



Conserve O Gram

June 2001

Number 19/23

A Phase Box For The Protection Of Books

Simple boxes for the protection of library materials have become an important collections care tool for many reasons including:

- **Protection from wear and tear**
- **An alternative to immediate repair.** Boxing gives immediate protection to a damaged book, while at the same time indicating that the book may need further repair before use. As conservation costs are high, it is necessary to give priority to those books that are likely to be circulated, and still be able to protect the non-repaired books from loss of information.
- **Assessing wear and tear.** One of the most difficult issues in conservation is to assess the nature of damage inflicted on objects by daily use. Packaging an item is a simple way of letting the packaging material rather than the object take most of the wear and tear. It is easy to detect the items that are most frequently handled by using white boxes, as they give a quicker indication of wear and tear than boxes made in a darker shade.
- **Economy.** It is possible to cut out a box and have it folded, with the book inside, in about five minutes. The tools are inexpensive and archival board is less expensive than pre-made boxes. A large facility producing hundreds of boxes a year is likely to be able to justify the purchase of box-making equipment. The techniques outlined here are ideal for a facility that needs to produce only a few boxes at a time.
- **Protection from fire damage.** Library fires develop in many different ways. For example, they are affected by the fire suppression

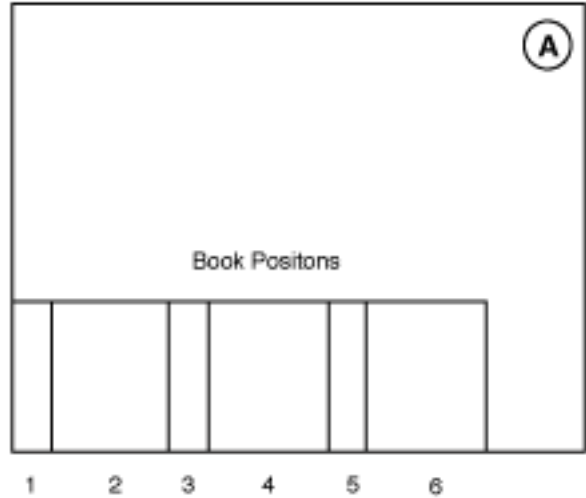
system and the response time of fire authorities. Small differences in temperature can separate moderate damage from major, and boxes can be very effective in preventing or delaying fire damage.

Tools Needed

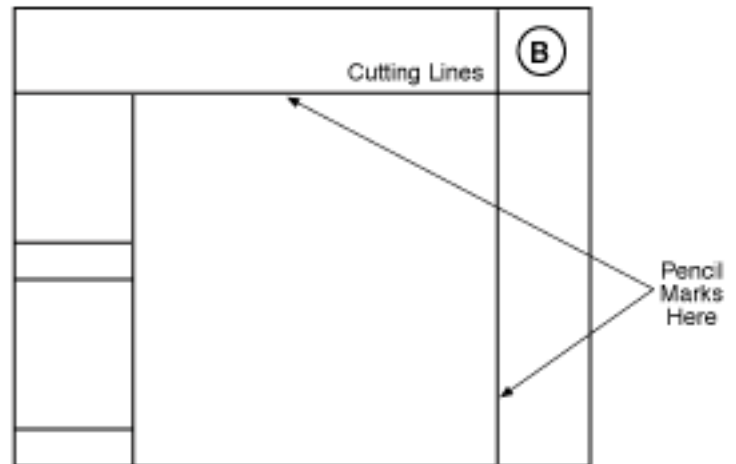
- T-square, preferably with a notch in the base that enables the knife to cut the whole length of the ruler (normally used for cutting glass).
 - Snap-off blade utility knife
 - Pair of dividers
 - Bone folder
 - Short steel ruler
 - Cutting mat for a working surface
 - Small cutting mat or piece of thick cardboard for cutting opening notch
 - Pencil for marking
 - Corrugated acid-free board (1-2mm thick) that can be scored and folded easily. A thicker board needs more measuring to compensate for the board thickness. As this will take more time, the advantage of fast processing will be lost.
 - Calipers
-

Box Construction

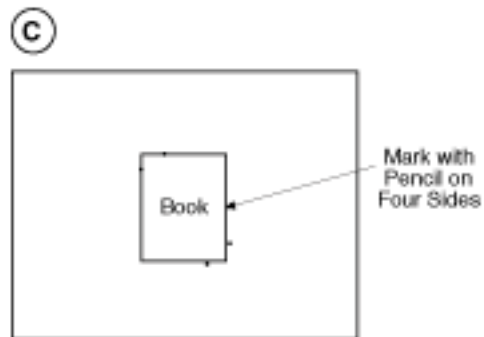
A. Measuring for the box is done directly on the board. Place the book spine down on the lower left corner of the board. This is Position 1. Next, turn the book horizontally, over to its back board, foreedge, front board, spine, and finally its back board again. Mark the last line with a pencil. This will be the length of the board.



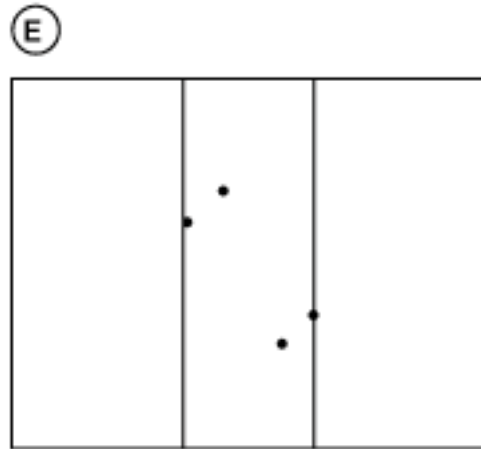
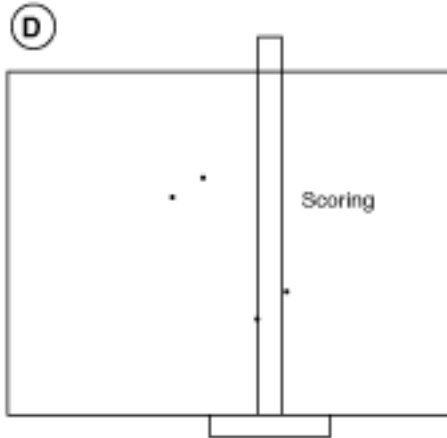
B. Stand the book on its head edge again at Position 1 and turn it vertically, over to all four sides. Mark the last line with a pencil. This will be the height of the board. Cut the board.



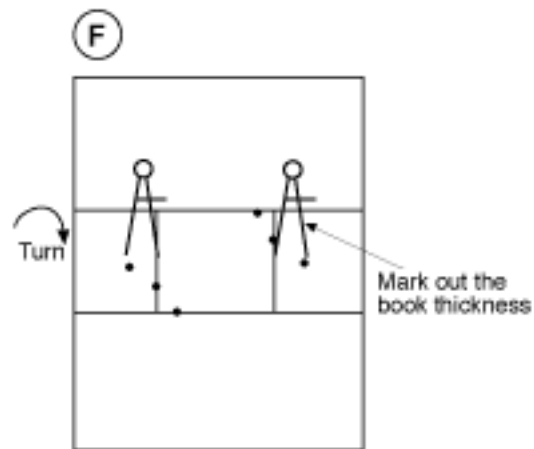
C. Take the measured, cut board, and position the book in the middle of the board. Put a pencil mark on four sides (at the broadest point of the book if it is uneven).



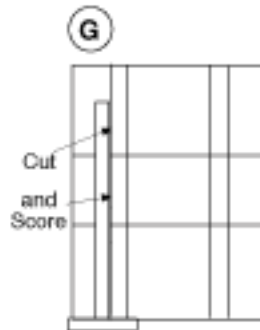
D&E. Score the whole length of the board at the markings with the help of a T-square



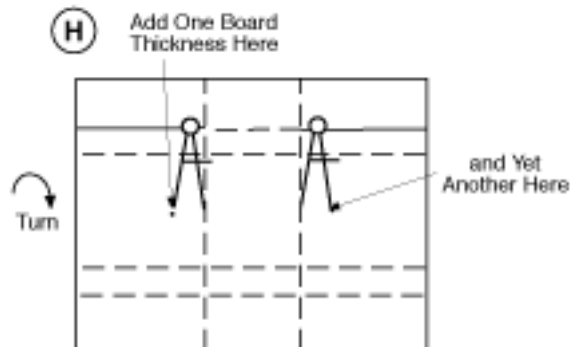
F. Rotate the board 90°. Measure the thickness of the book with a pair of calipers. Transfer this measurement to the board as shown



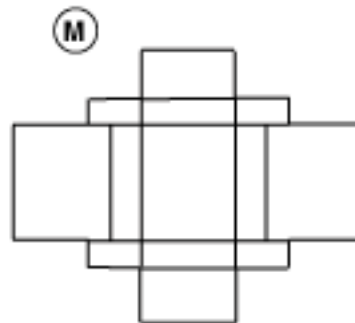
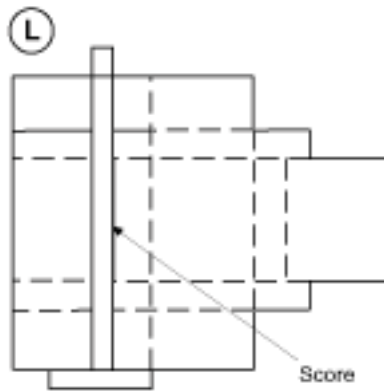
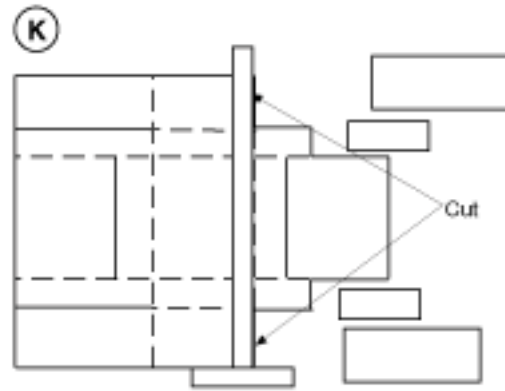
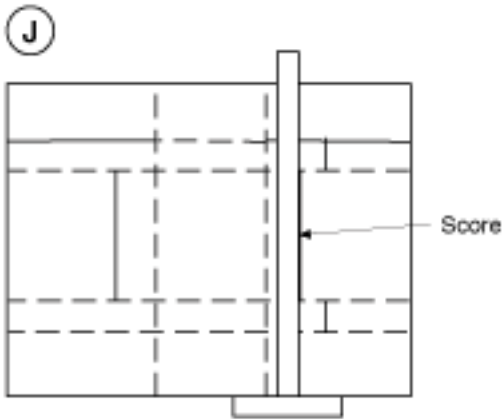
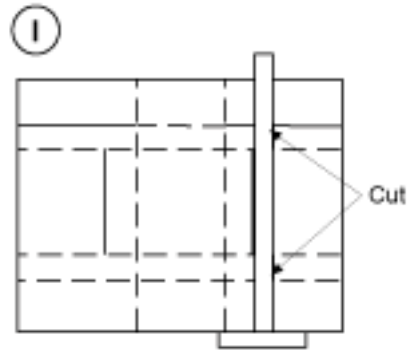
G. Cut and score the board



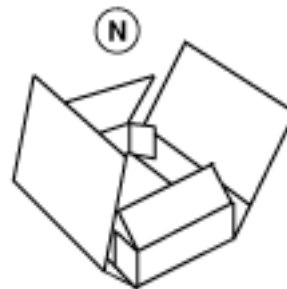
H. Rotate the board once again. Take the pair of calipers and add one board thickness (widen the points 1-2mm). Mark the board to the left as shown. Add another board thickness and then mark on the right side.



I-M. Cut and score as shown. The cut shown at I can be measured out or estimated whichever is quicker. The flaps should not meet when the box is folded. As begun in L, cut the left side of the board in the same way as in I, J, and K. M shows the board after scoring and cutting.

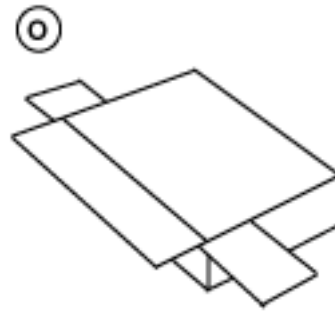


N. Fold the box as shown with the book inside.



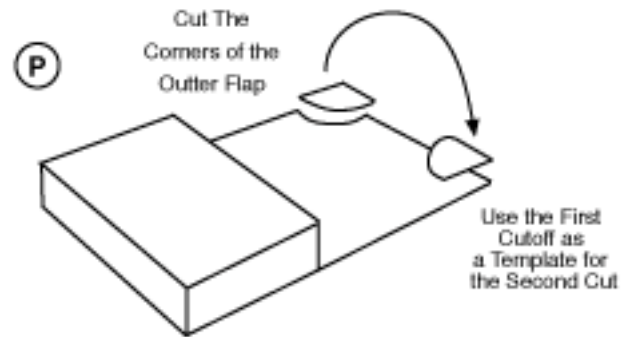
Fold the Box

O. Put a scrap piece of cardboard under the flaps and cut off excess material (if any). Make sure that the scrap cardboard is longer than the box.

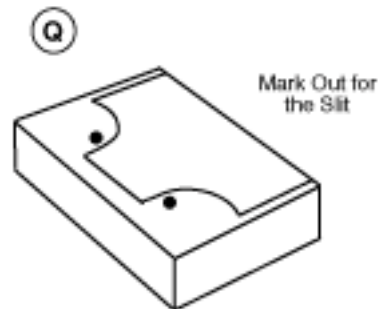


Cut Off Excess

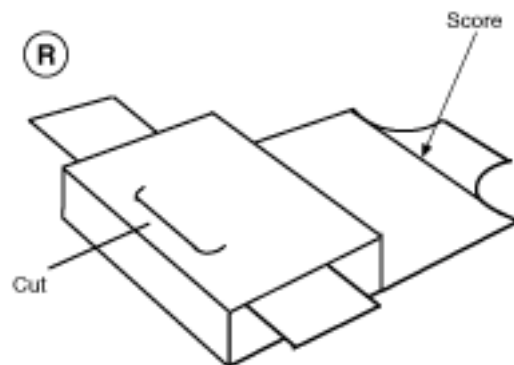
P. Fold the outer flap to the cutting mat and cut off one corner as shown. Turn the cut-off corner upside down and use it as a template for the second corner. This ensures that the flap will always be centered.



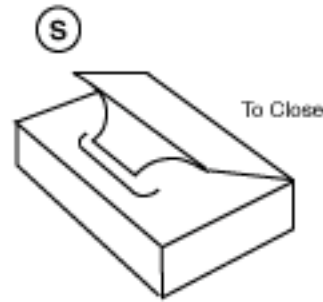
Q. Fold up the flap again and mark the slit with two pencil dots on each side of the flap.



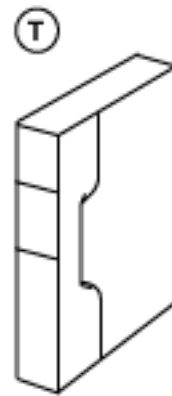
R. Insert cardboard scrap again and cut out the slit with three cuts as shown. Score the flap.



S. Close the box.



T. The spine of the box is shown here. The book is more easily shelved with the flap in this position, and the slit may be used as a grip when taking the book off the shelf. Label the spine of the book appropriately.



Per Cullhed
Head of Conservation
Uppsala University Library,
Sweden

This *Conserve O Gram* was adapted from "The 5-Minute Phase Box," *Abbey Newsletter*, Vol. 24, No. 2, 2000, with the permission of the *Abbey Newsletter* and the author.

The *Conserve O Gram* series is published as a reference on collections management and curatorial issues. Mention of a product, a manufacturer, or a supplier by name in this publication does not constitute an endorsement of that product or supplier by the National Park Service. Sources named are not all inclusive. It is suggested that readers also seek alternative product and vendor information in order to assess the full range of available supplies and equipment.

The series is distributed to all NPS units and is available to non-NPS institutions and interested individuals by subscription through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; FAX (202) 512-2250. For further information and guidance concerning any of the topics or procedures addressed in the series, contact NPS Museum Management Program, 1849 C Street NW (NC 230), Washington, DC 20240; (202) 343-8142.