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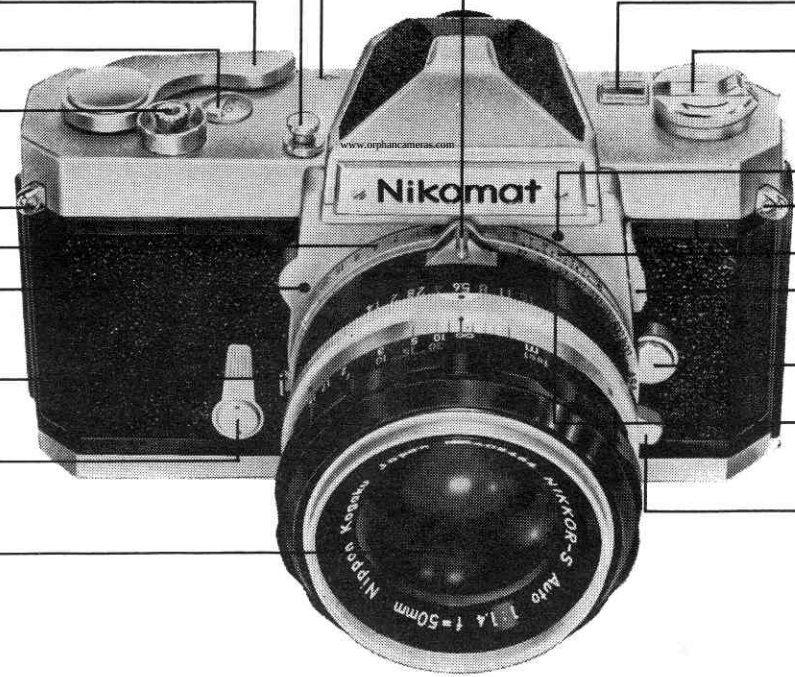
back to my “Orphancameras” manuals /flash and light meter site

Only one “donation” needed per manual, not per multiple section of a manual !
The large manuals are split only for easy download size.

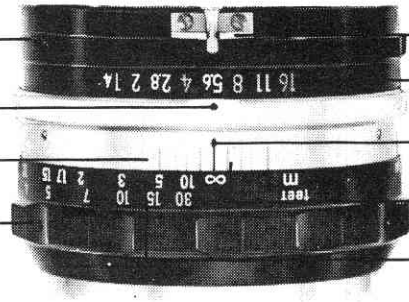
Nikomat

INSTRUCTIONS

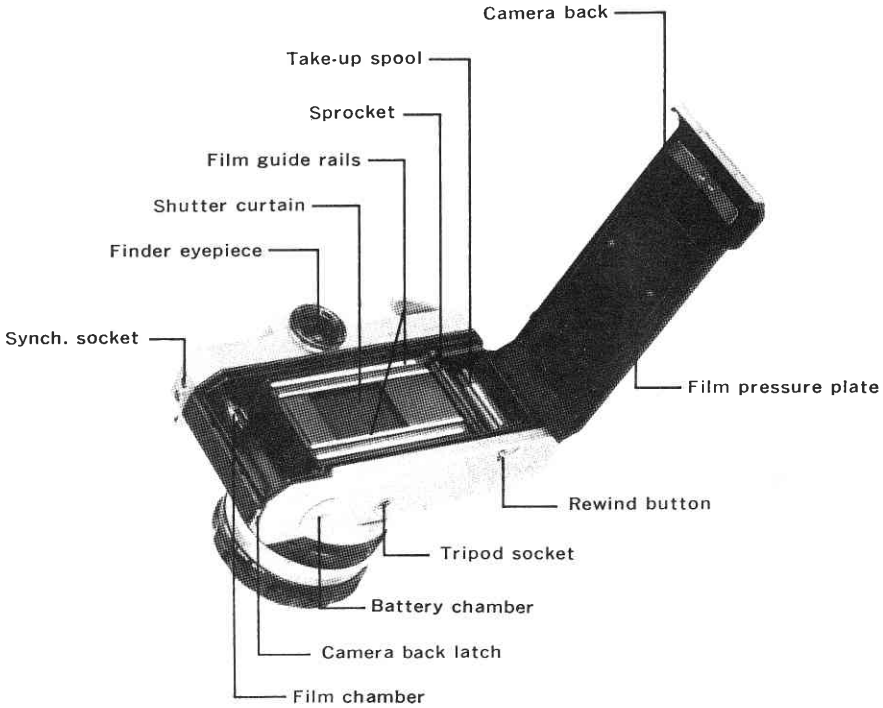
NOMENCLATURE



Film plane indicator
Depth-of-field preview button
Film advance lever
Exposure counter
Shutter release button
Shoulder strap eyelet
Shutter speed scale
Shutter speed index
Max. aperture scale actuator
Self-timer
Lens
Meter coupling pin
Meter window
Rewind crank
Stop-down coupling pin indicator
Shoulder strap eyelet
Max. aperture scale
Mirror locking catch
Lens lock button
Film speed (ASA) scale
Shutter speed lever



Aperture ring
Aperture index
Depth-of-field scale
Focusing ring
Meter coupling prong
Aperture scale
Distance index
Infra-red marking
Distance scale



SPECIFICATIONS

The Nikomat FT is supplied with Nikkor Auto 50 mm f/1.4, f/2 or 55 mm f/1.2 lens as a standard equipment.

NIKOMAT FT

Film to be used: Standard 35 mm film in daylight cartridges available in 36 and 20 exposure loads. Each frame measures 24 × 36 mm.

Viewfinder: Eye-level type using roof prism. Eyepiece accepts accessory angle-finder as well as eye-correction lenses.

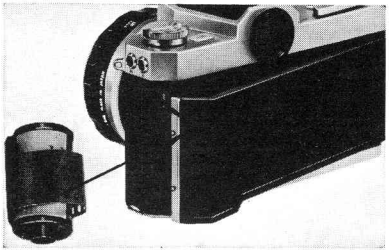
Finder screen: Circular micro-prism spot in center (dia. = 4 mm) surrounded by a mat ring to 12 mm dia. Remaining area is Fresnel lens. Screen field covers 92% of the actual picture field.

Mirror: Automatic return following exposure. Can be locked in the upper position.

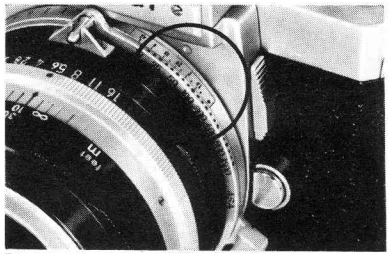
Shutter: Double focal plane type. The shutter curtains, made of metal, run vertically. Shutter speeds, from B, 1—1/1000 sec., are graduated equidistant.
A one-stroke lever wind of 155° advances the film and winds the shutter.

Exposure meter:	Built-in. Couples to shutter speed and aperture diaphragm. Read by a pointer needle either in the viewfinder or in the separate window on the top of the camera. Sensitivity range: ASA 12—1600 Coupling range: f/1.4, 1/4—f/11, 1/1000 sec. at ASA 100 with f/1.4 lens. Mercury battery 1.3 V is used. The meter is automatically switched on by moving the shutter winding lever away from the body, to the ready advance position. The CdS cells incorporated on the right and the left side of the finder eyepiece, are each provided with a front mounted condenser lens in a shielded tube. They measure only the light coming through the camera lens, and minimize the influence of back light entering through the eyepiece from behind the camera.
Depth-of-field preview button:	While being pressed, closes down the diaphragm to the pre-selected aperture.
Flash synchronization:	M-contact and X-contact provided with automatic time lag adjustment. Synchronizes to X-contact and speed-light flash at the shutter speed of 1/125 sec. or slower.
Self-timer:	Built-in. Starts by depressing the shutter release button.
Exposure counter:	Automatically returns to S (Start) with the camera back opened.
Dimensions:	146 mm (width) × 95 mm (height) × 33 mm (thickness) × 73 mm (shoulder height)
Weight:	745 g (Body only)

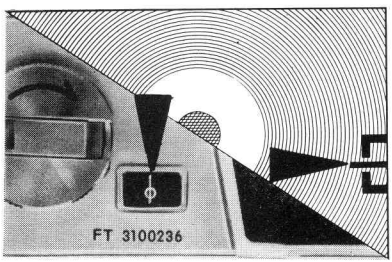
PICTURE TAKING PROCEDURES



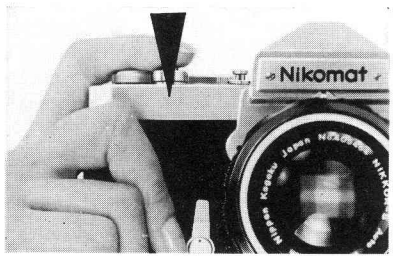
1 Load the camera with film.



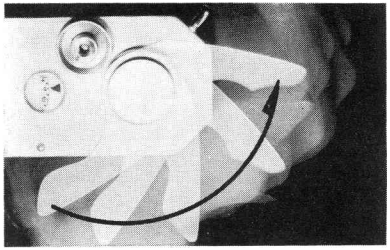
2 Set the max. aperture of the lens to the film speed (ASA).



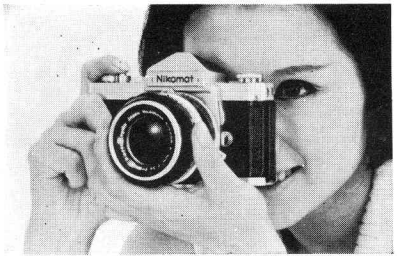
5 Turn the shutter speed and/or the aperture ring to set the exposure.



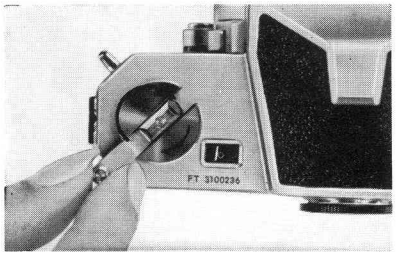
6 Press the shutter release button. One picture frame is exposed.



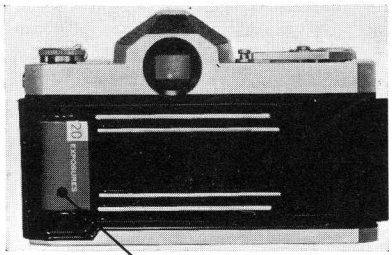
3 Wind the film advance lever.



4 Focus and compose the picture.



7 When the whole film is exposed, rewind the film back into the original cartridge.



8 After complete rewinding, the film can be removed.

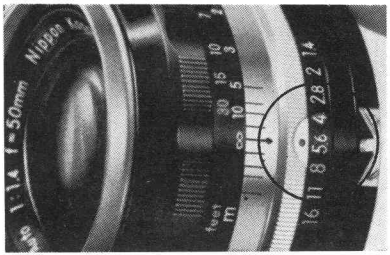
EXCHANGING THE LENS

To Remove the Lens

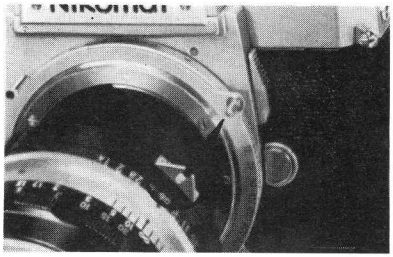
Holding the lens by the milled ring, press the lock button and turn the lens barrel clockwise until it stops.

To Mount the Lens

① Turn the pin on the camera to the right as far as it will go.



② Line up the aperture index on the lens with the meter coupling prong.

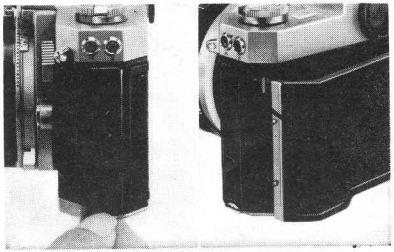


③ Fit the prong to the pin. In this position, the lens can be inserted into the camera.
Turn the lens counterclockwise, and the lens will click in position.

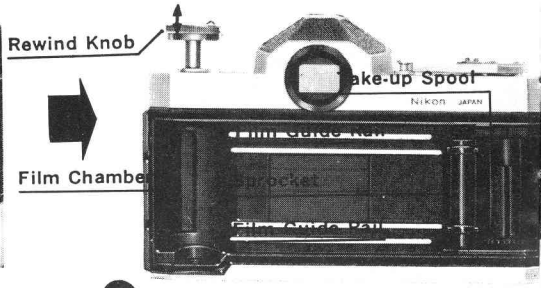
Caution

- When a lens is removed, the opening in the camera body should not be exposed to direct sunlight, especially with the camera loaded.
- Protect the inside of the camera by using a body cap whenever the camera is carried or kept with the lens removed.
- When the lens is carried separately from the camera, protect it from damage and dust by using a case as well as front and rear caps.

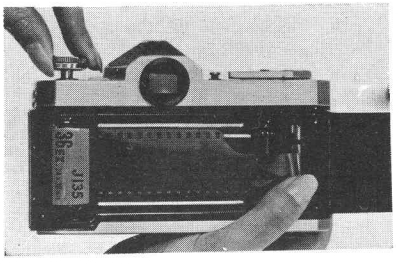
LOADING THE CAMERA



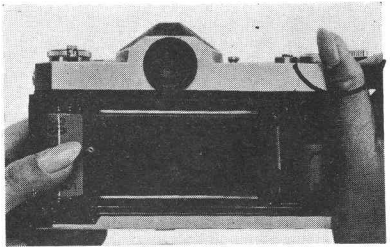
1 Pull down the latch, to open the camera back.



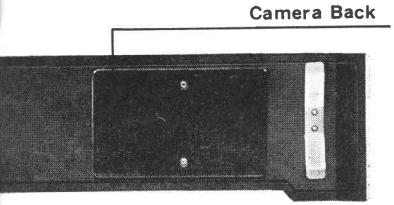
2 Pull up the rewind knob.



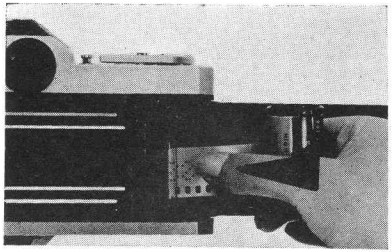
5 Place the cartridge into the chamber below the rewind knob. Push back the knob to lock the cartridge in place.



6 Gently push the film advance lever forward, to catch the film securely.

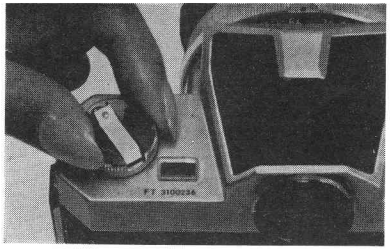


3 Rotate the take-up spool so that the slit in the spool faces upward.



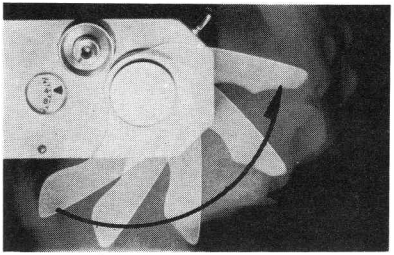
4 Insert the trimmed end of the film into the slit.

Holding the film with the perforations engaged in the teeth of the transport sprocket, close the camera which, if properly closed, should click shut.



7 Turn the rewind knob gently in the direction of the arrow on it, to take up any film slack in the cartridge.

FILM ADVANCE LEVER



The film advance lever, which simultaneously winds up the shutter, should be pushed forward until it stops. Then, let it swing back to the ready advance position. Depress the shutter release button, and the shutter will be released.

After the camera has been loaded and closed, operate the shutter twice for two blank shots to dispose of the film exposed during loading. As this is being done, note that the rewind knob rotates in the opposite direction to the arrow on the knob. This indicates that the film has been correctly loaded and is being advanced properly.

Exposure Counter

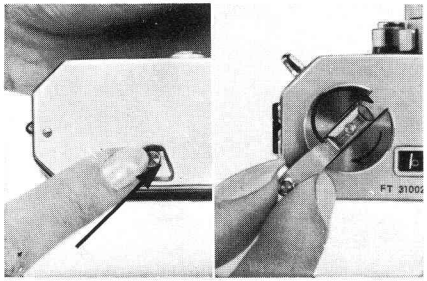
The exposure counter now registers "0". With the film advance lever operated again, the counter will register "1" and the camera is ready for the first shot. It then continues to register the number of pictures taken, up to a maximum of either 20 or 36 exposures, depending on the film length.

Camera back closed — First blank shot — Second blank shot — For first shot — For second shot

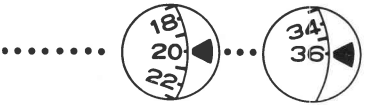
UNLOADING

When the end of the film is reached, a sudden difficulty will be felt in the winding of the film advance lever. At this position no further advance should be attempted. Bring back the lever to its original position and proceed to rewinding of the film.

First, push in the rewind button located on the camera bottom.
Then, lift up the rewind crank on the rewind knob.
Turn the crank in the direction of the arrow.
When the whole film is rewound and detached from the take-up spool, a release in the film tension will be felt. Open the camera in subdued light.



Pull up the rewind knob. Remove the film cartridge from the camera. The rewind button on the camera bottom will snap back into position when the film advance lever is next operated.

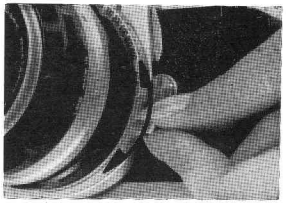


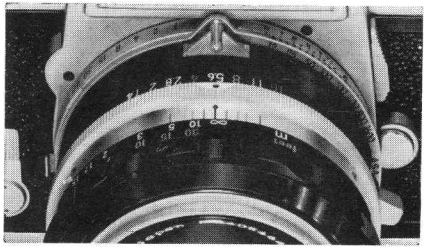
For 20th shot For 36th shot

The exposure counter automatically returns to "S" when the camera back is opened.

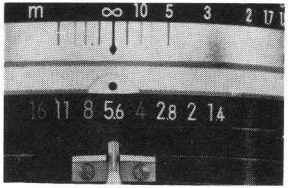
SHUTTER SPEED

The shutter speed controls the amount of light admitted through the lens and can freeze the image of moving subjects, too.
Turn the lever found on the right side, until the desired shutter speed number on the left side comes opposite the black index.





LENS APERTURE



The lens aperture controls the amount of light and at the same time the depth-of-field (see P. 24).
The aperture is expressed as the f-number. The larger the f-number, the smaller the aperture.
The f-numbers—the focal lengths divided by the diameter of the effective aperture, for example, 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, 22.... are engraved on the aperture ring of each lens, and can be set by turning the ring of each lens to the index. Each number of the above will permit the passage of half the light of the number preceding it. Thus, f/8 will allow half the light allowed by f/5.6.

The numbers from 1 to 1000 represent the denominations of the shutter speeds in sec. Thus, for example, the figure 125 represents 1/125 sec. The speeds are so arranged that each subsequent speed is twice as high as the preceding.

The shutter speed lever clicks at each marked number. The shutter does not give an intermediate exposure time, except from 1/250 to 1/1000 sec. When set at B, the shutter will remain open as long as the shutter release button is held pressed.

EXPOSURE METER

The meter in the camera measures the light actually passing through the camera lens by means of two highly sensitive CdS cells in the finder.

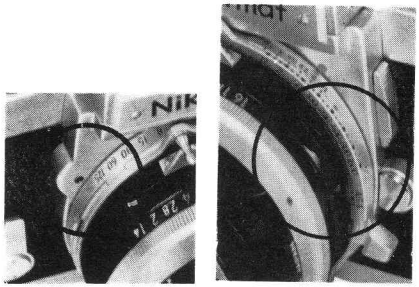
The light acceptance angle is the same as the picture angle of the lens being used. Each cell, having a condenser lens in front, enables only the light to be measured, that comes through the finder screen. These lenses effectively serve for minimizing the influence by the light entering the finder eyepiece from behind.

The meter is so ingeniously designed that, when the lens is coupled to the meter, exposure can be determined with the aperture fully open. No consideration as to the preselected aperture is required. It enables the photographer to take full advantage of viewing the brightest finder image for both focusing and composing. This is the full-aperture measuring method.

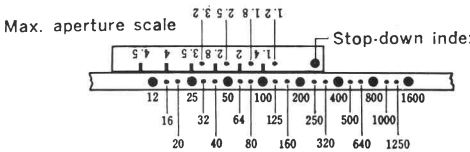
When the lens, however, is not equipped with a meter coupling prong or the prong cannot be coupled for any other reason, the correct exposure setting can be made by stopping down the aperture to center the needle. This is the stop-down measuring method (see p. 30).

DETERMINING THE EXPOSURE

(By the Full-Aperture Measuring Method)



The intermediate dots in the film speeds (ASA) and the max. aperture scales correspond to the values as below :



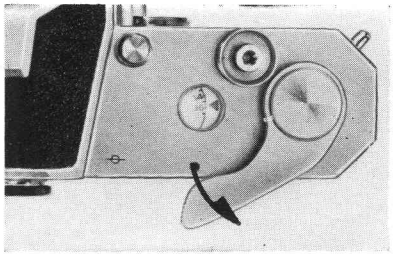
Film speed (ASA) scale

When using Nikkor Auto lenses with meter coupling prong and therefore the full-aperture measuring method is employed, proceed as follows :

1) **Max. Lens Aperture Setting to Film Speed**

First, the sensitivity of the film should be adjusted to the max. aperture of the lens being used. Move the actuator as it is being depressed, which turns the max. aperture scale, until the max. aperture figure of the lens (for example, 1.4 in the figure) on the scale lines up to the speed (ASA) of the film (for example, ASA 100). Then, release the actuator. Now, the max. aperture scale is interlocked to the film speed ring and they can be moved as a unit.

The amount of light admitted through the lens to fall on the film is adjusted by the exposure which is determined by the combination of the shutter speed and aperture of the lens. Therefore, a number of different combinations are possible for the same exposure ; for example, 1/250 sec. with f/1.4 will give the same exposure as 1/60 sec. with f/2.8 or 1/8 sec. with f/8.



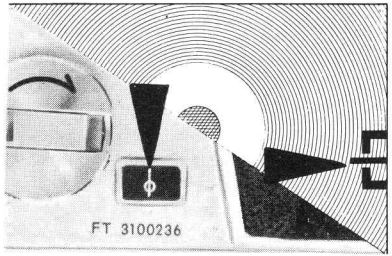
2) Switching on the Meter

The meter is automatically switched on when the film advance lever is moved out to the position where the red dot on the camera top is not covered by the lever.

When the lever is pushed home, covering the red dot, the meter is switched off. Thus, any unnecessary drain of the mercury battery is avoided and the life of battery will be prolonged.

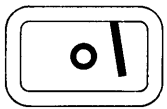
3) Setting the Meter Needle to Center

The exposure meter needle is visible on the camera top as well as at the edge of the viewfinder field. Turn the shutter speed lever and/or the aperture ring, until the meter needle comes to the center. The correct exposure has then been set for the scene or subject which the camera lens shows in the finder. Since the shutter speed scale does not provide for exact intermediate speed between the click stop markings, it is generally advisable to carry

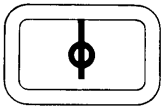


out final centering of the meter needle by rotating the aperture ring. If, in the process of centering in low light levels, the shutter speed lever should stop at " B ", the correct exposure time will be 2 sec.

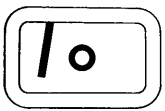
MOVEMENT OF METER NEEDLE



Under-exposure



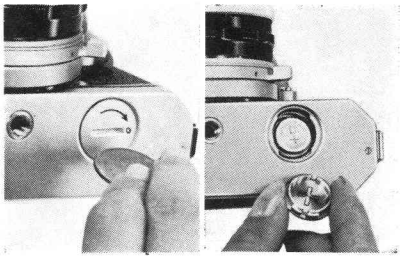
Correct-exposure



Over-exposure

The movement of the meter needles corresponds to the movement of the aperture ring as well as to the movement of the shutter speed ring.
If the meter needle happens to move discontinuously or to stop and cannot be set at the center, this does not always indicate any mal-function, but may result from one of the following causes:

1) The film advance lever may have been inadvertently pushed in to cover the red dot and turn the meter off.
2) The combination of aperture and shutter speed selected may be too far away from the correct one (too far toward the opposite limit) within the coupling range. Reset the shutter speed to 1/125 sec. If the needle moves insufficiently, enlarge the lens aperture or lower the shutter speed until the centering is obtained. If it moves excessively, reduce the aperture or increase the shutter speed.
3) In some unusual areas of extreme brightness or darkness, the combination of the aperture and shutter speed may be out of the coupling range of the meter, which, for example, with the f/1.4 lens and a film speed of ASA 100, covers from f/1.4 at 1/4 sec. to f/11 at 1/1000 sec., or with the f/2 lens and a film speed of ASA 100, from f/2 at 1/4 sec. to f/16 at 1/1000 sec.



The mercury battery to be used for the camera is chosen from the following makes, for example :

Mallory PX-13	Eveready E 625
Mallory RM-625 R	G. E. No. 625

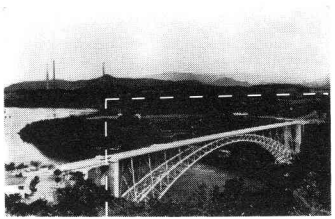
The mercury battery will generally last over one year with normal and proper use of the exposure meter.
To change the battery, open the battery chamber by turning clockwise the cover. (Use a coin or the like.) Inserting the new battery into the chamber with the plus (+) side facing outward, replace the cover with the inside plus (+) marking in contact with the battery.

Caution

If the meter is kept on and exposed to bright light at a low temperature (below 32°F, 0°C) for a long period of time, the meter may show a great error or even stop its function. This abnormal condition will naturally be rectified when the temperature rises again.
Therefore, in cold weather, take caution not to leave the meter on for longer than 3 minutes at a time.

- The motive power of the mercury battery will suddenly drop when its life is ended, causing no more movement of the pointer needle.
- An old battery should not be thrown into the fire. Avoid heating it.
- Never form a short circuit between the plus and minus sides of the battery.
- Never try to disassemble or recharge the battery.

SOME SUGGESTIONS FOR EXPOSURE MEASUREMENT

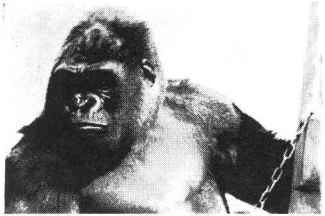


1. When the sky occupies a large portion of the picture field, its brightness often affects the meter, causing under-exposure. Point the lens toward a lower position while measuring.

2. An extremely bright or dark background occupying a large picture area as compared with the subject itself, has also an adverse influence.
   Approach the subject as near as possible for measurement.

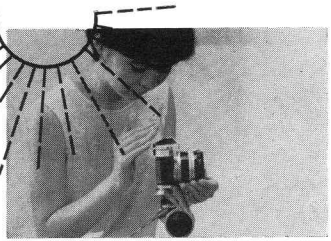
3. An intense light such as of a lamp on the ceiling or bright illumination from a window, etc. is likely to cause under-exposure. Measurement should be done with such a light left out of the finder viewfield.

The meter in the camera measures the average brightness of the scene covered by the lens. Consequently, for special lighting conditions as above, the meter might give settings which may result in either under- or over-exposure. Depending upon the conditions, some compensation for this possibility may be necessary.



4. If the subject cannot be approached, a better result will be obtained by measuring the brightness of the palm of the photographer's hand extended about 10 cm, provided that he is under the same lighting conditions as the subject.

5. In against-the-light photography, details of the subject illuminated by back light can be obtained by approaching the subject and measuring the shaded side.



6. Extraordinarily intense light from behind may exert an influence upon the measuring result of the meter. If covering the eyepiece with the hand causes movement of the meter needle in the camera top window, this indicates the effect of such influence. Use the eyecup or cover the eyepiece with the hand during the measurement.

Since the brightness of the palm is slightly over the average brightness of the subject to be taken, it is recommended to increase the exposure set by the meter as much as one stop, especially when using a color reversal film requiring an exactly correct exposure owing to its narrow latitude.

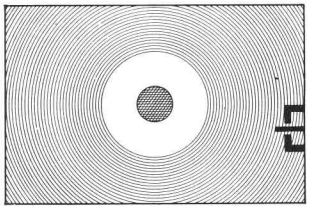
CAMERA HOLDING

In holding the camera, the eye should look through the center of the viewfinder, and the camera itself should be held firmly against the face.

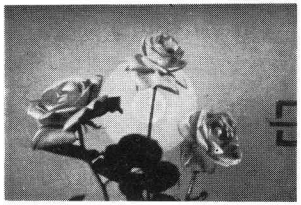
For crisp photographs, it is most important that the camera be held firmly at the moment of releasing the shutter, since any jarring or vibration will result in a blurred picture.
Every effort should be made to familiarize yourself with holding the camera and operating its controls.

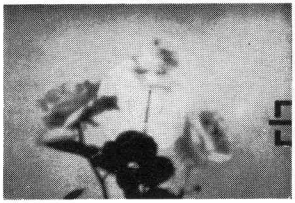
FOCUSING AND COMPOSING

Nikomat



Since the taking lens is at the same time the viewing lens in this single-lens reflex camera, the viewfinder shows the exact picture that will appear on the film. There can be no parallax problem, no matter how close to the subject the picture is taken.





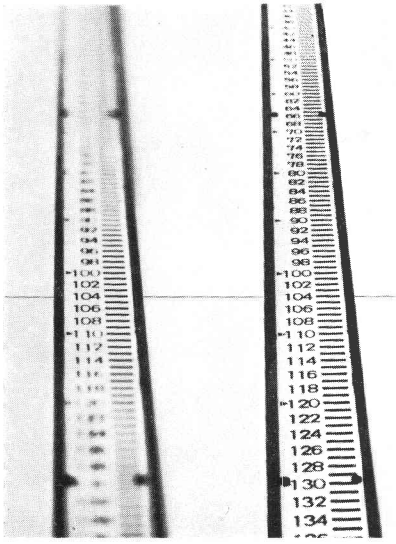
The subject to be photographed is brought into sharp focus on the viewing screen by turning the focusing ring of the lens. When the image is brought into focus, the image within the micro-prism in the center of the viewing field appears crisp and clear.

The distance between the camera and the subject can be obtained after focusing, by reading the number engraved on the focusing ring, opposite the indicator line located in the middle of the depth-of-field scale.

DEPTH-OF-FIELD

When a subject point is brought into focus by a lens at a specific distance from that point, the actual point on which the focus is made is considered to be most sharply defined in the picture, and the sharpness of other points which lie in front of and behind this point of focus gradually diminishes. Within certain limits, however, these may appear reasonably and acceptably sharp. The range within which points in front of and behind the point of focus, appear acceptably sharp, is called the depth-of-field.

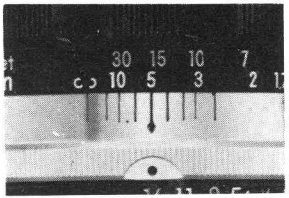
Depth-of-field increases as the aperture of the lens is made smaller. Changing into shorter focal length lens or increasing the distance between lens and subject also increases depth-of-field. These three factors can operate independently or in conjunction. One factor may act to partially cancel the effect by the other.

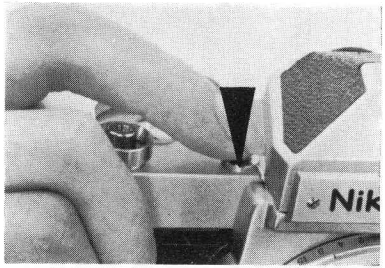


The Nikkor lens has a color-coded depth-of-field scale engraved on the lens barrel just behind the focusing ring. This color code permits easy reading of the depth-of-field scale for any selected aperture. Each set of colored lines,

located one on either side of the middle line represents a different f-number. The color of the line matches that of the f-number engraved on the aperture ring.

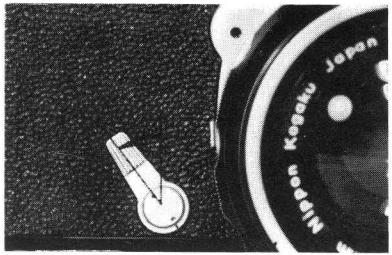
For example, when using the 50 mm f/1.4 lens, with the distance scale setting at 15 ft and with an f/16 opening (f/16 is shown in blue), the depth-of-field indicated by the blue-colored lines on either side of the black index will be between 8 ft and ∞.
This means that a picture taken at f/16, with the lens focused at 15 ft will show a range of acceptable sharpness between 8 ft and ∞. The sharpest point will be at 15 ft.





Press the button located on the camera top at the right side of the viewfinder (viewed from behind the camera), and the aperture diaphragm will be closed down to the preselected aperture. This permits viewing the depth-of-field at "taking" aperture, or selecting the "taking" aperture on the basis of depth-of-field. Release the button, and the diaphragm will instantly reopens.

SELF-TIMER

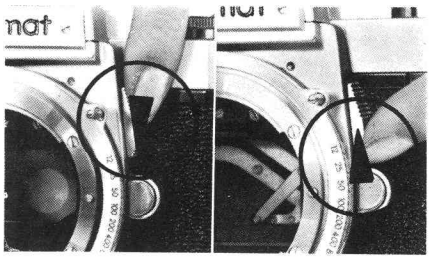


The self-timer is a device which delays the action of the shutter after the shutter release button is depressed. It is necessary if the photographer wishes to be in the picture.
To set the self-timer, move the lever down until it stops.
To start the timer, depress the shutter release button. The shutter will automatically be released after about 8 seconds.
The self-timer can be set before or after winding the shutter.
It should not be used at the " B " setting.
When the timer once starts, it cannot be stopped.

USING OF TRIPOD

The use of a tripod or similar support is necessary when a shutter speed of 1/30 or slower is used.
A cable release screwed into the shutter release button will help to avoid jarring the camera at the moment of exposure.
When measuring exposure in direct sunlight coming from behind the camera, it is recommended to cover the finder eyepiece with hand, to protect it from the influence of this intense light.

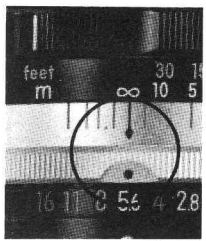
LOCKING UP THE MIRROR

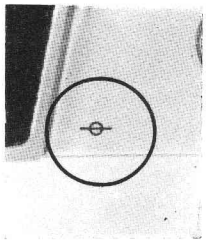


The mirror in the camera can be locked in the "up" position by pushing downward the milled catch found on the right side of the camera front escutcheon.
Pushing upward the milled catch returns the mirror to the normal operating position.
The "mirror-up" position is convenient, when using the camera for a sequence of copy work, photomicrography, etc., and is used wherever it is necessary to reduce residual vibration to an absolute minimum.

FOCUSING IN INFRA-RED PHOTOGRAPHY

When taking infra-red pictures, an extra focusing adjustment must be made. The subject should be focused as for normal photography; the distance between the camera and the subject should then be noted from the focusing ring and the ring rotated so that this distance is brought to the red dot engraved on the depth-of-field scale.



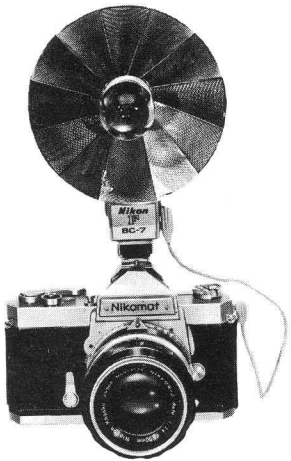


Film Plane Indicator

The marking ⊖ found on the camera top indicates the position of the film plane.

FLASH SYNCHRONIZATION

The use of a flash is necessary for taking pictures in low light levels.



To attach a flash unit onto the camera, first unscrew the finder eyepiece glass and insert the L-shaped accessory shoe. Replace the eyepiece glass and tighten. A regular flash unit (e.g. Nikon BC-7) or electronic flash can be used provided the unit is equipped with a standard PC flash cord tip and flash unit adapter.

The red "M" socket on the side of the camera should be used with all M, FP or MF class flash bulbs. The black "X" socket is a zero delay socket and is used for electronic flash.

Be sure you plug into the correct socket.

The shutter speed range which will permit positive synchronization with each class of flash bulbs or electronic flash is shown in the table on next page. Shutter speeds for positive synchronization with an electronic flash are 1 125 sec. or slower (engraved in black on the shutter speed scale of the camera).

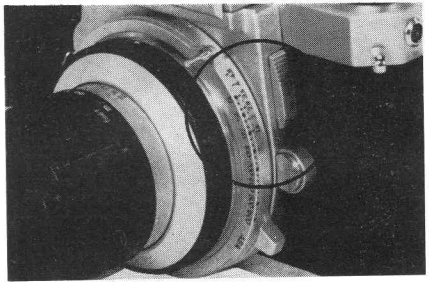
Camera Contact Socket	Type Bulb	Shutter Speeds											
		1000	500	250	125	60	30	15	8	4	2	1	B
M	M	○	○	○	○	○	○	○	○	○	○	○	○
	FP	○	○	○	○	○	○	○	○	○	○	○	○
	MF	—	—	—	—	○	○	○	○	○	○	○	○
X	Electronic flash	—	—	—	○	○	○	○	○	○	○	○	○

○: Synchronized —: Can not be used

Compensated by flash

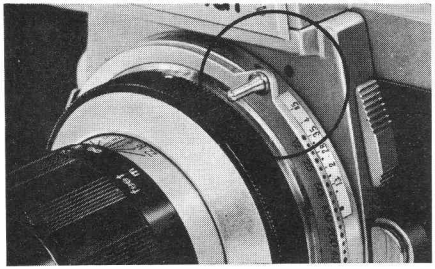
Even in bright daylight, the use of a flash is sometimes quite effective as an auxiliary light source, to compensate for a great difference in brightness between the subject and the background.

STOP-DOWN MEASUREMENT OF EXPOSURE



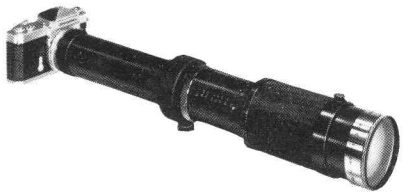
Exposure measurement which is made with the diaphragm stopped down to the taking aperture is applied to the following cases :

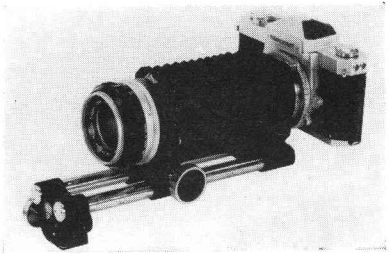
The coupling range of the exposure meter in the stop-down measurement is almost the same as that in the full-aperture measurement, but the sensitivity range changes to 16—1600.



First, move the actuator as it is being depressed, which moves the max. aperture adjusting scale, until the small red dot adjacent to the numeral 1.4 lines up with the speed (ASA) of the film being used. Then, move the coupling pin until it clicks opposite the red dot found on the top right of the camera front.

1) When using Nikkor lenses with the non-automatic diaphragm and without the meter coupling prong (for example, 105 mm f/4) ;
   Set either the shutter speed and/or the lens diaphragm so that the needle in the viewfinder or on the camera top comes to the center.





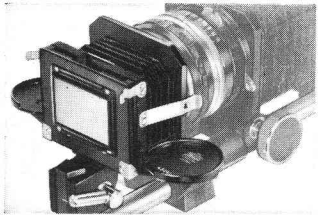
2) When using the Nikkor Auto lenses provided with the automatic diaphragm but not with the coupling prong (for example, Telephoto-Zoom 200—600 mm);
To center the needle manually, stop the diaphragm down by means of the depth-of-field preview button. Set either the shutter speed and/or the lens aperture diaphragm so that the needle in the viewfinder or on the camera top comes to the center. Then, transfer your finger from that button to the shutter release button.

3) When meter coupling is prevented by any intermediate unit (for example, the extension ring, bellows) inserted between lens and camera;

Same as the case 1).

4) When the camera is attached to a Reflex-Nikkor, a microscope, a telescope, etc;
No aperture diaphragm being provided, exposure is adjusted by the shutter speed on the camera.
With a microscope, it should be adjusted by changing the brightness of the light source.

REPROCOPY, SLIDE-COPY AND PHOTOMICROGRAPHY



For these purposes, the stop-down measuring method is to be applied. However, depending upon the conditions given in the tables here, the exposure should be increased as many steps as given over the value determined by the meter.

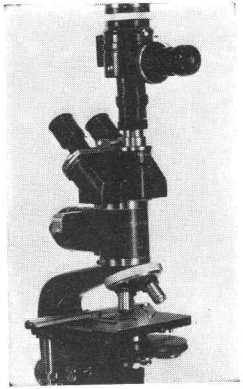
Type of film	Reprocopy		Slide-copy	
	Original	Exposure increase	Original	Exposure increase
Panchromatic (Generally used)	Black-and-white or color photo	Not needed	Black-and-white or color slide	Not needed
	Black letters or drawings on white ground	1 1/2 stops	White letters or drawings on black ground	− 1 1/2 stops
Microcopy	Black-and-white photo	1 1/2 stops	Black-and-white or color negative	1 1/2 stops
	Black letters or drawings on white ground	3 stops	White letters or drawings on black ground	Not needed

For slide-copy, when the slide-copy adapter is used with the Nikon Bellows Focusing Attachment, a flood lamp should be placed at a distance of about 30 cm from the opal glass plate of the adapter.

To determine the correct exposure for micro-copy film, on account of its narrow latitude and since other factors such as type of developer, temperature, time, etc. must be taken into consideration, trial exposures on both sides of the value just determined by the exposure meter should be made.

Type of film	Exposure increase
Black-and-white	2 stops
Color	1 stop

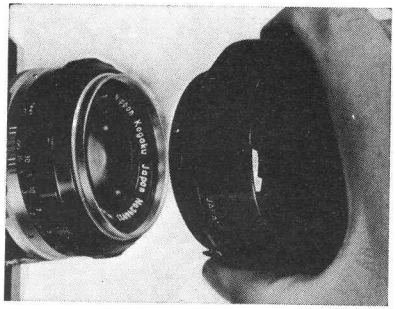
For photomicrography, the Microscope Adapter for the Nikon F or the Nikon Microflex can be used.

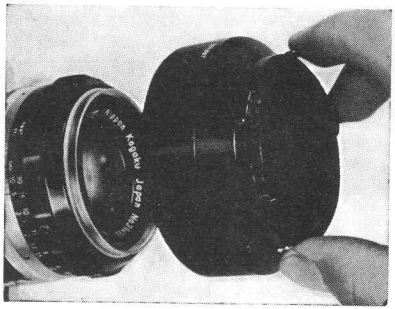


Repro. ratio	f/3.5 (Fully-open)	f/5.6, f/8, f/11, f/16, f/22	f/32
1/∞—1/10	Engage the coupling pin to the prong. Set the film speed to f/3.5		"Stop-down" method is used.
1/10—1/4		Stop down 1/2 stop more, after exposure setting.	
1/4—1/2		Stop down 1 stop more, after exposure setting.	

Even when using Micro-Nikkor Auto 55 mm f/3.5 with the coupling prong for 1/10—1 : 2 reproduction ratios, the full-aperture measuring method is used. However, since the aperture diaphragm in this lens is designed to automatically open more for close-ups, it is necessary to reset the diaphragm one half or one stop smaller (see the table) after the exposure setting is made by the use of the meter.
In addition to the full-aperture measuring method, the stop-down method can also be employed with the coupling prong not engaged to the pin. The above resetting of the diaphragm is not necessary, but the red dot adjacent to 1.4 on the max. aperture scale is to be set to the film speed (ASA). When taking picture of rather dark subjects, it is preferable to use the full-aperture measuring method. With the M-Ring attached for reproduction ratio between 1/2 and 1/1. only the stop-down measuring method should be used.

LENS HOOD





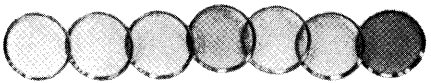
The use of a lens hood is recommended at all times, especially when the lens is turned toward the light, or where there is stray light present. Two types of lens hoods are available for Nikkor lenses: snap-on and screw-in.

Snap-on Lens Hood

Snap-on hoods combine "slip-on" speed and "screw-in" security.
By depressing the buttons (one located on either side of the hood), the hood is attached or detached. The hood will also fit directly over a screw-in filter, permitting use of both units with the lens at one time. The hood can also be "stored" in reverse position on the lens.

Screw-in Lens Hood

Screw-in hoods can be used with screw-in filters or drop-in filters.
However, screw-in filters are recommended, because the hoods in combination with drop-in filters may not always give satisfactory results with wide-angle lenses, owing to possible vignetting.



Nikkor filters are supplied either in screw-in or drop-in type mounts. Screw-in filters of various sizes, as shown in the table at the right, are available. Drop-in filters are used with the screw-in lens hoods. When the hood is not used, the filter can be attached to the lenses by means of an adapter ring and insert ring.

Choose the correct size filter for your lens by consulting the table in which those available are marked ○.

There is no need to calculate filter factors, since the exposure meter in the Nikomat FT measures the light actually passing the camera lens and filter being used.

Type		Designation	Screw-in					Drop-in	
			34.5 mm	43 mm	52 mm	72 mm	122 mm	Series 9	110 mm
Yellow	Light	Y 43, Y 44, Y 45	○	○	○			○	○
	Medium	Y 47, Y 48, Y 49	○	○	○	○	○	○	○
	Deep	Y 51, Y 52, Y 53	○	○	○			○	○
Orange		O 55, O 56, O 57	○	○	○	○	○	○	○
Red		R 59, R 60, R 61	○	○	○	○	○	○	○
Green	Light	X 0	○	○	○				
	Deep	X 1	○	○	○				
Ultra-violet		L 38, L 39, L 40	○	○	○	○	○	○	○
Neutral Density		ND 4×	○		○				
		ND 8×	○		○				
		ND10×	○		○				
Polarizing		Polar			○				
Skylight		L 1 A			○	○			
Amber		A 2			○				
		A12			○				
Blue		B 2			○				
		B 8			○				
		B12			○				

INTERCHANGEABLE NIKKOR LENSES FOR NIKOMAT FT

* The former Fish-eye-Nikkor 8 mm f/8 can not be used on the Nikomat.

** The Nikkor 21 mm f/4 whose lens number is larger than 225000 is improved so that it can be mounted on the Nikomat.

Group	Type	Exposure measurement	Aperture diaphragm	Closest focus distance	Hood	Filter	Weight	Remarks
* Special purpose	Fish-eye-Nikkor 7.5 mm f/5.6	—	Manual	—	—	Built-in	300 g	With individual finder. Used with mirror-up. Not coupled to Meter.
** Ultra wideangle	Nikkor 21 mm f/4	—	Manual	0.9 m or 3 ft	Screw-in	52 mm	135 g	With individual finder. Used with mirror-up. Not coupled to Meter.
Wide-angle	Nikkor Auto 28 mm f/3.5	Fully-open	Automatic	0.6 m and 2 ft	Screw-in	52 mm	215 g	
Wide-angle	Nikkor Auto 35 mm f/2.8	Fully-open	Automatic	0.3 m and 1 ft	Screw-in	52 mm	200 g	
Special purpose	PC-Nikkor 35 mm f/3.5	Stop-down	Preset	0.3 m and 1 ft	Screw-in	52 mm	290 g	Max. shift: 11 mm Click-stop at every 30° revolution.
Wide-angle	Nikkor Auto 35 mm f/2	Fully-open	Automatic	0.3 m and 1 ft	Screw-in	52 mm	285 g	
Normal	Nikkor Auto 50 mm f/2	Fully-open	Automatic	0.6 m and 2 ft	Snap-on	52 mm	205 g	
Normal	Nikkor Auto 50 mm f/1.4	Fully-open	Automatic	0.6 m and 2 ft	Snap-on	52 mm	325 g	
Normal	Nikkor Auto 55 mm f/1.2	Fully-open	Automatic	0.6 m and 2 ft	Snap-on	52 mm	420 g	
Special purpose	Micro-Nikkor Auto 55 mm f/3.5	Fully-open	Automatic	0.241 m or 9 1/2 in	Screw-in	52 mm	235 g	With M-Ring up to 1/1 repro. ratio.

Group	Type	Exposure measurement	Aperture diaphragm	Closest focus distance	Hood	Filter	Weight	Remarks
Telephoto	Nikkor Auto 85 mm f/1.8	Fully-open	Automatic	1 m and 3.5 ft	Screw-in	52 mm	420 g	
Telephoto	Nikkor 105 mm f/4	Stop-down	Preset	0.8 m or 2.75 ft	Snap-on	34.5 mm	230 g	
Telephoto	Nikkor Auto 105 mm f/2.5	Fully-open	Automatic	1.2 m and 4 ft	Snap-on Screw-in	52 mm	375 g	
Telephoto	Nikkor Auto 135 mm f/3.5	Fully-open	Automatic	1.5 m and 5 ft	Snap-on Screw-in	52 mm	375 g	
Telephoto	Nikkor Auto 135 mm f/2.8	Fully-open	Automatic	1.5 m and 5 ft	Built-in	52 mm	620 g	
Telephoto	Nikkor Auto 200 mm f/4	Fully-open	Automatic	3 m and 10 ft	Built-in	52 mm	600 g	
Special purpose	Medical-Nikkor Auto 200 mm f/5.6	Stop-down	Automatic	--	—	--	670 g	With built-in speed light. Repro. ratios 1/15—3× with attachment lenses.
Telephoto	Nikkor Auto 300 mm f/4.5	Fully-open	Automatic	4 m and 13 ft	Built-in	72 mm	1 kg	
Ultra Telephoto	Nikkor Auto 400 mm f/4.5	Stop-down	Automatic	5 m or 16 ft	Built-in	122 mm	1.9 kg	Used with Focusing Unit.
Ultra Telephoto	Reflex-Nikkor 500 mm f/5	Stop-down	With ND-filters	15 m and 50 ft	Screw-in	39 mm	1.6 kg	Vertical format change-over provided.

Group	Type	Exposure measurement	Aperture diaphragm	Closest focus distance	Hood	Filter	Weight	Remarks
Ultra Telephoto	Nikkor Auto 600 mm f/5.6	Stop-down	Automatic	11 m or 35 ft	Built-in	122 mm	2.4 kg	Used with Focusing Unit.
Ultra Telephoto	Nikkor Auto 800 mm f/8	Stop-down	Automatic	18 m or 60 ft	Built-in	122 mm	2.3 kg	Used with Focusing Unit.
Ultra Telephoto	Reflex Nikkor 1000 mm f/11	Stop-down	—	8 m and 25 ft	Slip-on	34.5 mm Built-in	2.5 kg	Vertical format change-over provided.
Ultra Telephoto	Reflex Nikkor 1000 mm f/6.3	Stop-down	With ND-filters	30 m and 100 ft	Slip-on	52 mm Built-in	10 kg	
Ultra Telephoto	Nikkor 1200 mm f/11	Stop-down	Manual	40 m or 130 ft	Built-in	122 mm	3.1 kg	Used with Focusing Unit.
Zooming	Zoom-Nikkor Auto 43—86 mm f/3.5	Fully-open	Automatic	1.2 m and 4 ft	Screw-in	52 mm	410 g	
Zooming	Zoom-Nikkor Auto 50—300 mm f/4.5	Fully-open	Automatic	2.5 m or 8.5 ft	—	95 mm	2.1 kg	Vertical format change-over provided.
Zooming	Auto-Nikkor Telephoto-Zoom 85 mm f/4— 250 mm f/4.5	Fully-open*	Automatic	4 m or 13 ft With attachment lens 2.2 m or 7.5 ft	Screw-in	Series 9	2 kg	*Determine the exposure with aperture f/4.5
Zooming	Auto-Nikkor Telephoto-Zoom 200 mm f/9.5— 600 mm f/10.5	Stop-down	Automatic	4 m or 13 ft With attachment lens 2.3 m or 7.5ft	Screw-in	Series 9	2.8 kg	Vertical format change-over provided.


ⓐ

Accessory Shoe ⓐ

This adapter is necessary for mounting Nikon Flash Unit, individual finder, etc. onto the camera.

The shoe is fastened under the outside protecting glass which once screwed out from the finder eyepiece.

Can be used in conjunction with the eyecup.

Angle Finder ⓓ

The finder, permitting viewing the finder vertically from any direction, enables assuming the easiest posture in reprocopy, close-ups, photomicrography, etc.

To attach it onto the camera, it is necessary to screw out the ouside protecting glass of the finder eyepiece in the camera.


ⓑ

Finder Eyecup ⓑ

Can be attached onto the protecting glass of the finder eyepiece. Prevention of extraneous light by the use of the eyecup not only serves to avoid the influence of the light upon the built-in exposure meter but also ensures crispness of the finder image.

ⓓ ⓔ

ⓒ

Eveready Cases ⓒ

Made of genuine leather. Two types, semi-soft and hard, are available, each with a detachable front. The tripod socket at the buttom permits attaching the camera to a tripod without need of removing the case from the camera.

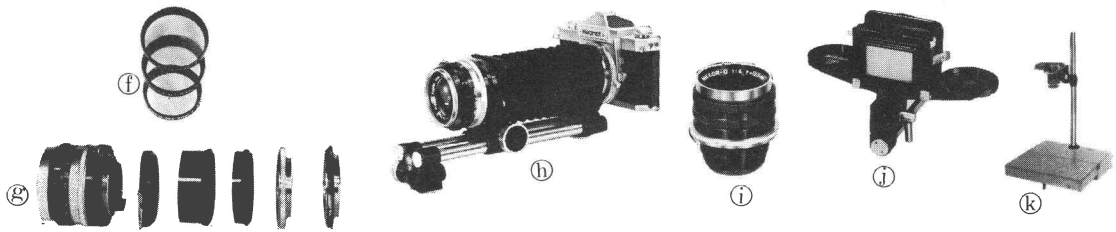
Eyesight Correction Lenses ⓔ

One of these lenses, attached in place of the protecting glass of the finder eyepiece, gives the far-sighted or near-sighted a sharp image through the finder:

−5, −4, −3, −2,
0, +1, +2, +3 (diopter)

Select the power by viewing the finder image combined with that (−1 dptr.) of the finder.

ACCESSORIES (For details, please read instructions attached to each item)



Close-up Attachment Lenses ⓕ

No. 0, No. 1 and No. 2 are available. Allow focusing as close as up to the distances, e.g. if used standard lens 50 mm f/1.4, as below:

	Focused Distance (cm)	Reproduction Ratio
No. 0	46 — 147	1/7.1 — 1/27
No. 1	40 — 78	1/5.7 — 1/13
No. 2	31 — 44	1/4.0 — 1/6.5
No. 1+No. 2	27 — 34	1/3.1 — 1/4.4

Extension Ring Model E_2

Inserted between lens and camera, it elongates the lens-to-camera distance for close distance photography.

Extension Ring Set K ⓖ

Consisting of 5 different rings used individually or combined for close-ups up to 1×repro. ratio.

Bellows Focusing Attachment ⓗ

Permits continuous elongation of the lens-to-camera distance for close-ups and macrophotography up to 3.5× with 50 mm lens. BR-2 ring is required for attaching the lens in reversed position.

Nikkor 135 mm f/4 ⓘ

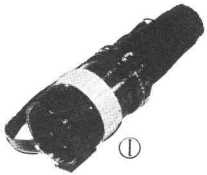
Exclusively used on the Bellows for photography from infinity to 1×repro. ratio. For attaching, BR-1 ring is required.

Slide-copy Adapter ⓙ

Attached onto the front of the Bellows, it gives great convenience in copying color slides or in making slides from negative color film.

Repro Kit Model PF ⓚ

Consisting of bracket, post and table clamp or carrying case which serves as a base plate. Conveniently used for reprocopy and close-ups.



Focusing Unit ⓛ
Commonly used for connecting Nikkor 400 mm, 600 mm, 800 mm or 1200 mm on the camera. Equipped with focusing mechanism, automatic aperture diaphragm and revolving tripod socket for horizontal and vertical format.

Focusing Adapter ⓜ
For using Nikkor 135 mm f/3.5 with screw-mount on the camera.

N-F Adapter Tube ⓝ
For attaching Nikkor 180 mm, 250 mm, 350 mm or 500 mm with Nikon S-series camera mount to the camera.

Nikon Flash Unit BC-7
Provided with three-way socket (for using bayonet base, miniature base or AG-1 bulb) and exposure calculator.
Accepts 15 V battery.

Microscope Adapter ⓞ
Connecting the camera with a standard microscope, it facilitates photomicrography.

EL-Nikkor 50 mm f/2.8 ⓟ
Optically and mechanically ideal enlarging lens with screw mount. White colored f-number figures especially convenient for darkroom use.

Nikon Microflex
Fully-equipped microscope adapter, with coupled-prism-shutter housing. Ocular viewfinder for high power and ground-glass viewer for low power magnifications.

Camera Body Cap ⓠ
Protects the camera inside, while the lens is being removed.

CARE AND MAINTENANCE

1. Clean the outside of the camera using a brush first and then soft cloth.
2. Dust and sand which enter while the camera is opened or the lens is detached, should be removed occasionally, using a brush or hand blower.
3. Dust, finger prints, water drops, etc. on the lens surface will not only affect the contrast of the image, but also, if left for a long time, will corrode the lens surface.
4. Do not wipe the lens surface too often without any need. If need arises, first remove dust using a brush and thereafter wipe it using washed-out cotton cloth or lens tissue, soaked with a bit of alcohol.
5. The camera should be stored at a place free from dust and moisture.
6. If the camera is dropped in water, bring it immediately to a service shop for repair. In case of salt water, the camera should once be immersed in fresh-water and then sent for repair.