

# Copying Old Photos



More and more people these days are taking an interest in their family tree. Old family photographs take on a new meaning, and a popular idea is to decorate the family tree with portraits of your relatives and ancestors.

Needless to say, you don't really want to cut up those precious old photos, and you don't have to. All you need to do is have a copy made for the purpose and still leave the original picture intact.

If you only have a small number of pictures to copy, it's easier and more economical to send them to a lab to be copied.

## DAMAGED PHOTOS

It may be that the picture to be copied has been damaged in some way. In this case, it should be restored by a professional retoucher. These are listed in the Yellow Pages under the heading "Photo Restorations and Retouching".

A common way in which the photograph is restored is for the retoucher to make a copy negative of the original print. The negative is then retouched to remove the blemishes, and a copy print is made from this negative. The advantage of this system is that there is no risk of further damage to the original print, and you have a negative from which more prints can be made.

## COPYRIGHT

Before you reproduce (copy or duplicate) a photograph or a transparency, it is advisable to determine who owns the rights to reproduce that photograph or transparency. For instance, a person who has purchased photographs or transparencies owns them, but the right to reproduce such photographs or transparencies is often retained by the original photographer.

The Copyright Act of 1976 grants the owner of a copyright certain exclusive rights, including the right to publish and reproduce the copyrighted work and the right to distribute copies to the public by sale, rental, lease, or lending. Certain work, for example, those for which the statutory monopoly period has expired and those which have been "published" (a term defined by statute) without a copyright notice, are in the public domain and may be freely copied.

However, to avoid potential copyright problems, it is always safer, as well as more courteous to obtain written permission from the owner or the photographer, as the case may be, before copying a photograph or transparency.

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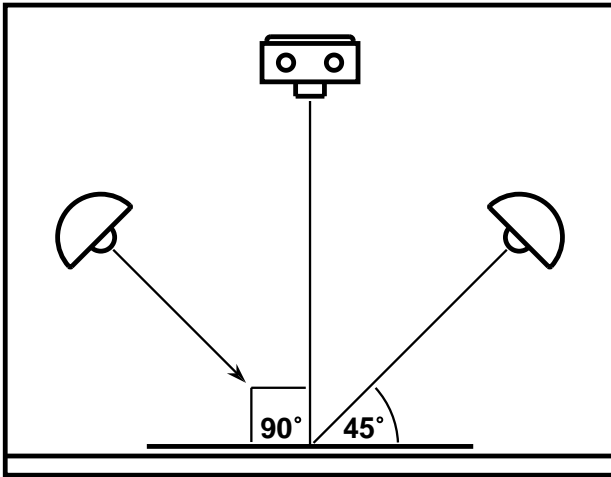
## MAKING YOUR OWN PHOTOS

### Equipment

The most convenient type of camera to use is a 35 mm single lens reflex. One advantage in using an SLR camera is that you can view the photograph to be copied through the camera lens. This will ensure that it is framed accurately on the film. A cable release should also be used to avoid vibration when you release the shutter.

You will also need a copy stand or tripod to hold the camera steady. A copy stand usually comprises a baseboard on which to place the picture to be copied, with a vertical column on which to attach the camera. Lights are usually mounted on each side of the stand to provide even illumination. Tungsten (3200°K) lamps provide suitable illumination for color or black-and-white copying. Reflector-type bulbs give good results without the need for external reflectors; however, this concentrated light can produce hot spots, so diffuse bulbs in large reflectors are better. Use a lens hood with reflector bulbs; their built-in reflectors do not entirely mask the lamp surfaces.

Even illumination of the print is very important, and whether you are using a copy stand or a tripod, the lighting arrangement should be as illustrated as below. Originals should be copied with the camera at 90° and the lamps at 45° to the surface of the print.



One way of checking that illumination is even, is to use the "butterfly shadows" technique. Place the blunt end of a pencil on the center of the print to be copied, and hold it upright. When using two lights, you will see two shadows, one on either side of the pencil. If the lighting is uneven, one shadow will be darker than the other. Now move the light on the darker shadow side closer to the print until both shadows are the same in brightness.

## SETTING UP

As well as being evenly illuminated, the picture to be copied must be exactly square-on to the camera to avoid distortion of the image. This can be easily achieved by placing a small mirror onto the center of the print. Now look through the camera viewfinder, and move either the camera or the print until you can see the camera lens reflected in the center of the mirror. Don't forget to remove the mirror before you take your picture!

Some cameras have a grid pattern in the viewfinder, which helps to see if the print is square-on to the camera.

Unmounted prints have a tendency to curl, especially under the heat of the lamps, so a sheet of clean, unscratched glass should be laid on top of the print to keep it flat. However, you will then often see the image of the camera reflected in the glass. To avoid these reflections, cut a circular hole the same size as the camera lens in a piece of black card. Now support the card so that the lens fits neatly through the hole, and points down at the print. The size of the black card you need will depend on how far the camera is from the print; the further away, the bigger the card.

## LIGHTING

So far, we have suggested using photo lamps, but two other light sources that you can use are electronic flash or daylight.

Two flash heads should be arranged in the same way a photo lamps, but trial exposures will have to be made to check for both even illumination and correct exposure. However, if you intend to make a large quantity of copies, this method will avoid the possibility of camera shake and yield consistent results.

The simplest light source is daylight, but if you are copying in color, it is important to use direct sunlight only. Do not make your copies in either cloudy conditions or in the shade, as the results will have a blue color cast.

Position the print so that the sunlight falls across it at an angle of 45°, and then line up the camera square-on to it. Windy conditions should be avoided where possible, in order to avoid movement of either the print or the camera.

## WHAT FILM SHOULD I USE?

Almost any film can be used, depending on what result is required, but color films must be exposed through an appropriate correction filter under some light sources. The following films should be used according to the following table:

Final Result	Film	Light Source	KODAK WRATTEN Gelatin Filter
Black-and-White print	KODAK Technical Pan Film 2415	Any	None
	KODAK T-MAX 100 Professional Film	Any	None
Color print	KODAK ROYAL GOLD 100 Film	Daylight	None
		Photolamp (3400°K)	80B
		Tungsten (3200°K)	80A
Color slide	KODACHROME 64 Professional Film	Daylight or Flash	None
		Photolamp (3400°K)	80B
		Tungsten (3200°K)	80A
		Daylight or Flash	85B
		Photolamp (3400°K)	81A
		Tungsten (3200°K)	None
	KODAK EKTACHROME 64T Professional Film (tungsten)	Photolamp (3400°K)	81A
		Tungsten (3200°K)	None

In copying, the photographer must avoid build-up of excessive contrast while maintaining good blacks and clean whites in the reproduction. Use of a normal camera film will generally cause some increase in contrast throughout most of the scale. Therefore, consideration can be given to some professional films which are specifically designed for copying, although these films may require extensive tests before the right combination of exposure and color balance is achieved.

Copying a photograph or painting to make a facsimile reproduction would appear to be a simple task. Unfortunately, this is not true. Making a black-and-white copy "just like the original" demands great skill and care using special films and processing.

Reflection Copying of color originals is one of the most challenging tasks encountered in color photography.

When copying a color photo, using regular color print film, the copy is likely to have increased contrast with light grey whites and dark grey blacks.

The use of a special-purpose copying film such as KODAK Commercial Internegative Film can overcome some of these problems, but its use demands professional camera equipment, processing machines capable of giving very reproducible results and a densitometer to ensure that the correct contrast and densities are achieved. This film is available only in sheets and long rolls.

The Kodak data book "Copying and Duplicating in Black-and White and Color" M-1, Catalog No. 152-7969, outlines equipment and techniques required to make the best possible copies.

## EXPOSURE

To ascertain correct exposure, a KODAK Neutral Gray Test Card should be placed on the print to be copied and the exposure noted. Then remove the card and use the indicated exposure. If your camera features fully automatic exposure, the reading can be taken directly from the print if it contains a wide range of tones.

However, if the print is mainly very dark, close down the lens aperture by one stop from the meter indicated exposure. If the print is very light, open up one stop. This will produce the correct tonal range in your copy photograph.

## SPECIAL TECHNIQUES

Old photos are often faded, or have stains on them. When making a black-and-white copy negative, these blemishes can often be eliminated in the final copy print by using filters over the camera lens.

Old photos that have faded usually tend towards a light brown or yellow color. In this case, the copy should be made with a blue filter, such as KODAK WRATTEN Gelatin Filter No. 47B, over the camera lens. This will darken the faded tones considerably.

Colored stains can be made less visible by copying the original on a black-and-white film with a filter of the same color as the stain. However, if the stain is a faded, yellow patch within a black image, use a blue filter over the lens so that the stain is rendered as a dark tone.

So generally speaking, when making copies in black-and-white, you should lighten the stain on a light background, or darken it on a dark background.

The following guide will enable you to select the right filter for the job:

Color of Stain	KODAK WRATTEN Gelatin Filter	
	To Lighten	To Darken
Blue	Blue (No. 47)	Yellow (No. 9)
Green	Green (No. 58)	Magenta (No. 34A)
Red	Red (No. 25)	Blue (No. 47)
Yellow	Yellow (No. 9)	Blue (No. 47)
Magenta	Magenta (No.34A)	Green (No. 58)
Cyan	Blue (No. 47)	Red (No. 25)

Old sepia toned prints can be reproduced as sepia by two methods. The simplest way is to copy the original onto color film, but if an authentic sepia copy print is required, the copy negative should be made in black-and-white. The copy print can then be toned in Kodak sepia toner.

Kodak Information Center  
 Eastman Kodak Company  
 Rochester, NY 14650-3109  
 1 (800)242-2424

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