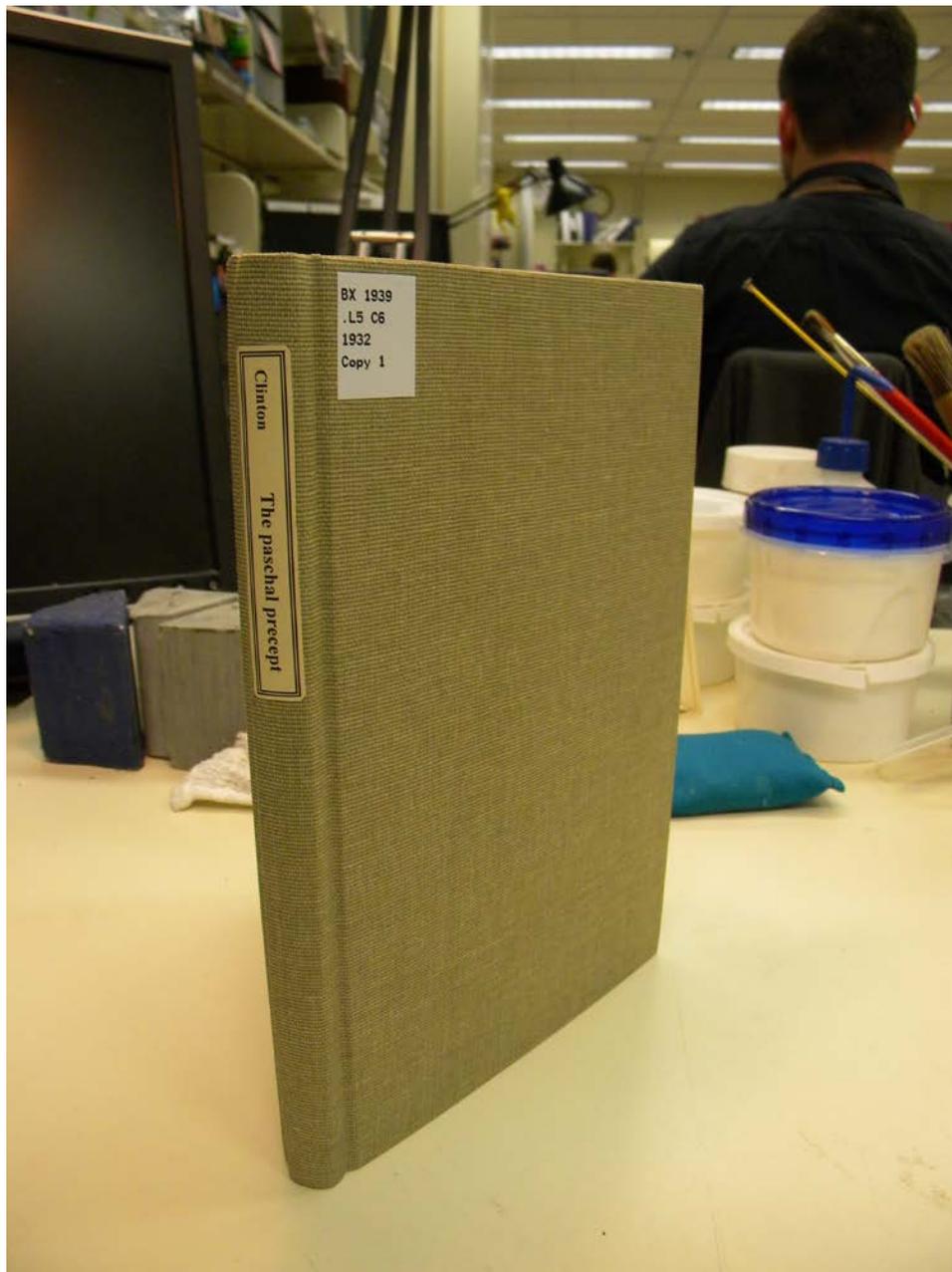
18. Create corners for the case by placing a scrap of board 1-2mm from each board tip. Place the board scrap on a diagonal to form a triangle with the tip of the covering cloth. Cut away the excess cloth using a knife or scalpel.
19. Make a small cut on the remaining corner cloth beginning about 1mm from the board tip. The cut is a continuation of the head and tail sides of the case (typically the longer sides).
20. Apply PVA to a strip of cotton tying tape reinforcement placed at the head of the case along the top edge of the spine inlay. The tape should be long enough to extend 5 mm onto each board, and across both hinges and the spine inlay.



21. Apply PVA to the head and tail sides of the case. Make sure the cloth is pulled tightly around the board edge and is molded into the spine area.
22. Tuck the little triangular bit of cloth at each corner inward around the corner of the board and adhere it to the board.
23. With scissors trim any excess triangular corner cloth that is larger than the thickness of the board.
24. Apply PVA to each of the fore edge sides of the case. Pull the fore edge cloth over each board to make a tight, firmly adhered edge.
25. Round the case on the edge of the bench if the textblock spine is rounded
26. Case in as previously described .When casing in, be aware that a new case will be stiff. Hold the textblock edge securely to keep it from slipping. It sometimes helps to exercise the hinge of the new case before casing in.

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27. Trim the spine of the original case. Try to save the author/title, publisher and call number label. Clean old paper linings from the spine as much as possible mechanically, and then use methyl cellulose to remove any remaining residue. Place the spine between blotter/Remay® sandwiches to dry flat.
28. Place the book in a finishing press. Trim the original spine to fit. Make a small diagonal cut at each corner to keep the cloth from fraying. Apply PVA and place the spine on the book. Make sure the edges are well adhered.
29. If the spine from the original case is no longer legible or is too damaged to be used, make a paper label using 60 lb. Mohawk Superfine paper.



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13. New case / in-set

Time Requirements:

This treatment should take no more than 115 minutes per item.

Purpose and Background:

The purpose of this treatment is to create a new case for items with missing or severely damaged original cases containing decorative/informational covers that should be preserved.

Considerations:

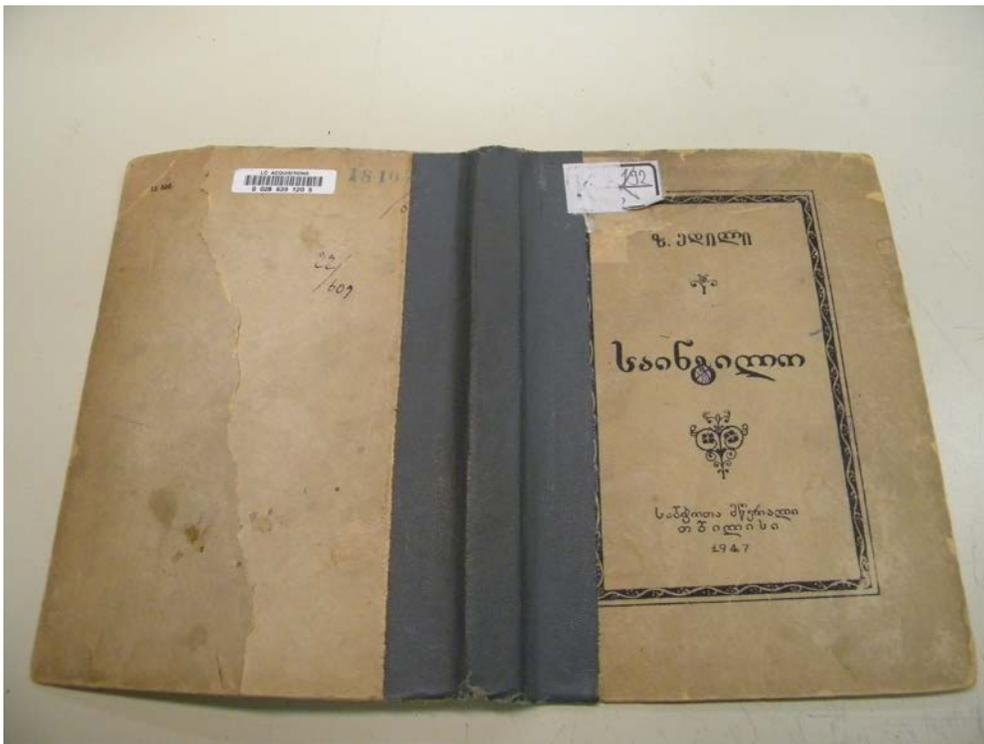
Are the original boards in a serviceable condition? If so, recase / new spine may be a more appropriate treatment.

Check if the paper is brittle -- if so, the item is better served by housing than by a repair that may only cause additional damage.

Should the book be sent out for commercial binding? If so, consider Bindery Preparation II.

Procedures:

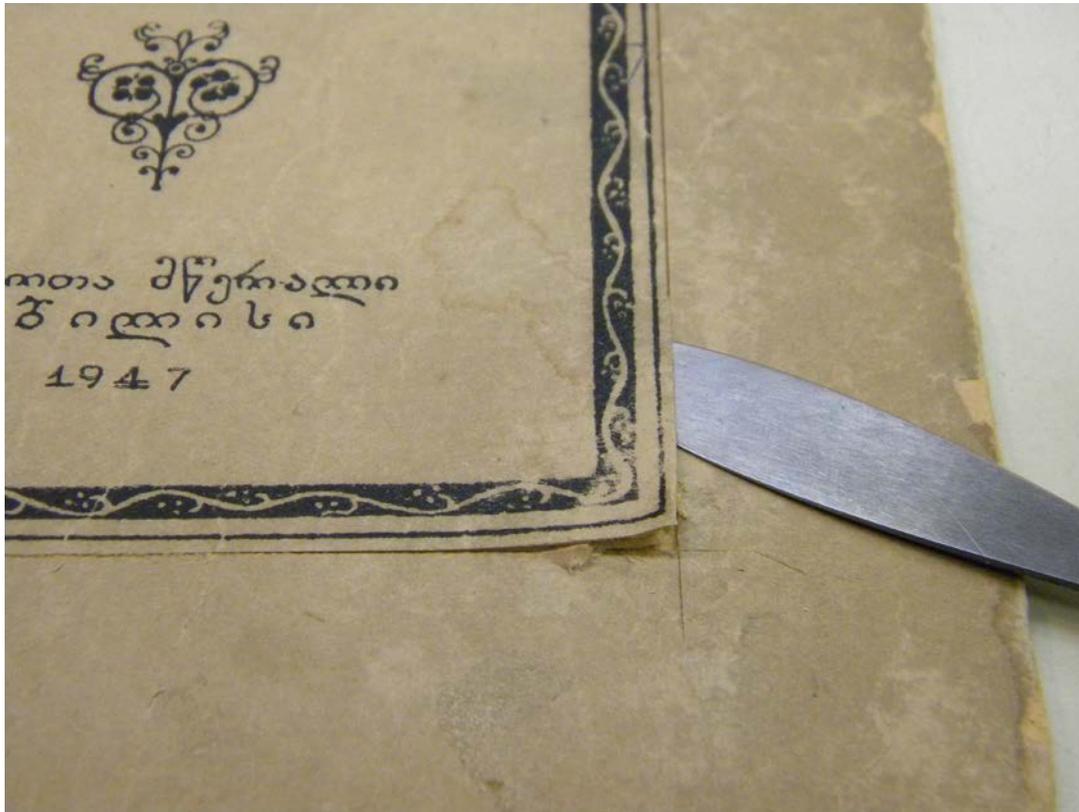
1. Forward the textblock as previously described.



2. Follow steps 2-15 from the New Case instructions.

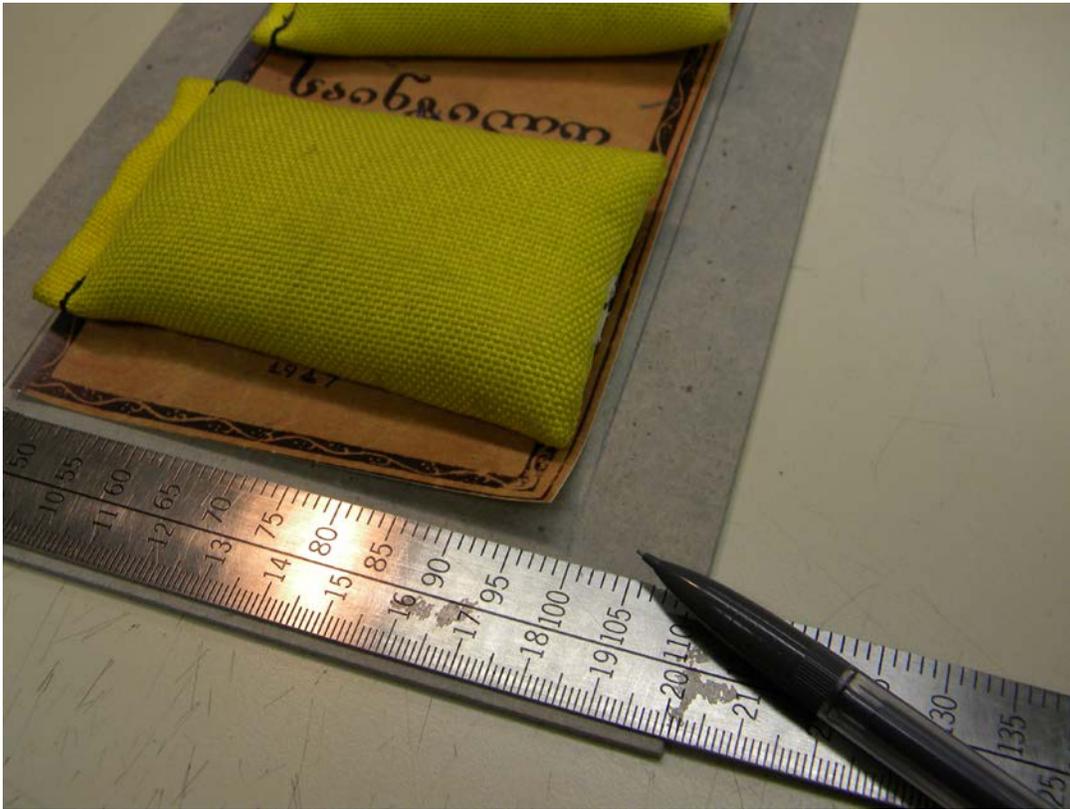
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3. Remove the material from the original boards that will be inset into the new case. Sometimes this requires lifting a small portion of the underlying board in addition to the covering materials. If removal of the original material is impossible without causing loss/damage, consider a facsimile.

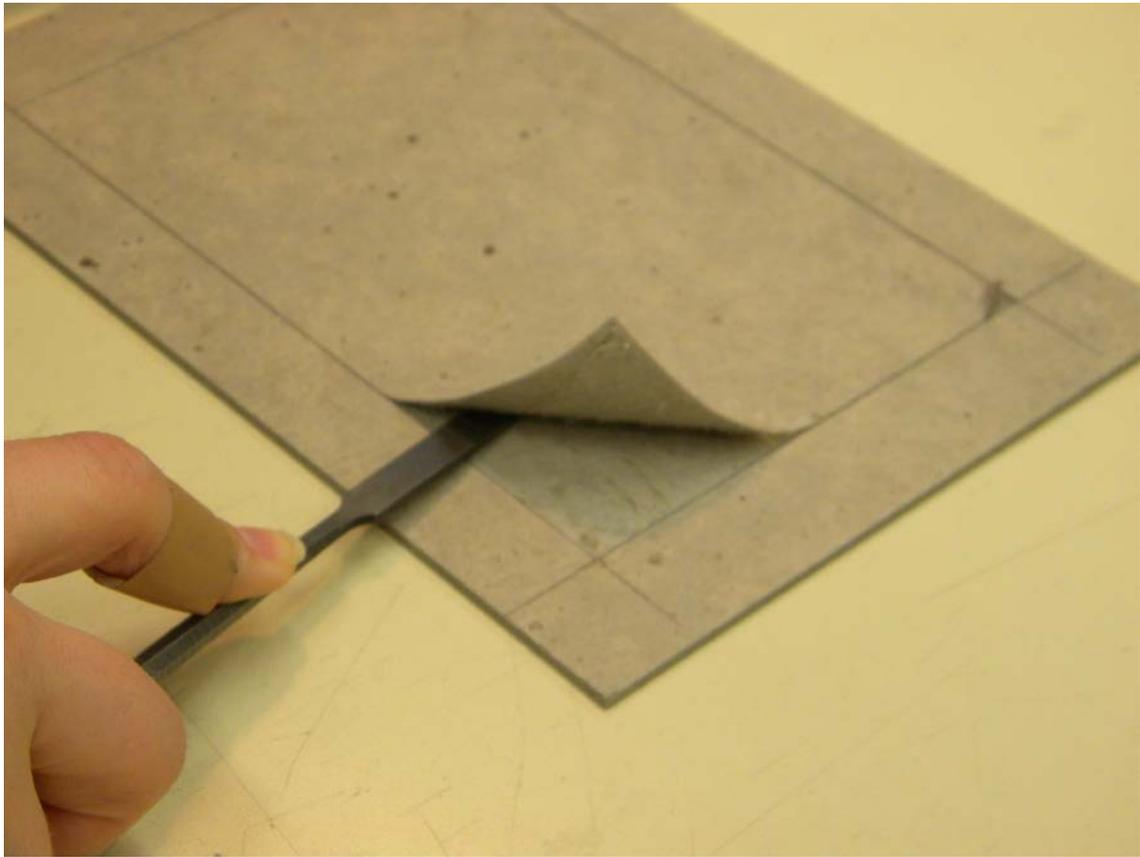


4. Mark an outline of the inset on the new board. The inset should be approximately 1-2 mm larger than the height and the width of the inset material.
5. With a ruler and a knife, cut along the outline of the inset and remove layers of board. This inset should be deep enough to accommodate both the original material/facsimile and the book cloth of the new case.

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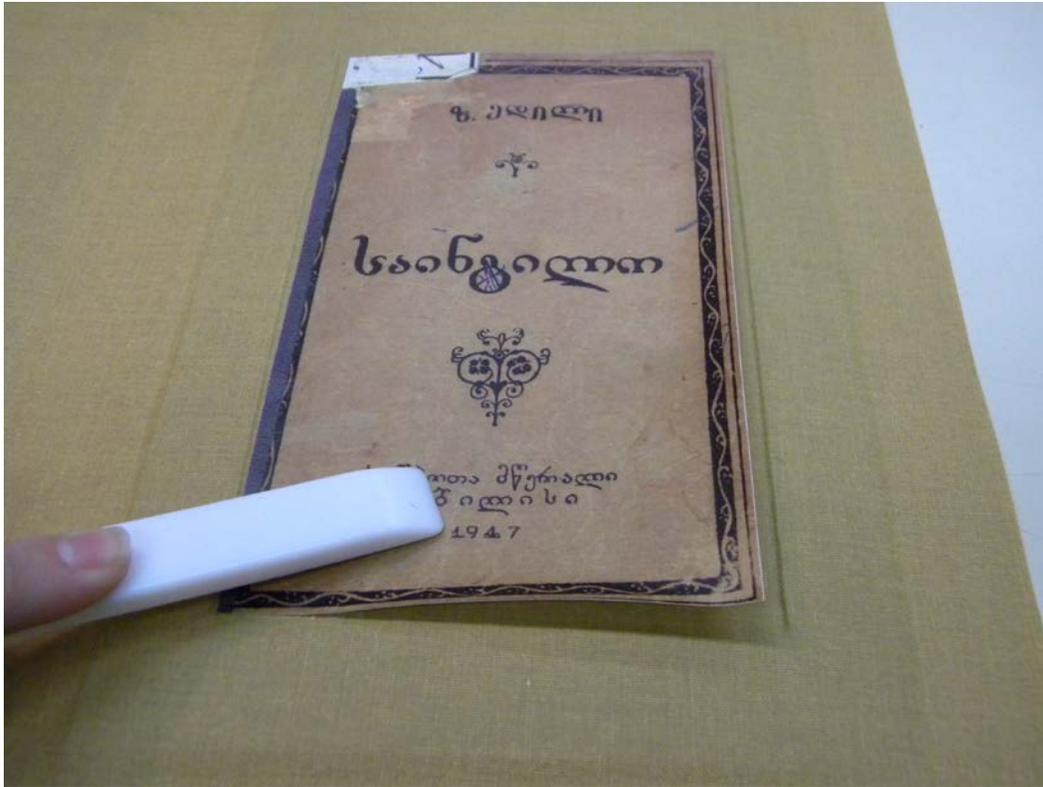


Tip: You can use an awl at the corner of the inset to begin removing layers of the board.



6. Sand the inset until smooth.
7. Adhere both boards to the book cloth with PVA, using the pencil marks and triangle as guides. Take extra care to work the book cloth into the grooves of the inset with a Teflon folder.

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8. On the front of the case, use PVA to adhere the original material/facsimile into the inset.



9. Follow steps 17-30 from the New case instructions.

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14. New case / tight joint

Time Requirements:

This treatment should take no more than 90 minutes per item.

Background and Purpose:

Eighteenth and early nineteenth century bindings are generally characterized by their sound paper, supported sewing structures, laced-on boards, tight joints, and leather bindings. The leather and laced-on sewing supports break along the outer hinge where all of the board action is focused at one point due to the tight joint.

A collections conservation approach to the repair of these bindings must provide a conservation sound and aesthetically pleasing binding structure for these pre-case binding era books. This repair must be congruous to the original binding structure of the book while also providing a durable, protective binding structure and facilitate treatment production.

(culled from “Treatment 305: A Collections Conservation Approach to Rebinding” by Baird and Letourneaux, BPG Annual V. 13, 1994).

The New Case / Tight Joint treatment is appropriate for 18th and 19th c. materials bound in standard half and quarter style “library bindings,” or for half / quarter style bindings with boards missing, extremely damaged or rotted leather, etc.

Considerations:

Is the paper brittle -- if so, the item is better served by new housing or reformatting than by a repair that may only cause additional damage.

Procedures:

1. Forward the textblock as usual, leaving AT LEAST 2-5 inch of overhanging cambric / cloth spine lining. This overhanging lining must be greater than ¼ of the width of the book. Tight joint bindings typically do not need to be further rounded / backed.
2. Select a board of appropriate thickness. The board should not be wider than the height of the shoulder. Square a corner of the board on the board sheer. Be sure that the grain direction of the board will run head-to-tail on the book.

Remember that in a tight joint, the board sits against the shoulder at the joint – there is no groove.

3. Measure boards by placing the textblock directly against the shoulder. Since the board sits against the shoulder in a new case / tight joint, we do not need to leave a 5-7mm hinge. Position the textblock on the previously cut square, leaving 3-4mm of board showing below the tail of the textblock. Mark cutting lines 3-4mm beyond the textblock for the head and fore edge squares.

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4. Use the board sheer to cut the boards as marked. Use your first board as a guide to cut a second board of the same size.
5. Back corner the head of the boards by nicking a small area of the board's corner on the board shear.
6. Apply PVA to the spine-edge of the boards. Attach the overhanging cambric / cloth spine lining to the board.
7. Apply the "quarter" width rule: Mark a line along the spine edge that is just less than or equal to $\frac{1}{4}$ the book's total width (not the board's total width). Trim away any excess cambric. Record this measure on the fore edge of the board. Do this for both boards.
8. Select two types of cloth that complement or best approximate the leather, cloth, or paper used in the original binding. The cloth selected for the "quarter part (the spine and spine-edge of the boards) should be thicker than the cloth used on the front and back boards.
9. Apply the "quarter" cloth to the spine edge of the front board; covering the cambric /cloth spine lining (apply PVA to board).
10. Prepare a spine stiffener/inlay that is the width of the spine and the height of the boards. Adhere the spine stiffener to the cloth, aligning its edge under the shoulder of the textblock.

The paper or board selected for the spine stiffener/inlay depends on the size and weight of the book. Small to regular sized books will require an endsheet weight spine stiffener/inlay (80 lb. Mohawk, for example, or endsheet scraps). Larger volumes will benefit from 10 pt. Bristol board.

11. Adhere the remaining "quarter" cloth by applying PVA to the spine-edge of the back board, covering the cambric /cloth spine lining. Allow the PVA to dry and then cut away the excess cloth.

Use the measure recorded on the fore edge of your board in step 7 to cut away excess cloth.

12. Apply PVA to the board (as well as to the spine edge of the cloth) to attach the cloth that will cover the majority of the boards. Cut away excess cloth by using your turn-in jig.
13. Trim the excess book cloth on all four sides of the case using a 20-25 mm turn-in jig or ruler.
14. Create corners for the case by placing a scrap of board 1-2mm from each board tip. Place the board scrap on a diagonal to form a triangle with the tip of the covering cloth. Cut away the excess cloth using a knife or scalpel.
15. Make a small cut on the remaining corner cloth beginning about 1mm from the board tip. The cut is a continuation of the head and tail sides of the case.
16. Slice the cambric / cloth spine lining at the head and tail – approximately 1 cm. Be careful to not pierce the outer spine cloth.

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17. Cut a length of cord that will travel across the head of the binding against the cloth. Splay the cord at the ends and adhere this to the boards.
18. Apply PVA / methyl cellulose mix to the cloth at the head of the binding at the spine. Turn in the cloth, using the cord to create a band along the top. Use extra cord to enforce the back combed edges of the board.
19. Turn in the cloth at the tail of the binding at the spine (again using PVA / methyl cellulose mix).
20. Apply PVA and turn in the remaining covering cloth at the head and tail. Tuck the little triangular bit of cloth at each corner inward around the corner of the board and adhere it. With scissors trim any excess triangular corner cloth that is taller than the thickness of the board.
21. Apply PVA and turn in each of the fore edge sides of the case.
22. Place a flat sheet of wax paper between the flyleaf and the new pastedown. The wax paper must be larger than the pastedown.

Place a sheet of waste paper on top of the wax paper. The waste paper must be larger than the wax paper.

23. Adhere the paste-down endsheet, applying PVA / methyl cellulose mix with a roller or brush. Start at the center of the pastedown and brush or roll outward toward the edges. Remove the waste paper sheet. Leave the wax sheets in place. Close the book. Optional: you may carefully turn the book over, open slightly and lightly smooth out any air bubbles under the pastedown, starting from the center and working out to the edges. If you do this, do not open the book more than 45 degrees as this may cause the endsheet to reposition and wrinkle.
24. Place in press for at least one hour.

There's no groove in this structure, so we won't be utilizing the overhanging brass edge of the brass edged boards. Just place the book between two boards.
25. If possible, retain the spine of the original case. Oftentimes with this repair, the leather of the spine is in extremely poor condition. If so, consider a color facsimile. Brush a thin layer of methyl cellulose over the facsimile and allow to dry.
26. Place the book in a finishing press. Trim the original spine or facsimile to fit. Make a small diagonal cut at each corner to keep the cloth from fraying. Apply PVA and place the spine on the book. Make sure the edges are well adhered.
27. If the spine from the original case is no longer legible or is too damaged to be used, make a paper label using 60 lb. Mohawk Superfine paper.