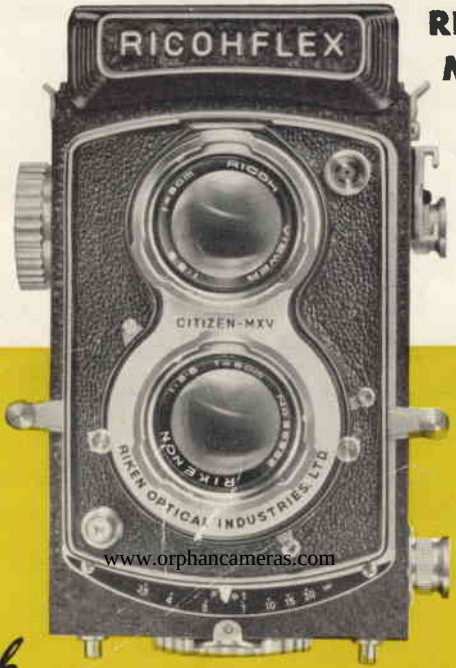
RICOH Flex dia

REFERENCE MANUAL



with

DUO-LEVER FOCUSING

THE CROWNING ACHIEVEMENT IN REFLEX DESIGN!

The RICOHFLEX "DIA" was designed and precision engineered to give you performance and photographic results which are equal to those obtainable from the most expensive twin-lens reflexes.

Although the RICOHFLEX "DIA" is moderately priced, its 8 cm RIKENON f/3.5 is a 4-element, tessar type lens hard-coated and color-corrected for unsurpassed corner-to-corner negative sharpness.

The needle-point clarity of details is evident even at full diaphragm opening. Also, color prints and transparencies have truer tone reproduction over the entire spectrum.

The most important and outstanding feature is the exclusive DUO-LEVER*FOCUSING system. Developed by Riken, its superiority over other systems has been proven by the ease and rapidity with which the subject is brought into sharp focus. In addition, hand movements—the cause of blurred pictures—are minimized.

A brilliant fulll-size 2¼ × 2¼ image is clearly seen on the extra-bright viewing screen even in the dimmest light. The hinged magnifier is easily flipped into position to enable you to critically check the sharpness of focus of the entire picture format. And, for action or sports, just look through the eye-level finder.

*** Patented and trade mark registered**

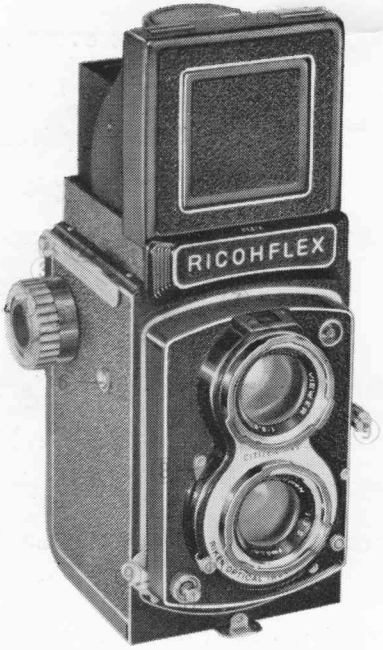
The shutter has speeds up to 1/400 of a second which is fast enough to "stop" any type of action, especially sport events. The shutter's construction provides the highest efficiency at any speed setting. It is fully synchronized for "M" and "X" flash requirements. Also, the built-in self-timer enables you to get into the picture—a convenient feature when taking group pictures. On pages 12 through 17, additional information will be found on selecting and setting the proper shutter speed.

On the lightweight, die-cast aluminum alloy body, all surfaces are machined at microscopically small tolerances with the highest degree of accuracy. And, the anti-reflection baffles interrupt the stray light which usually reduces the contrast of the image on the film.

To enable you to obtain the maximum pleasure from your RICOHFLEX "DIA", we have endeavored to include many principles of advanced technique as well as all basic operations. These "tips" are based on recognized factors that are used by all leading photographers and which result in prize-winning pictures; they are easy to follow and you will show your shots with pride as to your ability.

Before loading the camera with film, we recommend that you put the camera through its various operations to familiarize yourself with some simple points to be remembered. The illustrations on pages 4 and 5 will serve as useful guides for identification of various parts.

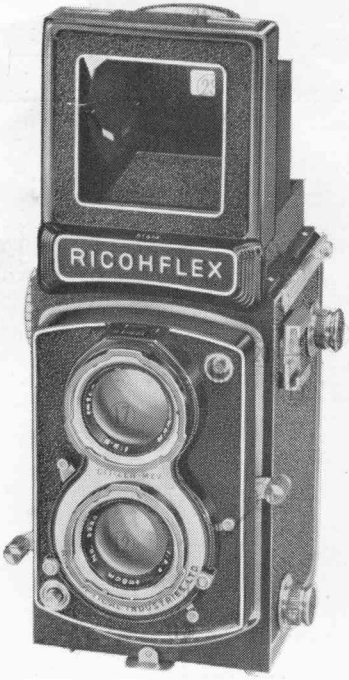
You can load the camera with any standard 120 spool film in either black-and-white or color for 12 exposures of 2¼×2¼ format.



RICOHFLEX
DIA
(semi-automat)

PRINCIPAL PARTS

① Focusing hood
② Carrying strap loop
③ Film winding knob
④ Film advance release
⑤ Film speed indicator
⑥ Exposure counter
⑦ Control window for shutter speed and diaphragm stop
⑧ Shutter cocking lever
⑨ DUO-LEVER focusing
⑩ Shutter speed selector
⑪ Shutter release button



⑫ Taking lens

⑬ M-X sychronization lever

⑭ Aperture selector

⑮ Feed spool knob

⑯ Self-timer lever

⑰ Viewing lens

⑱ Flash terminal

⑲ Accessory shoe

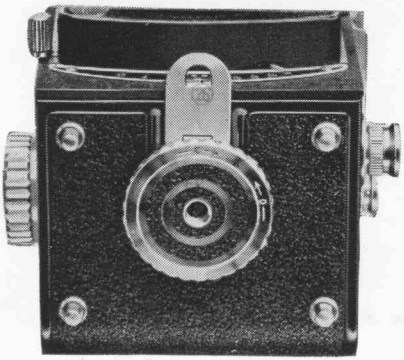
⑳ Cordless flash contact

㉑ Take-up spool knob

㉒ Direct view-finder frame

㉓ Sighting aperture for direct view-finder

㉔ Magnifier for critical focusing



㉕ Back cover

㉖ Back cover locking clamp

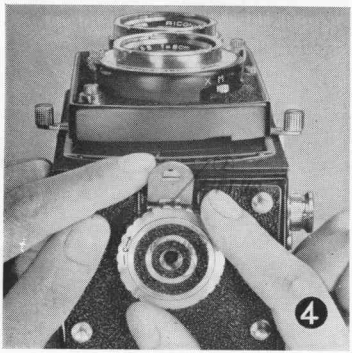
㉗ Back cover locking disc

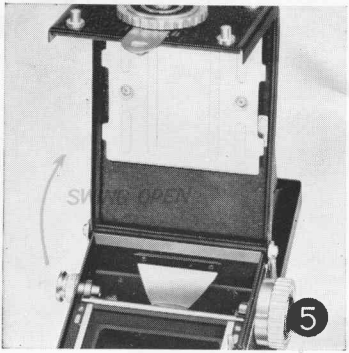
㉘ Tripod bushing

FILM LOADING

The Ricohflex Dia takes 12 exposures on 120 roll film. Film should not be put into, or taken out of the camera in direct sunlight.

OPENING THE CAMERA

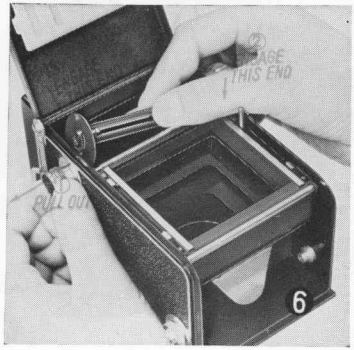




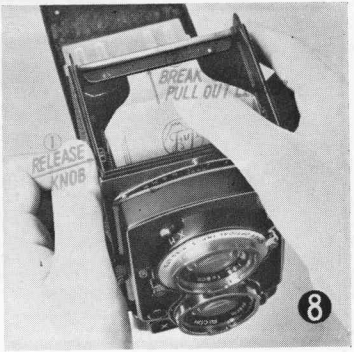
(**A**). Rotate the locking disc ㉗ in the direction of the red arrow →O— The locking clamp ㉖ will move away from the camera body and can be lifted up to the position shown in figure 4.

(**B**). Swing the hinged back open to the position shown in figure 5. You will note that the counter ⑥ automatically returned to "O".

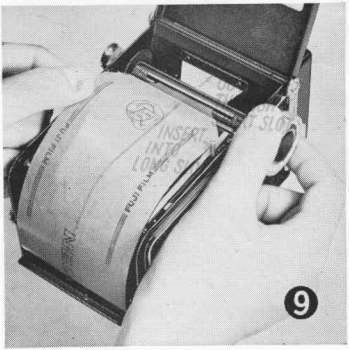
(**C**). Put the empty spool in the "take-up" chamber by pulling the knob ㉑ away from the camera body and engaging the slit on the spool with the end of the winding knob's shaft. Release the knob, engaging the spool with its shaft. Turn the winding knob until the long slot of the take-up spool is in the position shown in figure 9.



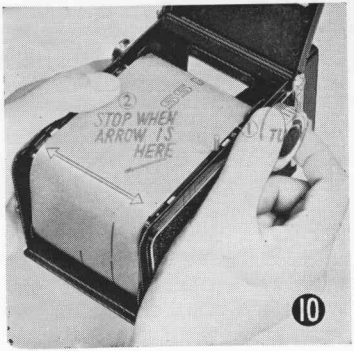
(**D**). Pull knob ⑮ away from camera body. Place the film roll into the "feed" chamber, seating the slit onto the stud. Be sure to properly engage the spool on both ends.



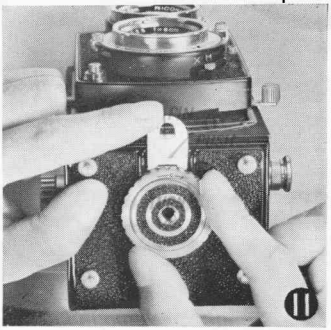
(**E**). Break the seal and pull out the paper leader.



(**F**). Draw the paper over the two rollers and slide the tapered end into the long slot of the take-up spool and out through the short one.



(**G**). Turn the film winding knob, winding the film leader evenly onto the take-up spool until the double-ended arrow points to the two red dots on the camera boby.



(**H**). The reverse order of opening the camera back is now used to close it. Shut the hinged back, push the clamp into place and move the locking disc in the direction of the arrow —C→; be sure the clamp is caught onto the small pin.

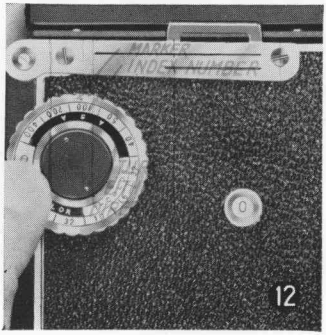
SETTING FILM TYPE INDICATOR

INTRODUCTION

Film manufacturers rate their various films according to the effect of the light upon the particular emulsion. Some films are more sensitive and responsive to light than others.

International standards have been adapted so that you can make most effective use these values, especially in setting exposure meters. These ratings are expressed as numbers which are referred to as the film's "ASA Exposure Index".

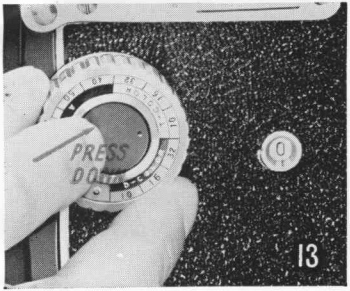
The data sheet in every film package will give two numbers under the "Exposure Index"; one number is used when taking daylight shots and the other when under artificial lighting, such as, flash or flood lamps. With black-and-white films, the tungsten number is generally 80% of the daylight index. However, with color films the package clearly indicates that it is for use with daylight or artificial light. Therefore, when using color film, set the indicator to the number listed under the primary intended usage since the secondary index is quite different because a specific filter is also required. The film data sheet should also be read thoroughly since many excellent "tips" on proper settings are given. The beginning amateur should give close attention to the data, especially if it for color film.



SETTING

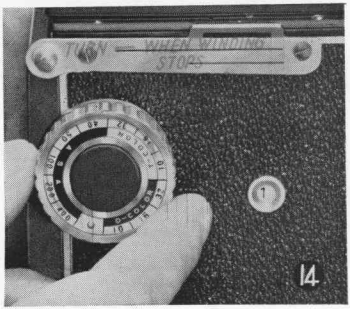
(I). Turn the indicator disc ⑤ until the ASA Daylight Exposure Index is opposite the marker. Illustrated is a setting of 100 for Super XX film. If the film is daylight type color, use the "D-COLOR" reference number; for artifical light color, use the "T-COLOR" number.

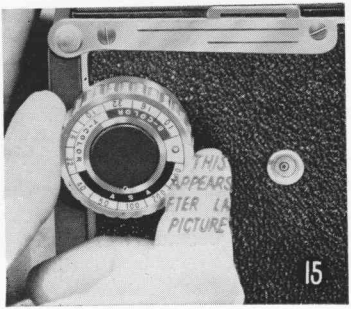
BRINGING THE FIRST FRAME INTO POSITION



(J). Press down on the film advance release ④. This automatically engages the internal film advancing gears.

(K). Turn the film winding knob ③ in a clockwise direction until it stops. As you can see in figure 14, the number "1" has appeared in the counter window. All succeeding frames are brought into position by repeating steps "J" and "K". After the last picture, again press down on the film advance release; the red circle will appear in the window and the film winding knob can be turned continuously.





This exclusive Riken feature prevents the film from being wound past its proper position since advance of the film only becomes possible when the film advance release button is pressed down. It completely eliminates blank exposures and gives equal spaces between negatives, preventing overlapped shots.

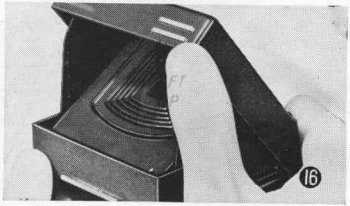
COMPOSITION AND EXPOSURE

FOCUSING

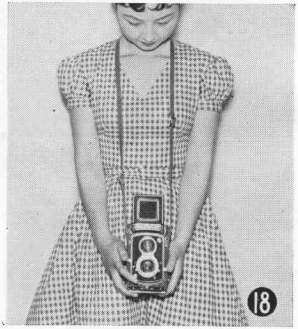
Duo-Lever Focusing is the most modern system since the subject is brought into sharp focus faster and easier. Also, hand movements —the cause of blurred pictures—are minimized.

OPEN THE HOOD

The hood is opened by simply lifting upon the back part of it. Be sure to remove the protective lens cap.



HOLDING THE CAMERA

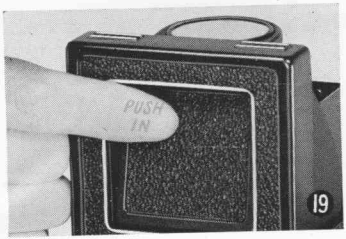


When the camera is held at chest or waist level, the best perspective is obtained since the lines of the subject are undistorted in the picture format.

The fingers should be on the Duo-Lever controls as illustrated above. By keeping both hands on the camera in this manner, the subject is quickly brought into sharp focus by moving the levers • • • • • the left lever is moved downward if the point of sharp focus is further than the subject and, conversely, the right lever is moved downward if the point of sharpness is closer to the camera.

The area visible on the extra-bright viewing screen is exactly what will appear on the negative. It thus becomes very easy to select the desired subject matter, background, etc., by moving the camera to the right or left, and up or down.

CRITICAL FOCUSING

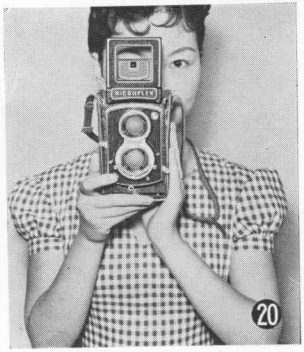


The wide-field magnifier can be "flipped up" in a fraction of a second when critical focusing is necessary. As illustrated in figure 19, just push the direct viewfinder frame ㉑ back about 1/2 inch and the magnifier automatically swings into position.

When using the magnifier, hold the eye close to it!

Before closing the hood, be sure to push the magnifier down to its original position!

EYE-LEVEL VIEWFINDER



For rapid eye-level shooting, first push the frame down into the hood until it catches on the latch. Then, by sighting through the aperture ㉓, the limits of the field will be seen through the direct viewfinder. It is abvisable to first focus with the viewing screen to obtain the correct distance setting for the main subject.

The frame is brought back to its original position by moving the hood slightly back. This releases the latch and the frame springs up into place.

CLOSING THE HOOD

Be sure the magnifier is in its original position. Then, to close the hood, just push the top towards the back of the camera.

SHUTTER SPEED AND APERTURE OPENING

By moving the shutter speed selector ⑩ and the aperture selector ⑭, the speed and stop settings are visible in the "peep window" ⑦. It is very easy to quickly change from one speed to another or from one diaphragm opening to another without changing the camera position since the extra large control window is located on the top of the lens housing.

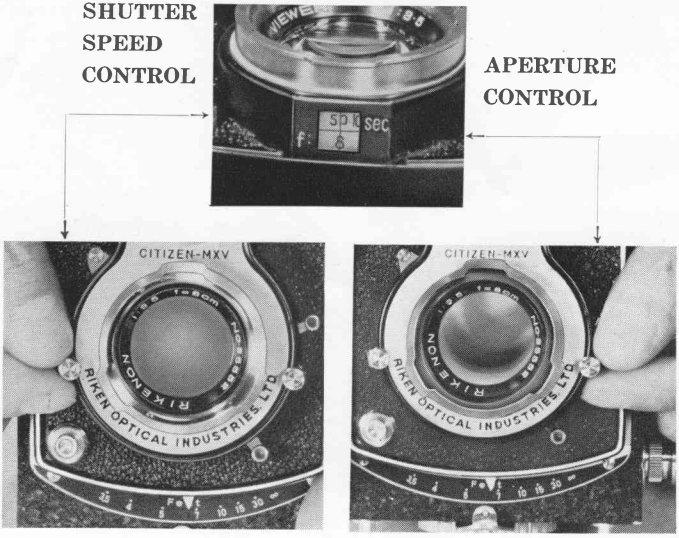


Figure 21

Addition information on the shutter speed and aperture relationship is on pages 16 and 17

PICTURE TAKING

According to:

the light conditions,
the extend of action of our subject,
the desired picture depth,

set the aperture and shutter speed to meet our picture-taking requirements. Illustrated in figure 21 are an aperture of f/8 and a shutter speed of 1/50 of a second.

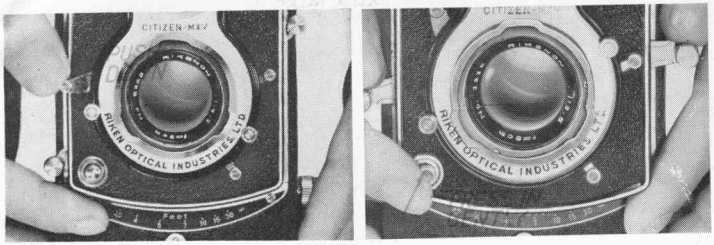


Figure 22

Cock the shutter by moving lever ⑧ down as far as it will go. See the picture on the left in figure 22. After focusing on the main subject and selecting the desired area, press down on the shutter release button ⑪ 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 diaphragm is open. The illustration on the right in figure 22 shows the correct method of releasing the shutter.

Make Your Pictures Interesting

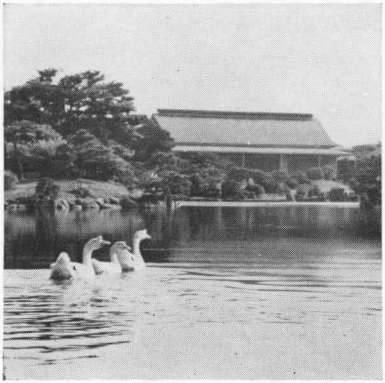
The most important operations in the making of an attractive picture are to properly arrange the subject matter and to choose the camera angle which portrays the best perspective. Your big advantage in using the Ricohflex lies in seeing on the viewing screen EXACTLY what will appear on the negative. It becomes an easy matter to select the proper taking point to obtain your desired format. On the following pages are the basic factors which are easy to use and worth while remembering.

By using these main principles of good composition: simplicity. balance, leading line, background, depth and camera angle, your pictures will be more attractive to everyone and of prize-winning caliber.

Simplicity. Every picture should have a main point of interest whether it be a single object or a group. It should present one idea with clarity and not have distracting objects or lines which would prevent the viewer from recognizing the photograph's purpose.

Balance. Photo pictures of more than one object (for example: 3 persons) are considered to be well-balanced when they are in harmony with one another. This can be done by arranging objects of similar shape and size in various positions. If you place your main interest halfway between the center and the edge of the viewfinder, you will find your composition immediately has a pleasing effect; it is generally agreed among professionals that the principal object of attraction should not be in the exact center. This technique is very useful when taking a group picture--have some of the people pose in various positions, rather than lined up abreast.

Leading line. Any line—straight or curved--that brings the eye to the main object is an excellent feature in a picture. This technique is especially useful in outdoor photography where a roadway, or even footprints in the sand from the lower left corner leading to the subject, can be included. Notice how, in the picture to the left, the ripples in the water lead our eyes to the swans.



DETA: The line of the camera angle is from the lower left corner through our graceful swans towards the typical Japanese house in the upper right corner. As you will note, we used all our basic principles to bring out a pastoral scene. Enlarged, it became a restful and decorative picture for everyone to enjoy its rustic serenity (f/16 at 1/50 of a second on Plus X).

DATA:

Plus X film
(ASA 80)
f/4
1/200 of a second
R-O filter
(see additional
details below)

Background. In a close-up picture of a specific object, the background should be plain or in harmony with the subject. Your selection of appropriate surroundings will be an indication of your ability. If conditions will not permit an agreeable background, overcome it by decreasing the depth-of-field through an increase in the aperture like we did for model above.

Depth. When taking a picture of a far-off scene, a 3-D effect is added if a nearby object is also included in sharp focus.

Camera angle. This does not refer to the holding of the camera, but to what is selected for the picture area. Whenever possible, within this area, avoid horizontal or vertical lines (as seen through the viewfinder) that divide the picture in half!

About the photograph above. The film data recommended f/16 at 1/100 of a second. Since a red filter with a factor of 8 was used, the aperture was opened to f/5.6. To increase the blurring of the background, the stop was opened further to f/4. Then, to compensate for this larger f-stop, the shuttr speed was increased to 1/200 of a second. The smiling model now "stands out" for a pleasing picture to be put into the album.

SELECTING SHUTTER SPEED AND APERTURE

We know you will find picture-taking is fun; if photography is a new addition to your 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 exacty the reverse of the opnings. 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

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 blank area between the f/5.6 and 8 markings is in the peep window.

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 next page.

SHUTTER SPEED

The Ricohflex Dia shutter speed are:

B 1 2 5 10 25 50 100 200 400

These numbers represent fractions of a second. That is, 1=one second, while 400=1/400 th 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 (one second), 400 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.

DELAYED ACTION

To use the self-timer, put the camera on a tripod and focus on your group. Set the aperture, shutter speed and cock the shutter in the usual manner. Push the self-timer lever ⑯ down. Pressing down on the shutter release button will activate the self-timer and the exposure will be made automatically after a 7 second delay. Since it enables you to also get into the picture, prints of your family and friends will be more delightful to look at when mounted in your album.

Note: The self timer will not operate when the shutter speed setting is at "B".

ACTION SHOTS

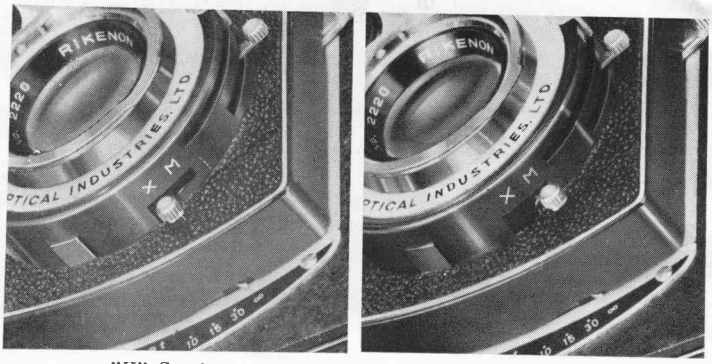
The selection of your shutter speed is determined primarily by the amount of "movement" of your subject. For persons walking towards your camera, 1/50 of a second will freeze the movement. For sport events or horse races where the action is approaching or moving away from the camera, use 1/100 of a second. If the action is very fast or is moving across the field of view, set the speed on 1/200 or 1/400 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 TECHNIQUE

Your Richohflex Dia has an **M-X** synchronization system. Perfect coincidence of the flash with the shutter opening is obtained when using strobe (electronic flash) and with almost every type of flashbulb.



"X" Setting "M" Setting

Figure 23

Type **X** synchronization is used with electronic flash units and Class **F** flashbulbs. Move the lever ⑬ to the "X" setting as illustrated above.

When Class **M** flashbulbs are used, the lever ⑬ is moved to the **M** position. When the shutter release button is pressed, the shutter's opening is delayed about 16 milliseconds. This delay will give the lamp sufficient time to reach its peak brilliance at the exact moment that the shutter is wide open, even at the fastest shutter speed.

The chart on the opposite page lists the speeds which can used with the different types of flashbulbs.

MOUNTING THE FLASH UNIT

Holding the contact spring up, slide the metal plate of the RICOH Flash, Model B-300, as far as it can go into the accessory shoe ⑲. The circuit is completed through the special flash contact ⑳ in the center of the shoe. Figure 24 illustrates the Model B-300 mounted in the shoe.

For other flash unit models, the connecting cord must have an European-type tip to fit onto the flash terminal ⑱.

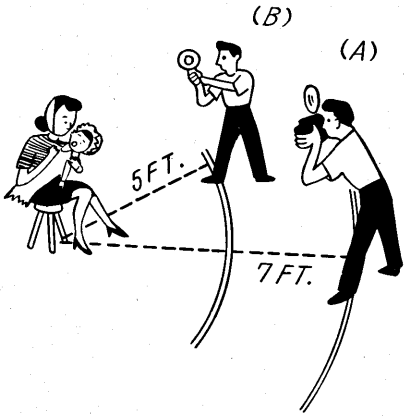
"Battery case-bracket" types of flash guns can also be used by attaching the bracket to the tripod bushing ㉘.

FLASHBULBS		USABLE SPEED RANGE	
Class	TYPE NUMBERS	M	X
M	5,5B. 8,25, 25B, PF3&PF4	all speeds	B to 1/25
F	SF, SM & SS	B to 1/25	B to 1/50
—	M-2	B to 1/100	B to 1/25
FP	6, 6B, 26 & 26B	DO NOT USE	
ELECTRONIC FLASH (STROBE)		NOT RECOMMENDED	ALL SPEEDS

There is a table of GUIDE NUMBERS on every flashbulb package. Under the tungsten index of your film, you will find a nunber for your shutter 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.

MULTIPLE FLASH

By using an additional lamp in an extension unit, picture quality will be greatly improved. Roundness and depth will be added to the features of the face and harsh shadows will be "softened".



Attach the connecting cord from the extension unit to the terminal marked "extension". The diagram shows a basic "Triangle" set-up that gives good results ; one flash (A) is on the camera and the extension (B) is placed high and to the right about half the distance of subject-to-camera. This arrangement will give you the simplest professional lighting.

An additional professional "touch" is to place a white cardboard slightly to the left, above and behind the subject. This acts as a reflector and directs the main light back into the shadows to give highlight for the hair.

The diaphragm setting must be closed one full stop to allow for the additional light. For example : your calculator shows an opening of f/11 for one lamp; set the aperture on f/16 for the two lamps.

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 then 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 to use f/11 ; set the aperture on f/8.

RICOH FILTERS

Filters are very creative; their use marks the difference between the beginner and the serious photographer. Have you ever photographed a distant mountain or breath-taking clouds against a blue sky, only to discover later that the final prints do not show what you wanted? Most films are over-sensitive to blue, and therefore reproduce it much too light. A RICOH yellow or orange filter reduces the blue intensity and, at the same time, it lightens yellow and red which may otherwise be rendered too dark. For most pictorial work with black-and-white film, sets of two or three filters are sufficient. The most frequently used filter is the Medium Yellow (Y-2) for "universal" use. It makes the most accurate tone correction for any outdoor scene on either ortho or pan films. The Skylight Haze (UV), Medium Orange (O-2), Light Red (R-0) and the Light Green (G-0) are also popular filters used to improve tone balance in the negative and print. Filters can also be used to exaggerate tones or dramatic effect, or to obtain better light balance for color film. RICOH FILTERS are made from solid optical glass with the same precision used in making the RICOH LENSES.

All filters require an increase in exposure to compensate for the light they block. This increase, the FILTER FACTOR, is not the same for all films and all filters. Check the instructions furnished with the filter and use the factor for your film. An example is the Y-2 factor for panchromatic film which is 2; open the aperture one full stop or use the next slower speed.

Protect Your Negatives and Prints

You will probably not be able to duplicate many of your exposures—keep them in specially designed files ; it will not only preserve them for your lasting pleasure (especially if they are color shots), but it also makes it easier to quickly locate a specific picture.

Likewise, you should also keep your prints in an album or file. Many people prefer albums about 10 by 14 inches in size since several related pictures can be mounted on the same page. By spending only a dollar or two, you make a wise investment since snapshots are apt to get dirty or torn when kept loose in a drawer or box.

You'll probably have many shots of which you are very proud; why not enlarge and frame them for wall decorations ? Your family and friends will be able to appreciate them as much as you do.