

# Close-Up Pictures of Flowers

## And Other Small Objects

using KODAK INSTAMATIC<sup>®</sup> and BROWNIE STAR Cameras

AB-11



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# Close-Up Pictures of Flowers

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### **CLOSE-UPS ARE EASY TO TAKE!**

It's easy and rewarding to make close-up pictures of any reasonably small subject—flowers, nature subjects, or your favorite small pets. This pamphlet tells how you can make close-up pictures with any KODAK INSTAMATIC or BROWNIE STAR Camera. It shows you how to make simple measuring devices that make close-up picture-taking almost as easy as taking snapshots at conventional distances.

All you need in addition to the camera and film is an inexpensive close-up lens (and with some cameras, an adapter ring and retaining ring to hold the close-up lens in place). Close-up lenses are available in different strengths, or powers, such as 1+, 2+, and 3+. The higher the number, the stronger the close-up lens and the closer you can get to the subject. The tables on pages 11 and 12 tell you the subject distance and picture area for different close-up lenses on specific cameras. You can even put two close-up lenses together to allow you to get closer to your subject. For example, you can put a 2+ and a 3+ lens together to get a 5+ lens. When you use two close-up lenses together, put the stronger lens closer to the camera lens. More than two lenses used together may result in poor image quality and may cut off the corners of the picture.

Your photo dealer can help you select a close-up lens for your camera. Eastman Kodak Company does not manufacture close-up lenses, but they are produced by other companies, including these:

Accura Ltd., 135-06 North Blvd., Flushing, N.Y. 11354

Ednalite Corp., 200 N. Water St., Peekskill, N.Y. 10566

Tiffen Optical Co., 71 Jane St., Roslyn Hts., N.Y. 11577

## SIZE OF LENS ATTACHMENTS

Close-up lenses are available in different sizes to fit different camera lenses. With some KODAK INSTAMATIC Cameras and all KODAK BROWNIE STAR Cameras, you'll need an adapter ring which slips over the camera's lens mount to hold the close-up lens in place. Other KODAK INSTAMATIC Cameras have built-in retaining rings for holding lens attachments, and on certain models the front of the lens mounts are threaded to accept screw-in type adapter rings or screw-in type close-up lenses. See the following table for the type and size of adapter ring and close-up lens to use on your camera.

Adapter Ring and Close-Up Lens Sizes for  
KODAK INSTAMATIC and BROWNIE STAR Cameras

KODAK Camera	Method of Attaching Close-Up Lens	Close-Up Lens Size
INSTAMATIC 100, 104, 124, 134, 150, 154, 174, and BROWNIE STAR	Series 5 1 1/8 inch (28.5mm) Slip-on adapter ring	Series 5
INSTAMATIC 300, 304, 314, 400, 404, 414, S-10, and S-20	Series 5 1 inch (25.5mm) Slip-on adapter ring	Series 5
INSTAMATIC 700, 704, 800, and 804	Built-in retaining ring	Series 5
INSTAMATIC 714 and 814	Threaded lens mount  Accepts screw-in type Series 5 close-up lenses directly (34mm diameter, .5mm pitch)	Series 5
	Or screw-in type Series 6 adapter ring	Series 6
INSTAMATIC 500	Threaded lens mount  Accepts KODAK RETINA 32mm, screw-in type lens attachments	KODAK RETINA Close-Up Lens Set, Type N/32. Close-up lenses screw directly into the camera lens.
	Or screw-in type Series 5 adapter ring	Series 5

To take pictures in the 2 1/2- to 4-foot range, you can use another type of close-up lens, known as a close-up attachment. This attachment is not as strong as a 1+ close-up lens, and is usually supplied in its own slip-on mount. You wouldn't normally use this type of close-up attachment on an INSTAMATIC 314, 414, 500, 700, 704, 714, 800, 804, or 814 Camera because the lenses on these cameras focus as close as 2 to 3 feet even without a close-up lens.



The adapter ring fits over the camera's lens mount.



The close-up lens fits in the adapter ring. A retaining ring holds the close-up lens in place.

## LENS-TO-SUBJECT DISTANCE IS IMPORTANT

After you have the close-up lens mounted on your camera, see the tables on pages 11 and 12. They give the correct distance from the subject to the close-up lens on your camera for various close-up lenses. They also tell how much area (called field size) will be included in your pictures. It's easy to make some simple devices which will help you measure the subject distance and show you how much of the scene you'll get in your picture.

### 1. The String "Rangefinder"

Tape or tie one end of a string to your adapter ring. Then tie a knot in the string at the correct focusing distance for each close-up lens you plan to use. For example, if you planned to use a 2+ and a 3+ lens on a fixed-focus KODAK INSTAMATIC or BROWNIE STAR Camera, you would tie one knot at 17 inches for the 2+ lens and another at 12 inches for the 3+ lens. You can make knots for as many distances as you have lenses. With the string held out straight from the front of the camera toward the subject, move your camera until the string is taut when the knot is at the subject—then drop the string and shoot.

The knot in the string positions the camera for sharp pictures.



This shot was made by a 7-year-old boy using a fixed-focus KODAK INSTAMATIC Camera and a 3+ close-up lens.

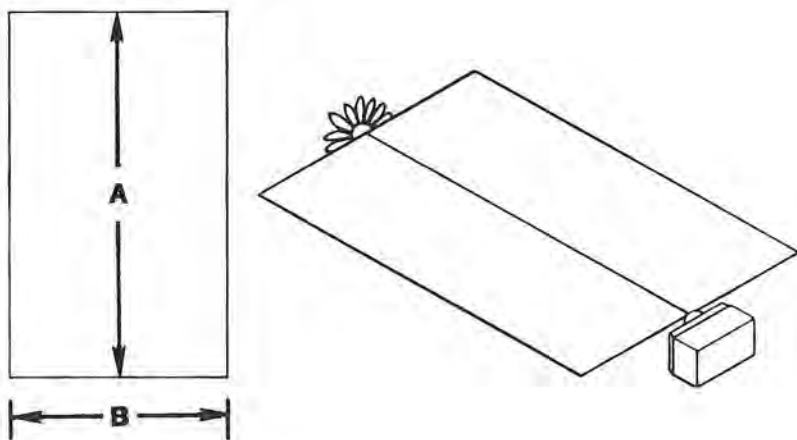


This method is simple and convenient for determining the proper shooting distance, but it has a weakness: It doesn't show you exactly what you'll get in the picture. Nor does your camera viewfinder show exactly what you'll get in the picture at these close distances, because the finder is about an inch higher than the camera lens. As a result, the viewfinder sees an inch more of the top of the subject than the camera lens does, and you have to tip the camera up slightly to capture in the picture what you originally saw in the viewfinder.

The other devices described on the following pages will measure the proper distance for you, and they'll also help you see the subject area that you'll get in your finished picture.

## 2. Cardboard Measuring Device

You can make a simple measuring device from a piece of cardboard. The cardboard that laundries put in shirts will work fine. See the appropriate table to find the distance to the subject and the field size for your camera, close-up lens, and focus setting (if your camera has a focusing lens). Then cut the cardboard as shown, and draw a line down the center. You need a different cardboard measuring device for each close-up lens because the subject distance and the picture area vary with each close-up lens you use.



- A Subject distance
- B Width (and height) of the area included in the picture at subject distance "A"



To take the close-up picture, hold the center line on the cardboard up to the center of the close-up lens. Make sure you hold the cardboard straight out from your camera. Remember not to use the camera viewfinder for centering the picture.



Line up your subject so that it just touches the end of the card and fits within the width of the card. Then drop the card and snap the picture.



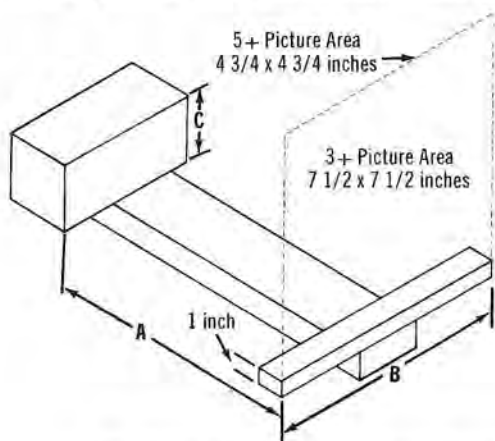
This is the kind of picture you'll get when you take close-ups by using the cardboard measuring device.

### 3. The Focus Stick

The focus stick is simply a block of wood to support the camera, with a stick to position the camera at the proper subject distance. A crosspiece at the end of the stick indicates the field size. Distance "A" in the diagram is the subject distance. Distance "B" is the field size. As with the cardboard measuring device, you will need a different focus stick for each close-up lens you use.

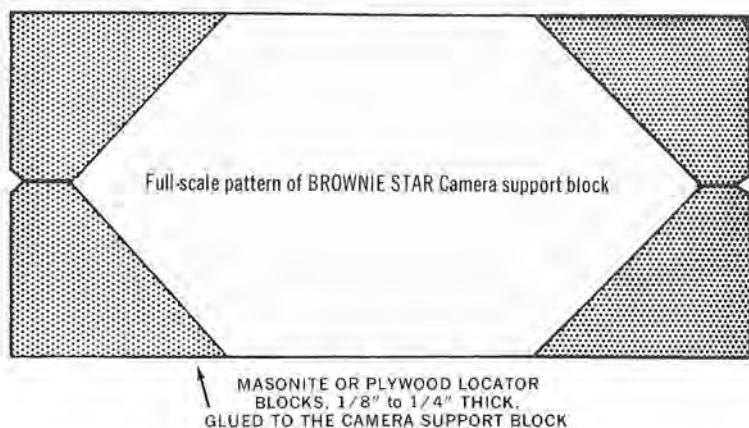
You can attach the camera to the support block with rubber bands. If you make a focus stick to use with an INSTAMATIC 314, 414, 500, 700, 704, 714, 800, 804, or 814 Camera, be sure to note the distance in the table on page 11 or 12 for setting the camera focus. The camera focus setting depends on the close-up lens and subject distance you want to use. When you use a focus stick, don't use the camera range-finder for focusing.

If you use a BROWNIE STAR Camera, decrease the height of the support block by 1/2 inch (dimension "C" in the diagram). You should also attach camera-locator blocks to the top of the support block. The full-scale pattern on page 9 shows you how. The film-advance knob of a STAR Camera fits into the V at one end. The raised circle around the camera body lock fits into the V on the other end. Attach the camera to the support block by means of one or two heavy rubber bands. An easy way to do this is to hook a paper clip through each neck-strap ring, then hook the rubber bands over the paper clips. Using the rubber bands lets you tip the camera so that you can wind the film after each shot.



Dimensions of Focus Stick for 3+ or 5+ Lens			
LENS	DIMENSIONS (in inches)		
	A	B	C
3+	12	7 1/2	3 3/4
5+	7 1/2	4 3/4	2 3/8

This diagram shows how to make a focus stick for two different close-up lenses on a KODAK INSTAMATIC 100, 104, 124, 134, 150, 154, 174, 300, 304, 400, or 404 Camera—also for an INSTAMATIC 314 or 414 Camera with the focus set for beyond 6 feet.



To take pictures with the focus stick, just position your camera on the support block so that the close-up lens is even with the front of the block. Touch the end of the stick to the subject so that the crosspiece is directly below the bottom of the picture area you want to photograph, and snap the picture. Imagine that the crosspiece is the bottom of a square frame of that exact size. Your picture will include everything inside the imaginary frame. If you want to, you can completely enclose the picture area with a wooden or wire frame. If you do this, you should make the frame slightly larger than the picture area so that the frame doesn't show in your picture.

## **KODAK FILM**

You can take close-up pictures with either color or black-and-white film. If you're taking flower pictures, you'll want to use color film for sure. Most people prefer to use color film for all of their close-up picture-taking. A close-up view in color is especially exciting. If you want color snapshots (prints) to send to your friends or to put into an album, load your camera with KODACOLOR-X Film. If you prefer color slides that you can project or look at with a viewer, use KODACHROME-X Film or KODAK EKTACHROME-X Film. You can also use KODAK High Speed EKTACHROME Film (Daylight) for slides with all KODAK INSTAMATIC Cameras except the INSTAMATIC 100, 104, 124, 134, 150, 154, 174, and S-10 Cameras.

## **EXPOSURE**

Try to have your close-up subjects in direct sunlight. Beware of shadows. Look at the area that you are actually going to shoot. Does

it include patches of shadow? If so, try to change your viewpoint so that most of the area is sunlit; or, use a large piece of white paper or aluminum foil to reflect sunlight into the shadows. If the background looks cluttered, place a piece of plain colored, or black paper behind your subject. The paper simplifies the background, helping to concentrate attention on the subject.

## FLASH

Try using flash when you want to make close-up pictures—

1. On a very cloudy day
2. Of subjects in deep shade
3. Of indoor subjects

Because the flash is so close to the subject, you must cut down the amount of light, or the picture will be overexposed (too light). An easy way to do this is to drape a *white* handkerchief over your flash reflector or flashcube. Make sure that the handkerchief doesn't get in front of the camera lens.

If you have a fixed-focus camera, the following table tells you how many layers of handkerchief to use at various subject distances with KODACOLOR-X, KODACHROME-X, or KODAK EKTACHROME-X Film.

Subject Distance	Layers of White Handkerchief
7 1/2 inches	4 layers
1 foot	3 layers
1 1/2 feet	2 layers
2 feet	2 layers
2 1/2 feet	1 layer
3 feet	1 layer

You can use this same table with the KODAK INSTAMATIC 500 Camera and AG-1B flashbulbs or flashcubes with the lens opening set at  $f/11$ .

With a KODAK INSTAMATIC 700, 704, 714, 800, 804, or 814 Camera you can use a 3+ close-up lens to take flash pictures at a subject distance of 11 1/8 inches. Set the focus scale at 6 feet and use three layers of white handkerchief over the flash. If you use these cameras for close-up flash pictures at other distances or with other close-up lenses, you may want to make your own test exposures.

## CLOSE-UP LENS DATA

Refer to the tables that follow to see how far you should be from your subject with the various close-up lenses. If your camera has a focusing lens, be sure to set the focus for the close-up lens and subject distance you want to use. These tables also show how much subject area, or field size, you'll get in your picture, based on the picture area of slides.

### Close-Up Data for KODAK INSTAMATIC Cameras

All of the measurements given for lens-to-subject distances and field sizes are in inches.  
Measure the lens-to-subject distance from the front of the close-up lens.

KODAK INSTAMATIC CAMERAS	Close-Up Lens 1+		Close-Up Lens 2+		Close-Up Lens 3+		Close-Up Lens 5+ (2+ + 3+)	
	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)
100, 104, 124, 134, 150, 154, and 174	30	18 1/2	17	10	12	7 1/2	7 1/2	4 3/4
300, 304, 400, and 404 or 314 and 414 focused for beyond 6 feet	30	19 1/2	17	11	12	7 1/2	7 1/2	4 3/4
314 and 414 focused for 2 to 6 feet	21 1/2	13 3/4	14	9	10 1/4	6 1/2	6 3/4	4 1/4
S-10 and S-20	30	23	17	13	12	9	7 1/2	5 1/2

### Close-Up Data for KODAK INSTAMATIC 700, 704, 714, 800, 804, and 814 Cameras

All of the measurements given for lens-to-subject distances and field sizes are in inches.  
Measure the lens-to-subject distance from the front of the close-up lens.

FOCUS SETTING (feet)	Close-Up Lens 1+		Close-Up Lens 2+		Close-Up Lens 3+	
	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)
Inf	39	27 1/2	19 1/2	13 1/2	13 1/8	9 1/4
50	37	26	19 1/8	13	12 3/4	9
25	34 3/4	24 1/4	18 1/2	12 3/4	12 3/8	8 3/4
10	29 5/8	21	16 7/8	11 3/4	11 3/4	8 1/4
6	25 1/2	18	15 1/2	10 1/2	11 1/8	7 3/4
4	21 5/8	15	13 3/4	9 1/2	10 1/8	7
3	18 7/8	13 1/4	12 3/8	8 1/2	9 3/4	6 1/2

**Close-Up Data for KODAK RETINA Close-Up Lens Set, Type N/32**

(when used on the KODAK INSTAMATIC 500 Camera)

Measure all distances from the film plane, marked  $\phi$  on the top rear of the camera.

FOCUS SETTING (feet)	NI		NII		NI + NII	
	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)
Inf	38 1/8	24 1/8	20	12	14 1/2	8 1/8
20	33 1/2	21	18 7/8	11 1/8	14	7 7/8
10	29 5/8	18 1/2	17 5/8	10 3/8	13 1/8	7 1/2
5	24 3/4	15	15 5/8	9 1/8	12 1/8	6 5/8
3	20	12	14	7 7/8	11 1/8	6
2.5	18 1/2	10 1/2	13	7 1/8	10 3/4	5 3/4

You can also use Series 5 close-up lenses with your INSTAMATIC 500 Camera. You will need a 32mm adapter ring. Use the distance ranges and field sizes given in the table on page 11 for INSTAMATIC 700 through 814 Cameras. Measure the distances from the front of the close-up lens instead of from the film-plane mark on the camera.

**Close-Up Data for BROWNIE STAR Cameras**

All of the measurements given for lens-to-subject distances and field sizes are in inches.

Measure the lens-to-subject distance from the front of the close-up lens.

Close-Up Lens 1+		Close-Up Lens 2+		Close-Up Lens 3+		Close-Up Lens 5+ (2+ + 3+)	
SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)	SUBJECT DISTANCE	FIELD SIZE (Square)
32	25	17	13	12	10	7 1/2	6

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