

Conservation Book Repair: A Training Manual

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V. INTERMEDIATE BOOK REPAIRS

Intermediate repairs can be handled easily in a library and will keep books circulating and available to patrons. Read through the directions for each repair before starting and be sure to have all the materials needed on hand.

A. TIPPING-IN DETACHED PAGES

Tipping-in is one way to reattach a detached page or plate, errata sheet or replacement page. Tipping-in is not used to put a entire book back together. If too many pages are loose from the binding, the book should be re sewn, sent to the bindery, or replaced. "Too many pages" can vary from book to book, but generally more than 3-5 pages is too many.

Tipping-in is generally used on text blocks that are adhesive bound with tightly glued spines. The tight spine keeps the book from opening flat and will help to hold the tipped-in page in place. See THE BASIC INFORMATION, page 7, for a full discussion of adhesive bound text blocks and how these text blocks are constructed.

While the general rule is to use paste when repairing paper, glue is used when tipping in a page. Paste can be a better bond between paper, but it is not as flexible as glue. Since the tipped-in pages need to flex and bend, flexible adhesive is very important.

1. TIPPING-IN A SINGLE TEXT PAGE

Each book will accept a repaired or replaced page in a different way. Some pages will sit easily into the hinge area, others will slide in from the top or bottom of the text block. Practice putting the page into the book before gluing to see how the page goes in the best.

Often a repaired page cannot be replaced as far back into the spine as when the book was new. If the edges of the repaired or replacement page extend beyond the text block, the page can tear and need future repair.

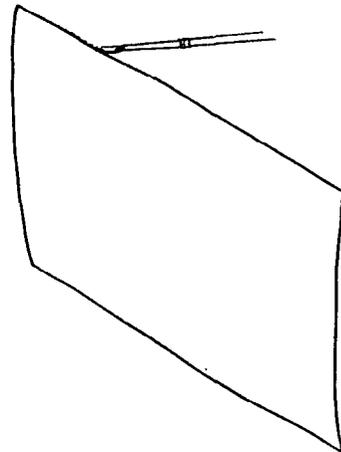
If the page does not fit correctly in the text block, especially in the case of replacement pages, trim the height of the page so that the top and bottom edges will be flush with the edges of the text block. Use a sharp X-acto knife and straight edge to trim the margins as scissors will not give a straight edge.

Leave an oversized margin at the fore edge of the page which can be trimmed to the correct size after the page is tipped-in the book (page 64).

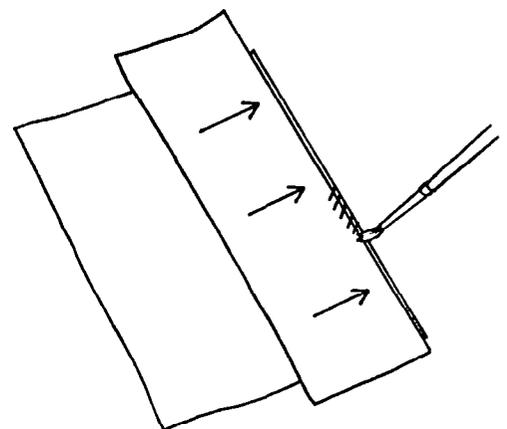
Applying Glue to A Page To Be Tipped-In

Several methods can be used to apply glue to a page; practice each one and see which works best. Often, different techniques will work in different situations.

- 1) Using a very small paint brush apply glue to the edge of the page. Do not attempt to use a large brush to apply a small amount of glue. It is very difficult to control a large brush in such a small area and the glue could wind up in all the wrong places.

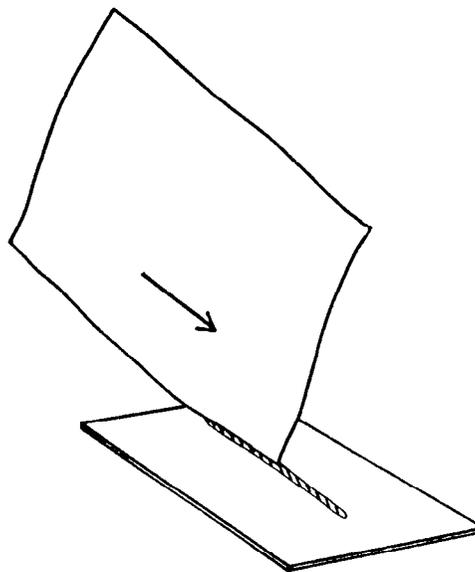


- 2) Use a piece of waste paper to mask the inner margin of the page. Leave approximately 1/16" exposed of the page exposed. Apply glue across the waste paper toward the edge of the page. Remove the waste paper before placing the page in the book.



CONSERVATION BOOK REPAIR

- 3) Apply a 1/8" line of glue on a discarded shelf list card or a piece of stiff card stock. Draw the inner edge of the paper along the line of glue making sure the paper edge is covered in a thin, even bead of glue. If the page needs more glue, draw it through the glue again. If there are some areas that have too much glue and others that are not covered, draw the page over a dry piece of card stock to even out the adhesive.



Once the glue is applied to the page, carefully maneuver the page into the book. Use the technique that worked best when the page was positioned in the book before the glue was applied.

Put wax paper directly in front and behind the tipped-in page. Besides keeping moisture from traveling throughout the book it also protects the pages from excess glue that can adhere the pages to each other.

Put the repaired book under weight and let dry overnight. When the repair is dry, carefully remove the wax paper and make sure the page is securely attached in the book, then return it to the shelf.

2. TIPPING-IN PLATES

Plates are illustrations that are printed separately from the text of a book.

Many plates are smaller than the text block page and are attached to a page of a text block by tipping them in along one edge. This is common even in books with sewn text blocks because plates are often printed on coated paper that is heavier than the paper used to print the text block. When the original glue dries up, the plate separates from the text and falls out of the book.

The best way to tip a plate back into a book is to apply glue to the edge of a plate using the second technique on page 59.

It can sometimes be a better choice to use the HINGING-IN A PLATE technique described on page 65.

B. HINGING-IN DETACHED PAGES

Hinging-in is generally used when the text block is sewn and the pages open flat, or when reattaching a plate that was originally tipped onto a page in the text block. THE BASIC INFORMATION on page 7 has a complete description of sewn text blocks and how they are constructed.

A detached page can be hinged to the page in front or in back of it. While each mend should be evaluated individually, the strongest mend is usually accomplished by hinging from the back of the detached page to the front of the page immediately behind it. That way, the Japanese repair tissue will support the page underneath as it is turned.

Checking the Attachment of Both Halves of a Folio

Each signature of paper is made of folios (single folded sheets) and each folio is made of 2 leaves (one single 2 sided page). When one leaf is detached, always check that its other half is still well attached to the text block. The other half might still held in place by the original glue, or it might also be loose.

1. Check the attachment of the second half of a folio by finding the center of the signature with the detached page. Look for the sewing threads at the center of the signature and mark the center with a slip of paper.
2. Count from that center toward the detached page, then go back to the marker at the center of the signature and count the same number of pages in the opposite direction. That should be the other half of the folio.
3. If the other half of the detached page is still firmly attached to the text block, hinge in the detached page using the technique outlined in the HINGING IN A SINGLE PAGE.
4. If the other half of the detached page is also detached or loosely attached, both halves must be reattached. Options to reattach the pages are covered

CONSERVATION BOOK REPAIR

in REPAIRING AND REATTACHING DAMAGED OR SEPARATED LEAVES, FOLIOS OR SIGNATURES (page 108).

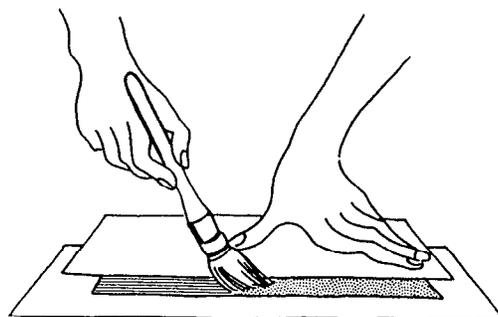
5. If the spine of the text block is accessible, use the instructions in REATTACHING A SEPARATED SIGNATURE PAGE (page 111) to reattach both pages.

1. HINGING-IN A SINGLE TEXT PAGE

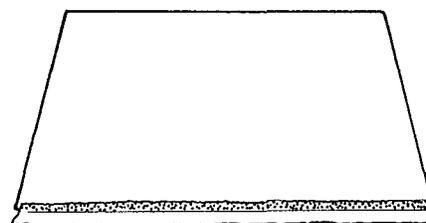
Tear a strip of Japanese repair tissue (page 33) approximately 1/2" wide and as long as the height of the page. Japanese tissue tends to stretch a little lengthwise when wet so it can be trimmed a little shorter than the page.

Lay the page to be hinged on a piece of wax paper or non-stick material.

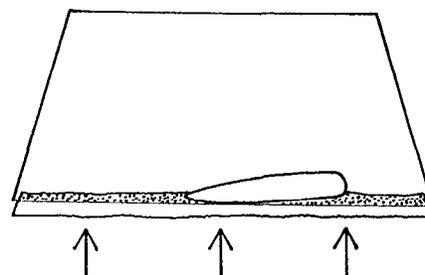
Lay a strip of Japanese repair tissue on a piece of waste paper and mask one half of the width of the tissue. Brush wheat paste on to the exposed side, remembering to brush across the waste paper toward the edge of the Japanese tissue.



Remove the waste paper from the Japanese repair tissue and carefully lay the repair tissue on the inner margin of the page to be hinged. The pasted half of the Japanese tissue strip should be laid on the page while the half that is not pasted hangs off the page.



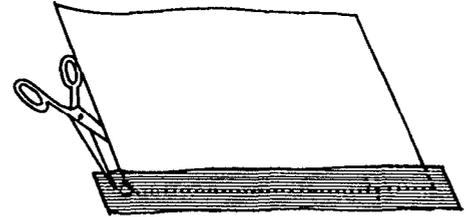
Use a folder to gently smooth the feathered edge of the repair tissue into the repaired page working from the middle of the Japanese tissue strip toward the edge. Take note of any excess paste. Try to use just enough



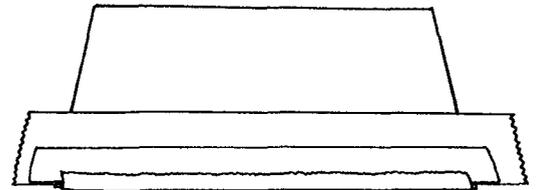
paste to adhere the tissue to the paper and not so much that it is forced out the edge of the repair.

Cover the repair with wax paper or non-stick material and blotter paper then dry under weight. If blotter paper is used, changing it every 10 - 15 minutes will speed the drying time.

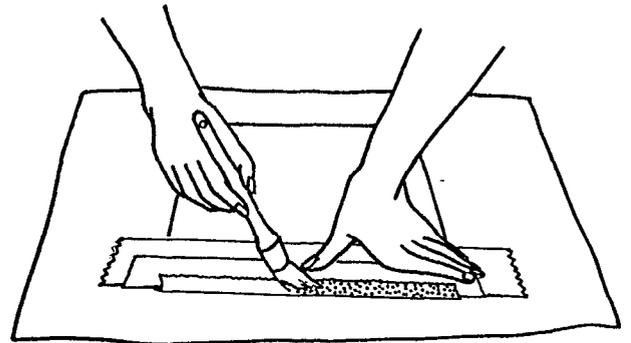
When the first half of the repair is dry, trim the top and bottom edges of the Japanese tissue if they extend past the edge of the paper.



Fold the Japanese tissue back toward itself to form the hinge. Place wax paper and waste paper under the folded hinge, with the waste paper closest to the pasted Japanese tissue.

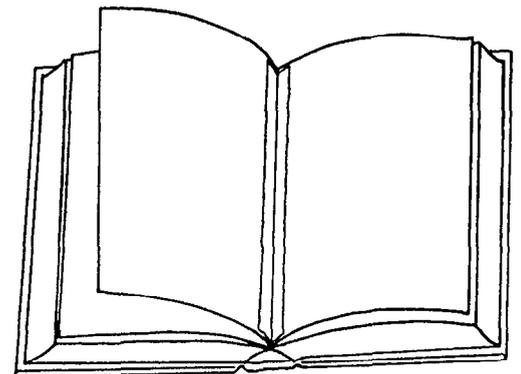


Lay the page, wax paper and waste paper on a sheet of waste paper and carefully paste the exposed Japanese tissue. Be careful not to get paste under the Japanese repair tissue or beneath the printed page.



Remove the waste paper and carefully position the hinged page in the book.

Use a folder to work the page and repair hinge into the inner hinge.



CONSERVATION BOOK REPAIR

Double check placement of the page and hinge. Make sure the hinge is smooth and all the way back into the hinge area. Check to see that the edges of the hinged page match the edges of the top and bottom of the text block. **MAKE SURE THE PAGE IS RIGHT SIDE UP!**

Place a piece of wax paper on either side of the Japanese tissue repair so the moisture will not travel into the text block.

Put the book in a press or rods in the joints and dry under weight. Keep the book under pressure until it is completely dry. If the Japanese hinge or the paper feels cool, it is not completely dry.

If the edges of the hinge have not adhered to the page, apply a small amount of paste to the edge and gently work it in place with a folder. Replace the wax paper or non-stick material, close the book and dry under weight.

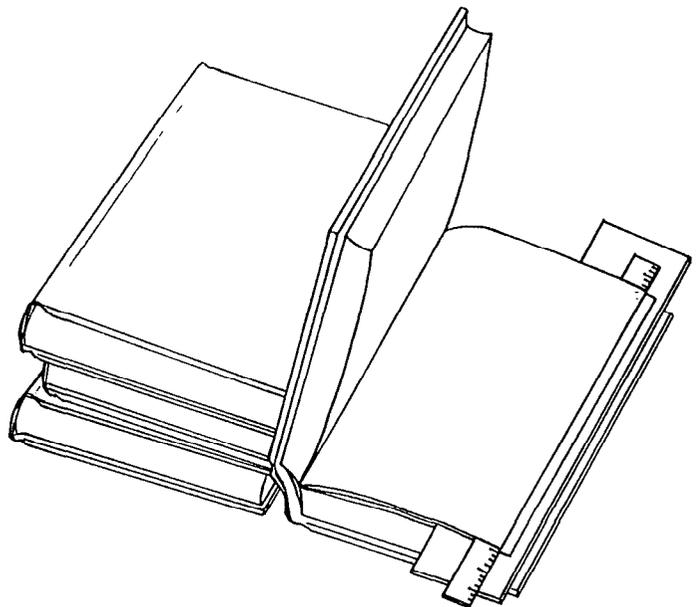
Trimming The Hinged-In Page

The edges of the hinged-in page may not be even with the rest of the text block. If the paper extends beyond the edges of the text block, trim it with an X-acto knife and ruler. **Do not use scissors** as they will not cut a straight edge.

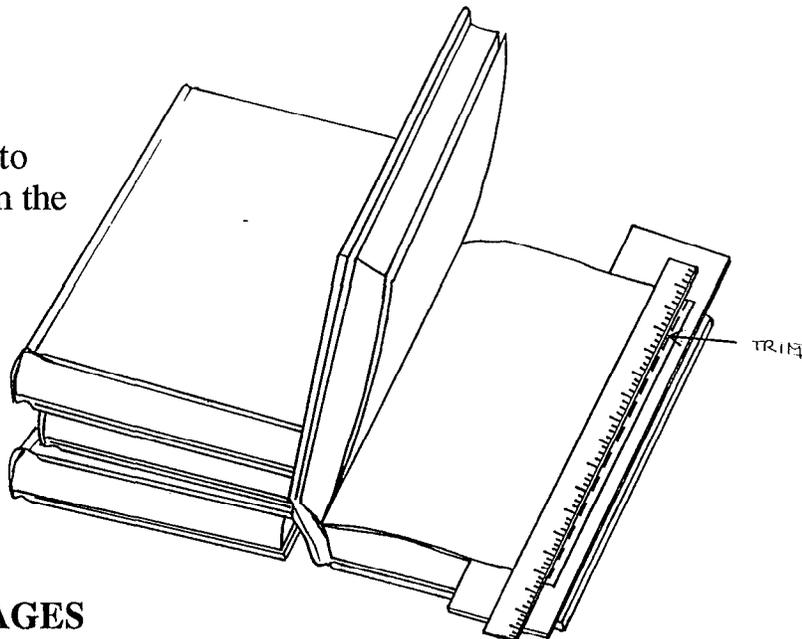
Place a thin piece of cardboard under the page to be trimmed to protect the text block.

Slip a flat metal ruler between the page to be trimmed and the page before it.

Line up the edge of the ruler so it is even with the edge of the page before it.



With a very sharp scalpel or X-acto knife, trim the excess margin from the page beneath the ruler.



3. HINGING-IN SEVERAL PAGES

The exact number of pages that can be successfully hinged-in will vary from book to book. Remember, when pages are hinged-in, additional thickness (the Japanese repair tissue and paste) are being added.

Do not attempt to replace more pages than the width of the book spine will allow.

There are several options to use when hinging in multiple pages. One choice is to hinge the loose pages to one another as a unit and then hinge the unit into the text block. In another case it is best to hinge each page into the text block one page at a time, especially if only 1 or 2 pages are being hinged-in. The method used will be determined by the individual book.

4. HINGING-IN PLATES

Plates can be attached to a text block in several ways.

Some plates are printed on folded sheets that are sewn into the text block as part of a signature. Other plates are printed on shiny, stiff paper, then tipped onto the page with glue. As the original glue dries up, the plate can separate from the text and fall out of the book.

Plates can be replaced by re-tipping them to the page or reattached by creating a Japanese tissue hinge between the plate and the text block page. Use the **HINGING-IN A SINGLE TEXT PAGE** technique (page 62) to hinge a plate into a book.

CONSERVATION BOOK REPAIR

Check the original placement of the plate on the page as some plates are smaller than the pages of the book and are often centered on the page.

If the plate was originally tipped in along the side (usually the left side of the plate) it can be reattached along that edge or along the top edge of the plate. Hinging from the top edge of the plate gives more support to a heavy plate.

C. REPLACING DAMAGED OR MISSING PAGES

When a page is damaged beyond repair or has been previously mended with clear plastic tape, it may have to be replaced to keep the book usable. If a page is missing entirely, the only option is to replace the page.

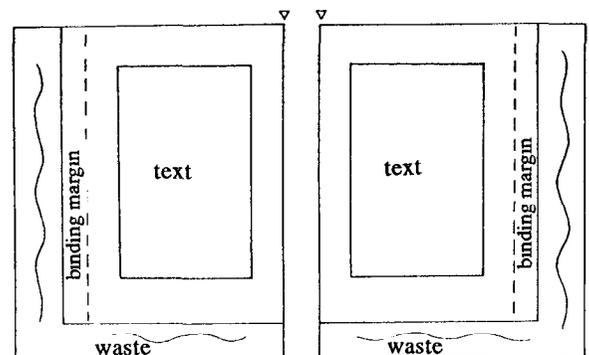
Check to see if the library has a second copy of the damaged book to use to photocopy a replacement page. If there is not a second copy, request one through interlibrary loan, noting that the book is being used to photocopy replacement pages to repair a library book.

Whenever possible, ask to receive the book, not photocopied pages from the book. If the requested book does not circulate, ask for photocopies that are actual size, not reduced. The 8 1/2" x 11" photocopy paper will probably be larger than the book so the page(s) will need to be trimmed to fit the book.

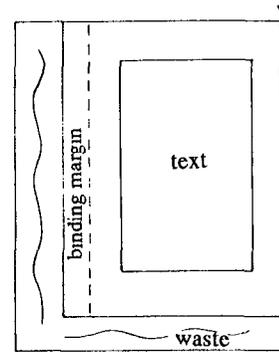
Replacement pages add thickness to the spine that can cause it to swell or split. Usually only 3 or 4 replacement pages can be safely inserted. All pages should be photocopied front and back to keep the added thickness to a minimum.

All photocopied pages need to have a 3/4 - 1" wide inner margin for tipping or hinging into a book. Replacement pages that fold out of the book, such as maps, should be copied in sections, hinged together, then trimmed to text block height.

The margins of the copied page should be uniform. The text on both sides should be in alignment.



Single-sided copies should be aligned with the upper right hand corner of the paper.



Since most books are not 8 1/2 x 11", it will be easiest to photocopy each page, cut and paste them into the correct position on a single sheet of paper, and then photocopy that page front and back. The edge margins can be trimmed to the correct size after the page is copied.

Use a light table or work on an outside window to line up the print and margins on the two pages for the correct placement.

If the cut and pasted photocopy came directly from the book, the finished replacement page will be a second generation copy. The more generations a copy is from the original, the less clear the print will be.

If possible, use acid-free bond paper to make copies for replacement pages. Regular bond paper is acidic and can cause future damage to the book. Acid-free bond can be more expensive than regular photocopy paper but one package of acid-free paper will last a long time if it is only used for photocopying replacement pages. Acid-free paper is also available in 11 x 14" and 11 x 17". These larger sizes can be useful when replacing end sheets printed with maps or printed information.

Some photocopy machines have double-sided copy features, but it is not always best to use this feature. When a photocopy machine has a double-sided copy feature two separate paper trays are used, one outside the machine to load the paper and one inside the machine to store the paper between the first and second printing steps. Using two different paper trays often means the margins on the two sides of paper do not line up correctly.

CONSERVATION BOOK REPAIR

Each machine is different so experiment to see how a particular machine works.

If a photocopy machine does not have a double-sided copy feature or it does not make accurate double-sided copies, double-sided photocopies can still be made by copying the first page and then manually re-inserting the paper into the paper tray to print the second. For proper registration, **IT IS IMPORTANT TO USE THE SAME LEADING EDGE OF PAPER IN BOTH PROCEDURES.** There may still be a difference in the margins but it will be consistent each time and the cut and pasted copy can be readjusted to compensate for it. For instance, the second page of copy might need to be 3/8" lower than the first for the final copy to be even on both pages.

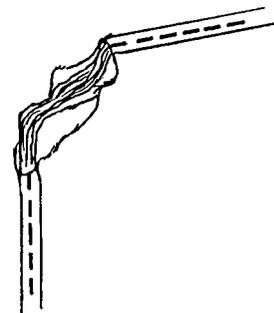
It may take several attempts to determine the correct difference between page 1 and page 2.

Trim the finished copy to the correct height then tip-in (page 58) or hinge-in (page 61) the page. Trim the fore edge to the correct width using the instructions in this chapter.

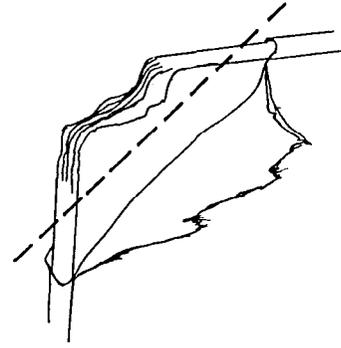
D. REPLACING MISSING CORNERS ON CASE BOUND BOOKS

It is not uncommon for a corner of a hard cover book to be damaged or destroyed while the rest of the case is in reasonably good condition. These corners can be replaced, and the book returned to the shelf. Instructions for simply **MENDING BOOK CASE CORNERS** is covered on page 46.

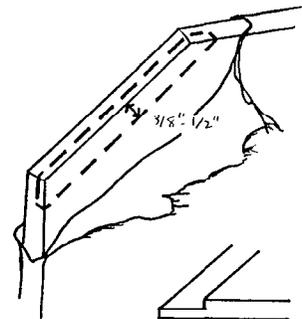
Cut through the book cloth along the top and side of the book board, cutting from the undamaged cloth toward the damaged corner. Make sure to cut far enough back so that the ragged edge of the book board is fully exposed.



Fold the book cloth out of the way and make a diagonal cut, trimming off the ragged edge of the damaged corner. Trim only as much board as necessary.

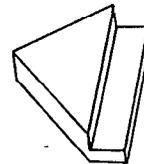


Make a second diagonal cut, about 3/8 - 1/2" inside the first cut. This cut should only go through half of the thickness of the book board. Use a knife or microspatula to remove half the thickness of the book board to create a step.

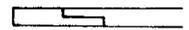


cross section

Cut a replacement corner out of binder's book board or mat board. This replacement corner should be the same thickness as the original board and should have a reverse step that will fit into the cut out step on the book cover.



cross section



replacement corner original board

Two or more layers of binder's board or mat board can be glued together to achieve the desired thickness. Board from a discarded book can also be saved and used. If the undamaged corners have become rounded with use, it might be better to round the replacement corner to blend in with the other corners.

Fit the replacement corner onto the book and make sure it is the proper fit.

CONSERVATION BOOK REPAIR

Apply glue to the "step" in the book board and the replacement corner and fit in place.

Dry the repair under weight using paper covered bricks (position corner so it is flat against the work surface (page 48) or bull dog clips (page 47).

Cut a piece of new book cloth to fit the corner repair. Remember the grain of the corner cloth must run parallel with the spine of the book.

Follow the instructions beginning on page 48 to attach the book cloth patch to the repaired corner and finish the repair.