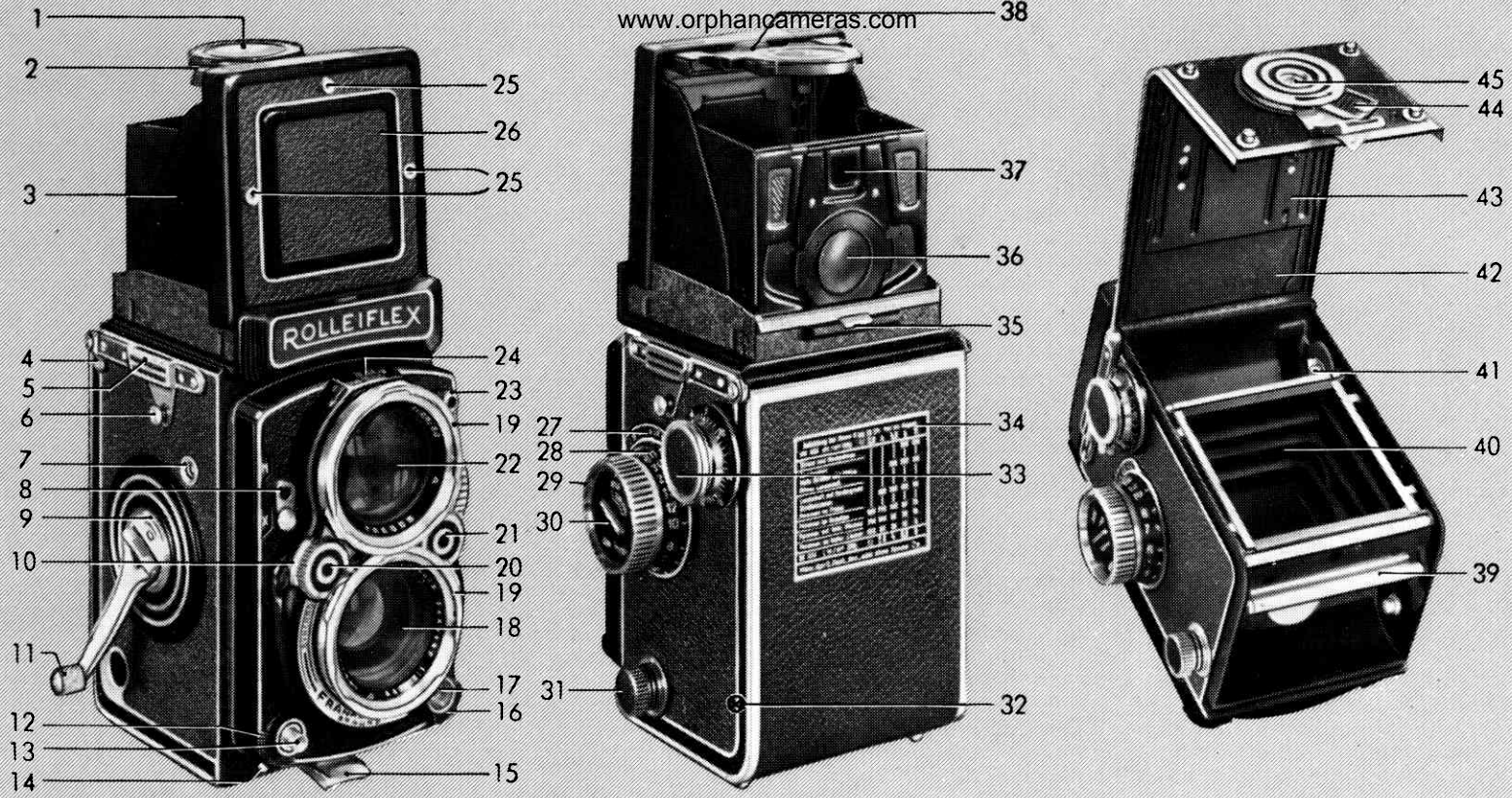
Rolleiflex

2.8C

IN PRACTICAL USE



1 Focusing magnifier
2 Magnifier flap
3 Focusing hood

4 Locking clip for back hinge
5 Eyelet slot for neck strap
6 Neck strap button

7 Film frame counter window
8 Synchro M-X lever

9 Crank release (to re-tension shutter for double exposures)

D. B. P. / S. G. D. G. / Pat. pend. / Brev. rich.

10 Arresting slide for shutter speed control
11 Film advance and shutter tensioning crank
12 Shutter release guard
13 Shutter release with cable release socket
14 Locating sockets for panorama head
15 Back lock clip
16 Locking device for flash cord plug
17 Flash cable socket
18 Taking-lens
19 Double bayonet mount for lens accessories and lens hood
20 Shutter speed control
21 Diaphragm control
22 Viewing-lens
23 Cocking lever for self-timer
24 Indicator window for diaphragm and shutter settings
25 Pin-socket for Rolleikin direct view finder mask
26 Direct view finder panel
27 Depth of field scale
28 Focusing scale
29 Focusing knob
30 Adjustable reminder of film type and speed
31 Film-spool knob (Rolleikin rewinding knob)
32 Focal or film plane (focusing distances measured from this line)
33 Take-up spool knob (Rolleikin counter knob)
34 Exposure table
35 Retaining device for Rolleikin ground glass mask
36 Magnifier for eye-level focusing
37 Rear sight for direct view finder
38 Magnifier lifting handle
39 Automatic film feeler mechanism rollers
40 Anti-reflection baffles
41 Winding key for take-up spool
42 Combination back for No. 120 (B II 8) and 35 mm film
43 Adjustable film pressure plate
44 Back locking lever
45 Tripod socket

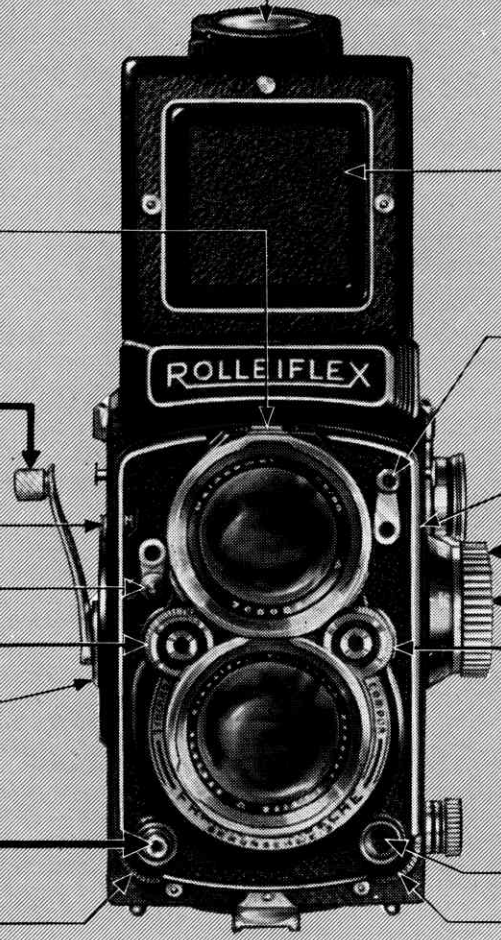
Equipped with the "high-efficiency" Schneider Xenotar f:2.8 lens the Rolleiflex 2.8 C offers a new and higher degree of photographic performance. To the already well known and distinctive conveniences of the Automatic Rolleiflex are now added new constructional features, designed to meet the most exacting professional demands. Truly, a new Rollei leader has arrived.

The following pages contain a fully detailed description, with illustrations, of the operation of the camera. A careful reading should serve to speed the new Rollei owner on his way to acquiring an easy proficiency in the practical use of his camera. Helpful rules and hints are also included.

We hope that this book will serve to help open new paths so that the many possibilities of the Rolleiflex 2.8 C may be easily and fully explored.

FRANKE & HEIDECKE
BRAUNSCHWEIG

THE QUICK BASIC PRINCIPLE



Check focus and composition

Sports pictures:
use direct view finder

Check diaphragm
and shutter speed

Exposures with self-timer:
cock self-timer

Tension shutter
(with film advance crank)

Check depth of field

Check film frame number

Focus

Flash pictures:
adjust M-X lever

Adjust film reminder

Set shutter speed

Set diaphragm

Double Exposures:
unlock crank to re-cock shutter

Release shutter

Flash pictures:
connect flash gun,

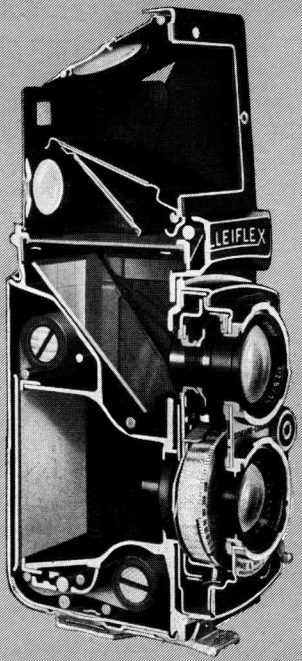
After the exposure:
safeguard release

unlock flash cord plug before
pulling it out

TO LOCATE THE MOST IMPORTANT PARAGRAPHS QUICKLY

This Rolleiflex instruction book offers you the basic information necessary for the use of the camera. Practical matters of technique are adequately discussed, usually in the form of concise tips covering the most important phases of picture taking. Easy to use, highly informative tables are also included. It will therefore remain a source of information of permanent value to you.

Important: Before attempting to use or handle the camera we urge you to read carefully pages 12, 16, 24 and 28.



THE ROLLEI PRINCIPLE

I. A BRIEF ROLLEIFLEX-ANATOMY

The Automatic Rolleiflex is a camera characterized above all by two special design features: the rigid construction of the twin lens reflex and the automatic film transport mechanism. These technical advantages do not form merely a basis for very high performance but at the same time contribute materially to the simplicity and ease of use for which the Rollei is justly famous.

It takes but a glance at the construction of the camera to recognize the simple elements of its practical operation.

Construction of the Twin Lens Reflex

In the Rolleiflex two separate cameras are joined in a twin-camera with a common sturdy die-cast body: the bottom half is the

taking-camera, in which the film is exposed, and the upper half is the

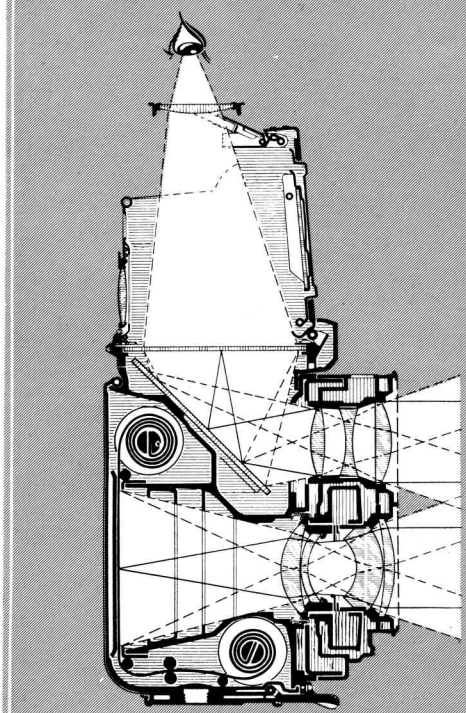
viewing-camera, which is designed on the mirror-reflex principle. Its special task is to make the focusing visible on the ground glass and to supply a control image essentially similar to that of the prospective picture.

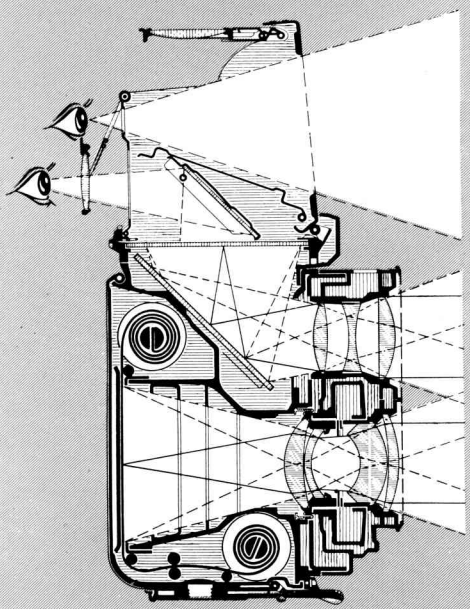
The image forming rays are transmitted by the fully open viewing lens, projected on to the ground glass screen via the mirror and the result is a right-side-up, but laterally reversed ground glass image, in the full size of the original picture. This viewing image is visible at all times and every detail of composition and framing may be watched even during exposure.

The ground glass screen is ruled with a number of vertical and horizontal lines making it possible to detect errors, such as lines which converge but should be parallel or a slanting horizon, in time to notice and correct them. It is easy to straighten or level the camera by means of the lines on the ground glass screen.

Above all, the ground glass screen provides the means for **focusing the camera.** This is accomplished by rotating the focusing knob. Both lenses, which are inflexibly coupled to each other by means of a sturdy common front plate, are thereby adjusted simultaneously: a sharp viewing image therefore guarantees an equally sharp picture. Since the Rolleiflex is equipped with a fast viewing lens and an optically prepared ground glass screen, the viewing image is extremely bright and clear and focusing can be done very critically.

The **focusing hood,** which is designed for one-hand operation is kept in both open and closed positions





by spring tension. It is equipped with a swinging **magnifier,** adjustable to the individual eye-sight. It offers at approximately 2.5 times magnification of the entire ground glass image, a still more precise means for focusing the camera.

If the front panel of the focusing hood is pushed inward, it is transformed into a **direct view finder** through which the subject may be seen in natural size making it particularly easy to follow fast action. In this case it is still possible at all times to maintain control over focus: this is made possible by means of a second, adjustable magnifier in the back of the focusing hood, and a diagonally mounted mirror. A slight raising or lowering of the Rolleiflex is all that is required to alternate between the right-side-up open view in the direct finder, and the reversed center portion of the ground glass focusing image. The fact that the two finder openings are located so close together, enables quick framing of the subject after focusing. The usefulness of the open direct view finder is thereby enhanced for sports pictures.

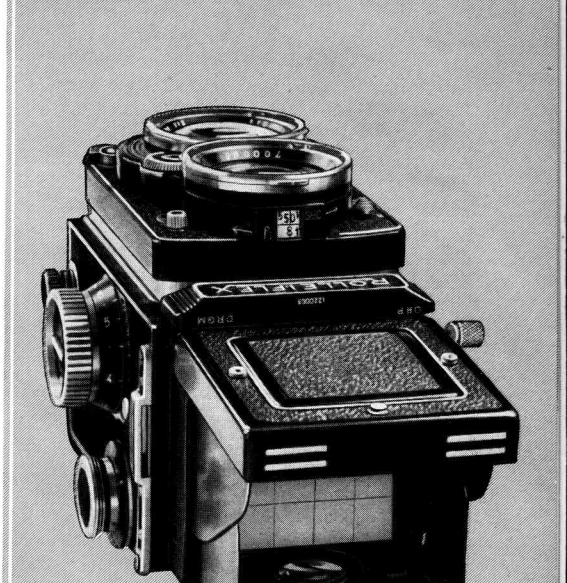
Focusing the front lens panel throughout the range from ∞ (infinity) — 40 inches (distances measured from the focal or film plane to the subject) is accomplished by one full turn of the focusing knob.

The special design of the focusing mechanism (a cam-drive based on the principle of the archimedic spiral) insures uniform movement of the lens panel in both directions without play or backlash.

Tied in with the movement of the lenses is a simple sliding mechanism, located beneath the ground glass, providing completely automatic **parallax compensation.** Consequently, the final picture is always framed exactly as originally viewed on the ground glass screen. Similarly complete control is had even when using supplementary Rolleinar lenses for close-up work because of the Rolleipar which is built into the Heidosmat-Rolleinar.

Diaphragm openings and **shutter speeds** are regulated by small knurled wheels on the front panel while observing the scales in the single window at the top. Involuntary movement of the control wheels is prevented by the automatic arresting slide. Thus, all manipulations take place with the camera in operating position and are easily checked with but a single glance.

Since the two **lenses** are of identical focal length ($f = 80$ mm) it follows that the image in both sections of the camera will always be critically focused on the same portion of the subject simultaneously.



The Xenotar f : 2.8 is a five glass construction with two cemented elements (modified Gauss-type) and features outstanding correction for black and white and color pictures, while the viewing-Heidosmat f : 2.8 lens meets with the special requirements for critical ground glass screen focusing. Both lenses are treated with abrasion resistant coating. The bayonet receptacles circling the mounts are intended for attaching the lens hood and supplementary optical accessories, which in this way will be held in optically correct position and form a solid unit with the camera.

The removable **combination back** is attached to the camera by means of two hinges with automatic lock and at the bottom it contains the tripod socket and the safety back lock. Its adaptability for the two picture sizes $2\frac{1}{4} \times 2\frac{1}{4}$", and 24×36 mm is the result of the adjustable film pressure plate which can be set for 120 (B II 8)-film (with paper backing), or for 35 mm film (without paper backing) when used in conjunction with the Rolleikin 2 C attachment. In both cases a film channel is created with a width that corresponds to the thickness of the film being used. Thus the film can be properly held in the focal plane, and also can slide through without undue friction when advanced.

The Automatic Film Transport Mechanism

The constant readiness of the Rolleiflex, a natural result of its advantageous twin-lens design, is further enhanced by the automatic film transport mechanism. The quick acting **crank** coupled with an automatic gear mechanism performs five important functions with each pendulum swing:

1. Advances film to next frame
2. Advances film frame counter
3. Tensions the shutter
4. Releases shutter lock
5. Engages film lock.

The shutter release and film advance crank are locked and unlocked alternately, thereby offering full insurance against double exposures or skipped frames.

For intentional double exposures the crank must be unlocked at the crank base: Turning the crank a full turn to the left cocks the shutter again without advancing the film.

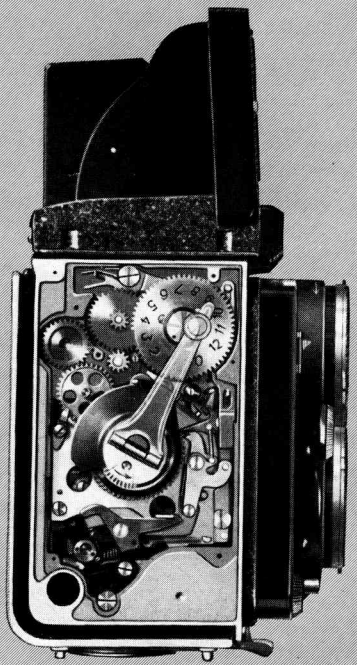
Automatic stops limit the extent of crank swing. With the increasing thickness of the film on the take-up spool the crank swing decreases from $\frac{3}{4}$ of a turn in the beginning to just under 1/2 turn at the end

of the roll. Thus the film is always advanced exactly one full frame.

In addition to this, each swing of the crank automatically brings up the next number in the film counter window.

The positioning of the film so that the first frame is correctly placed also is accomplished automatically. After inserting the full film spool in the bottom chamber, the paper leader must be passed through the two feeler rollers and drawn up on to the empty take-up spool. The feeler rollers will allow uninterrupted passage of the thin backing paper. Only when the increased thickness (at the point where film joins paper) goes through the rollers, does the automatic tripping mechanism allow the counter to go into action. The crank continues briefly and then stops, firmly — the film has reached the position for exposure No. 1. The pressure of the rollers is released immediately after the passage of the film's beginning so that the rest of the roll will slip through freely.

After the twelfth exposure, the counter mechanism automatically disengages and the crank turns freely, permitting the complete winding up of the fully exposed film.



II. THE ROLLEIFLEX 2,8 C IN OPERATION

The Ever Ready Case

deserves mention here since it is so often used with the camera.

To Open: lift the top by grasping the snap **catch** buttons at the rear and fold forward and down **(1)**.

To Close: pull the top over the camera and push down to engage the snaps. (Simultaneous folding of the focusing hood is also possible with this movement.) Always return focusing knob to infinity position since the extended front may otherwise interfere with closing the case.

To Remove Camera From Case: pull up the metal clips located at the top of the sides of the case **(2)**. Lift the crank a little way from the case, spread the sides and lift the camera forward and out **(3)**.

Putting the Camera in the Case: pull up the clips and spread the case apart; then slip the crank through the large opening from the inside and lower the camera backwards into the case. Push the clips down through the chrome plated strap holder slots.

The Neck Strap

In order to be able to carry the camera slung from the neck without an ever ready case, a special black leather strap is available.

How to fasten it: hook the metal loop of the leather strap on the strap holder button **(4a)**, pull locking slide up and push it into the strap holder slot as far as it goes **(4b)**.

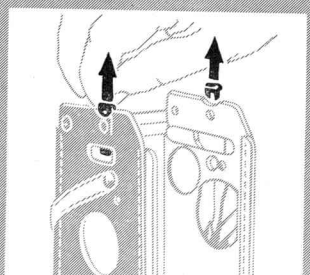
The Lens Cap

is foldable. The upper part is attached in front of the viewing lens by bayonet mounting and the lower part through friction fit.

Removal of Lens Cap: lift the lower part by the tab at the lower edge and fold it against the upper part **(5)**. Remove cap from the bayonet by turning it counter-clockwise ¼ of a turn **(6)**.

Attaching Lens Cap: fit the folded cap into the bayonet of the viewing lens — hinge pointing to the right (focusing knob) — and fasten it with a ¼ turn clockwise. Fold down the lower part and snap into place.

1



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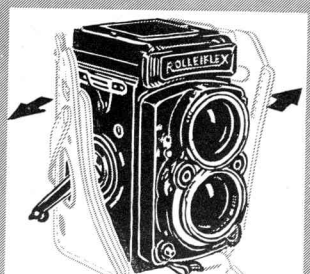

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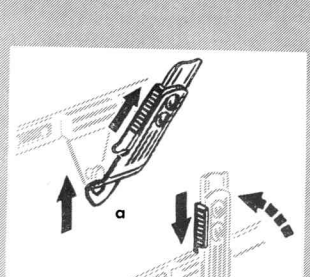

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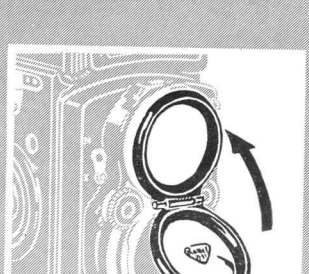

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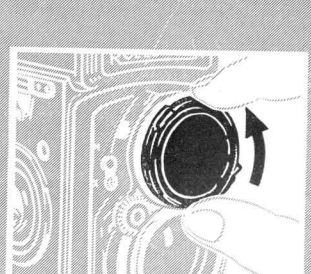

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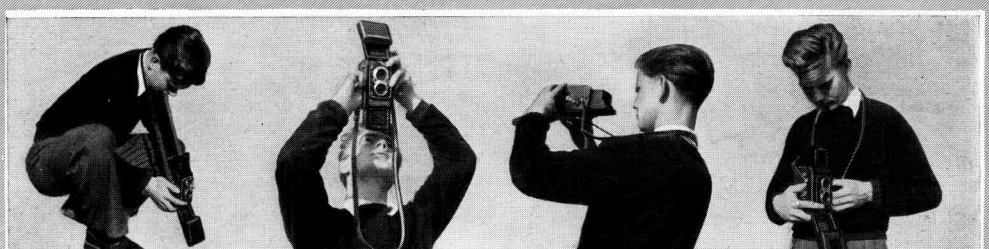
1 2 3

Holding the Camera

Basic rule: camera hanging around the neck with taut strap and the camera held firmly by both hands. The right hand grasps the camera at the bottom, the index finger on the shutter release, the thumb supporting the uplifted crank (quick handling of the film transport: p. 34). The left hand does the focusing (1). In this position diaphragm and shutter controls may be operated comfortably with two fingers.

The Carrying Strap is adjusted to a comfortable length, so that the camera may be carried on the shoulder when not in use. In order that the shutter may be released with taut strap to avoid camera movement, loop the strap around the right hand, thus shortening it to achieve normal viewing



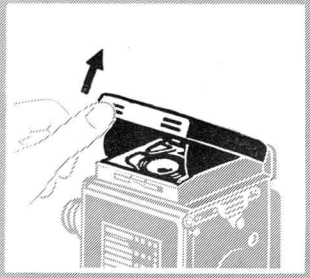
4 5 6 7

distance (2). Further shortening of the strap when using the magnifier can easily be effected by making use of the left hand in the same way (3).

Caution: a wrong or uncomfortable "grip" may cause you to lift inadvertently the hanging top of the eveready case.

In order to assure solid contact when working with a tripod, do not use the ever ready case.

Waist-level or eye-level positions for the camera are considered normal for most pictures. The extremely flexible Rollei, however, readily permits exposures at or near floor level, overhead, shooting straight up or down, and accasionally, surprise snaps "around the corner". The illustrations (**4—7**) show a few possibilities for such pictures with the camera in different positions.



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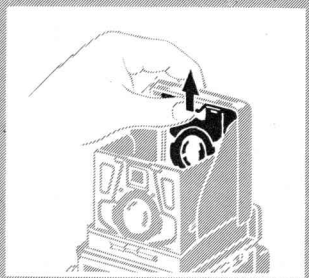


3

Focusing Hood

To Open: lift the rear edge of the focusing hood cover — Spring tension keeps it open (1).
To Close: pull back focusing hood (2).

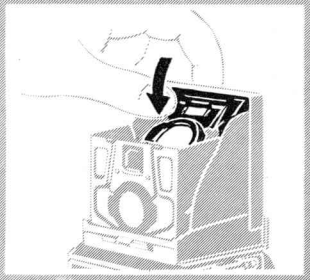
The push-button at the rear of the focusing hood serves to hold the Rolleikin ground glass screen mask or the Rolleigrid lens.

Focusing Magnifier

To Raise: pull release lever in the open focusing hood upwards — the magnifier springs into position (3).

To Lower (before closing the focusing hood): push down magnifier flap by pressure on the side of the frame until it snaps into position (4).

Use of the Magnifier: use the magnifier as close to the eye as possible.



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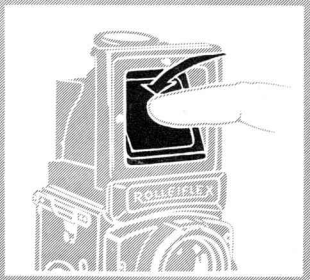

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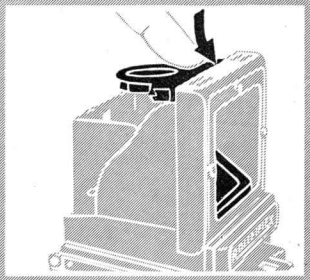


6

Direct View Finder

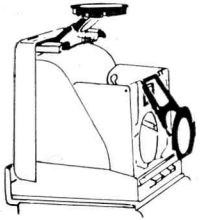
To Open (after raising the magnifier): push the direct view finder flap inwards until it snaps into place (5).

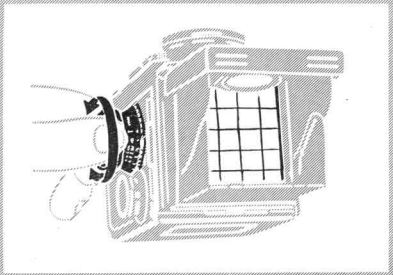
To Close: depress magnifier flap slightly — the direct view finder panel immediately returns to normal position (6).

The subject is viewed at eye-level through the direct view finder and focusing may be checked by means of the second magnifier.

Focusing Magnifiers for Added Convenience

Both magnifiers can also be focused by persons with faulty eye-sight, but not wearing glasses by tilting magnifiers out of their normal position: grasp magnifier at he sides, lift and focus critically on the ground glass screen lines.





Focusing

Focus the Rolleiflex by turning the focusing knob, at the same time critically observing the sharpness of the ground glass screen image. The footage scale serves also to indicate the depth of field, a matter which need not concern you too much at first.
The magnifier facilitates the most critical focusing. Important:

> Focus so that the greatest degree of sharpness prevails at main subject distance.

The Diaphragm

The diaphragm controls the amount of light passing through the lens. It has a double effect:

> **Stopping down**
> increases the depth of field and
> reduces the effective amount of light

Therefore the exposure must be increased correspondingly at smaller diaphragm openings. The following table gives the ratio of exposure at the different openings:

Diaphragm	2,8	4	5.6	8	11	16	22
Exposure	1	2	4	8	16	32	64

Notice that each succeeding smaller stop requires exactly double the exposure of the preceeding one.

The diaphragm scale itself is easily seen, black figures, in the peep window above the viewing lens. The dot before f : 22 indicates the position for f : 16.

Setting the Diaphragm: turn the small knurled wheel while depressing the arresting slide simultaneously.

Depth of Field

Most picture subjects require that acceptable sharpness extend somewhat before and behind the exact distance focused on. Landscapes, for instance, require considerable "depth of field". Two factors influence the extent of the sharp zone: distance actually focused on and diaphragm opening.

In contrast to close-up focusing the sharp zone is many times greater when the lens is focused on l o n g d i s t a n c e :

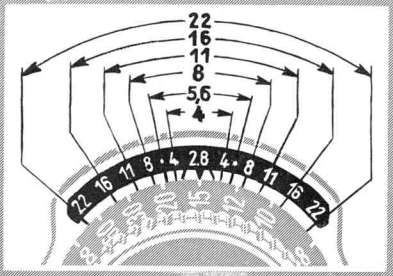
> 1. The depth of field increases with the taking distance.

In any case, however, the sharp zone of the picture may be increased considerably by s t o p p i n g d o w n the diaphragm:

> 2. The depth of field increases when stopping down.

As a practical rule the second alternative is preferable and only in emergency cases should the taking distance be increased because of loss in image size.

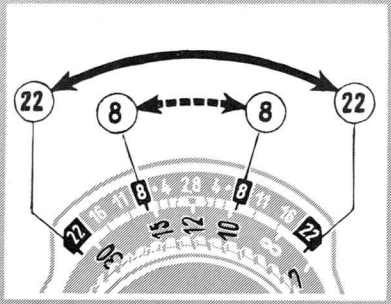
The extent of the depth of field at any distance may be read off on the focusing knob.



Depth of Field Scale

On and next to the focusing knob two scales are visible: the movable focusing scale with figures indicating feet and the fixed depth of field scale with the diaphragm values. The diaphragm stops 4—22 are arranged in pairs symmetrically on both sides of the central focusing point ▼. The 5,6 positions are indicated by dots.

The center of each footage figure indicates the correct setting for that distance.



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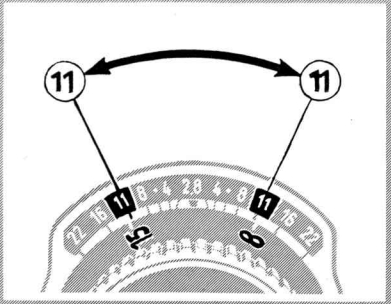

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In Practice

After focusing, the near and far limits of the depth of field may be read off directly below the line marks indicating the diaphragm opening chosen.

> The section of the footage scale bracketed between the marks representing the identical diaphragm opening indicates the exact zone of sharp focus.

1. Example: focusing to 12 ft with diaphragm opening 8 gives a depth of field 10 ft to 15 ft. Focusing to 12 ft with diaphragm opening f : 22 gives on the other hand a depth of field from 7,5 ft to 40 ft. approx. (Stopping down improves the depth of field!)

Considerable stopping down necessitates greatly increased exposure time. To obtain depth of field with the largest possible diaphragm opening, a different method of focusing must be employed:

2. Example: the subject requires sharpness from 8 ft to 15 ft. (Other distances, if unknown, can be read directly off the scale after focusing separately to the limits required.) Procedure: the focusing knob is turned until both footage values are located opposite i d e n t i c a l diaphragm openings, and in this way the m o s t f a v o r a b l e diaphragm opening is obtained, in this case f : 11.

Depth of Field Table (distance in feet)

Diaphragm		2.8	4	5.6	8	11	16	22
Taking distance (in feet)	∞	187′ 4″ — ∞	131′ 3″ — ∞	93′ 10″ — ∞	65′ 7″ — ∞	47′ 9″ — ∞	32′ 10″ — ∞	23′ 10″ — ∞	16′ 5″ — ∞
	60′	43′ 11″ — 85′ 4″	41′ 4″ — 109′ 9″	36′ 10″ — 164′ 4″	31′ 8″ — 690′ 7″	26′ 10″ — ∞	21′ 6″ — ∞	17′ 4 1/2″ — ∞	13′ 2″ — ∞
	30′	25′ 11″ — 35′ 7″	24′ 6″ — 38′ 8″	22′ 11″ — 43′ 9″	20′ 11″ — 55′ 6″	18′ 7 1/4″ — 78′ 7″	15′ 11″ — 312′ 8″	13′ 6 1/2″ — ∞	10′ 11″ — ∞
	20′	18′ 1 1/2″ — 22′ 4″	17′ 5″ — 23′ 6″	16′ 7″ — 25′ 3″	15′ 5 1/4″ — 28′ 5 1/2″	14′ 3″ — 33′ 10 1/2″	12′ 7″ — 49′ 9 1/2″	11′ 1″ — 114′ 11″	9′ 2 1/2″ — 197′ 5″
	15′	13′ 11″ — 16′ 3″	13′ 6″ — 16′ 10 1/2″	12′ 12″ — 17′ 9″	12′ 3 1/2″ — 19′ 3 1/2″	11′ 6 1/2″ — 21′ 7″	10′ 5″ — 27′	9′ 4 1/2″ — 38′ 10″	8′ 1/4″ — 145′ 7″
	12′	11′ 4″ — 12′ 9 1/2″	11′ 1/2″ — 13′ 2″	10′ 8 1/2″ — 13′ 8″	10′ 3″ — 14′ 6 1/2″	9′ 8 1/4″ — 15′ 10″	8 11″ — 18′ 7″	7′ 10 3/4″ — 23′ 5″	7′ 1 1/4″ — 41′ 5″
	10′	9′ 6 1/4″ — 10′ 6 1/2″	9′ 4″ — 10′ 9 1/4″	9′ 1″ — 11′ 1″	8′ 9″ — 11′ 8 1/2″	8′ 4 1/4″ — 12′ 6″	7′ 9 1/4″ — 14′ 1 1/4″	7′ 2 1/8″ — 16′ 8 1/2″	6′ 4 1/2″ — 24′ 3″
	8′	7′ 8 1/2″ — 8′ 4″	7′ 6 3/4″ — 8′ 5 3/4″	7′ 5″ — 8′ 8 1/4″	7′ 2 1/4″ — 9′ 1 1/4″	6′ 11″ — 9′ 5 3/4″	6′ 6 1/4″ — 10′ 4 1/2″	6′ 1 1/4″ — 11′ 8 1/2″	5′ 6 1/4″ — 14′ 11″
	7′	6′ 9 1/4″ — 7′ 3″	6′ 7 7/8″ — 7′ 4 3/8″	6′ 6 5/8″ — 7′ 6 1/4″	6′ 4 1/2″ — 7′ 9 1/4″	6′ 2″ — 8′ 1 1/4″	5′ 10 1/8″ — 8′ 8 7/8″	5′ 6 1/8″ — 9′ 7 3/4″	5′ 3/8″ — 11′ 8 1/2″
	6′	5′ 10″ — 6′ 2 1/4″	5′ 9 1/8″ — 6′ 3 1/8″	5′ 8″ — 6′ 4 1/2″	5′ 6 3/8″ — 6′ 6 1/2″	5′ 4 5/8″ — 6′ 9 3/8″	5′ 1 5/8″ — 7′ 2 1/2″	4′ 10 5/8″ — 7′ 9 3/4″	4′ 6 1/8″ — 9′ 1″
	5′	4′ 10 5/8″ — 5′ 1 1/2″	4′ 10″ — 5′ 2 1/8″	4′ 9 1/4″ — 5′ 3″	4′ 8 3/8″ — 5′ 4 3/8″	4′ 6 7/8″ — 5′ 6 1/4″	4′ 4 7/8″ — 5′ 9 5/8″	4′ 2 5/8″ — 6′ 2 1/8″	3′ 11 1/4″ — 6′ 11 1/8″
	4′	3′ 11 1/8″ — 4′ 7/8″	3′ 10 3/4″ — 4′ 1 1/4″	3′ 10 1/4″ — 4′ 1 3/4″	3′ 9 5/8″ — 4′ 2 5/8″	3′ 8 3/4″ — 4′ 3 3/4″	3′ 7 1/8″ — 4′ 5 5/8″	3′ 6″ — 4′ 8 1/8″	3′ 3 7/8″ — 5′ 1″
	3.5′	3′ 5 3/8″ — 3′ 6 3/4″	3′ 5″ — 3′ 7″	3′ 4 3/4″ — 3′ 7 3/8″	3′ 4 1/4″ — 3′ 8″	3′ 3 5/8″ — 3′ 8 3/4″	3′ 2 5/8″ — 3′ 10 1/8″	3′ 1 1/2″ — 4′	2′ 11 3/4″ — 4′ 3 3/8″
Diaphragm		2.8	4	5.6	8	11	16	22	

Since the sharp zone in the picture does not end abruptly, but gradually changes to something less sharp, it is generally sufficient to read the depth of field in round figures. With this in mind the scale on the focusing knob has been calibrated for quick and practical use.

If exact figures are desired, these may be found in the table on page 21.

The Depth of Field Table

For normal use the u p p e r of the double row of diaphragm figures is used as in the case when an enlargement is to be made later from the entire 2¼ × 2¼ negative. (These diaphragm openings are based on a circle of confusion of 1/1400 of the focal length.)

On the other hand if enlargements are to be made from a small portion of the negative (or Rolleikin negatives), it is advisable to go by the l o w e r row of diaphragm openings (circle of confusion = f/2000).

Explanation: the degree of sharpness required from a negative is exclusively dependent on the magnification of the prospective enlargement and its subsequent viewing distance.

In order to obtain a correct perspective impression at 10" (a comfortable viewing distance) a whole Rollei negative would have to be enlarged 3.1 × to 7⅛ × 7⅛". Enlargements of this size, viewed at 10", determine the basis for the minimum acceptable sharpness. With this in mind the size of the circle of confusion is computed and the limits of the depth of field ascertained. Negatives made in this way will permit enlargements also to larger sizes, while still retaining the same impression of sharpness. This is because the viewing distance is always correspondingly increased.

With enlargements from portions of Rollei negatives or from Rolleikin negatives, the requirements with regard to sharpness are more critical. In this case depth of field is calculated using a smaller circle of confusion. In practical use the required depth is obtained through the use of a smaller diaphragm opening.

The effectiveness of the scale on the camera itself may be extended in the same manner merely by using the next smaller diaphragm opening than the one indicated for the desired zone.

If enlargements of very great size are to be made use a diaphragm opening two stops smaller than the one indicated.

Speed of Moving Subjects and Shutter Speeds

	Miles per hour approximately					
	3 mph	6 mph	12 mph	30 mph	60 mph	120 mph
Example:	Pedestrians	Runners Moving air	Bicycles Windy	Light Athletics Stormy Surf	Automobiles Railway Trains Racing	Motor Racing

Distance (yards)																		Distance (yards)
	40		1/25	1/50	1/25	1/50	1/100	1/50	1/100	1/250	1/100	1/250	1/500	1/250	1/500		1/500	50
	15	1/25	1/50	1/100	1/50	1/100	1/250	1/100	1/250	1/500	1/250	1/500		1/500				25
	8	1/50	1/100	1/250	1/100	1/250	1/500	1/250	1/500		1/500							12
	4	1/100	1/250	1/500	1/250	1/500		1/500										6

Moving Objects require short shutter speeds in order to be reproduced sharply. For this purpose the table contains accurately computed minimum values, depending on the factors: speed, distance and direction. Taking distance: the yard-column on the left stands for sufficient sharpness (f/1400), the yard-column on the right for increased sharpness (f/2000). In spite of these normally correct figures, it is often possible in actual photography to use longer shutter speeds. This is because the eye interprets slight unsharpness as giving an added impression of speed.

Long arrow = direction movement.

A short arrow = taking direction (→ up to 10°, ↗ up to 30° and ↑ up to 90° to the direction of movement).

Tripod Pictures:					Hand-Held Pictures:				
Time Exposure	Slow Speeds				Fast Speeds				
B	1	1/2	1/5	1/10	1/25	**1/50**	1/100	1/250	1/500 sec.

Shutter and Shutter Release

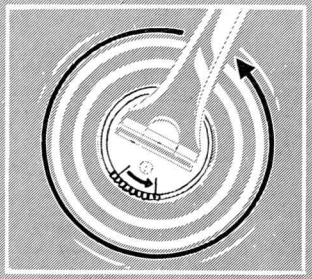
The Synchro-Compur-shutter is a between-the-lens shutter and operates with the above mentioned speeds. 1/50th sec. stands as the most commonly used instantaneous shutter speed with little risk of camera movement. Shutter speeds longer than 1/25th sec. are in general possible only with a tripod. Avoiding unsharpness due to movement: see table p. 23.

The shutter speed values appear in the peep window as r e d figures — read them as denominators of the fraction values, i. e. 25 = 1/25th sec. Intermediate speeds may be set at any points between 1 sec. and 1/10th sec. and between 1/25th and 1/250th sec. Due to a supplementary spring, added resistance will be felt when setting to 1/500th sec. The shutter should be set to or changed from this highest speed b e f o r e c o c k i n g by means of crank action.

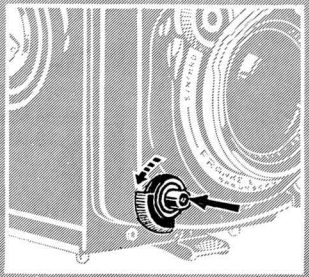
The **shutter release** is safeguarded by an upward movement of the swinging release guard and unlocked by a downward movement. When the release button is pushed down the shutter opens only after overcoming a slight but distinct resistance. The depressed release button can also be locked in this position for long time exposures. — A **cable release** may be screwed into the release button and can be used whether the release is locked or not.

The camera may be attached to a **tripod** by means of the threaded socket on the bottom. C a u t i o n : the length of the tripod screw must not exceed 3/16". If longer, employ a washer or spacer to avoid damage to camera. For cameras with continental tripod sockets a reducing bushing is available.

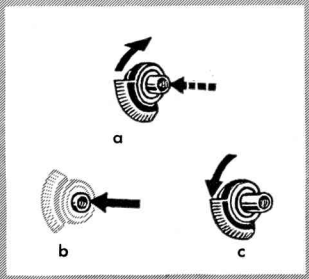
1/500th sec. — set speed f i r s t — t h e n cock shutter!



1



2



3

Setting the shutter speed: turn the small, knurled wheel while depressing the arresting slide simultaneously.

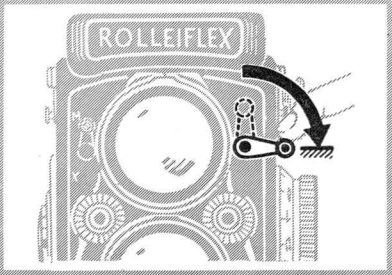
Cocking the shutter with the film transport: automatically through crank action (page 32).

Cocking without film transport (for double exposures, possible only when camera is loaded; if plate adapter is used: cock shutter in the usual way): turn release ring at crank base as indicated by arrow, then turn crank one complete left revolution until it stops **(1)**.

Instantaneous Exposures: unlock release button and depress it gently until it stops **(2)**.

Time Exposures: set shutter to "B", unlock release, push it in, and keep it depressed for the duration of the exposure. For exposures free from camera movement: use a cable release!

Long Time Exposures: set shutter to "B", depress release button slightly (without opening the shutter!) and lock it in this position **(3a)**. Exposure: depress release completely **(3b)**. Release safety guard to terminate the exposure **(3c)**.



1

Self-Timer

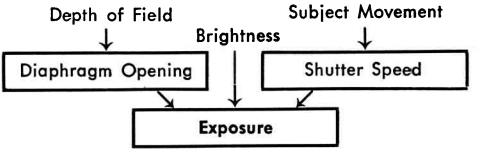
With cocked self-timer the shutter opens approximately 10 seconds after it has been released. With the exception of B and 1/500 seconds all shutter speeds from 1 to 1/250th seconds may be used.

Operation of Self-Timer (when shutter is cocked): cock self-timer lever until it stops (1), then release.

The shutter and self-timer may be left cocked even when the camera is laid away for short periods of time without weakening the power of the springs.

The Exposure

The correct exposure is dependent upon existing illumination (more exactly: subject brightness) and results from the selection of the proper diaphragm opening and shutter speed. Consequently the following relationship exists:



With the Rolleiflex, various settings of diaphragm openings and speeds may be combined as required for normal picture-taking. Only under unfavorable shooting conditions are these possibilities limited, so that a compromise solution is sometimes necessary. Nevertheless the following must be kept in mind: under-exposure results in hopelessly lost shadow detail, whereas over-exposure may be compensated for to a great extent by proper processing.

A golden rule for safe exposure:

Always expose for the **shadows**, rather a bit **more** than too little!

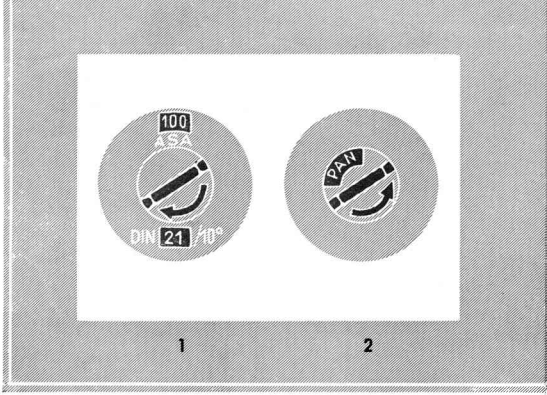
The Exposure Table

The table on the back of the camera is based on the speeds of the two most commonly used types of film: the upper scale is used with films rated at 100 ASA (21/10° DIN), and the lower scale is used with film rated at 50 ASA (18/10° DIN). Conversion of the table for use with other film speeds is possible, if it is remembered that half the ASA rating (or minus 3/10° DIN) means that double the exposure is required (see page 52).

For the two months immediately bracketing the summer months o r if the sun is lower in the sky o r if the sky is overcast, double the indicated exposure. If more than one of these conditions prevail, double the exposure for e a c h factor.

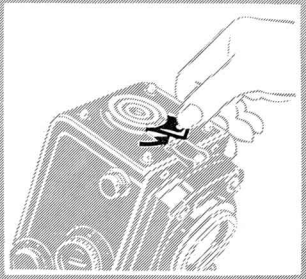
Exposure in the wintertime around noon: with snow — use the normal values of the table, without snow — multiply exposure by 4.

The table, although not always exact, has nevertheless proved itself so good that serious exposure errors are generally avoided. In difficult cases or for greatest accuracy, it is advisable to use a photoelectric exposure meter.

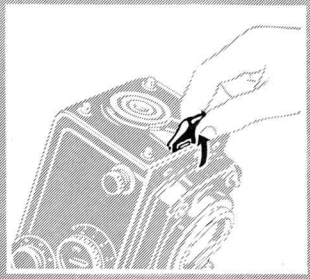


Film Reminder in Focusing Knob

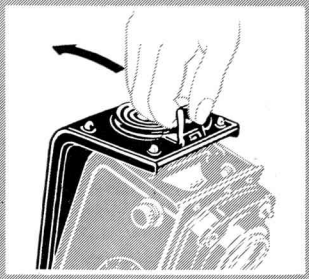
In order to know with which film material the camera was last loaded two adjustable discs, located in the front part of the focusing knob, are rotated by means of a cam in the center: if turned to the **right** (1) it indicates the **speeds** 8 to 160 ASA (10/10° to 23/10° DIN), if turned to the left (2) it indicates the **film types** Ortho, Pan, Color daylight film ☼ and Color artificial light film ☆.



1



2



3

III. LOADING AND FILM TRANSPORT

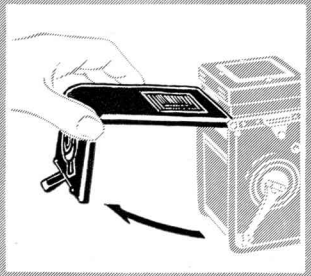
The Rolleiflex is loaded with 2¼ × 3½ roll-film 120 or B II 8 (620 not usable) and delivers 12 exposures 2¼ × 2¼. (See page 29.)

The loading of the camera is confined to a few simple operations: open the back — insert the full film spool — thread the film — close the back. From now on the film transport follows automatically through crank action.

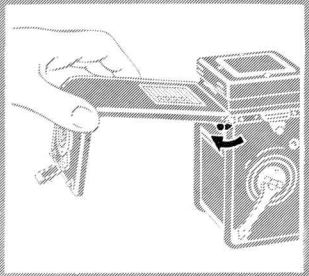
Back

To Open: swing aside the back locking lever at the bottom of the camera (1), lift the clip (2), open back (3), using the clip as a handle.

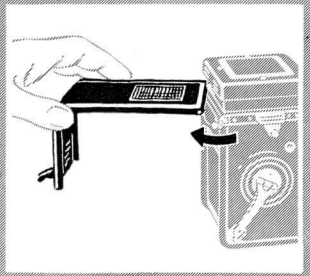
To Close: with the flat of the hand push the back closed, fold down the clip and return locking lever to full forward position.



4



5



6

The back is generally removed only when replaced by the plate adapter.

To Remove: open back fully (4) and swing the locking lever on the right side back hinge (crank side) in the same direction until it stops (5). Slip back out of the opened hinge (6).

To Attach: insert detached back first into the left and then into the right hinge (with locking lever in the upper position).

Protect the open camera against prevailing dust and dirt and clean it occasionally with a soft camel's hair brush!

Never change film in direct sunlight, utilize at least your own body's shadow!

Note: for the Rolleiflex the following adapter accessories are also available: Rolleikin 2 C Attachment for 36 exposures 24 × 36 mm on 35 mm film, Plate Back Adapter for separate exposures 2¼ × 2¼" on plates or cut films 2½ × 3½".