

## **CREATING A PHASE BOX TO PROTECT RARE OR DAMAGED BOOKS**

A phase box, also called a wrapper, comes from something called ‘phased conservation’ – which is when you have damaged items but don’t have the funds for repairing them right now. Phase boxes or wrappers keep damaged books safe and works best for smaller, lightweight books that need protection but not a lot of overall support. They can also be used as an isolating measure if you have a book with ‘red rot’, so there’s not a transfer from the damaged book to the others in the collection. The phase box/wrapper is made of two pieces of folder stock that have been cut from the same larger piece and are folded to wrap around the outside of the book so it is protected on all sides.

## **SUPPLIES**

To make a phase box/wrapper, you need:

- 1 piece of 19 pt folder stock – needs to be at least 2.5x larger in width and length than the book, but choosing a size that is more than 3x the size of the book will result in a lot of excess and waste. Stock comes in sheets of 16 x 20, 32 x 40, or 40 x 60
- Breakaway knife
- Ruler
- Cutting mat
- Pencil
- Bone folder
- Your book!

## **MAKING THE PHASE BOX/WRAPPER**

Place the book in front of you and measure it – height, width, and thickness

Make sure to measure correctly – if your ruler does not begin at absolute zero, make sure to take that into account. You want to measure across the book in at least 3 places – many modern books are ‘square’, but older books may no longer be, so you need to make sure you have the largest measurements. Measure the width from the furthest point of the curvature of the spine. Measure the thickness at the spine. Mark the measurements down on a piece of paper so you don’t forget them.

Next, place your folder stock in front of you on the cutting mat, portrait orientation. Use your ruler to measure out the larger of the dimensions and mark in a few places so you can draw a connecting line. Use your ruler as a straightedge and cut with your breakaway knife. Make sure that the blade is sharp and that the breakaway knife is in locked position. Cut the strip using even pressure. Put that piece to the side. Mark your next measurement on the piece that was left behind. Again, mark in a

few places so you can draw a connecting line. Cut using the breakaway knife and even pressure. We now have the two pieces that will make up the wrapper.

## **THE INNER WRAPPER**

Use the piece that was cut to the width measurement. Place it in front of you in portrait orientation, with the book in the center of the folder stock – and then use your ruler to check if the top and bottom are even. Correct the placement so the measurement from the outside edge of the stock to the book is roughly even from the top edge of the book to the top of the folder stock and from the bottom edge of the book to the bottom of the folder stock. If the measurement is greater than the height of the book, trim the outside so it is 1/8” less than the height. Use your pencil to gently mark 4 dots at the edges of the book. Remove the book and connect the dots so you have a line that indicates where the top of the book is and a line that indicates the bottom of the book. Now take your ruler and mark a point to indicate the thickness – measure from the top line going outward to the top of the folder stock. Draw a line. Now do the same for the bottom. You should have 4 horizontal lines when you are finished.

Next, we’re going to make some creases so that the wrapper will fit snugly around the book. Take your ruler and place it next to one of the lines – if you’re right handed, place the ruler to the left of the line and if you’re left handed, place it to the right of the line. Pick up the bone folder with your other hand and use the ruler as a straightedge. Use the pointy part of the bone folder and run along the line twice with medium pressure. Keep the ruler in place and sneak the bone folder underneath the folder stock and run the pointy edge of the bone folder along the edge of the ruler twice. Remove the ruler and fold the folder stock onto itself – use the side of the bone folder to make a hard crease. This step makes sure that the fold is truly crisp. Repeat these steps for the other three sets of lines. Don’t be afraid to flip the folder stock around so its easier to work with.

Dry fit the book to check that the inner wrapper fits correctly. You do not want these pieces to overlap – you want them to either meet in the middle, or just barely meet in the middle.

## **THE OUTER WRAPPER**

Take the piece that was cut to the height of the book and place it in front of you landscape orientation, with the book in the center of the folder stock – and then use your ruler to check if the top and bottom are even. Correct the placement so the measurement from the outside edge of the stock to the book is roughly even. If the measurement is greater than the width of the book, trim the outside so it is 1/8” less than the width. Use your pencil to gently mark 4 dots at the edges of the book. Remove the book and connect the dots so you have a line that indicates where the left edge of the book is and a line that indicates the right edge of the book. Now take your ruler and mark a point to indicate the thickness – measure from the left line going outward to the left edge of the folder stock. Draw a line. Now do the same for the right side. You should have 4 vertical lines when you are finished.

Next, we’re going to make some creases so that the wrapper will fit snugly around the book. Take your ruler and place it next to one of the lines – if you’re right handed, place the ruler to the left of

the line and if you're left handed, place it to the right of the line. Pick up the bone folder with your other hand and use the ruler as a straightedge. Use the pointy part of the bone folder and run along the line twice with medium pressure. Keep the ruler in place and sneak the bone folder underneath the folder stock and run the pointy edge of the bone folder along the edge of the ruler twice. Remove the ruler and fold the folder stock onto itself – use the side of the bone folder to make a hard crease. This step makes sure that the fold is truly crisp. Repeat these steps for the other three sets of lines. Don't be afraid to flip the folder stock around so it's easier to work with.

Dry fit the book to check that the outer wrapper fits correctly.

## **SLIT AND TAB SYSTEM**

So, we've made both pieces of the wrapper, but now we need to keep it closed. An easy way to do that is to use a tab and slit system. Remove the book from the wrapper and take the outer piece and flip it over so the flap that was the outside cover is now on your far right. Take your ruler and place it in the center of the far-right panel, so the edge of the ruler is one inch into the panel. Use your pencil to draw a box around the outside of the ruler. Then, take your ruler and place it along the right edge of the folder stock. Hold the bottom of the ruler firmly in place, and use two fingers to move the top of the ruler to the point where the ruler lines up with the top left edge of the box you just drew. Draw a line along the ruler from the top left edge of the box to the top of the folder stock. Use your breakaway knife to cut this piece out. Either repeat the step for the bottom edge, or flip the cut piece to use as a template. ***Do not cut off the tab!***

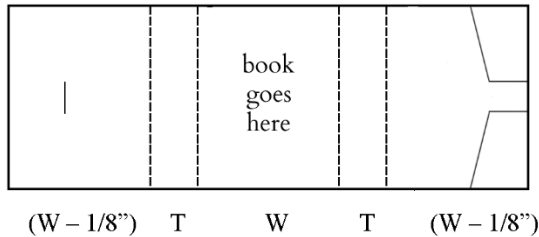
To check where the slit should be placed, put the book back into the wrapper, and close it so the tab is on the outside. Take your pencil and gently mark two dots at the point where the tab 'begins'. Remove the book and draw a line to connect your two dots. Cut the slit along that line using your breakaway knife. Wrap the book back up and carefully slide the tab into the slit.

**Congratulations – you've made a book wrapper!**

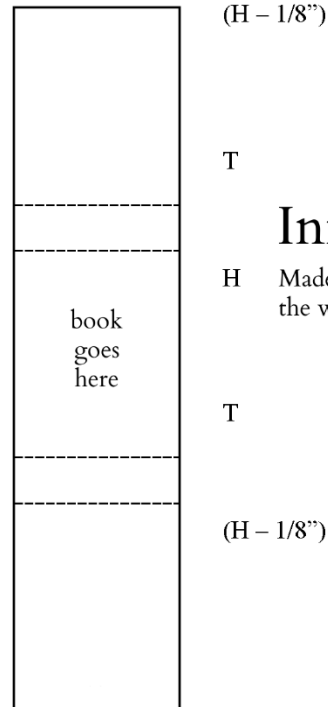
H= height  
W= width  
T= thickness

## Outer Wrapper

Made from the piece cut to the height of the book



----- Crease  
————— Cut



## Inner Wrapper

Made from the piece cut to the width of the book

### About Greater Hudson Heritage Network (GHHN)

Greater Heritage Hudson Network (GHHN) is a museum service provider in New York State focusing on interpretation, collection care programming, and the conservation and preservation of objects in collecting institutions statewide. Their programming and professional development training programs, webinars, hands-on-workshops, web-based resources, responsive technical assistance, and grant opportunities provide the tools so that historical societies, historic house museums, heritage centers, historic sites, archives and libraries may better care for their collections. Visit [www.greaterhudson.org](http://www.greaterhudson.org) to learn more about their work