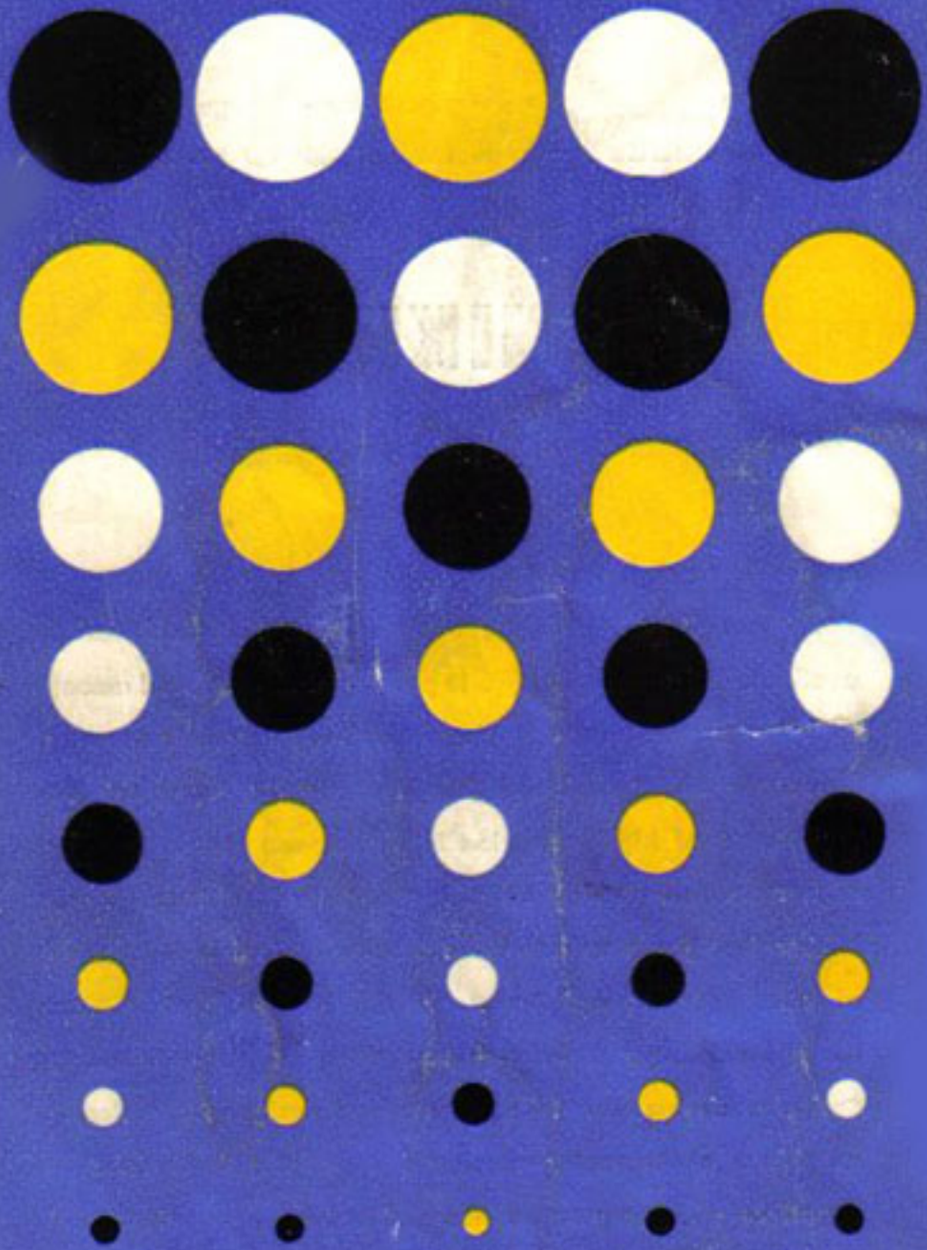


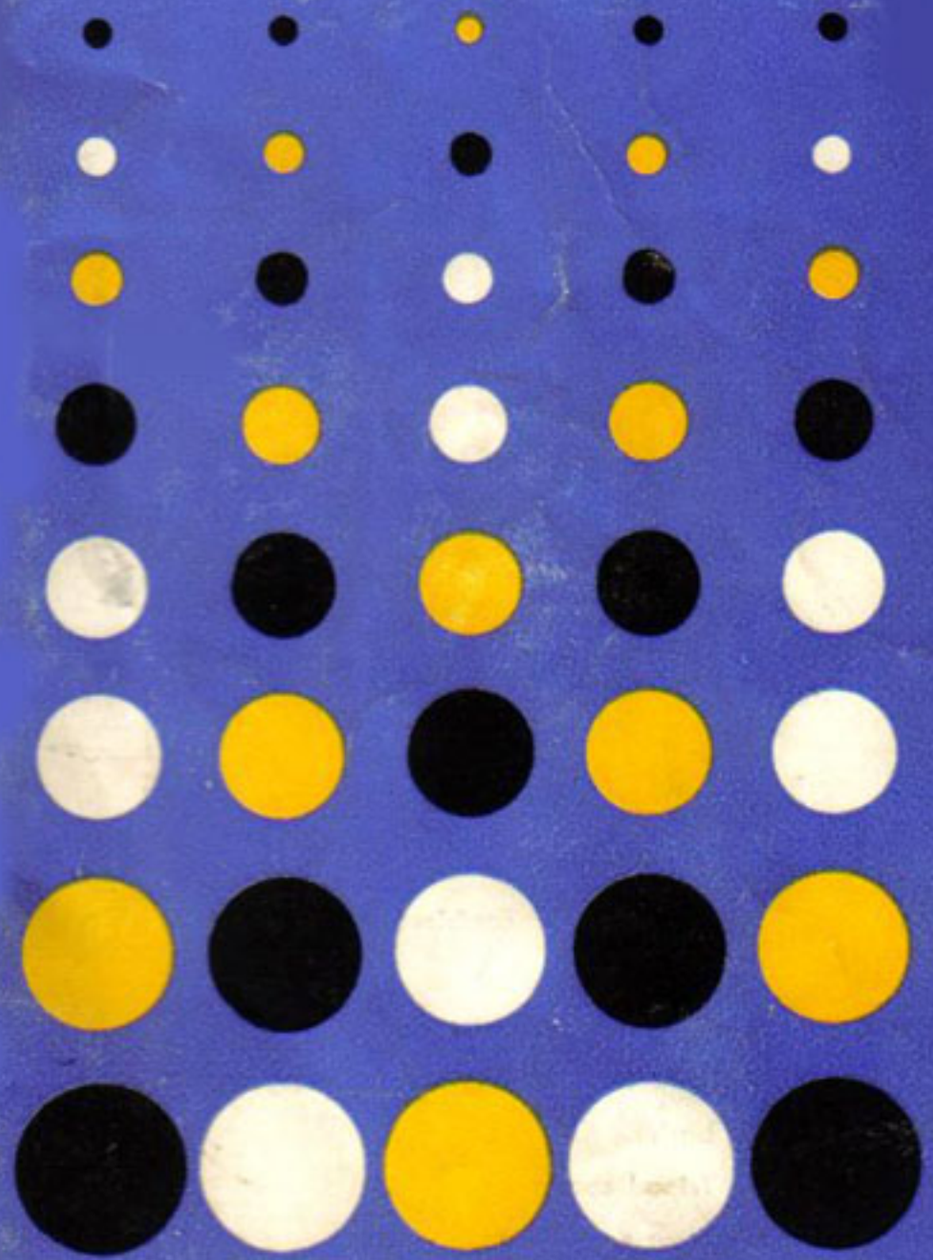
NIPPON KOGAKU TOKYO

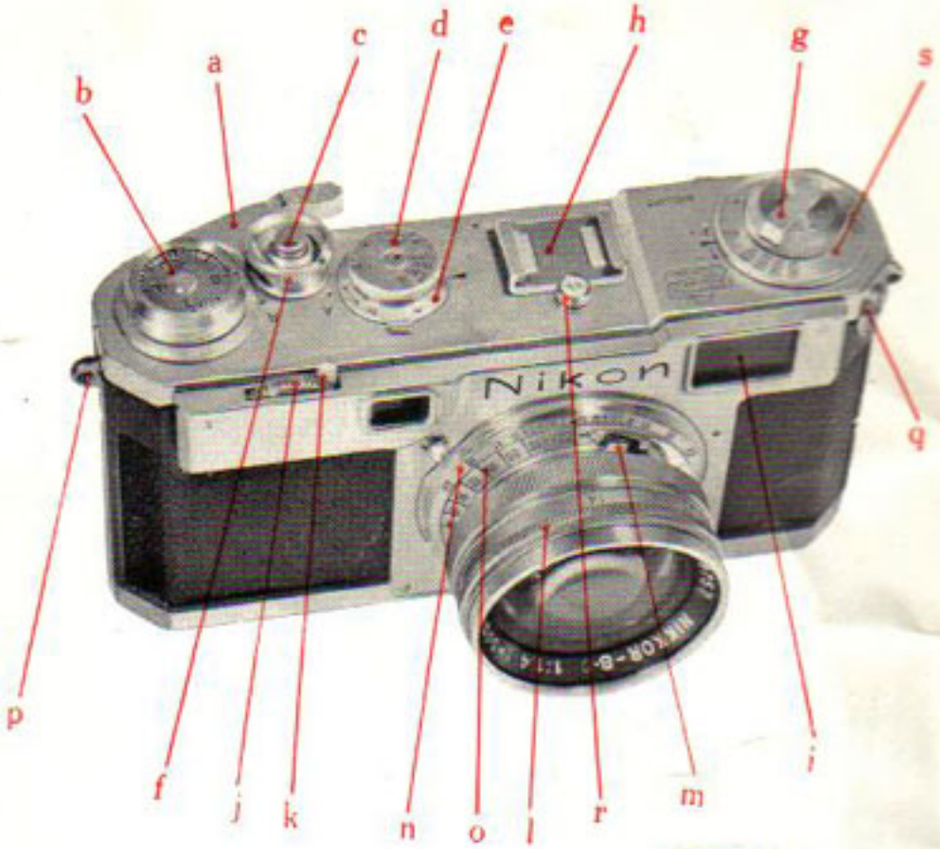
Nippon Kogaku K.K.

NIKON

S2

Instructions





1

Rear View

t. Eye-piece for combined range and view finder

u. A.S.A film indicator dial

v. Lock for removing and replacing camera back

w. Tripod socket

x. Front cap

Front View

a. Winding lever

b. Automatic exposure counter

c. Shutter release button and screw for attaching cable release

d. High speed shutter dial

e. Slow speed shutter dial

f. Ring set for (A) film advance and (R) film rewind

g. Rewinding crank

h. Accessory shoe

i. Combined range and view finder window

j. Focusing wheel

k. Infinity lock for focusing wheel

l. Diaphragm ring

m. Spring catch for lens

n. Depth of field scale

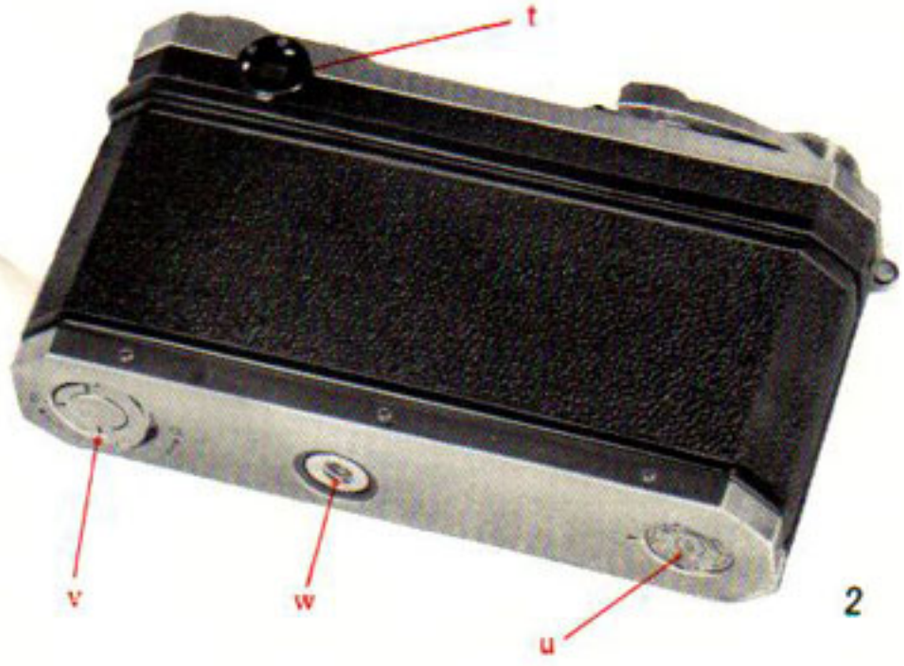
o. Distance scale

p. Eyelet for neck strap

q. Synchronizer socket

r. Flash gun outlet

s. Synchro selector dial



2

CONTENTS

Taking Pictures

That the most brilliant results can be had by simple handling is an outstanding feature of the Nikon Camera S 2.

The following three basic factors are to be considered before taking a picture with the Nikon.

1. Shutter speed—Setting of speed

   Wind shutter up and then set the shutter speed.

   See page 5—6.

2. Lens opening—Setting of diaphragm opening

   Lens aperture is set by turning lens diaphragm ring.

   See page 7.

3. Focusing—Setting of distance

   A focus is obtained when double image in the range-finder is brought to coincidence.

   See page 8.

Shutter Speed Settings

4

WINDING LEVER

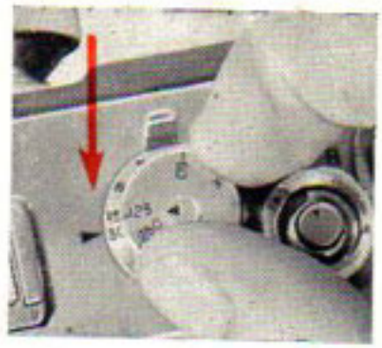
Turn the winding lever anti-clockwise until it stops (Fig. 4). This automatically winds the shutter, and advances one frame of film for the next exposure.

SHUTTER DIALS

There are two shutter speed dials, high and slow, set one above the other. The engraved numbers on the dial indicate fractions of a second, e. g. 60 means 1/60 second exposure time. There are two shutter speed indicators▼, one on the outside of the slow shutter dial and one in the center of the fast shutter dial. Set the speed by the outside indicator after winding shutter. When shutter is wound, the two indicators will always be found on the same line, pointing to each other. The center indicator can be used when setting fast speed dial before winding shutter.

HIGH SPEED SHUTTER DIAL

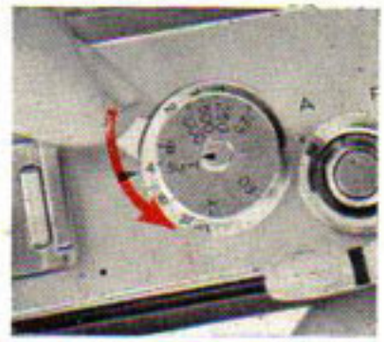
When using high shutter speeds, set the lower dial (slow speed shutter dial) at "30" (Fig. 5); lift the upper dial (high speed shutter dial) and turn it to the desired speed. Then drop the dial and make sure that it settles down into place properly, except for 1/1000 th second where it remains lifted.



5

SLOW SPEED SHUTTER DIAL

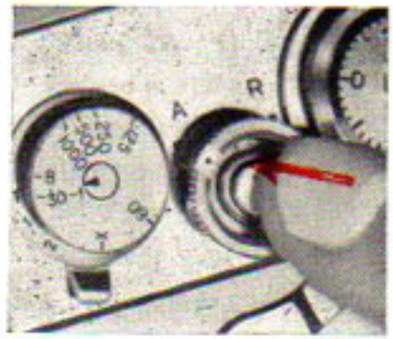
When setting a slow shutter speed, the high speed dial must be set at "30-1". Move the slow speed dial by means of the small lever (Fig. 6) to the desired speed.



6

BULB EXPOSURE

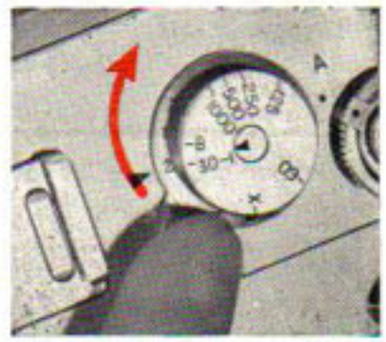
First set slow speed dial at "30". then set fast speed dial at "B". The shutter will remain open as long as the shutter release button is held depressed.



7

TIME EXPOSURE

Set high speed dial at "30-1", then set slow speed dial at "T". When the shutter button is once pressed (Fig. 7), the shutter will remain open even if pressure is removed. To close the shutter (Fig. 8), move the slow speed dial clockwise past the 1 second mark.



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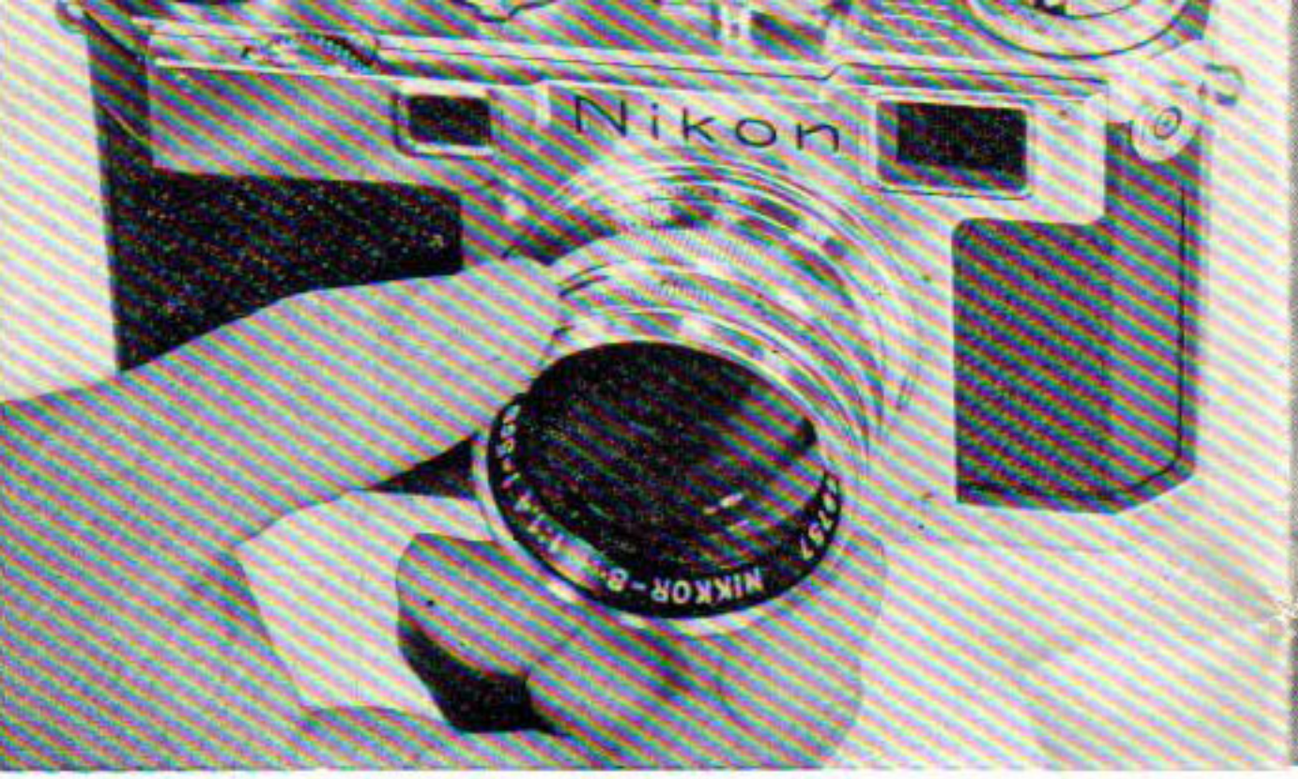


Lens Diaphragm Opening

To set the lens opening, turn the diaphragm ring (Fig. 9) so that the desired aperture is opposite the dot on the milled ring of the lens barrel.

Lens aperture markings on Nikkor Lenses are arranged so that each stop doubles the speed of the one preceding it. Shutter speeds on the Nikon Camera are also arranged in the same manner.

The following table may be of some assistance in understanding the ratio between lens apertures and shutter speeds : —

Lens opening (Scale marking)	1.4	2	2.8	4	5.6	8	11	16
Exposure time (Ratio)	1/1000	1/500	1/250	1/125	1/60	1/30	1/15	1/8

In other words, a 1.4 lens opening at 1/1000 th of a second shutter speed will give the same exposure on the film as a f/2 lens with a 1/500 th of a second speed, and so on down the rest of the table.

Focusing

Look through the eyepiece of the combined range finder and view finder of the Nikon Camera. In the center, you will observe a lighter colored rectangle. This is the range finder portion of the view finder. Out-of-focus objects will be seen in the range finder section as a double image. When the two images merge together (Fig. 11 and 12) the object is in exact focus.

Press the infinity lock (Fig. 10) and rotate the focusing wheel slightly, to release the automatic infinity lock. Continue to rotate the focusing wheel until double image merges into one. It is usually quite helpful, when holding the camera horizontally, to focus your attention on any vertical lines found in the object to be photographed. And in the same manner, when holding the camera vertically, focus your attention on horizontal lines.

After focusing, the exact distance of the object to be photographed may be found by reading the figure on the distance scale located against the black index dot.

How to Hold the Camera

The following procedure will be of great assistance in avoiding camera motion:

When holding the camera in a horizontal position, (Fig. 13) rest the camera against your cheek; when holding the camera in a vertical position (Fig. 14), rest the camera against your forehead.

Hold the camera in both hands. Use the right hand index finger to operate the release button, and the middle finger to turn the focusing wheel. The elbows should be held as low as possible against your body; and take a deep breath before snapping the picture.

13 14

Caution !

The shutter should not be kept wound up for an indefinite period, as this serves to weaken the spring. It is preferable to wind the shutter just before taking the picture. This will also avoid accidental exposures.

15

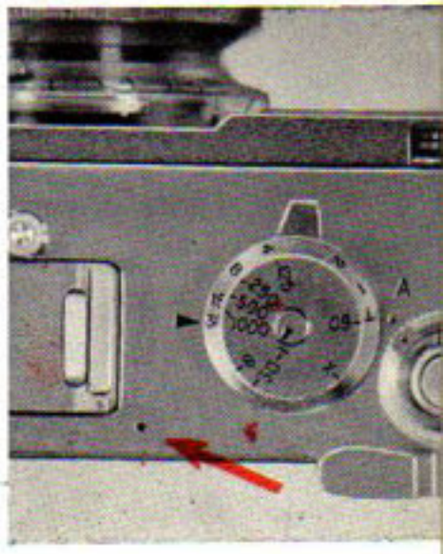
Taking the Picture

The actual extent of the picture field will be seen within the bright frame-line in the view finder.

Compose the picture within the frame-line (Fig. 15), and press the shutter release button slowly. Avoid camera movement by using a smooth easy motion while pressing the shutter release button. Use a tripod or a support for any shutter speed lower than 1/30 th of a second.

RED MARK ON TOP PLATE OF CAMERA

The red mark shown on Fig. 16 indicates the exact position of the film. When photographing extreme close-ups, measurements from camera to subject should be taken from this point.



16

Depth of Field

Depth of field is the range of distance between the nearest and the farthest limits within which a camera subject gives permissible sharpness and image.

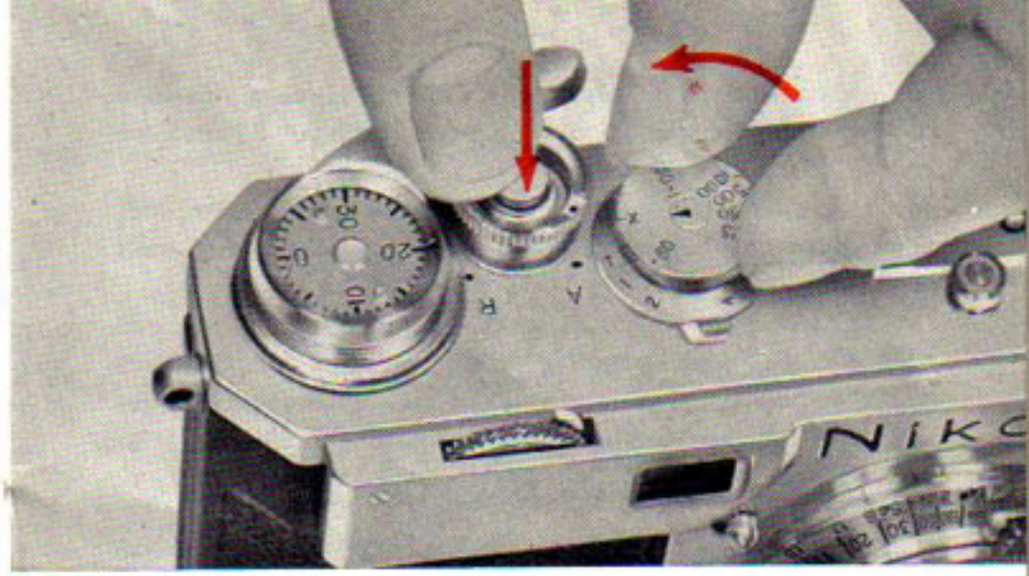
Depth of field varies with the lens opening (f/1.4, f/5.6, f/8, etc.) and with the distance. The smaller the aperture used, the greater the depth of field; and in reverse, the larger the aperture, the smaller the depth of field. Depth of field also increases with distance.

In the Nikon Camera, there is a depth of field scale engraved directly on the camera itself, and there is no need to consult separate scales.

17

FOR EXAMPLE

Set the 20 foot marking on the outside scale to the index dot (Fig. 17). You will note that each lens aperture is duplicated both to the right and left of the index dot. If you were to use the f/8 aperture on the lens, read the distances marked under the f/8 figure on either side of the index dot, and you will find the readings of 12 feet and 50 feet. This means that in pictures taken at f/8, with the lens focused at 20 feet, all objects between 12 and 50 feet from the camera will be permissibly sharp. Everything else will be out of focus to some degree.



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Double Exposure

The Nikon Camera is equipped with double exposure prevention. However, there are times when a double exposure may be desired, namely, for trick photography, or more important, in flash photography, where a defective bulb may cause you to lose a frame. The Nikon provides for this contingency as follows : —

When a double exposure is desired, after making the first exposure, press the shutter release button again (Fig. 18), and without releasing your finger from the button, turn the high speed dial as far as it will go to the left. Then release the button. The shutter is now ready to operate. Do not touch the winding lever.

You may change shutter speeds after following the above procedure.

Film Cassette

The Nikon Camera will take up a daylight loading cartridge of any make, containing a ready-cut length of 35 mm film, usually found in the market.

The Nikon cassette or magazine, available at extra cost, can be loaded with ready-cut lengths or fed from a stock of 35 mm film.

The cassette (Fig. 19) consists of outer and inner shells and a spool. The figures on the bottom of the outer shell are A.S.A. exposure index numbers, and may be used to indicate the speed of the film loaded, the white spot on the brim being the index.

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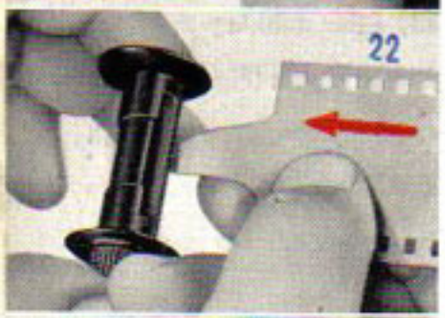
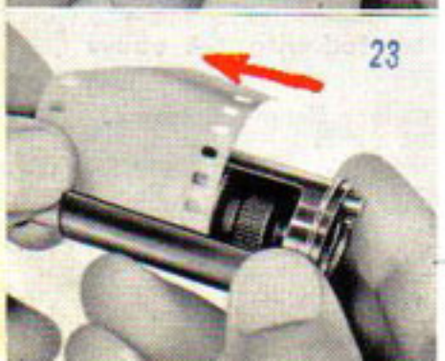
OUTER SHELL — SPOOL — INNER SHELL





The black figures are for black and white film, and the red for color film. When the film has been exposed, the red spot index should take the place of the white.

TO OPEN THE CASSETTE

Hold the cassette in your left hand, with the projecting end of the spool toward you. Depress the small button with the right hand index finger, and turn the inner shell of the cassette clockwise (Fig. 20) until the apertures of both the shells are over each other, and at the same time the inner shell pulls out slightly (Fig. 21).

(In the dark room)

Trim the end of the film so as to form a tongue, and hold the spool in your left hand with the projecting end toward you.

Thread the film with the right hand (Fig. 22), emulsion side downward, through the larger opening of the slot in the spool, until the teeth inside grip the film, and then wind the film up, emulsion side in.

Place the loaded spool in the inner shell, with the projecting end facing outwards, then slide the outer shell over the inner shell, with the film leader on the outside (Fig. 23).

Push the edge of the inner shell, and turn it anti-clockwise until it clicks into place. The cassette is now loaded and is perfectly light tight, and ready to be placed in the film chamber of the camera.

TO UNLOAD THE CASSETTE

(In the dark room)

The loaded cassette should be opened as described above, the spool taken out, the film unrolled and cut off at the spool (Fig. 24).

The film end remaining in the slot should be pulled out in the opposite direction from which it is inserted.

When loading, the tongue of the film should not be made too wide for the smaller slot.

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Loading the Camera

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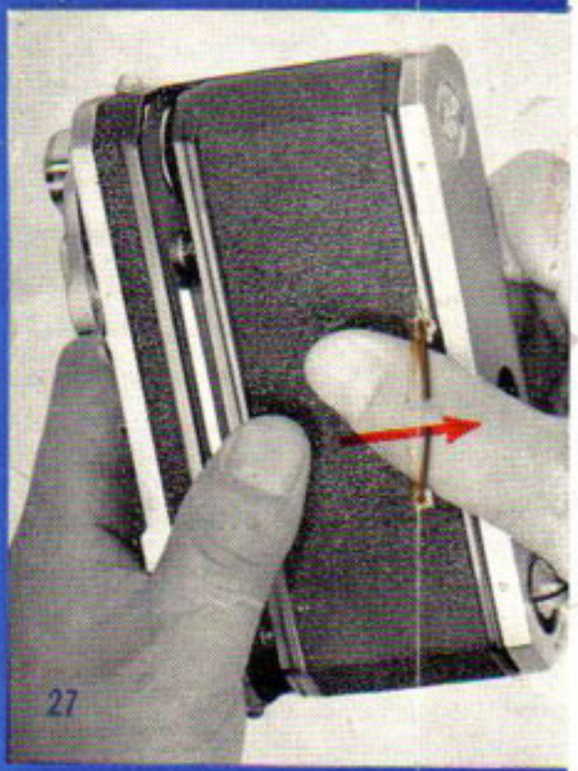
26



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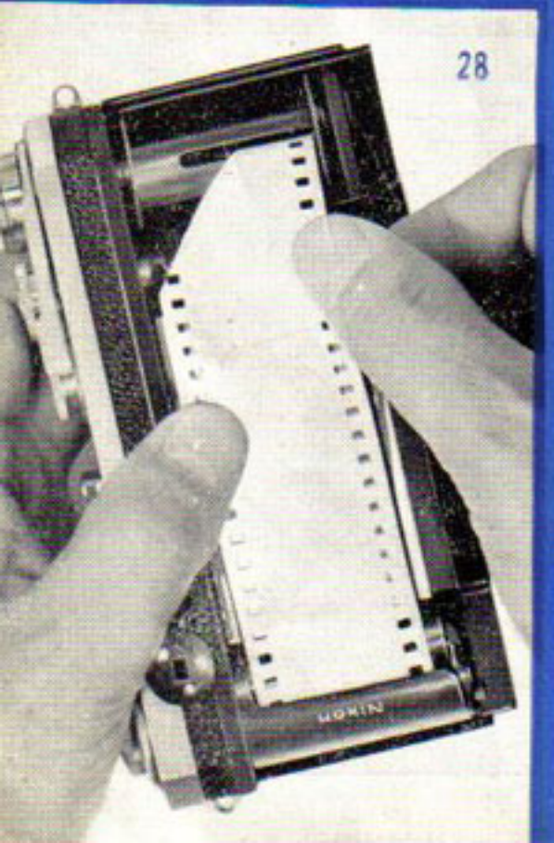

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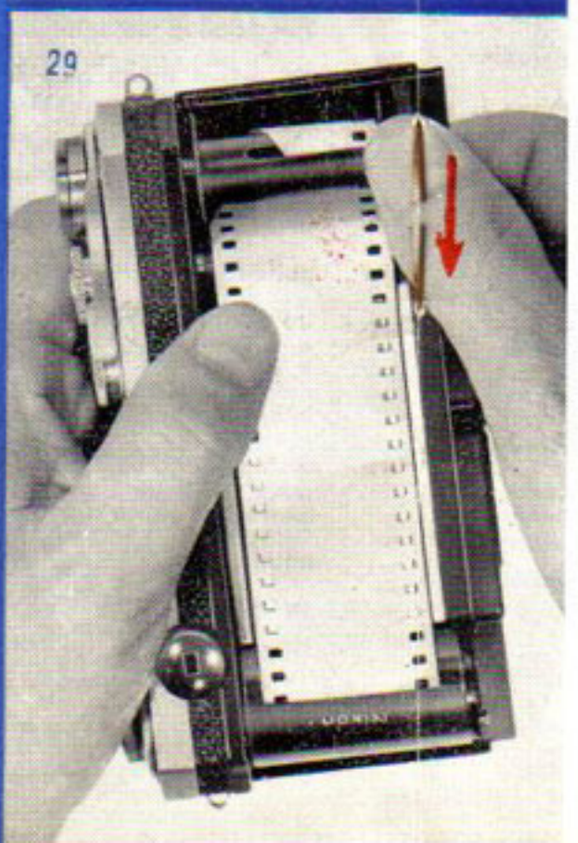


29

Set the ring on the shutter release button to the "A" position (Fig. 25) and wind the shutter. Remove the back of the camera by turning the semi-circular lock on the bottom (Fig. 26) to the "Open" position. The camera back is then unlocked and may be removed by sliding it off with the thumb (Fig. 27).

Place a film catridge or loaded cassette in the left chamber, so that the projection on the outer end of the cassette or cartridge fits into the guide notch.

Insert the end of the leader of the film into the slot on the take-up spool (Fig. 28) so that the perforation of the film catches in the slot. Then turn the take-up spool, so that the film is caught securely (Fig. 29). Replace and lock the camera again, and check to see if the film is properly in place.

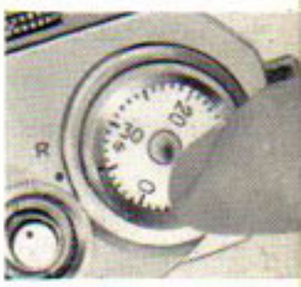
In order to be sure that the film is securely caught on the take-up spool, turn the winding lever slightly, and see if the re-winding knob rotates in the direction opposite to the arrow on the top of the knob.

Before starting to take pictures, wind the film twice,* each time releasing the shutter. This will dispose of the portion of film which has been exposed during loading.

*Do not take into account the first stroke if it cannot be made completely.

AUTOMATIC EXPOSURE COUNTER

Set the automatic exposure counter (Fig. 30) at zero, by using the two small lugs on its face. The counter will indicate the number of pictures taken.



30

Unloading the Camera

31

The exposed film must be re-wound back into its original cartridge or film magazine. If desired, a roll of film which has only partially been exposed can also be re-wound and removed. In this case, note the number of exposed frames indicated on the exposure counter, and use the number for guidance when re-using the film.

To re-wind the film, turn the ring on the shutter release button to the "R" position, lift out the rapid re-wind lever from its position on the re-winding knob (Fig. 31) and turn in the direction of the arrow. As the film is being re-wound, resistance will be felt, and the red dot on the shutter release button will revolve. Wind until no further resistance is felt and the dot stops its motion. The film is now completely re-wound, and the camera back may be opened to remove the film from the camera.

Film Sensitivity

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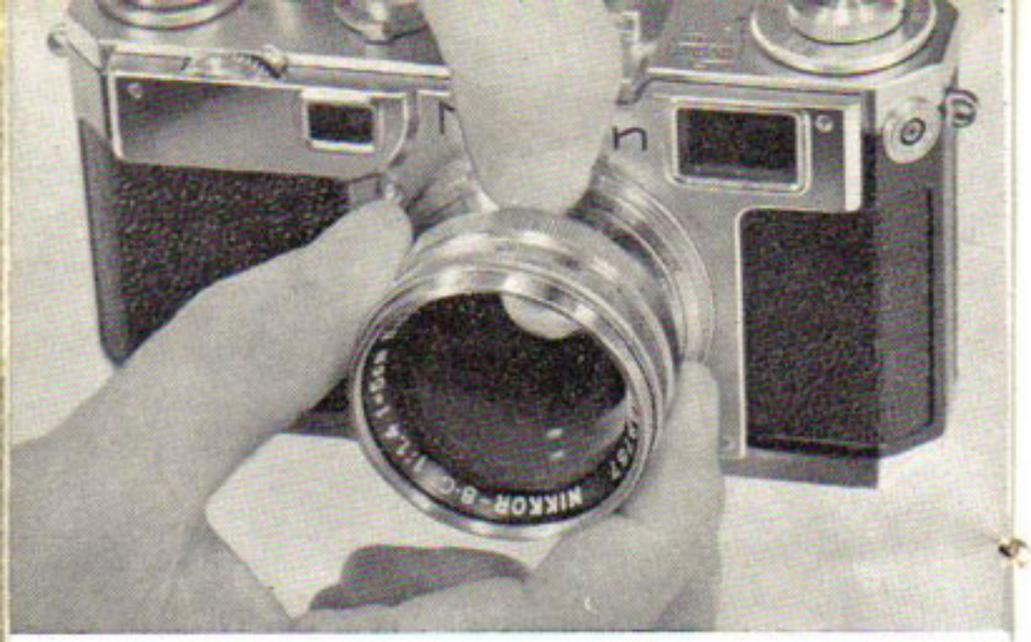
The film type indicating dial on the bottom of the camera serves as a reminder as to the type of film with which the camera is loaded. It can be set for either color or black and white film, and also for film speed in A.S.A. film ratings.

Different systems of expressing film speeds are used in different countries. The table below can be used to convert the other popular systems to A.S.A. ratings : —

ASA & BS	B.S.Log Index	DIN/10°	Scheiner	General Electric	Weston	H & D
6	19°	10	20°	8	5	125
8	20°	11	21°	10	6	150
10	21°	12	22°	12	8	200
12	22°	13	23°	16	10	250
16	23°	14	24°	20	12	300
20	24°	15	25°	25	16	400
25	25°	16	26°	32	20	500
32	26°	17	27°	40	24	600
40	27°	18	28°	50	32	800
50	28°	19	29°	60	40	1000
64	29°	20	30°	80	48	1250
80	30°	21	31°	100	64	1600
100	31°	22	32°	125	80	2000
125	32°	23	33°	160	100	2500
160	33°	24	34°	200	125	3200

Note : For increase or decrease of every 3° B.S. Log. Index or Scheiner index the exposure time is halved or doubled respectively.

Speed increases as the index numbers mount.



33

To Remove Lens

1. **Set the distance scale at infinity.**
2. Depress the spring catch (Fig. 33) with the left thumb.
3. Turn the barrel clockwise with the right hand until the red index mark on the barrel meets the red mark on the camera body.

The lens barrel can now be removed gently from the camera body. Mounting of the lens can be performed by reversing the above procedure. The opening in the camera body, if the camera is loaded, should not be exposed to a bright light while lens is removed. It is advisable to hold the camera toward your body.

LEATHER CASE AND REAR LENS CAP FOR NIKKOR NORMAL LENS

These are available at extra charge. They protect the lens from damage or dust when the lens has been dismounted and kept separate.

TO MOUNT TELEPHOTO OR WIDEANGLE LENSES ON THE NIKON

1. **Set the distance scales of both camera and lens at infinity.**
2. Note that on the camera and lens mount there is a red dot.
3. Place the lens on the camera (Fig. 34) so that the two red dots match, and insert the lens as it will go.
4. Turn the lens to the left until it comes into place. At this position the fluted lever on the lens will return to its original position.

The lens can be dismounted by depressing the fluted lever and reversing the above procedure.

FOCUSING

Telephoto lenses should be focused by turning the knurled ring on the lens barrel, and not by the focusing wheel on the camera.

When infra-red film is used, the distance setting obtained by the range finder should be re-set to the infra-red index mark represented by a red line on the lens.

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Telephoto lens should be placed into its leather case hood first, to avoid removing the lens by its hood, with the resultant possibility of dropping the lens.

View Finder

The wideangle lens covers a larger field of view, and the telephoto lens takes a smaller field of view compared with that by a normal lens.
Hence, the use of special view finders to suit interchangeable lenses.

INDIVIDUAL VIEW FINDER

Used singly with the 2.5cm, 2.8cm, 3.5cm, 8.5cm, 10.5cm and 13.5cm lenses.

35

For telephoto lens 13.5cm

For long focus lens 8.5cm

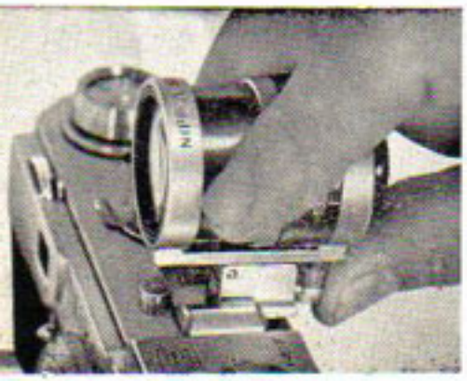
For wideangle lens 3.5cm

UNIVERSAL VIEW FINDER

While an individual view finder is good for some one type of focal length only, a universal view finder is designed for universal duty for all types. There are two kinds: varifocal and variframe.

VARIFOCAL VIEW FINDER

Slip the finder with its projected eyepiece towards the back of the camera onto the accessory shoe (Fig. 36). Set the indicator to the scale on the body of the finder according to the focal length of the lens being used. When 2.8cm lens is used, put an attachment lens on the finder front, indicator being set at 3.5. Focus the lens and then set the parallax adjustment scale at the view finder base (Fig. 37) in conformity with the focused distance shown on the barrel of the lens.



36

37

Use the red indicator for distances of 5 feet or less and the black indicator for distances over 5 feet. Use of the red indicator is in order to adjust a slight difference in view angle of camera lens for nearer subjects as against that for farther subjects. There are two graduations without figures in the scaling, which indicate the points where the visual image magnification is 1 × and 0.5 × respectively.

VARIFRAME VIEW FINDER

The handling of this type of view finder (Fig. 38) is practically the same as the varifocal type, the only difference of designs being that, in the variframe type, the picture frame area becomes larger or smaller, affecting the field of view coverage, according to the change of the focal length setting, whilst in the varifocal type, the magnification of image varies within a fixed picture frame, for instance the image zooms up as the focal length increases.

38

What is Parallax?

The term parallax in this case means a slight difference in view field coverage between that obtained through the view finder and that through the camera lens.
This is brought about by the fact that the view finder is situated higher than the camera lens and slightly sideways, and this discrepancy becomes more pronounced when the subject gets closer to the camera.
The horizontal discrepancy is negligible, but the vertical discrepancy is corrected by means of a compensator which causes the view finder to tip down and correlate the camera lens and the camera distance, so that the actual pictures will not be chopped off at top or bottom.

39

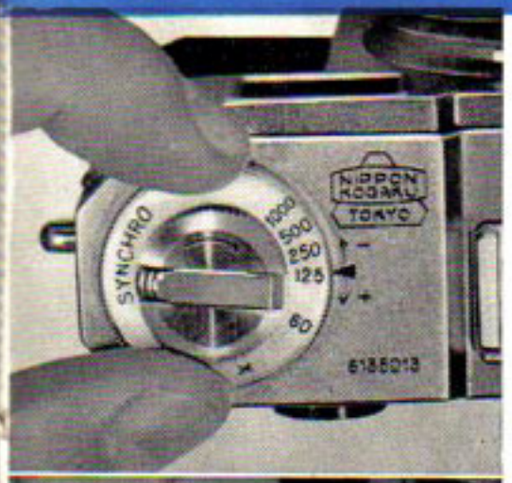
Flash Synchronization

The Nikon Camera is internally synchronized at all speeds for most of the available flash bulbs on the market.

Positive synchronization is obtained by a new Nikon innovation, the "Synchro-selector" in an extremely simple-to-use manner.

Plug the connecting cord of the flash unit into the synchro-socket on the Nikon and set the synchro-selector (Fig. 40) in accordance with the shutter speed and the flash bulb used, to the setting on the following table.

Flash bulb Class	Make	Shutter speed 1/1000	1/500	1/250	1/125	1/60	X	1/30	1/15	1/8	1/4	1/2	T	B
Small FP	West No. 6, No. 6A, No. 6Z, GE No. 6, Sylv. FP 26, Philips PF 24N	1000	500	250	125	60		X	X	X	X	X	X	X
F	West SM, SS, No. 12, GE SM, Sylv. SF							X	X	X	X	X	X	X
Large FP	West No. 31, GE No. 31, Sylv. 2A, Philips PF 45E, PF 100E				1000	500		60	60	X	X	X	X	X
M	West No.5,No.0 GE No.5. No.11, Sylv. No. 40, No. 0, Philips PF 38E, PF 60E		1000	500	500	125		60	X	X	X	X	X	X
Electronic, instantaneous firing							X	X	X	X	X	X	X	X



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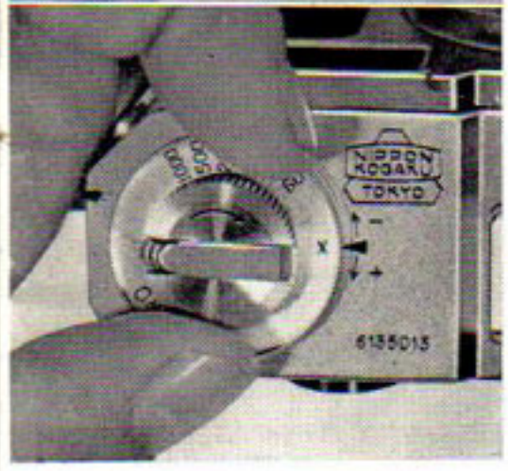

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ELECTRONIC FLASH

Most electronic flash units are instantaneous, and have no firing delay. With electronic flash units of this type, the high speed dial and the synchro-selector may be set at X (Fig. 41) and the slow speed dial at "30". The shutter will then operate at 1/50 of a second. With electronic flash units with built-in firing delay, the synchroselector should be set at X and the shutter at 1/30 of a second or slower, according to the characteristics of the flash unit.

There are plus and minus marks on the synchro dial. One click turn of the dial plus or minus represents a time lag of 1-2 milliseconds in the positive or negative between the start of flash and the shutter opening.

The above adjustment is necessary when using a flash bulb, such as Large FP bulb or M class bulb, which differs from the standard Small FP class bulb in respect to the time delay in emitting bright peak light, as shown on the previous table.

IMPORTANT !

For high shutter speeds or when two or more bulbs are connected in the circuit, use BC flash unit.

Filters

Nikon color filters are supplied either in screw-on mounts 43 mm and 40.5 mm in diameter or in series-type mounts Series VII and VI, for use with NIKKOR 5 cm F/1.4 and F/2 respectively. They are anti-reflection coated and furnished in plastic case (Fig. 42).

When the filters are used, longer exposure time or larger lens apertures are necessary, in accordance to the filter factor of the filter used.

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Infra-red Picture

When infra-red film is used, focus normally, determine the distance, and then move the distance marking found against the index marked "R".

Lens Shades

Lens shades are extremely useful accessories and are essential when a picture is taken against the light source, or where there is danger of stray side light.

Two kinds of Nikon lens hoods are available : lens hood in screw-on mount and hopper-shaped chuck-on type (Fig 43).

The lens hoods in screw-on mount are supplied complete with adapter ring and adapter ring insert. Nikon filter in series type is held between the adapter ring and the lens hood.

When the hood is not used, the filter is held between the adapter ring and the adapter ring insert.

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Hopper-shaped lens hood is fitted to the lens without interfering with the use of screw-on filter. The hood also attaches to the lens in the reverse position (Fig. 44) for storage in the eveready leather case.

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Care of the Nikon

The outer chromium-plated parts of the camera body should be cleaned with a soft piece of linen.

To clean the film track, the spool chambers and the back of the camera, use a soft hair brush or a handblower with care.

To clean lens surface, remove dust first with a feather or handblower, and then use tissue paper or soft washed-out linen. Remove the lens from the camera for the above operation, and pay utmost care so as not to scratch lens surface. Alcohol should be used sparingly, as an excess of it may find its way to balsam layer and impair the proper function of the lens.

Don't try to dismantle the lens. If there is anything wrong, return the lens to your dealer or to the manufacturer.

Lens Characteristics

High grade optical glass will sometimes contain small bubbles. These bubbles when they appear in a lens have absolutely no effect on lens quality.

Coated lens surfaces may sometimes show slight "slicks" when viewed by reflected light. These "slicks" have no effect on transmitted light and will not affect picture quality.

Caution!

- When the camera is carried in eveready case, don't forget to fasten the screw nut fitted on the bottom of the case, so that the camera will not drop out.
- The lens must not be exposed directly against the sun in any case. Shutter curtain is apt to be scorched by the focused image of the sun, causing a hole on the fabric.
- When camera lens is not in use, the lens focusing wheel should be located at the infinity position.
- Don't lose a guarantee card which bears serial numbers of camera and lens. It will also be well to keep record of the serial numbers, which will be helpful in tracing your lost camera or lens.

Item	No.