

BASIC BINDING & COMPOSING

Bookbinding

BASIC BINDING TECHNIQUES IN PREPARATION FOR COPTIC

Handling Board, Paper, Adhesive

Cutting Board
Tearing Paper
Slitting Paper
Warp & Grain
Cover Materials

Preparing Signatures

Folding Paper
Stabbing Holes
Hole # and Arrangement

Covering Board

Preparing cover material
Measuring
Pasting on
Preparing Corners
Folding in
Finishing
Briefly about endpapers

Letterpress

typesetting procedure

spacing material

measurement

Review **terminology**

Typesetting **task**: *identify & distribute*

Galley & Drawer check-out

Clean up: type area,

Demonstrate Press operation,

Clean up: press & tables

Letterpress words to know...

composing stick

pica

point

leading

reglet

furniture

spacing

quad

em

en ("nuts")

3 to em (and so on)

leading

hell box

rule

typeface

font

face

counter space

beard

shoulder

feet

baseline

x-height

notch/knee

cylinder

bed

feedboard

tympan

undersheet/packing

guage

lollipop

quoin & key

lock up

planer

brayer

palette knife

edition

impression

registration

emboss

offset

bleed

proof

rag system

simple green

squeezie

GENERAL PRINCIPLES *of* BINDING

Forwarding, as a term, is used as a large umbrella for almost the entire binding operation. It is distinguished from “finishing,” the decoration of the cover, exterior of the book block, and possibly the inside covers. We won’t really cover finishing in this program, except by way of your own improvisations.

So, *Forwarding* includes:

PREPARING SIGNATURES: tearing, slitting, or cutting down then folding— OR, folding into folio/quarto/octavos to cut later (our shop does not have the means to neatly cut folded & bound sections). In our case, we will collate “folios” into sections and fold each section as one. You’ll notice this folding creates a jagged fore-edge. This jaggedness is de-emphasized by well-placed deckles and tears; machine cut edges will emphasize the jaggedness.

MAKING ENDPAPERS: In hand bookbinding, the endpapers are prepared as an entire signature, which includes leaves that are later torn out or torn down or pasted down, and decorative sheets. There are numerous approaches to endpapers. We’ll only get to one or two. Our first two bindings, the coptic and the exposed sewing on cords, do not functionally have endpapers at all, but all case bindings or bindings with covered spines do.

PREPARING COVER BOARDS: The main concern with cover boards are size, strength, warp, and the method of attachment to the book. Cover boards may be laminated sheets or pre-made. Cut edges of boards should be *lightly* sanded to remove burs and sharp edges. Wooden boards have their own issues.

SEWING: Most sewing processes are relatively simple and

direct after the choice of thread size. The challenges in sewing are the management of materials, the mastery of the appropriate tension to maintain as you stitch, and the “building” of the form of the book (via the spine). Sewing swells the spine with thread; sewing affects the overall dimension and action of the book.

SPINE TREATMENT: Once the sewing is completed, the spine can be manipulated and finished to protect it and to prepare it for its connection to the rest of the book.

Rounding: This takes up some of the swell of the sewing process by gently staggering the signatures forward from the middle signature, forming a gentle curve.

Backing: Backing can be moderate or severe: it means to fold the spines of the signatures, again, from the center forward, forming a “shoulder” at the joint.

Lining: For a variety of reasons, the spine is at some point coated with a combination of japanese papers and/or basic craft paper or light bristol. This both seals away the stitching and smooths the spine.

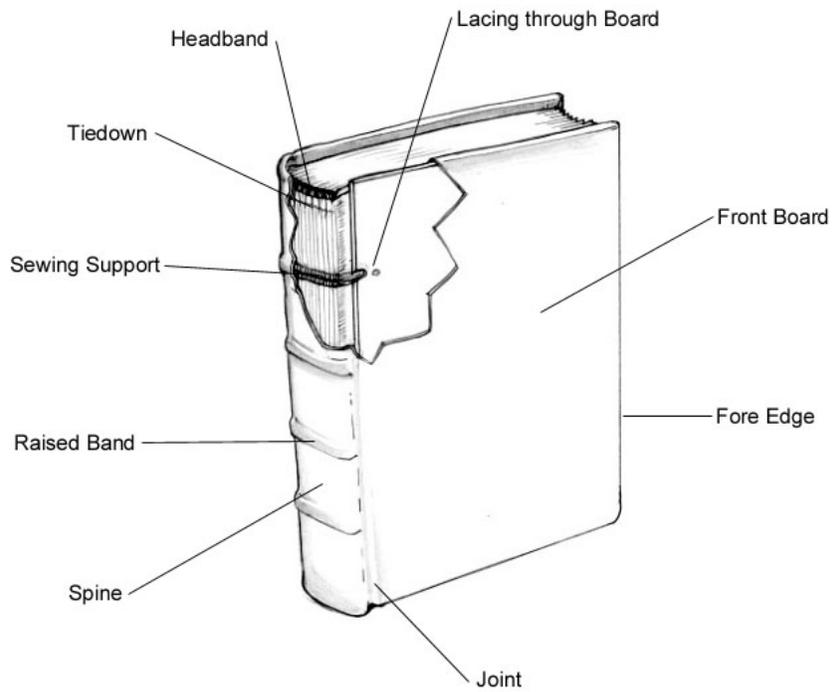
Hollow Tube: Most sewings on tapes are made with a hollow back, which is partly constructed by attaching a hollow “tube” (bristol) to the spine.

HEADBANDS & ENDBANDS: These are the little strips of silk or linen between the spine and of the cover and the spine of the book at the head and tail. They are a structural *and* decorative feature of most books.

BOARD ATTACHMENT: Board attachment is an important structural issue in all binding and is one of the principal problems that leads to new designs and new materials. Board attachment affects both the long-term durability of a book and the action of a book.

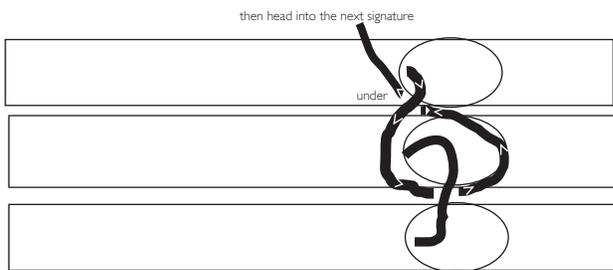
CUTTING BOARDS TO SIZE: Though you've already prepared the boards in advance, they cannot always be cut to size until later, to ensure that they are properly oriented to the book block and create an even and attractive "square."

COVERING THE BOOK (when fully bound): Covering the book demands a sensitivity to all of the materials and components of book structure all at once. When the boards are already attached to the book block, covering can happen all at once, as in a book bound in one large piece of leather.

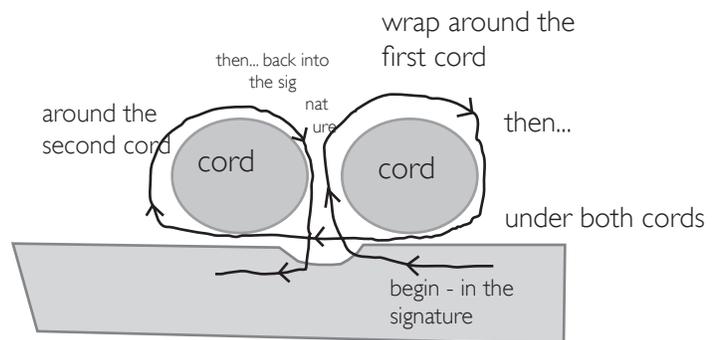
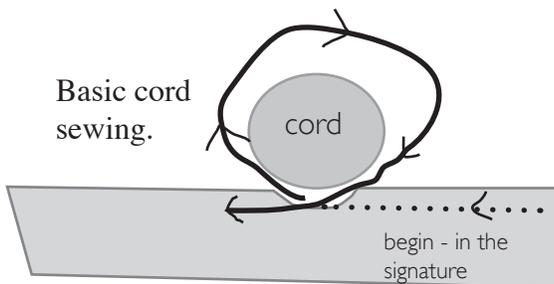


CASE CONSTRUCTION: This means you are covering the boards "off the book," creating the entire cover piece in advance and then "hanging" the book into the cover.

this is called a "kettle stitch"

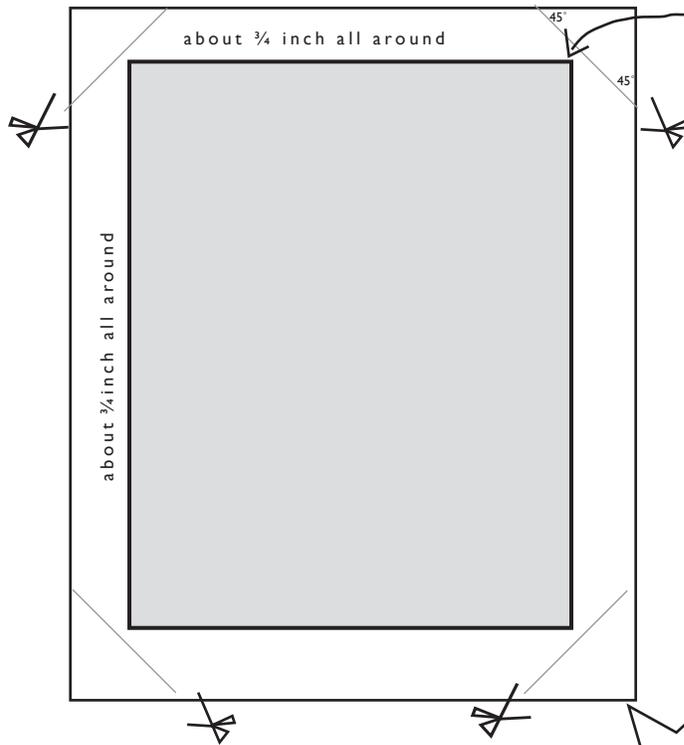


Basic cord sewing.

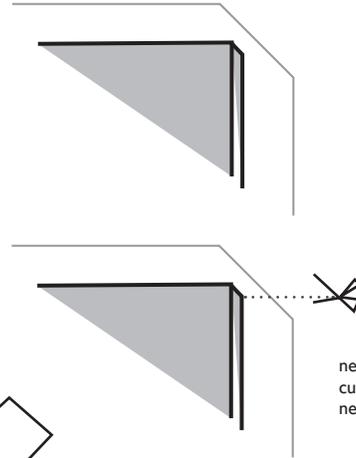


Packing: each time you come out of a signature, wrap around the cord several times — the number of wraps depends on the thickness of each signature.

to make your corners precise: notice that the tab you cut off has two 45 degree angles/ You can use your triangle to mark your cut

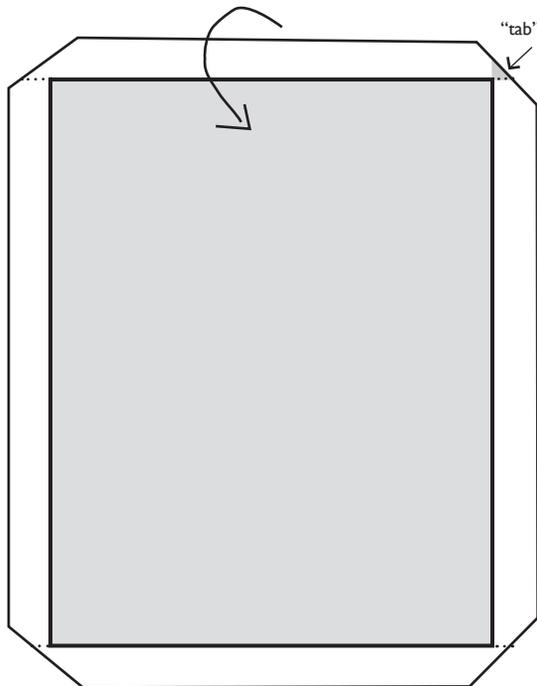


the gap between the cut you make and the corner of the board should be just a hair greater than the thickness of the board.



next, make four parallel cuts toward the corners of the board.

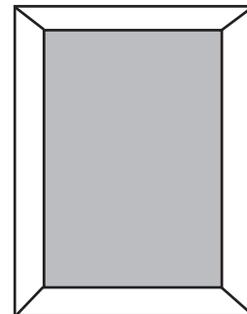
fold over and paste the two sides with tabs; use your bone folder to smooth down the edges and corners



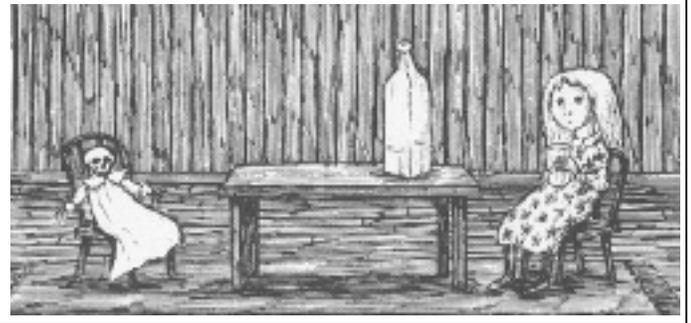
fold the tabs in so that they cover the pokey corners of the board.

once the top and bottom have been folded in and the tabs have been folded and pasted over the corners, fold the sides over, smooth the edges...

the remaining exposed board can now be covered by a simple rectangle of paper. you may want to wait until you have attached the board to the book block before you finish the inside cover.



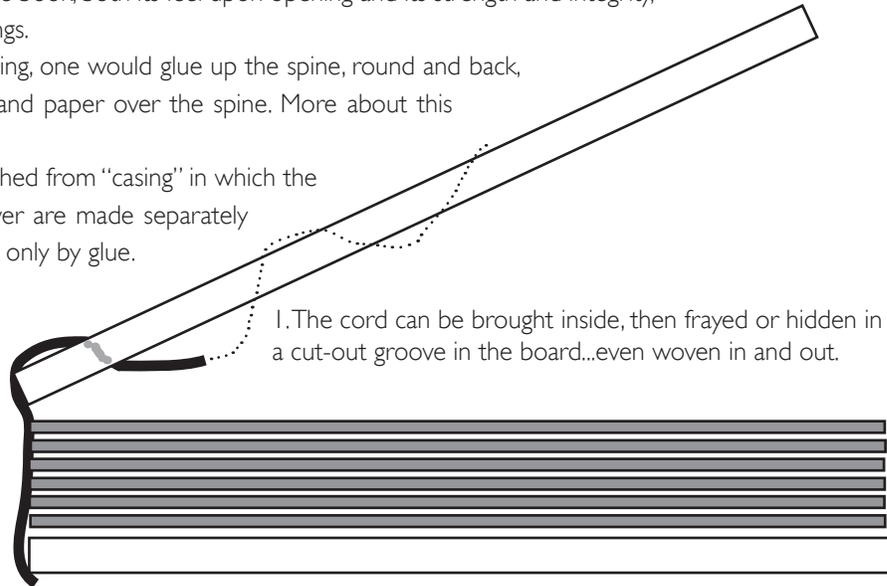
ATTACH- ING



Attaching the book block to the boards: sewing on cords invites some of the strongest and most beautiful attachment methods. All of the below integrate the cords into the structural workings of the book, both its feel upon opening and its strength and integrity, making these true bindings.

In a "non-exposed" binding, one would glue up the spine, round and back, and lay linen ("super") and paper over the spine. More about this another time.

True binding is distinguished from "casing" in which the book block and the cover are made separately and primarily connected only by glue.



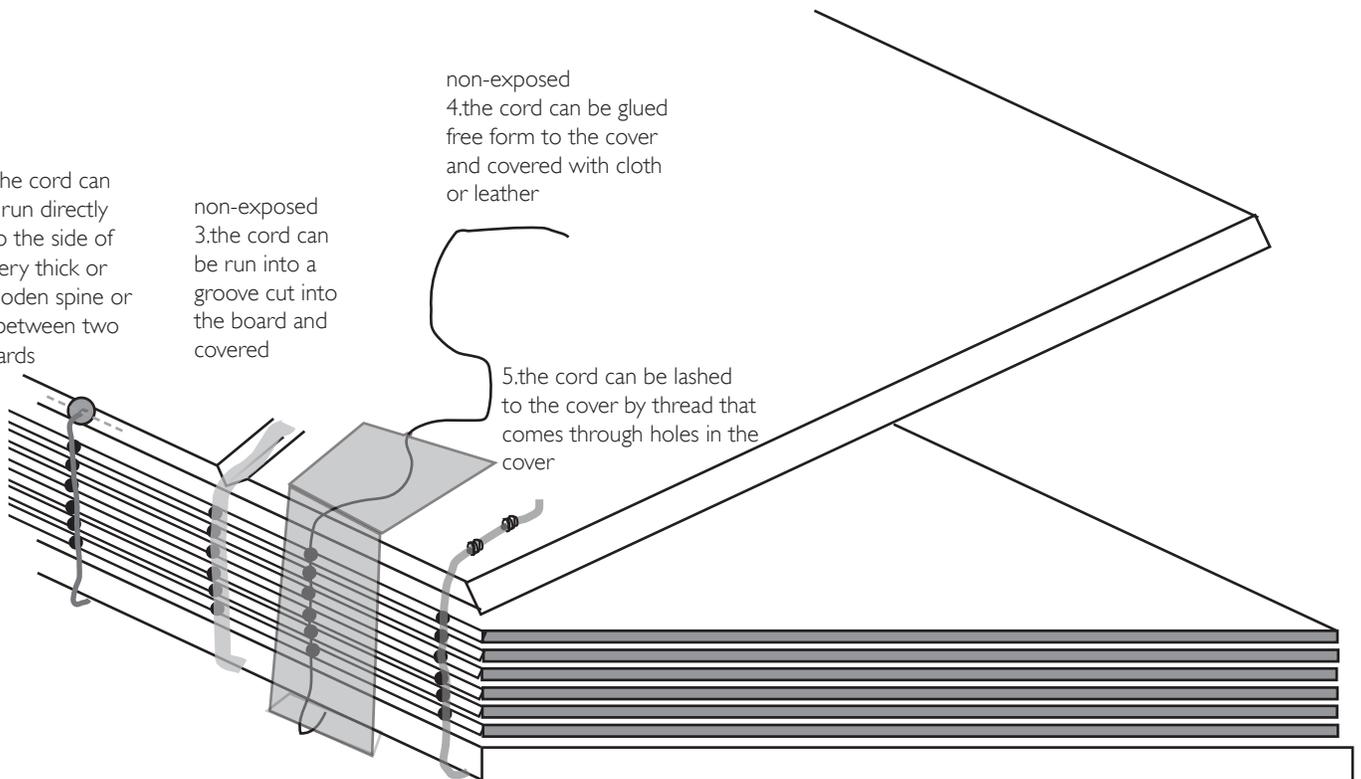
1. The cord can be brought inside, then frayed or hidden in a cut-out groove in the board...even woven in and out.

2. the cord can be run directly into the side of a very thick or wooden spine or in between two boards

non-exposed
3. the cord can be run into a groove cut into the board and covered

non-exposed
4. the cord can be glued free form to the cover and covered with cloth or leather

5. the cord can be lashed to the cover by thread that comes through holes in the cover



measurement **Letterpress**

Measurement Data

English-American Point System

1 pt.	=	1/2 pica
6 pts.	=	1 pica
12 pts.	=	2 picas
72 pts.	=	6 picas or 1 inch*

1"	=	6p0
7/8"	=	5p3
3/4"	=	4p6
1/2"	=	3p0
3/8"	=	2p3
1/4"	=	1p6
1/8"	=	0p9

using numbers

when laying out your design, it helps to work in picas, or to be able to switch back and forth quickly between picas and inches.

choose your line length or the height of your form (depending, usually on the orientation of your form in the bed) based on a convenient furniture length that gives you plenty of room for spacing on both ends of your text.

when setting unconventional lines, measure your gaps carefully before you start sticking random spacing in to fill; this will help you create the simplest and most stable form.

When proofing, never simply "eyeball" the placement of text on the page. measure with your pica stick, and be exact.

The proper way to write dimensions is like so:

"2p6" = 2 picas and 6 points

COMMON CONVERSIONS

Guess What?!

When setting 12 point type, a 24 point EN is a convenient Quad;

...& a 48 point 4-to-EM makes a 4-Em 12 point Quad.

When setting in larger sizes, say 48, 60, and 72, the scarcity of spacing sometimes requires some stacking of other sizes:

two 24 point EMs is equal to a 48 point EN

two 30 point EMs is equal to a 60 point EN

two 36 point EMs is equal to a 72 point EN

PREPARE

1. **Determine the longest line** to be set. Keep in mind that if lines are staggered left or right, your line must run the entire length from most left to most right.

2. To determine the **length of leading** to use: add at least 48pts to the line length (to give room for large spacing on the ends of each line) and round up to the nearest convenient furniture length.

3. **Set up your work area.** Pull your type tray out carefully and set it on one of the work counters. Set a good amount of the leading length and thickness that you've chosen next to the type tray. Check your leading to make sure it is all the same length (no oddballs).

4. Clear out the **spacing** compartments in your tray. The spacing in these trays are often a bit jumbled. Sort them out before you begin.

5. Retrieve some word-spacers, ems, and quads from the appropriate spacing drawer, and sort them into the appropriate compartments in your type tray. If necessary, you may want to pull out the spacing drawer and set it alongside your type tray.

6. Hold the **composing stick** so that your wrist is as straight and relaxed as possible.

Have your thumb or forefinger poised to hold type as you set it in the stick.



BEGIN SETTING

1. Lay in a piece of **leading**. If the leading is too long to fit easily, check the leading length and check the placement of the “stop” on the composing stick. If the lead is longer than it should be, cut it to size. Otherwise, adjust your composing stick so the lead can shift slightly. Always check with an aid before cutting lead.

2. **Begin your line** with at least an EM or a QUAD (use a quad if setting in 14 pt or smaller).

3. *If your drawer seems light on any letters,*

count to make sure you will have enough to set your text.

Set type from left to right, upside down.

Type should appear like so:

└┐ϑε ρροηϑ ρβρεα η:κϵ ρο:

As you're setting type, keep an eye to make sure all of the notches of your type are visible and line up. If a letter looks right but the notch is hidden, you've probably got a "p" instead of a "b" or some such flip. Remember that someone else sorted type into your drawer. They didn't necessarily do a good job.

4. Place a piece of **leading** for each new line.

5. Each line should be of equal **tightness**, and no leading should be as tight in the stick as the type.

6. When tightening a line, never cram in **coppers or brasses**. Remove a larger piece of spacing, slip in the copper/brass, then cram in the larger piece.

7. **Method prevents madness.** It's wise to add spacing methodically, with the largest to the outside, and the thinnest up against the type.

8. If you find yourself adding two or three of the same kind of spacing, you could probably use something larger.

9. When your stick is full, or you are done setting for the day, **wrap your type** form with string: unlock your composing stick's

stop. Slide your type form carefully onto a smooth, flat surface. Hang the composing stick on the wall. Pull out a length of string that is at least as long as your wingspread, longer for large forms. Beginning with the middle of the string at a corner of your form, begin wrapping one end of string around the sides of the form, leaving the other loose so that the wrapping string crosses over part of the loose end at the corner of the form. When you reach the end of the string, use a bit of leading to tuck it under itself. Repeat in the opposite direction with the remaining string.



10. **TAKE NOTES!** On or in your galley, be sure there is a slip of paper to indicate the quarter, your name, id number, program name, and, importantly, the name of your typeface.

VANDERCOOK characteristics

- There are two Vandercooks: the *Universal* and the *SP15*.

Each has its own *packing* and *tympan* (topsheets) sheets for the cylinder, stored in the press's cabinet or in a studio drawer.

Each has its own *metal shims*.

Each has its own dead bar and "pressure" bar.

- BOTH presses are set up for printing type directly on the press bed and standard linoleum blocks with the metal shims provided. *NEVER print type with a shim in the bed!*
- The Universal automatically shifts into PRINT mode when you step on the pedal to raise the gripper-buttons. The SP15 does *not*.
- Both presses shift into trip only when you've brought the cylinder carriage all the way to the end of the bed.
- The Universal is slightly wider than the SP15. It is approx. 95 picas wide. The SP15 is 90p.
- The "bed width furniture" fits the 90 pica width of the SP15.
- Pressbed printable area is approx 14" X 19"
- The leading edge of a sheet fed through the press loses 3.5 picas before it reaches the printable area
- Tools for the presses are kept in the cigar box or in the drawer beneath the furniture.
- BOTH presses have mechanized roller systems that should only be used by confident printers or with the assistance of a lab aide. ALWAYS HAVE A LAB AIDE
CHECK YOUR PRESS AFTER CLEANING THE ROLLERS. When not in use, the rollers should be stored **DISENGAGED**. Failure to disengage rollers between uses can ruin them.
- Rollers should be disengaged when printing *hand-inked* linoleum or wood blocks.

General PRINTING tips

- Use only relief inks on the letterpress
- Rubber based ink is stored in the vandercooks and is intended for use on metal type. Oil based relief inks are in the back hall and are labeled with an "R."
- You do not need to soak your paper, but it's fun.
- Vandercook tools are kept in the plastic box by the furniture cases or in the drawer beneath the furniture
- We have three different kinds of *quoin*, each requiring a different *key*
- Use the "pressure" bar for locking in linoleum and woodblocks, not for type.
- For type, use the pressure bar only to create a dead stop closer to the top of the bed. Lock in the pressure bar, then use a quoin on two sides of your form. Best to use the *deadbar* when possible.
- Clean your type while it is still locked up.

DO NOT use squeezie or veggie oil to clean type.

USE Simple Green on type (on your rag).

DO NOT use Simple Green on Rubber Rollers

PRINTING TYPE *troubleshooting*

Rather than work from problem to diagnosis, it is easiest to discuss printing problems in terms of the diagnoses themselves and their solutions, not the problematic prints that they produce.

- **PRESSURE:** pressure varies a great deal between the cylinder and your type based on the amount of packing under the tympan (different for each press) and the thickness of your paper. In addition, some type in the hop may be so old and used that it has worn down below type high. If you desire high pressure on type, an emboss, or are working with especially thin paper, build up pressure gradually to avoid the risk of crushing type. Add a sheet of tympan at a time. To experiment, you may add slips of thin paper or packing directly under your proof sheets to get a “preview” of what adding packing might accomplish (Keep in mind that to get accurate indications your proof sheets must be the same as or similar to your actual paper).

- **LOCK UP:** a solid and immobile lock up is necessary for a good consistent print. If your lock up is not working, you may have one or more of the following problems:

- varying line lengths: adjust spacing or reset!
- crud under your form: clean the bed!
- wonky furniture: replace!
- wonky spacing: reset!
- form is lifting off bed: probably too much pressure on quoins or an odd piece of furniture...

- **PLACEMENT:** if you are leading a deckled or torn edge of paper, the variations of the paper will cause variations in the prints. Notice also where you are placing your paper in relation to the gripper buttons and the etched lines across the gripper assembly. Paper can also flip at angles or float around as you send it through the carriage to print. When using a stiffer paper, it will often drag on the type as it pulls through. Guiding the paper with your hand or in extreme cases taping it (gently) to the tympan will take care of these problems.

- **PACKING:** Packing has to provide even pressure to ensure an even print. If someone has printed something a number of times or with great pressure, they may have sufficiently dented the packing so as to make your prints fail. Replace the damaged packing or flip it around so that the area in which you are printing is smooth.



- **INKING:** an uneven print can result from improper inking, which can happen in a few different ways. Too much ink or too little is easy to correct. Add ink gradually to metal rollers and turn on press to let it work in; subtract it by removing portions of ink from a metal roller. When subtracting, be careful not to leave any cleaning substances on the roller when you turn on the press. Also be wary of getting fluff from your rags in your ink. Alternately, your type form may not be receiving ink properly. Clean your type and try to judge this by eye first. If you see clear inconsistencies after a trip, adjust roller height using knobs at ends of rollers. Adjust height gradually. You can also check roller height by pulling the carriage to an empty area of the press bed, engaging the rollers, and sliding the “lollipop” tool under both sides of each roller. After each contact with a roller, check the ink mark left behind on the lolly. A stripe the thickness of a nickel or two is usually about right.

PRESS CLEAN UP

when using the roller assembly:

1. spread approx. a Tablespoon of crisco (substitute veggie oil) on the large metal roller. Engage rollers and turn on motor. Let the crisco work into the ink.
2. Beginning with a ol'dirty rag from the back hall, wipe off all rollers.
3. Next, using a semi-dirtyrag, wipe the rollers down again using simple green (on metal) and squeezeie (on rubber).
4. Use extreme caution when cleaning the motorized roller. The safest method is to never have your hands near the roller while it is spinning. Instead, wipe off the reachable area, flip the motor on and off; wait until the roller has stopped spinning and reveals an inky area. Wipe away.
5. Continue wiping each roller with sortaclean rags. Pay special attention to the ends of the rubber rollers, which are often missed. Keep in mind that the rubber on these rollers can be damaged easily by a fingernail, jewelry, and mishandling.
6. Clean rollers with clean rags until nothing more comes off when wiped.
7. Clean off press surfaces. Commonly, the carriage handle, press bed, quoins, furniture, locking bars, feed board, and other parts of the press get streaks and smears of ink on them. With clean hands and a clean rag, wipe down the press.

Have a Lab Aide check the press with you and do a final cleaning as needed.

TABLE CLEAN UP

1. Scrape up as much ink as possible with your palette knife. Wipe globs onto phone book paper and discard. Ink cannot be returned to ink cans, but you may save it in wax paper or jars for your own future use.
2. Squirt veggie oil onto plexi. Use palette knife to "work it in"and wipe on phone book.
3. Wipe table, brayer, and palette knife with sort-dirty rags.
4. Continue with sorta-clean rags, using simple green or squeezeie to clean tools and plexi.
5. Once everything seems clean, wipe with clean rags until nothing more comes off.
6. Pay special attention to the plexi table. Spray and wipe down entire table. Your ink color should not be apparent on the table or in the unfortunate cuts in the table. Wipe it once more. Do it again.
7. Return tools to their proper places in the back hall and letterpress area.
8. Sort rags into the proper bins in the back hall.
9. Return cleaners to shelf above sink in the etching press area.
10. Return all spacing material, furniture, and letterpress tools to their proper places.
11. Go to your proper place.