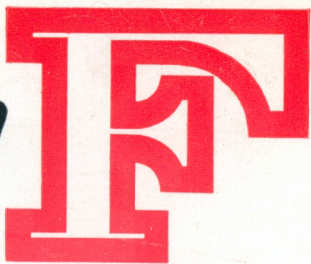
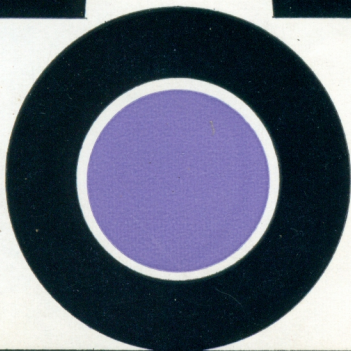


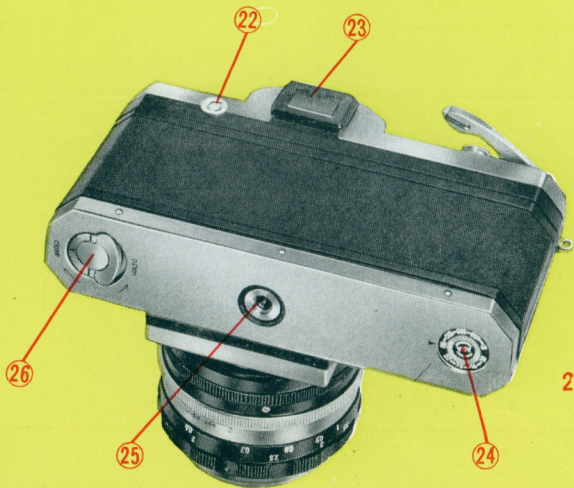
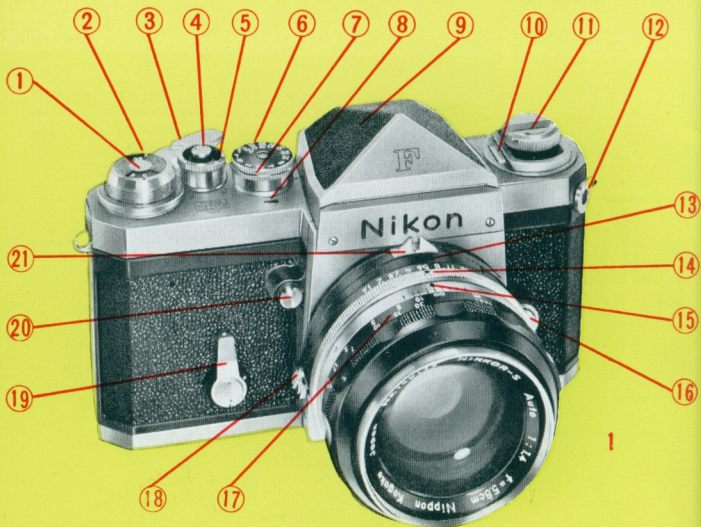
FULLY AUTOMATIC REFLEX

Nikon



INSTRUCTIONS





FRONT VIEW

1. Automatic exposure counter
2. Film load reminder
3. Single stroke film advance lever
4. Shutter release button (with screw thread for attaching cable release)
5. A-R ring for setting film advance (A) and film rewind (R)
6. Shutter speed selector dial
7. Synchro selector ring for flash synchronization control
8. Synchro indicator for flash synchronization
9. Eye-level penta-prism view finder
10. Accessory shoe
11. Film rewind crank
12. Terminal for flash and electric flash
13. Lens aperture (F-number) pre-select ring
14. Aperture indicator dot
15. Distance indicator with depth of field scale
16. Release button for removing lens
17. Lens focusing ring with distance scale
18. Mirror-lock knob
19. Calibrated, dual purpose self-timer
20. Depth-of-field preview control button
21. Diaphragm slot for coupling diaphragm to exposure meter

REAR VIEW

22. Release button for detaching the view finder
23. Finder eyepiece window
24. Film type (ASA speed) reminder dial
25. Tripod socket
26. Lock for removing and replacing camera back

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CARE OF CAMERA AND LENS

The exterior of the camera body should be cleaned with a piece of a soft linen.

To clean the inside use a soft hair brush or a handblower, with care. Do not use frayed cloth. Keep the film pressure plate clean.

To clean lens and reflex mirror surfaces, first remove dust with a feather or handblower, and then use soft washed-out linen or lens tissue.

When cleaning the mirror surface, be careful not to apply too much pressure.

Alcohol should be used sparingly for cleaning the lens surfaces, as an excess of it may reach the balsam layer and impair the quality of the lens.

As the finder screen is made of synthetic glass, handle it with special care so as not to scratch its surface.

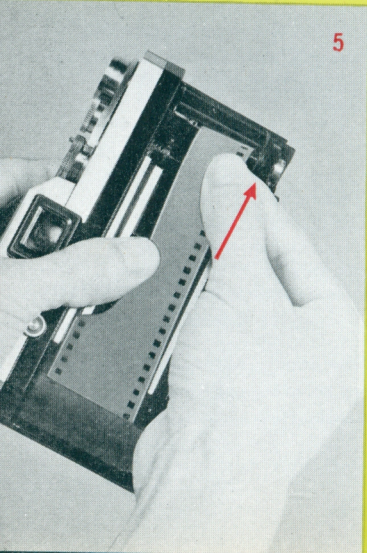
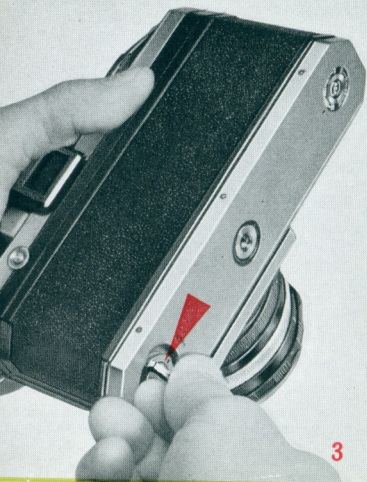
Don't oil the camera mechanism. The Factory used a special oil which can not be mixed with ordinary oil.

Do not try to dismantle the lens. If there is any question concerning your equipment, refer to your Dealer or to the Manufacturer.

LENS CHARACTERISTICS

High grade optical glass may sometimes contain small bubbles. These bubbles in a lens do not interfere with lens quality and do not affect picture 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. A careful cleaning will usually remove them.



LOADING THE CAMERA

Turn the lock on the camera bottom to the "Open" position (Fig. 3). The camera back is then unlocked and may be completely removed by sliding it off with the thumb (Fig. 4).

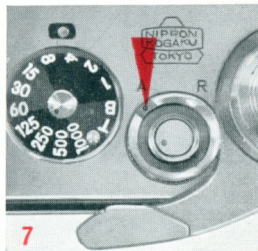
The take up spool is fixed and cannot be taken out, assuring more uniform film take-up and easier film loading.

Place a film cartridge or loaded cassette (See p. 35) in the left chamber, so that the projection of the cassette fits into the guide notch.

Insert the end of the leader of the film into the slot on the take-up spool (Fig. 5), so that the projection in the take-up slot catches the perforation of the film (Fig. 6).

Rotate the spool in the direction of the film cartridge so that the film passes under the spool and the emulsion side is wound face out.

Replace the camera back and lock it. Turn the A-R ring (Fig. 7) on the shutter release button to "A" Advance) position*, and shoot one or two "blank" exposures which will dispose of the portion of the film exposed during loading. While doing this, note that the Rewinding Knob rotates in the direction opposite to the arrow on the knob, indicating that the film is correctly loaded and is being advanced. If it does not move as indicated after the first "blank" exposure, gently wind in the direction of the arrow to take up the film slack in the cartridge.



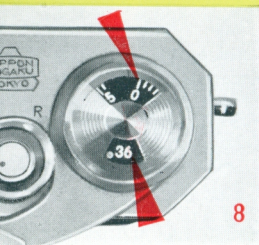
*It is important that the A-R ring on the shutter release button be turned to "A" before the "Blank" shots are made.

AUTOMATIC EXPOSURE COUNTER

The Exposure Counter (Fig. 8) on the Nikon F automatically returns to one or two spaces before zero when the camera back is removed.

After loading the camera, shoot two or three "blank" shots, until the counter registers 1. The camera is now ready for the first shot. Thereafter, the counter will automatically advance consecutively up to 36.

FILM LOAD REMINDER



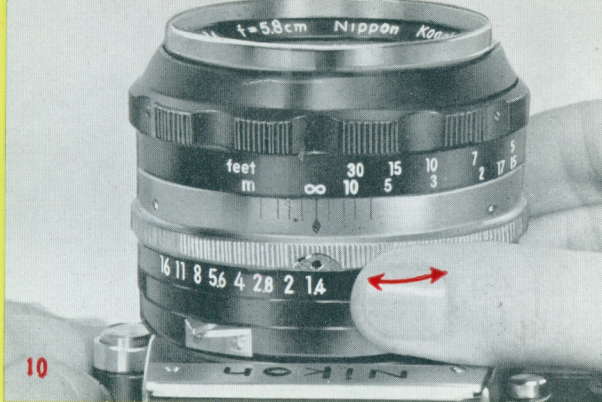
This feature indicates whether you have loaded a 20 or 36 exposure magazine. Move the indicator pin located to the left of "36" (Fig. 8) to change the indicator to "20".

FILM-TYPE REMINDER DIAL

The Film-Type Reminder Dial (Fig. 9) on the bottom of the camera server as a reminder of the type of film (expressed in ASA speed), with which the camera is loaded. It can be set for either color or black-and-white film.

"E" represents "Empty" and may be used to indicate that the camera is not loaded.





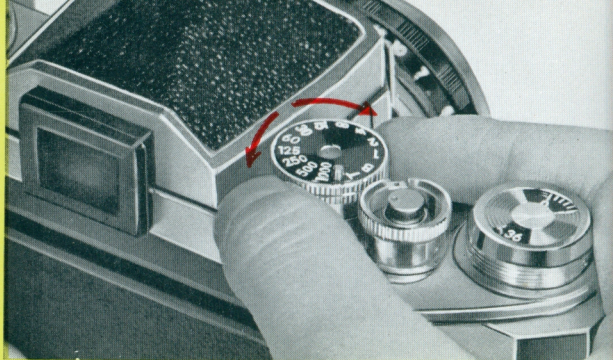
PRE-SELECTING LENS APERTURE

To pre-set the aperture, turn the aperture ring on the lens barrel until the desired F-number is opposite the black indicator dot on the milled ring (Fig. 10). The diaphragm can be pre-set for intermediate openings—between markings—and it will still function automatically without disturbing the setting.

Interchangeable Nikkor-Auto lenses from 28mm through 135mm (except 105mm F : 4 lens) and Telephoto-Zoom are designed so that the diaphragm automatically closes down to the preselected aperture when the shutter button is depressed. The diaphragm automatically reopens to full aperture immediately after the shutter has been fired. Consequently, the finder image is seen bright and clear at all times except for the instant the camera is fired.

A button (Depth-of-Field Preview Control) is provided on the front of the camera to permit closing the diaphragm down manually to the pre-selected aperture. When this button is released, the diaphragm automatically opens to full aperture (See page 16).

When interchanging lenses, no attention need be paid as to whether the shutter was previously wound. The diaphragm is automatic and foolproof.



SHUTTER SETTING

All 13 click-stop shutter speed settings are on a single non-spinning selector dial (Fig. 11), which can be set before or after the shutter is wound. Speeds are: 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500, 1/1000, B and T. The shutter speed setting desired is made by aligning the speed wanted with the black dot on the camera body.

The dial turns a full 360° in either direction and can be set from fastest to slowest speeds without obstruction.

Numbers on the Speed Selector Dial represent the actual shutter speed. For example, 125 on the dial represents 1/125 th second.

Bulb exposure: When the dial is set at "B", the shutter will remain open for as long as the shutter release button is held depressed.

Time exposure: When the dial is set at "T" the shutter will remain open even after your finger is removed from the shutter release button. To close the shutter, turn the dial to the right or to the left.

For greater convenience when using flash, the dial is color-coded to coincide with the color-coding of the Synch Control (See "Flash Synchronization" p. 19 for details).

Note that there is a pin on the top of the shutter speed selector dial to permit direct coupling of speed dial to exposure meter.

THE SELF-TIMER

The calibrated, dual-purpose Self Timer allows you to trip the shutter in approximately 3, 6 or 10 seconds, or any intermediate time delay. It can be set before or after winding the shutter.

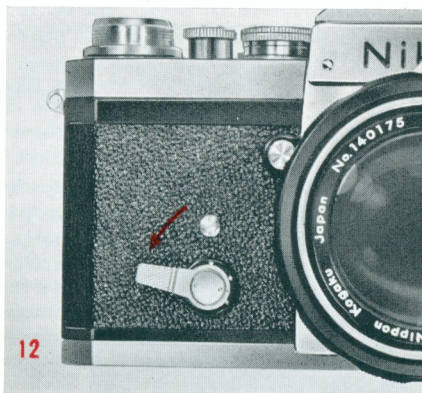
To set the Self-Timer, push the lever down (Fig. 12)*. To start the timer, depress the release button beneath the lever. When the pre-determined time delay has elapsed, the shutter is automatically released. Setting the indicator line to the nearest white dot will give approximately a 3 second delay; the next dot, approximately a 6 second delay; and setting the lever to third dot gives approximately a 10 second delay. Note that the timer does not operate unless the lever is set to the first dot (or any position beyond this dot).

The Self-Timer is also an ingenious aid for hand-held exposure at slow shutter speed. Wind the shutter. Set the Self-Timer for 3 seconds. Press the release button, and then use the delay to steady the camera with both hands.

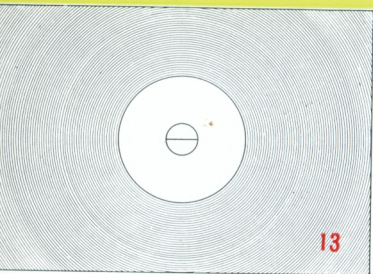
The Self-Timer should not be used for B or T setting.

If you decide not to use the Self-Timer after it has been wound, take the picture at the speed you want, using the shutter button. Now depress the release button of the Self-Timer and let it "run off".

*Once the lever has been set, it can be moved backward with no restraint.



FOCUSING



13



14



15

If you look through the eyepiece of the Eye-Level View Finder, you will see a brilliant finder image reflected in the Fresnel-type screen. In the center of the finder field is a circular, split-image range finder section (Fig. 13).

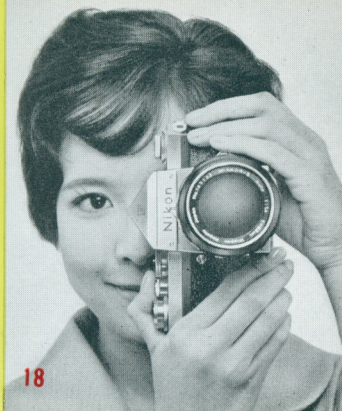
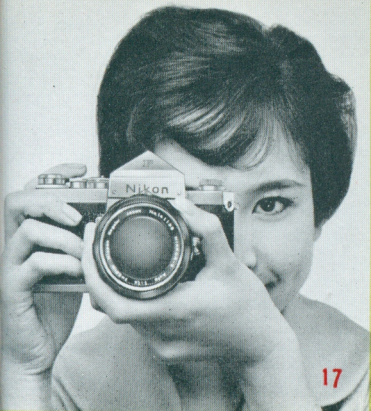
When out of focus, the subjects are seen as a split-image (Fig. 14) in the center and at the same time are blurred in the remaining area of the finder screen. If a subject is in sharp focus, the split-image in the center becomes complete and continuous (Fig. 15) and the image appears sharp in the remaining area.

To bring your subject into sharp focus, turn the focusing ring (Fig. 16) on the lens to the right or the left.

To determine the exact distance from the camera to the subject on which you are focused, look at the figure on the distance scale, opposite the black indicator line.



The Nikon F is designed so that its reflex mirror is in "position" at all times, permitting continuous, uninterrupted viewing and focusing (except for the instant the shutter is fired). The mirror returns to precise focusing-viewing position the instant the exposure is made, even with the camera held upside down.



PICTURE COMPOSING

First, determine and then set the combination of shutter speed and lens aperture you want.

Place your left hand under the camera (Fig. 17), with your thumb and forefinger on the focusing ring of the lens. Grasp the camera with your right hand, cradling the lower right-hand corner of the camera in the palm of your hand. Use your thumb to advance the film and your forefinger for the shutter release button.

Since the "taking" lens of the single-lens reflex camera is also used as the viewing lens, the finder shows the exact picture that will appear on your film. Regardless of focal length of the lens being used or the shooting distance, no accessory finder* is required, even if the lens is changed; and no problem of parallax arises at whatever distance the picture is taken from.

*When the 21mm super wide angle lens is used, the mirror must be raised because of the deep seating of the lens in the camera. Consequently an individual accessory view finder is available for use with this lens.

MAKING THE PICTURE



With a single stroke of the advance lever (Fig. 19), the film is advanced, the shutter is wound, and the film counter operates.

If the winding lever has not been wound completely, the shutter cannot be depressed. Wind it once more, this time, fully; then the shutter will operate correctly.

Now, focus by rotating the focusing ring, compose your picture in the view finder, and then shoot by gently depressing the shutter release. For speeds slower than $1/30$ second a tripod or some other support and a cable release should be used to avoid any possibility of jarring the camera.

When the advanced lever is released it will not swing back completely into position but will leave a small clearance for greater convenience in advancing the film for the next exposure.

Note :

There is a black dot in the center of the shutter speed dial. When the shutter is wound, this dot lines up with the black dot on the outside of the dial. This serves as a convenient indicator to show that the shutter has been wound.

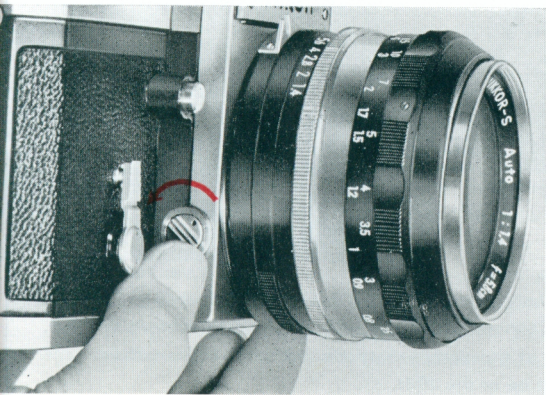
An automatic shutter release lock prevents accidental firing of flash before the shutter is wound. Once the shutter release fired, the shutter release cannot be depressed again until the film has been advanced and the shutter wound.

LOCKING THE MIRROR UP

To lock the mirror in the "up" position turn the button (Fig. 20) upwards until the black dot on the button meets the red dot on the camera body. Wind the shutter and then shoot (a blank exposure is made). The reflex mirror will move up, out of the way, and will not return to position after the shutter has operated. This is necessary when using the 21mm (super wide angle) lens, because of its deep seated mount. (An accessory 21mm finder which attaches to the camera accessory shoe, is available for use with this lens). The locking "up" of the mirror mechanism is also important for continuous shooting with the Nikon Electric Motor Drive at 4 frames per second, or for a sequence of copying work or in photomicrography.

To return the mirror to its original focusing and viewing position, turn the button (Fig. 20) downwards until the black dot on the button meets the black dot on the camera body. This should be done after the shutter is released. Otherwise, the mirror will not return to position until the next exposure is made.

Note that if the knob is turned after the film advance lever is wound up, the mirror does not return until the shutter is released (a blank shot is made).



20

DEPTH OF FIELD

Depth of Field is the range of distances 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. Depth of Field varies with the lens opening (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.

Nikkor lenses (from 21mm through 135mm) for the Nikon F have a color-coded depth of field scale engraved on the lens barrel opposite to the distance scale, permitting easy reading of Depth of Field for the selected aperture. Each set of differently colored lines, one to the right and one to the left of the middle black indicator line, represents a different F-number of the color that matches the colored F-number figure on the aperture scale.

For example, when you are taking a picture using the 58mm F : 1.4 lens, with the distance scale setting at 30ft. and with an F : 11 opening, (F : 11 is shown in yellow) the depth of field indicated by the yellow-colored lines on either



side of the black indicator line will be between 15 ft. and ∞ (Fig. 21). This means that a picture taken at F : 11, with a lens focused at 30 ft. will show a range of acceptable sharpness between 15 ft. and ∞ . The sharpest point will be at the 30 ft.

DEPTH OF FIELD PREVIEW CONTROL

The button located on the camera front (Fig. 22), is the instant-action preview control. Press the button and the diaphragm closes down to the aperture you selected. This permits you to see the depth of field (See Page 15) at "taking" aperture, or it permits you to select the "taking" aperture you want on the basis of depth of field. Release the button and the diaphragm instantly reopens. The preview control is independent of the shutter release and cannot cause accidental exposure.

When using the preview control note that the split-image portion of the finder will slightly darken if the preselected aperture is smaller than F : 4.



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Caution :

Do not release the shutter, while the Depth of Focus Preview button is being depressed. This will cause the inside reflex mirror to remain in the "up" position. If this should happen make a blank exposure, and the mirror will return to normal viewing position.

CHANGING THE VIEW FINDER AND FOCUSING SCREEN

The eye-level view finder with penta-prism can be interchanged with the waist-level finder (Fig. 23). To change finders, depress the lock button* located on the back of the camera (Fig. 24), and then lift off the finder. To replace a finder, put it back into position on the camera and then press down gently until the click is heard.

Two different types of the screen are available for use with Nikon F camera.

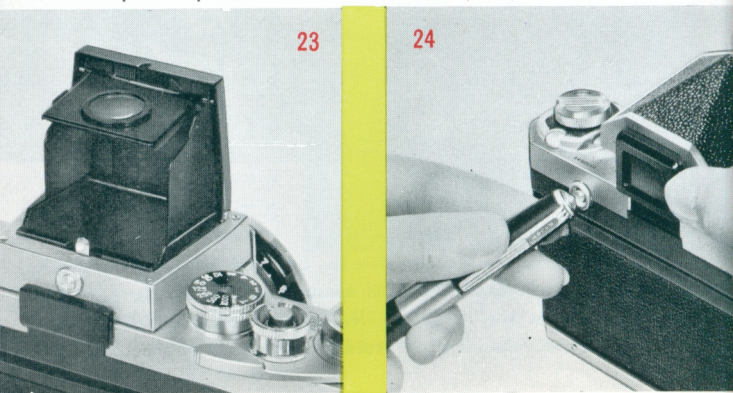
A. Fresnel screen with split-image rangefinder

B. All mal screen without rangefinder

Supplied as standard equipment is the focusing screen with split-image range finder.

To replace this unit with another type of screens, remove the finder as described above. Depress the lock button (Fig. 20) again and gently turn the camera upside down. The screen will drop into your hand. To insert a new screen, simply depress the lock button and drop the screen into position. Be sure that each screen is put into the camera with the mat or Fresnel surface downwards and the marking "Nikon F" on the frame facing front (toward the camera lens), or you may not be able to focus properly.

* With a pointed piece.



UNLOADING THE CAMERA

The exposed film must be rewound back into its original cartridge or film magazine. To rewing the film, turn the A-R ring on the shutter release button to the "R" (rewind) position, lift up the rapid rewind crank (Fig. 25) from its position on the rewind knob and turn it in the direction of the arrow.

As the film is being rewound, a slight resistance will be felt, and the black dot on the shutter release button will revolve. Keep on winding until the resistance stops and the dot stops its motion. The film is now completely in the magazine and the camera back may be opened to remove the film from the camera.



DOUBLE EXPOSURE

Here is the procedure to follow in making an intentional double exposure. Make the first exposure. Then set the A-R ring around the shutter releasing button to "R".

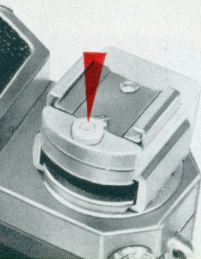
Turn the rewind knob in the direction of the arrow, until the shutter release button makes one complete rotation (or slightly more). This can be determined by the rotation of the black dot on the shutter button.

Set the ring back to "A" and wind the shutter for the second exposure. It is not necessary to use the same shutter speed as before.

Note : The double exposure procedure also operates the automatic exposure counter, with the result that the counter number will read one or two more than the actual number of frames exposed.

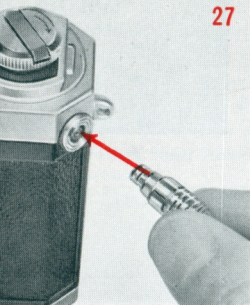
FLASH SYNCHRONIZATION

26



The Nikon BC-4 or BC-5 flash unit is mounted on the accessory shoe of the Nikon F by means of the Adapter. Instantaneous connection is made with the flash terminal located on the adapter (Fig. 26), eliminating the need for a connecting cord.

27



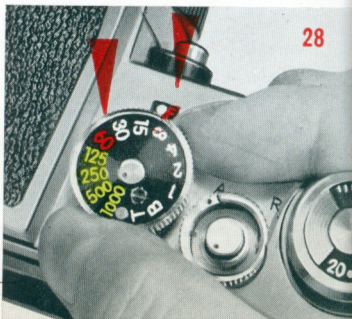
On the front left side edge of the camera there is a synchro-socket (Fig. 27) which accepts a regular flash unit ("Nikon BC-3" is recommended) or an electronic flash, provided with a standard PC flash cord or the snap-in Nikon flash cords.

For positive synchronization, set the synchro-selector according to the bulb and shutter speed used. See table on page 20. Lift up the milled selector ring on the outer edge of the shutter speed dial (Fig. 28), and turn it until the desired colored dot and/or figure, appears in the selector window (Fig. 28) adjacent to the dial; then drop the ring into place. By clockwise rotation of the

selector ring the above markings come into view in the following sequence :



28



Flash Bulb					Shutter Speed											
Class	Make				1000	500	250	125	60	30	15	8	4	2	1	B
	G. E. Westing-house	Sylvania	Mazda	West												
FP	PH/6	Type FP/26	No. 6 No. 6Z	No. 6 No. 6Z		●			●		●	F				
F	PH/SM	Type SF	F 1 F 2 F 3	SM SF SS	---	---	---	---	●	F		F	X			
M			Press	M 5	---	---	---	---	---	---	---	---	---	---	---	---
	PH/5 PH/8 M 5	Press-25 M 25	No. 3 No. 5 Z 5	No. 3 Z-Press	---	---	---	---	---	---	---	---	---	---	---	---
	PH/M2	Type M2	No. 0 2-M	No. 0 MX-0	---	---	---	---	---	---	---	---	---	---	---	---
X	Electronic, instantaneous firing				---	---	---	---	---	---	---	---	F	X		
	Electronic, with firing delay				---	---	---	---	---	---	---	---	---	F	X	

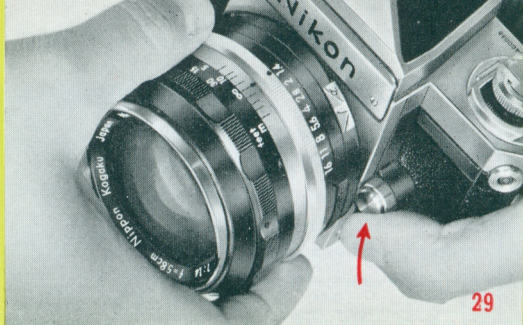
Small FP, M or F class bulbs are recommended for use with the Nikon. When the small FP or M bulb is used, select the color dot that matches the colored numbers on the shutter speed dial. For example, a shutter speed shown in green will match with the green dot.

When using F class bulbs, the color of the "F" figure must coincide with the color of the shutter speed being used.

For setting the correct lens aperture, determine the "Guide Number" by use of the exposure calculator on the flash unit.

Electronic Flash

Most electronic flash units are instantaneous, and have no firing delay. With electronic flash unit of this type, set the speed dial at 60 (or slower) and the synchro-selector at FX, as shown on the above table. For units which have a firing delay, the shutter should be set at 30 or slower.



CHANGING LENSES

To remove the lens, hold the camera as shown above; depress the lock button and turn the lens barrel clockwise until the black dot on the aperture indicator of the milled ring of the lens lines up with the black dot on the camera body.

To mount a lens*, line up the black dot on the lens with the black dot on the camera body, press in gently and turn the lens counter-clockwise until the lens clicks into position.

Caution :

When a lens is removed, the opening in the camera body should not be exposed to the sun, especially if the camera is 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 and the front and rear caps.

* When mounting the 21mm F: 4 wide angle lens, do not forget to lock the reflex-mirror in the up position. To mount the lens, line up the black dot on the lens base ring with the white dot, and then the latter with the black dot on the camera. Turn the base ring with the lack dot (instead of the whole lens barrel) until the lens clicks into position.

INTERCHANGEABLE LENSES

The following interchangeable lenses are available for the Nikon F camera.

type	Focal length	Aperture range	Picture angle	Closest focus distance	Apert. diaphragm	Exposure meter	Filter size		Hood type
							Screw-in	Series	
Wide angle	21mm†	F/4-F/16	92°	90cm or 3 ft.			52mm	VII	Screw-in*
	28mm	F/3.5-F/16	74°	60cm or 2 ft.	Auto	Couples	52mm	VII	Screw-in*
	35mm	F/2.8-F/16	62°	30cm or 1 ft.	Auto	Couples	52mm	VII	Screw-in*
Normal	50mm	F/2-F/16	46°	60cm or 2 ft.	Auto	Couples	52mm	VII	Snap-on
	58mm	F/1.4 F/16	41°	60cm or 2 ft.	Auto	Couples	52mm	VII	Snap-on
Tele-photo	105mm	F/2.5-F/22	23°20'	1.2m or 4 ft.	Auto	Couples	52mm	VII	Snap-on
	105mm	F/4 F/22	23°20'	80cm or 2.75 ft.	Preset		34.5mm	VI VII	Snap-on
	135mm	F/3.5-F/22	18°	1.5m or 5 ft.	Auto	Couples	52mm	VII	Snap-on
	180mm	F/2.5-F/32	15°30'	2m or 7 ft.	Preset			IX	Screw-in
	250mm	F/4-F/32	10°	3m or 10 ft.	Preset			IX	Screw-in
	350mm	F/4.5-F/22	7°	4m or 13 ft.	Semi-Auto			IX	Screw-in
	500mm	F/5-F/45	5°	8m or 25 ft.	Preset			110 mm	Screw-in
	1000mm	F/6.3 F/22†	2.5°	30m or 100 ft.	Preset		216mm		Slip-on
Tele-photo-Zoom	85~250mm	F/4 (F/4.5) ~F/16	28°30' ~10°	4m or 13ft. 2.2m* or 7.5 ft.	Auto	Couples	82mm	IX	Screw-in

Telephoto lenses are furnished with their own hoods.

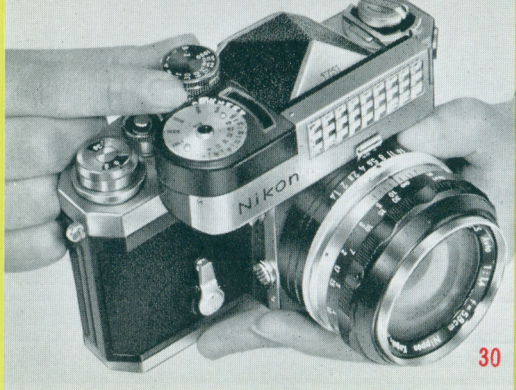
180, 250, 305, 500 or 1000mm lens requires use of the intermediate adapter collar.

* Exclusively designed for each lens.

† Individual finder included.

‡ Not with diaphragm but with built-in 4 neutral filters.

* With close-up attachment lens.



EXPOSURE METER FOR NIKON F

A unique, coupled exposure meter is available for the Nikon F Automatic Reflex. The meter couples both to the diaphragm of Nikkor-Auto lenses* and to the shutter speed dial. Moving either the lens diaphragm or the shutter speed dial to set the meter automatically sets the correct exposure.

The meter also has an automatic, internal high-low light control shunt permitting use in dim or bright conditions.

In extremely dim light conditions, meter sensitivity can be increased by using a booster (an auxiliary photo-cell) which attaches on the side of the meter.

While the exposure meter has been designed primarily to measure reflected light, it can be used for incident light readings. An opal plate is furnished as standard equipment for this purpose.

* From 28mm through 135mm (except 105mm F : 4) and Auto-Nikkor Tele-photo-Zoom.

INFRA-RED PICTURES

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 red dot on the lens barrel.

For example in Fig. 31 the 58mm F : 1.4 lens—in this case focused at infinity—has been rotated slightly so that the infinity marking ∞ is now aligned with the red dot.



LENS HOODS

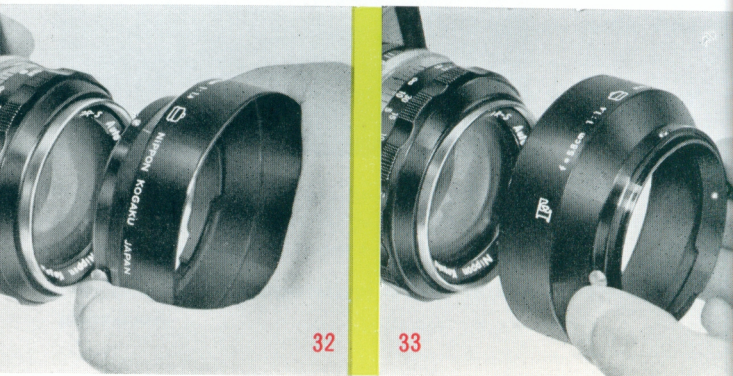
The use of lens hood is recommendable at all times even when the lens is not turned towards the light, or where there is no stray light present. Two types of lens hoods are available for Nikkor lenses—(see page 22)—snap-on and screw-in.

Snap-on lens hood

Snap-on lens hoods combine "Slip-on" speed and "Screw-in" security. By depressing the button (one located on either side of the hood—Fig. 32), 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 (Fig. 33).

Screw-in lens hood

Screw-in hoods can be used with screw-in filters or Series filters. However, the screw-in filters is recommended since the hood, in combination with the Series filter, may not always give satisfactory results with wide angle lenses because of possible vignetting.



NIKON FILTERS FOR BLACK-AND-WHITE FILM

Nikon filters are precisely ground, polished optical flats, hard coated on both sides.

Filter mount

They are supplied either in screw-in or Series type mounts. Screw-in filters are used with the lenses from 21mm through 135mm. Series filters are used with lenses from 180 through 500mm, which are furnished with screw-in type lens hoods. When the hood is not used, the filter can be attached to these lenses by means of the adapter ring and adapter ring insert.

Filter size

Choose the correct size Nikon filter for your lens consulting the interchangeable lens table on p. 22. The use of Nikon filters is recommended as satisfactory results may not always be obtained with other makes of filters. (Possible vignetting, scratching of lens surface, etc.).

Filter factor

Filters reduce the amount of light transmitted, therefore an increase in exposure is necessary when using them. This increase is expressed as a factor. Thus, a filter with a factor 2 means that double the normal exposure is required; e. g. use 1/30 instead of 1/60 second, or alternatively change the aperture from, say, F: 8 to F: 5.6. Correct filter factors also depend upon color of lighting and color sensitivity of film used.

Color and Shade		Denomination engraved on the filter	Filter Factors	
			Daylight	Artificial Light (Tungsten)
Yellow	Light	Y43, Y44, Y45	1.5	1
	Medium	Y47, Y48, Y49	1.7	1.2
	Dark	Y51, Y52, Y53	2	1.5
Orange		O55, O56, O57	3	2.5
Red		R59, R60, R61	6	
Green	Light	X0	2	1.7
	Dark	X1		2
Ultra-Violet		L38, L39, L40	1	1
Neutral	ND4X	ND4X	4	
	ND8X	ND8X	8	

Polarizing filter 52mm is also available.

MOTOR DRIVE FOR NIKON F



The Electric Motor Drive for the Nikon F brings automatic firepower to 35mm photography. It permits you to make power-driven single exposures and burst of two or more or continuously through a 36-exposure load. The number of frames exposed per second can be varied from 2 up to 4.

The motor is powered by 8 "C" batteries, 1.5 V each (standard dry cell e. g. "Eveready" 's 1C cell type 835, "Mallory" 's Zinc C cell type PF 933) which fit in a compact vinyl case designed for convenient carrying at all times. The motor controls can be set so that an entire 36-exposure roll can be fired at one burst, or it may be pre-set for automatic shut-off after any number of desired exposures. Provision is made for remote operation. The unit is supplied complete with the battery case and 3.3 ft. (1m) cord.

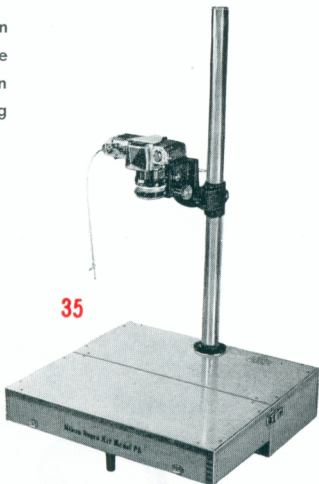
The Motor Drive attachment fits the Nikon F especially adapted for this purpose and replaces the regular camera back.

REPRO KIT MODEL PF

The Kit Model PF is intended for copying manuscripts, photographs, reference materials, small objects, etc., using the Nikon camera model F. It consists of a working platform, serving as a carrying case (Fig. 35), and a vertical post which carries a bracket for supporting the camera. When photographing large objects, the arm may be swung out 180 degrees and the kit placed at the edge of a desk: or the upright post can be detached from the platform and attached to the edge of a desk by means of a table clamp (available on order). The Repro Kit Model PF is also available with a working plate on which the upright post can be set up, instead of the carrying case described above.

When photographing wall mounted copy, the focusing head may be rotated 90 degrees by loosening the rear thumb screw. Positioning pins permit alignment in either position.

Focusing at distances closer than the nearest focusing distance of the lens can be done by using Extension Tubes and/or the Bellows Focusing to the reproduction ratio desired.



EXTENSION TUBES FOR NIKON F

The Extension Tubes (Fig. 36) are fitted between a Nikkor lens for F and the Nikon F camera body for taking close-ups. The following 5 types of the Rings are available :

Type	Extension Length
A	5.8mm
B1	5 mm
B2	5.8mm
C	10 mm
D	20 mm

Close-up data to be obtained by selection and fitting together of the tubes on the Nikkor-Auto 50mm F : 2 and 58mm F : 1.4 at closest focus distance are given below :

Extension tubes		Reproduction ratio		Area photographed ¹² / ₉	
Attached to lens	Attached to camera	50mm F : 2	58mm F:1.4	50mm F : 2	58mm F:1.4
No tube used		1 : 8.9	1 : 8.5	214 × 320 mm	203 × 304 mm
A		1 : 4.4	1 : 4.6	106 × 158	110 × 165
B2 + B1		1 : 3.1	1 : 3.3	74 × 112	79 × 118
B2 + B1 + A		1 : 2.3	1 : 2.5	55 × 83	59 × 89
B2 + C + B1		1 : 1.9	1 : 2.1	46 × 68	50 × 75
B2 + C + B1 + A		1 : 1.6	1 : 1.7	38 × 58	41 × 62
B2 + D + B1		1 : 1.4	1 : 1.5	34 × 50	37 × 55
B2 + D + B1 + A		1 : 1.2	1 : 1.3	29 × 43	32 × 48
B2 + D + C + B1		1 : 1.1	1 : 1.2	26 × 40	29 × 43
B2 + D + C + B1 + A		1 : 1	1 : 1.1	24 × 36	26 × 39



BELLOWS FOCUSING ATTACHMENT FOR NIKON MODEL F

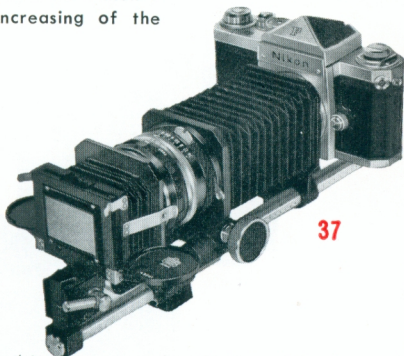
This attachment, in conjunction with the Nikon F camera (Fig. 37), permits the increasing of the lens-to-film distance to take magnified pictures of small objects.

The 28~135mm lenses for the Nikon F can be attached to the Bellows Attachment, producing different ratios depending upon the focal length of the lens being used. When using the Nikkor-Auto 50mm F : 2, magnification ratios cover the range between 1 : 1 (life size) and $3.5\times$.

When using the Nikkor 135mm F : 4 in short mount for photographing from infinity up to life size (1 : 1), an adapter is required.

Changing of the bellows extension is made by means of the knobs on the guide rails along which reproduction ratios and exposure factors are engraved for the above two lenses.

The Bellows Attachment, when used with the Extension Tubes allows even greater lens-to-film distance.



SLIDE-COPYING ADAPTER

This device provides great convenience in making duplicates of 35mm color or black-and-white transparency in the film strip or mounted on 2"×2" frame at the reproduction ratios between 1 : 1 and 2 : 1 approximately.

The device is mounted and clamped on the bellows focusing attachment for Nikon F (Fig. 37) with its own bellows connected light-tight with the lens to be used.

NIKON FLASH UNIT BC-3



The BC-3 flash unit (Fig. 38) is a heavy duty unit designed for use with the Nikon rangefinder-coupled and automatic reflex cameras. It includes : battery case with capacitor ; $4\frac{3}{4}$ " (12cm) reflector ; folding camera bracket : a built-in test bulbs for checking camera circuit continuity and battery-capacitor charge ; bulb ejector ; extension outlet ; 5" (13cm) long connecting cord ; convenient flash bulb exposure guide. Furnished complete with a vinyl case.

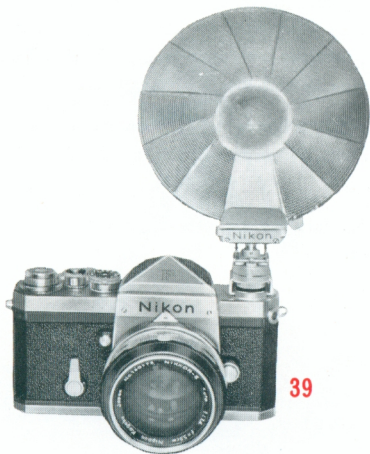
Bulbs used are regular bayonet base type, and the battery voltage is 22.5V. hearing aid type.

Extension Reflector

The extension reflector with a side clip is used with Flash Unit BC-3 for extension flash. The 5" (13cm) reflector is adjustable on ball-and-socket joint. Supplied with 16' (5m) long cord.

NIKON FLASH UNIT BC-5

4/0000yen



Rugged and compact, the BC-5 flash unit (Fig. 39) is mounted on the accessory shoe of the Nikon F by means of an adapter. It makes instantaneous connection with the flash terminal located on the adapter, eliminating the need for a connecting cord. The unit includes: battery case with capacitor, $4\frac{3}{4}$ " (12cm) collapsible fan-fold type reflector; built-in test bulb for checking camera circuit continuity and battery capacitor charge; bulb ejector; convenient flash bulb exposure guide.

The reflector tilts backward through a maximum range of 135 degrees for bounce flash. It can be fixed at any angle.

Bulbs used are regular midget bayonet base type and pinless miniatures M2, M5 and M25. Battery is a 22.5V hearing aid type.

MICROSCOPE ADAPTER

The Nikon Camera Model F is used for taking photomicrograph simply by adding this adapter (Fig. 40) between the camera body and a microscope. The adapter incorporates a projection lens, giving the microscope image as large as half the total magnification of the microscope.

The adapter has a bayonet mount on the top and an eyepiece tube at the bottom with a clamping screw for attaching the unit to the microscope draw tube.

Supplied complete with a green, yellow and orange filter, in a fitted leather case.





TELESCOPE ADAPTER

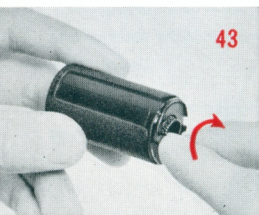
This adapter (Fig. 41) permits photography of the moon and other objects at great distance in conjunction with Nippon Kogaku's 2 inch ($f=750\text{mm}$) or $2\frac{1}{2}$ inch ($f=980\text{mm}$) telescope, the eyepiece being removed. Supplied complete with the following 6 filters in fitted leather case.

- Ultra-violet
- Orange
- Red
- Deep yellow
- Neutral ND $8\times$
- Neutral ND $400\times$

In focusing with the adapter, it is recommended to use the all mat viewing screen which is supplied and can replace the split-image screen normally used in the camera.

FILM CASSETTE

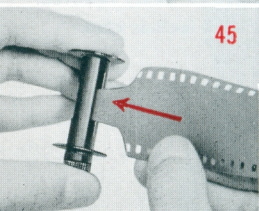
The Nikon F camera will accept any standard daylight loading cartridge containing a ready-cut length of 35mm film. The Nikon cassette (or magazine) can be loaded with a ready-cut film length or fed from a stock of 35mm.



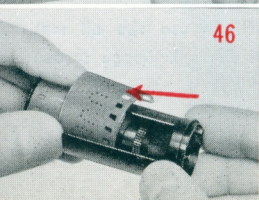
43



44



45



46



OUTER
SHELL



SPOOL



INNER
SHELL

42

The cassette (Fig.42) consists of outer and inner shells and a spool. The figures on the bottom of the outer shell show ASA speeds and are used to indicate the speed of the film in the cassette. The white dot on the edge is the index. The black figures are for black and white film, and the red for color film. When the film has been exposed, the red dot index should replace the white.

To Open the Cassette

Hold the cassette in your left hand, with the bottom showing the ASA speeds, away from you. Depress the small button with a right hand finger, and turn the inner shell of the cassette clockwise (Fig. 43) until the side openings of both the shells meet and the inner shell simultaneously pops out slightly, ready to be pulled out (Fig. 44).

To Load the Cassette

(In the dark room)

Trim the end of the film so as to form a tongue to be fed into the spool. This must not be made too wide for it has to be pulled out at the other side of the spool slit when the film has been exposed and cut away. To load the spool, first hold it in your left hand with the projecting end toward you. Thread the film tongue with the right hand (Fig. 35), emulsion surface downward, through the large opening of the slot in the spool. When the teeth inside grip the film, wind the film on the spool (emulsion surface in).

Insert the loaded spool into inner shell, so that the projecting end fits the opening at the opposite end. Then hold the outer shell in your left hand and slide it over the inner shell. Be sure that the film end extends out of the outer shell (Fig. 46).

Push the top of the inner shell until it seats. Then, turn it counter-clockwise within the outer shell until you hear two clicks. The cassette has now been loaded, and is perfectly light tight, and is 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. 47).

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



EVEREADY CASE

For Nikon F with Exposure Meter



After putting the camera in the case (Fig. 48), fasten the locking screw nut found on the bottom.

This nut is threaded so that the camera can be attached to a tripod without removing from the case.

The eveready case permits the use of camera by simply detaching its snap-on front only.

A soft leather case is also available.

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 shutter curtain of the camera, which is made of extremely thin titanium foils, as it may damage the curtain.
- When the camera is not in use, the shutter and self-timer should not be kept in a wound position for any length of time.
- Do not lose the guarantee card which bears the serial numbers of the camera and lens. It is also advisable to keep a record of these serial numbers in the event that you lose the camera or lens.

Item	No.
R	7398950



NIPPON KOGAKU K. K.

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