Preservation Advisory Centre

Self-service copying
The Preservation Advisory Centre is supported by:

The Pilgrim Trust
The Marsh Christian Trust
and the John Paul Getty Jnr Charitable Trust

ISBN 978 0 7123 5854 5

Design The British Library Design Office

Cover image Wellcome Library, London

First published February 2000 as
Photocopying of library and archive materials
Revised July 2013

6401–07/13
Self-service copying of library and archive materials

1 Introduction

Photocopying, scanning and photography are the most popular methods of copying books, documents and other archive materials. Most libraries and archives provide some form of self-service copying facility for users. Carried out incorrectly, copying can cause severe damage to collection items. This booklet describes the risks from different copying methods, and explains how these risks can be mitigated. It explains how to select appropriate equipment and determine which method is suitable for which type of material. It will enable organisations to develop policies and procedures for staff and users, which will safeguard collections and prevent unnecessary damage. It should be particularly helpful to staff working in reading/search rooms.

2 Physical damage

Not all materials are suitable for self-service copying. Different copying methods carry different risks. Although damage from light and heat can be an issue, the main risk of damage is from incorrect handling. Informed and sympathetic handling is essential if collections are to remain in a useable condition. The degree of risk of
damage will depend on the type of copying method as well as the characteristics of
the item being copied. These factors should be taken into account when developing
copying policies, procedures and guidance. Collection items at most risk include:

- Items that are larger than the photocopier/scanning platen or available supports
e.g. maps.
- Books/bound volumes with fold-outs which are larger than their cover. They are
  extremely vulnerable to tearing.
- Heavy/thick books/bound volumes. These are difficult to handle and bindings can
  be put under strain when trying to obtain a copy.
- Books with tight bindings.
- Books/bound volumes with historically important or fine bindings.
- Parchment/vellum bindings, which can be brittle and prone to damage by pressure
  or heat.
- Perfect bound books, which are glued rather than sewn e.g. paperbacks.
- Books stapled or stitched through the sides e.g. pamphlets.
- Books/bound volumes with broken sewing or loose pages.
- Books/bound volumes with torn or brittle pages.
- Items with brittle paper.
- Parchment documents.
- Documents with seals.
- Material that does not naturally lie flat e.g. scrolls, rolls, folded or cockled
  documents.
- Items with friable media which can be easily smudged e.g. charcoal and pencil
  drawings, pastels.
- Items that are light-sensitive or heat-sensitive e.g. photographic materials
- Items with sensitive pigments or media e.g. illuminated manuscripts, prints,
  drawings, works of art on paper.

3 Light, heat, pollution

All light is harmful to library and archive materials. The wavelength, intensity
and duration of exposure each contribute to degradation and collectively
determine the rate of deterioration. The amount of UV radiation emitted by
photocopiers and scanners will vary between machines, but it is thought unlikely
that the short exposure during the making of a single copy will cause
measurable damage to most library and archive materials. However, all light damage is cumulative and irreversible, so concern should be raised when an item is subjected to multiple or frequent copying. The number of copies made from a valuable document or book should be kept as low as possible. Light and heat sensitive materials such as photographs and parchment should not be photocopied. Photocopiers can emit ozone, a pollutant known to damage organic materials. Although items on the platen are not at risk, machines should not be located close to other collection items or in poorly ventilated areas.

Scanners produce less heat and light than photocopiers and no ozone. 'Most scans will be from 1-15 lx-hrs, which is a minuscule fraction of the useful life of a document or artwork. Issues associated with a document's physical protection during scanning, such as damage to spine or friable paper, should be of greater concern to librarians, archivists, or curators'.

4 Photocopiers and flat-bed scanners

Whilst suitable for flat material such as text documents, most photocopiers and flat-bed scanners are not suitable for books or bound volumes. As a book is being lowered onto the glass platen, gravity causes the leaves to fall forward, and as a result they can be creased, folded or torn. Pressure is often placed on the book from above in order to obtain a better image, especially when the binding is tight. This puts stress on the structure and can cause the spine to break. Damage cannot always be seen until much later.

A number of specialist photocopiers have been developed to allow safe copying from books and bound volumes. Whilst these usually offer distinct advantages over conventional machines, care must still be exercised to avoid structural damage. The main design feature of these machines is the provision of a sloping edge leading away from the edge of the glass platen. This allows maximum presentation of the page area to the platen and avoids stress on the sewing and binding structure. Other materials that should not be photocopied are damaged items, items made of parchment or brittle paper, light-sensitive or heat-sensitive items and material that does not lie flat. In general, photocopiers and flat-bed scanners are suitable for low-value modern books/bound volumes and flat documents. Good copying practice should be followed and guidance should be available in self-service copying areas:
• If there is material in the collection which is considered to be particularly vulnerable or which is being copied repeatedly, you should think of providing surrogates e.g. digital copies, photocopies, microfilm or facsimiles. Use of reproductions will save on the wear and tear to the original. Multiple copies can often be produced inexpensively, offering access to more users. The originals, if in real danger, can then be moved to restricted access, thereby protecting them from further damage.
• Do not attempt to copy items that are larger that the platen.
• Provide adequate support to items at all times, especially when books/bound volumes are being placed on the platen.
• Do not exert pressure on the spine of a book/bound volume. 120° is the maximum opening angle for most books. Only a few bindings can be opened to 180° without being damaged. Books with tight bindings should be limited to an angle of 90°.
• Fold outs should not be copied using these methods as the risk of damage is extremely high.
• Limit the number of openings which can be copied per ‘healthy’ volume e.g. 25 openings.
• Severely crumpled or damaged items should not be copied.
• If more than one copy of an item is required subsequent copies should be made from the first copy.
• Items should not be left on the platen due to the risk of heat damage and distortion.
• Consider a recording system to monitor copies from popular items.

5 Overhead scanners

A wider range of books and bound archives can be safely copied using overhead scanners, because items are copied face-up, thus reducing the risk of physical damage. Book snakes can be used to gently restrain leaves/pages or documents.

1 Flat-bed scanners are extensively used by trained staff for digitising a variety of library and archive materials, including photographic materials. However, more extensive restrictions are advised for self-service copying.
The typical overhead book scanner uses one or two high resolution digital cameras with two or more lights to provide even illumination. Some models are equipped with adjustable book supports and automated deskewing software, which can improve the quality of the images. By using a camera to capture the image the object does not come into direct contact with the capture device.

6 Portable scanners

Many portable scanners operate using rollers or drums, and are not recommended due to the risk of physical damage. Even if material is placed within a polyester enclosure, it is liable to move within the enclosure as it is being copied. Pen scanners are not recommended due to the risk of abrading the surface of collection items.

7 Selecting equipment

When choosing machines, identify your specific needs and collect data: general literature, manufacturers' brochures and comparative test evaluations.

- Equipment should be fit for purpose and adapted to suit the materials being copied e.g. ‘book-friendly’ copiers for books/bound volumes.
- Check for any sharp edges in the machine design which could come in contact with the item. Machines with moving platens should not be used for copying library and archive materials.
- Check that your supplier has experience of providing equipment for use in libraries and archives.

For more information on scanners refer to the JISC Digital Media website www.jiscdigitalmedia.ac.uk/stillimages/advice/scanners
8 Photography

Digital photography, when carried out correctly, enables safe copying of many types of material that cannot be copied on self-service photocopiers and scanners e.g. fragile items, works of art with loose or friable media (pastels, charcoal, crayons, soft pencil drawings), watercolours, folded, rolled items, parchment documents, documents with seals and photographs. Allowing users to copy collection items with their own cameras is popular with readers and researchers. Many organisations charge a daily fee for camera use, often in a separate invigilated area, where other readers/researchers will not be disturbed. As with photocopying and scanning the main risk to collection items is physical damage, caused by poor handling and inappropriate use. It is important for any organisation to establish guidelines for use. Consideration should be given to the following points.

- Restricted items should be identified e.g. items that cannot be safely used with the facilities provided, rights protected material, valuable, popular or iconic materials.
- Some organisations will limit the use of the images e.g. to personal use, but others may choose not to restrict use. Intellectual property rights should be carefully considered as they will affect the type and scope of self-service copying allowed.
- Cameras can be used for capturing images of oversize items such as maps and rolls, and multiple images stitched together after capture. However, capturing an image from above with a handheld camera does increase the risk of physical damage, and usually requires a large working area. Bearing this in mind, it is sensible to restrict the size/format of items being copied.
- A designated invigilated area for camera use should be provided.
- The provision of lighting within the capture area should be carefully considered, and the level and duration of illuminance should be minimised. Some materials are more sensitive to light damage than others, and the sensitivity of different materials to light damage should be established and the risks evaluated. Ultraviolet radiation should be eliminated by means of blinds, screens and/or baffles on the windows, or by fitting ultraviolet filters to the glass. Electric lights should be ultraviolet free and fitted so that no heat or as little heat as possible is directed towards the material being used.

• Users should not move items around in order to obtain better lighting conditions. Setting up lighting for photography is a skilled operation. If high quality results are required, users should be referred to specialist imaging/reprographics services.
• Flash photography should not be allowed.
• To minimise disturbance sound on devices should be turned off.
• Organisations should evaluate the risks from different types of imaging equipment.
• The provision/use of copy stands is not generally recommended.
• While it is essential that a camera is securely supported, thought should also be given to anything attached or connected to the camera that could cause damage to collection items e.g. lens hood, lens cap, cables. Cameras should be held securely whilst capturing an image and straps should be used, where available. Straps should not be allowed to touch the collection items and cameras should not be attached using wrist straps\(^5\).
• Users should be provided with supports, book snakes and weights and instructed how to use them. Guidance on collection use in a reading/search room should be followed when using a camera, or incorporated into specific use guidelines for self-service copying. Collection items should not be put at risk to obtain a better image e.g. items should be gently restrained, not flattened\(^6\).
• Users should not stand on chairs to obtain better images.
• Organisations should consider providing basic training in image capture, emphasising the care and handling of the original material. It is not recommended that organisations provide guidance on the use of equipment.

For more information on the use of cameras in reading rooms refer to the free publication *Capture and release: digital cameras in the reading room*\(^7\).

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\(^5\) For more information on direct digital image capture refer to JISC Digital Media [www.jiscdigitalmedia.ac.uk/stillimages/advice/photographic-guidelines](http://www.jiscdigitalmedia.ac.uk/stillimages/advice/photographic-guidelines)

\(^6\) Refer to the Preservation Advisory Centre booklet, *Using library and archive collections* [www.bl.uk/blpac/pdf/handling.pdf](http://www.bl.uk/blpac/pdf/handling.pdf)

9 Policies and guidance for staff and users

Copying policy will depend on many factors such as resources, equipment available, level of use and other organisational drivers such as income generation, access, (re)use and copyright. However, the prevention of unnecessary damage must be of prime importance, especially for collections that are designated for long term retention. Organisations should develop policies and procedures that clearly state which material is suitable for copying by which method and by whom. Some material may need to be copied by staff or sent to a company with specialist equipment. It is essential for all libraries and archives to formulate a policy controlling self-service copying from its collections as part of its overall preservation policy\(^8\). The following benchmarks should guide the formulation of the policy:

- Organisations should provide a variety of copying services to users but only where these do not threaten the preservation of collection items. Where feasible copies should be produced from surrogates.
- Suitable equipment should be selected and located appropriately.
- Organisations should promote the use of preservation friendly equipment.
- Charges for all copying should be structured to encourage the users to make copies in a preservation friendly way.
- Copying guidelines should be drawn up and staff should be trained to make decisions on the suitability of material for copying based on these guidelines and provide advice on which copying method is appropriate. Any refusals to copy material should be clearly explained and backed up at senior level.
- Training sessions in good handling practice and good copying practice should be mandatory for all new staff with refresher sessions for existing staff at frequent intervals\(^9\).
- Criteria for restricted materials should be freely available to users.
- Clear and concise guidelines on careful handling should be posted prominently by the machines.
- Copying should be carried out within clear sight of staff.

\(^8\) Refer to the Preservation Advisory Centre booklet  *Building a preservation policy*  
www.bl.uk/blpac/pdf/blocks.pdf

\(^9\) Refer to the Preservation Advisory Centre booklet  *Using library and archive collections*  
www.bl.uk/blpac/pdf/handling.pdf
Organisations should determine the suitability of items for self-service copying, based on written guidance. Suitability will depend on the type of equipment available, and may well change as equipment is disregarded, replaced or upgraded. Suitability will usually be determined by an item’s rarity/value/significance, format, condition, age or by rights restrictions. As a general rule if it is thought that the condition of an item might worsen as a result, then self-service copying should be refused.

10 Conclusion

Self-service copying is increasingly popular but it is only one means of providing copies to users alongside professional reprography (be it in-house or externally provided) and staff-assisted copying. All organisations should understand the risks posed by self-service copying to original materials and, if they choose to allow it, should develop appropriate policies, procedures and guidelines for staff and users which will ensure the risks are minimised. For most material the main risk of damage is from mishandling rather than light and heat. Organisations should provide an environment conducive to self-service copying by providing adequate space, supervision, guidelines, and equipment that is sympathetic to the material being copied.
Online resources

‘Capture and release’ Digital cameras in the reading room

Scan and Deliver: Managing User-initiated Digitization in Special Collections and Archives

JISC Digital media (scanners)
www.jiscdigitalmedia.ac.uk/stillimages/advice/scanners

JISC Digital media (digital cameras)
www.jiscdigitalmedia.ac.uk/stillimages/advice/digital-cameras
Preservation guidance booklets

The following booklets can be downloaded free of charge at www.bl.uk/blpac/publicationsleaf.html.

Free printed copies are also available.

Basic preservation for library and archive collections
Building a preservation policy
Cleaning books and documents
Damaged books
Library and archive storage furniture
Managing pests in paper-based collections
Managing the library and archive environment
Moving library and archive collections
Making the most of funding opportunities for preservation and conservation projects
Mould outbreaks in library and archive collections
Preservation of photographic material
Salvaging library and archive collections
Self-service copying of library and archive materials
Understanding and caring for bookbindings
Using library and archive collections

The Preservation Advisory Centre promotes the benefit of good preservation practice and provides support in the form of information services, training and preservation management tools.

www.bl.uk/blpac