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Outdoor Exposure Guide

for the Kodaks Junior Six-20 and Six-16 fitted with the Kodak Doublet Lens

SUBJECT	STOP OPENING	SHUTTER SPEED
Nearby landscapes showing little or no sky. Nearby subjects in open field, park or garden. Street scenes.	<i>f.11</i>	1/25
Ordinary landscapes showing sky, with a principal object in the foreground.	<i>f.16</i>	1/25
Marine and beach scenes. Distant landscapes. Snow scenes without prominent dark objects in the foreground. Mountains.	<i>f.22</i>	1/25
Portraits in the open shade, not under trees or the roof of a porch. Shaded nearby scenes. Narrow and slightly shaded streets.	<i>f.22</i>	B 1 sec.
Moving objects. When photographing a moving object such as a runner, train or an automobile, the subject should be moving towards or away from the camera at an angle of about 45 degrees.	<i>f.11</i>	1/100

Exposures are for the hours from one hour after sunrise until one hour before sunset on days when the sun is shining. If pictures are made earlier or later, or if it is a *slightly* cloudy or hazy day, use a larger stop opening. This table is for Kodak Verichrome, Super Sensitive Panchromatic and Panatomic Films; if using Kodak N. C. Film, exposures can be made from 2½ hours after sunrise until 2½ hours before sunset.

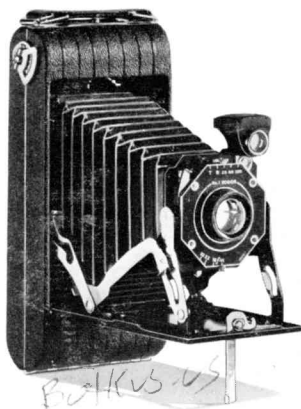
Kodak Super Sensitive Panchromatic Film is fifty per cent faster with morning or afternoon light, and three times faster with artificial light, than Kodak Verichrome Film.

The largest stop opening is *f.11*. The *higher* the number the *smaller* the opening.

Picture taking with the

Kodaks Junior Six-20 and Six-16

Kodak Doublet Lens



EASTMAN KODAK COMPANY
Rochester, New York, U. S. A.

SERVICE DEPARTMENT

ADDITIONAL ASSISTANCE FOR
MAKING BETTER PICTURES

ALTHOUGH we give in this manual the essential directions for using the camera it accompanies, there are amateurs who wish for further knowledge of photography.

The Service Department is at their service, *your* service.

Do not hesitate to call on us for information on any photographic subject.

*We are at your service, write to us—
there is no charge, no obligation.*

Address all Communications

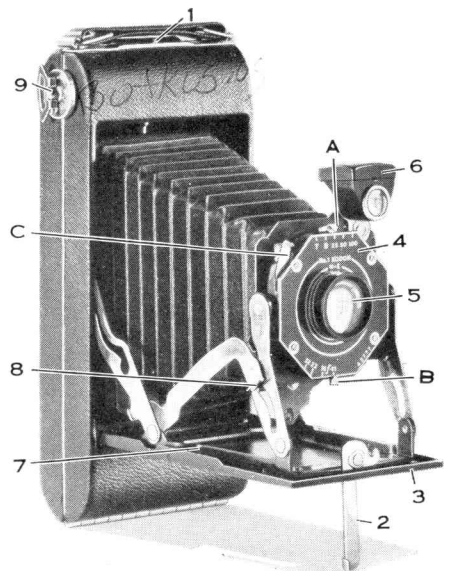
SERVICE DEPARTMENT
EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

Picture taking with the
**Kodaks Junior
Six-20 and Six-16**

Kodak Doublet Lens

Published by
EASTMAN KODAK COMPANY
ROCHESTER, N. Y., U. S. A.

THE CAMERA



- | | |
|------------------------------|------------------|
| 1. Lock for Back | 5. Lens |
| 2. Locking Lever and Support | 6. Finder |
| 3. Bed | 7. Tripod Socket |
| 4. Shutter | 8. Bed Braces |
| | 9. Winding Key |

A—Speed Indicator
B—Stop Opening Pointer
C—Exposure Lever

IMPORTANT

BEFORE loading your Kodak with film, and before taking any pictures with it, read these instructions carefully. Take especial care to learn how to operate the shutter.

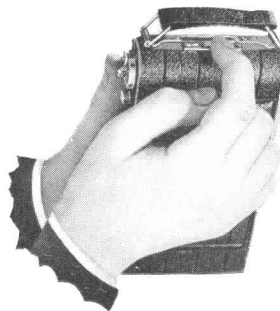
While loading and unloading, be very careful to keep the protective paper wound tightly around the film to prevent light striking it. The Kodak can be loaded or unloaded in daylight. This should be done in a subdued light, *not* in direct sunlight.

TO LOAD

Use film number:

V 620, SS620, F 620 or 620 for the Kodak Junior Six-20.

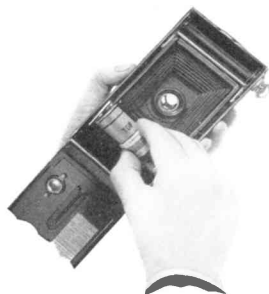
V 616, SS616, F 616 or 616 for the Kodak Junior Six-16.



Push the button of the lock towards the arrow.



Open the back.



Lift up the spool holder in the recess adjoining the hinge of the back and place the roll of film in it, springing out the flanges until the pins engage the holes in the spool. Make sure that the word "TOP" on the paper is on the side opposite the winding key.



Remove the paper band and pass the protective paper *over* the two rollers, and thread it through the *longer* slit in the empty reel, *as far as it will go*.



Turn the winding key once or twice to bind the paper on the reel, and be sure that the paper is started straight.

Close the back, pressing it so that the spring lock snaps into place, securely fastening the back.



Push the round slide that covers the red window on the back of the Kodak in the direction of the arrow.

Turn the winding key, watching the red window. After a few turns, a warning hand will appear; then turn slowly until the figure 1 is in the center of the window.



Push back the slide over the red window. This slide prevents fogging when using Super Sensitive Panchromatic or Panatomic Film, and makes it unnecessary to use the adhesive fabric included with each roll of the film.

The film is now in position for the first exposure. After each exposure be

sure to wind the film, bringing the next number into position. This prevents making two pictures on the same section of film.

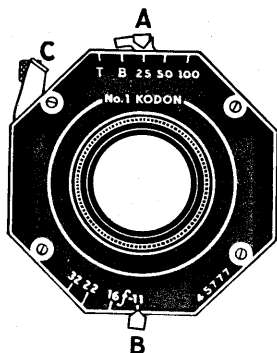
OPENING THE FRONT

Raise the locking lever and draw down the bed until it locks; this automatically brings the lens and shutter into position.



The Kodaks Junior Six-20 and Six-16, when fitted with the Kodak Doublet Lens, are fixed focus models, and therefore no further adjustments for focusing are necessary.

THE SHUTTER



- A—Speed Indicator
B—Stop Opening Pointer
C—Exposure Lever

Instantaneous Exposures

Move indicator A to 25, 50, or 100 (see Exposure Guide on back cover or table on pages 11 and 12).

Move pointer B to the correct stop opening (see Exposure Guide on back cover or table on pages 11 and 12).

The Kodon Shutter has the stop openings and shutter speeds engraved

on the *top* of the shutter as well as on the *front*, for greater convenience when making pictures with the Kodak in the vertical position.

Press lever C. *This makes the exposure.*

Time Exposures

Move indicator A to the letter "T."

Move pointer B to *f*.11, 16, 22 or 32, according to the time of exposure and nature of the subject. See tables on pages 11, 12, 23, 24 and 28.

Press lever C. This *opens* the shutter. Time the exposure by a watch. Again press lever C. This *closes* the shutter.

For short time exposures from one-half second to ten seconds, "Bulb" Exposures are recommended.

"Bulb" Exposures

Move indicator A to the letter "B."

Move pointer B to *f*.11, 16, 22 or 32. See pages 11, 12, 23, 24 and 28.

Press lever C to open the shutter which will remain open as long as lever C is held down.

Time and "Bulb" Exposures must

never be made with the Kodak held in the hands.

Important: *Never oil the shutter.* In case of accident, return the camera to your dealer or to us for repairs.

Cable Release: A cable release (No. 29) can be used with the Kodak if desired, but the camera should not then be closed without first removing the cable release.

To attach the cable release, remove the screw directly behind the lever C and replace it with the cable release. After using the cable release, detach it and replace the screw in the opening. The screw may be loosened and tightened with a small coin.

STOP OPENINGS

The stop openings regulate the amount of light passing through the lens. The openings are enlarged or reduced by moving the pointer B, see page 8.

The largest stop opening is *f.11*. This opening allows approximately twice the light to enter the lens as *f.16*; *f.16* admits twice the light of *f.22*; and *f.22* twice the light of *f.32*.

Therefore, if the correct exposure is 1/100 second at *f.11* the same amount of exposure would be obtained with *f.16* and 1/50 second, and 1/25 second with *f.22*.

f.11—For all ordinary outdoor pictures, such as nearby landscapes showing little or no sky, groups and street scenes, when the subject is in bright sunlight, use speed 25; for moving objects in very bright sunlight, use speed 100.

f.16—For open views, when the sunlight on the subject is *unusually strong* and there are no heavy shadows, such as views at the seashore and on the water, use speed 50; for ordinary landscapes, in bright sunlight, with clear sky overhead, use speed 25; also for Interior Time Exposures, the time for which is given on page 24.

f.22—For instantaneous exposures of extremely distant landscapes, marines, snow scenes without prominent dark objects in the foreground, and clouds only, in bright sunlight, use speed 25; also for Time Exposures.

f.32—For Time Exposures Outdoors

on cloudy days, see page 28. For Interior Time Exposures, see pages 23 and 24. *Never for instantaneous exposures. Failure will result, if stop f.32 is used for instantaneous exposures.*

The smaller the stop opening the sharper the nearby objects will be.

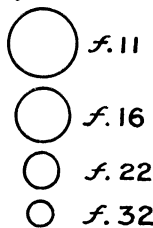
All the exposures given for outdoor subjects are for the hours from one hour after sunrise until one hour before sunset, when using Kodak Verichrome, Super Sensitive Panchromatic or Panatomic Film. If Kodak N. C. Film is used, exposures can be made from 2½ hours after sunrise until 2½ hours before sunset. If earlier or later the exposures must be longer.

For a subject in the shade, under the roof of a porch or under a tree, a time exposure must be made, see page 28. When making pictures under these conditions, the camera must be placed on some steady, firm support.

NEARNESS OF SUBJECT

To get the subject sharp and distinct in the picture, the Kodak must not be nearer than a certain number of feet to the subject. This distance

varies with the size of the stop opening used; the smaller the opening the shorter the distance. When using f.11 the distance between the Kodak and subject must be at least ten feet.

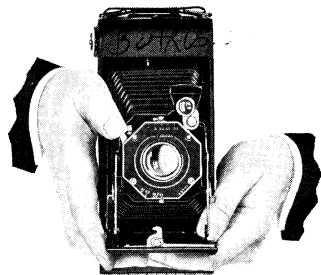


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These circles are the same size as the stop openings of the shutters used on the Kodaks Junior Six-20 and Six-16. They show the relative sizes of the various stop openings and how their areas differ.

THE FINDER

The finder shows what will appear in the picture, but on a much reduced scale. It can be turned quickly for either vertical or horizontal pictures, see diagrams on page 15.

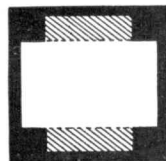
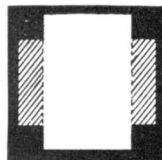




When making instantaneous exposures or snapshots with any Kodak, hold it firmly against the body as shown. When pressing the exposure lever, hold the breath for the instant. If the Kodak is moved during the exposure, the picture will be blurred.

Look into the finder from directly over the center of it and include what is wanted by turning to the right or left, see illustration on page 14.

To make a vertical picture, hold the Kodak as shown on page 13. Only what is seen in that part of the finder shown as white in the diagram, will appear in the picture.



To make a horizontal picture, turn the finder and hold the Kodak as shown above. Only what is seen in that part of the finder shown as white in the diagram, will appear in the picture.

MAKING INSTANTANEOUS EXPOSURES OR SNAPSHOTS

When ordinary instantaneous exposures or snapshots are made, the subject should be in the broad, open sunlight, but the camera must not. The sun should be behind your back or over the shoulder. If it shines directly into the lens it will blur and fog the picture.

Special instructions for making portraits are given on pages 25 to 27.

HOLD THE KODAK LEVEL



Effect produced by tilting the Kodak.

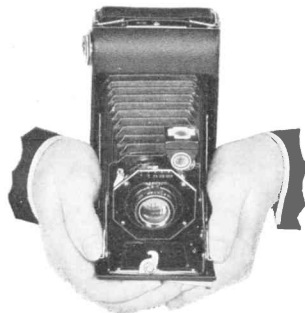
The Kodak must be held level. If all the subject cannot be included in the finder without tilting the lens upwards, move backwards until it is all included *with the camera held level*.

If the subject is below the normal height, like a small child or a dog, the Kodak should be held down level with the center of the subject.



After an exposure has been made, turn the winding key slowly, a few times, until No. 2 (or the next number) is in the center of the red window.

CLOSING THE KODAK



Close the Kodak by pressing the knurled flanges on each side of the front standard, as shown on page 17. The front and bellows fold automatically. Be sure the finder is in the upright position.

After the bed is closed, be sure it is properly locked.

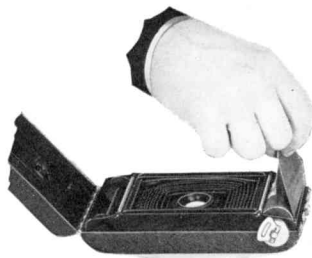
REMOVING THE FILM

After the last section of film has been exposed, turn the winding key until the end of the paper passes the red window.

In a subdued light, open the back of the Kodak, see pages 3 and 4.



Hold the end of the paper taut and turn the key until all the paper is on the roll. If the sticker folds under the roll, turn the key to bring it up.



Take hold of the ends of the paper and sticker to prevent the paper from loosening. Draw out the key and remove the film. Fold under about half-an-inch of the protective paper, and fasten it with the sticker.

“Cinch” Marks: After removing the film from the Kodak, do not wind it tightly with a twisting motion, or the film might be scratched.

Wrap up the exposed film. It is now ready for development. This may be done by a photo finisher, or by yourself. Our Service Department will be glad to send you, upon request, complete instructions for developing and printing.

Important: Film should be developed as soon as possible after exposure. The quality of the image on all sensitized products is retained by prompt development after exposure.

Remove the empty spool and place it in the winding end of the camera,

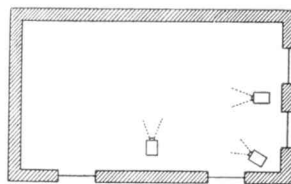


with the slotted end of the spool next to the winding key. The Kodak is now ready for reloading.

It is a good plan to reload the Kodak as soon as an exposed film has been removed, to be ready for the next pictures. For the best results, load with Kodak Film.

TIME EXPOSURES—INDOORS

For time exposures the camera must always be placed on a firm support like a tripod, Optipod, table or chair, *never* hold it in the hands. The Kodak has one tripod socket for use with a tripod, an Optipod or a Kodapod, with the Kodak in the vertical position.



Place the Kodak in such a position that the finder will include the view desired. The above diagram shows three positions for the camera. It should not be pointed at a window as the glare of light will blur the picture. If all the windows can not be avoided, draw the shades of those within range of the lens.

If the Kodak is placed on a table, for making a vertical picture, use the locking lever 2 as a support. The

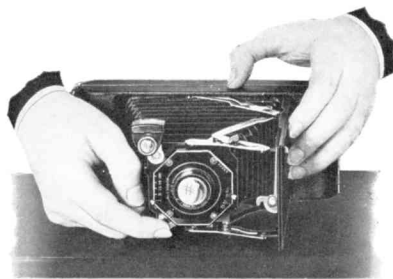
camera must not be more than two or three inches from the edge of the table.

To make a horizontal picture, turn the finder and place the camera in the position shown in the illustration on page 23.



Adjust the shutter for a time exposure as described on page 9.

All being ready, press the exposure lever carefully, once to open, time the exposure by a watch, and again press the exposure lever to close the shutter.



After making an exposure, turn the winding key until the next number appears in the red window.

If no more time exposures are to be made, adjust the shutter for an instantaneous exposure, see page 8.

Exposure Table for Interiors

The table on page 24 gives suitable exposures for varying conditions of light, when using stop $f.16$.

With stop $f.11$, give one-half;
 " " $f.22$, " twice;
 " " $f.32$, " four times
 the exposures given in the table.

The smaller the stop opening the sharper the nearby objects will be. Stop $f.16$ gives the best average results for Interiors.

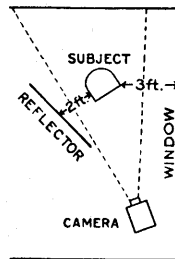
EXPOSURE TABLE FOR INTERIORS USING STOP *f*.16

	Bright sun	Hazy sun	Cloudy bright	Cloudy dull
White walls and more than one window.	4 secs.	10 secs.	20 secs.	40 secs.
White walls and only one window.	6 secs.	15 secs.	30 secs.	1 min.
Medium colored walls and furnishings and more than one window.	8 secs.	20 secs.	40 secs.	1 min. 20 secs.
Medium colored walls and furnishings and only one window.	12 secs.	30 secs.	1 min.	2 mins.
Dark colored walls and furnishings and more than one window.	20 secs.	40 secs.	1 min. 20 secs.	2 mins. 40 secs.
Dark colored walls and furnishings and only one window.	40 secs.	1 min. 20 secs.	2 mins. 40 secs.	5 mins. 20 secs.

These exposures are for rooms where windows get the direct light from the sky and for hours from three hours after sunrise until three hours before sunset. If earlier or later the exposures must be longer.

TO MAKE A PORTRAIT

The subject should be seated in a chair partly facing the light with the body turned slightly away from, and the face turned towards the Kodak which should be a little higher than an ordinary table. The subject should look at an object level with the lens or directly at the lens. Compose the picture in the finder. For a three-quarter figure the Kodak should be about eight feet from the subject; and for a full-length figure, about ten feet. Stop *f*.16 or a smaller stop opening should



be used. The background should form a contrast with the subject; a light background usually gives a better effect than a dark one. To get a good light on the face, follow the arrangement shown in the diagram. A reflector helps to get detail in the shaded part of the face. A white towel or table cloth held by an assistant or thrown over a screen or other high piece of furniture will make

a suitable reflector; it should be at an angle and in the position indicated in the diagram on page 25.

Making Portraits Outdoors

When making portraits outdoors, with the sun shining brightly, the subject should be in the shadow of a building or a large tree, but with clear and unobstructed sky overhead. Place the Kodak on a tripod or other steady support, use stop *f.22* or *f.32* and make a Time Exposure ("Bulb") of about one or two seconds. By following this rule unpleasant and distorting shadows on the face will be avoided.

Kodak Portrait Attachment

The Kodak Portrait Attachment makes head and shoulder portraits. It can also be used for photographing flowers and similar subjects.

Place the Attachment over the lens and compose the picture in the finder. Turn the Kodak just a *little* to the left, as the short distances at which the subject must be from the lens make it necessary to center the subject by eye instead of by the finder.

The subject must be exactly $3\frac{1}{2}$ feet from the lens. Measure the distance carefully from the lens to the face.

The same exposure is required as without the Attachment.

Use the *Kodak Portrait Attachment No. 13*, with the Kodaks Junior Six-20 and Six-16, with Kodak Doublet Lens.

Kodak Diffusion Portrait Attachment

The Kodak Diffusion Portrait Attachment is a supplementary lens used in the same manner as the regular Kodak Portrait Attachment. It produces a true, soft-focus effect.

Use the *Kodak Diffusion Portrait Attachment No. 13*, with the Kodaks Junior Six-20 and Six-16, with the Kodak Doublet Lens.

"AT HOME WITH YOUR KODAK" is a booklet containing many diagrams and illustrations showing various lighting effects. It gives suggestions for making pictures, in and around the home.

"PICTURE TAKING AT NIGHT" is a booklet that describes in detail the methods of making pictures by electric

light, flash-light exposures, campfire scenes, fireworks, lightning, moonlight effects, silhouettes and other unusual pictures.

These two booklets are free, and copies of them will be sent upon request to our Service Department.

TIME EXPOSURES—OUTDOORS

When the smaller stop openings ($f.22$ or $f.32$) are used, the light passing through the lens is so much reduced that very short time exposures may be made outdoors.

With Light Clouds—From one to three seconds will be sufficient.

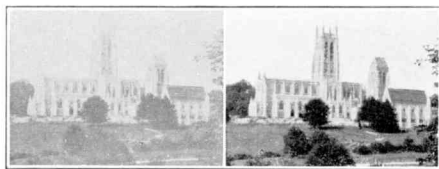
With Heavy Clouds—Four seconds to eight seconds will be required.

With Sunshine—Time Exposures should not be made.

When making time exposures the Kodak must be placed on some steady, firm support, do not hold it in the hands or the picture will be blurred.

CLEAN LENSES

The pictures on page 29 illustrate the difference between results with a dirty and clean lens.



Made with Dirty Lens. Made with Clean Lens.

Lenses should be cleaned as follows:

Open the back of the Kodak, see pages 3 and 4, then open the front as described on page 7. Wipe the front and back of the lens with a clean handkerchief. Never unscrew the lens.

Keep Dust Out of the Camera

Wipe the inside of the camera and bellows, occasionally, with a slightly damp cloth, especially if the camera has not been used for some time.

EASTMAN KODAK COMPANY,
ROCHESTER, NEW YORK.

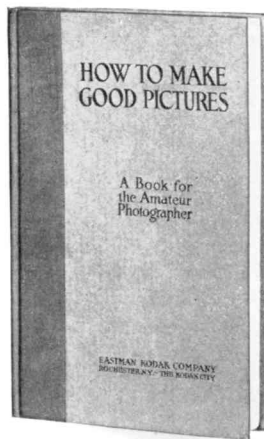
PRICE LIST

KODAK VERICHROME FILM, V 620, for the Kodak Junior Six-20, $2\frac{1}{4} \times 3\frac{1}{4}$, eight exposures	\$.30
KODAK SUPER SENSITIVE PANCHROMATIC FILM, SS 620, $2\frac{1}{4} \times 3\frac{1}{4}$, eight exposures35
KODAK PANATOMIC FILM, F 620, $2\frac{1}{4} \times 3\frac{1}{4}$, eight exposures35
KODAK N. C. FILM, 620, $2\frac{1}{4} \times 3\frac{1}{4}$, eight exposures25
KODAK VERICHROME FILM, V 616, for the Kodak Junior Six-16, $2\frac{1}{2} \times 4\frac{1}{4}$, eight exposures35
KODAK SUPER SENSITIVE PANCHROMATIC FILM, SS 616, $2\frac{1}{2} \times 4\frac{1}{4}$, eight exposures40
KODAK PANATOMIC FILM, F 616, $2\frac{1}{2} \times 4\frac{1}{4}$, eight exposures40
KODAK N. C. FILM, 616, $2\frac{1}{2} \times 4\frac{1}{4}$, eight exposures30
KODAK PORTRAIT ATTACHMENT, No. 13, for the Kodaks Junior Six-20 and Six-1675
KODAK DIFFUSION PORTRAIT ATTACHMENT, No. 13	1.25
KODAK SKY FILTER, No. 13	1.15
KODAK COLOR FILTER, No. 13	1.15
KODAK PICTORIAL DIFFUSION DISK, No. 13	1.75

KODAK METAL TRIPOD, No. 0	\$ 2.75
No. 1	4.50
No. 2	5.00
OPTIPOD, for attaching camera to the edge of a table, chair, fence, etc.	1.25
KODAPOD, for attaching camera to a tree, fence or similar rough surface ...	1.75
CABLE RELEASE, No. 29, for the Kodak Junior Six-20 or Six-1635
KODAK SELF TIMER, fits on the cable release and automatically presses the push-pin, enabling the photographer to be included in the picture	1.25
KODAK NEGATIVE ALBUM, to hold 100 $2\frac{1}{2} \times 4\frac{1}{4}$, $2\frac{1}{4} \times 3\frac{1}{4}$, or smaller negatives	1.25

All prices subject to change without notice.

EASTMAN KODAK COMPANY,
ROCHESTER, NEW YORK.



A PRACTICAL book for amateurs. It describes in a simple, understandable way every phase of photography that they are likely to be interested in, such as various methods of making exposures, developing, printing, enlarging, coloring, making lantern slides, and other interesting subjects. Profusely illustrated.

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IMPORTANT

This manual should be read thoroughly, before you make any pictures.

While loading and unloading the camera, be very careful to keep the protective paper wound tightly around the film to prevent light striking it.

Before making an exposure be sure that the shutter is adjusted properly, for an instantaneous or time exposure, whichever is required. Use the correct stop opening and speed. An unexposed section of film must be in position.

The sun must be behind your back or over the shoulder. If the sun shines directly into the lens it will blur and fog the picture.

Hold the camera *level*.

Hold the camera *steady* when making instantaneous exposures or snapshots. The camera should be held firmly against the body and when pressing the exposure lever, hold the breath for the instant. If the camera is moved during the exposure, the picture will be blurred.

Turn a new section of film into position immediately after making an exposure. This prevents making two pictures on the same section of film.

Keep the lens and inside of camera clean.

Never oil the shutter.

Instructions for making time exposures, indoors and outdoors, are included in this manual.

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

12-34-CH-20

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