

Nikon

NIPPON KOGAKU K.K.

Nikon

INSTRUCTION
MANUAL

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Nomenclature

- 1. Depth-of-field preview button** Press to preview how much background or foreground is in or out of focus.
- 2. Black dot** For alignment with the black dot on the lens barrel when removing the lens.
- 3. Lens release button** Unlocks the lens for removing or changing lenses.
- 4. Flash terminal** Accepts synchro cord for electronic flash or flash units other than Nikon BC-7.
- 5. Self-timer** Can be set for picture-taking delay up to 10 seconds.
- 6. Mirror lock knob** Locks the mirror up out of the way for use with Fisheye Nikkors.
- 7. Finder release button** For removing the interchangeable viewfinder and focusing screen.
- 8. Finder eyepiece** Permits comfortable viewing of the entire viewfinder screen, even for eyeglass wearers.
- 9. Neck strap eyelet**
- 10. Film-speed reminder dial** Can be set for color or black-and-white, speeds from ASA 25-1600 as a reminder of the type of film loaded in the camera.
- 11. Tripod socket** Threaded to accept standard tripod screw.
- 12. Lock** For removing and replacing camera back.
- 13. Frame counter** Indicates the number of frames exposed.
- 14. Film-load reminder** Can be set to show whether film loaded is a 20- or 36-exposure roll.
- 15. Film-advance lever** Advances the film, cocks the shutter and operates the frame counter.
- 16. Shutter release button** (With screw thread for cable release).
- 17. A-R ring** Sets for film advance (A) and rewind (R).
- 18. Synch-selector ring** For flash synchronization control. Sets the camera's synchronization mechanism to match the type of flashbulb and shutter speed.
- 19. Synch selector** Has color-coded markings for setting the correct flash synchronization.
- 20. Shutter speed dial** For setting shutter speed from 1/1000 to 1 second plus B and T.
- 21. Eye-level pentaprism viewfinder** For comfortable, easy viewing, composing and focusing.
- 22. Accessory shoe** Accepts the Nikon Flash Unit BC-7 or Flash Unit Adapter.
- 23. Film-rewind crank** Handle folds out for smooth, effortless film rewinding.
- 24. Flash contact** For cordless Flash Unit BC-7.
- 25. Distance indicator with depth-of-field scale** Arrow points to the focused distance on the distance scale. Color-coded markings give depth of field for different apertures.
- 26. Focusing ring with distance scale** Easy-to-grip, knurled ring for quick, accurate focusing. Distance scale shows focused distance or can be used to prefocus to a measured or estimated distance.
- 27. Aperture indicator dot** When lined up with the f/numbers engraved on the aperture ring, shows the taking aperture at which the exposure will be made.
- 28. Lens aperture ring** Used to set the lens diaphragm at the desired f/number.
- 29. Slotted coupling prong** For coupling diaphragm to exposure meter.

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FOREWORD

The Nikon F offers the quality performance, handling convenience and versatility you need for truly professional shooting. To get the best results from your camera, a thorough familiarity with its operation is essential. Study the instructions carefully and practice using the controls before loading any film in the camera. Keep this booklet handy for ready reference until you have mastered its basics. Follow the instructions for camera care given on page 33 and your Nikon F will always be ready for superlative picture-taking.

Turn the lock on the camera baseplate to the "open" position as shown by the arrow. Slide the one-piece baseplate and camera back downward and off.

Drop a film cartridge or loaded cassette into the film chamber so that the notched end of the rewind knob engages the cassette or cartridge. Insert the end of the film leader into any of the four slots in the take-up spool.



Set the A-R ring around the shutter release button to "A" (Advance) and wind the film so that it passes under the take-up spool with its emulsion side facing out. Make sure that the perforations on the film mesh with the sprockets.

Replace the camera back and lock it by turning the lock to the "close" position. Fold out the rewind crank and turn the rewind knob gently in the direction of the arrow to take up any slack in the cartridge.

Stroke the film-advance lever to cock the shutter and make two blank exposures (or until the frame counter on the film-advance lever rests at 1). These blank exposures will dispose of the portion of film exposed during loading.

Make sure that the rewind knob rotates in the direction opposite the arrow when the film is advanced. This indicates that the film has been loaded correctly and is being advanced.

Caution: Never load the camera in direct sunlight as this may result in accidental fogging of the film. To avoid possible scratching the film guide rails by the pressure plate when replacing the camera back without a roll of film, insert the camera back so that it covers the guide rails and then slide it inward.

Set the A-R ring to "R" (Rewind), unfold the rewind crank and turn it with a constant, gentle pressure in the direction of the arrow. Avoid uneven or excessively fast rewinding. The red dot on the shutter release button rotates while the film is being rewound and stops when the end of the film has been wound off the sprockets. Then the camera back may be opened.



Frame Counter and Film-Load Reminder

The frame counter located in the hub of the film-advance lever shows the number of frames which have been exposed. It resets itself automatically to two frames before zero when the camera back is removed. There are red indicators for numbers 0, 20 and 36, and the frame counter stops at the 36 mark. The film-load reminder opposite the frame counter is set manually by means of an indicator pin to serve as a reminder of the number of exposures on the film in the camera.



Film-Speed Reminder Dial



The film-speed reminder dial is located on the camera baseplate. It can be set manually to indicate the type of film (color or black-and-white) and ASA rating of the film loaded in the camera. "E" represents empty.

Film-Plane Indicator

The exact position of the film plane can be determined by picturing an imaginary line drawn along the top edge of the digits which make up the camera serial number. This is important to know when measuring the film-to-subject distance, especially in close-ups and macrophotography.

Film-Advance Lever

The film-advance lever advances the film, cocks the shutter and operates the frame counter with a single stroke of 136° or with a series of short strokes. A built-in safety device prevents the shutter from being released until it is fully cocked. The lever is designed so that it springs back when released but does not strike the camera body. A 15° angle of clearance allows the thumb to be inserted for easy, comfortable film advancing. The lever folds flat on top of the camera for storage in the eveready case.



SELECTING THE SHUTTER SPEED



The numbers on the shutter speed dial stand for fractions of a second. 125 represents 1/125 second and so forth. At the B (Bulb) setting, the shutter remains open as long as the shutter release button is held down. The Nikon F also has a T (Time) setting; at this setting, the shutter will remain open until it is closed manually by rotating the shutter speed dial one click stop in either direction. To set the shutter speed, turn the shutter speed dial until the desired number clicks into position opposite the black dot to the left of the shutter speed dial between the dial and the viewfinder. The dial is click-stopped to rotate a full 360° in either direction, before or after the shutter is wound. The shutter release button is threaded to accept the Nikon F cable release.

In the center of the shutter speed dial beneath a transparent window is a small black dot which indicates whether or not the shutter is cocked; in the cocked position, the dot lines up with the shutter speed in use. When the shutter is released, the dot returns to the 7 o'clock position.

A pin on top of the shutter speed dial permits direct coupling with the Photomic-series finders.

For convenience when using flashbulbs or electronic flash, the shutter speed markings are color-coded to match the markings on the synchronization selector located under the transparent window just above the selector ring. For details refer to the chapter on flash synchronization (page 26).

SETTING THE APERTURE

To preset the lens aperture, turn the knurled aperture ring on the lens barrel until the desired f/number lines up with the black dot in the top center of the milled ring. The diaphragm can also be preset for intermediate apertures between the click-stopped markings.



Aperture and Depth of Field

The lens aperture determines the amount of light which passes through the lens and strikes the film. It also influences depth of field. Apertures are expressed in f /numbers, with larger numbers representing smaller apertures. For example, $f/4$ is larger than $f/8$ and allows more light to reach the film. Each f /number admits exactly twice as much light as the next largest number, so when the aperture is increased or decreased by one stop, the exposure time required is doubled or halved respectively. For example:

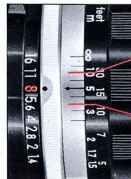
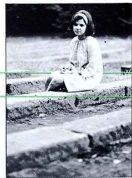
Aperture	$f/1.4$	$f/2$	$f/2.8$	$f/4$	$f/5.6$
Relative Exposure Time (seconds)	1/500	1/250	1/125	1/60	1/30

Depth of field refers to a zone extending in front of and behind the plane of sharpest focus. Within this zone, blur (or unsharpness of the image) will be negligible and everything can be accepted as being in sharp focus. It extends a greater distance behind the subject in focus than in front. Depth of field depends on three factors: focal length of the lens, lens-to-subject distance and tak-

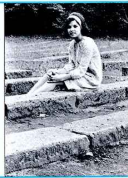
ing aperture. The smaller the aperture and the shorter the focal length of the lens, the greater the depth of field (for example, wide-angle lenses have more depth of field than telephotos). Also, the closer the subject, the smaller the depth of field. These three factors can be adjusted independently or in combination to give the photographer creative control over the final picture.

By stopping down the lens only, the depth of field can be increased, as illustrated by the following three photographs:

1. Lens at $f/4$. Small depth of field with only main subject in focus.



2. Lens further stopped down to $f/8$. Larger depth of field.



3. Lens at smallest aperture. Great depth of field with subject, background and foreground in focus.

Using the Depth-of-Field Preview Button

The depth of field at taking aperture can be seen by depressing the depth-of-field preview button located on the front of the camera. When the button is pressed, the diaphragm closes down to the preselected taking aperture and the exact conditions of taking aperture and allows you to see how much background or foreground is in or out of focus. Depth of field can also be determined by referring to the color-coded scale printed on the lens barrel. The colored lines on either side of the main index mark (black arrow) correspond to different *f*/numbers which are engraved in corresponding colors. With the lens focused on a subject and set for a preselected aperture, depth of field can be read from the distance scale. For example, with the 50mm *f*/1.4 lens focused at 15 feet (4.5m) and used at a taking aperture of *f*/16, depth of field extends from approximately 8 feet (2.4m) to infinity (∞).

Caution: Do not release the shutter while the depth-of-field preview button is held down as this may result in the reflex mirror remaining in the locked-up position. If this should happen, the mirror will not return to its original focusing and viewing position until after one extra exposure has been made.



HOW TO HOLD THE CAMERA

The camera must be held correctly for best results, since even the slightest camera shake at the moment of exposure will result in an appreciable loss of sharpness. Photos show the best way to hold the camera for rock-steady picture taking.

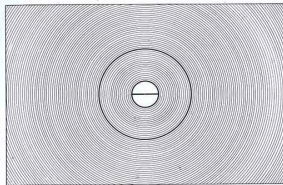
Wrap the fingers of the right hand around the camera body so that the index finger rests comfortably on the shutter release button and the thumb fits between the body and film-advance lever so it can stroke the lever without removing the eye from the viewfinder. Cradle the camera in the left hand for additional support, with the left thumb and index finger grasping the focusing ring. The camera may be switched from horizontal to vertical format in this position.



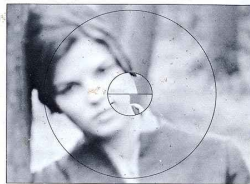


The Nikon F is the only camera which records on film exactly what you see through the viewfinder. The eyepiece permits comfortable viewing of the entire screen even for eyeglass wearers. There are seventeen different focusing screens to fit any combination of lens and picture-taking requirements (see pages 21-23). The Type A focusing screen is furnished as standard equipment with the Nikon F. This screen has a 3mm ϕ -circular split-image rangefinder in the center for quick and accurate focusing. If the image seen in the circle is in focus it will appear continuous. When the subject is out of focus, the rangefinder image will appear split into two parts.

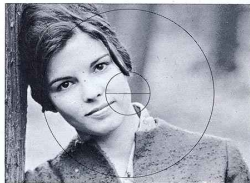
Turn the focusing ring until the two halves



of the rangefinder image coincide to form a single, sharp image. Focusing can also be done by setting the distance scale on the lens barrel for the lens-to-subject distance as measured or estimated. This is especially useful when the camera must be prefocused to capture an elusive subject. Focusing is always done at full aperture with Nikkor Auto lenses. This ensures a bright, clear finder image for accurate focusing, viewing and framing. It also minimizes depth of field so the image snaps in or out of focus distinctly.



Out of focus



In focus

CHANGING THE VIEWFINDER

Four interchangeable viewfinders are available for the Nikon F: Eye-Level, Waist-Level, Action and Photomic FTN. The Photomic FTN finder incorporates the center-weighted thru-the-lens metering system and couples to shutter speed and aperture controls. With the exception of the Photomic FTN, all viewfinders are interchanged in the same way. To remove the finder, press the finder release button on the back of the camera body. The finder snaps loose and can be lifted out. To attach a viewfinder, set it in position and



press down gently until it clicks into place. The Photomic FTN has a pair of pincer-type clamps to position the finder and hold it snugly in place. These clamps must be loosened by depressing the finder lock lever when removing or attaching the Photomic FTN.



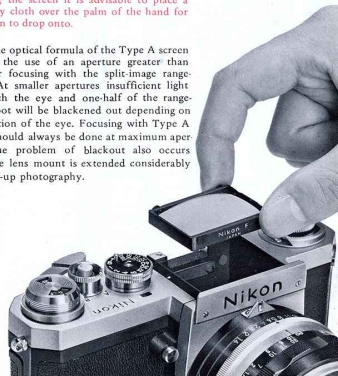
CHANGING THE FOCUSING SCREEN

Seventeen different focusing screens are available for the Nikon F to match exactly any focal-length lens or picture-taking situation. The Type A screen, which is furnished as standard equipment, has a matte Fresnel field with a center split-image rangefinder focusing spot. Any of the seventeen screens may be used with any of the finders available for the Nikon F.

To change the focusing screen, first remove the viewfinder as described earlier. Then turn the camera body upside down and press the finder release button a second time. The screen will drop into your hand. To attach a screen, place it in position with the flat side facing down and the Nikon F mark pointing toward the front of the camera. Press the finder release button and the screen will drop into place.

Caution: When changing the focusing screen be careful not to touch the surfaces with the fingers as this will result in greasy marks. When removing the screen it is advisable to place a clean, dry cloth over the palm of the hand for the screen to drop onto.

Note: The optical formula of the Type A screen requires the use of an aperture greater than $f/4.5$ for focusing with the split-image rangefinder. At smaller apertures insufficient light will reach the eye and one-half of the rangefinder spot will be blackened out depending on the position of the eye. Focusing with Type A screen should always be done at maximum aperture. The problem of blackout also occurs when the lens mount is extended considerably for close-up photography.



CHANGING THE LENS



To remove the lens from the camera, press down on the lens release button and turn the lens clockwise until the black dot on the lens barrel lines up with the black dot on the front of the camera body. The lens will slip off easily.

To mount a different lens, place it in position in the camera's bayonet mount, align the black dots and twist the lens barrel counterclockwise until the lens locks into place with a click.

Note: In case of the fisheye lens, lock the mirror in the "up" position before mounting.

Caution: A body cap should be placed over the lens opening to protect the interior of the camera whenever the lens is removed for any length of time.

The lens opening should not be exposed to bright sunlight when the lens is removed, especially when the camera is loaded with film. When the lens is handled or stored separately, front and rear lens caps should be used to protect the lens surfaces and interior from dust and damage.

LOCKING UP THE MIRROR

The reflex mirror can be locked in the "up" position out of the optical path for use with the Fisheye-Nikkor 7.5mm f/5.6 and the OP Fisheye-Nikkor 10mm f/5.6, whose rear elements protrude into the camera body and interfere with the movement of the mirror. Locking up is also necessary for shooting with the Nikon Motor Drive at its top speed of 4 frames per second.

Turn the mirror lock knob upward so that the black dot on the knob lines up with the red dot on the camera front plate. Wind and release the shutter, and the mirror will remain locked up. To unlock the mirror, turn the knob downward until its black dot lines up with the black dot on the body. This should be done after releasing the shutter, otherwise the mirror will not return to its original position until after an exposure has been made.



FLASH SYNCHRONIZATION



The Nikon F is designed to synchronize correctly at all shutter speeds (except T) with various types of flashbulbs and with electronic flash at speeds up to 1/60 second. To set the camera for flash, lift up and turn the milled synchro-selector ring around the shutter speed dial until the desired marking appears in the selector window. The table on page 27 shows which marking to use, depending on the type of flashbulb and shutter speed used. Photomic-series finders must be removed prior to this step.



When using FP, M or MF class bulbs, select the color of the synchro-selector marking that matches the corresponding colored numbers on the shutter speed dial. The selector should be set at FX for electronic flash. The Nikon Flash Unit BC-7 fits directly over the rewind crank and requires no synchronizing cord. For other flash units, the Nikon flash unit adapter must first be slipped into place over the rewind crank and the synchro cord plugged into the synchro terminal on the edge of the camera.

Note: Electronic flash units having no firing delay can be used at speeds of 1/60 second or slower. For units having firing delay, the shutter speed dial should be set at 1/30 second or slower.

Flashbulbs designated "B" are for use with daylight-type color film.

Shutter speed \ Flashbulb	1000	500	250	125	60	30	15	8	4	2	1	B
FP class	●	●	●	●	●	OF	OF	OF	OF	OF	OF	OF
M class	—	—	—	●	●	OF	OF	OF	OF	OF	OF	OF
MF class	—	—	—	—	—	OF	OF	OF	OF	OF	OF	OF
X class	—	—	—	—	FX	FX	FX	FX	FX	FX	FX	FX

USING SELF-TIMER

The self-timer trips the shutter at any time delay from 3 to 10 seconds. It has white indicator dots for 3-, 6- and 10-second delay and can be set either before or after the shutter is wound. To set the self-timer, turn the lever on the front of the camera body downward for the desired delay. The timer is actuated by its own release button, located beneath the end of the lever in its uncocked position. The lever can be turned back after setting the timer, to cover the release button and prevent accidental triggering. If you decide not to use the self-timer after it has already been cocked, use the shutter release button to make the exposure. Then shut off the self-timer before advancing the film for the next exposure by pressing the release button. This way you can avoid wasted exposures.

It is also helpful for minimizing camera shake at slow shutter speeds with the camera hand-held or tripod-mounted.



INFRARED PICTURE-TAKING

In infrared photography, the plane of sharpest image is slightly more distant than the one produced by visible light and seen by the naked eye through the viewfinder. To compensate for the shift in focus, Nikkor lenses have a red dot or line engraved on the lens barrel near the color-coded depth-of-field index scale on top of the lens. After focusing the image sharply through the viewfinder, turn the focusing ring to the left until the red dot lines up with the prefocused distance.

For example, in the picture below the 50mm f/1.4 lens has been focused at infinity (∞). The focusing ring is turned slightly to the left so that the infinity marking appears in line with the red dot. When a lens having a focal length of 50mm or less (normal or wide-angle) is used at an aperture of f/8 or smaller, no adjustment is necessary. The lens has sufficient depth of field at such small apertures to compensate for the shift in focus.



DOUBLE EXPOSURES

Intentional double exposures can be made with the Nikon F as follows: After making the first exposure, set the A-R ring around the shutter release button to "R" and turn the rewind crank in the direction of the arrow until the red dot on the shutter release button rotates a full 360 degrees (or slightly more). Reset the A-R ring to "A" and wind the shutter for the second exposure. The film winding is confirmed by checking the red dot on the shutter release button which rotates a full 360 degrees. Any shutter speed may be used for the second exposure.

The exposure counter will not compensate for the rewinding, so the film in the camera will actually have one frame or two more than indicated.

Lens Hoods

The use of a lens hood is recommended at all times to prevent extraneous light from striking the lens surface and causing flare or ghost, and as an added measure of protection against damage to the lens. Nikon lens hoods come in four types depending on the lens: Screw-In, Snap-On, Slip-On and Built-In. They are calculated precisely for each focal-length Nikkor lens to provide maximum protection against stray light.

To attach or remove the snap-on lens hood, simply depress the buttons on either side of the hood. It will also fit directly over a screw-in filter, so both can be used on a lens at the same time. When not in use, the snap-on hood can be reversed for storage on the lens, and the lens and its hood can be stored together in the eveready case.



Filters

Nikon filters are made of optical glass, ground and polished so that both surfaces are optically flat and parallel. They are anti-reflection coated on both sides.

Nikkor lenses and Nikon filters are made for each other. For best results, use Nikon filters on Nikkor lenses. Nikon filters are available in both screw-in and series mounts, depending on the type of lens.

Since filters cut down on the light passing through the lens, some increase in exposure time or in lens opening is necessary to compensate for the loss of light. This increase is expressed as a filter factor. For example, if the filter factor is 2, double the exposure time or open up the lens one full stop. Filter factors depend on the light source and type of film. The chart at right shows the filter factors.

	Type		Designation	Exposure factor		Equivalent to Wratten
				Daylight	Tungsten light	
Black-and-white film	Yellow	Light	Y44	1.5	1	K1
		Medium	Y48	1.7	1.2	K2
		Deep	Y52	2	1.4	K3
	Orange		O56	3.5	2	23A
	Red		R60	6	5	A
Green	Light	X0	2	1.7	X1	
	Deep	X1	5	3.5	X2	
Black-and-white color films	Ultraviolet		L39	1		2B
	Polarizing		Polar	2-4		Polar
	Neutral Density		ND 4X	4		ND
			ND 8X	8		
		ND 10X	10			
		ND 400X	400			
Skylight		L1A	1		1A	
Color film	Amber	Light	A2	1.2		81A
		Deep	A12	2		85
	Blue	Light	B2	1.2		82A
Medium		B8	1.6		80C	
	Deep	B12	2.2		80B	

No exposure compensation is necessary with the Photomic FTN finder. The built-in meter reads only the light passing through the lens and therefore compensates automatically for loss of light.

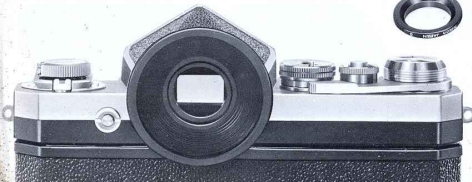


Finder Eyecup

The finder eyecup screws directly onto the finder eyepiece to prevent extraneous light from entering the viewfinder.

Eyesight Correction Lenses

Eyesight correction lenses are designed to permit near-sighted or far-sighted users to view and focus without their glasses. They screw directly into the rear of the viewfinder. Available in nine diopters, -2, -3, -4, -5, 0, +0.5, +1, +2 and +3, each representing the combined dioptre of the lens and the -1 diopter of the finder.



CAMERA CARE

Good camera care is primarily common sense care. Treat your Nikon F as you would any valuable precision instrument and it will last a lifetime.

Although the Nikon F is ruggedly constructed to stand up for years under normal use, it may be damaged by shock, heat, water or misuse. The following are some basic tips for keeping your camera in top condition.

Storage

Keep the camera in an eveready case or compartment case when not in use to protect it from dust.

Avoid storing the camera in excessively hot, cold or damp places.

Always attach a body cap when the camera body is stored separately.

Do not leave film in the camera for a long period of time.

Never leave the shutter or self-timer cocked if the camera is to be stored overnight or longer.

Camera Body

Brush the inside of the camera periodically using a soft brush. Do not exert pressure on the shutter curtain as this may damage the curtain.

Keep the mirror free from fingerprints and dust.

If smudges or fingerprints persist, use lens tissue moistened slightly with alcohol.

Lens

Keep the lens surface free from fingerprints and dust as far as possible.

Use lens tissue to remove dust, never use cloth or ordinary tissue.

If smudges or fingerprints persist, use lens tissue moistened sparingly with alcohol.

Remember: Even an approved lens cleaner can cause damage if it seeps into the lens mount.

Keep the camera away from water.

Avoid excessive moisture. When using the camera near water, guard against splashes, especially salt-water spray.

Never oil any part of the camera:

Lubrication should be left to an authorized serviceman.

Prior to taking a holiday trip or being assigned an important photo job, test your camera by making a few trial exposures. Remember, it takes at least two or three weeks for processing the test film and making any needed repairs or adjustment. Follow this important precaution and you will have the pictures to remember by.

NIKON F FEATURES/SPECIFICATIONS

- 35mm single-lens-reflex camera. Negative size 24 x 36mm (about 1" x 1-1/2")
- Interchangeable Eye-Level finder with pentaprism supplied as standard equipment
- Type A interchangeable focusing screen supplied as standard equipment
- Vibration-free automatic instant-return mirror with locking-up feature
- Focal-plane shutter with titanium foil shutter curtain. Shutter speeds from 1/1000 to 1 second plus B and T
- Built-in calibrated self-timer can be set for 3- to 10-second delay, with markings for 3, 6 and 10 seconds
- Flash synchronization at any speed except T with flashbulbs and at speeds up to 1/60 second with electronic flash
- Depth-of-field preview button
- Nikon F bayonet-type lens mount
- Self-resetting frame counter
- Single-stroke film-advance lever winds the film, cocks the shutter and operates the frame counter
- Film-rewind crank folds flat when not in use
- Detachable camera back is interchangeable with Nikon Motor Drive backs
- Fixed take-up spool
- Tripod socket on the baseplate
- Film-speed reminder dial can be set for color or black-and-white. ASA rating from ASA 25-1600
- Dimensions: width 147mm (5.79 in.), height 98mm (3.86 in.), thickness 56mm (2.2 in.) (without lens)
- Weight: body without lens 685g (1.5 lbs); with 50mm f/1.4 lens 1,010g (2.2 lbs)