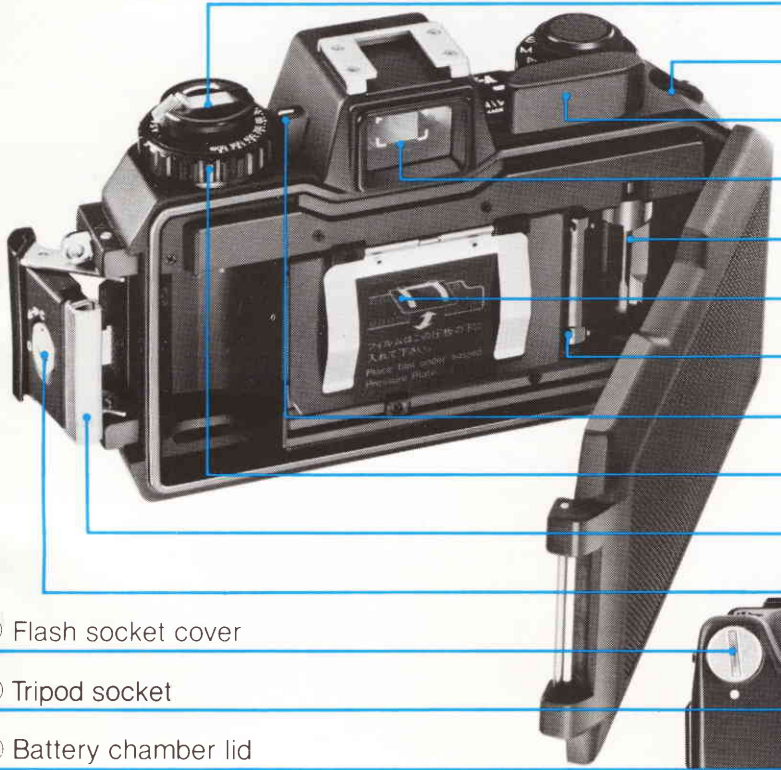
Nikon

NIKONOS IV-A

INSTRUCTION MANUAL

NOMENCLATURE

① Accessory shoe
② Shutter speed index
③ Shutter speed dial
④ Lens seating slot
⑤ Shutter release button
⑥ Shutter release button lock
⑦ Lens seating pin
⑧ Anatomical grip
⑨ Distance scale
⑩ Depth-of-field indicators
⑪ Lens aperture knob
⑫ Aperture scale
⑬ Lens focusing knob
⑭ Neckstrap eyelets



Film rewind knob with crank ⑮

Frame counter ⑯

Film advance lever ⑰

Viewfinder ⑱

Film takeup spool ⑲

Hinged pressure plate ⑳

Film advance sprockets ㉑

ASA/ISO film speed dial index ㉒

ASA/ISO film speed dial ㉓

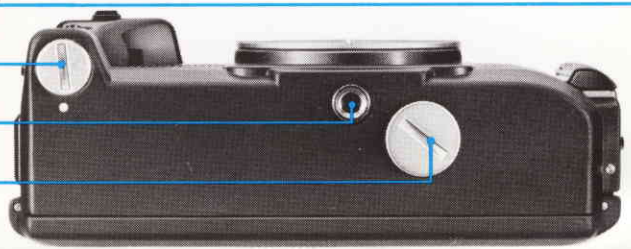
Camera back latch ㉔

O-C key ㉕

㉖ Flash socket cover

㉗ Tripod socket

㉘ Battery chamber lid



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FOREWORD

The Nikonos IV-A is the world's only 35mm underwater camera capable of going down to depths of 50 meters (160 feet) and withstanding pressure of 6kg/cm²(85 lb/in²) without a special underwater housing. Because of this ruggedness, you can use the Nikonos in situations where regular cameras would dare not go. Carry it to the beach, use it on your boat, even take it mountain climbing without worrying about camera care.

And now with automatic exposure control, picture-taking has been made easier than ever. Just set a shooting aperture, and the camera adjusts the shutter speed to give you the correct exposure AUTOMATICALLY.

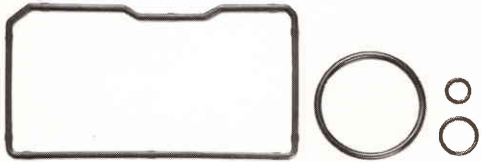
The Nikonos IV-A has a large, high-eyepoint viewfinder allowing you to see the entire field of view from up to 40mm away while wearing a diver's mask or goggles. In addition, its swing-open camera back and large shutter release button and film advance lever allow the Nikonos to be operated in the same manner as regular 35mm cameras.

Even though this camera is very easy to use, you should still familiarize yourself with its preparation and basic operation as presented in the first two sections of this manual. For more detailed information, please refer to "CONTROLS IN DETAIL" and "TIPS ON UNDERWATER SHOOTING." A few minutes wisely invested now will pay off later in years of rewarding photographic experiences.

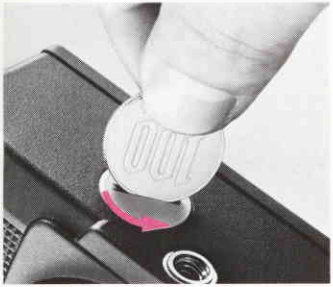
PREPARATION

Prior to using the Nikonos IV-A, check to see that the O-rings are not scratched and that there is no sand or other foreign matter attached to the rings. Then, you must lubricate the four O-rings shown in red using the tube of lubricant provided. Lubrication makes the camera back easy to open and the lens or other parts easy to attach; it also protects the O-rings from excessive wear. Apply the lubricant sparingly, yet make sure there are no gaps between areas of application. It is recommended that lubricant be applied when necessary to ensure the longest possible service for the Nikonos IV-A. An extra set of O-rings, plus a tube of lubricant, is supplied with the camera.

O-rings

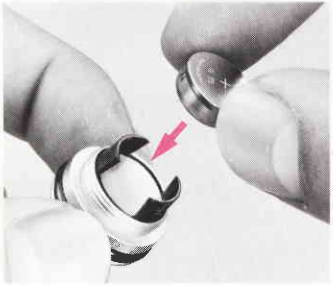


O-ring lubricant



1. Remove the battery chamber lid 28.

Use a coin to twist the lid counter-clockwise to unscrew it.



2. Install the batteries.

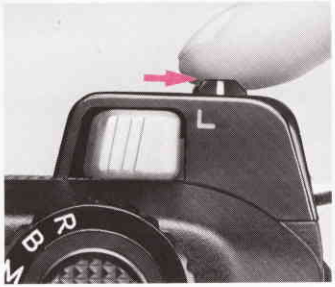
Insert the two 1.55V silver-oxide batteries supplied with the camera, making sure that the "+" signs are up.

3. Replace the battery chamber lid.

Slip the battery clip back into the camera body and screw the lid tightly into place.

4. Set the camera for automatic operation.

Rotate the shutter speed dial ③ until the "A" is opposite the white index ②.

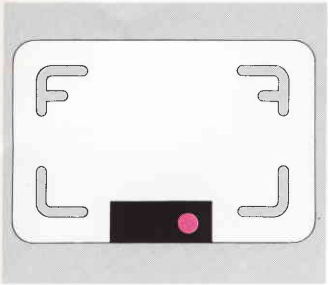


5. Unlock the shutter release button.

Move the shutter release button lock ⑥ off the "L" position.

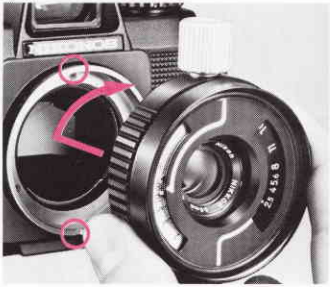
6. Depress the shutter release button ⑤ halfway.

This activates the exposure meter. The meter stays on for approx. 20 seconds after you take your finger off the button and turns itself off automatically to conserve battery power.



7. Check battery power.

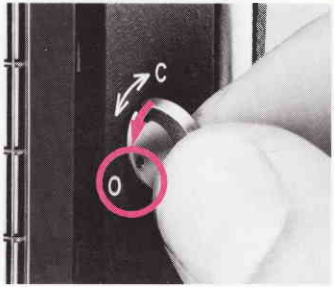
Look through the viewfinder ⑱. A red LED at the bottom of the frame should be displayed to show that the batteries have been properly installed and their power is adequate. If not, recheck the orientation of the "+" "–" symbols, and if necessary, replace both batteries with a fresh set.



8. Mount the lens on the camera.

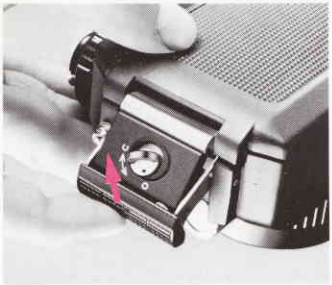
With the white lens focusing knob W positioned vertically in front of the viewfinder, push the lens firmly into the camera'd bayonet mount. Twist the lens 90° clockwise until the seating pins ⑦ click and lock into position in the slots ④. Now the camera and lens assembly are completely watertight.

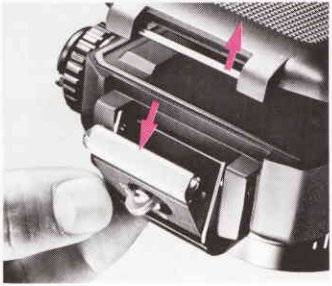
Note: *Mounting the lens upside down may make it easier to read the aperture and distance scales from above the camera.*

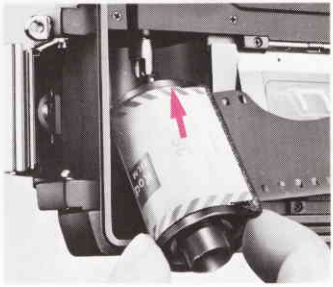


9. Unlock the camera back.

Turn the O-C key ㉕ to the "O" position.







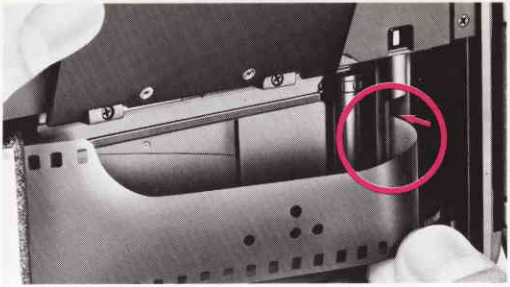
10. Open the camera back.

Press your thumb against the camera back as you lift up the camera back latch ㉔. Release thumb pressure, and the camera back will open.

11. Install the film cartridge.

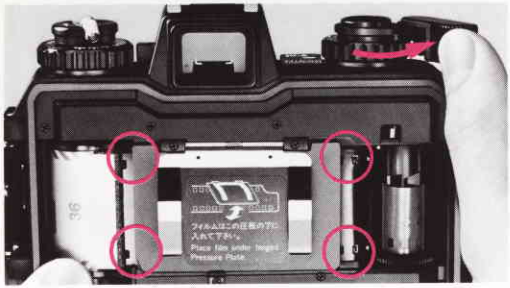
Slip the cartridge into the film cartridge chamber, so that the top of the cartridge engages the film rewind fork. Then push the bottom of the cartridge until it is fully seated in the chamber.

12. Lift up the pressure plate ⑳.



13. Insert the film leader in the takeup spool ⑲.

While holding the pressure plate in the "up" position, pull the leader across the camera and insert it into one of the slots in the film takeup spool. Then push the pressure plate back down until it locks into place.

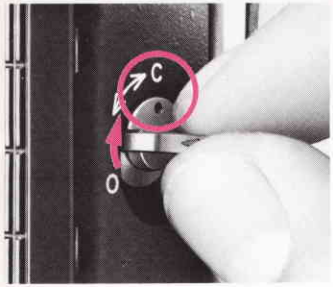


14. Wind the film advance lever ⑰ to advance film onto the takeup spool.

Depress the shutter release button and wind the film advance lever until the film sprockets ㉑ engage the perforations on both edges of the film.

15. Close the camera back.

Make sure the bottom of the cartridge is still fully seated in the chamber and the O-ring fits snugly in the groove around the camera back before swinging the camera back shut. Then, while pressing the camera back against the camera body, rotate the camera back latch to the rear. Push the back of the latch in so that the claw hooks onto the pin on the camera back. Finally, push the latch forward to clamp the camera back into place.



16. Lock the camera back.

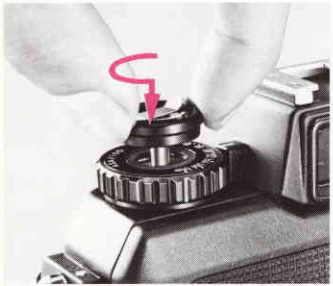
Return the O-C key to the "C" position to prevent the camera back from being accidentally opened during picture-taking.

17. Take up the film slack.

Fold out the film rewind crank ⑮. Rotate the film rewind knob in the direction of the arrow as you lift it up. Then with the knob in the raised position, rotate it in the same direction until you feel slight tension.

18. Make blank exposures until the frame counter shows "1."

Continue to depress the shutter release button and wind the film advance lever until the frame counter ⑯ shows **"1."** While making blank exposures, watch the rewind knob to see that it rotates. This indicates that the film has been loaded correctly and is being advanced.



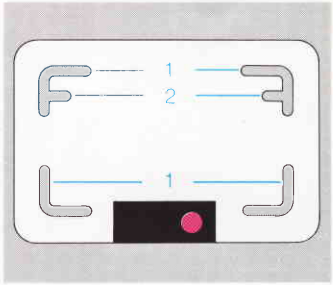
19. Push the rewind knob back down.

Fold the crank back in. Then rotate the knob slightly in the opposite direction of the arrow while pushing down. The knob will return to its normal position.

Caution: *Before you actually dive into the water, make sure the rewind knob is in the "down" position. Otherwise, water might get inside the camera.*

20. Set the ASA/ISO film speed.

Lift up the film speed dial 23 and rotate it in either direction until the ASA/ISO film speed is opposite the white index 22. This programs the camera's exposure meter so that it may provide a proper exposure for the speed of film in use.

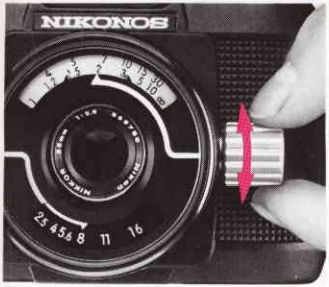


21. Frame the subject in the viewfinder.

The frame lines built into the viewfinder show the field of view for the normal 35mm lens. For proper framing, place your subject within the outlined area. When shooting subjects at distances as close as 0.8m (2.75ft), use the parallax correction marks for framing.

Inside the viewfinder

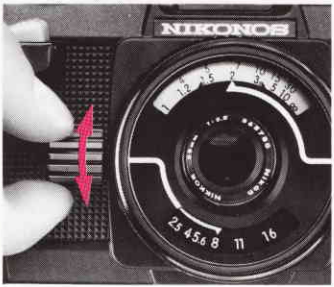
1. Frame lines showing the field of view for the normal 35mm lens
2. The parallax correction marks



22. Set the distance on the lens.

Estimate or measure* the camera-to-subject distance. Turn the white lens focusing knob until the estimated camera-to-subject distance in meters or feet is lined up with the index on the front of the lens.

*Refer to page 36 for more details.



23. Set the lens aperture.

Turn the black aperture knob ⑪ until the desired f/number is opposite the index mark on the front of the lens.

The pincer-type depth-of-field indicators ⑩, coupled with the focusing knob, open or close to show the range of distances which will be in focus in the final photograph.*

*Refer to the example pictures on page 27.

24. Take the picture.

Look through the viewfinder, and depress the shutter release button halfway. If the LED doesn't blink, depress the button all the way to take the picture. The shutter speed automatically selected is between approx. 1/30 sec. and 1/1000 sec. If the LED does blink, readjust the aperture until it stops blinking.

25. Advance the film.

Stroke the film advance lever to transport the film to the next frame and get the camera ready for the next shot.

26. Set the shutter speed dial to "R."

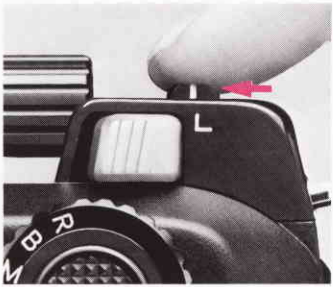
After the last exposure has been made, the film advance lever will stop working. You must then rewind the exposed film back into its cartridge. To do this, first turn the shutter speed dial to "R" to disengage the film sprocket drive.

27. Rewind the film.

Fold out the film rewind crank. Rotate the film rewind knob in the direction of the arrow as you lift it up. Then with the knob in the raised position, rotate it in the same direction to rewind the film. When you feel the tension lessen, continue winding one or two more turns so that the film leader is rewound completely back into the cartridge.

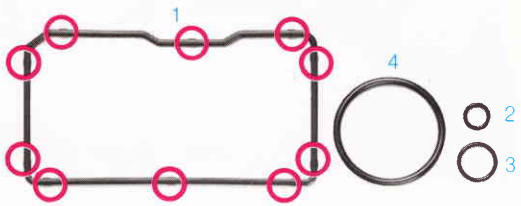
28. Remove the film cartridge.

Open the camera back and take out the film cartridge.



29. Lock the shutter release button.

Return the shutter speed dial to the "A" position to make the camera ready for loading the next roll of film. Finally, set the shutter release button lock to the "L" position. This prevents the shutter release button from being depressed and causing inadvertent battery drain.



O-rings

The purpose of using O-rings on the Nikonos IV-A is to seal all joints making the camera completely watertight. As explained in the "PREPARATION" section, you should apply lubricant to the O-rings whenever necessary to insure smooth operation and long life. Please make sure to clean all sand and foreign matter off these parts. If you find a ring difficult to clean, remove it completely making certain not to scratch it. To ensure watertightness, replace all O-rings when they become scratched or worn.

To remove the O-rings, except the one around the camera back, grasp the ring between your thumb and forefinger. Pinch you fingers together as you slide them in the direction of the arrow to create slack in the O-ring. Then grasp the slack portion with your other hand and pull the ring off (Fig. 1). The O-ring around the camera back can be removed by inserting a pointed object under the ring and pulling up to lift it out (Fig. 2). However, make sure not to scratch the O-ring in doing so.

To install a new O-ring, insert one side of the ring into the groove and hold it in position while rolling the other side of the ring into place (Fig. 3). When inserting the O-ring into the groove in the camera back, first place it over the groove; then press it down in the groove making certain that the ten points having small winged-shaped projections (as circled in red above) are fully seated into the ten pairs of slots (Fig. 4).

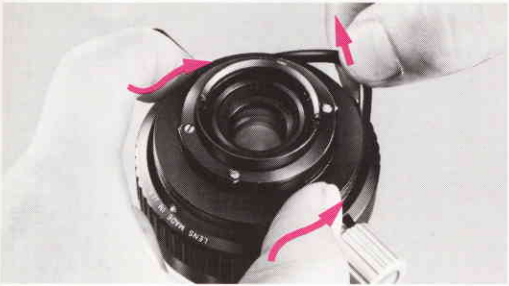


Fig. 1

Fig. 2

Fig. 3

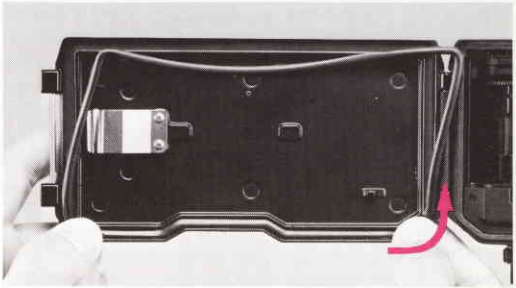
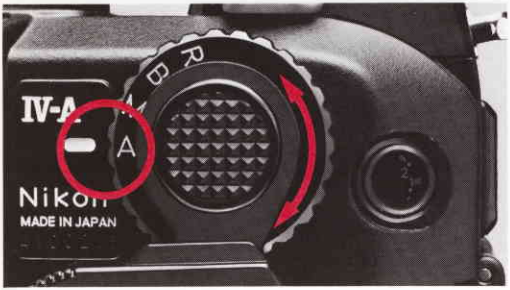


Fig. 4



Shutter speed dial ③

The shutter speed dial on the Nikonos IV-A has four settings: A, M, B and R.

At the A (AUTO) setting

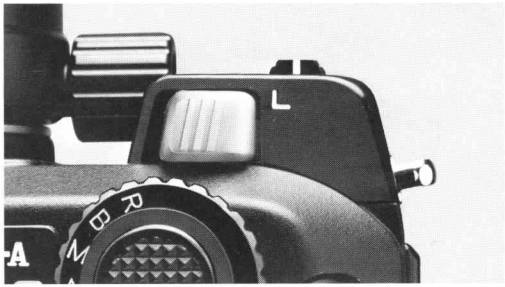
When the dial is set to "A," the shutter speed is automatically set to match the ASA/ISO film speed setting, the lens aperture setting, and the scene brightness. Turn the meter on, and an LED inside the viewfinder glows when the shutter speed is within the "safe" range of approx. 1/30—1/1000 sec. However, if the shutter speed is outside this range, the LED blinks as a warning. In this case, turn the lens aperture knob to another setting. If you are unable to stop the LED from blinking after all possible settings, then the subject is too bright or too dim for automatic exposure control. If the subject is too bright, use a neutral density filter or change the film to one with a lower ASA/ISO; if the subject is too dim, use a speedlight or faster film. With the Nikonos Speedlight SB-101, the shutter speed is automatically switched to 1/90 sec. for proper electronic flash synchronization. To speed up film loading, the shutter fires at approx. 1/1500 sec. for blank shots until the frame counter reaches "1."

Note: *The UW-Nikkor 15mm f/2.8 cannot be used for automatic exposure. When using it, set the dial to "M" and estimate the exposure or use an underwater exposure meter instead.*

At the M (MECHANICAL) setting
This setting provides a backup mechanical speed of 1/90 sec. in case the batteries become weak or exhausted or there are none loaded in the camera. This setting should also be used when speedlights other than the Nikonos Speedlight SB-101 are used.

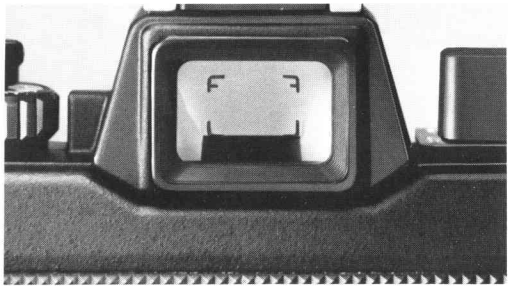
At the B (BULB) setting
At "B," the shutter remains open for as long as you keep the shutter button depressed, allowing you to make time exposures or create "stroboscopic" effects by firing the flash repeatedly with the shutter open. "B" is also a mechanical setting.

At the R (REWIND) setting
To disengage the film sprocket drive for rewinding, set the dial to "R." At this setting, the shutter release button cannot be operated.



Shutter release button ⑤ (with lock ⑥)

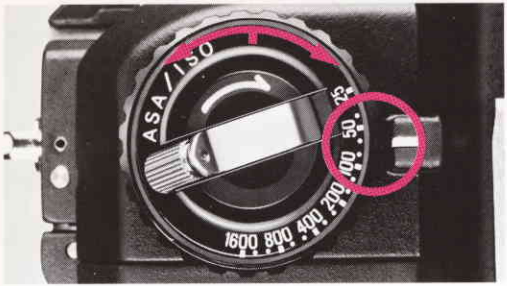
Located at the top of the anatomical grip, the large shutter release button on the Nikonos IV-A provides convenient operation either above or below the water. With the shutter speed dial set at "A," the shutter button serves as a meter-ON switch when depressed halfway; the meter then stays on for approx. 20 sec. after you take your finger off the button, turning itself off automatically to conserve battery power. When used in conjunction with the LED in the viewfinder, the shutter release button can be used as a battery check. When you release the shutter at "A" in a very dark place or with the front lens cap on, the shutter curtain may remain open. If this happens, turn the shutter speed dial to either "B" or "M" to close the shutter. A shutter release button lock is provided to prevent wasting a frame or causing inadvertent battery drain in case the shutter release button is accidentally depressed while the camera is not in use.



Viewfinder 18

The high-eyepoint viewfinder in the Nikonos IV-A allows you to place your eye up to 40mm away from the eyepiece, so that the entire field of view can be seen while wearing a diver's mask, goggles, or safety glasses. The built-in frame lines indicate the area of coverage for the normal 35mm lens; the parallax correction marks should be used to frame the subject when shooting at the closest focusing distance of 0.8m (2.75ft).

At the bottom of the viewfinder, there is an LED which glows when the shutter speed is between approx. 1/30 and 1/1000 sec. and blinks when the speed is outside this range. In addition, a flash ready-light in the form of a red lightning bolt appears when the Nikon Speedlight SB-101 is charged up and ready to fire.

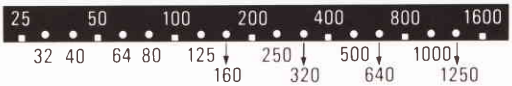


ASA/ISO film speed dial (23)

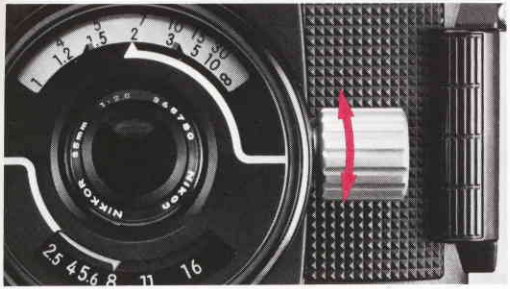
Providing ASA/ISO settings from 25 to 1600, the film speed dial is set by lifting up the knurled ring and rotating until the desired speed is opposite the white index. When the ring is released, it locks into place. The dial can be rotated even underwater without fear of water getting inside the camera.

To get the correct exposure when shooting backlit subjects or for creating special effects, you can reset the dial for exposure compensation. If you're using ASA/ISO 100 film, turn the dial from 100 to 50 and the final picture will be one f/stop overexposed; reset the dial from 100 to 200, and the final photograph will be one f/stop underexposed. The right amount of exposure compensation can be determined through trial and error.

ASA/ISO film speed scale



Note: **Make sure to return the ASA/ISO dial to the correct setting after you have finished making exposure compensation.**



Lens focusing knob (13)

The Nikonos IV-A does not offer through-the-lens focusing, nor is it equipped with a rangefinder. Therefore, you must focus by either estimating or actually measuring the camera-to-subject distance and then setting it on the lens. To focus the lens, turn the white focusing knob until the desired distance in meters or feet is opposite the white focusing index. In addition, a pair of pincer-type depth of field indicators shows the exact distance from near to far that will be in sharp focus in the final photograph.

Note: *When you actually measure the distance underwater, you must modify this distance before setting it on the lens. For more information, refer to "Tips on Underwater Photography" on page 36.*