

Personal Low Cost Book Binding System

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Introduction

Printing your own Owner's Manuals from CD's is becoming more routine as more and more manufacturers reduce their costs by not printing their Owner's Manuals.

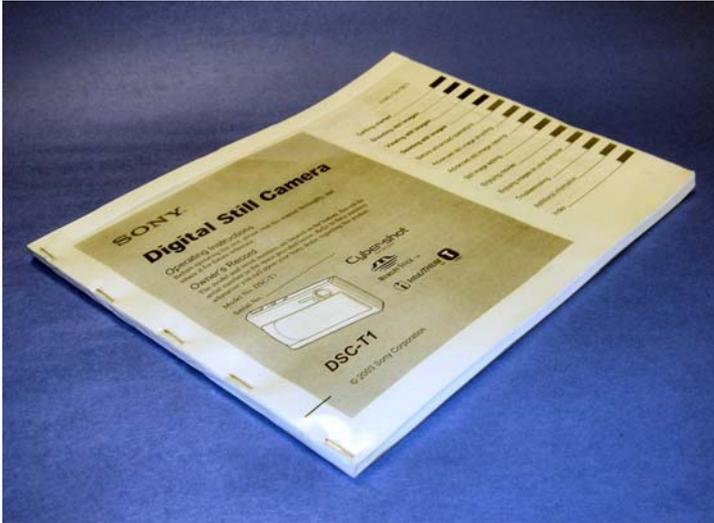


Fig. 1 - Sony digital camera manual downloaded from the Internet is stapled on short edge and the spine covered with 2" clear heavy box tape. Cloth tape hides the staples.

If you lose a printed manual you may get it from the Manufacture's web page and you then have to print it. The use of the Adobe *.pdf format for documents on the Internet is very common and is especially suitable if your paper size is not the same as the original. This is useful if you are printing a document that is formatted to a European A4 size onto an 8-1/2" x 11" sheet or vice versa.

Some computer users do not print their manuals. Others believe that there is a shortage of trees for paper. This is not the issue because paper producing trees (a special type) may be gone in five years. Paper is a renewal resource. Good quality trees for wood is another issue.

If you have done any serious studying or research you will relate to the need to have several documents "open" and in front of you at one time. Even with dual screen computers, or even multiple computers, it is still faster to pick up a bookmarked book and get a value from a table than it is to find and to open a computer file.

Electronic searching within a file is faster, of course, but continued on going reference to multiple documents at the same time still requires a hard copy. Electronic books are great but they still are not practical (at their present size and non-standard file formats) when you need half a dozen books "open" at once. There are many types of documents that need to be printed, and if they are more than 20 to 30 pages in length, they need to be bound in some way to keep them organized.

There are many systems for binding a stack of printed sheets. The most common is to punch holes in the sheets and use some form of **ring binding**. The rings allow the bound sheets to lie flat and the sheets may be easily reordered, added, or removed. Ring binders, however, have two major shortcomings. The first is their cost. A 1" binder to hold 175 sheets of 20 pound paper will cost \$2 or more at retail. The cost of a ring binding system is the cost of the binder plus the cost of the paper punch. A three-hole punch will cost from \$5 to \$50, or more, for a heavy-duty model.

Another popular binding method is **comb binding**. Rectangular holes are punched every 1" using a special machine. A plastic comb (of various sizes for a range of sheets) is opened with the machine and the sheets inserted. If you use the manufacturers cover stock, the binding will cost at least \$1.00. The binding machine cost starts at \$200. Electric models are as high as \$2,300 retail.

Both of the above systems significantly increase the thickness of the sheets at the binding area. A binding system called **Vello Binding** uses plastic spikes pushed through the punched sheets at the binding. This system also requires a special punching and heat-staking machine. Because the binding plastic piece is unique, Vello binding is more costly for supplies than comb binding. Vello Binding has the advantage, however, of not increasing the binding thickness very much and it is very very strong. Another significant advantage is that the plastic spine clamp does not rust.

Books are usually bound using glue on the edges of the sheets. The most common form of this binding is called by the old trade name, **perfect binding**. The process of producing books is to print multiple pages on large sheets that are folded to create the final size. The printed sheet typically has 16 pages or 8 sheets and this is called a signature. Often the signatures are sewn or stitched together before the book is bound. This greatly adds strength to the binding. There are dozens of systems for binding sheets and most of them require a machine to assist in the binding process. An investment of several hundred dollars is usually required - minimum. **Spiral binding** (wire) is too difficult and time consuming and usually not practical for personal use.

The requirements for binding hundreds of sheets of paper is a binding method:

- (1) that is low cost, about 25 cents per book with minimum machine investment;
- (2) which does not add significant thickness to the stack of papers;
- (3) that is wear resistant, and self standing (rigid) on a book shelf;
- (4) with attractive covers, and making them should be simple and easy;
- (5) using color (cover and spine) to provide uniqueness and identification;
- (6) easily "rebound" if necessary;
- (7) comprised of materials commonly available, not those of a commercial system that have to be special ordered, are inherently expensive, and may not be available in a few years or in another country.

All printed sheet references are to standard office copy machine paper of 20 pounds weight (0.004" or 4 mills thick). All numbers are approximate, as paper thickness will vary with humidity. Also keep in mind that prices vary greatly, often over a 3:1 range.

Stapling With Tape

Stapling stacked sheets is one of the lowest cost methods of binding. Steel staples are strong and low cost. A heavy-duty stapler is required, however, and this is the primary investment for the system being described. Stapling up to 160+ sheets (3/4" staple) may be done with a \$30 stapler. Increasing the staple length 25% to 15/16" for 210 sheets doubles the cost of the stapler and the 160-sheet limit represents the economical trade off for the casual personal binder. Besides, a 160 sheet (320 page) book is slightly less than 3/4" in thickness, and if 8-1/2"x 11" in size, weighs nearly 1-3/4 pounds. The primary disadvantages of staple binding are (1) that the staples may rust if exposed to high levels of moisture and (2) the pages

do not lie flat when open. The staple issue is addressed with this method and even if you live in the tropics, you should have minimal problems.

The binding consists of a heavy sheet of (white) chipboard, which serves as the rigid back cover. The type used in the figures is about as thick as 6 sheets of paper. A heavy sheet of clear plastic (3/4ths the thickness of a sheet of paper) such as 3M Transparency Film for copiers serves as the front (clear) cover. A 2" wide cloth tape of your favorite color is used to cover the staples and the spine. Clear box tape was used for the 119 page Sony Camera Manual downloaded from Sony's web site shown in figure 1. The important idea behind this personal binding method is to be creative in your use of materials.

Here is a brief description of the binding process. First the sheets, including the covers, are ordered with inserted colored separator sheets as desired for easy section reference if needed. Next carefully jiggle the sheets using the edge opposite the binding to make them straight. Do the same with the top of the sheets. Very carefully set the stack with the right edge extending over the tabletop. The third step is to use two or three large spring binder clips to hold the stack in place once a straight stack is made. This is a critical part of the process. A spacer (book, tablet, etc.) the thickness of the stapler base is used to support the stack keeping it level. I made a large base out of cardboard with a cutout for the stapler to set in. Next, the stack is stapled in three to five places close to the binding edge. Having this edge vertical is very important. The fifth step is to flatten the staples using a hammer and a metal plate. Next you apply two-inch cloth (duct) tape to cover the staples (and seal them from moisture) and the spine. This covers uneven paper widths and poor alignment. The seventh step is to cut the excess tape with scissors and you have a low cost workable binding. Use what ever materials you have available. The only critical item is the Heavy Duty Stapler and the correct staples to use in it.

The photos, figures 2 through 5, show the basics of the binding process. A 544-page calculator book downloaded from the Internet, the *HP 49G Advanced Users Guide*, serves as an example in the figures. Figures 2 & 3 show the book bound in two parts of approximately 272 pages in each part.

Figure 4 shows the tools used to produce the bound book. Any small working space will do. The figure



Fig. 2 - Finished binding of a 544 page Manual.

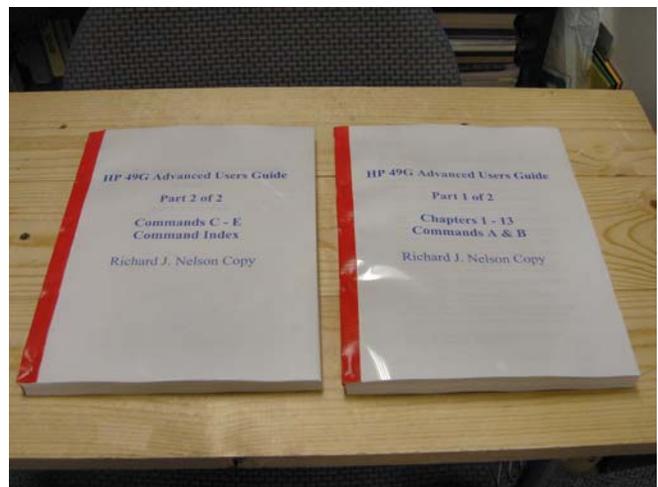


Fig. 3 - The manual is bound in two (<3/4") parts.

shows three boards screwed together to fit on a metal-armed chair in my office. The \$30 Swingline Stapler may be seen on the left. This is an all-metal version and the handle operating force is not a much as you might expect and the stapler operation is very smooth. The normal 160-sheet limit may be exceed

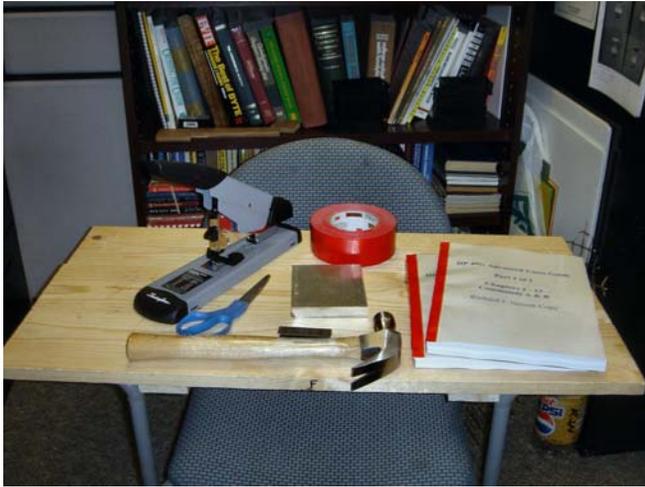


Fig. 4 - Tools on a "portable" table (doubles as chair).



Fig. 5 - Tools identified for simple binding method.

(or use 160 sheets plus the cover stock) because you do not require the amount of over bend the stapler is designed for. The use of quality strong spine tape helps in this situation. See further details in the step-by-step Binding Process section on the next page.

Figure 5 shows the personal binding system tools in detail. You may easily substitute any materials you wish. The ones mentioned here are only given as ideas to get you started in the process. Nothing is rigid and you should spend time looking at materials on sale to be used for your future binding needs. The hammer does not need to be as large (16 oz.) as the one shown. It was handy at the time. A small sized ball peen hammer is ideal. The metal plate is important to provide a solid base for the staples to press against. While I show a 5/8" aluminum plate I recommend a 1/2" steel plate of any available size. The aluminum plate gets nicked with each use and the steel plate will not.

Binding Materials

The whole idea of do-it-yourself binding is to use materials not intended for binding to reduce costs. The purpose of the binding industry is to preserve their existence and make a high profit. This has changed somewhat in recent years with the low-cost-of-doing-business Internet. For a very good series of articles see:

http://bindingmachines.articleinsider.com/143422_binding_systems.html

This article is quite complete and up to date. It is included in the proceedings.

The binding industry wants you to believe that they should be the ones to supply your binding needs and they will set the prices. Using chipboard for the covers is not what chipboard is intended for. Besides, chipboard is normally sold to printers who use it for tablet padding. You may have to look at your local printers supply house for heavy card stock or chipboard for the back cover. You may "mix and match"

the various systems. The Velobind system has some beautiful covers and if you could get these at a good price you could use them. Also the patent for the Velo bind system has probably run out so there is additional competition. This has produced an assortment of "systems" and spine clamps. The cost is the machine and you may want to investigate this market as an alternative to stapling.

Tables 1, 2, & 3 list a few materials from local suppliers and catalogs. The prices are retail and with careful shopping you will be able to find much better prices. The cover stock will be the most expensive item and I suggest that once you find a good material at a reasonable price that you stock up and buy at least 100 pieces. I originally bought 250 pieces 15 years ago and I am still drawing from that stock. Once you get started in personal binding you will find it a great way to get organized. Once bound you will find that your loose papers will tend to become standardized in form and size. This makes for more efficient storing and since the binding thickness is minimal they will fit better on shelves or stacked in boxes. Ring binders are the most common form of binding and they are probably the least efficient binding method because they are fixed in size and you always seem to have one or two sizes larger than required.

I suggest a clear plastic sheet for the front cover for two reasons. The first is that it easily bends. The second is that often you don't have to worry about a front cover sheet name or identification because the printed manual has one. You just let it show through.

The best material for the back cover will depend on the number of pages. If you only have 20 to 50 sheets you may use a lighter (thinner) material such as a manila or plastic folder. These are especially good because they have been formed to fold and you may cut them to have the fold in the correct place. I usually save any thick material I find to use for binding loose sheets. I have used the back of writing tablets, accounting folders of all kinds, and folders given out at technical shows to hold manufacturers literature. A paper cutter is especially useful for cutting these to size. Some cardboard boxes made of smooth single ply white cardboard could be used for covers stock.. Not everyone requires a solid rigid strong book cover. Soft cover ring binders, for example, are quite popular. There are lots of sources for this kind of material but they are not obvious until you start seriously looking.

Colored sheets are useful to insert into bound collections of material to indicate organized sections without having to use tabs or markings. I always keep at least five different colors around for separators.

Binding tape is another item you will want to have in different colors. Cloth tape is ideal but metal or clear plastic tape will also work. The purpose of the tape is cosmetic as well as protective. The sheets making up the spine are not easily written on. Even if I print up a self-sticking label I will cover it with 2-inch clear packing tape. If your label is a tad too wide you just center it and wrap it around the sides using the packing tape. This protects the label in addition to holding it down. Table 3 shows various tapes I have seen at local suppliers. Note the game Walmart plays with the various lengths per roll in order to appear to have the lowest price. I include the prices on a cost per foot (1 book) basis in the table. Again, a little shopping will make a big difference in price. Once you find a good quality tape at an optimum price, buy the big (60 yd) roll. One advantage to buying the Duck (brand) Duct tape at Walmart is that they have the widest selection of colors. The smaller rolls (20 yards, 60 books) allow you to get more colors for your tape budget.

The Binding Process

While the previous figures give a good idea of what to do, a few additional tips may be helpful. The basic idea is to not bend the back cover and bend the plastic sheet and pages instead. They bend easier. This type of binding cannot compete with comb or spiral binding for having the open pages lie flat, but the point is to be able to have a low cost binding so you will bind up "everything." I often use the binder clips (figure 6) to hold the pages open. One category of materials that I have found is a very good candidate for binding is conference proceedings. Once the conference is over and I have every last piece of paper in one place I organize the material and bind it up. This really guarantees that you won't lose things.

Let's look at the process step by step.

An essential item not shown in figures 4 or 5 is a spring binder clip. These are available from several manufacturers and they do a very good job of holding a stack of papers. Two sizes are plenty, the 5/8" and 1" sizes. See figure 6. They will cost about 20 to 50 cents each. Three of each size is all that you should need for your binding system. Walmart has a 12-piece box of 5/8" ACCO (the ones I use) binder clips for \$1.37. This makes them 11.4 ¢ each. The local Walmart did not have (the less popular?) 1" size.

Step 1: Sort the sheets to be bound. Add back cover and clear front plastic sheet. Prepare a first identifying (cover) page if needed. Add any desired colored separator sheets and jiggle the sheets on the right edge. Repeat using the top edge. This puts any odd sheets with their "extended" or over sized sheets at the binding and at the bottom. Set the sheets down on the edge of the table with about two inches overhanging. Look carefully at the sheets to verify that they are nice and straight, especially the covers. Clamp the sheets using the spring binder clips. See figures 6 & 7.



Fig. 6 - Binder Clips, 5/8" & 1" sizes are adequate.

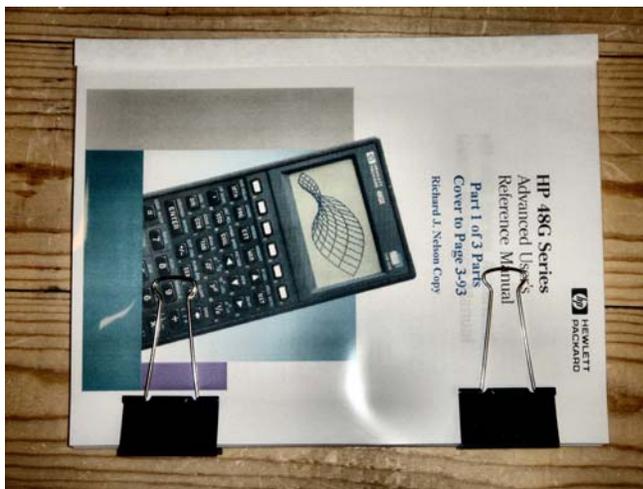


Fig. 7 - Sheets aligned and clamped ready to staple.

Step 2: Staple (and flatten the staples) the sheets. If you are binding 100 sheets or less you may use just three staples. Be sure to use the correct staple length. For 10-25 sheets use 1/4" staples. For 25-60 sheets

use 3/8" staples. For 40-90 sheets use 1/2" staples. For 75-120 sheets use 5/8" staples. For 90-160+ sheets use 3/4" staples.

You will note that the staples are pressed into a curved steel base of the stapler that causes them to bend back into the paper. This places the curved end of the staple against the paper making a spring to keep the paper under compression. See examples in figures 8 and 9, which shows the maximum 160+-sheet recommendation for the 3/4" staples. You want to flatten the staples to avoid them protruding through the spine tape. The additional curved staple thickness is also undesirable. You want the staple to protrude through the back cover with enough bent length to hold properly. If you use a hard cover material (such as press board) you may get away with a little less length and you may bind a few additional sheets. If the staples overlap each other you are probably using too long a staple. This won't hurt anything if they are side by side (to avoid extra thickness). Use a pocketknife blade to align them before flattening.

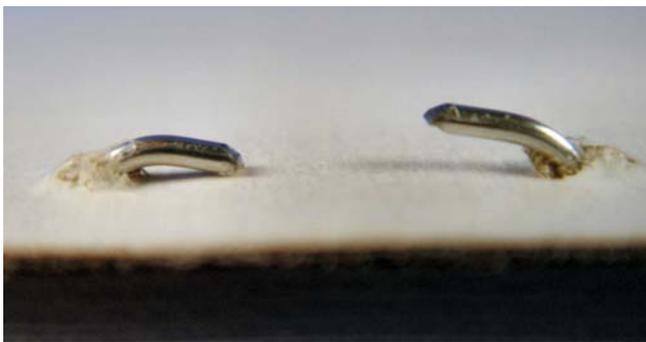


Fig. 8 - Normal staple shape left, improper staple shape on right due to the way the handle was pressed.



Fig. 9 - Staples of figure 8 flattened. Note that the chipboard fibers have been torn from the force of flattening the staple.

The Swingline stapler has an adjustable spine stop that covers a three-inch range of adjustment. With the stop fully out I find that the spacing of the staples is still too far in. I crazy glued a 0.085" thick cardboard piece on each side of the stop to "correct" this. See figure 10. The crazy glue accidentally flowed onto the frame and now the stop is also glued. This is just great as far as I am concerned and is a side benefit

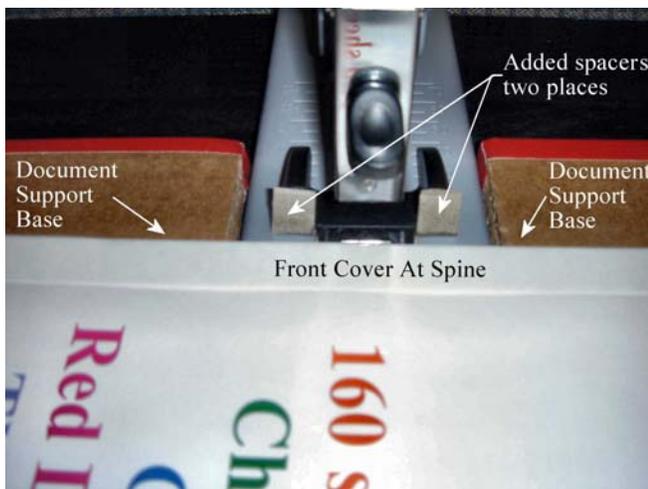


Fig. 10 - Maximum thickness book being stapled.

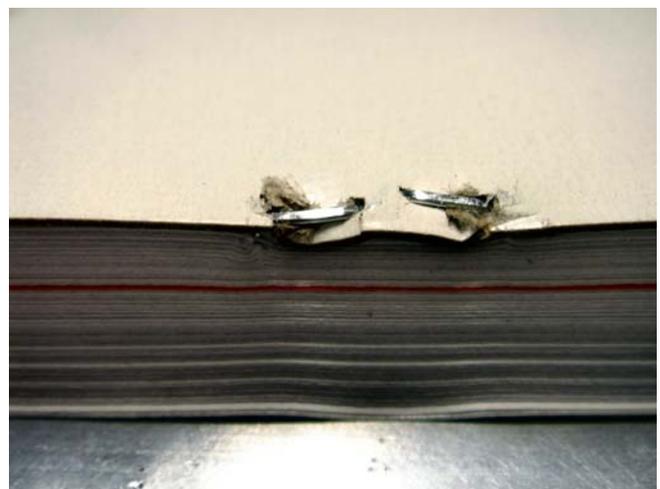


Fig. 11 - This staple exited too close to the spine edge.

that provides consistency. You will also see in figure 10 a cardboard (two triple corrugation pieces red duct taped together) document support base in the photograph. Keeping the document flat and level greatly helps to insure that the stack is straight and that the staples go vertically through the stack and into the back cover. Figure 11 shows a flattened staple that was not straight through (normal to the base) the stack of sheets and cover. The spine tape nicely covers these minor flaws. You may use three, four, or five staples. If you believe that you may have to undo the binding you might use just three. I want maximum strength so I almost always use five staples, especially on the 100 sheet plus documents. The chipboard is somewhat compliant and soft and I use five staples for this reason as well. Flatten the curved staples using a small hammer and metal plate.

Step 3: Attaching the spine tape. The cloth tape, as previously mentioned, serves to help secure the binding, seal the staples, and cosmetically makes a smooth colored spine. Cut a 12" length from your inventory (see figure 12) and apply to the front as shown in figure 13. The six 2" rolls are not exactly 2" each as the 12" ruler showing above the top roll shows. Cover the front about 1/2" holding the tape firmly and taught. Press the tape to the plastic front cover sheet to secure it very well. Turn the book over as shown in figure 14.



Fig. 12 - Use colors for various books.



Fig. 13 - Apply the cloth duct spine tape to the front first.

While pressing down on the back cover pull the tape up tightly and press against the spine. I usually start at the center and work outwards. While keeping the tape under tension fold it over the back cover and press down. Press and rub you thumb or fingers over the tape to smooth out any wrinkles - you will

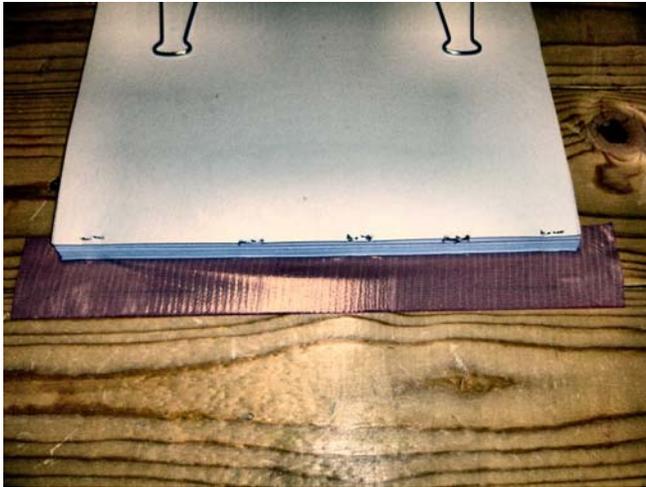


Fig. 14 - Wrap the tape tightly against the spine.

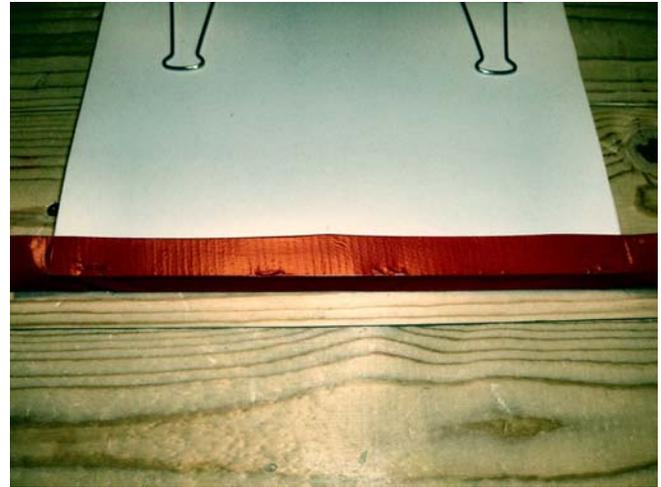


Fig. 15 - Pull up as you wrap the tape. Press firmly.

become skilled at doing this after binding a few books. Figure 15 shows this step. Use a scissors to cut off the excess tape on each end and you are finished unless you want to label the spine - and front cover if you have used something other than a clear sheet. See figure 16 for the final bound book. Figure 17

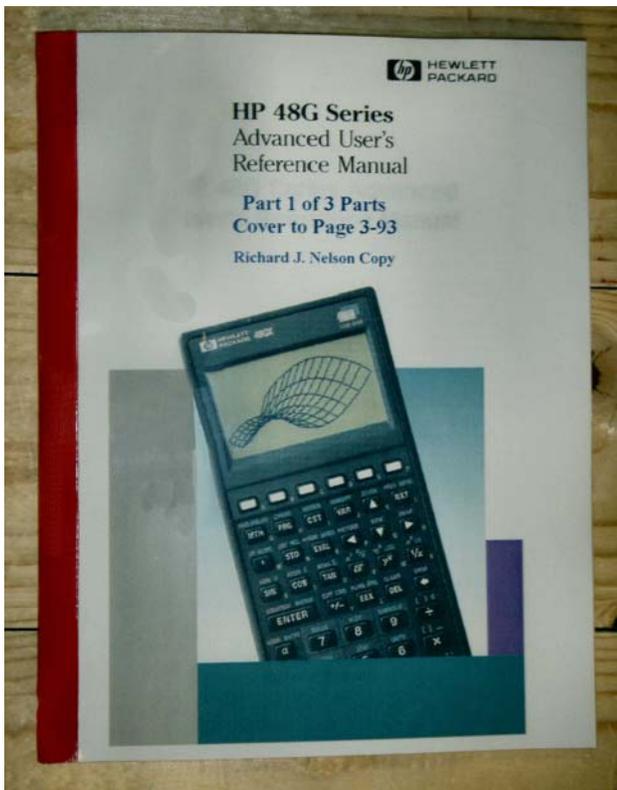


Fig. 16 - Finished book, part 1 of 3 parts, 764 pages.

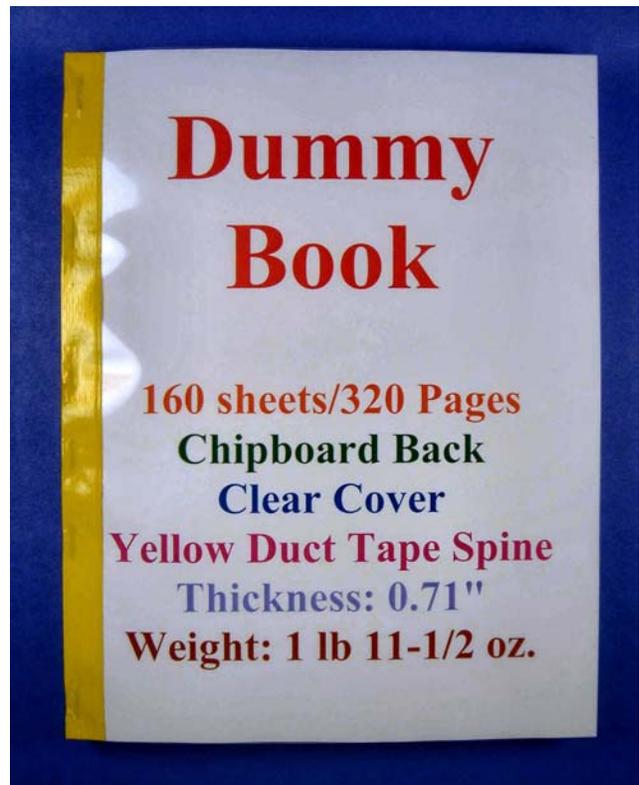


Fig. 17 - Example of maximum sized bound book.

shows a dummy book made to illustrate the maximum binding capability of the system. I put the statistics on the first page, which serves as the cover. Even if you went for the next size up in stapler size you

might find that the book is getting a bit large to handle. I haven't seen a stapler that staples sheets thicker than one inch but I am sure they exist and that they are physically quite large — and expensive.

I use a Word table to make up my spine labels. I prefer a box around the label to make it easier to center and read at a distance on the bookshelf or sitting on a table. An example may be seen in figure 18. I use a similar set of tables to make a larger square label to put on the front of solid front covers (including ring binders). I always use two-inch wide clear tape to cover the labels. I also use the clear tape to cover paper bound books such as personal log books



Fig. 18 - A Word table used for spine labeling - 0.15" between labels.

to provide better wear and water resistance. A hand tape gun is a standard piece of equipment both at home and at work for all kinds of tasks.

One of the advantages of this personal binding system listed rebinding (6) as a feature. While this is doable it is a bit difficult without the right tools. The problem is removing the staples. The spine tape is easily pulled off, but if you want to re-use the covers you must unbend the staples and pull them out without chewing the covers up. I find three tools are essential for this task. 1) An appropriate knife. The large blade of a Swiss Army knife works but a non-folding handle knife is better. 2) A medium sized slotted blade screwdriver and 3) a long nose plier completes the rebinding tool kit.

The first step is to use the knife blade to straighten the hammered flat staple bends. Once you get a little space under the very-stiff-hard-steel staple use the long nose pliers to straighten it. You may have difficulty hammering the staple out. Be sure to put the book over your stapler plate to provide a hard surface next to the staple. Paper is not very rigid. The small ball peen hammer mentioned above is especially handy here. You just need to tap the staple out a little bit so you may use the screwdriver blade on the other side. Slip the blade under the staple and use a twisting action to slide the staple a little further out. At this point the long nose pliers is used to grip the staple, and with a turning action, to wind the staple around the nose of the pliers. Doing it this way allows you to put the pressure on the paper close to the staple. This action reduces the chances of tearing up the covers. You need to do this for each leg of the staple. The staple is held *very* securely under compression in the paper and this is the reason the system works so well.

Another technique for removing the staple once all of them are straightened is to use the knife and pry off the sheets a dozen or so at a time. Use a twisting motion with the knife blade close to the staples. You will have to use the remove-the-paper-from-the-staple technique if you break a staple.

Sampling Of Book Binding Materials Costs

Heavy Duty Stapler, Swingline #39005 frequent use, all metal, 160 sheets* maximum. Use 3/8" staples for 25-60 sheets*, 1/2" staples for 40-90 sheets*, 5/8" staples for 75-120 sheets*, and 3/4" staples for 90-160 sheets*, \$29.99 OfficeMax, high retail. Staple spine spacing is adjustable to a depth up to 3".

* based on 20 lb. paper.

Table 1 — Staples (Use Stapler Manufacturers Staples)

#	Mfgr	P/N	Type	Length	Staples	Pkg Cost	¢ ea.	¢/3	¢/5	Notes
1	Swingline	#79384	Heavy Duty	1/4"	1,000	\$4.99	0.50	1.5	2.5	Office Max
2	Swingline	#79398	Heavy Duty	3/8"	5,000	\$6.99	0.14	0.42	0.7	Office Max
3	Swingline	#79392	Heavy Duty	1/2"	5,000	\$5.99	0.12	0.36	0.6	Office Max
4	Swingline	#35319	Heavy Duty	3/4"	1,000	\$4.99	0.50	1.5	2.5	Office Max

Table 2 — Cover Stock - 8-1/2" x 11"

#	Mfgr	Color	P/N	Type	Thickness	Qty	Per Pkg	¢/ea	Notes
1	Wausau	White	WAU49411	Index	110 lb.	250	\$14.95	6.0	Office Depot
2	Wausau	Blue	WAU49521	Index	110 lb.	250	\$15.95	6.4	Office Depot
3	GBC	Clear	GBC2001036	Plastic	Standard	100	\$17.19	17	Office Depot
4	3M	Clear	PP2200	Plastic	3.7 mils	100	\$22.22	22.2	Businesssupply.com

Table 3 — Spine Tape

#	Mfgr	Color	P/N	Type	Length	Width*	Thickness	Cost	¢/ft	Notes
1	Scotch*	Clear	212A	Duct	20 yd	1.88"	?	\$4.97	8.3#	Home Depot
2	Nashua	Silver	333	Duct	60 yd.	2"	12 mil	\$5.97	5.0	Home Depot
3	Nashua	White	398	Duct	60 yd	2"	11 mil	\$5.29	4.4	Home Depot
4	Nashua	Foil	324A	Duct	60 yd	2.5"	?	\$12.97	10.8#	Home Depot
5	Nashua	Gray	?	Duct	2x 60 yd	2"	?	\$6.97	2.9	Home Depot
6	Scotch	Yellow	330 YLW	Duct	60 yd	1.88"	7 mil	\$4.94	2.7	Home Depot
7	Scotch	Gray	134NA	Duct	30 yd	1.88"	7 mil	\$2.88	3.2	Lowes
8	Scotch	Red	?	Duct	60 yd	1.88"	7 mil	\$4.94	2.7	Lowes
8	Scotch	Gray	?	Duct	30 yd	1.88"	?	\$4.86	5.4	Walmart
10	Mainstays	Gray	306320	Duct	10yd	1.88"	6 mil	\$0.96	3.2	Walmart
11	Henkel, Duck	Black, Brown, Red, Yellow, Green, Blue, Gray, White	CD-3	Duct	20 yd	1.88"	8 - 10 mil	\$2.87	4.8	Walmart
12	Duck	Gray	?	Duct	66 yd	1.88"	?	\$5.97	3.0	Walmart
13	Duck	Gray	?	Duct	55 yd	1.88"	?	\$5.86	3.6	Walmart
14	Duck	Gray	?	Duct	45 yd	1.88"	?	\$2.97	2.2	Walmart

* 3M (Scotch) reduced 2.00" widths of their tape to 1.88" years ago. 3M also makes tape for many other brands.

Not counted in average of 12 tapes. The average duct tape price is 3.6 cents per foot (per binding).

? Unknown and manufacturers specifications not provided on labels, web page, etc.

Several years ago Paul Hubbert of the CHIP chapter showed me a thermal glue-binding machine he had built using a long heating element and (I think) electric frying pan temperature controller.



Fig. 19 - Examples of the low cost binding method.

Ron sent the photos in figures 20 and 21. He has used it to bind Engineering Reports for his business. It works quite well but it takes a little skill and practice in using it. Since the controls and heating element are not engineered for the packaging you would not want to leave it unattended. Careful temperature timing and control are essential for thermal binders for best results and a strong binding. Standard hobby type hot stick glue is used. Ron has set up his cover printing formatting to be used with the machine to produce a very professional looking book.



Fig. 20 - Home made hot glue binding machine made by Paul Hubbert for Ron Johnson, both of the CHIP chapter.

When I mentioned bookbinding at a local CHHU/PPC meeting Richard Schwartz mentioned that he had also tried his had at bookbinding. He clamped the sheets together and cut grooves in them at the spine with a hacksaw. He then wove a string through the grooves and applied glue he had found at a fabric store. He liked the idea of using binder clamps to hold the sheets.

There are many different types of machines available in the market place. Many of them lend themselves to using the materials I am suggesting for a low personal binding system. The cost of the machine, however, often exceeds the cost most people want to spend for a casual binding system. A large stapler, however, has lots of other uses and is more easily justified.

Conclusion

Binding machines range in cost from a few hundred dollars to over a thousand dollars. The more expensive models have electric powered punches.

The simple binding method described in this paper utilizes a \$30 standard business stapler and noncommercial binding material for covers and readily available cloth tape to make an attractive and very functional bound book. Examples are shown in figure 19.

The most difficult part of assembling your own system is finding a source of good cover stock. Cover stock supplied by the binder system industry is too expensive to use for casual use. Look for materials at printer's paper and supply houses. The white single ply cardboard used for business boxes is an excellent source but you may have to buy larger sizes and cut them to the size you require.

Once you find a source for good low cost cover material, chipboard is OK pressboard is ideal, you should stock up and buy at least 100 pieces. Once you learn how easy it is to bind stacks of random sheets into a permanent book you will want to bind everything you have. Using the binding system is easy, fast, and it is practical, low cost, and a useful addition to home or office.

Richard J. Nelson, September 2004.
Comments, ideas, and corrections welcome.
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Fig. 21 - Paul Hubbert Binding machine controls.