Nikon

NIKONOS-V

INSTRUCTION MANUAL

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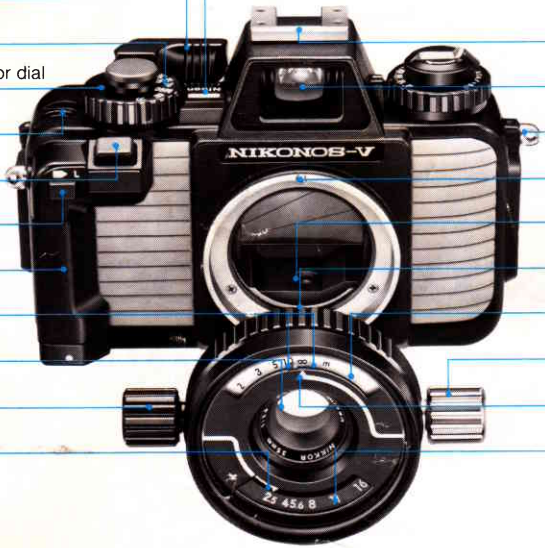
NOMENCLATURE



① Film advance lever

② Shutter speed scale

③ Shutter speed/mode selector dial

④ Frame counter

⑤ Shutter release button

⑥ Shutter release button lock lever

⑦ Anatomical grip

⑧ Depth-of-field indicators

⑨ Lens

⑩ Lens aperture knob

⑪ Aperture index

Shutter speed/mode index ⑫

Accessory shoe ⑬

Viewfinder ⑭

Neckstrap eyelets ⑮

Lens positioning slot ⑯

SPD sensor for TTL flash photography ⑰

Lens positioning pin ⑱

Distance scale ⑲

Lens focusing knob ⑳

Distance scale index ㉑

Aperture scale ㉒

㉓ ASA/ISO film speed index

㉔ Film rewind knob

㉕ Film rewind crank

㉖ ASA/ISO film speed dial

㉗ ASA/ISO film speed scale

㉘ Camera back release/ lock button

㉙ Camera back lock index (red)

㉚ Camera back release index (white)

㉛ Camera back release/ lock mark

㉜ Camera back release/ lock latch

㉝ Film rewind fork

㉞ Viewfinder eyepiece window

㉟ Hinged film pressure plate

㊱ Film advance sprockets

㊲ Film takeup spool

㊳ Film guide rails

㊴ Pressure plate locking catch

㊵ Camera back

㊶ Film cartridge chamber

㊷ Flash sync socket cover

㊸ Battery chamber clip

㊹ Tripod socket

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FOREWORD

The Nikonos-V is the world's only 35mm underwater camera capable of going to a depth of 50m (160 feet) and withstanding pressure of 6kg/cm² (85lb/in²) without a special underwater housing. Because of its 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 or go skiing.

The Nikonos-V's automatic aperture-priority and manual exposure controls make picture-taking both above and below water easier than ever. For extra precision, shutter speeds are quartz-controlled in the manual mode. The Nikonos-V also makes flash photography easier than ever. Combine it with the SB-103 or SB-102 for both underwater and on-land photography and enjoy the benefits of automatic TTL flash exposure control. Other Nikon accessories allow TTL multiple flash photography.

Six interchangeable lenses from super-wideangle to medium telephoto are also available: the UW-Nikkor 15mm f/2.8N, UW-Nikkor 20mm f/2.8, UW-Nikkor 28mm f/3.5—all for underwater use only; the W-Nikkor 35mm f/2.5 and Nikkor 80mm f/4, for both underwater and on-land use; and the water-resistant LW-Nikkor 28mm f/2.8, for on-land use only.

The Nikonos-V has a large, high-eyepoint viewfinder that lets you see the entire field of view from up to 40mm away while wearing a diver's mask or goggles.

A new camera back lock system eliminates the possibility of the camera back opening accidently. And a large shutter release button and film advance lever allow you to operate the Nikonos-V in the same manner as a regular 35mm camera.

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

STOP! READ THIS NOTICE BEFORE USING YOUR NIKONOS-V CAMERA. THE O-RING SEALS MUST BE EXAMINED AND LUBRICATED BEFORE USE TO AVOID DAMAGING THE CAMERA.

This Nikonos-V uses O-rings to seal and waterproof the junctions between parts. Your Nikonos-V should not be considered waterproof until you have examined the four user-serviceable O-rings (one each for the camera back ㊵, lens ⑨, flash sync socket, and battery clip ㊸). They must be in perfect, undamaged condition and properly lubricated prior to each use. Read the following instructions thoroughly to familiarize yourself with the maintenance of the O-rings.

Because the outer surface of your Nikonos-V has been specially treated to make it waterproof, it must be protected from impact. If it becomes damaged, send it to a qualified technician for service before the next use.

Your Nikonos-V is watertight only when in properly serviced condition, when all O-ring seals are in perfect condition, and when all components are properly assembled and closed.

Pay special attention to the instructions for installing the O-rings because it is the O-rings which make your Nikonos-V watertight. For the O-rings to perform properly, they must be in perfect condition (with no cuts, tears, or other imperfections) and properly lubricated. If they are not, they will not perform properly and may allow water to enter your camera. To prevent the accidental use of a defective O-ring, always discard old rings.

The channels into which the O-rings fit must be free of any foreign matter and in their original, smoothly finished condition. If they are not, the O-rings will not seat properly and may allow water to enter your camera. If any channel in your Nikonos-V becomes damaged, send the camera to a qualified technician for service before the next use.

Your Nikonos-V contains a series of O-rings. Some are factory installed and cannot be serviced by you. Once each year, send your camera to a qualified technician so these O-rings can be serviced. Do not attempt to disassemble the camera and service these O-rings yourself.

Four of the O-rings in your Nikonos-V can be serviced by you. These must be examined at the end of each dive day and, if possible, after each dive.

Examining and lubricating the O-rings

1. To remove the O-rings, except the one around the camera back, grasp the ring between your thumb and forefinger. Pinch your fingers together as you slide them in the direction of the arrow to create slack in the O-ring. Then grasp the portion with your other hand and pull the ring off (see Fig. 1).
   To remove the O-ring around the camera back, use the edge of a credit card or dive card or some other thin, **blunt**, instrument. **Never use a knife or other sharp-edged instrument**. Insert the card under the ring and pull up to lift the O-ring out (see Fig. 2). Do not scratch the O-ring in the process.
2. Visually examine each O-ring for imperfections. If any O-ring is damaged (by tears, cuts, or other imperfections), discard it immediately. If any O-ring has dirt, sand, hair, or foreign matter on it, rinse the O-ring in fresh water to remove it.
3. When lubricating the various parts of your camera, **use only the special non-water-soluble silicone lubricant supplied with the camera**. Never use other lubricants (such as Vaseline) which are water-soluble.
4. To lubricate the O-rings, smear a small amount of the special silicon lubricant on your fingertips and then gently run each O-ring between them. Never use a brush or similar object to apply the lubricant; small hairs may fall into the channel and allow water to enter the camera. While lubricating each O-ring, examine it with your fingertips for imperfections. If an O-ring is properly lubricated, it will glisten and will not have "gobs" of lubricant on it. To ensure the longest possible camera life, apply lubricant whenever necessary. Lubrication protects the O-rings from excessive wear; it also makes the camera back easy to open and the lens or other parts easy to attach.
5. Visually examine the channels into which the O-rings fit to determine that each is clean and smooth. If any channel is dirty, clean it with a non-lint material. Coat each channel with a thin film of lubricant while being careful not to apply too much.
6. Reseat all four O-rings with your fingertips by inserting one side of the ring into the channel and holding it in position while rolling the other side of the ring into place (see Fig. 3). To insert the O-ring into the channel in the camera back, place the ring over the groove and then press it down into place. Check to see that the O-ring is not twisted and that each of its edges is properly seated (see Fig. 4).
7. Check the surfaces which are opposite the O-rings to determine that each is clean, smooth, and free of foreign matter. Clean and lubricate the surfaces in the same manner as the channels.

Fig. 1

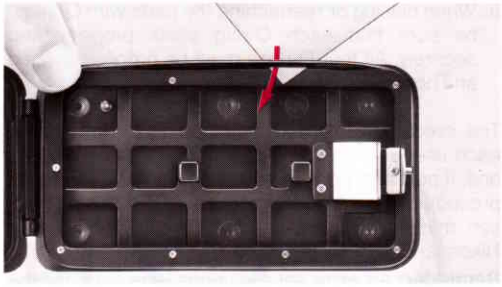


Fig. 2

Fig. 3

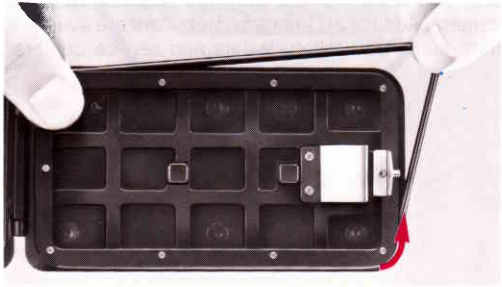


Fig. 4

8. When closing or reattaching the parts with O-rings, be sure that each O-ring seats properly and securely. All four O-rings must be properly aligned and not "pinched."

The preceding instructions must be performed on each user-serviceable O-ring prior to each dive day and, if possible, prior to each dive. By following these procedures and all other procedures in this instruction manual, you will be able to enjoy using your Nikonos-V for many years.

Reminder: An extra set of O-rings (one each for the camera back, lens, flash sync socket, and battery clip) and a tube of lubricant are supplied with the camera. Additional O-rings and lubricant are available from authorized Nikon dealers and service centers.

The O-rings and their sealing method

The method used by the O-rings to seal and waterproof the camera is shown in the following illustrations. When a low level of pressure exists (for instance, just under the water's surface), each O-ring seals its groove by its own elastic force (see Chart A). When the pressure increases (at greater depths), the O-ring's shape is altered and its sealing ability is increased to withstand the greater pressure. The pressure changes the ring from its original "O" shape (when looking at a cross-sectional view) to a "D" shape (see Chart B).

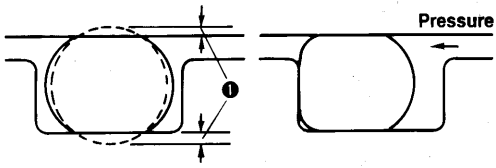


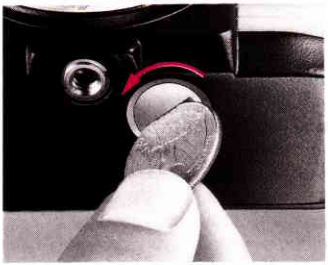
Chart A **Chart B**

❶ Slight compression

TIPS ON CAMERA CARE

1. After using the camera underwater, rinse it in **fresh water with the camera back closed and the lens mounted.** When the camera/lens assembly gets dirty, rinse it thoroughly in fresh water. Immediately after using it in salt water, rinse it thoroughly in fresh water to remove any residue. Otherwise, corrosion may occur in minute places like screw holes or the junctions of parts. To prevent this, soak the camera/lens assembly overnight in a basin of fresh water and move the external parts (for instance, the film advance lever ①, shutter speed/mode selector dial ③, ASA/ISO film speed dial ㉖, and so on), then rinse it vigorously in running water. Finally, dry the camera/lens assembly with a soft cloth—never by heating—**before** removing the lens from the camera. Be sure to wipe away any drops of water that may have seeped in past the O-ring. All underwater Nikonos accessories should be handled in this way.
2. **Never attempt to change lenses, open the camera, or load/unload film underwater.**
3. After shooting in the water (especially, in salt water or dirty water), wipe any drops of water on the camera body before removing the film cartridge. If any drops of water fall into the camera when the camera back is opened, immediately wipe them off.
4. Do not submerge the camera in water with the flash socket cover removed. And when using the Nikonos Speedlight, make sure the sync cord and sensor cord plugs are securely attached before entering the water.
5. Should the lens or camera body accidentally fall into salt water during loading (or at any other time when the interior is exposed), rinse it immediately in fresh water and take the unit to any authorized Nikon dealer or service center as soon as possible.
6. If this camera is frequently used underwater (especially in salt water or dirty water), make it a rule to take it to a Nikon service center on a regular basis for an inspection of the camera's O-rings. Doing so will increase the camera's performance and life span.
7. Do not attempt to rotate the focusing or aperture knobs beyond their limits of travel; forcing these knobs will damage the lens mechanism.
8. The LW-Nikkor 28mm f/2.8 is water-resistant, not waterproof, and cannot be submerged in water.

9. Store the camera and lens away from high temperatures, high humidity, naphthalene, and camphor. If the camera will not be used for more than two weeks, remove the battery or batteries. Do not leave the battery or batteries in the battery chamber for a long time or the contacts may become contaminated. It is a good idea to periodically clean the battery or batteries and the contacts in the battery chamber with a soft cloth. If a battery leaks into the battery chamber, remove the battery or batteries at once and clean the chamber.
10. Check the camera thoroughly before using it each time.
11. Do not touch the shutter curtains.
12. Clean metallic parts with a blower brush or soft dry cloth.
13. Clean glass surfaces, such as the lens or the finder eyepiece ㉞, with a blower brush; avoid using lens tissue if possible. To remove dirt, smudges, or fingerprints, gently wipe the surface with soft cotton moistened with a small amount of absolute alcohol, using a spiral motion from center to periphery.
14. In a humid environment, store the camera in a vinyl bag with a desiccant to keep away dust, moisture, and salt.
15. Because the frame counter window is made of plastic, do not wipe it with an alcohol-moistened cloth.



1. Remove the battery clip (43).

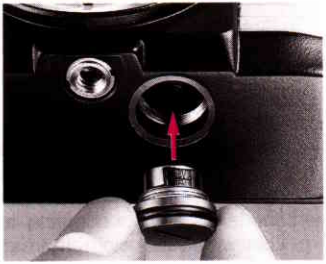
Turn the camera upside down and use a coin to twist the lid counter-clockwise to unscrew it.

Note: *The small numbers in the circles identify parts of the camera as listed in the NOMENCLATURE section.*

2. Install the battery or batteries.

Wipe the battery terminals clean and insert either one 3V lithium battery (CR-1/3N type), two 1.55V silver-oxide batteries (SR-44 type), or two 1.5V alkaline-manganese batteries (LR-44 type) into the battery clip, making sure each "+" sign is up.

• *See "TIPS ON BATTERY USE" on page 77 for more information.*



3. Replace the battery clip.

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

To replace the clip, gently push it into the battery chamber then screw it into place.

Check O-ring: Before replacing the clip, check the O-ring around it by following the directions in "PREPARATION" on page 7.

4. Mount the lens ⑨.

With the silver lens focusing knob ⑳ positioned vertically in front of the viewfinder ⑭ (when mounting the LW-Nikkor lens, hold the silver mounting ring with the red dot facing up), push the lens firmly into the camera's bayonet mount. Turn the lens 90° clockwise until the lens positioning pins ⑱ click and lock into position in the lens positioning slots ⑯. Now the camera/lens assembly is completely watertight.

- *Mounting the lens upside down will not affect its operation but may make it easier to read the aperture and distance scales from above the camera. Do not, however, mount the LW-Nikkor lens in this manner.*
- *It will be easier to mount the lens if you push the lens alternately up and down into the camera's bayonet mount.*

Check the O-ring: Before mounting the lens, check the O-ring around it by following the directions in "PREPARATION" on page 7.

To remove: Pull the lens slightly out from the body and turn it 90° counterclockwise so the lens positioning pins are out of the lens positioning slots. Then, with the silver lens focusing knob positioned vertically (in the case of the LW-Nikkor, with the red dot on the mounting ring facing up), remove the lens from the camera body.

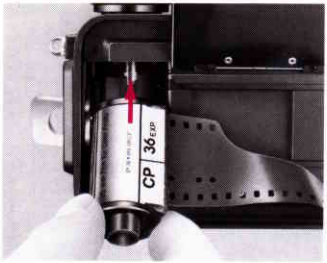
- *Be sure the O-ring does not get scratched while the lens is being removed.*

5. Unlock and open the camera back ㊵.

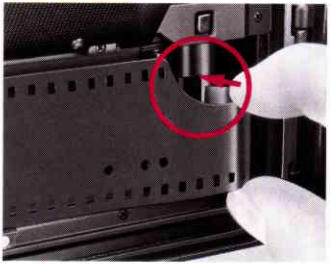
While depressing the orange camera back release/lock button ㉘, lift up the camera back release/lock latch ㉜, turn it in the direction of the arrow on the camera body (counterclockwise), and align the red camera back release/lock mark ㉛ on the latch with the white camera back release index ㉚ on the camera body.

6. Lift up the film pressure plate ㉟ and install the film cartridge.

Swing the film pressure plate away from the camera body. While holding the film pressure plate up, slip the cartridge into the film cartridge chamber so the top of the cartridge engages the rewind fork ㉝ and the film leader points toward the takeup spool ㊲. Then push in the bottom of the cartridge until it is fully seated in the chamber.

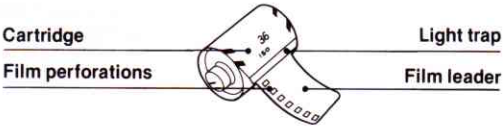


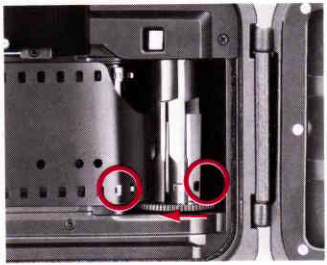
- *The film pressure plate is attached to the camera body to protect the shutter curtains from water and other foreign matter when the camera back is open. Because the pressure plate is spring-loaded, it will automatically return to its original position when you remove your finger.*
- *Any 35mm film cartridge (J135 type) available on the market can be used.*
- *Avoid loading film in direct sunlight. If there is no shade available, turn your back to the sun and use your own shadow to shield the camera.*



7. Insert the film leader in the takeup spool ㊲.

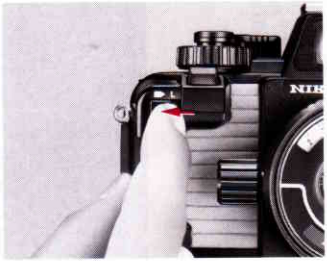
Pull the leader across the camera and insert it into one of the slots in the film takeup spool.





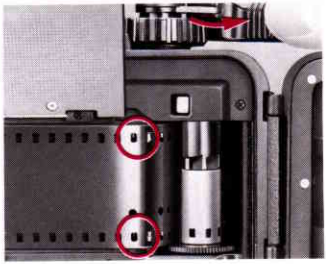
8. Engage the film's perforations with the sprocket teeth.

Advance the takeup spool slightly with your finger to engage the film's perforations with the teeth of the takeup spool and the sprockets ㊱.



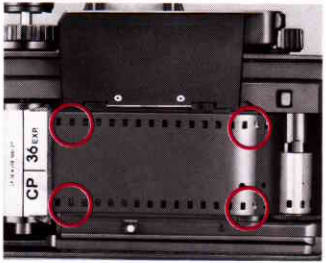
9. Unlock the shutter release button ⑤.

Move the shutter release lock lever ⑥ out of the "L" position.



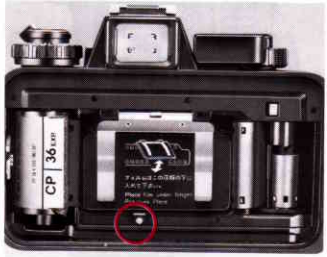
10. Advance the film with the film advance lever ①.

Pull out the film advance lever and advance the film with it until the perforations on both film edges are securely engaged with the sprocket teeth.



11. Confirm that the film is properly loaded.

Confirm that the perforations on both film edges are securely engaged with the sprocket teeth, that the film is located properly between both film guide rails ㊳, and that there is no film slack.



12. Return the film pressure plate to its original position.

Let the film pressure plate swing gently back into its original position and lock under the pressure plate locking catch ㊴.

- *If the film pressure plate is placed in its original position before the film perforations and the sprocket teeth are properly engaged, the film pressure plate may become dislocated or the film may not advance properly.*
  If the film is improperly located between the film guide rails, the film may not advance properly.

13. Close and lock the camera back.

Before closing the camera back, make sure the red mark on the camera back release/lock latch is aligned with the white camera back release index on the camera body. Then firmly press the camera back against the camera body (the camera back release/lock latch will move clockwise).

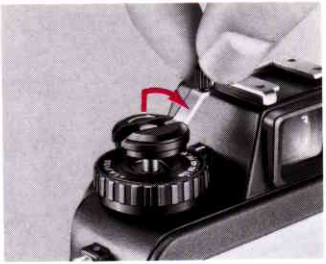
Turn the camera back release/lock latch clockwise until its red mark clicks into position opposite the red camera back lock index ㉙. The camera back is now locked.

14. Fold down the camera back release/lock latch.

Fold the latch down until it is flush with the camera body.

Check the O-ring: Before closing the camera back, check the O-ring around it by following the directions in "PREPARATION" on page 7.

- *When closing the camera back, make sure it locks shut. Also make sure the lens positioning pins ⑱ lock securely into the lens positioning slots ⑯. The lens positioning pins may disengage from the lens positioning slots from pressure caused by closing the camera back. If this occurs, remount the lens securely into position.*



15. Take up the film slack.

Fold out the film rewind crank ㉕. Rotate the film rewind knob in the direction of the arrow on the knob (clockwise) as you lift up. Then, with the knob in the raised position, rotate it in the same direction until you feel a slight tension.

- *If you cannot pull up the film rewind knob, turn it clockwise slightly.*
- *Do not push the film rewind knob down until you have completed* ***Step 17****.*

16. Set the shutter speed/mode selector dial ③ to "A" (for automatic exposure operation).

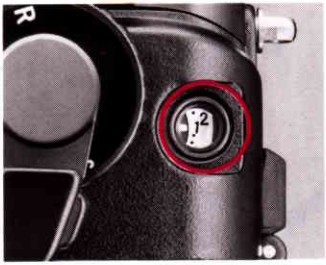
For rapid film loading, align the "A" on the shutter speed/mode selector dial ③ with the shutter speed/mode index before making blank exposures. Until the frame counter reaches "1," the shutter will be automatically released at approximately 1/1500 sec.

- *Until the frame counter reaches "1," the shutter will also be automatically released at approximately 1/1500 sec. when the shutter speed/mode selector dial is set from 1/30 sec. to 1/1000 sec.*
- *In addition to the aperture-priority automatic exposure system, the Nikonos-V is also equipped with a manual exposure system. See "MANUAL EXPOSURE" on page 37 for more information.*
- *When the older-type UW-Nikkor 15 mm f/2.8 lens is used, the Nikonos-V's TTL exposure meter does not operate.*

17. Make blank exposures until the frame counter ④ shows frame "1."

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

If the film rewind knob does not rotate, the film is improperly loaded and must be loaded again.



- *Do not begin shooting until the frame counter shows frame "1." The viewfinder LED indicator(s) does not operate before the frame counter shows frame "1."*

18. Push the rewind knob back down.

Fold the crank back in. Then rotate the knob slightly in the opposite direction of the arrow on the knob (counterclockwise) while pushing down. The knob will return to its original position.

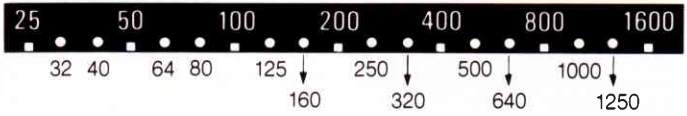
- *Be sure to push the rewind knob back down after completing the blank exposures, especially before you actually dive into the water. Otherwise, water may enter the camera body.*

19. Set the ASA/ISO film speed.

Lift up the film speed dial ㉖, rotate it in either direction until the ASA/ISO film speed is opposite the white ASA/ISO film speed index ㉓, then make sure the dial is fully seated at the desired position. This programs the camera's exposure meter so that it may provide a proper exposure for the speed of the film in use.

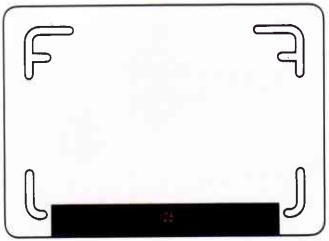
- *The film speed is printed on the film carton and the cartridge itself.*

ASA/ISO film speed scale



20. Gently depress the shutter release button halfway.

The shutter release button activates the exposure meter when gently depressed halfway.



21. Check battery power.

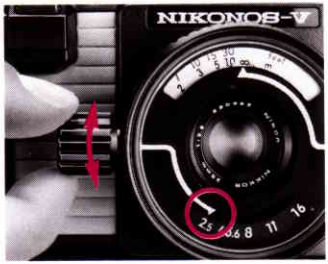
Be sure to check battery power before shooting.

Point the lens at a brightly lit area, look through the viewfinder eyepiece ㉞, and check to see that the viewfinder LED indicator(s) lights up or blinks. It is not possible to check battery power when the shutter speed/mode selector dial is set at M90 (1/90 sec.) or B (Bulb) because the exposure meter does not operate when the shutter speed/mode selector dial is at either of these settings, even if the shutter release button is depressed halfway.

If battery power is sufficient, the meter will stay on for 16 sec. after you remove your finger from the button. The meter automatically turns off after 16 sec.

If the viewfinder LED indicator(s) does not appear, reload the battery (or batteries) properly or replace it (them) with a fresh one(s).

- *Battery power cannot be checked until the frame counter reaches "1."*
- *If the viewfinder LED indicator(s) turns off immediately after you remove your finger from the shutter release button or before 16 sec. have elapsed, the battery (or batteries) is (are) almost exhausted and must be replaced with a fresh one(s).*



22. Set the lens aperture.

Turn the black lens aperture knob ⑩ until the desired f/number is opposite the index mark on the front of the lens.

The pincer-type depth-of-field indicators ⑧, coupled with the focusing knob, open and close to show the range of distances which will be in focus in the final photograph. Refer to the example photos on page 46 for more information.

When shooting for the first time, use the following guide to select the aperture.

Aperture Setting Guide
(Shooting on land at ASA/ISO 100)

f/16 f/8 f/4

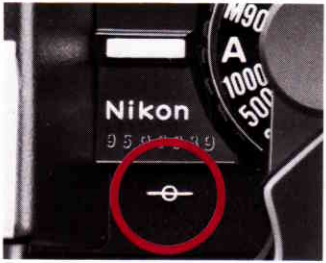
- *When the aperture is changed, the shutter speed selected by the camera and the depth of field change accordingly. Both affect the look of your photographs.*
  In underwater photography, aperture selection varies depending upon the shooting situation. For more information, see page 39 or 45. Do not attempt to rotate the lens aperture knob beyond its limits of travel; forcing it will damage the lens mechanism.

23. Set the distance on the lens.

Estimate or measure the camera-to-subject distance*. Turn the silver 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. The depth-of-field indicators will indicate how close an estimate of the camera-to-subject distance you will need to obtain an in-focus picture.

* See page 59 for more information.

- *Do not attempt to rotate the lens focusing knob beyond its limits of travel; forcing it will damage the lens mechanism.*



Film plane indicator

- *To measure the exact distance between the subject and film plane, use the film plane indicator (⊖) on the camera.*