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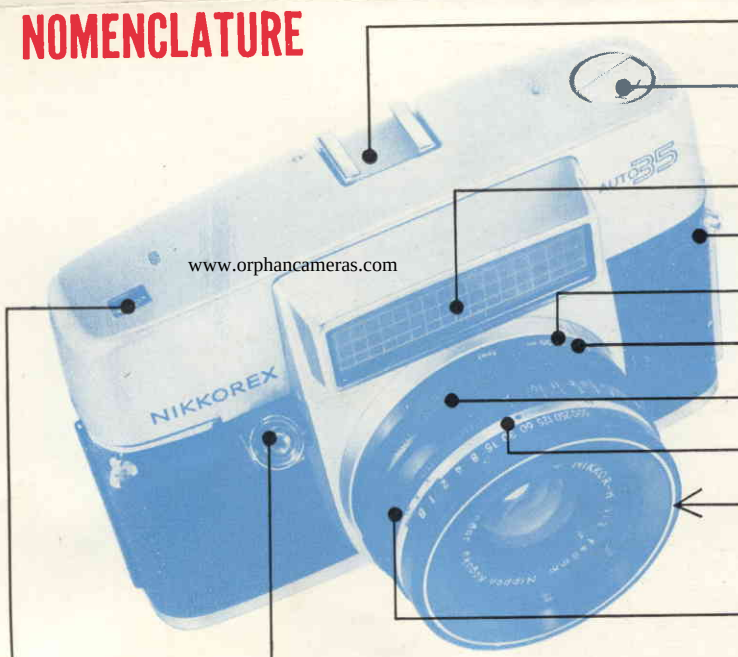
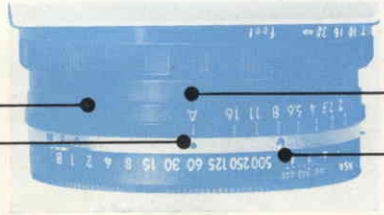
NIKKOREX

AUTO 35

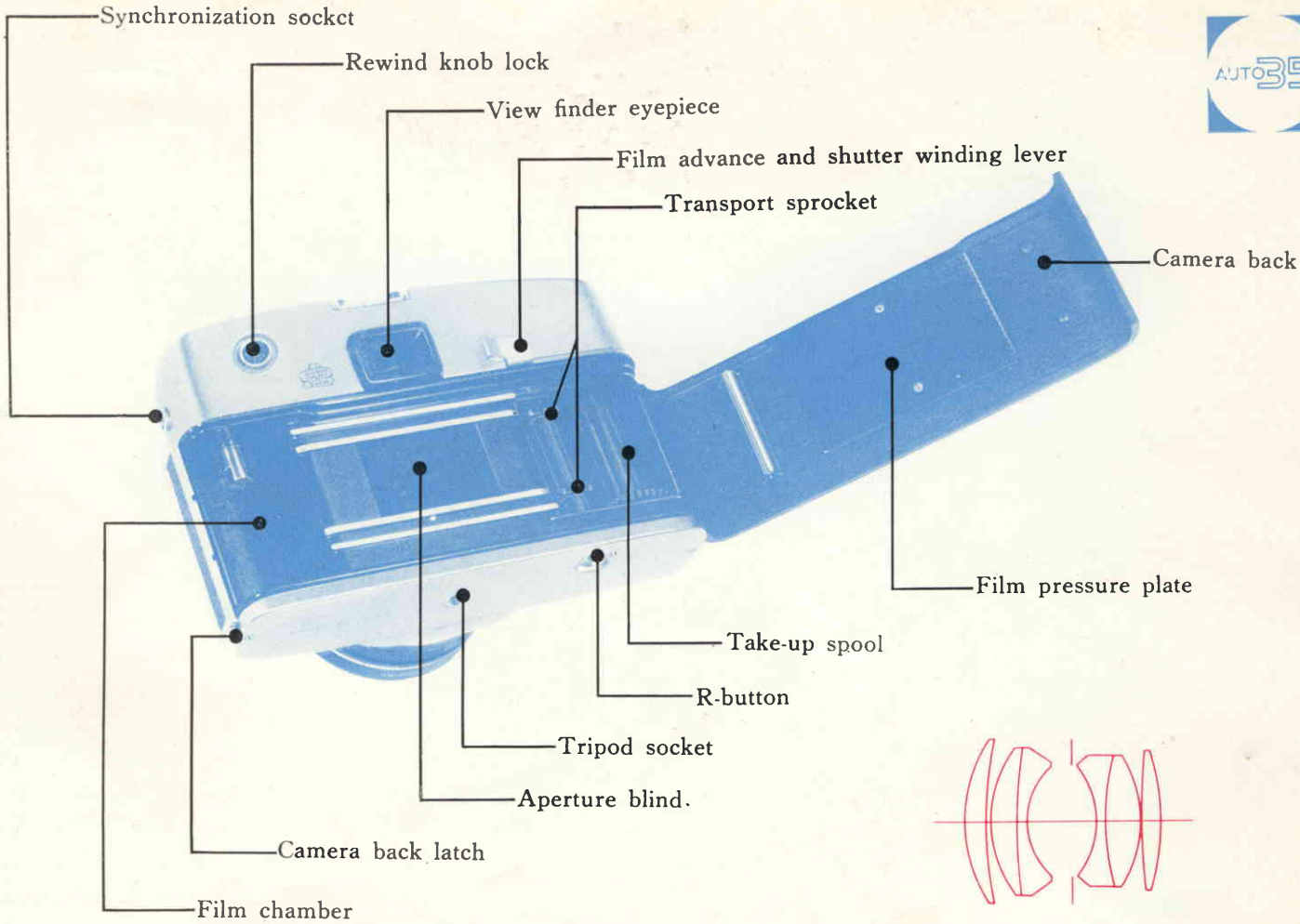
NOMENCLATURE



- Accessory shoe
- Rewind knob with lift-up crank
- Exposure meter window
- Eyelet for neck strap
- Infra-red mark
- Distance index line
- Distance scale ring
- Index dot for aperture and shutter speed setting
- Film speed ring lock (behind here)
- Synchronization and self-timer selector
- Shutter release button
- Exposure counter



- Aperture ring
- Shutter speed ring
- Automatic exposure setting mark
- Film speed (ASA) ring



AUTO 35

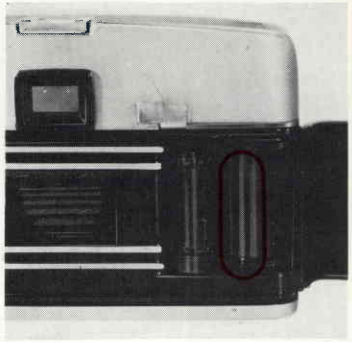
CONTENTS

SPECIFICATIONS

Film to be used:	Black-and-white or color 35 mm film of 36 or 20 exposures in the standard cartridge.
Picture size:	24×36 mm
Lens:	Nikkor H, F:2, f=48 mm Closest focus distance: 2.5 ft. (0.7 m)
Aperture setting:	2, 2.8, 4, 5.6, 8, 11, 16 and A (automatic)
Shutter:	Seikosha SLV Type 301 GA 11
Shutter speeds:	B, 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250 and 1/500 sec. With built-in self-timer.
View finder:	Prismatic, eye-level type, giving erect and unreversed image which is always extremely bright.
Reflecting mirror:	Instantly returns to viewing position after releasing shutter.
Film advance and shutter charging:	Actuated by 190° single stroke (incl. 10° clearance angle) winding.
Exposure counter:	Automatically resets to pre-zero position.
Film rewinding:	Collapsible knob with lift-up crank. Pushing R-button under the camera precedes rewinding.
Electric eye:	Automatically adjusts the lens aperture by shutter speed setting. Operating range: LV 7–17 (at ASA 100) ASA setting: 10–400 F-number to be set is shown by the pointer needle visible at the left in the viewfield. Manual control is possible.
Flash synchronization:	PC socket. M and X contacts are set by the lever on the lens barrel.
Camera body:	Die-cast. With hinged camera back.
Attachment size:	40.5 mm, P=0.5 mm
Dimensions of camera:	3 5/8 in. (93 mm)×5 3/4 in. (144 mm)×3 in. (74 mm)
Weight of camera:	30.3 oz. (860 g) approx.
Accessories:	Lens hood. Filters. Eveready leather cases (hard and semi-soft) with shoulder strap. Neck strap for camera body. Front lens cap. Wide-angle (35 mm F:4) and telephoto (85 mm F:4) conversion lenses. Close-up attachment lenses No. 11 (1.5 dptr.) and No. 12 (3 dptr.). Eyepiece correction lenses for viewfinder. Binocular adapter. Telescope adapter. Photomicrographic adapter.

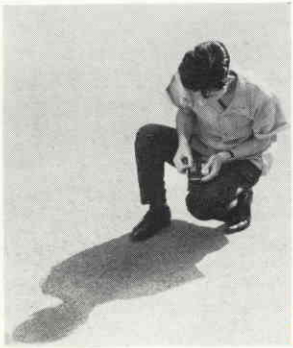
AUTO 35

LOADING

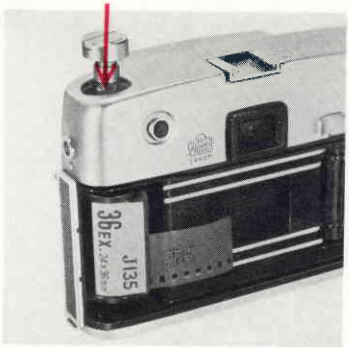


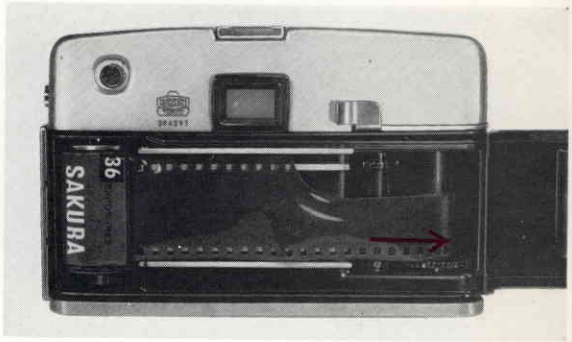
1 Pull down the latch on the side of the camera. The camera back will pop open so that it can be lifted and swung out.

2 Rotate the take-up spool until the slit in the spool turns upward.



Loading should be made in subdued light, never in direct sunlight. In the sun, do it in the shade of your body.





3

Push the rewind knob lock on the camera back to the left. The rewind knob will spring up. Pull it up further by hand.

4

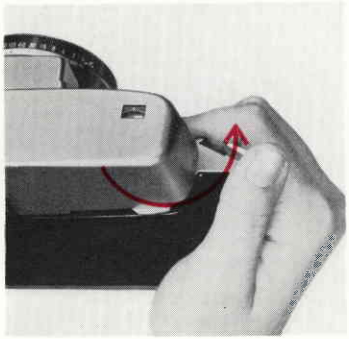
Place the film cartridge into the camera facing the end of the cartridge containing the cross piece toward the rewind knob. When the film cartridge has been placed in position, push in the rewind knob.

5

Pull out the film from the cartridge about 4 inches, making sure that the emulsion side faces toward the lens. Insert the trimmed end of the film into the slot in the take-up spool. Gige the take-up spool about one revolution clockwise to catch the film securely, and engage the teeth of the transport sprocket into the perforation holes of the film.

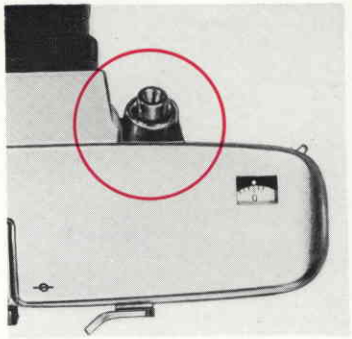
6

Close the camera back securely. Be certain it clicks shut.
Wind up the lever gently as far as it will go to advance the film one picture frame.



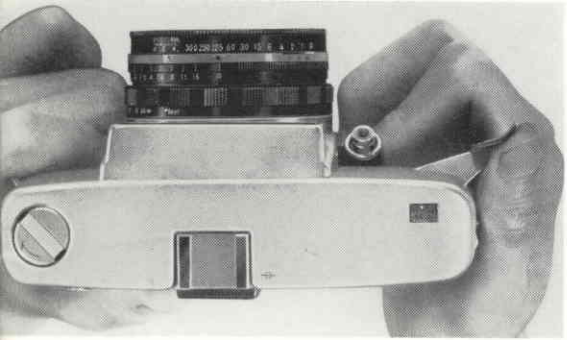
7

Lift up the crank on the rewind knob and turn it in the direction of the arrow on the knob to remove the film slack in the cartridge. Thereafter, return the rewind knob in position, while pushing the lock to the left.



8

Now, release the shutter by depressing the release button on the camera front.



9

Wind up the lever again. In so doing, note that the rewind knob rotates in the direction opposite to the arrow on the knob, indicating that the film is correctly loaded and is being advanced. Release the shutter. Wind up the lever for the third time. The exposure counter will register 1. The camera is now ready for the first shot.

FILM ADVANCE AND SHUTTER WINDING

In the Nikkorex Auto 35, film advance and shutter cocking are performed simultaneously with a single stroke of the lever.

If the lever has not been wound completely, it will not swing back in position and the shutter cannot be released.

Unless the shutter has been released, the lever cannot be wound for the next exposure.

As the film is advanced and exposed, the number of the exposed picture frames is automatically registered on the exposure counter on top of the camera. When the film comes to an end which is indicated on the exposure counter, the lever will not move. **Never wind it further nor try to pull it back with force.** Depress the R-button on the camera bottom and proceed to rewinding (See p. 18).

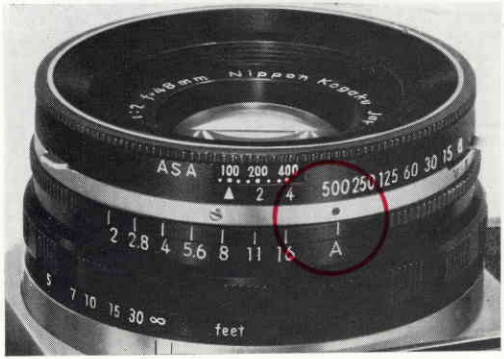
FILM SPEED SETTING

After loading the camera, set the film speed (ASA). Pressing the lock on the side of the lens (see Fig. below) allows the turning of the front milled ring until the film speed (ASA) index comes opposite the red triangle. The film speed is rated in ASA from 10 to 400. Twice ASA index indicates twice film speed.

10	12				32		50			100			200			400	
10			20			40			80			160			320		
	12			25			50			100			200			400	
		16			32			64			125			250			

Every film on the market is available with its ASA speed. In addition, most black-and-white films are furnished with the ASA speed for the lighting by tungsten (artificial) light.

AUTOMATIC EXPOSURE SETTING



The Nikkorex Auto 35 incorporates an electric eye which automatically sets the aperture diaphragm for the correct exposure, depending upon the film speed and shutter speed. When using automatically, the red "A" on the aperture ring of the lens is alined with the black index dot.

SHUTTER SPEED SETTING

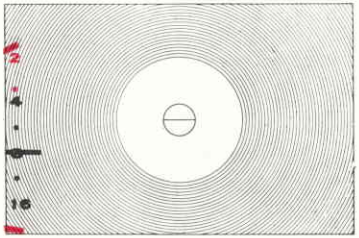
When a subject moving rapidly is to be photographed, select a fast shutter speed.
Shutter speed can be set before or after the shutter is wound up. The setting is performed by bringing the speed number on the speed ring opposite the black index dot on the white ring.
All the speeds except "B" couple to the electric eye in the camera.
The shutter speed ring cannot be set to "B" at ASA 200 and to "B" or 1 sec. at ASA 400.

Setting the shutter speed to 500 at ASA 10 on the filter factor 2 as well as to 250 or 500 on the filter factor 4 are also impossible.

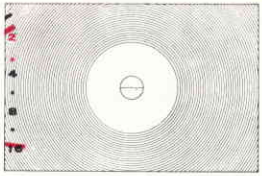
Choose an appropriate shutter speed for the subject to be photographed according to the film speed (ASA) and the weather conditions as below.

Film Speed \ Weather	☀	⛅	☂
ASA 10 32 50	1/125sec.	1/60 sec.	1/30 sec.
ASA 100 200	1/250 or 1/500sec.	1/125sec.	1/60 sec.

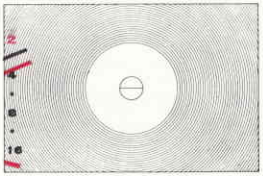
CHECKING FOR CORRECT EXPOSURE



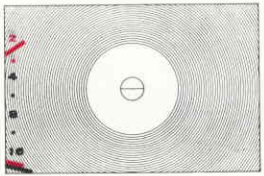
With the aperture ring set at "A", (electric eye operating), the correct lens aperture is automatically set for the subject in accordance with the film speed (ASA) and shutter speed selected. At this time, in the viewfield of the finder the black pointer needle will come in sight between two red needles, showing you the F-number for the correct exposure. The above fig. shows an example where the needle indicates F : 8. The aperture will automatically be stopped down to F : 8 when the shutter is released, giving the proper exposure for the subject you are photographing. If the black needle swings out of either red needle, this indicates that no correct exposure can be obtained with the preselected shutter speed and film speed. Then proceed, for example, as follows :



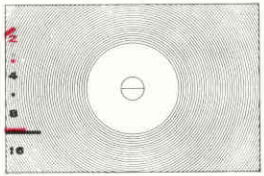
a. If the position of the black needle is outside of the upper red needle as shown here, select a slower shutter speed.



b. If the black needle is outside of the upper red needle and inside of the numeral 2, the use of flash or flood light may be needed.



c. If the position of the black needle is outside of the lower red needle as shown here, select a faster shutter speed.



d. If the black needle is outside of the lower red needle and inside of the numeral 16, the use of a neutral filter may be needed.

– Exposure setting on the basis of aperture –

The aperture ring being set at "A", you can set, according to the aperture you chose, the shutter speed for the correct exposure by turning the shutter speed ring until the meter needle in the viewfield of the camera's finder comes to the preselected F-number. The aperture diaphragm will be stopped down to the preset F-number at the instant you release the shutter by pushing the shutter release button.

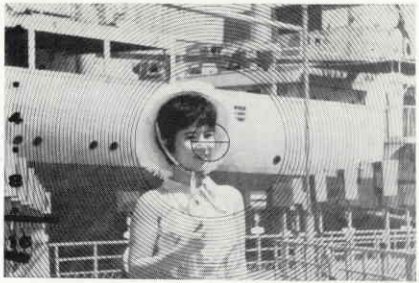
MANUAL EXPOSURE SETTING

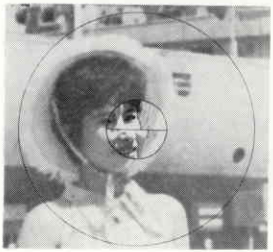
The electric eye exposure meter measures the average brightness of the scene covered by the light acceptance angle of the meter.

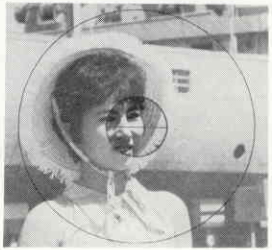
If a subject is being photographed with different backgrounds (one light, the other dark) the exposure meter might give different values because of the background illumination. This could result in an under or over exposure. Depending on the lighting conditions, you may in certain instances have to compensate for this possibility by moving the aperture ring from its automatic setting ("A") to any other position, and using the exposure meter manually. Therefore, you, use the electric eye as a coupled exposure meter.

AUTO 35

FOCUSING AND COMPOSING







When you look through the eyepiece of the viewfinder, you will see a Fresnel-lined finder field enclosing in the center a circular split-image rangefinder section and an intermediate mat portion without the Fresnel lines.

When out of focus, subjects are seen as a split-image in the center and at the same time are blurred in the remaining area of the finder field. If a subject is in sharp focus, the split-image becomes complete and continuous and the image appears sharp in the remaining area. To bring your subject into sharp focus, turn the focusing ring on the lens to the right or left. To determine the exact distance from the camera to the subject on which you have focused, look at the figure on the distance scale, opposite the black index.

This single lens reflex camera permits you to see in its viewfinder exactly the same image that will be recorded on the film.

CAMERA HOLDING

Correct holding of the camera while releasing shutter is of utmost importance to avoid camera movement. Therefore, before taking picture, learn and practice correct gripping of the camera thoroughly.

– Horizontal camera position –

Place your lefthand ring finger and small finger under the camera bottom, holding with your thumb and index finger the focusing ring of the lens. Grasp the camera securely with your righthand, cradling the lower right-corner of the camera in the palm of this hand. Use the righthand thumb to advance the film and the index finger for depressing the shutter release button.

– Vertical camera position –

Refer to the examples shown in the illustrations. Be certain to rest the camera back against your face and your elbow against your body.
It is important that no finger should cover the exposure meter window or the front of the camera lens.

For speeds shower than 1/30 sec. a tripod or some other support and a cable release should be used to avoid any possibility of camera movement.

Depth of Field Table for NIKKOR-H 48 mm F : 2

Lens Setting (ft)	Depth of Field (ft)						
	F / 2	2.8	4	5.6	8	11	16
∞	113′ ~ ∞	80′ 8″ ~ ∞	56′ 6″ ~ ∞	40′ 4″ ~ ∞	28′ 3″ ~ ∞	20′ 7″ ~ ∞	14′ 2″ ~ ∞
30	23′ 10″ ~40′ 7″	22′ ~47′ 4″	19′ 9″ ~63′ 1″	17′ 5″ ~ 113′	14′ 9″ ~ ∞	12′ 5″ ~ ∞	9′ 10″ ~ ∞
15	13′ 4″ ~17′ 2″	12′ 9″ ~18′ 3″	12′ ~20′ 2″	11′ 1″ ~23′ 6″	9′ 11″ ~31′ 1″	8′ 9.6″ ~52.6″	7′ 5″ ~ ∞
10	9′ 2.7″ ~10′ 11″	8′ 11.4″ ~11′ 4″	8′ 6.7″ ~ 12′	8′ 1.1″ ~13′ 1″	7′ 5.8″ ~15′ 1″	6′ 10.1″ ~18′ 9″	5′ 11.9″ ~31′ 8″
7	6′ 7.4″ ~7′ 5.1″	6′ 5.7″ ~7′ 7.4″	6′ 3.3″ ~7′ 11″	6′ 0.3″ ~8′ 4.3″	5′ 8.3″ ~9′ 1.6″	5′ 3.8″ ~10′ 3″	4′ 9.6″ ~13′ 2″
5	4′ 9.7″ ~5′ 2.5″	4′ 8.8″ ~5′ 3.6″	4′ 7.6″ ~5′ 5.2″	4′ 6″ ~5′ 7.6″	4′ 3.7″ ~5′ 11.6″	4′ 1.2″ ~6′ 5.2″	3′ 9.5″ ~7′ 5″
4	3′ 10.6″ ~4′ 1.5″	3′ 10″ ~4′ 2.2″	3′ 9.2″ ~4′ 3.2″	3′ 8.2″ ~4′ 4.6″	3′ 6.7″ ~4′ 6.9″	3′ 5″ ~4′ 10.1″	3′ 2.5″ ~5′ 4.4″
3.5	3′ 4.9″ ~3′ 7.1″	3′ 4.5″ ~3′ 7.6″	3′ 3.9″ ~3′ 8.4″	3′ 3.1″ ~3′ 9.4″	3′ 2″ ~3′ 11.1″	3′ 0.6″ ~4′ 1.4″	2′ 10.6″ ~4′ 5.7″
3	2′ 11.3″ ~3′ 0.8″	2′ 10.9″ ~3′ 1.2″	2′ 10.5″ ~3′ 1.7″	2′ 9.9″ ~3′ 2.4″	2′ 9.1″ ~3′ 3.6″	2′ 8.1″ ~3′ 5.2″	2′ 6.6″ ~3′ 8.1″
2.5	2′ 5.5″ ~2′ 6.6″	2′ 5.3″ ~2′ 6.8″	2′ 5″ ~2′ 7.1″	2′ 4.6″ ~2′ 7.6″	2′ 4″ ~2′ 8.4″	2′ 3.3″ ~2′ 9.4″	2′ 2.3″ ~2′ 11.2″

The depth of field is measured from the film plane marked ⊖ on top of the camera.
Disc of confusion : 1/750 in. dia.

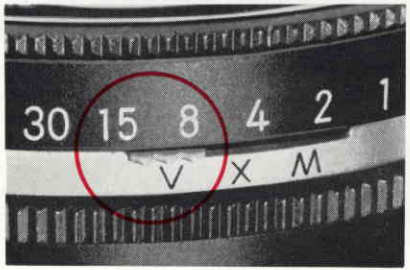
DEPTH OF FIELD

Depth of field is the range of distance between the nearest and the farthest limits of a subject, within which acceptable image sharpness is attained. The sharpest image is at the point at which the lens is focused. The depth of field varies with the lens aperture (F-number) and with the focused distance. The larger the F-number used, the greater the depth of field, in reverse, the smaller the F-number, the smaller the depth of field. Depth of field also increases as the distance from the camera to subject increases.

A great depth of field is not always desirable. If a subject is to be emphasized clearly against a background, for example in portraiture or still life photography, we often throw the background out of focus by limiting the depth of field.

In reverse, for snapshots, etc. we close down the lens to gain a greater depth of field, since this may help us determine selection of the actual shot.

SELF-TIMER

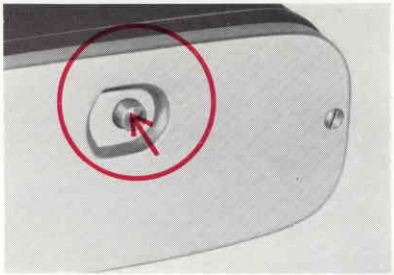


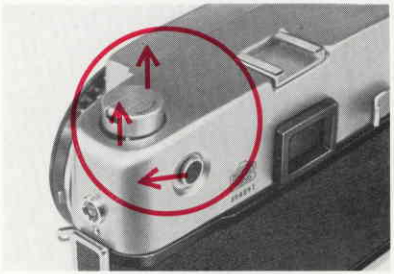
Self-timer is a device which delays the action of the shutter after the shutter release button is depressed. It is necessary if the photographer himself wishes to be in the picture.

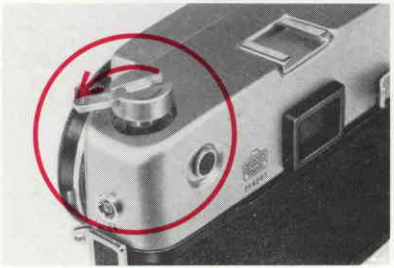
To set the self-timer, depress and move the flash synchronization selector up to V mark. To start the timer, depress the shutter release button. The shutter will automatically be released after 10 sec. **If the self-timer is not to be used for the next exposure, be sure to return the lever to M or exposition.**

The self-timer should not be used at "B" shutter speed setting.

UNLOADING THE CAMERA







To rewind, first push in the rewind button found on the camera bottom. Then, push the rewind knob lock on the camera back to the left which allows the rewind knob to pop up. The rewind crank can be lifted up.
Turn the crank in the direction of the arrow.

At the instant the whole length of film is rewound and detached from the take-up spool a release in film tension will be felt.
Now the camera back can be opened in subdued light.
Pull up the rewind knob and remove the film cartridge from the camera.

FLASH SYNCHRONIZATION

Bulb \ Setting at	M	X
M Class	1 ~ 1 / 500sec. and B	1 ~ 1 / 30 sec. and B
F Class	Not used	1 ~ 1 / 60 sec. and B
Electronic	Not used	1 ~ 1 / 500sec. and B

The flash synchronization socket on the side of the camera accepts a regular flash unit provided with the standard flash cord plug. The use of the Nikon Flash Unit BC-6 is recommended.

The flash bulb to be used is basically M-Class. For synchronization set the selector lever found on the side of the lens barrel to "M". When using the self-timer and the flash simultaneously, set the selector lever to "V" and release the shutter at a speed slower than 1/30 sec.

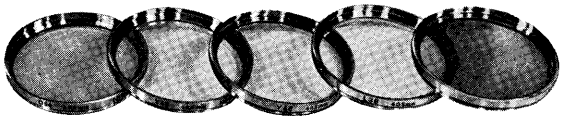
To determine the correct exposure when using the flash, refer to the Guide Number (=F-number × Subject Distance) given to every flash bulb on the market. However, a slight increase of exposure over the calculated value may give a better result. For color film, use a bulb specifically designed for use with the color film.

If the F-Class bulb should be used instead of M-Class, set the lever to X and release the shutter at a speed slower than 1/60 sec.

For synchronization with an electronic flash, set the lever at X. All the shutter speeds on the camera can be used.

Shutter speeds for positive synchronization depending on the types of flash bulb are given in the table left:

FILTERS

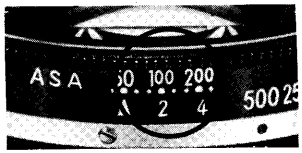


Filters for the Nikkorex Auto 35 are supplied in screw-in mount (40.5 mm in dia., p=0.5 mm). The following Nikon Filters, made of precisely ground and polished optical flat glass, are available. Filters reduce the amount of light transmitted, therefore an increase in exposure is necessary. This increase is expressed as a filter factor. Thus, a filter with a factor of 2 calls for double the normal exposure; for example, use 1/30 sec. instead of 1/60 sec. or alternatively change the aperture, say, from F : 8 to F : 5.6.

– Filter factor setting –

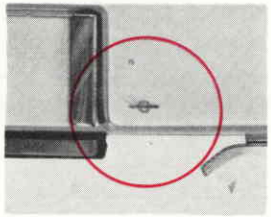
When using a filter on the lens, the film speed (ASA) ring on the lens front is to be set beforehand by the filter factor figure instead of the red triangular index. For example, when a film with ASA 100 and a filter whose factor is 2 are used, turn the ASA ring until the figure 100 comes opposite the filter factor figure 2.

Don't forget to return the ASA setting to the original red triangular index, after the filter is removed from the lens.



FILM PLANE INDICATION

The position of the film in the camera is indicated by the mark ⊖ engraved on top of the camera.



LENS HOOD

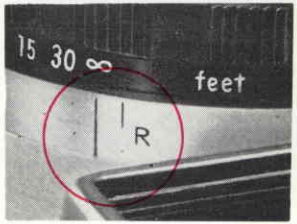
The use of lens hood is recommended to eliminate all extra light rays except those that come from the subject being photographed.

The lens hood for the Nikkorex Auto 35 is screwed onto the front of the lens. The hood will also fit directly over a filter or close-up lens attached onto the camera lens, permitting use of either unit with the lens at the same time.

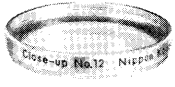
The hood, when not used, can be stored in reverse position on the lens inside the eveready case.

INFRA-RED PICTURE

When taking infra-red pictures the distance setting obtained by focusing on the screen has to be adjusted before shooting. This is done by rotating the lens slightly, until the focused point on the distance scale is changed to align with the line marked "R" in red.



CLOSE-UP ATTACHMENT LENSES



The closest focusing distance of the built-in lens on the Nikkorex Auto 35 is 2.5 ft. (70 cm).
For taking picture of subjects at closer distances, two close-up attachment lenses No. 11 and No. 12 are available either or both of which are attached to the master lens.

The close-up attachment lenses are screwed on the front of the camera lens. Focusing and composing in this case proceed the same way as the master lens used by itself.
It is important that the aperture of the camera lens, when the close-up lens or lenses are attached, be stopped down at least to F : 5.6, because of more limited depth of field as shown in the tables.

CLOSE-UP LENS NO.11

Lens Setting (ft)	Focused Distance (ft)	Depth of Field (ft)						
		F / 2	2.8	4	5.6	8	11	16
∞	2′5.4″	2′4.9″ ~2′ 6″	2′4.7″ ~2′ 6.2″	2′4.4″ ~2′6.6″	2′4″ ~2′ 7.1″	2′3.4″ ~2′ 7.8″	2′2.7″ ~2′ 8.9″	2′ 1.6″ ~2′10.7″
30	2′3.6″	2′3.2″ ~2′ 4.1″	2′3″ ~2′ 4.4″	2′2.7″ ~2′ 4.7″	2′2.4″ ~2′ 5.1″	2′1.9″ ~2′ 5.7″	2′1.3″ ~2′ 6.6″	2′ 0.3″ ~2′ 8.2″
15	2′2″	2′1.6″ ~2′ 2.5″	2′1.5″ ~2′ 2.7″	2′1.2″ ~2′ 2.9″	2′0.9″ ~2′ 3.3″	2′0.5″ ~2′ 3.9″	1′11.9″ ~2′ 4.6″	1′11.1″ ~2′ 6″
10	2′0.6″	2′0.2″ ~2′ 1″	2′0.1″ ~2′ 1.1″	1′11.9″ ~2′ 1.4″	1′11.6″ ~2′ 1.7″	1′11.2″ ~2′ 2.2″	1′11.7″ ~2′ 2.8″	1′10″ ~2′ 4″
7	1′11″	1′10.7″ ~1′11.3″	1′10.5″ ~1′11.4″	1′10.3 ~1′11.6″	1′10.1″ ~1′11.9″	1′9.8″ ~2′ 0.3″	1′9.4″ ~2′ 0.8″	1′ 8.7″ ~2′ 1.8″
5	1′9.1″	1′8.9″ ~1′ 9.4″	1′8.8″ ~1′ 9.5″	1′8.6″ ~1′ 9.6″	1′8.4″ ~1′ 9.9″	1′8.1″ ~1′10.2″	1′7.8″ ~1′10.7″	1′ 7.2″ ~1′11.4″
4	1′7.7″	1′7.5″ ~1′ 8″	1′7.4″ ~1′ 8″	1′7.3″ ~1′8.2″	1′7.1″ ~1′ 8.4″	1′6.9″ ~1′ 8.7″	1′6.6″ ~1′ 9″	1′ 6.1″ ~1′ 9.7″
3.5	1′6.8″	1′6.6″ ~1′ 7″	1′6.6″ ~1′ 7.1″	1′6.4″ ~1′ 7.2″	1′6.3″ ~1′ 7.4″	1′6.1″ ~1′ 7.7″	1′5.8″ ~1′ 8″	1′ 5.4″ ~1′ 8.6″
3	1′5.7″	1′5.6″ ~1′5.9″	1′5.5″ ~1′ 6″	1′5.4″ ~1′6.1″	1′5.3″ ~1′ 6.2″	1′5.1″ ~1′ 6.5″	1′4.9″ ~1′ 6.8″	1′ 4.5″ ~1′ 7.3″
2.5	1′4.4″	1′4.3″ ~1′ 4.6″	1′4.3″ ~1′ 4.7″	1′4.2″ ~1′ 4.7″	1′4.1″ ~1′ 4.9″	1′3.9″ ~1′ 5″	1′ 3.7″ ~1′ 5.3″	1′ 3.4″ ~1′ 5.7″

The depth of field is measured from the film plane marked ⊖ on top of the camera.
Disc of confusion : 1/750 in. dia.

Focused Distance (ft)	Reproduction Ratio (1:)	Subject Area (ft × ft)
2′ 5.4″	14	1′ 7.8″ × 1′ 1.2″
2′ 3.6″	13	1′ 6.4″ × 1′ 0.3″
2′ 2″	12.2	1′ 5.2″ × 11.5″
2′ 0.6″	11.4	1′ 4.1″ × 10.7″
1′ 11″	10.5	1′ 2.8″ × 9.9″
1′ 9.1″	9.5	1′ 1.4″ × 8.9″
1′ 7.7″	8.7	1′ 0.3″ × 8.2″
1′ 6.8″	8.2	11.6″ × 7.7″
1′ 5.7″	7.6	10.8″ × 7.2″
1′ 4.4″	6.9	9.7″ × 6.5″

CLOSE-UP LENS NO.12

Lens Setting (ft)	Focused Distance (ft)	Depth of Field (ft)						
		F / 2	2.8	4	5.6	8	11	16
∞	1'4.3"	1'4.15" ~1'4.45"	1'4.1" ~1'4.5"	1'4" ~1'4.6"	1'3.9" ~1'4.7"	1'3.7" ~1'4.9"	1'3.5" ~1'5.2"	1'3.2" ~1'5.6"
30	1'3.8"	1'3.7" ~1'3.9"	1'3.6" ~1'4"	1'3.5" ~1'4.1"	1'3.4" ~1'4.2"	1'3.3" ~1'4.4"	1'3.1" ~1'4.6"	1'2.8" ~1'5"
15	1'3.4"	1'3.3" ~1'3.5"	1'3.2" ~1'3.5"	1'3.1" ~1'3.6"	1'3" ~1'3.7"	1'2.9" ~1'3.9"	1'2.7" ~1'4.1"	1'2.4" ~1'4.5"
10	1'2.9"	1'2.8" ~1'3"	1'2.8" ~1'3.1"	1'2.7" ~1'3.2"	1'2.6" ~1'3.3"	1'2.5" ~1'3.4"	1'2.3" ~1'3.6"	1'2" ~1'4"
7	1'2.4"	1'2.3" ~1'2.5"	1'2.3" ~1'2.6"	1'2.2" ~1'2.6"	1'2.1" ~1'2.7"	1'2" ~1'2.9"	1'1.8" ~1'3.1"	1'1.6" ~1'3.4"
5	1'1.8"	1'1.7" ~1'1.9"	1'1.7" ~1'1.9"	1'1.6" ~1'2"	1'1.5" ~1'2.1"	1'1.4" ~1'2.2"	1'1.3" ~1'2.4"	1'1" ~1'2.6"
4	1'1.3"	1'1.2" ~1'1.4"	1'1.2" ~1'1.4"	1'1.1" ~1'1.5"	1'1" ~1'1.5"	1'0.9" ~1'1.7"	1'0.8" ~1'1.8"	1'0.6" ~1'2.1"
3.5	1'0.9"	1'0.9" ~1'1"	1'0.8" ~1'1"	1'0.8" ~1'1.1"	1'0.7" ~1'1.2"	1'0.6" ~1'1.3"	1'0.5" ~1'1.4"	1'0.3" ~1'1.7"
3	1'0.5"	1'0.4" ~1'0.6"	1'0.4" ~1'0.6"	1'0.4" ~1'0.7"	1'0.3" ~1'0.7"	1'0.2" ~1'0.8"	1'0.1" ~1'1"	11.9" ~1'1.2"
2.5	11.96"	11.89" ~1'0.03"	11.87" ~1'0.06"	11.83" ~1'0.1"	11.77" ~1'0.15"	11.7" ~1'0.2"	11.6" ~1'0.3"	11.5" ~1'0.5"

The depth of field is measured from the film plane marked ⇔ on top of the camera.
Disc of confusion : 1/750 in. dia.

CLOSE-UP LENS NO.11 + NO.12

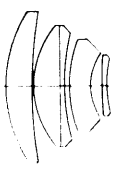
Lens Setting (ft)	Focused Distance (in)	Depth of Field (in)						
		F / 2	2.8	4	5.6	8	11	16
∞	11.95"	11.88" ~1'0.02"	11.85" ~1'0.05"	11.81" ~1'0.09"	11.76" ~1'0.15"	11.68" ~1'0.24"	11.58" ~1'0.35"	11.42" ~1'0.54"
30	11.75"	11.68" ~11.82"	11.66" ~11.85"	11.62" ~11.89	11.57" ~11.44"	11.49" ~1'0.03"	11.4" ~1'0.13"	11.24" ~1'0.32"
15	11.55"	11.49 ~11.61"	11.46" ~11.64"	11.42" ~11.68"	11.37" ~11.73"	11.3" ~11.81"	11.21" ~11.91"	11.07" ~1'0.09"
10	11.35"	11.29" ~11.41"	11.27" ~11.44"	11.23" ~11.47"	11.18" ~11.52	11.11" ~11.6"	11.03" ~11.7"	10.89" ~11.86"
7	11.11"	11.05" ~11.17	11.03" ~11.19"	11" ~11.23"	10.95" ~11.27"	10.89" ~11.35"	10.81" ~11.44"	10.67" ~11.59"
5	10.82"	10.77" ~10.87"	10.75" ~10.9"	10.72" ~10.93"	10.67" ~10.97"	10.61" ~11.04"	10.54" ~11.12"	10.42" ~11.27"
4	10.57"	10.52" ~10.62"	10.5" ~10.64"	10.47" ~10.67"	10.43" ~10.71"	10.38" ~10.77"	10.31" ~10.85"	10.19" ~10.99"
3.5	10.39"	10.34" ~10.44"	10.33" ~10.46"	10.3" ~10.49"	10.26" ~10.52"	10.21" ~10.58"	10.14" ~10.66"	10.03" ~10.78"
3	10.17"	10.13" ~10.21"	10.11" ~10.23"	10.08" ~10.26"	10.05" ~10.3"	10" ~10.35"	9.93" ~10.42"	9.83" ~10.54"
2.5	9.88"	9.81" ~ 9.92"	9.82" ~9.94"	9.8" ~9.96"	9.77" ~ 10"	9.72" ~10.05	9.66" ~10.11"	9.57" ~10.22"

The depth of field is measured from the film plane marked ○ on top of the camera.
Disc of confusion : 1/750 in. dia.

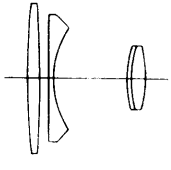
Focused Distance (ft)	Reproduction Ratio(1:)	Subject Area (in×in)
1' 4.3"	7.1	10.1" × 6.7"
1' 3.8"	6.8	9.7" × 6.5"
1' 3.4"	6.6	9.3" × 6.2"
1' 2.9"	6.3	9.0" × 6.0"
1' 2.4"	6.0	8.56" × 5.7"
1' 1.8"	5.7	8.05" × 5.37"
1' 1.3"	5.4	7.64" × 5.09"
1' 0.9"	5.2	7.35" × 4.9"
1' 0.5"	4.9	7.0" × 4.67"
11.96"	4.6	6.54" × 4.36"

Focused Distance (in)	Reproduction Ratio(1:)	Subject Area (in×in)
11.95"	4.7	6.65" × 4.44"
11.75"	4.6	6.48" × 4.32"
11.55"	4.5	6.32" × 4.21"
11.35"	4.3	6.15" × 4.10"
11.11"	4.2	5.95" × 3.97"
10.82"	4.0	5.70" × 3.80"
10.57"	3.9	5.49" × 3.66"
10.39"	3.8	5.34" × 3.56"
10.17"	3.6	5.15" × 3.43"
9.88"	3.5	4.90" × 3.26"

TELEPHOTO AND WIDE-ANGLE CONVERSION LENSES



The Conversion Lenses, telephoto or wide-angle, attach to the front of the camera's built-in lens, and equip the camera for telephoto or wide-angle photography.
The Conversion Lenses, screw into the front of the camera lens with a click.



Aperture ratio

The Conversion Lenses do not alter the aperture of the camera lens. However, an aperture larger than F : 4 cannot be obtained. As a reminder, the figure 2 and the dot for F : 2.8 are colored red in the camera's viewfinder field (See p. 12).
Actual focusing distances, when using the Conversion Lens, differ from those read on the distance scale of the camera lens, as shown in the following tables.

TELEPHOTO CONVERSION LENS

Lens Setting (ft)	Focused Distance (ft)	Depth of Field (ft)				
		5.6	8	11	16
∞	∞	177′ ~ ∞	126′ 5″ ~ ∞	88′ 6″ ~ ∞	64′ 5″ ~ ∞	44′ 3″ ~ ∞
30	95′	61′10″ ~203′	54′ 4″ ~374′	45′11″ ~ ∞	38′ 6″ ~ ∞	30′ 4″ ~ ∞
15	46′ 8″	37′ 1″ ~63′ 2″	34′ 3″ ~73′ 6″	30′ 9″ ~97′ 9″	27′ 3″ ~166′	22′11″ ~ ∞
10	30′ 8″	26′ 3″ ~36′11″	24′10″ ~40′ 3″	22′11″ ~46′ 6″	20′11″ ~57′ 9″	18′ 4″ ~96′ 8″
7	21′ 4″	19′ 1″ ~24′ 1″	18′ 4″ ~25′ 5″	17′ 4″ ~27′10″	16′ 2″ ~31′ 5″	14′ 7″ ~40′ 2″
5	15′ 1″	14′ ~16′ 5″	13′ 7″ ~17′	13′ ~ 18′	12′ 4″ ~19′ 5″	11′ 5″ ~22′ 5″
4	12′	11′ 4″ ~12′ 9″	11′ ~13′ 2″	10′ 8″ ~13′ 9″	10′ 3″ ~14′ 6″	9′ 6.4″ ~13′ 4″
3.5	10′ 4.5″	9′10″ ~10′11″	9′ 7.6″ ~11′ 3″	9′ 4.1″ ~11′ 8″	9′ 0.1″ ~12′ 3″	8′ 6″ ~13′ 4″
3	8′ 9.8″	8′ 5.2″ ~ 9′ 3″	8′ 3.4″ ~ 9′ 5.2″	8′ 0.9″ ~ 9′ 8.7″	7′ 9.9″ ~10′ 1.4″	7′ 5.3″ ~10′10″
2.5	7′ 3.2″	7′ ~ 7′ 6.6″	6′10.8″ ~ 7′ 8″	6′ 9.1″ ~ 7′10.3″	6′ 7″ ~ 8′ 1.3″	6′ 3.8″ ~ 8′ 6.8″

The depth of field is measured from the film plane marked ⊖ on top of the camera.
Disc of confusion : 1/750 in. dia.

WIDE-ANGLE CONVERSION LENS

Lens Setting (ft)	Focused Distance (ft)	Depth of Field (ft)				
		F/4	5.6	8	11	16
∞	∞	30′ 1″* ~ ∞	21′ 6″ ~ ∞	15′ 1″ ~ ∞	11′ ~ ∞	7′6.2″ ~ ∞
30	17′ 2.0″	11′ 1″ ~39′ 3″	9′7.6″ ~81′ 4″	8′1.3″ ~′ ∞	6′9.4″ ~ ∞	5′4″ ~ ∞
15	8′ 6.2″	6′8.4″ ~11′ 9″	6′2.1″ ~13′ 10″	5′6.3″ ~18′ 11″	4′10.6″ ~35′4″	4′1.2″ ~ ∞
10	5′ 7.7″	4′9.6″ ~ 6′10.4″	4′6.3″ ~ 7′ 6.2″	4′2.1″ ~ 8′ 9.4″	3′9.7″ ~11′2″	3′3.8″ ~20′ 2″
7	3′11.5″	3′6.4″ ~ 4′6.2″	3′4.7″ ~ 4′ 9.4″	3′2.3″ ~ 5′ 3″	2′11.7″ ~ 5′11.8″	2′8.1″ ~ 7′ 9.8″
5	2′10.1″	2′7.5″ ~ 3′ 1.3″	2′6.6″ ~ 3′ 2.7″	2′5.3″ ~ 3′ 5.1″	2′3.8″ ~ 3′ 8.6″	2′1.6″ ~ 4′ 3.9″
4	2′ 3.5″	2′1.8″ ~ 2′ 5.5″	2′1.2″ ~ 2′ 6.3″	2′0.4″ ~ 2′ 7.7″	1′11.3″ ~ 2′ 9.7″	1′9.8″ ~ 3′ 1.6″
3.5	2′	1′10.8″ ~ 2′ 1.5″	1′10.3″ ~ 2′ 2.1″	1′9.7″ ~ 2′ 3.1″	1′8.9″ ~ 2′ 4.5″	1′7.7″ ~ 2′ 7.2″
3	1′ 8.7″	1′7.8″ ~ 1′ 9.7″	1′7.5″ ~ 1′10.2″	1′7″ ~ 1′10.9″	1′6.4″ ~ 1′11.8	1′5.5″ ~ 2′ 1.6″
2.5	1′ 5.4″	1′4.8″ ~ 1′ 6.1″	1′4.5″ ~ 1′ 6.3″	1′4.2″ ~ 1′ 6.8″	1′3.8″ ~ 1′ 7.4″	1′3.1 ~ 1′ 8.5″

The depth of field is measured from the film plane marked ⊖ on top of the camera.
Disc of confusion : 1/750 in. dia.

Lens Setting (ft)	Reproduction Ratio(1:)	Subject Area (ft×ft)
∞	—	—
95′	340	40′ 1.0″ × 26′ 9.0″
46′8″	166	19′ 8.0″ × 13′ 1.0″
30′8″	109	12′10.0″ × 8′ 6.7″
21′4″	75	8′10.3″ × 5′10.9″
15′1″	53	6′ 2.6″ × 4′ 1.8″
12′	42	4′ 2.8″ × 3′ 3.2″
10′4.5″	36	4′10.9″ × 2′ 9.8″
8′9.8″	30	3′ 6.7″ × 2′ 4.6″
7′3.2″	25	2′10.8″ × 1′11.3″

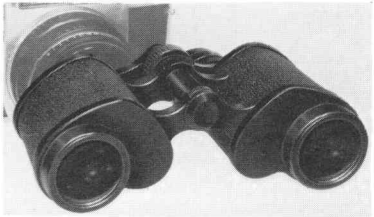
Focused Distance (f	Reproduction Ratio(1:)	Subject Area (ft×ft)
∞	—	—
17′ 2.0″	144	17′ × 11′4.0″
8′ 6.2″	70	8′3.8″ × 5′6.6″
5′ 7.7″	46	5′5.3″ × 3′7.6″
3′11.5″	32	3′9.0″ × 2′6.0″
2′10.1″	22	2′7.7″ × 1′9.1″
2′ 3.5″	18	2′1.0″ × 1′4.7″
2′	15	1′9.5″ × 1′2.3″
1′ 8.7″	12.8	1′6.1″ × 1′0.1″
1′ 5.4″	10.4	1′2.8″ × 9.8″

Filters and Lens Hood for Conversion Lenses

Screw-in filters of 72 mm in dia. are used on the Conversion Lenses. The hood exclusively used for the Conversion Lenses is available. It is provided with a lock.

AUTO 35

BINOCULARS ADAPTER

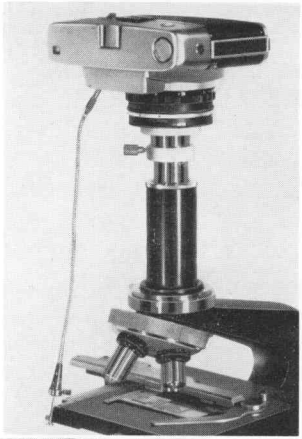


The adapter permits uniting the Nikkorex Auto 35 with Nikon Binoculars 7×35, 8×30 or 9×35 for taking telephoto pictures.

This combination results in an image enlarged by the power of the binoculars attached, that is, the image of the same size as taken with the lens whose focal length is equal to that of the camera lens (f=48 mm) multiplied by the power of the binoculars. Thus, for example, in conjunction with the binoculars 7×35 the focal length of the camera lens is elongated to 48 mm×7=336 mm.

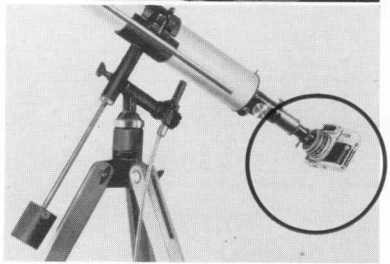
The aperture ratio in this case is obtained by dividing the resultant, combined focal length into the objective aperture (in dia.) of the binoculars, say with the 7×35, the aperture reduces to 336 mm÷35 mm=9.6, that is, F : 9.6.

MICROSCOPE ADAPTER



The Nikkorex Auto 35, connected to a microscope by means of the photomicrographic adapter, gives an enlarged image of the specimen. The camera's lens is to be focused at infinity.

TELESCOPE ADAPTER



The adapter permits the camera to attach to the Nikon 2 inch (f=750 mm) or 2 1/2 inch (f=980 mm) Astronomical Telescope for photographing the moon and other subjects in the distance.

TABLES IN METRIC SYSTEM

- NIKKOR-H 48 mm F : 2
- Telephoto Conversion Lens
- Wide-angle Conversion Lens
- Close-up Lens No. 11
- Close-up Lens No. 12
- Close-up Lens No. 11 + No. 12

CLOSE-UP LENS No. 11

Lens Setting (m)	Focused Distance (cm)	Depth of Field (cm) F/2	2.8	4	5.6	8	11	16
∞	78.8	77.3 –80.4	76.7 –81.1	75.6 –[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	70.6	69.4 –71.9	68.9 –72.4	66.9 –[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	66.7	65.6 –67.8	65.2 –68.3	64.6 –[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	62.3	61.4 –63.2	60.9 –[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	57.5	56.7 –58.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.5	53.3	52.7 –54.0	52.4 –54.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.2	49.8	49.3 –50.4	49.0 –50.6	48.7 –50.9	[illegible]	[illegible]	[illegible]	[illegible]
1.0	46.7	46.2 –47.2	46.0 –47.4	45.8 –47.7	45.4 –48.1	[illegible]	[illegible]	[illegible]
0.9	44.8	44.4 –45.2	44.2 –45.4	44.0 –45.7	43.6 –[illegible]	[illegible]	[illegible]	[illegible]
0.8	42.7	42.3 –43.1	42.2 –43.2	41.9 –43.5	[illegible]	[illegible]	[illegible]	[illegible]
0.7	40.2	39.9 –40.5	39.7 –40.7	39.5 –40.9	[illegible]	[illegible]	[illegible]	[illegible]

The depth of field is measured from the film plane marked [illegible] on top of the camera.
Disc of confusion: 1/30mm dia.

Focused Distance (cm)	Reproduction Ratio (1/)	Subject Area (cm×cm)
78.8	14.0	[illegible]
70.6	13.1	[illegible]
66.7	12.5	[illegible]
62.3	11.9	[illegible]
57.5	10.3	[illegible]
53.3	9.4	[illegible]
49.8	8.8	[illegible]
46.7	8.0	[illegible]
44.8	7.6	[illegible]
42.7	7.1	[illegible]
40.2	6.6	[illegible]

CLOSE-UP LENS No. 12

Lens Setting (m)	Focused Distance (cm)	Depth of Field (cm) F/2	2.8	4	5.6	8	11	16
∞	41.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	39.4 –43.8	38.6 –44.8
10	40.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37.4 –45.4
5	39.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	36.7 –43.4
3	37.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	35.36 –40.6
2	36.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–37.0	34.2 –38.7
1.5	34.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	33.0 –37.0
1.2	33.6	[illegible]	[illegible]	[illegible]	[illegible]	–34.5	32.4 –34.5	31.9 –35.5
1.0	32.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–33.5	30.8 –34.2
0.9	31.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–32.8	30.2 –33.3
0.8	30.6	[illegible]	[illegible]	[illegible]	[illegible]	30.1 –31.6	29.8 –31.8	29.4 –32.8
0.7	29.2	[illegible]	[illegible]	[illegible]	[illegible]	–30.4	28.8 –30.6	28.6 –31.7

The depth of field is measured from the film plane marked [illegible] on top of the camera.
Disc of confusion: 1/30mm dia.

Focused Distance (cm)	Reproduction Ratio (1/)	Subject Area (cm×cm)
41.4	7.1	[illegible] × 17.2
40.3	[illegible]	[illegible]
39.2	[illegible]	[illegible]
37.9	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
34.9	[illegible]	[illegible]
33.6	5.4	[illegible]
32.4	5.1	[illegible]
31.7	4.9	[illegible]
30.6	4.7	[illegible] × 11.3
[illegible]	4.5	[illegible] × 10.7

CLOSE—UP LENS No. 11+No. 12

Lens Setting (m)	Focused Distance (cm)	Depth of Field (cm)						
		F / 2	2.8	4	5.6	8	11	16
∞	30.3	30.1 ~30.5	30.1 ~30.6	30.0 ~30.7	29.8 ~30.8	29.6 ~31.0	29.4 ~31.3	29.0 ~31.8
10	29.9	29.7 ~30.1	29.7 ~30.1	29.6 ~30.2	29.4 ~30.4	29.2 ~30.6	29.0 ~30.9	28.6 ~31.3
5	29.4	29.2 ~29.6	29.2 ~29.6	29.1 ~29.7	29.0 ~29.9	28.8 ~30.1	28.5 ~30.3	28.1 ~30.8
3	28.8	28.6 ~29.0	28.6 ~29.0	28.5 ~29.1	28.4 ~29.2	28.2 ~29.4	28.0 ~29.7	27.6 ~30.1
2	28.1	28.0 ~28.2	27.9 ~28.3	27.8 ~28.4	27.7 ~28.5	27.5 ~28.7	27.3 ~28.9	27.0 ~29.3
1.5	27.4	27.3 ~27.5	27.2 ~27.6	27.1 ~27.7	27.0 ~27.8	26.9 ~27.9	26.7 ~28.2	26.4 ~28.5
1.2	26.8	26.7 ~26.9	26.6 ~27.0	26.6 ~27.1	26.5 ~27.2	26.3 ~27.3	26.1 ~27.5	25.8 ~27.8
1.0	26.2	26.1 ~26.3	26.0 ~26.4	26.0 ~26.4	25.9 ~26.5	25.7 ~26.7	25.6 ~26.9	25.3 ~27.2
0.9	25.8	25.7 ~25.9	25.6 ~26.0	25.6 ~26.0	25.5 ~26.1	25.4 ~26.3	25.2 ~26.4	24.9 ~26.7
0.8	25.3	25.2 ~25.4	25.2 ~25.4	25.1 ~25.5	25.0 ~25.6	24.9 ~25.7	24.7 ~25.9	24.5 ~26.2
0.7	24.7	24.6 ~24.8	24.6 ~24.8	24.5 ~24.9	24.4 ~25.0	24.3 ~25.1	24.2 ~25.3	23.9 ~25.5

The depth of field is measured from the film plane marked ⊖ on top of the camera.
Disc of confusion : 1/30mm dia.

Focused Distance (cm)	Reproduction Ratio(1:)	Subject Area (cm×cm)
30.3	4.7	16.9 × 11.3
29.9	4.6	16.5 × 11.0
29.4	4.5	16.1 × 10.7
28.8	4.3	15.6 × 10.4
28.1	4.2	15.0 × 10.0
27.4	4.0	14.4 × 9.6
26.8	3.9	13.9 × 9.3
26.2	3.7	13.4 × 8.9
25.8	3.6	13.0 × 8.7
25.3	3.5	12.6 × 8.4
24.7	3.4	12.1 × 8.1

GENERAL CAUTION

- When the camera is carried in the eveready case, be sure to fasten the locking nut screw fitted on the bottom of the case so that the camera will not drop out.
- Don't exert any force against the aperture blind in the camera which opens with shutter releasing.
- Keep the guarantee card which bears the serial number of your camera. It is also advisable to keep a record of this serial number in the event that you should lose the camera.

Guarantee Card No.
Camera No.
Purchased :
Address :
Name of Owner :