Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Hilary T. Seo
Iowa State University, hseo@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/pres_workshops

Part of the Archival Science Commons, Art and Materials Conservation Commons, and the Book and Paper Commons

Recommended Citation
Seo, Hilary T., "Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program" (2004). Preservation Outreach and Workshops. 2.
http://lib.dr.iastate.edu/pres_workshops/2
Taking the Law into Your Own Hands:

Establishing an In-house Book Repair Program

¬ Boston, MA
¬ July 10, 2004

Hilary T. Seo, Iowa State University Library
Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Workshop Schedule:

W–5: Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Saturday, July 10, 2004

7:30    Registration and continental breakfast
8:15    Introductions: purpose and goals of the workshop, structure & schedule of the workshop
8:40    Preservation overview
9:00    Planning an in–house book repair program
9:30    Book repair treatments and decision making
10:00   Break
10:15   Session I & II
11:00   Session I & II
11:45   Lunch on your own
1:00    Sessions III & IV
2:30    Break
2:45    Sessions III & IV
4:15    Wrap–up and questions
Taking the Law into Your Own Hands:
Establishing an In–house Book Repair Program

Table of Contents:

1  Introduction
2  Preservation Overview
5  Why an In–house Book Repair Program?
6  Getting Started
8  Parts of a Bound Volume
9  Book Repair Levels
10 Condition Assessment & Treatment Decisions
11 Sample Decision Trees
17 Bookbinding Tools & Small Equipment
18 Conservation Materials
19 Book Repair Treatment Procedures
39 Preservation Vendors
43 Selected Bibliography
45 Web Resources
Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Introduction:

Program Description:
Law collections pose some unique problems in terms of their physical care due to filing and updating practices, use patterns and special binding structures such as loose–leafs and pocket parts. This workshop is designed to address specific preservation needs of law collections through lecture, demonstration and hands–on opportunities. Participants will learn the fundamentals of book repair, treatment options and decision–making, and preservation best practices. Emphasis will be placed on moving knowledge into practice through guidelines for establishing institution–appropriate in house book repair programs, by training the trainers in basic book repair techniques and providing all participants with a start–up tool kit.

Learning Outcomes:
1. Participants will analyze book structure, typical damage and treatment options, and make appropriate treatment decisions using both in–house and outsourcing options.
2. Participants will be able to develop a small, in–house book repair program and provide necessary training for other library staff to perform basic book repair techniques.

Target Audience: Librarians and para–professionals responsible for the physical care of their library’s collections.

Instructors:

Ethel Hellman, Collections Conservator, Harvard University, Widener Library

AnnMarie Ostrowski, Conservation Technician, Harvard University, Widener Library

Kate Rich, Conservation Technician, Harvard University, Widener Library

Hilary T. Seo, Head of Preservation, Iowa State University Library
Preservation Overview:

- **Preservation**
  - All activities, policies & procedures that limit deterioration & damage to collections.
  - Activities that slow the chemical deterioration of library materials.
  - Practices that prevent theft and mutilation of library materials.
  - Some preservation activities save only the intellectual content and not the artifact.

- **Conservation**
  - The physical treatment or storage of the artifact.
  - Item level approach that requires specialized training, equipment & materials.
  - Usually reserved for materials with artifactual value or materials that cannot be reformatted.

- **Collections Care**
  - Combines and balances preservation & conservation activities.
  - A production-oriented approach to treatment and care.
  - Designed for general circulating collections.
  - Can be applied when treating other types of collections.
Preservation Overview cont.:

- **Commercial Library Binding**
  - Use of permanent / durable materials for binding.
  - Use of appropriate binding & rebinding techniques that allow for good openability, durability, security and continued use.

- **Preservation reformatting**
  - Photocopying, microform, and digital imaging.
  - Captures and makes available intellectual content when physical object is too fragile.
  - Artifact is usually altered and sometimes discarded.

- **Mass Deacidification**
  - A non–aqueous chemical process that neutralizes acids in bound volumes and provides an alkaline reserve to continue neutralizing residual acids and acids introduced to the paper through airborne pollutants.
  - Does not strengthen brittle paper or desiccated leather.

- **Protective Enclosures**
  - Any housing (sleeve, box, etc.) that provides protection or security for an item and improves storage and handling.
  - Maybe standard size pre–fabricated or custom–fit to the object.

- **Book Repair & Conservation Treatment**
  - Book repair (an aspect of conservation) stabilizes the physical object and is often performed as batched processes.
  - Conservation treatments also stabilize an item and is usually reserved for items with artifactual or associative value, retaining evidentiary materials & structures and returning the item to usable condition.
  - Documentation of condition, treatment performed and before and after photographs are usually part of the conservation process.
Preservation Overview cont.:

- **Collection Security**
  - Use of magnetic or radio devices in library property.
  - Trained and motivated staff who are observant and respond to actual or potential theft of or damage to library property.

- **Disaster Preparedness & Response**
  - Planning and risk assessment.
  - Emergency and evacuation plans with phone trees.
  - Pre-assignment of responsibilities.
  - Established collection priorities.
  - Damage assessment & documentation.
  - Recovery & salvage procedures.

- **Environmental Control**
  - Recommended ranges for library materials:
    - Temperature: 65–70°F.
    - Relative humidity: 40–45%.
  - Non-fluctuating conditions is key:
    - Temperature: ±2 °F.
    - Relative humidity: ±3%.
  - Integrated pest management.
  - Housekeeping.

- **Staff & User Education**
  - Proper care & handling.
  - Proper shelving & photocopying techniques.
  - Why we have food, beverage and tobacco policies.
  - What to look for in terms of damage to collections & building warning signs.
  - Training bibliographers in how their decisions / non-decisions impact on the preservation of the collections.
Why have an In–house Book Repair Program?

- All research libraries accept a custodial responsibility to protect our cultural heritage.
- Libraries must care for and protect their most valuable asset & investment (the collections) in order to provide quality service to their current and future users.
- In–house repair can provide better turnaround time and may be more cost effective than outsourcing treatment, replacing or withdrawing titles that are needed.
- With in–house treatment, it is possible to maintain better control over the repair techniques and materials used.
- Less invasive repairs allow for future treatment if necessary.
- Stabilizing or preventing further damage may prevent the need for more expensive and invasive treatment in the future.
- Repair may allow for the item to survive its useful life and then be withdrawn.
Getting Started:

- **Commitment**
- **Workspace:**
  - A state-of-the-art lab is not necessary to get started; however a dedicated workspace with nearby storage for supplies and tools is helpful.
  - Plan for a large work surface (standard desk or table will do) with good lighting, space for treated materials to dry, space for trucks or additional shelves for sorting.
  - Shelving or cabinets for damaged materials and supplies.
  - Don’t forget to plan for any equipment or furniture that will be purchased.
- **Small tools:** See Bookbinding Tools & Small Equipment.
- **Basic supplies:** See individual treatments for other supplies.
- **Helpful but not absolutely necessary:**
  - Book press
  - Board trimmer
  - Sink (need to have access for clean up)
- **Training:**
  - Learn the terminology and the concepts.
  - Learn repair techniques and ways to teach them.
  - Identify staff that have an interest in book repair and have the dexterity & aptitude for bench work and train them.
- **Funding and budget:**
  - Preservation should have permanent budget lines that include library binding and supplies & equipment.
  - NEH Preservation Assistance Grants ($2,000–5,000) are available to hire a consultant, purchase storage furniture or supplies, send staff for training or purchase environmental monitoring equipment.
Getting Started:

- Identifying damaged materials or items needing treatment
  - Have Circulation set aside damaged materials as they are returned.
  - Have Technical Services route materials (errata, gifts or used materials).
- Heavily used areas that are non-circulating (primary materials).
- Retrospectively undoing bad treatments.
  - Items causing damage to nearby materials (book tape or adhesive book cloth that is peeling up or oozing adhesive).
  - Bad pamphlet binders (adhesive covers, side-staples).

- Expanding the program
  - Hire a consultant to do a needs assessment or program planning.
  - Add out-sourced activities such as reformatting, mass deacidification, conservation for Special Collections, or custom-fit boxes.
  - Make sure there is a written and up to date emergency and disaster response manual that is reviewed annually.
  - Begin educating staff and users on proper handling and shelving techniques.
Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Parts of a Bound Volume:

From ANSI/NISO/LBI Z39.78–2000 Appendix B
Book Repair:

- Levels of treatment (according to ARL)*:
  - Level I: under 15 min.
  - Level II: 15 min.–2 hrs.
  - Level III: over 2 hrs.

- Level 1 treatments:
  - Dry cleaning
  - Hinge tightening and repair
  - Encapsulation
  - Bolt cutting
  - Tip-ins or hinge-ins (errata sheets, missing pages)
  - Pockets
  - Page mends and fills
  - Pamphlet binding
  - Wrappers (Mylar)
  - Leather treatment

- Level 2 treatments:
  - End cap repair
  - Rebacking
  - Loose-leaf binder repair
  - Recasing
  - New case
  - Rebinding

- Level 3 treatments:
  - Call a conservator
  - Full treatments

* Multiple treatments to one volume are counted as one treated volume under level 1, 2, or 3, depending on the total amount of treatment time (e.g., dry cleaning and page mends for one book require 30 min is recorded as one volume under level 2).
Condition Assessment & Treatment Decisions:

- Make decisions that allow for future repairs if necessary
  - More extreme or intrusive treatments may limit future repairs.
  - Treatments should be reversible; an old treatment should be reversible or removable if it fails and allow for a new repair.
  - Treatments should not cause damage or prevent proper use.
  - Know your skill level and limits; cause no additional damage.
  - Retain sewing whenever possible.
    - Text blocks sewn thru the fold have the best leaf attachment, double-fan-adhesive is next.
    - Every time the spine is cut off or ground off, inner (binding) margin is lost.
  - Use oversewing selectively, reserve for extremely thick materials.
  - Use appropriate conservation materials and techniques.
  - Do not use products that you are uncertain about even if it is sold through a known vendor.
  - “No treatment” can be an appropriate treatment decision if made for the right reasons.

Decision Making Questions

- Is the artifact significant / valuable?
- What is the retention schedule?
- Are there other copies or editions available on the shelf?
- Is the paper brittle?
- Is the damage minor?
- Is the text block intact but not the cover?
- Are the text block and cover both damaged?
- Can this be tossed, replaced or reformatted?
Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Sample Sorting Decision Tree:

Does the item have artifact value? 

- YES
  - Is the item damaged? 
    - YES
      - Conservation treatment
    - NO
      - Vellum? 
        - YES
          - Box & send to Specil
        - NO
          - See replacement/reformat tree

- NO
  - Is the paper too brittle to repair or rebind? 
    - YES
      - See replacement/reformat tree
    - NO
      - Is the item unbound? 
        - YES
          - Can it be commercially bound? 
            - YES
              - See binding tree
            - NO
              - See in-house repair tree
        - NO
          - Is the item damaged? 
            - YES
              - See in-house repair tree
            - NO
              - Return to stacks
Sample Binding Decision Tree:

Is the case damaged?
  YES: See in-house repair tree
  NO: Is text block damaged?
    YES: Sewn thru fold?
      YES: • Retain sewing
            • New case
      NO: Are 5 or more sections damaged?
        YES: DFA rebind
        NO: • Stabilize sections
             • Prep for binding
             • New case
    NO: Over 2½” or loose-leaf?
      YES: Oversew rebind
      NO: NO

Taking the Law into Your Own Hands:
Establishing an In–house Book Repair Program
Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Sample In–house Repair Decision Tree:

1. **Is the spine piece damaged?**
   - YES: End cap repair or reback
   - NO: **Is case damaged beyond repair?**
     - YES: See binding decision tree
     - NO: **Is text block damaged?**
       - YES: See binding decision tree
       - NO: **Are cover–text attachment damaged?**
         - YES: See cover–text attachment tree
         - NO: **Loose leaves 5 or less? Errata?**
           - YES: Is errata a sticky label?
             - YES: Copy onto Permalife & tip-in
             - NO: Tip-in or hinge-in
           - NO: **Are leaves torn?**
             - YES: Paper repair
             - NO: End cap repair or reback
Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Sample Cover–Text Attachment Tree:

- Are cover–text attachments damaged?
  - YES
  - NO
    - Are hinges loose?
      - YES
        - Tighten hinges
      - NO
        - See in–house repair tree
  - YES
    - Are endsheets usable?
      - YES
        - Is super usable?
          - YES
            - Recase
          - NO
            - Is adhesive water soluble?
              - YES
                - Clean spine
                - Reline w/super
                - Recase
              - NO
                - Replace endsheets
                - Recase
        - NO
          - Replace endsheets
          - New super
          - Recase
    - NO
      - Replace endsheets
      - New super
      - Recase
Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Sample Replacement Decision Tree:

- Is damage repairable?
  - YES: See in–house repair tree
  - NO: Can this title/copy be weeded?
    - YES: Weed
    - NO: Is the item brittle?
      - YES: Is reprint available?
        - YES: Order reprint
        - NO: Will Hein reprint?
          - YES: Send to Hein
          - NO: Order replacement
      - NO: Can replacement be ordered?
        - YES: Order replacement
        - NO: Reformat

Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Sample Treatment Flags:

Preservation Department Processing Form

TO:
☐ Binding
☐ Reformatting
☐ Marking
☐ Conservation

Date:______________________________

Call Number:

From:_____________________________
☐ Forward by Normal Procedure

OR

Return / Forward To:________________

PROBLEM OR NEED:
☐ Send to: Pam box
☐ Bind
☐ Do Not Bind
    ☐ Commercial binder
☐ Color #_____
    ☐ In-house binding
☐ Brittle
☐ Relabel
☐ Pocket
☐ Repair
☐ Torn or Missing Pages: pp. _________
☐ Tip-Ins (Errata, Loose, Photocopied Pages)
☐ Enclosure ("Box", portfolio, etc.)
☐ Portfolio Refurbishment
☐ Other

Preservation Staff may select alternative treatment.

Comments:

Book Repair Work Form

Date:

Call number:

☐ Hinge Tightening / Hinge Repair
☐ Tip-Ins / Hinge-Ins
☐ Dry Clean
☐ Pamphlet Bind
☐ Pocket
☐ Page Mend pgs: _________
☐ Binder Prep
    ☐ Clean spine
    ☐ Add endsheets
    ☐ Spine lining and hinge material
    ☐ Special instructions ______________

☐ Re-Back
☐ Re-Case
    ☐ Clean spine
    ☐ Spine lining and hinge material
    ☐ Special instructions ______________

☐ Re-Bind
☐ Stabilize sewing
☐ Reformat
    ☐ Dry clean
    ☐ Collate
☐ ILL Request pgs. ______________
☐ Custom Enclosure ______________
    ☐ Phase box
    ☐ Clamshell box

Other instructions ______________
Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Bookbinding Tools & Small Equipment:

- Contents of Tool Kits:
  - Abbey pH pen
  - Bookbinder’s awl
  - Bookbinder’s knife
  - Bookbinder’s needles
  - Bone folder
  - Microspatula
  - Mechanical pencil
  - Bamboo brush
  - 1” nylon glue brush
  - Nylon paste brush (2)
  - Stencil brush
  - 3/8” wooden dowel (2)
  - Tweezers
  - Dry cleaning sponge
  - Vinyl eraser
  - Adhesive pick–up
  - Scotch glue stick
  - 5 oz. glue container
  - 8” straight scissors
  - Steel–edged ruler
  - Snap–off blade cutter
  - Self–healing cutting mat
  - Canvas tote bag
  - Sample pamphlet binder
  - Archival Products catalog
  - Gaylord catalog

- Small equipment:
  - Book or letter press
  - Pressing boards (wood or acrylic)
  - Board cutter (KuTrimmer)
  - Weights or buckram covered bricks
  - Tacking iron
Conservation Supplies:

- **Papers & boards**
  - Acid-free, lignin-free, non-recycled products
  - Japanese tissue used for page mends & lining spines
  - Heat-set tissue for page mends
  - Bond paper for lining spines & photocopying
  - 60# & 80# paper for endsheets & spine stiffeners

- **Cloth**
  - Book cloth (Buckram, C-cloth)
  - Hinge cloth (super, crash, mull, cambric, airplane linen)

- **Adhesives**
  - Polyvinyl Acetate (PVA)
  - Wheat or rice starch paste
  - Methyl Cellulose

- **Plastics**
  - Polyester sheets (Mylar) for encapsulation & wrappers
  - Polypropylene for wrappers & storage bags for contaminated materials
  - Do not use PVC

- **Other handy supplies**
  - Silicone release tissue
  - Non-woven polyester (Holtytex, Reemay, Pellon)
  - Blotter
  - Scrap paper
  - 3M double-sided tape for encapsulation & adhering pockets
  - Ace bandages
  - Wax paper
Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Book Repair Treatment Procedures:

- **Dry cleaning**
  - **Supplies:** Dry cleaning sponge, white vinyl or plastic eraser (MagicRub, Staedtler, Pentel), soft hair brush
  - **Instructions:**
    - Hold the page flat with the fingertips of your free hand.
    - For surface dirt or soot, use a dry cleaning sponge and make small circles or wipe the page with the sponge moving outward off the edge of the page.
    - For pencil marks, make small circles with the eraser.
    - Do not apply too much pressure especially if the paper is brittle.
    - Never drag the eraser or sponge in from the edge of the page, always erase or brush off the edge.
    - Brush away all crumbs.

- **Fastener removal**
  - **Supplies:** microspatula, Mylar scraps, small scissors
  - **Instructions:**
    - Cut rubber bands with scissors; do not try to remove intact.
    - If rubber band is dried on, carefully try to remove (pop off) using microspatula.
    - Staples and paperclips should be unbent to remove.
    - Use a microspatula to lift legs of the staple and then slide the microspatula under the body of the staple to remove.
    - Slip a pieces of Mylar between the paper and paperclip (both sides) and slide paperclip off, or use a microspatula to open a metal paperclip and remove.
**Taking the Law into Your Own Hands:**
**Establishing an In–house Book Repair Program**

**Book Repair Treatment Procedures cont.:**

- **Page mends**
  - *Tears, cuts and losses in paper may be mended using Japanese paper and wheat or rice starch paste or using heat–set tissue.*
    - Japanese paper and paste create a more flexible mend and are appropriate for guarding and hinging and for mends that are going to be flexed as the item is used.
    - Heat–set tissue does not introduce moisture into the paper being mended and does not require drying time. It is appropriate for mending coated paper, extremely brittle paper (e.g., prep for reformatting), or paper which might be damaged or discolored by moisture.
  - *Items mended with wheat starch paste should be sandwiched between layers of Reemay and blotter and under weight until dry. Always use a barrier of Reemay between wet paste and blotter.* (Fig. 1)
  - *A silicone release paper barrier must always be used between an item being mended with heat–set tissue and the heat source.* (Fig. 2)
Supplies: Japanese tissue, wheat starch paste, Reemay, blotter paper, heat set tissue, silicone release paper

Tools: brush, awl or needle, tweezers, tacking iron, plexi strip, weight

Simple tears (overlap is consistently on one edge of the tear) and Complex tears (overlap switches from one edge of the tear to the other):

- Japanese paper & wheat starch paste:
  - Align the edges of the tear.
  - Brush paste onto the overlapping edges.
  - Place Reemay and blotter under the tear, cover with Reemay and gently blot with a piece of blotter.
  - Place the blotter on top of the mend (with the Reemay barrier between the blotter and the pasted area) and leave under weight until dry. (Fig. 1)

- Heat-set tissue:
  - Place silicone release paper under the tear to be mended. Align the edges of the tear.
  - Cut or tear a strip of heat set tissue of an appropriate width and length. (*The strip should be as narrow as possible to do the task at hand, and yet wide enough and long enough to be handled easily. Several small lengths are usually more useful than one long strip.*)
  - Place the tissue over the tear, cover with silicone release paper and apply heat (pressure is not necessary). (Fig. 2)
  - Repeat on the reverse side.
Page mends cont.

- Supplies: Japanese tissue, wheat or rice starch paste, Reemay, blotter paper, heat set tissue, silicone release paper.
- Tools: brush, awl or needle, tweezers, tacking iron, plexi strip, weight.
- Cuts:
  - Japanese paper & wheat or rice starch paste:
    - Cut or tear a strip of Japanese tissue of an appropriate width and length. *(The strip should be as narrow as possible to do the task at hand, and yet wide enough and long enough to be handled easily. Several small lengths are usually more useful than one long strip.)*
    - Place Reemay & blotter under the tear to be mended. (Fig. 1)
    - Align the edges of the tear and weight to hold edges in place, if necessary.
    - Apply paste to the strip of tissue and place the strip over the tear. Cover with Reemay and gently blot with a piece of blotter.
    - Place the blotter on top of the mend (with the Reemay barrier between the blotter and the pasted area) and leave under weight until dry. (Fig. 1)

- Heat-set tissue: Follow instructions for using heat set tissue on simple and complex tears.
Page fills: using Japanese tissue

Supplies: Japanese paper, wheat or rice starch paste, Reemay, blotter paper, plexi strip

Tools: brush, awl or needle, tweezers, weight

Instructions:

- Prepare 3 pieces of Japanese paper cut to the shape of the loss:
  - 1 piece will be the exact shape and size of the loss (piece “b”); tissue should be a suitable weight and color to match the thickness and color of the item being mended.
  - 2 pieces will be slightly larger (~1 mm) than the loss (pieces “a” and “c”). (Fig. 3)

- Place Reemay & blotter under the loss to be filled. (Fig. 4)

- Paste out piece “a” and apply to cover the loss; cover with Reemay barrier and blot with blotter.

- Turn item over, with Reemay & blotter under the loss. (Fig. 4)

- Paste out piece “b” and fit piece “b” into the loss.

- Paste out piece “c” and apply piece “c” to cover the loss (over piece “b”). (Fig. 5)

- Place Reemay & blotter on top of the mend and leave under weight until dry.

Fig. 3

Hole to fill

Japanese tissue cut a little larger to cover hole (pieces “a” & “c”)

Fig. 4

Blotter

Japanese tissue cut a little larger to cover hole (pieces “a” & “c”)

Fig. 5

Paper fill (piece “b”)

Japanese tissue cut a little larger to cover hole (pieces “a” & “c”)
Taking the Law into Your Own Hands:
Establishing an In–house Book Repair Program

Book Repair Treatment Procedures cont.:

Page fills: using Heat−set tissue

Supplies: Heat−set tissue, Japanese paper, silicone release paper, blotter

Tools: tacking iron, awl or needle, tweezers

Instructions:

- Prepare 2 pieces of heat set tissue (pieces “a” and “c”) cut to the shape of the loss and slightly larger (~1 mm). (Fig. 6)
- Prepare a piece of Japanese tissue the exact shape and size of the loss (piece “b”); tissue should be a suitable weight and color to match the thickness and color of the item being mended.
- Place silicone release paper under the loss to be filled.
- Place piece “a” over the loss and using a silicone release paper barrier, apply heat. (Fig. 7)
- Turn item over, with silicone release paper under the loss and place piece “b” (Japanese paper) into the loss and piece “c” over loss (covering piece “b” see Fig. 8); using a silicone release paper barrier, apply heat. (Fig. 7)

Fig. 6

Hole to fill

Heat−set tissue cut a little larger to cover hole (pieces “a” & “c”)

Fig. 7

Silicone release
Page to be mended
Silicone release
Blotter

Fig. 8

Heat−set tissue cut a little larger to cover hole (pieces “a” & “c”)

Paper fill (piece “b”)

Taking the Law into Your Own Hands
Tip-ins

Supplies: PVA, wax paper, scrap paper

Tools: brush for PVA, bone or Teflon folder

Instructions:
- Trim page(s) to fit text block and place face down on bench.
- Use scrap paper to mask off 1/8 inch along gutter of tip-in page. (Fig. 9)
- Brush PVA along exposed edge; never drag the brush in from any page edge; brush only from the center out.
- Position page so edges are even with text block; bone down adhesive edge.
- For multiple pages, make sure volume can accommodate thickness; tip loose pages together before tipping-in to book.
- Replacement pages are best tipped to remaining stub of original page so that the stub will act like a hinge.

Fig. 9

Scrap paper to mask off glue area

Page to be tipped, placed face down

1/8” exposure for glue
Hinging-on

**Supplies:** Japanese paper strips (~½ inch recommended), paste, Reemay strips (1 inch x 12 inches recommended), damp cloth

**Tools:** scalpel or scissors, paste brush

**Instructions:**

- Tear or cut the strip of Japanese paper to a length 1mm shorter than the height of the text block. The goal is to avoid having to trim the ends of the strip after it has been adhered to the text block.

- Stroking from the middle of the text block to the head and tail edges, apply paste to the shoulder of the text block.

- Place the hinge along the pasted-out shoulder of the text block, with ½ its width on the shoulder and ½ off the shoulder. Tap the hinge into place gently.

- Place a strip of Reemay on top of the hinge and apply pressure to ensure adhesion. Leave Reemay strip in place on text block, with its edge even with the edge of the shoulder. **This is IMPORTANT. If the Reemay is not even with the edge of the shoulder, the loose item will adhere to the text block and the hinge function will be lost.**

- Position the spine edge of the loose item on the edge of the shoulder (on top of the Reemay strip). If the loose item is a page from the text block, it will usually be square at the fore edge of the text block. Hold firmly in place with the fingers of one hand.

- Maintaining the position of the loose item, apply paste to the free edge of the hinge, and to the spine edge of the loose item. Tap the hinge into place onto the loose item.

- Cover the hinge with another strip of Reemay and apply pressure to adhere well. Leave both strips of Reemay in position, and put the hinged area (protecting the shoulder) under weight until dry.
Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Book Repair Treatment Procedures cont.:

- Hinge tightening
  - Supplies: PVA, wax paper
  - Tools: Knitting needles
  - Tip: cover opening of PVA container with masking tape, puncture tape with knitting needle; or use tall bottle.
  - Instructions:
    - Coat the knitting needle 5 – 6” with PVA.
    - Open the cover of the book ~45° to open up the hinge.
    - Carefully slide the knitting needle along the hinge, coating board & pastedown, close the cover and slide the knitting needle out. Do not allow PVA to be deposited on the spine of text block or cover. (Fig. 10)
    - Repeat on other end and then other hinge if necessary.
    - Gently bone the hinge area on the inside covers, front and back. (Fig. 11) Place wax paper between fly leaf and cover, close cover.
    - Bone joints and place clean knitting needles in joints of cover. Place under boards and weights (or in a book press).
Hinge Repair

**Supplies:** PVA, wax paper, scrap paper

**Tools:** brush for PVA, microspatula, bone or Teflon folder

**Instructions:**
- Slide loose hinge material out from pocket slit. (Fig. 12)
- Place wax paper and then scrap paper on text block (under hinge material) and glue-out hinge material.
- Holding back cover at ~90° making sure cover is tight against the spine of text block, slip hinge material under pocket slit using a microspatula to push hinge under and bone down.
- Slip wax paper under pocket slit (covering hinge material) in case PVA squeezes out.
- Remove scrap paper, close cover and place knitting needles in joints.
- Place book under boards and weights or in book press.

---

Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program
Leather treatment for red rot

Supplies: Klucel–G or Cellugel

Tools: dry brush

Instructions:

- Using a dry brush, coat the leather with Klucel–G using even strokes.
- Do not contaminate Klucel–G with red rot; only make a small amount or remove a small amount from the main jar.
- Let dry before handling or turning over.
- Treat all leather surfaces including board edges, taking care not to deposit any on the text block.
- If the squares are treated, place Reemay between the cover and text block.
Taking the Law into Your Own Hands:
Establishing an In–house Book Repair Program

Book Repair Treatment Procedures cont.:

Pamphlet binding

Supplies: pamphlet binder, thread

Tools: microspatula, binder’s needle, awl

Instructions:

- Remove saddle staples from item using a microspatula. (See Fastener removal).
- Use three sewing stations for pamphlets under 11” (Fig. 13) and 5 if 11” or taller (Fig. 14).
- Use an awl to poke additional holes in the pamphlet & binder if necessary from the inside of the pamphlet out; carefully angle the awl so that it goes through all of the folds (e.g. if pamphlet is held open at 90°, hold the awl at a 45° angle).
- Start sewing at the center hole (see sewing patterns on following page).
- Tighten the thread by pulling the loose ends in the direction of sewing; be careful not to tear pages.
- Tie a square knot (right over left, then left over right) so that it is tied around the thread that crosses the center hole.
- Gently pluck thread to ensure sewing is tight; if too loose, repeat.
- Trim ends ¼ inch from the square knot; fray ends with needle if knot is exposed on the inside or outside of the pamphlet.
Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Book Repair Treatment Procedures cont.:

Pamphlet binding sewing patterns

3–station sewing pattern for pamphlets under 11”:

Fig. 13

5–station sewing pattern for pamphlets over 11”:

Fig. 14

Tie a square knot, starting with one end in front of the thread and the other behind.
End-cap repair

When the spine of a book is damaged at the head or the tail, but the rest of the spine is not damaged, you may repair just the end-caps.

Supplies: cloth, PVA, scrap paper, wax paper, Reemay.

Tools: scalpel, straight edge, microspatula or lifting knife, bone or Teflon folder, roller or brush for PVA, press boards, press.

Instructions:

- Cut a patch of cloth long enough and wide enough to cover the damaged area, plus \( \frac{3}{4} \) inch for the turn-in. Glue up the turn-in on the patch, fold over and bone well.
- Working on the damaged end of the spine piece, cut the cloth turn-in on the inside of the front and back boards along the pastedown for a distance of approximately 2 inches from the spine edge. Lift the cut-away turn-in.
- Lift the cover cloth on the front and back boards as much as is needed to allow easy placement of the patch of new cloth.
- Fit the patch into place to make sure it will fit. Remove it and set it aside.
- Glue up the cover boards to receive the patch.
- Position the patch across the damaged spine, under the damaged spine cloth, and adhere to front and back boards. Be sure the fold of the patch is aligned exactly with the edges of the cover boards.
- Close the book. Bone the joints. Bone the cover boards and the spine.

(cont.)
End-cap repair cont.

- Adhere the lifted cover cloth to the new cloth patch.
- Glue up the inside of the original spine piece to receive the patch. DO NOT glue up the spine below the area where the new cloth will be adhered.
- Adhere the lifted turn-ins.
- Close the book. Bone the joints. Bone the cover boards and the spine.
- Place rods in the joints and put under weight until dry.
Re-back

- Supplies: security strip, spine stiffener, cloth, cambric to line cloth, PVA, scrap paper, wax paper, Reemay, [paper spine lining(s), paste].
- Tools: scalpel, straight edge, microspatula or lifting knife, finishing press or job backer, bone or Teflon folder, roller or brush for PVA, [brush for paste], press boards, press.
- Instructions:
  - Cut cover cloth on cover boards 1mm from board edge at joint. Remove original spine piece. Retain original spine piece for reapplication to new spine cloth.
  - On the inside of the cover boards, cut the cloth turn-in along the pastedown, parallel to board edge at head and tail for a distance of approximately 2 inches from the spine edge. Lift the cut-away turn-in.
  - Lift the cover cloth at the spine edge of the cover boards to a distance of approximately 2 inches. (Fig. 15)
  - Remove any loose lining paper from the spine.
  - Adhere security strip to text block spine. Bone well.

[Book may now be set aside and another book brought to this point. When a batch of books has been brought to this point, proceed to the next step.]
Select spine liners for all books that require lining ("V" at spine when opened flat), spine stiffeners for new spine piece, cloth for the new spine, and lining if the spine cloth requires it. Spine liners and spine stiffeners (80# paper) should be the width of the text block spine, measured from shoulder to shoulder.

Line all text block spines that require lining. Adhere a Japanese paper lining with paste and allow to dry. Adhere a paper lining with PVA and allow to dry.

Prepare your spine piece: (Fig. 16)
- Spine cloth should be the width of the text block spine, plus 2 inches, and the height of the boards, plus 2 inches.
- Spine stiffener should be the width of the text block spine and the height of the boards.
- Center the spine stiffener on the inside of the spine cloth. (Fig. 16)
- Glue up the spine cloth at the head and tail, fold over the spine stiffener, and bone well. The spine piece must be exactly the height of the cover boards.
Re-back cont.

- Center the spine piece on the text block spine, carefully aligning the head and tail of the new spine piece with the head and tail of the cover boards. Crease at the shoulders with your fingers to provide a guideline for placement. (Fig. 17)

- Glue up the outside of the cover board, under the lifted cover cloth; using the crease as a guideline, position the new spine cloth on the cover board and bone well. Bone the joint carefully. (Fig. 17)

- Glue up the outside of the other cover board, stretch the spine cloth across the spine of the text block and adhere to the other cover board. Bone well, including the joint area.

- Adhere original cover cloth to the new spine cloth.
- Adhere lifted turn-ins.
- Place in book press.

Fig. 17

Glue board & position new spine cloth on cover board, bone down

Crease at the shoulder to create a guide to position new spine cloth
Book Repair Treatment Procedures cont.:  

- Re-back cont.

Replacing original spine pieces.

- Remove old linings from original spine pieces.
- Match original spine pieces to books.
- Trim the original spines to the width of the new spines, minus 1–2 mm.
- Adhere original spines to new spine cloth.
- Glue-up, position on spine of book, press in place with Reemay strip and bone well.
- Wrap volume with Ace Bandage until dry.

Final step

- Check [inner] hinge of the book at front and back. If paper appears weak or damaged in any way, reinforce with a strip of medium weight Japanese paper. Place a piece of Reemay in the hinge to prevent the tissue sticking to itself as it dries.

- Close book and put under weight until dry.
Preservation Vendors:

- Conservation Service Centers
  - Conservation Center for Art and Historic Artifacts
    - 264 South 23rd Street, Philadelphia, PA 19103
    - 215-545-0613
    - www.ccaha.org
  - Etherington Conservation Center
    - 7609 Business Park Drive, Greensboro, NC 27409
    - 336-665-1317 or 877-391-1317
    - donetherington.com
- Gerald R. Ford Conservation Center
  - 402-595-1180
  - www.nebraskahistory.org/sites/ford
- Midwest Art Conservation Center
  - 612-870-3120
  - www.preserveart.org
- Northeast Document Conservation Center
  - 100 Brickstone Square, Andover, MA 01810-1494
  - 978-470-1010
  - nedcc.org/home.php
- Preservation Technologies (mass deacidification)
  - 111 Thomson Park Drive, Cranberry Township, PA 16066
  - 724-779-2111 or 800-416-2665
  - www.ptlp.com
- Custom-Fit Boxes
  - Custom Manufacturing, Inc (CMI)
    - 10034 East Lake Road, Hammondsport, NY 14840
    - 607-569-2738
    - www.archivalboxes.com
Preservation Vendors cont.:  

- **Law Publishers Providing Preservation Reprints**  
  - **Law Book Exchange**  
    - 33 Terminal Avenue, Clark, NJ 07066  
    - 732–382–1800 or 800–422–6686  
    - [www.lawbookexchange.com](http://www.lawbookexchange.com)  
  - **Law Library Microfilm**  
    - P.O. Box 1599, Kaneohe, HI 96744  
    - 800–235–4446  
    - [www.llmc.com](http://www.llmc.com)  
  - **William S. Hein & Co.**  
    - 1285 Main Street, Buffalo, NY 14209  
    - 716–882–2600  
    - [www.wshein.com](http://www.wshein.com)  

- **Preservation Photocopying and Library Binding**  
  - **Acme Bookbinding**  
    - 100 Cambridge Street, Charlestown, MA 02129  
    - 800–242–1821  
    - [www.acmebook.com](http://www.acmebook.com)  
  - **Bridgeport National Bindery**  
    - 662 Silver Street, Agawam, MA 01001  
    - 413–789–1981 or 800–223–5083  
    - [www.bnbindery.com](http://www.bnbindery.com)  
  - **HF Group**  
    - [www.thehfgroup.com](http://www.thehfgroup.com)
Taking the Law into Your Own Hands: Establishing an In-house Book Repair Program

Preservation Vendors cont.:  

- Supply Vendors (materials and tools)
  - Archival Products
    - PO Box 1413, Des Moines, IA 50305
    - 800–526–5640
    - [www.archival.com](http://www.archival.com)
  - BookMakers, International
    - 8260 Patuxent Range Rd., Suite C, Jessup, Maryland 20794
    - 301–604–7787
    - [www.bookmakerscatalog.com](http://www.bookmakerscatalog.com)
  - Conservation Resources
    - 5532 Port Royal Road, Springfield, VA 22151
    - 703–321–7730 or 800–634–6932
    - [www.conservationresources.com](http://www.conservationresources.com)
  - Dick Blick Art Materials
    - P.O. Box 1267, Galesburg, IL 61402
    - 800–828–4548
    - [www.dickblick.com](http://www.dickblick.com)
  - Gaylord
    - P.O. Box 4901, Syracuse, NY 13221
    - 800–448–6160
    - [www.gaylord.com](http://www.gaylord.com)
  - Pearl Art Supplies
    - 800–221–6845
    - [www.pearlpaint.com](http://www.pearlpaint.com)
  - Talas
    - 20 West 20th Street, 5th Floor, New York, NY 10011
    - 212–219–0770
    - [talasonline.com](http://talasonline.com)
  - University Products
    - 800–336–4847
    - [www.universityproducts.com](http://www.universityproducts.com)
Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Selected Bibliography:

Preservation Overview and Program Planning:


Ogden, Barclay W. “Preservation Selection and Treatment Options.” In *Meeting the Preservation Challenge,* ed. by Jan Merrill–Oldham, pp. 38–42.


Book Repair Manuals and Training:

Taking the Law into Your Own Hands:
Establishing an In–house Book Repair Program

Selected Bibliography cont.:


Videos:


Condition Surveys in Law Libraries:

Taking the Law into Your Own Hands: Establishing an In–house Book Repair Program

Web Resources:

American Institute for Conservation:  www.conservation-us.org

Canadian Conservation Institute:  www.cci-icc.gc.ca/html

Conservation Center for Art and Historic Artifacts:  www.ccaha.org

Conservation OnLine (CoOL):  http://cool.conservation-us.org/

Council on Library and Information Resources:  www.clir.org

ISU Library Preservation Blog: parkslibrarypreservation.wordpress.com


Northeast Document Conservation Center (NEDCC):  www.nedcc.org
Sewing Procedures for Pamphlets and Music

A. When threading your needle, allow enough thread to tie the ends at the completion of the final step. A guideline to measuring the thread length is to multiply the height of the pamphlet by 2 1/2. Sew down through the inner center of the spine leaving a tail of threads to tie off when the sewing is finished. Then sew up through hole 2, across to hole 3 and then back up through hole 1 which is the center keeping each end of the thread on opposite sides of the cross thread.

B. Tie a half square knot and pull the ends tightly without tearing the paper.

C. Tie again carefully holding the first half of the knot in place. Gently pluck the string to ensure adequate tension.

D. If the tension is too loose, repeat the process.

E. Trim the ends of the thread 1/4 inch from the knot and fray with the tip of the needle.

Note: Use 5 holes for larger formats.