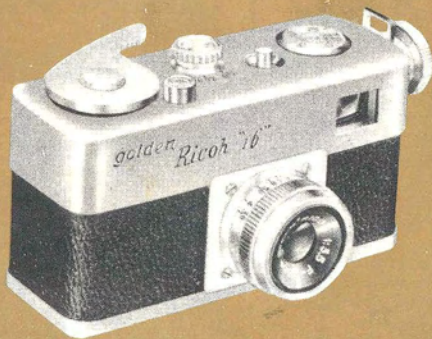


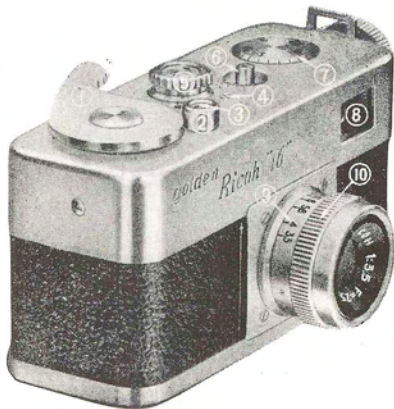
golden **Ricoh "16"**

REFERENCE
MANUAL



The most modern sub-miniature in the world!

ESSENTIAL FEATURES



- 1 . Film advance lever
- 2 . Shutter release button
- 3 . Cable release socket
- 4 . Shutter speed scale
- 5 . Shutter speed selector
- 6 . Flash terminal
- 7 . Exposure counter
- 8 . Framing finder window
- 9 . Aperture scale
- 10 . Aperture selector ring

11. Tripod socket

12. Viewfinder window

13. Back cover

release button

14. Loaded film magazine

15. Pressure plate

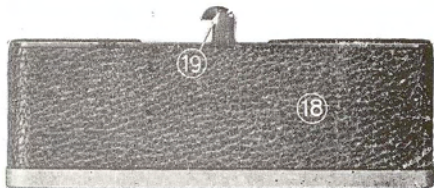
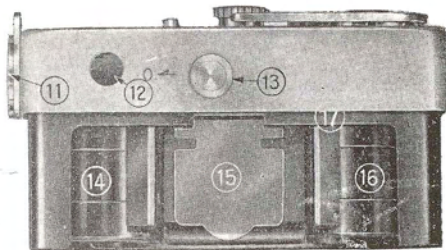
16. Take-up magazine

17. Camera body

18. Back cover

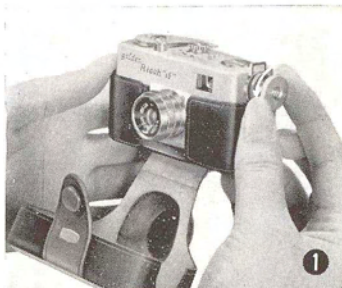
19. Back cover

locking catch



REMOVE CAMERA FROM CASE

1. Open the leather case.
2. Remove the knurled nut by turning it in the direction of the arrow.
3. Lift the camera out of the case.



OPENING THE CAMERA

4. Push the back cover release button ⑬ towards the red "O" and take the back cover off the camera body.



INSERTING CARTRIDGE

- 1) Take out the empty cartridge.
 - 2) Raise the film pressure plate and insert the film cartridge.
 - 3) As shown in Fig. 4, while pressing the bottom of the cartridge, turn the film advance lever until it stops and release the shutter. This is repeated a few times until the film advance lever and cartridge spool revolve together.
- When the film can be wound, lower the pressure plate.

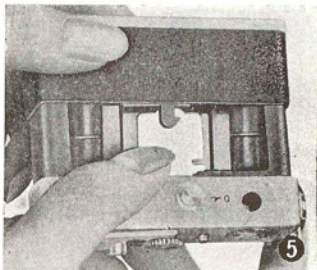


REPLACING BACK COVER

- 4) To close the camera, place the back cover to the position shown in figure 5 and slide it downwards into the camera body until the catch ⑱ is engaged.

SETTING TO FIRST FRAME

- 5) To bring the film to the start position, two blank exposures are made as follows : turn the film advance lever ① until it stops. The shutter release button ② is now depressed and the whole action — film advance and shutter release — is repeated once more.
- 6) The exposure counter ⑦ is moved in the direction of the arrow until the "O" is adjacent to the marker "•".



DOUBLE AND BLANK EXPOSURE LOCK

The film advance lever automatically cocks the shutter as well as only advancing the film one full frame. This means that if the film advance lever cannot be moved, that frame has not been exposed. Likewise, if the shutter release button cannot be depressed, the film in the camera for that particular number has already been exposed and the film must be wound on to the next number.

AFTER THE LAST EXPOSURE

When the film counter is on 20, it will become your last exposure. After taking this last picture, take a few blank shots so that the film will be completely wound on the take-up magazine and take out the cartridge in subdued light.

BE SURE TO LABEL THE CARTRIDGE WITH THE TYPE
OF FILM SO THAT IT CAN BE PROPERLY PROCESSED

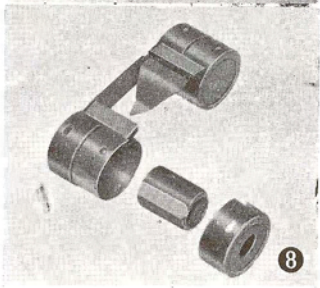
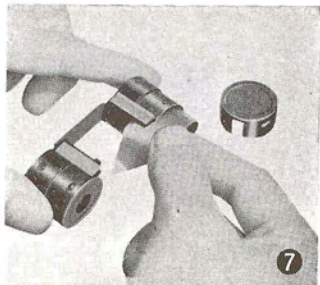
PLACING FILM IN CARTRIDGE

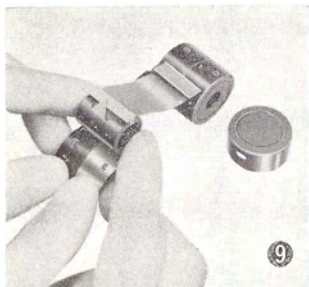
It is possible for one to load an empty cartridge by himself.

- 1) Remove the cap from the end of the film chamber which has no hole in the center.
- 2) Cut off a strip of 16mm. film 21 in. in length, roll it slip it through the chamber film slot leaving a short strip of film left outside and replace the cap.

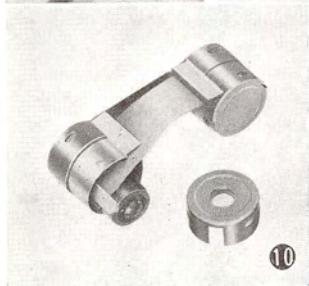
The above must be conducted in a dark-room.

- 3) Make a triangular cut at the tip of the film strip.
- 4) Remove the cap from the take-up magazine and take out the spool.

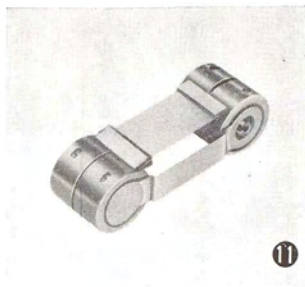




9



10



11

- 5) Slip in the triangular film tip between the spool and the metal plate attached to it. As indicated in Fig. 9, fold back the triangular film tip over the metal plate to prevent slipping and turn the spool one or two times.
- 6) Put the spool back in the chamber and replace the cap.



COMPOSITION AND EXPOSURE SETTINGS

Turn the film advance lever until it stops. The first line to the right of the "O" on the film counter will be opposite the "•". This indicates that first frame is ready for the exposure.

According to :

The light conditions,

The extent of action of our subject,

The desired picture area,

set the aperture and shutter speed to meet our picture-taking requirements. By rotating knob ⑤, we select our shutter speed and by turning ring ⑩, the aperture is set. Additional data on speed and aperture is given on page 12 through 15.

HOLDING THE CAMERA

For the normal horizontal viewing position,

the camera is held as illustrated in figure 12. When vertical formats are desired, hold the camera as illustrated in figure 13.

Either method of holding the camera will automatically prevent tilted pictures since both hands are in the same horizontal plane.

Your RIKEN 2.5cm RICOH LENS is always in focus. It will take ultra-sharp, clear pictures from $3\frac{1}{2}$ feet to infinity. Your negatives can be enlarged to 20 by 24 inches without any appreciable grain in the enlargement.

Always remember : through the viewfinder eyepiece ⑫, you'll see, in the same proportion, the area that will appear on the negative. When the 40 mm RICOH 16-TELE telephoto lens is used, the area within the light-framing mask will then be the exposure boundaries.



THE EXPOSURE

Using your fore-finger, press down on the shutter release button ⑫ with a gentle squeezing action. Since very little pressure on the button is required to put the shutter's mechanism into motion, a "jabbing" push on it should be avoided because it will cause the camera to "move" at the moment when the shutter is open.

SELECTING SHUTTER SPEED AND APERTURE

We know you will find picture-taking is fun ; if photography is a new addition to you hobbies, we believe that, after reading this section, you will see it is also easy.

The combination of the lens opening and shutter speed controls the amount of light entering the camera. The diaphragm setting determines how much of the lens' area will be used and the shutter speed will govern the duration of the opening. However, before selecting these settings, we believe you should understand what they are and how they work.

APERTURE OPENING

When we select an aperture opening, we regulate the size of the circular hole in the diaphragm. This opening will control the intensity of the light admitted into the camera.

The size of this opening is designated by a number and is referred to by many interchangeable names : " lens stop, f-stop, f-number, aperture, and diaphragm setting (or stop)."

The " f " numbers are exactly the reverse of the openings. The smallest number ($f/3.5$) on the diaphragm scale is the maximum opening, while conversely, the largest number ($f/16$) is the smallest opening.

The aperture scale has these stop markings :

3.5	4	5.6	8	11	16
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Beginning with the smallest opening, $f/16$, each succeeding setting doubles the quantity of effective light passed through the lens. Thus, at $f/5.6$ we put 8 times more light onto the negative than we do at $f/16$!

A " half-stop " f-number can be obtained by setting the scale between two numbers. For example : if we desire an $f/6.3$ opening, move the aperture control lever so that the index marker is about half-way between the $f/5.6$ and 8 markings.

Since the amount of light required to reproduce a given subject is fixed, the shutter speed must be considered before selecting this opening : this is explained on the following pages.

SHUTTER SPEED

The Golden Ricoh "16" 's shutter speeds are :

B 50 100 200

These numbers represent fractions of a second. That is, 50 = one-fiftieth of a second, while 200 = 1/200th of a second. The larger the number, the faster is the shutter action in its opening and closing. This means that at the slowest speed (1/50 of a second), 4 times more light will pass through the lens than at the highest speed.

The position "B" is used for time exposures since the shutter will remain open as long as the release button is depressed. When using this setting, the camera should be placed on a firm, solid support—preferably a tripod — and a cable release should be used to open and close the shutter.

ACTION SHOTS

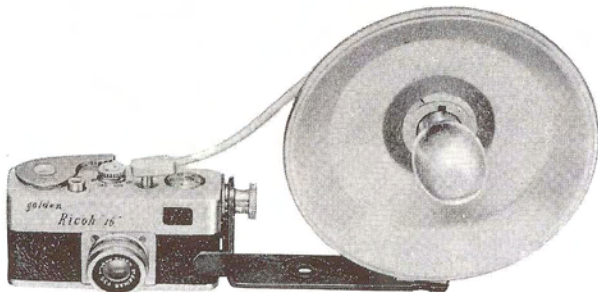
The selection of your shutter speed is determined primarily by the amount of "movement" of your subject. For persons walking towards your camera, $1/50$ of a second will freeze the movement. For sport events or horse races where the action is approaching or moving away from the camera, use $1/100$ of a second. If the action is very fast or is moving across the field of view, set the speed on $1/200$ of a second.

WHAT STOP AND SPEED TO USE ?

As we have seen from the preceding sections, the lens stop and shutter speed are dependent upon each other to obtain the correct exposure and composition: $f/8$ at $1/50$ of a second and $f/5.6$ at $1/100$ of a second will produce the same image density on the negative. The combination you select will depend upon what you want in your picture.

FLASH

RICOH B-300 MOUNTED ON THE GOLDEN RICOH "16"



1. Remove the knurled nut which holds the camera in the case.
2. Slip the threaded shaft of the nut through the hole on the upright section of the Ricoh "16" 's accessory bracket and then put the nut back onto the camera.
3. Slip the Ricoh B- 300 Flash Unit into the accessory shoe on the bracket.
4. Attach the connecting cord from the flash unit to the terminal ⑥ on the top of the camera. Your camera and flash will be like the picture above.

FLASH USAGE

Your Golden Ricoh "16" has an X synchronization system. Perfect coincidence of the flash with the shutter opening is obtained at all speed settings when using strobe (electronic flash) and with class "F" flashbulbs.

Class "M" flashbulbs may also be used, but only on shutter settings of "B" or $1/50$ of a second.

There is a table of GUIDE NUMBERS on every flashbulb package. Under the tungsten index of your film, you will find a number for your speed setting which gives the relationship of "distance-from-subject" and the aperture. Dividing this number by the distance-in-feet from your subject, you obtain the correct stop opening. For example : if the number is 110 and you are 10 feet away, the aperture should be set on $f/11$.

Likewise, all strobe units have rated GUIDE NUMBERS — refer to the strobe manufacturer's instructions.

SOME TIPS ON FLASH

* Buy the proper type of flashbulb. Be sure to use blue-coated bulbs with daylight type color film.

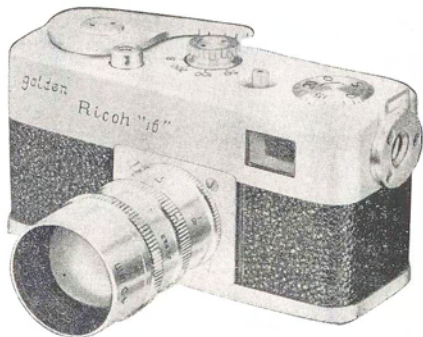
* Use fresh batteries. The light of a flashbulb lasts only a fraction of a second. To catch the picture, the camera shutter must be wide open at that exact moment. Weak batteries will not produce the light at that required instant.

* Don't let your subject just sit ; have them doing something which avoids the appearance of a "posed" picture.

* Use flash "fill-in" to eliminate unattractive squints and harsh, dark shadows caused by strong sunlight. You'll find that flash adds a sparkling quality to your pictures if you have your subjects facing off to an angle from the sunlight instead of having it shine into their eyes.

* When taking flash pictures outdoors at night, in a very large room or a room with dark interiors, increase the aperture opening by one $f/$ -stop. For example: from the Guide Number and Distance, your Calculator tells you $f/11$; set the aperture on $f/8$.

GOLDEN RICOH "16" WITH 40mm RICOH 16- TELE f/5.6 TELEPHOTO
LENS



Telephoto pictures are easy to take with your Golden Ricoh "16". Take the normal 2.5 cm RIKEN RICOH off the camera and mount the RICOH 16-TELE.

The RICOH 16-TELE is a highly corrected optical system with aperture openings from $f/5.6$ to $f/16$. In addition, it has a distance scale for sharper picture-taking.



YOUR MARK OF QUALITY

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