RICOH

XR SOLAR

Owner's Manual

使用說明書

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Congratulations on your selecting of RICOH Single Lens Reflex camera.
This is a compact and lightweight SLR camera with Solar Battery System.
Enjoying good photography becomes far easier with this camera. It just requires releasing the shutter on your focused subject at the setting LCD in the viewfinder displays ○ mark.
With carefully reading this booklet, you can enjoy easy-to-take highest quality photography for the years ahead.

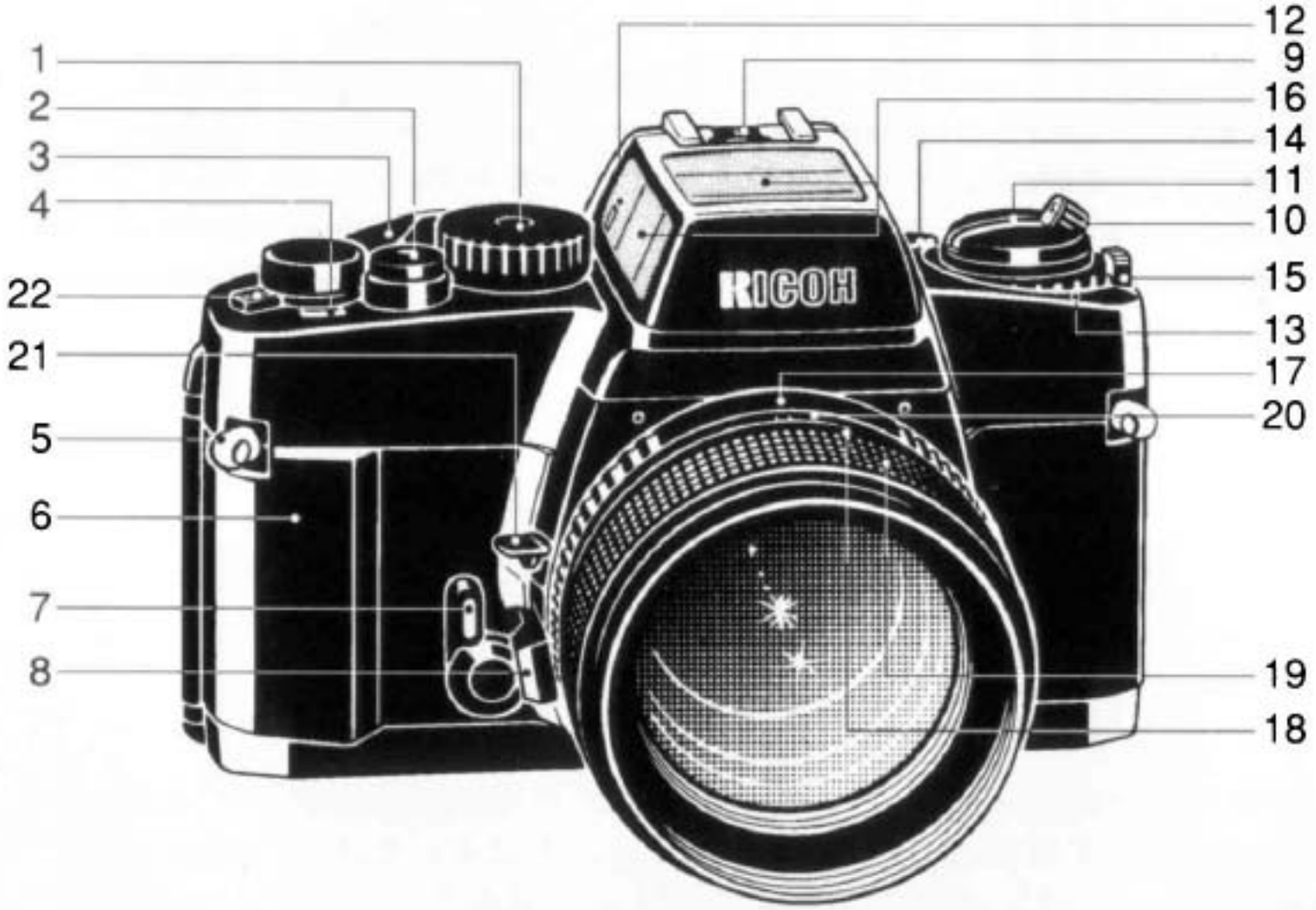
English
P2–P23

感謝您選擇理光單鏡反光相機。本單鏡反光相機，結構緊湊，重量輕巧，帶太陽能電池係統。使用本相機，將極容易拍攝高質素照片。祇要對準攝影對象，在取景窗內的液晶顯示出○標記時按下快門即可。仔細閱讀本手冊，在今後悠長的歲月裏，您將可享受拍攝高質素照片的樂趣。

中國語
P24–P44

Description of Parts

1. Shutter Speed Dial
2. Shutter Release Button
3. Film Advance Lever
4. Frame Counter
5. Strap Hook
6. Hand Grip
7. Self-timer Lever
8. Lens Release Button
9. Hot Shoe
10. Film Rewind Crank
11. Film Rewind Knob/Film Compartment Opening Knob
12. Shutter Speed Index
13. Filmspeed Selector Dial
14. Filmspeed Index
15. Solar Lever
16. Solar Battery
17. Aperture Ring
18. Distance Scale
19. Focusing Ring
20. Depth-of-field Scale
21. Preview Lever
22. ME Lever



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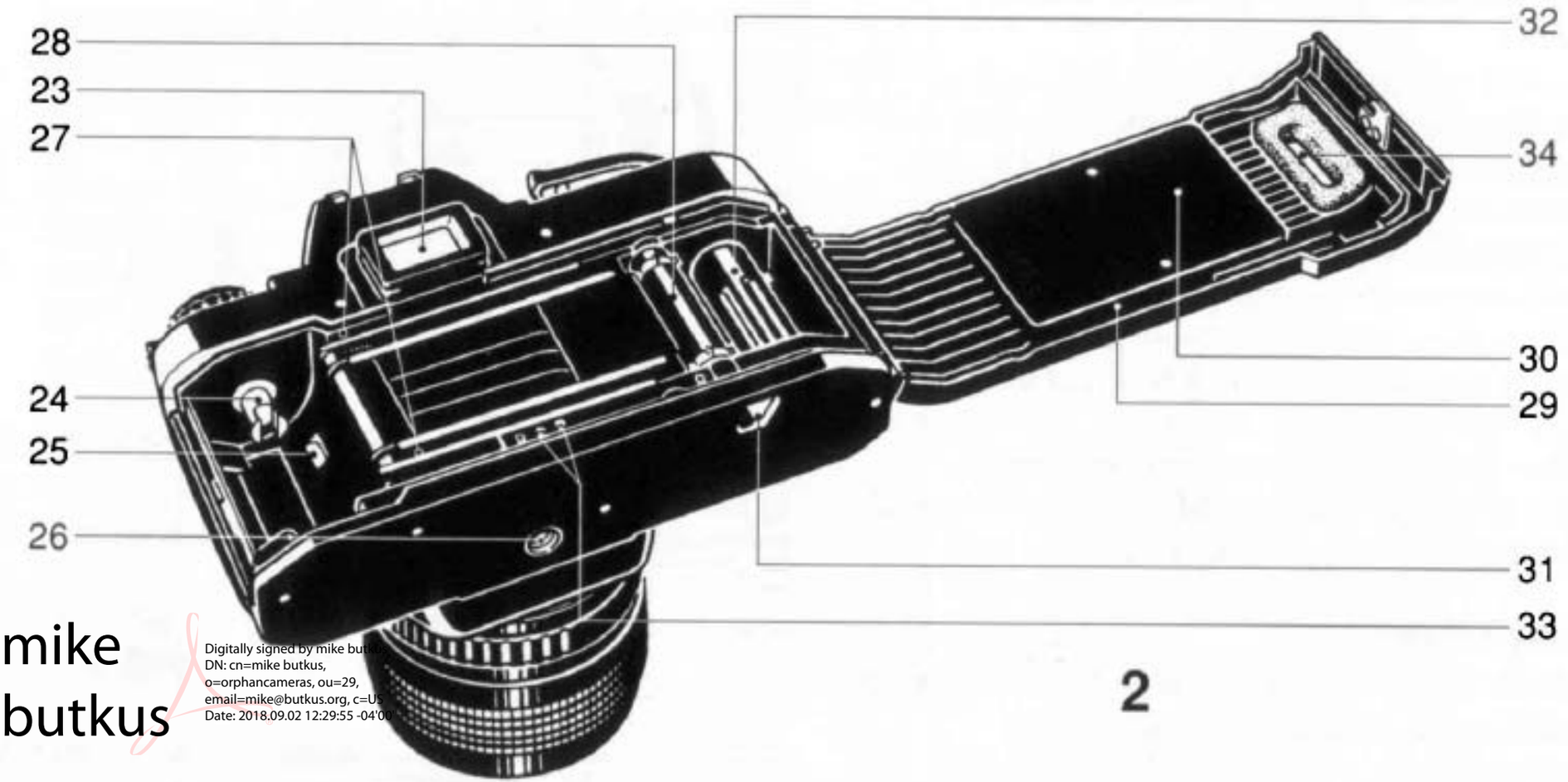

mike butkus

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2

23. Viewfinder Eyepiece
24. Rewind Shaft
25. Film Chamber
26. Tripod Socket
27. Film Guide Rails
28. Sprocket

29. Back Cover
30. Film Pressure Plate
31. Film Rewind Button
32. Film Take-up Spool
33. Databack Contact
34. Film Loaded Window

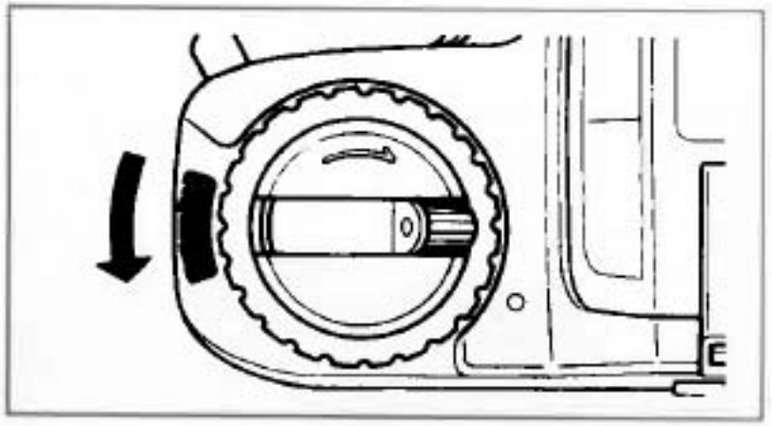
Power Source (Ricoh Solar Battery System)

This camera is installed with a Ricoh solar battery system. The Ricoh solar battery system consists of a solar battery that produces electricity, and a capacitor which stores it. Normally, the exposure display (LCD display inside the viewfinder) is activated by the electricity accumulated in the capacitor. Even if the electricity in the capacitor has been completely discharged after the camera has been put away in the dark and not been used for a long time, by setting the solar lever so that the red circle can be seen, the exposure display can be activated even under normal room brightness with just the solar battery.

1. Solar Lever

The solar lever is switched to change the circuit flow of the electricity produced by the solar battery.

1) Position with ○ mark hidden: Normal position. Electricity produced by the solar battery is first stored in the capacitor. The current flows from the capacitor to the LCD exposure display.
2) Position with ○ mark visible: Emergency position. Normally it is recommended to recharge the capacitor (refer to section on recharging method) if the electricity has been discharged. However, this



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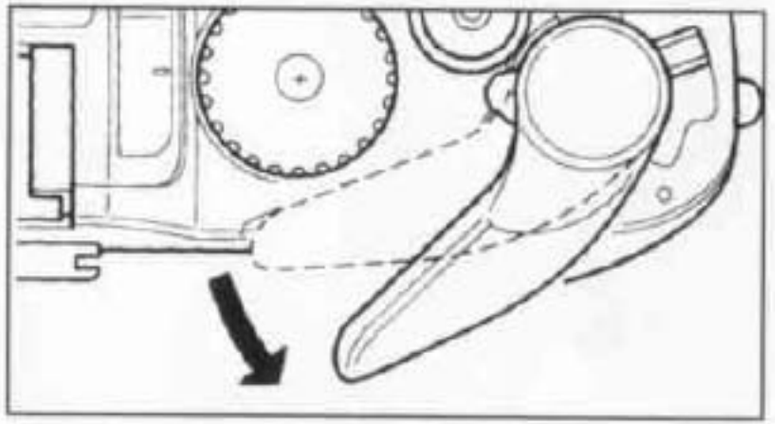

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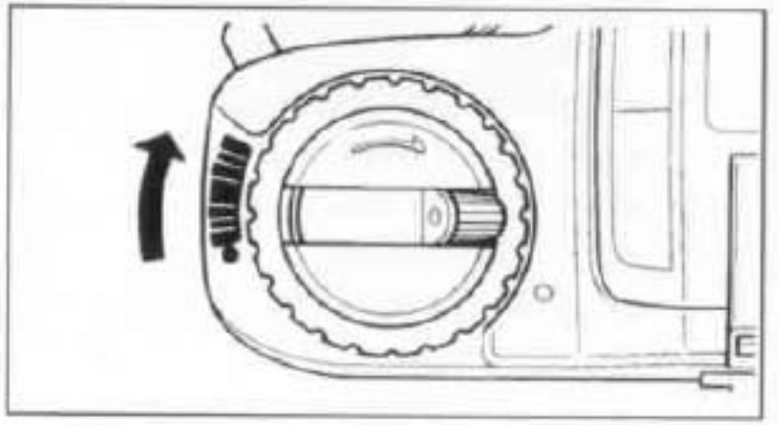

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position may be used to immediately continue to use the camera without recharging. In this case, the electricity produced by the solar battery is diverted from the capacitor directly first to the camera's electrical circuit to activate the LCD exposure display.
However, if the brightness level at time of photography is not sufficient for the solar battery to produce electricity, the LCD display will not be activated even in this solar lever position. Return the lever in the position to hide the ○ mark as under 1) above, and use the camera after recharging.

2. How to Recharge

1) Set the solar lever in the position to hide the red ○ mark.
2) Use the camera after leaving it in a bright spot for a short while.

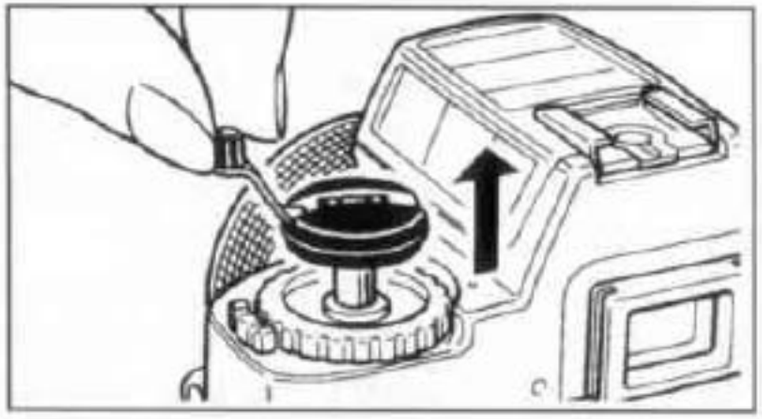
* More than 10 minutes if placed approximately 30 cm from a 60W white incandescent light bulb.

3. Camera Storage

If the camera is not used for a long period of time, and it is placed in a dark drawer, the electricity in the capacitor will discharge. Therefore, it is recommended to keep the camera in a room where it is not dark so that it is ready to use anytime. In this way, even during safekeeping, the solar battery can produce electricity and continue to store it in the capacitor.

Loading film

1. To open the back cover (29), fold out the film rewind crank (10), then pull knob (11) out. When the back cover opens, the frame counter (4) automatically resets to "S".
2. Insert the film cassette into the film chamber so that the projecting end of the film cassette is downward. Do this in a place away from direct sunlight.
3. Fold out and lift up the film rewind crank (10). Then rotate the crank carefully while push in it down lightly until the film locks on the film rewind shaft (24).
4. Return the film rewind knob to its original position.
5. Insert the film leader into the groove of the film take-up spool (32) and place it so that the film perforations engage with the spool teeth.
6. Check that the film perforations engage properly with the teeth of sprocket (28) and the film slides smoothly along the film guide rails (27) by operating lightly the film advance lever (3) to advance the film.



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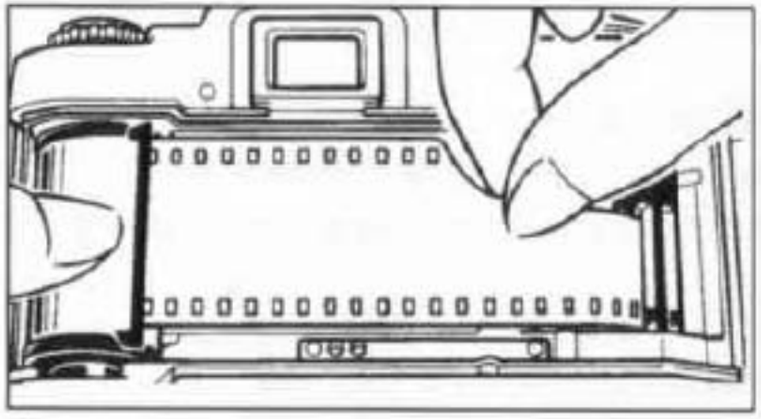

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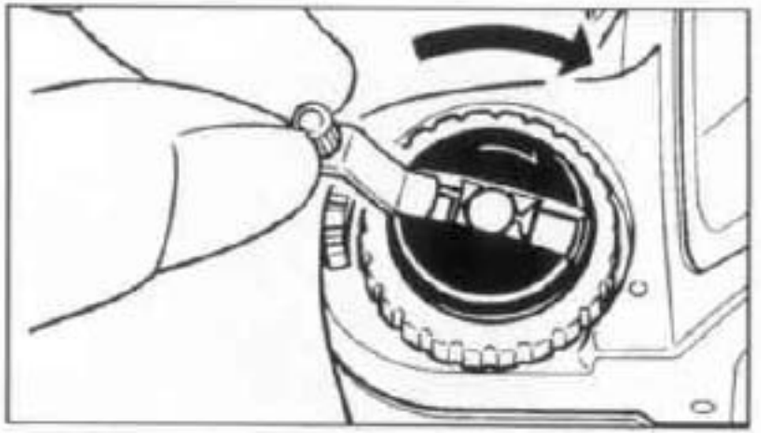
7. Turn the film rewind crank gently in the direction of the arrow to properly tension the loaded film. Stop turning the crank when it becomes stiff, and return the crank to its original position.
8. Close the back cover and push it until it clicks.
9. Advance the film a couple of frames, pressing the shutter release button each time, until the frame counter indicates "1" between 0 and 2.
   (In this case, the film advance lever should be at the ready position, because the shutter release is interlocked when the lever is in the original position).
   The film rewind knob rotates each time the film is advanced showing that the film is advancing properly.



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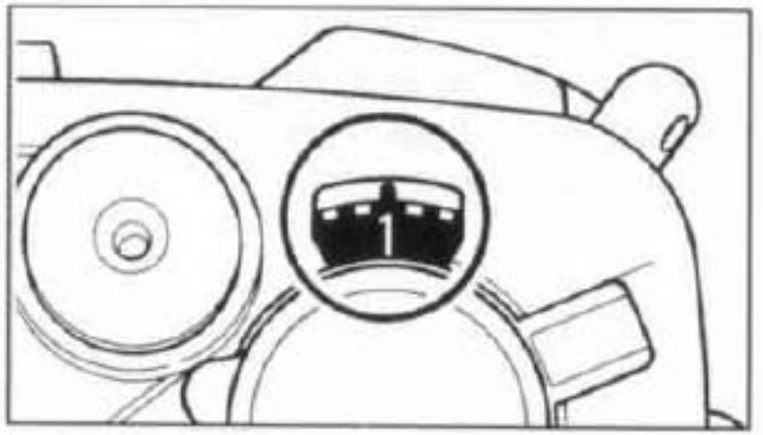
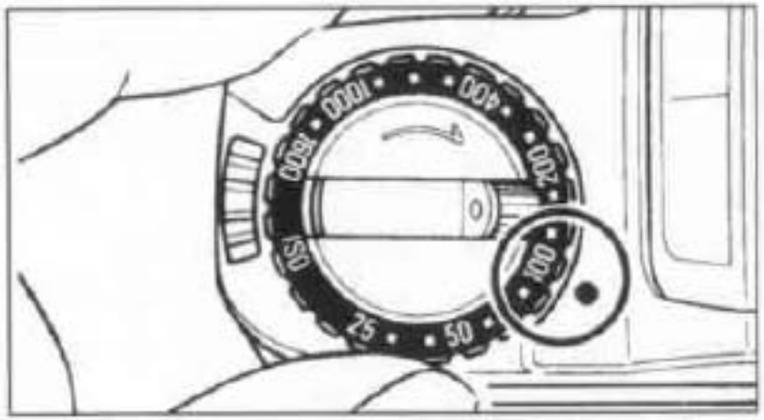


9

Filmspeed Setting

1. Filmspeed in indicated on the outside of film package, in the film instructions or on the film cartridge.
2. Set filmspeed selector dial (13) so that filmspeed index (14) indicates the value on selector dial (13) corresponding to the film used. For example, if filmspeed shown on the film is ISO 100/21°, set the filmspeed selector dial so that 100 on the dial matches with the index.
3. Click points are provided at each step of filmspeed on the film speed selector dial. When setting the film speed, make sure that it clicks.



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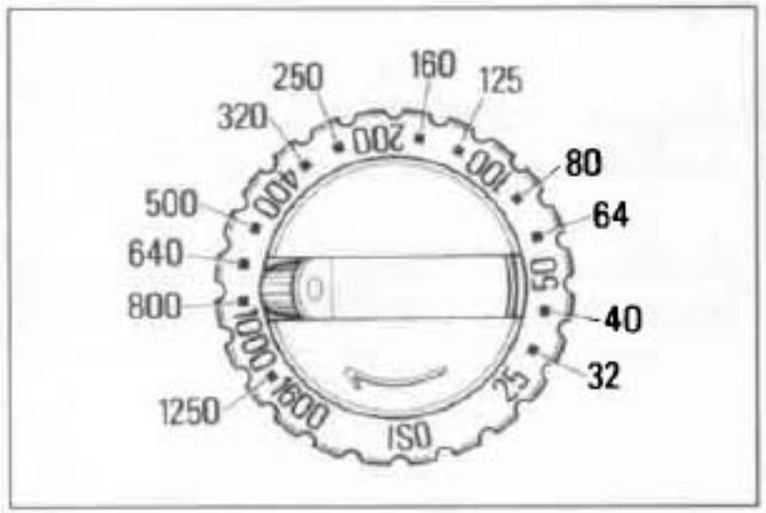
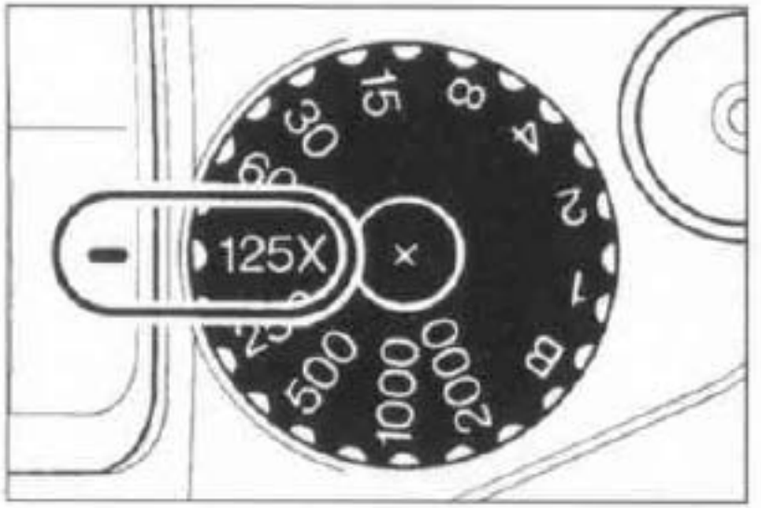


11

Exposure Setting (shutter speed priority)

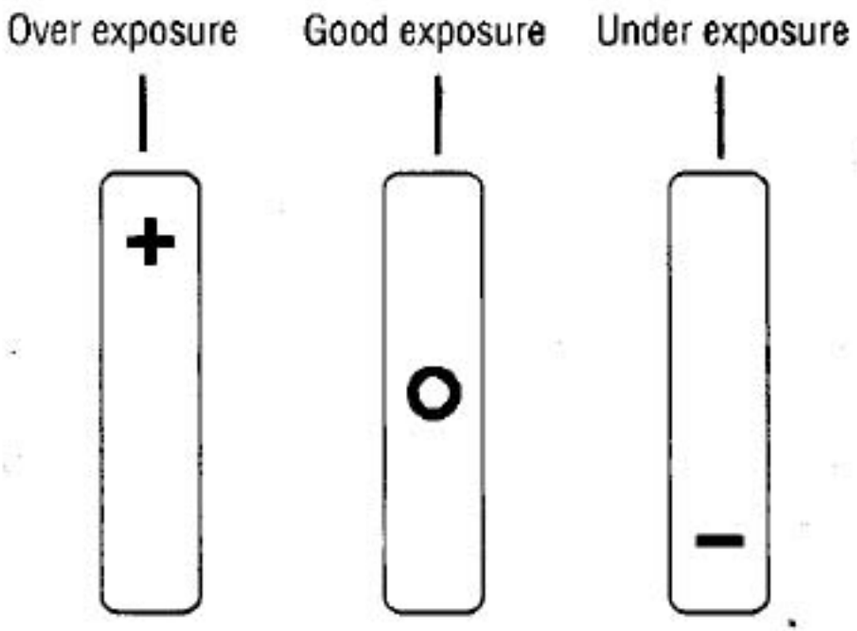
1. Place the film advance lever (3) in the ready position and turn the shutter speed dial so that the indicator white line aligns with the desired shutter speed value. Then if the dial is set at the intermediate positions of the index, shutter speed will be incorrect. Be sure that the dial clicks at the position where the white line aligns with the desired value.
   With setting at "B" (bulb) position, exposure monitoring is impossible.
2. With brighter subjects, fast moving subjects or with the higher value film speed of the film used, it is recommended to use higher shutter speeds.
3. In photography using, telephoto lenses, use the highest shutter speed possible to avoid camera movement affecting your pictures. Generally selecting a higher shutter speed value than the focal length of the lens is recommended, i.e. 1/250s shutter speed is recommended for a telephoto lens with 135mm focal length, and 1/500s for 300mm focal length.



12

4. Recommended shutter speed with ISO 100/21° film and standard 50mm focal length lens under typical situation is as follows:

Subject	Shutter speed
Stationary subjects	1 to 1/15
In subdued light	
Indoors in normal conditions	1/30 to 1/60
Outdoors on a fine day	1/125 to 1/250
Seaside in midsummer	1/500 to 1/2000
Mountain area with snow	
Fast moving subjects	



5. To monitor exposure, partly press the shutter release button (2) and turn the aperture ring (17) until the ○ mark lights in the viewfinder. When the ✣ mark lights, it means that the exposure is higher than necessary. So turn the aperture ring in the direction of greater f/value. If the ═ mark lights, it means the exposure is lower than necessary, so turn the aperture ring (17) to a smaller f/value.

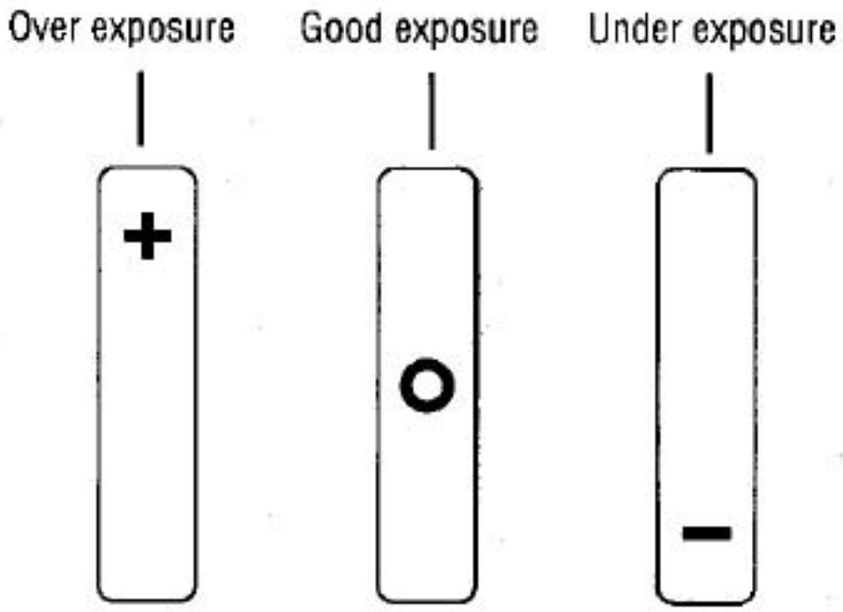
* The exposure display inside the viewfinder may sometimes be difficult to see when using a polarizing filter.

Exposure setting (Aperture priority)

1. Place the film advance lever (3) in the ready position and turn the aperture ring (17) until the index on the lens barrel indicates the desired f/value.
2. The suitable aperture value changes according to the brightness of the subject, the depth-of-field desired or filmspeed of the film in use, and typical settings of the aperture with ISO 100/21° film are as follows:

Subject	F/value
In subdued light	F/1.4 to F/2
To narrow depth-of-field	
Indoors in normal condition	F/2 to F/4
Outdoors on a cloud day	F/4 to F/8
Outdoors on a fine day	F/8 to F/11
Seaside in midsummer	F/11 to F/16
Mountain areas with snow	

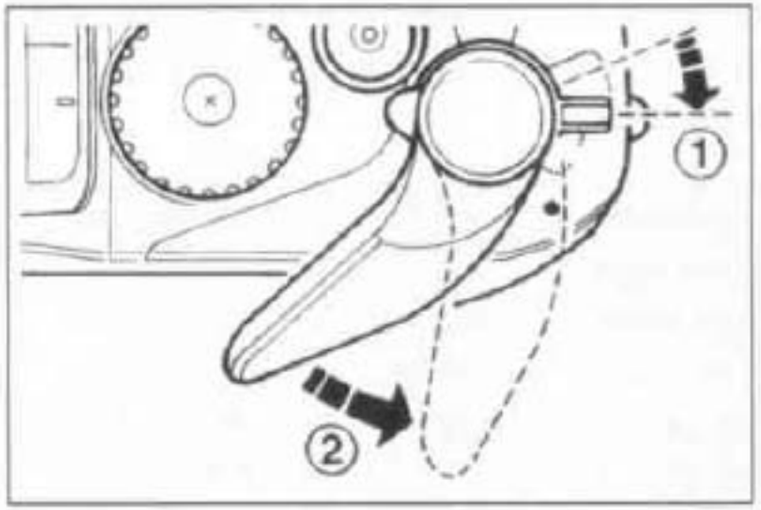
3. To monitor the exposure, turn the shutter speed dial until the ○ mark lights in the viewfinder. If the ✣ mark lights, turn the shutter speed dial to the higher shutter speed setting and if the ▭ mark lights, then turn the shutter speed dial to the lower shutter speed setting.



Multi-Exposure Photography

The Multi-exposure capability is a creative option used to take several different images on the same film frame.

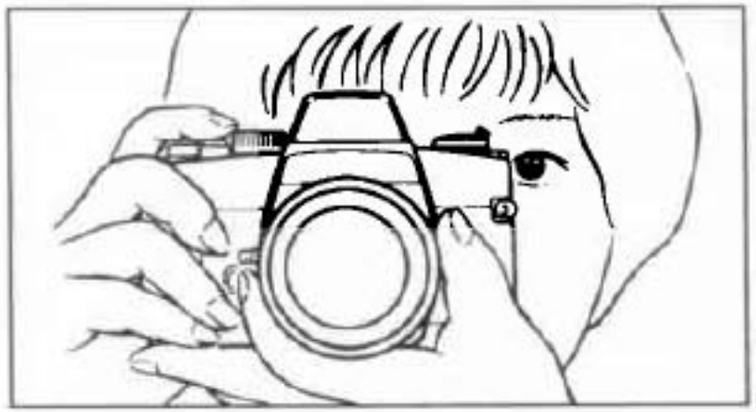
1. Press the Shutter Release Button to make the first shot.
2. Turn the film advance lever, while turning the ME Lever toward you. The Exposure Counter will not advance during multi-exposure photography.
3. Press the Shutter Release Button to make the second shot. Repeat the process of No. 2–3 for as many times as you want.
4. When you ask camera shop to print your pictures, you had better tell them that multiple exposures were taken. If not, they may take them for "accidental" double exposures and not print your shots.



13

Holding Camera

1. Hold the camera in the palm of the left hand so as to turn the lens focusing ring (19) easily with fingers.
2. Hold the camera body lightly by hand grip (6) and place your right fore finger lightly on the shutter release button.
3. Press your left elbow lightly against your body and look through the viewfinder eyepiece (23) to steady the camera against your face. Then relax your right arm holding the grip.
4. With telephoto lenses or lower shutter speeds, it is recommended to use a tripod and/or remote shutter release control cable.



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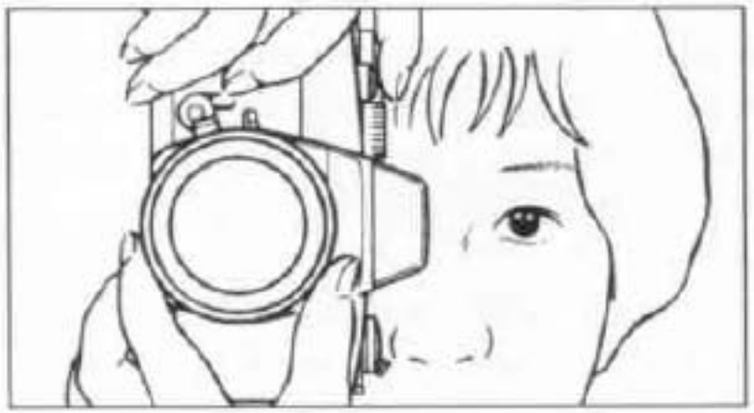
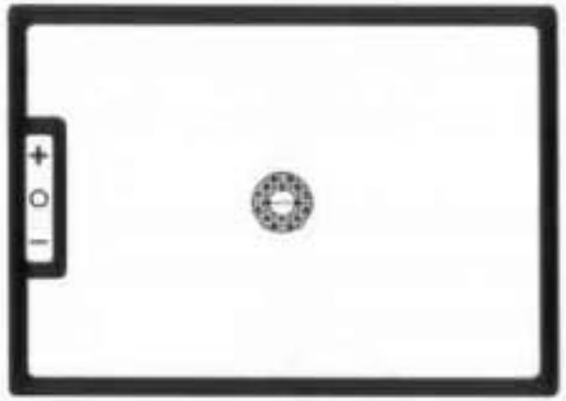


15

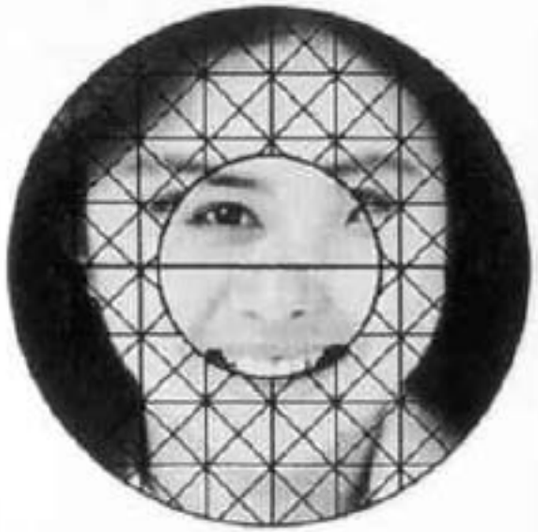
Focusing

1. Focusing is done by observing through the circled area in the center of the viewfinder screen. Within the circle is the split image spot prism and around the circle there is the microprism collar.
2. In focusing through the split image spot, when the image divided horizontally is brought into alignment by focusing, focus in correct. When the upper-and lower-half images do not align, it is out-of-focus.
3. To focus through the microprism collar outside center spot, a broken shimmering image is seen when it is out-of-focus and correct focus is at the setting in which the image becomes clear and sharp.
4. Focusing through the entire matte surface of the viewfinder is also possible. In this case, at the setting where the sharpest image is obtained, precise focusing is secured.
5. Choose the most effective focusing method from the above that you are most comfortable with or according to the shooting situation, such as the lens used, the subject, etc.



16

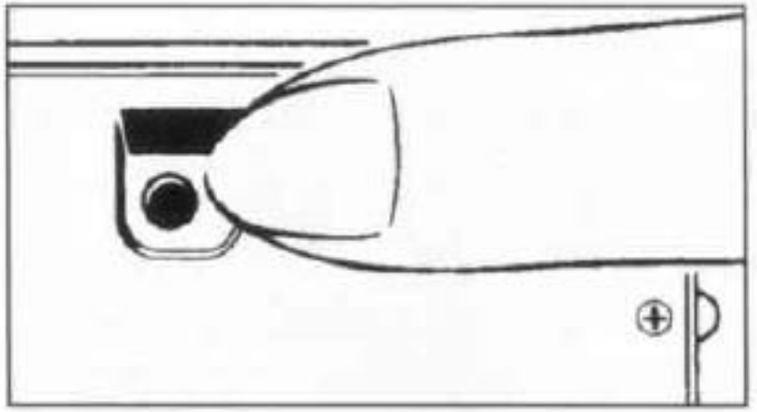
In focus **17**



Not in focus **18**

Rewinding the film

1. When the film is at its end, the advance lever no longer operates smoothly, check the frame counter (4) display. If the frame counter shows that the all frames of the loaded film have been exposed, the film then needs to be rewond.
2. Press the film rewind button (31) on the camera base.
3. Fold out the film rewind crank (10) and turn it in the direction of the arrow.
4. Once the pressure eases, the film is completely wound into the cassette.
5. Lift up the film rewind knob (11) and pull it out to open the back cover (29). Now the film cassette can be taken out.
6. Do this in a place away from direct sunlight.



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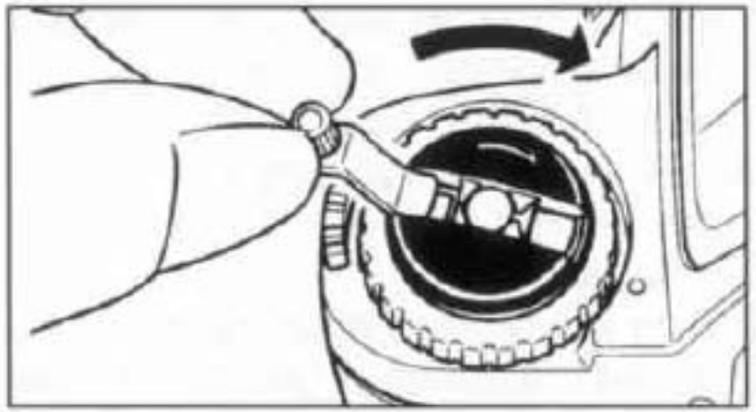
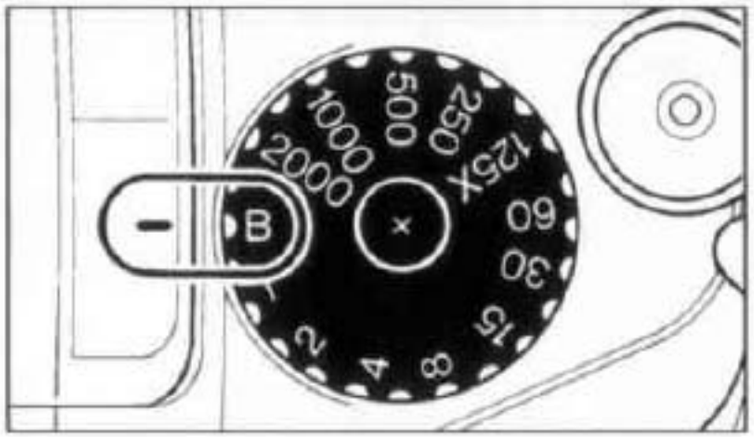


20

"B" (bulb) Setting

1. With the shutter speed dial (1) set at "B" position, the shutter will remain open for as long as the shutter release button (2) is pressed.
2. This setting is useful when an exposure longer than one second is required, such as in landscape photography at night. Or it can be used for the special effect photography by employing the flash test button together with



21

very low light conditions.

3. Be sure to use a tripod and/or remote shutter release control when using this long time shutter speed setting.

Self-Timer

1. Wind the film advance lever (3) and fully turn down the self-timer lever (7) counterclockwise. Now the self-timer is ready to use.
2. Press the shutter release button (2) and the self-timer operates to release the shutter in approximately 10 seconds later.
3. Once the self-timer becomes ready it is impossible to return it manually. So operate it only when needed.
4. The self-timer is very useful when you wish to include yourself in a picture, or, you can use it in order to prevent camera movement in shutter releasing instead of using the remote shutter release control.

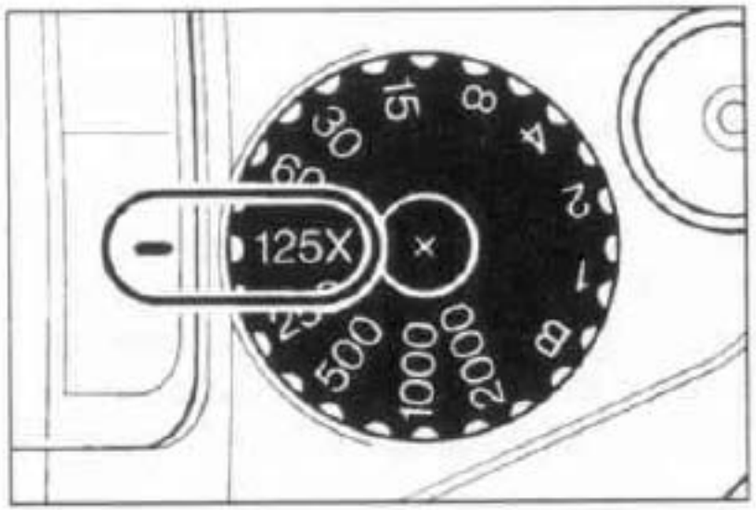
22

Flash Photography

1. Connect the flash unit in the hot-shoe (9) .
2. Set the shutter speed dial (1) at 1/125 second or lower.
3. When using the automatic flash unit, set the aperture to the f-stop specified in the instruction manual of the flash unit.
4. When using the manual flash unit, use the f-stop value obtained by the formula show below:

$$F-stop = \frac{G.NO.}{Distance(m)} = \frac{G.NO.(Ft.)}{Distance(Ft.)}$$

Note: The flash units not designed for use with Ricoh cameras may provided incorrect exposure and/or equipment damage.

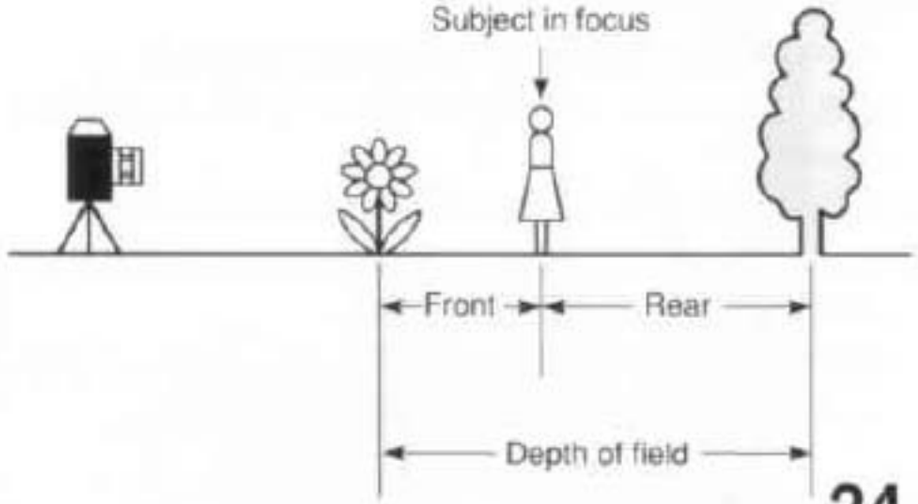


23

Depth-of-field

1. When you are focusing on a given subject, objects in the foreground and background will appear acceptably sharp in the picture. The range in which all objects appear acceptably sharp in the picture is called "depth-of-field."

2. To obtain the depth-of-field range at different aperture settings, the depth-of-field scale (20) is used. The depth-of-field scale is positioned between the focusing ring (19) and aperture ring (17). The distance covered by the range between pairs of the same f/stops on the depth-of-field scale as the f/value used is the depth-of-field. To obtain the actual distance values of the depth-of-field, read the values within the range off the focusing scale.
3. For instance, when the lens is focused on a subject at a distance of 3m (9.8 ft) with the aperture set at f/8, the depth-of-field can be obtained by using the depth-of-field scale as follows: the values on the distance scale corresponding with the f/values shown on the depth-of-field scale are approximately 2.4m (7.9 ft) and 4.5m (14.8 ft) respectively. This means that all objects within the range between 2.4m (7.9 ft) and 4.5m (14.8 ft) distance can be reproduced acceptably sharp in the picture with the aperture set at f/8.



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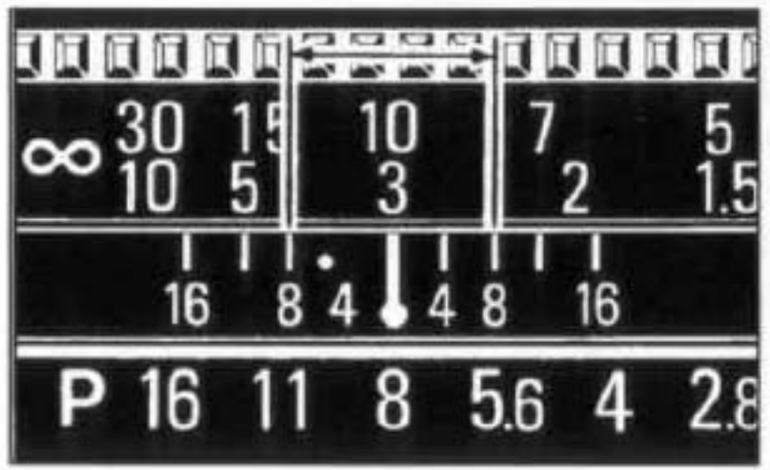


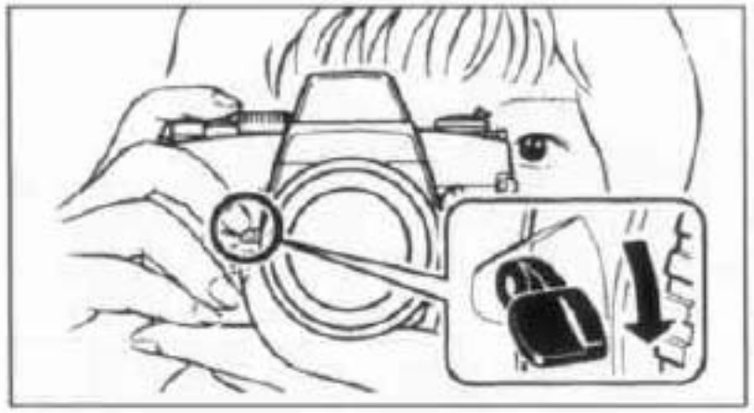
25

Depth-of-Field Preview

In the Viewfinder you can visually observe the depth-of-field provided by the selected F-stop.

1. Adjust the Lens Aperture to the desired F-stop. Press the Preview Button.
2. Observe the results of increased sharpness on the (darkened) image in the Viewfinder.

* As it will cause the camera to malfunction, please refrain from pushing the shutter release button or winding the film while holding down the preview lever.



26

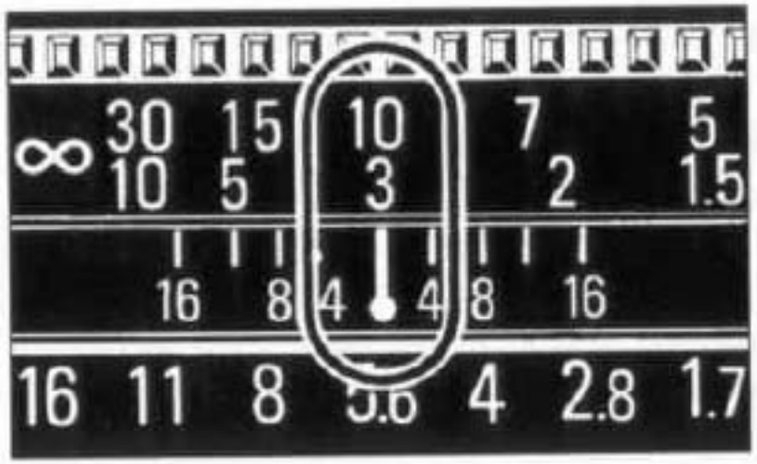
Dioptric Lenses

The viewfinder eyepiece has a built-in –1 correction (suitable for most normal vision).
If your vision requires correction and an optional dioptric lens is fitted, you do not have to wear eyeglasses when taking pictures. Slip the lens in the groove in the finder eyepiece.

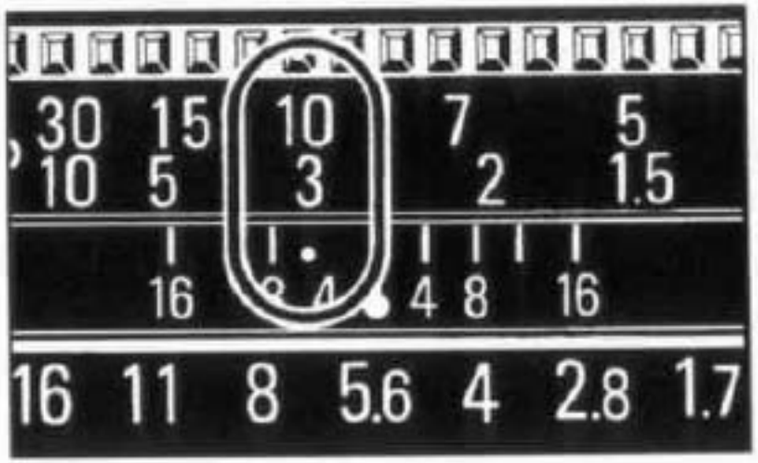
Dioptric lenses are available in 7 types:
–4, –3, –2, –1, +1, +2, +3 (Diopters)
Note: Some forms of astigmatism etc. may make dioptric eyepiece correction impossible. Please check with your vision specialist for a recommendation based on your prescription.

Infrared Photography

1. The dot mark engraved in red on the depth-of-field scale (20) is the infrared distance indicator. This is used for reading the distance scale in infrared photography using infrared film and filters.
2. First, secure focus in the normal manner. Then, read off the subject distance on the normal distance scale (18), then align it with the infrared distance indicator.
3. For instance, when you focus on a subject at 3m in the normal manner, read off the value "3" on the focusing scale and move the focusing ring until the infrared distance indicator points to "3".
4. Always use the red filter when attempting infrared photography. For other details concerning infrared photography, follow the instructions of the infrared film used.



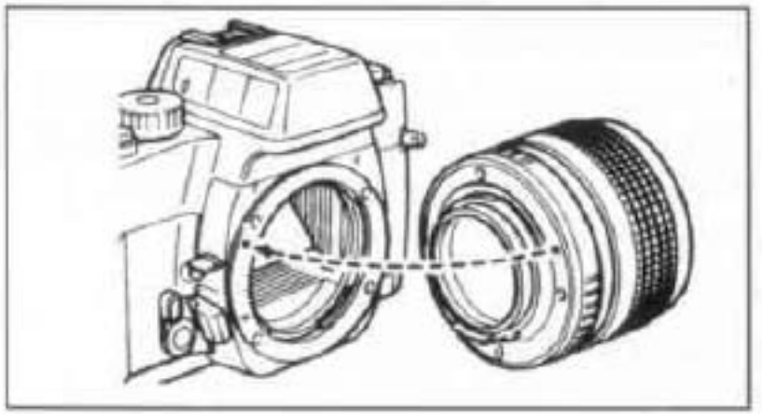
27



28

Mounting/Removing the Lens

1. The lens mount type of this camera is the "K" mount. Lenses with a "K" mount can be mounted on this camera.
2. To mount the lens, after matching the red mark on the camera body with the red mark of the lens barrel, insert the lens in the camera body and turn the lens clockwise until it clicks.
3. To remove the lens from the camera body, turn the lens all the way counterclockwise while keeping the lens release button (8) pressed, then lift it straight out of the mount.



29

Specifications

Type: 35mm SLR with focal plane shutter and TTL metering system
Film Format: 35mm film, 24 x 36mm
Lens Mount: Ricoh system R-K mount
Shutter: Vertically moving metal focal plane shutter B, 1–1/2000 sec.
Self-Timer: Mechanical self-timer with 10 sec operating time
Viewfinder: Field of view covers 93% horizontally and vertically
Magnification 0.84x (with 50mm F1.4 standard lens)
Viewfinder Display
✙ mark LED.....Over exposure warning
○ mark LED.....Good exposure indication
▭ mark LED.....Under exposure warning
Focusing: Horizontal split-image spot in microprism band surrounded by matte surface
Exposure Metering System: Center-weighted average metering
By pressing Shutter Release Button
Exposure Coupling Range: EV5–17 (ISO 100. F2, 1/8 sec. –F16, 1/500 sec.)
Flash Terminal: X synchro contact on the hot shoe
Synchronized speed at 1/125 sec or lower speed
Film Advance: By single-lever action with 135° throw and 30° stand-off
Shutter Release Button is interlocked with the advance lever stored
Film Rewind: By film rewind button and film rewind crank
Frame Counter: Additive type with autoreset by opening the back cover
Other Functions: Multi-Exposure, Preview Lever, Accepts Databack (Databack 6)
Film Speed Range: ISO 25 – 1600 by 1/3 steps
Power Source: Solar Battery System
Dimensions: 136 (5.4 in.) (W) x 91 (3.6 in.) (H) x 62 (2.4 in.) (D)mm
Weight/Mass: 430g, (15.2 oz.)

** These specifications and external appearance are subjected to change for improvement without prior notice.*

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