

## Tips for Perfect Binding FlexBind® Hinged Photo Pages

### Scope:

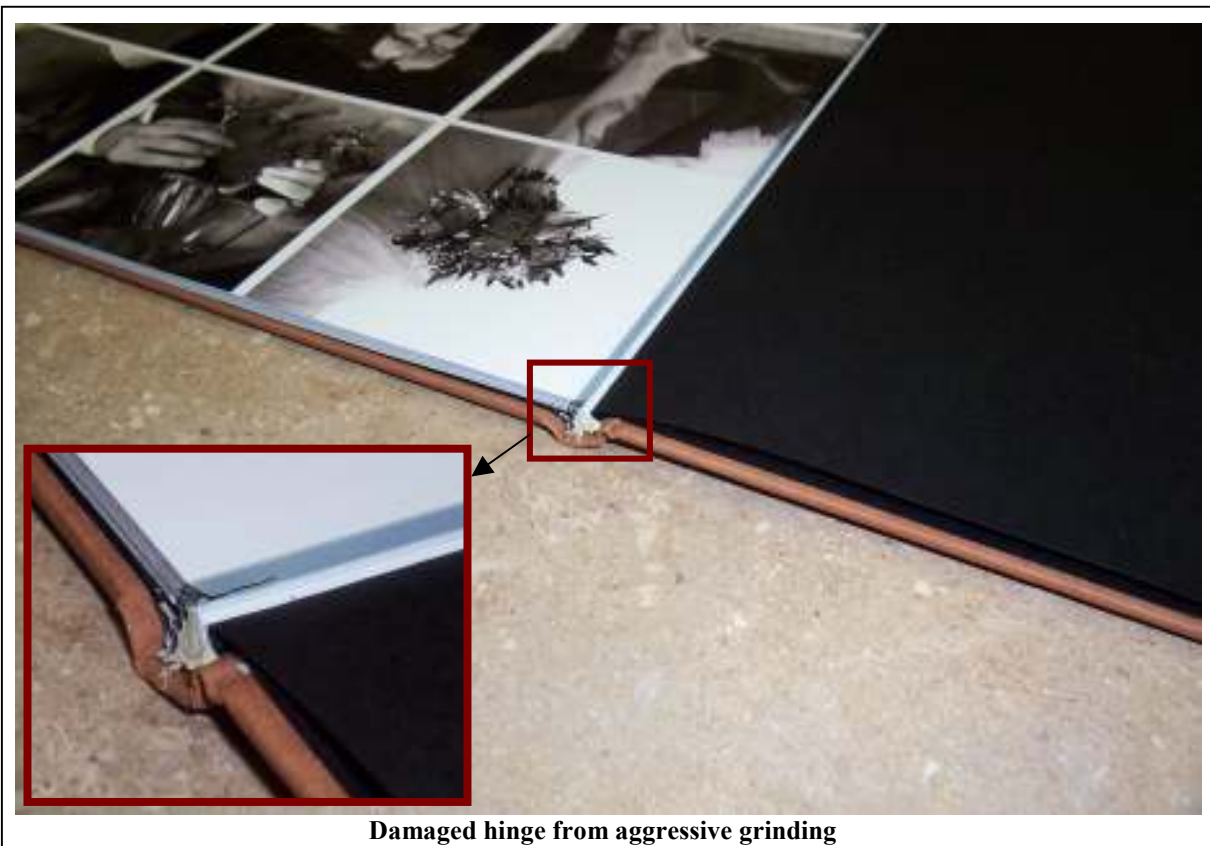
While there are many types and makers of perfect binding equipment, the mechanics are all the same. There is a spine roughening step, a glue application step, and a cover application step. The focus of this guide will be to provide basic direction for successfully binding FlexBind® hinged photo pages with the common perfect binders on the market today. The targeted book is a perfect bound book that will be cased-in to a hard cover off line, making a floating book block. Many of the recommendations, however, can be applied to soft cover perfect binding applications.

There are 4 main concerns when developing a process for perfect binding FlexBind®.

1. Preventing damage to the hinge in the grinding process
2. Applying the cover stock without smashing the flexible hinge or the book block
3. First page pull down - Opening the cover tends to pull the first few pages apart revealing the spine of the FlexBind® page which is normally hidden. FlexBind® pages need to be held firmly at the spine so that the pages flex at the hinge.
4. Book block spine flexing when opened - When opening a perfect bound book, made with FlexBind® or standard paper, the relatively soft and thin glue covering the spine folds back on itself. While this is acceptable for plain paper, on FlexBind® this reveals the spine of the page ruining the lay-flat appearance of the book.

### 1. Preventing damage to the hinge in the grinding process

When perfect binding plain paper, it is common to grind off up to 1/8" of the spine in preparation for gluing. When binding FlexBind® hinged pages, it is not necessary to aggressively roughen the spine. Since there is little to no stress on the glued edge of the sheet, the binding becomes much more durable, even with no grinding at all. It is recommended that only a light roughening is done. Inspect each book block looking for damage to the hinge while setting the grind depth. If a higher level of grind is desired, then chip board can be placed on either side of the book block during the grinding phase and removed before the cover is glued in place. Not all perfect binders allow for the removal of the chip board. Alternately, an end sheet can be added to the book block to support the grinding of the hinge. A tabbed, folded end sheet is recommended if the end sheet must go through the grinding step. This is discussed in greater detail in #3.



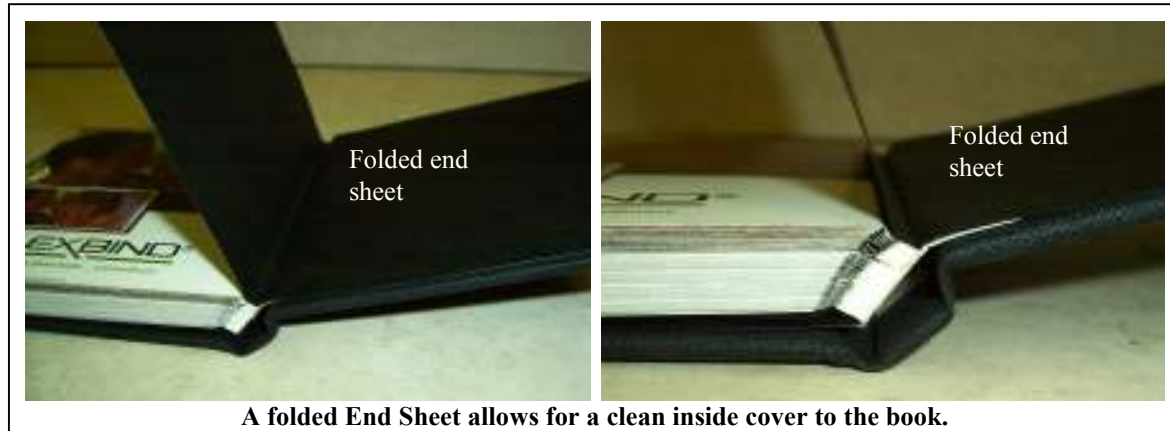
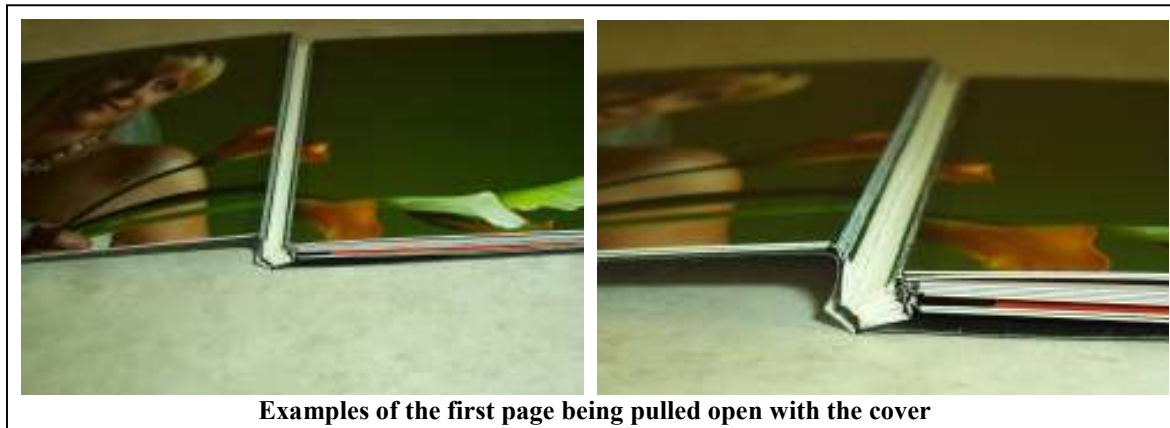
## 2. Applying the cover stock without smashing the spine.

The FlexBind® hinge makes the spine of the book block extremely unstable before binding. Applying the cover needs to be carefully considered or the hinge will simply fold over when the pressure from the cover is applied. End sheets greatly improve the stability of the spine and in most cases, will eliminate the need for any other adjustments. If the spine is folding over when the cover is raised and clamped in position, try the following recommendations.

1. Adjust the nipping table height to gently press the cover to the appropriate height.
2. Make sure the cover material has the grain going parallel to the book block
3. Some heavy cover materials may need to be pre-scored
4. Use end sheets. Even if it is a soft cover application, a single lightweight end sheet is often enough to support the hinged spine.

## 3. First Page Pull-Down

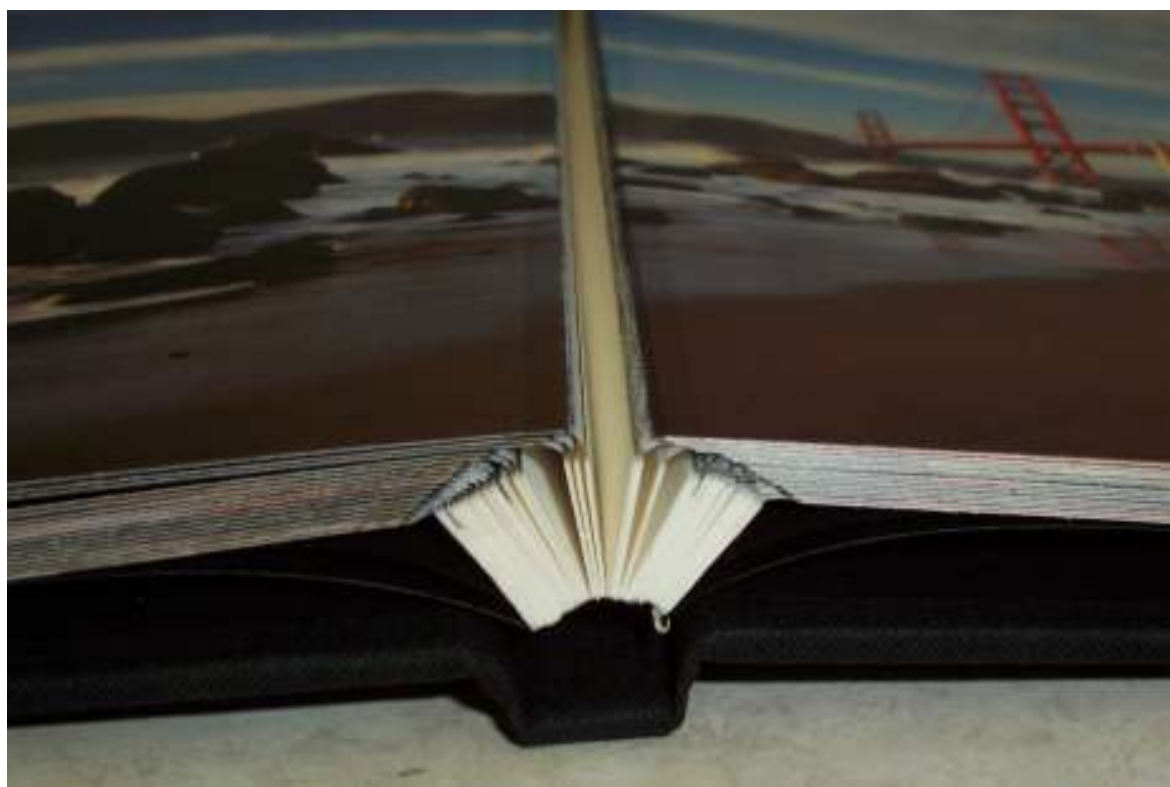
The side glue on the book block secures the cover stock to the first and last page. When the cover is opened, the first page is pulled down along with it. While this is commonly accepted for traditional papers, FlexBind® hinged photo pages require that the spine be held firmly together so that the pages open at the hinge rather than at the glue. Some of the more basic units do not control the side glue, but rather allows glue to flow around the edges. To correct this, a simple folded end sheets is recommended. When the cover pulls open the first end sheet, it opens at the base, which is the inside of the folded end sheet, revealing a clean transition to the book contents. Optionally, the fly sheet side of the folded end sheet can be scored to assist in a clean page turn leading up to the FlexBind® pages. See the pictures below. If the folded end sheet must got through the grinding step, then a folded, tabbed end sheet is recommended so that the rough grind pattern cannot be seen on the inside cover of the book.



## 4. Spine flexing when the book is opened

The relatively soft glue naturally bends as the book is stressed when opened. Over time, the flexing of the glue eventually cracks leading to dropped pages. When using FlexBind®, the bending of the spine allows the pages to open past the hinge revealing the spine. To prevent this, a rigid backer should be glued to the spine during the application of the cover material. The easiest way to accomplish this is to simply use a heavy cover material. The recommended material is a 10pt or heavier cover stock. When using such a heavy cover

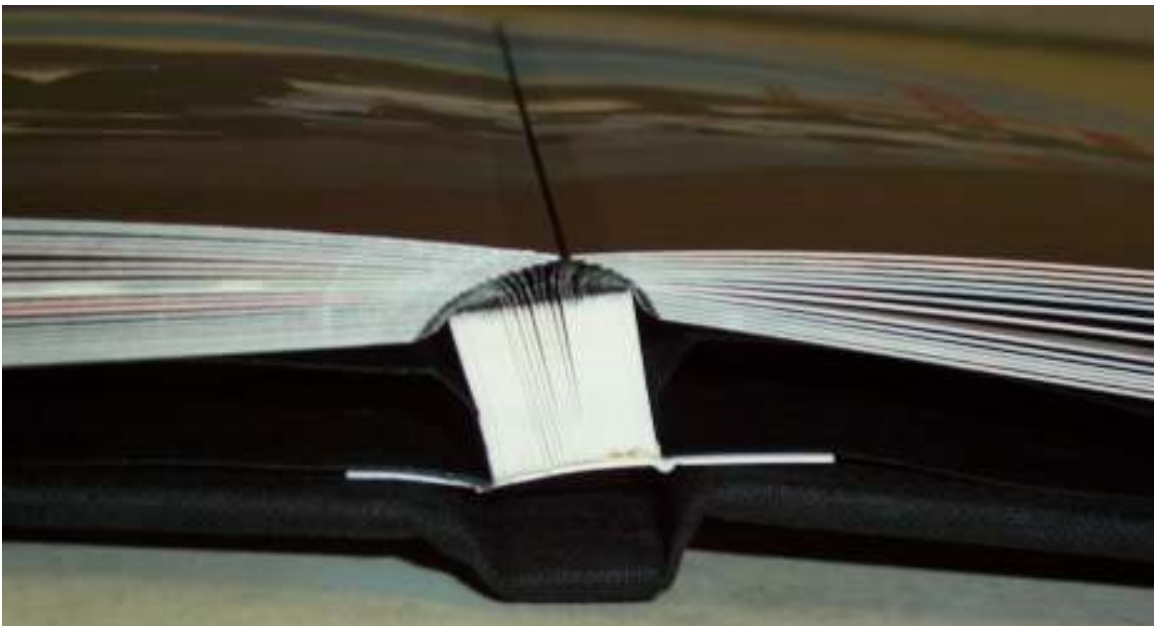
material, the grain direction becomes critical, and should always be parallel to the book block. Pre scoring of the covers may be necessary depending on the perfect binder. Once the cover stock is applied, the front and back can be cut off leaving only a small portion on each side, typically 1/2" or less before casing-in.



**Flexed spine opens the pages past the FlexBind® hinge**



**Finished book block. Heavy weight cover stock trimmed off before casing in.**



**Heavy cover stock applied during perfect binding keeps the spine of the book block rigid**





**A shorter FlexBind® spine on the page is generally preferred.**

#### **Additional tips**

- The FlexBind® hinge will need to be trimmed to the proper height for each specific binding method. Depending on the amount of glue applied to the book block, the spine may need to be longer to prevent the glue from rising up past the hinge area.
- For most perfect binding applications, the recommended length for the FlexBind® spine (the area past the hinge that is secured together by the glue) is 1/8"- 1/4".
- If the book block is going to be side stitched after perfect binding, reinforced end sheets and lighter cover material should be used.
- Do not open the book till the glue has completely hardened.
- PUR adhesives are not recommended due to their high level of flexibility at room temperature (low  $T_g$ ). Some binders have demonstrated success PUR binding FlexBind® by forcing some glue between each page when nipping the cover in place. This process will be very dependent on specific machine capabilities.