Rolleiflex T

IN PRACTICAL USE

Please do not read

the entire booklet at one time. As a beginning,

the first four pages

will suffice!

This short introduction will tell you in rapid fashion all you need to know when you take the camera in hand for the first time. At the same time it is an outline of the contents of the pages which follow. You will find a complete, illustrated description of the Rolleiflex T in use, also the necessary technical explanations and tables which will be so handy to you later on.

The electric exposure meter and mask set "16" are important accessories for the Rolleiflex T. Accordingly, they are also dealt with in this booklet. The Practical Accessories booklet gives detailed information on the many special Rollei accessories.

FRANKE & HEIDECKE · BRAUNSCHWEIG

Shortened Instructions

Complete on page

Loading the Camera:

9 Unlatch back ① and open.
Remove the new-camera-seal ribbon.

9 Pull out the film spool retainer knob ② and insert the film.
Slip the leading edge of the film protective paper into the long slot of the empty spool.

10 Wind the film until the starting marks are opposite the red dots ③ – Stop!

10 Close the back and latch.

10 Film counter on No. 1: Wind crank until it stops and then back to stop. The shutter is now automatically cocked, the camera ready for shooting.

11 After each shot: Wind crank as before; forward to stop, back to stop.

for Quick Reading

Complete on page:

Immediately after Loading:

10 (31) **Set film reminder to DIN/ASA speed rating** by turning bar of film reminder dial to the right ④. Set the film type (ortho, pan, indoor or outdoor color) by turning to the left.

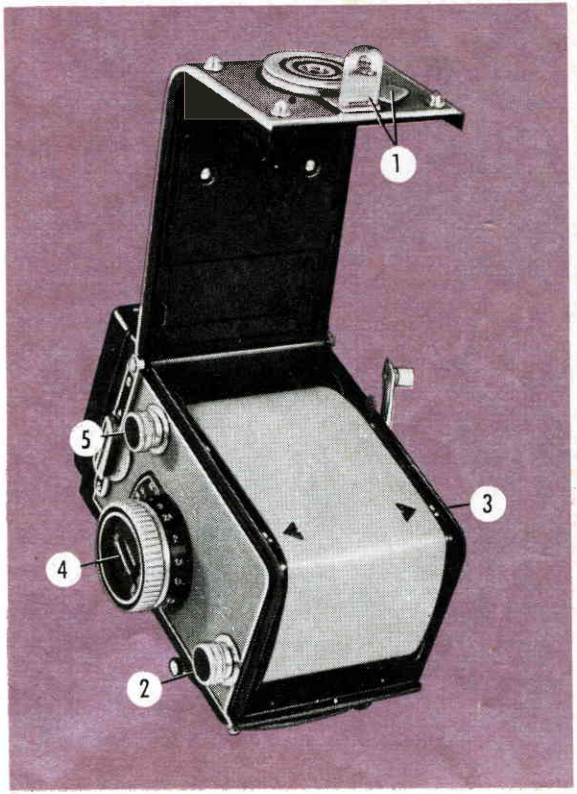
Unloading the Camera:

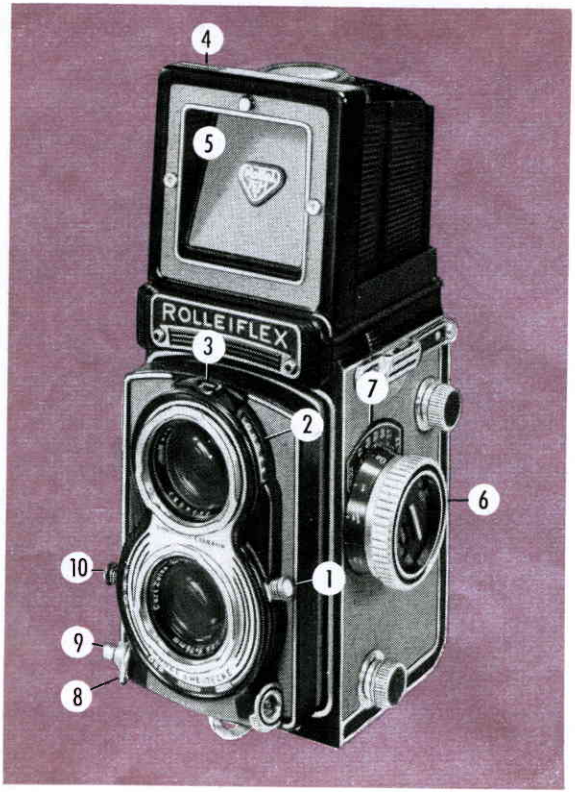
11 Roll the exposed film up by turning crank four complete rotations (⊙ in film counter window).

11 Unlatch back and open.

11 Pull out the film spool knob ⑤, remove film and seal with sticker.

9 Insert the now empty lower spool in the upper chamber, key slot to the right.





Page

Setting the Exposure Value:

17 Ascertain the exposure value from the
30 table on the camera back or from an exposure meter.

12 Pull out lever ① and set the exposure value on scale ② (go back over scale if need be).

Diaphragm - Shutter Speed Setting:

12 Use lever ①, without pulling, for setting the desired diaphragm - shutter speed combination ③: the speed is always set so that the figure is in the middle of the window.

13 The white figures of the scale = automatically timed fractions of a second in descending order, the green figures = full seconds for time exposures by hand.

Focusing:

14 Open hood by lifting rear edge ④.

14 Raise magnifier by a slight push inwards of panel ⑤.

14 Turn focusing knob ⑥ until ground glass shows object with maximum sharpness.

Page

19 When required: Check depth of field ⑦ and if necessary refocus.

Check a selected area on the ground glass, straightening the camera in accordance with the grid lines.

14 When needed, open the sports frame finder by pushing the panel ⑤ inwards until it catches. Release by slight finger pressure against hood's right panel.

Releasing the shutter

15 Swing out shutter release guard ⑧.

15 Press release button ⑨ (with Time exposures: hold and release only after desired interval has elapsed. If necessary: lock release with guard).

Secure release.

15 For delayed action pictures: Pull knob ⑩ and swing lever to V, release shutter as usual.

For further information, please refer to:

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Description of the Camera

(➤ page)

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2 Locking device for focusing hood ➤ 29
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28 Back locking lever ➤ 9
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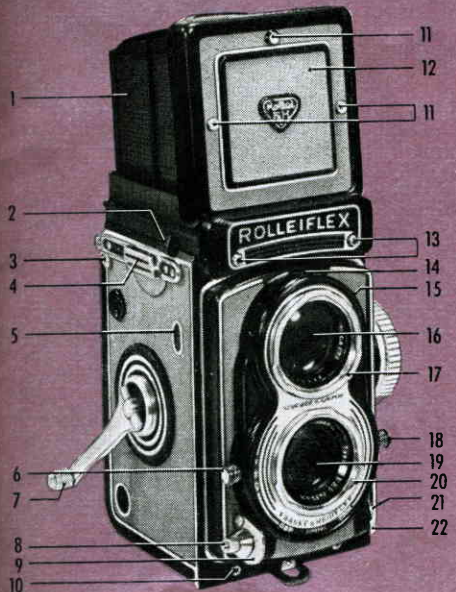
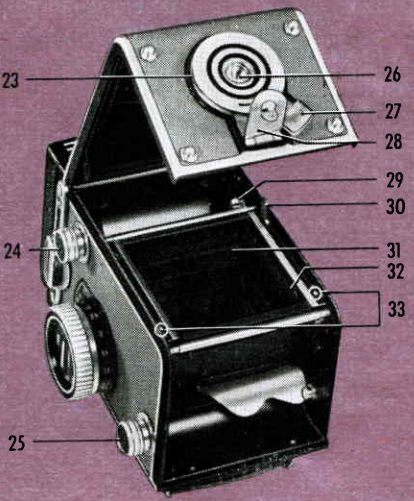
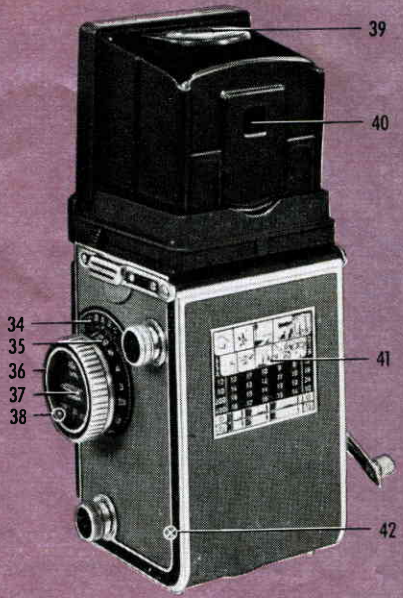
39 Focusing magnifier (magnification about 2.5 x) ➤ 14, 34
40 Rear sight for direct view finder ➤ 14
41 Exposure table ➤ 17
42 Focal plane (focusing distances measured from this line)

Rolleiflex T







D. B. P. u. D. B. G. M. · U.S., Brit., Ital., Schweiz., Jap. pat. · Brev. s. g. d. g. · Pat. pend.

Eveready Case

To Open: lift the top from the rear and fold forward and down ①.

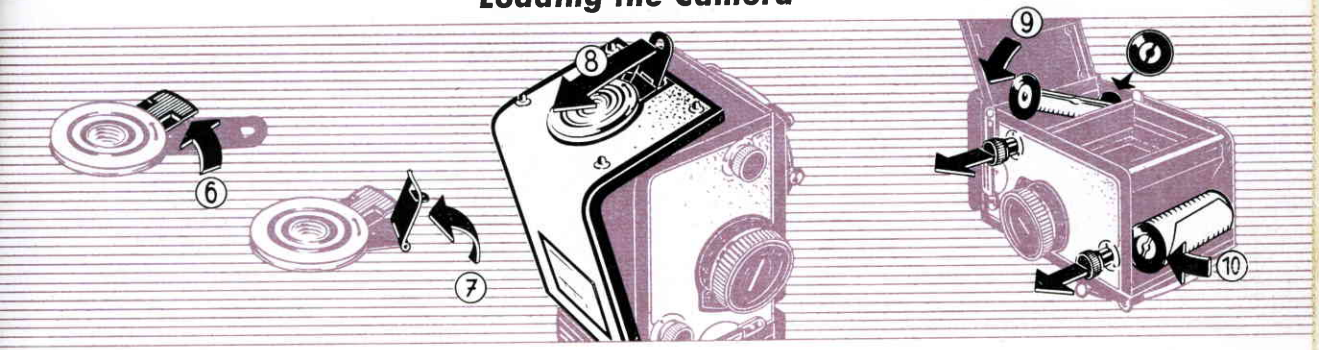
Removing the Camera: swing locking lever on either side ② downward. Lift crank outward. Spread the sides of the case slightly and pull camera forward ③.

Inserting the Camera: spread the two sides of the case slightly, guide the raised crank through opening from the inside and lower the camera backwards into the case. Press the sides together and swing locking levers upward.

Detaching the Front (if required): Press clip ④ downward, remove the front flap. –
To Attach: Insert the front flap in hinge and close eveready case.

Release of Neck Strap: press the retaining prongs together ⑤ and pull strap. – To Fasten: Insert the retaining prongs into the strap holders where they snap into position.

Loading the Camera



Changing film should always be done in shade or subdued light, never in direct sunlight!

Opening back: Turn the safety back lock clip ⑥ in direction of arrow, lift back lock lever ⑦ and pull back open ⑧.

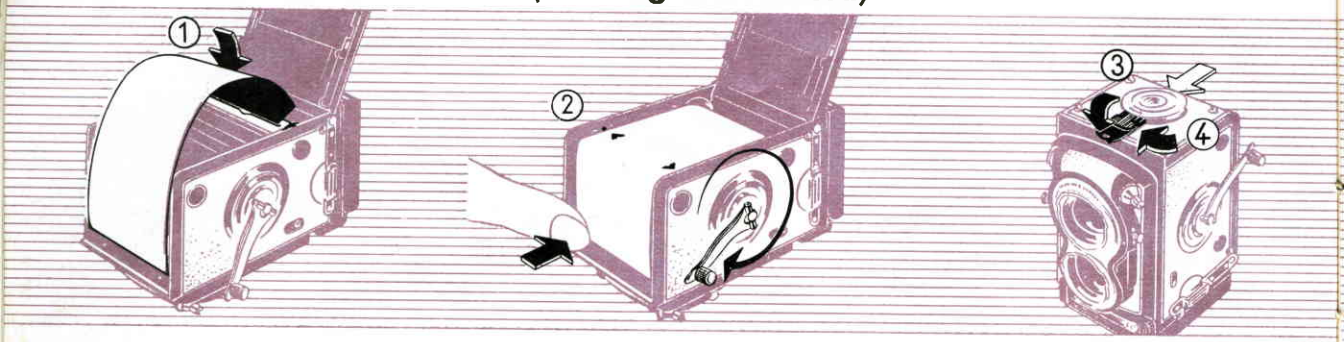
Empty spool (upper spool chamber): Will be found inserted in new cameras – otherwise insert as with new film spool, keeping key slot to the right ⑨.

Inserting new film spool (lower chamber): Pull out film spool knob, insert film, right side first ⑩ and allow film knob to return to position.

The tapered leading edge of the film backing paper must point in the direction it will go as the film is run off.

The designations left, right, forward, back, above, below apply to camera in normal operating position. Accordingly: left = focusing side, right = crank side, etc.

(Loading the Camera)



Starting the film. Break the paper seal and pull the film backing paper up to the empty spool; insert the tapered end into the long slot ①. Turn the crank, while braking the full spool with the left hand thumb – wind until the two printed triangular marks (or double arrows) are opposite the red dots at the sides of the film aperture frame ② – Stop!

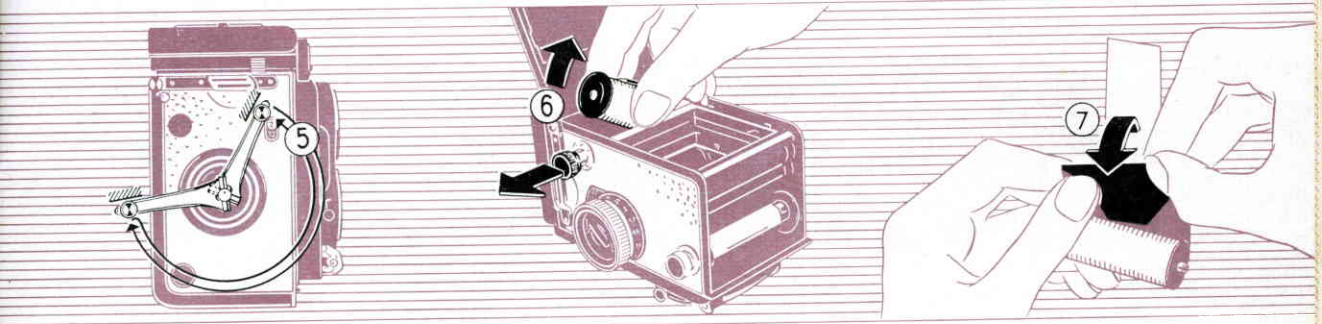
Close the back by pressing the back with the palm of the hand, fold down the back lock lever ③ and turn back the back lock clip ④.

Winding film to shooting position: Turn crank forward to stop and back again in opposite direction to stop ⑤. Film frame counter indicates No. 1, shutter is cocked.

Setting the film type reminder (➤page 3, 30/31).

Winding the film

Unloading the Camera



After each shot: Turn crank as before, forward to stopping point, back again to stop ⑤.

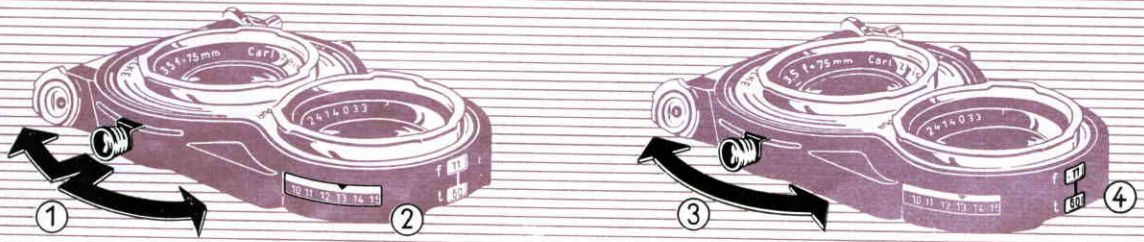
Double exposures and blanks are eliminated. Crank will turn only after releasing shutter. A simple rule: turn crank if it can be turned – forward and back to lock. If it is locked camera is ready for shot.

The crank need not be folded down after each shot when shooting in rapid sequence.

After the last exposure, the terminating mark (⊙) will appear in film counter window. The film is finished and the crank is no longer locked.

Roll up remaining backing paper with four full revolutions. Open back in subdued light. Pull out upper spool knob and remove film from the left ⑥. Fold backing paper cross-wise ⑦ and fasten down with sticker. Return exposed film to original packing.

Setting Exposure Value and Diaphragm/Shutter Speed



The lever ① acts as an automatic coupling device for diaphragm and shutter speed scales. Pulling lever outward uncouples scales, releasing lever recouples them.

1. Setting Exposure Value: Pull the lever, uncoupling the scales, and slide it up or down ① until arrow ② points to desired exposure value. If more movement is needed to bring up the desired value, re-engage scales, slide back, then repeat operation.

2. Setting diaphragm / shutter speed: Move lever ③ until desired diaphragm-shutter speed combination appears in the window ④. Always set so that shutter speed is in middle of indicator window!

3. Special Case: Setting shutter speed and diaphragm stop independently (without regard to exposure value, for example, as in flash shots): F i r s t set the speed (if necessary go back over scale), t h e n u n c o u p l e and set diaphragm.

Exposure Value

The exposure value provides the basic setting of the camera to the desired exposure (➤ page 16), automatic coupling keeps exposure constant.

Half exposure values may be used. Setting scale to next lower number doubles exposure.

Duration of Exposure

The Shutter Speed must be chosen to suit the subject movement (➤ page 18). 1/60th sec. is the speed most commonly used, minimizing camera movement in snapshots.

The white section of the scale denotes fractions of a second, for example 30 = 1/30th sec. Intermediate values between clicks cannot be used.

The green section of the scale is for time exposures. The numbers indicate full seconds for up to 60 seconds.

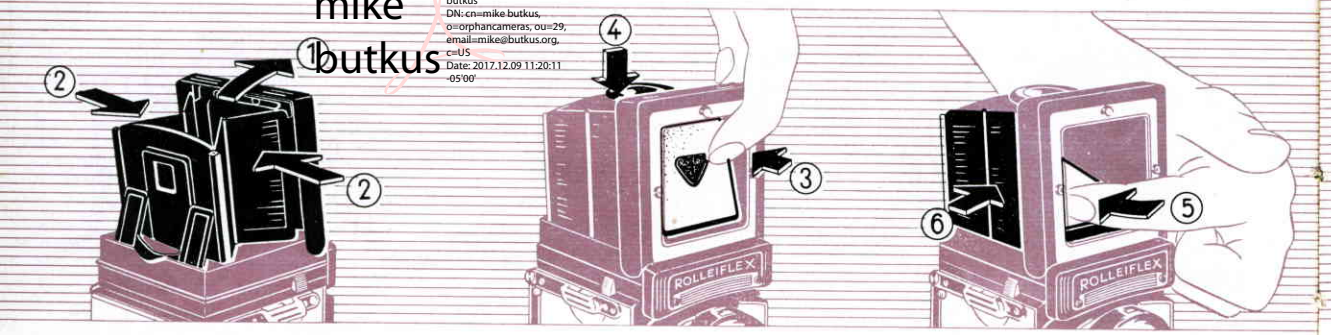
Diaphragm

Stopping down increases depth-of-field (➤ page 19). Full diaphragm stops (from 4 to 22) as well as half stops (strokes between numbers) may be set. Half diaphragm stops are obtained when working with half exposure values. The f/3.5 diaphragm marking represents a half stop lying between stop 4 and 2.8 of the International Diaphragm Scale.

Closing down the diaphragm to the next full value cuts the effective light passing through exactly in half. To maintain exposure constant would require doubling the time shutter is open – this automatically takes place because of the coupling, exposure value remains the same.

Time exposure by hand						Automatic, shutter timed exposures									
60	30	15	8	4	2	1	1/2	1/4	1/8	1/15	1/30	**1/60**	1/125	1/250	1/500 sec.
Tripod shots											Hand held shots				

Focusing



Open the hood: Lift back of cover ① and raise to upright position.

To Close: Fold in two sides ②, pull back front.

To Raise Magnifier: Grip upper edge of hood with thumb and forefinger, press panel ③ gently inward.

To Close: Push magnifier support down ④.

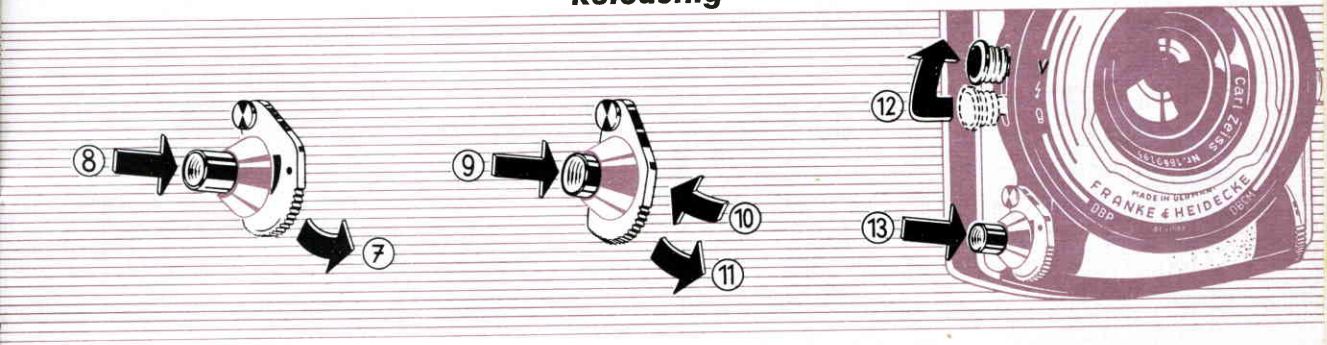
General Focusing Rule:
Always keep principle subject in sharpest focus.

To Focus: Turn focusing knob while simultaneously examining ground glass image for sharpness. When needed, use magnifier, holding it close to the eye. Footage numbers on the focusing knob should be used only to ascertain depth-of-field (➤ page 19).

To Open Sports Finder: Press panel ⑤ all the way, until it catches.

To Close: Tap the right hood wall ⑥ firmly.

Releasing



To Unlock Shutter Release: Swing the safety lever forward ⑦ (red mark visible).

Snapshot Exposure: Press shutter release inward ⑧, selected speed goes off automatically.

Time Exposure: Press release and hold for required time. Shutter will close when you let go.

Long Time Exposures: Press release ⑨ and lock with safety guard ⑩. Terminate exposure by releasing lock ⑪.

Cable Release: Insert in release socket with safety guard locked.

Setting the Self-Timer: after winding film, pull knob ⑫ and set on V.

To Release Self-Timer: Press the shutter release ⑬ – shutter will open after approximately 10 seconds.

Speeds from 1/500th to 1 sec. can be used.

Flash contact – X setting (⚡) – can be used (➤ page 27).

Shutter and self-timer may be left tensioned even when camera is not in use – spring strength will not deteriorate.

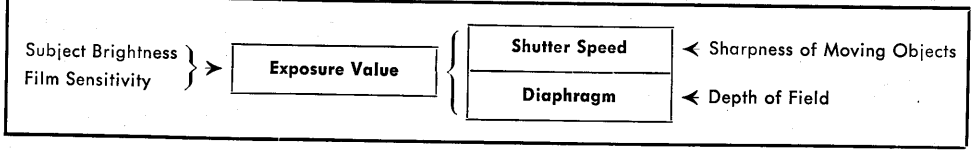
Exposure and Exposure Value

Exposure is adjusted in accordance with the prevailing illumination (more exactly: according to the brilliance of the light reflected by the subject) and the sensitivity of the film. The exposure value – formerly called the light value – serves as the measure of the correct exposure.

The exposure value regulates the correct combination of diaphragm and shutter speed within the permissible working range. The automatic coupling insures these settings and makes possible joint or simultaneous settings of both diaphragm and shutter. The practical advantage obtained is that one is immediately able to change from one speed or diaphragm stop to another, whether for motion stopping purposes or for depth-of-field differences, without bothering to recalculate and without danger of changing the basic exposure.

The exposure value for the given light condition and the sensitivity of the film in use is read off from the exposure table (➤ page 17) or from the exposure meter (➤ page 30) and then set on the scale of the camera (➤ page 12). The table covers general light conditions and eliminates gross errors in exposure. Exact results however, especially in critical cases, can only be achieved with an electric exposure meter.

When using filters, exposure is extended according to the type and density of the filter. Accordingly minus values are supplied with the filters to be used for correcting the exposure values. The originally chosen exposure value is decreased by this correction value.



The Exposure Table

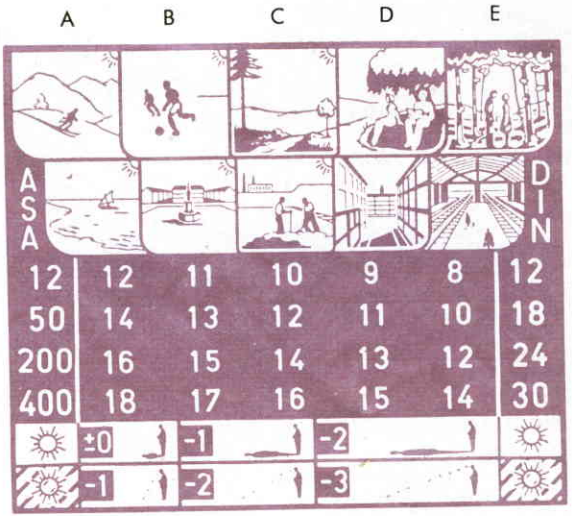
Subject brightness is easily judged and classified by means of the five standard lighting conditions represented by two illustrations.

Film speed is indicated at the left by ASA figures and at the right by DIN values (➤ table page 33).

Exposure value is found where brightness and film speed columns cross.

Exposure value adjustment, due to overcast sky or when sun is lower in the sky, is made by use of lower scale. Upper scale: full sunshine – lower scale: overcast sky. The length and intensity of your own body's shadow will give some idea of light conditions. The ability to estimate and choose the correct exposure values for various lighting conditions and time of day will soon come when you begin working on sunny and cloudy days.

Example: Color film 100 ASA (21° DIN), landscape with foreground, sunny noontime (shadows short, no light value adjustment): light value 13. Available diaphragm-speed combinations: 1/500-f:4, 1/250-f:5.6, etc. Same subject in the afternoon, longer shadows, would require adjusted value, perhaps 13 – 1 = 12.

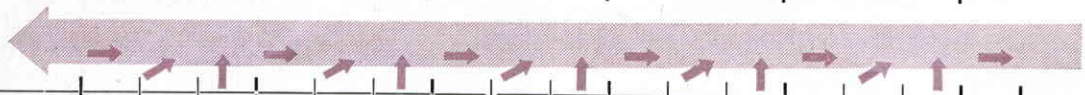


Explanations of the Picture Examples:

A: High mountains (snow) without foreground. Open beach. – B: Sport scenes. Bright streets and squares, open landscapes. – C: Landscapes with foreground. Groups in open air. – D: Groups in shade. Street scenes with shade. – E: Groups under trees, lightly shaded. Groups in glassroofed halls.

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		1/30	1/60	1/30	1/60	1/125	1/60	1/125	1/250	1/125	1/250	1/500	1/250	1/500		1/500	50
15	1/30	1/60	1/125	1/60	1/125	1/250	1/125	1/250	1/500	1/250	1/500		1/500				25
8	1/60	1/125	1/250	1/125	1/250	1/500	1/250	1/500		1/500							12
4	1/125	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 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 of movement.

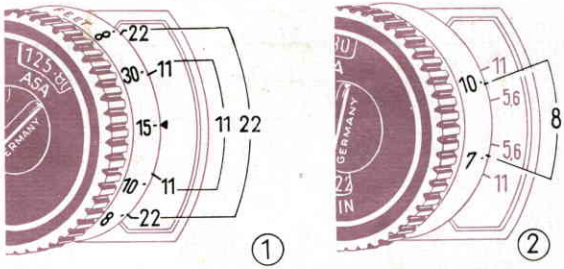
A short arrow = taking direction (➤ up to 10°, ➘ up to 30° and ➘ up to 90° to the direction of movement).

Depth of Field Indicator

Both before and behind the plane of sharp focus there is always a relatively sharp zone. The width or depth of this zone can be artfully increased. It increases in depth when either closing down the lens or moving back from the object on which you have focused. Therefore it is evident that if the subject requires an extended depth of field, it is necessary to change the diaphragm-shutter speed combination to one with a smaller stop or to move back with the camera.

The Depth of Field Indicator consists of the special diaphragm scale located next to the distance scale and the distance scale itself. Two stroke marks outline the zone covered by each diaphragm opening. The marks are located on either side of the distance indicator ▼, showing "before" and "behind„ focus. The unnumbered diaphragm marks represent the stops 4, 8 and 16, respectively.

To Use: To find the limits of the depth of field, both before and behind the principal plane of focus, after focusing and after choosing the diaphragm opening. The beginning and end of the depth of field is read off on the distance scale. The sharp area lies between the distances bracketed by the marks extending from the diaphragm opening figure.



① ②

1. Example: focusing to 15 ft with diaphragm opening 11 gives a depth of field from 10 ft to 30 ft approx., focusing to 15 ft with diaphragm opening f : 22 gives on the other hand a depth of field from 8 ft to ∞ 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 7 ft to 10 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 identical diaphragm openings, and in this way the most favourable diaphragm opening is obtained, in this case f : 8 (➔ page 34).

Depth of Field Table

(distances in feet)

Taking distance in feet	Diaphragm	4	5.6	8	11	16	22
∞	141′–∞	86′–∞	61′–∞	43′–∞	31′4″–∞	21′6″–∞	15′7″–∞
60′	42′–105′	35′–198′	30′3″–∞	25′–∞	20′7″–∞	15′10″–∞	12′4″–∞
30′	24′9″–38′	22′3″–46′	20′2″–59′	17′8″–99′	15′4″–∞	12′6″–∞	10′3″–∞
20′	17′6″–23′4″	16′3″–26′	15′1″–29′8″	13′8″–37′	12′2″–55′	10′4″–290′	8′9″–∞
15′	13′7″–16′10″	12′9″–18′2″	12′1″–19′10″	11′2″–23′	10′–29′8″	8′10″–50′	7′8″–350′
12′	11′1″–13′2″	10′6″–13′11″	10′–14′8″	9′5″–16′8″	8′8″–19′6″	7′8″–27′1″	6′10″–52′
10′	9′4″–10′10″	9′–11′5″	8′7″–12′1″	8′2″–13′2″	7′7″–14′10″	6′10″–19′	6′1″–27′5″
8′	7′7″–8′6″	7′5″–8′10″	7′2″–9′2″	6′10″–9′9″	6′6″–10′7″	6′–12′5″	5′5″–15′8″
7′	6′8″–7′4″	6′6″–7′7″	6′5″–7′10″	6′1″–8′3″	5′9″–8′10″	5′5″–10′1″	4′12″–12′1″
6′	5′9″–6′3″	5′8″–6′5″	5′6″–6′7″	5′4″–6′11″	5′2″–7′4″	4′9 1/2″–8′1″	4′5 1/2″–9′4″
5′	4′10 1/8″–5′2″	4′9″–5′3″	4′7 7/8″–5′5″	4′6 3/8″–5′7″	4′4 1/2″–5′10″	4′1 5/8″–6′4″	3′10 3/4″–7′1″
4′	3′10 3/4″–4′1 1/4″	3′10 1/8″–4′2″	3′9 3/8″–4′2 7/8″	3′8 3/8″–4′4 1/4″	3′7 1/4″–4′6″	3′5 3/8″–4′9 3/8″	3′3 3/8″–5′2″
3,5′	3′5 1/8″–3′6 7/8″	3′4 5/8″–3′7 1/2″	3′4″–3′8 1/8″	3′3 1/4″–3′9 1/8″	3′2 3/8″–3′10 1/2″	3′1″–4′7 7/8″	2′11 3/8″–4′4 1/8″
3′	2′11 3/8″–3′5 1/8″	2′11″–3′1″	2′10 1/2″–3′1 1/2″	2′10″–3′2 1/4″	2′9 3/8″–3′3 1/8″	2′8 1/4″–3′4 3/4″	2′7 1/8″–3′6 7/8″
Diaphragm *	3.5	5.6	8	11	16	22	

* If more critical definition is required – in order to insure perfect sharpness in giant enlargements – use the l o w e r diaphragm figures to indicate the depth-of-field available.

Close-ups from 39 1/2 to 18 1/2" with Rolleinars 1

Scale of focus in feet	Depth of field (in inches) behind / in front of the object with diaphragm					Reproduction Size approx.	Field covered (sq. in.):
	5,6	**8**	**11**	**16**	**22**		
∞	3 15/16" / 2 3/4"	4 23/32" / 3 3/4"	6 11/16" / 5 1/8"	10 5/8" / 6 29/32"	16 1/8" / 8 21/32"	1 : 13.5	29 1/2" x 29 1/2"
30'	2 11/16" / 2 9/32"	3 3/4" / 3 1/8"	5 11/32" / 4 1/16"	8 1/16" / 5 27/32"	12 5/8" / 7 17/32"	1 : 12	26 3/8" x 26 3/8"
12'	1 27/32" / 1 23/32"	2 23/32" / 2 15/32"	3 15/16" / 3 7/32"	6 7/32" / 4 13/32"	9 1/16" / 5 29/32"	1 : 10.5	23 1/4" x 23 1/4"
8'	1 1/2" / 1 3/8"	2 5/32" / 1 15/16"	3 1/8" / 2 9/16"	4 7/8" / 3 17/32"	7 5/32" / 4 11/16"	1 : 9	20 1/8" x 20 1/8"
6'	1 3/16" / 1 3/32"	1 27/32" / 1 21/32"	2 9/16" / 2 1/8"	3 15/16" / 2 7/8"	5 29/32" / 3 15/16"	1 : 8	17 3/8" x 17 3/8"
4'	29/32" / 25/32"	1 5/16" / 1 3/16"	1 25/32" / 1 1/2"	2 3/8" / 2 3/16"	3 5/8" / 2 3/4"	1 : 7	15 3/8" x 15 3/8"
3.5'	25/32" / 21/32"	1 3/16" / 1 3/32"	1 9/16" / 1 5/16"	2 5/32" / 1 15/16"	3 7/32" / 2 15/32"	1 : 6	13" x 13"

Close-ups from 19 3/4 to 12 1/2" with Rolleinars 2

Scale of focus in feet	Depth of field (in inches) behind / in front of the object with diaphragm 8	11	16	22	Reproduction Size approx.	Field covered (sq. in.):
∞	1 3/32" / 1 1/32"	1 9/16" / 1 11/32"	2 3/8" / 1 7/8"	3 3/8" / 2 17/32"	1 : 6.5	14 5/8" x 14 5/8"
30'	31/32" / 29/32"	1 3/8" / 1 1/4"	2 3/32" / 1 11/16"	3" / 2 9/32"	1 : 6.3	13 3/4" x 13 3/4"
12'	27/32" / 3/4"	1 3/16" / 1 3/32"	1 13/16" / 1 15/32"	2 9/16" / 2"	1 : 5.8	12 5/8" x 12 5/8"
8'	3/4" / 21/32"	1 1/32" / 31/32"	1 9/16" / 1 5/16"	2 7/32" / 1 25/32"	1 : 5.4	11 3/4" x 11 3/4"
6'	21/32" / 19/32"	29/32" / 27/32"	1 3/8" / 1 5/32"	1 15/16" / 1 9/16"	1 : 4.9	10 5/8" x 10 5/8"
4'	17/32" / 1/2"	23/32" / 11/16"	1 3/32" / 15/16"	1 9/16" / 1 1/4"	1 : 4.5	9 7/8" x 9 7/8"
3.5'	1/2" / 7/16"	11/16" / 5/8"	31/32" / 29/32"	1 7/16" / 1 5/32"	1 : 4	8 5/8" x 8 5/8"

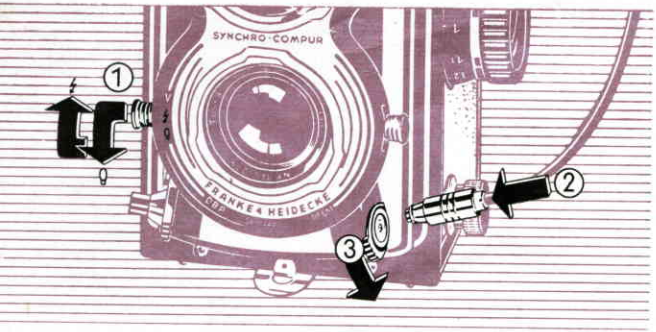
Close-ups from 12 1/2 to 9 1/2" with Rolleinars 3

Scale of focus in feet	Depth of field (in inches) behind / in front of the object with diaphragm 11	16	22	Reproduction Size approx.	Field covered (sq. in.):
∞	21/32" / 19/32"	1 1/32" / 7/8"	1 13/32" / 1 3/16"	1 : 4.5	9 3/4" x 9 3/4"
30'	5/8" / 9/16"	15/16" / 13/16"	1 5/16" / 1 3/32"	1 : 4.3	9 1/2" x 9 1/2"
12'	9/16" / 1/2"	27/32" / 3/4"	1 1/8" / 1"	1 : 4	8 3/4" x 8 3/4"
8'	1/2" / 15/32"	25/32" / 11/16"	1 3/32" / 29/32"	1 : 3.8	8" x 8"
6'	15/32" / 7/16"	23/32" / 5/8"	1" / 27/32"	1 : 3.5	7 1/2" x 7 1/2"
4'	13/32" / 13/32"	19/32" / 17/32"	13/16" / 23/32"	1 : 3.3	7" x 7"
3.5'	3/8" / 3/8"	17/32" / 1/2"	3/4" / 21/32"	1 : 3	6 3/4" x 6 3/4"

Circle of confusion = 1/1000 of the focal length f = 75 mm

Example: If the focusing mark, after focusing with Rolleinars 2, is at 12' then one obtains at diaphragm 22 a depth of field of 2 9/16" behind and 2" in front of the sharply focused object and the total zone of sharpness extends 4 9/16". With this setting field covered is 12 5/8" x 12 5/8". The scale of reproduction is 1:5.8 of the actual size.

Flash Shots



Choice of Contact: Pull knob ① and set on ϟ for electronic flash (➤ page 26); this X-contact is also automatically used with self-timer shots (➤ page 27) – set on M when using M-type flash bulbs (➤ page 26).

Connecting the Flash Cord: Insert the tip ② into the flash connector socket; locks automatically.

Choosing Shutter Speed and Diaphragm: Always in accordance with the distance between flash and subject. See the exposure table provided by the maker of the flash unit. First set speed, then the diaphragm, separately (➤ page 12, "special case").

To Disconnect Flash Cord: Press the knurled rim safety ring downward ③ and pull the tip out.

In modern flash technique the shutter takes over the task of electrically firing the flash at the correct instant. Operation is due to the built-in electrical contact. Two settings are provided (➤ page 25), to accommodate the needs of different kinds of flash and also to make possible the use of higher speeds when the camera is hand held.

Choice of Contact: This depends on when and for how long the shutter is to remain open and also the length of the flash illumination interval. The X-Contact is used with rapid firing equipment having short intervals of illumination. Most flash bulbs ignite, however, after a short delay (approximately 16.5 ms) and "burn" for a somewhat longer period. For these "M" type bulbs, the "M" designated contact is used. It assures the proper coincidence of the peak output of the flash bulb and the period when the shutter is open, even when the most rapid speeds, up to 1/500th sec., are used.

The table on page 26 groups the best known brands by name and gives the required contact settings and the possible working range of the shutter. More complete information, however, may be gathered by a study of the material furnished by the different lamp manufacturers.

When Synchro Lever is set		
Proper contact* is	M-Contact	X-Contact
Source of flash	**Flash bulbs** and electric firing flash powder (capsule flash)	**Electronic flash** and some flash guns with short duration of flash
* Time of contact is	16.5 thousandths of a sec. before shutter is half opened	Immediately before full shutter opening

The selection of flash lamp - type depends on the light output required by the subject. Many makes are available in three groups (normal, medium and high light output). The selection is dependent on the taking conditions, especially as to whether a room of shallow or great depth is to be illuminated.

The power of flash illumination decreases according to the square of the distance: i. e., an object six feet away receives only one-fourth the light as an object at three feet. Distance from flash to subject must therefore be carefully considered in selecting diaphragm opening. Lamp manufacturers supply easy to use guide numbers which are divided by the distance in feet to obtain the required diaphragm opening.

All commercially available flash guns and electronic flash units may be used. Current-carrying capacity of the contact when several flash lamps are connected simultaneously: 10 ampères at 24 volts for a period up to a maximum of 1/15th sec. For safety reasons one pole of the contact is grounded to the camera body (isolation-test: 700 volts).

Flash Contact and Permissible Shutter Speeds

FLASH LIGHT SOURCE		Contact	Shutter Speed: Fastest … Slowest **Recommended**
Make	Type		
I. Electronic Flash	(1/500–1/2000)	**X**	1/500 **1/250** 1
General Electric Westinghouse	SM	**X**	
Sylvania	SF (1/200)		1/60 **1/60** 1
West, Japan	SM, SF, SS		
General Electric	M 2	**X**	1/30 **1/30** 1
West, Japan	2 M, 12 (1/100)		
II. Flash Lamps			
Osram	XM 1, XM 5		
Philips (Mazda)	PF 1, PF 5		
General Electric Westinghouse	5, 8, 11, 22	**M**	1/500 **1/60** 1
West, Japan	0, 3, 5, 11, 22		
Sylvania	Press 25, 40, 0, Bantam 8		
	2	**M**	1/125 **1/60** 1
Philips (Mazda)	PF 60, PF 100		
General Electric Westinghouse	50	**M**	1/60 **1/30** 1
Sylvania	3		
General Electric Westinghouse West, Japan	6, 31	**M**	1/250 **1/30** 1
III. Capsule Flash	Average	**M**	1/125 **1/30** 1

Explanation of the Table

The "Contact" column indicates when to use X or M.

The shutter speed column designates the range of permissible speeds.

Center: The recommended shutter speed utilizes practically all of the useful light output of the flash. It gives the maximum illumination and permits use of the smallest diaphragm stop for greatest depth-of-field. The following rule applies:

> Use the recommended shutter speed for the required contact setting.

Left: The fastest speeds given indicate the maximum allowable. They should be used chiefly for action and sports.

Right: The shutter speed may be changed at will to the slowest value (1 sec., or even time exp.) so that after the flash some of the existing illumination can be used. Of course, in this case the exposure is made up of the combined illumination from both sources of light.

The colored numbers indicate the intervals during which the actual exposure of the film by the flash occurs. The following distinctions should be made:

1. With X-contact, flash duration is always shorter than the length of time the shutter is open. The full flash output is utilized even with the shortest intervals (highest speeds). Slowing down the speed therefore will have no effect on the choice of diaphragm.

2. With M-contact, flash duration is encompassed within the recommended speed. With higher speeds, however, only a portion, the peak of the flash is used. It may be necessary to compensate for some loss of light by opening the diaphragm.

These distinctions in the use of the flash and the settings are once more observed in the illustrated table with three examples. The white symbols denote the flash; the relative size denotes the amount of illumination that is made use of.

When the built-in self-timer is used only the X-contact comes into play. M-type flash bulbs can of course be used with X-contact; it is only necessary to double the recommended exposure – thus, 1/30th instead of 1/60th sec. and 1/15th instead of 1/30th sec. These would become the fastest speeds permissible.

Changing the Camera Back

This is done only when changing to the plate adapter:

Taking off the back: Raise the back all the way and then slide, in the same direction, the safety lock lever on the right hinge ① until it reaches a stop. The back will then come off.

Replacing the back: Insert the back, in raised position, first into the left hand hinge, then the right. Of course, the safety lock lever must be up – lower back, which will automatically lock.

Important! When using the adapter: Remove the empty spool from the camera, taking care however to preserve it for the next use of roll film.

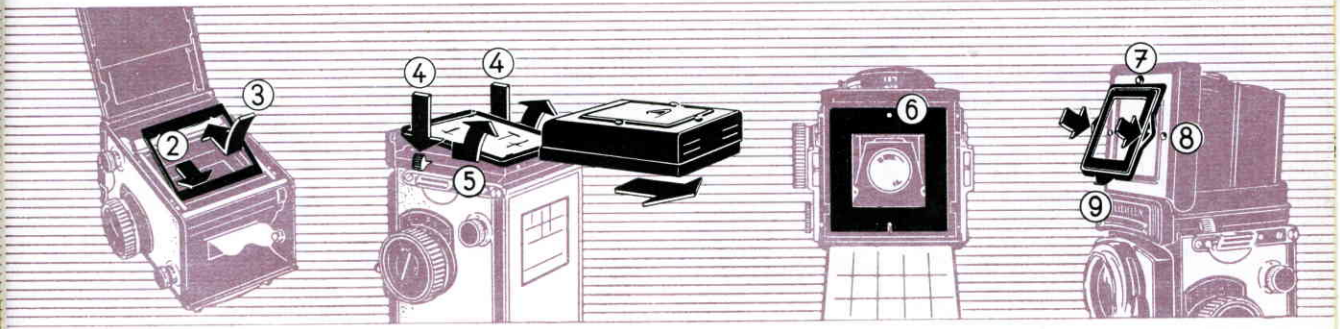
Mask Set for 16 Frames

The mask set is used to reduce the picture format and, simultaneously, to show the reduction in the ground glass and the sports finder. With the masks in place, B II 8 (120) film produces, instead of the normal 12 6 x 6 cm frames, **16 4 x 5.5 cm shots.** This picture size includes the important super miniature 4 x 4 format from which the well known Super-Slides are made. Edge notches are used to indicate the limits of this size.

The film mask – for both 4 x 5.5 and 4 x 4 – is inserted b e f o r e loading the camera. Its insertion automatically switches over the counter mechanism. The white numbers 12 or 16 on the film frame counter dial indicate which of the numbering systems is in operation. Loading and winding as usual.

Either **ground glass mask** is used, depending on whether 4 x 5.5 or 4 x 4 is the desired format. They can be substituted one for the other at any time between shots. After removing hood and raising the ground glass, the desired format mask is placed over the 6 x 6 mask. Parallax compensation is automatically assured.

Either **sports finder mask** is fitted into place in front of the sports finder opening as needed.



Inserting the Film Mask: Insert the spring loaded side behind the film aperture frame ③, first below ②, then above.

Removing the Hood: Press both spring catches ④ and slide hood towards rear.

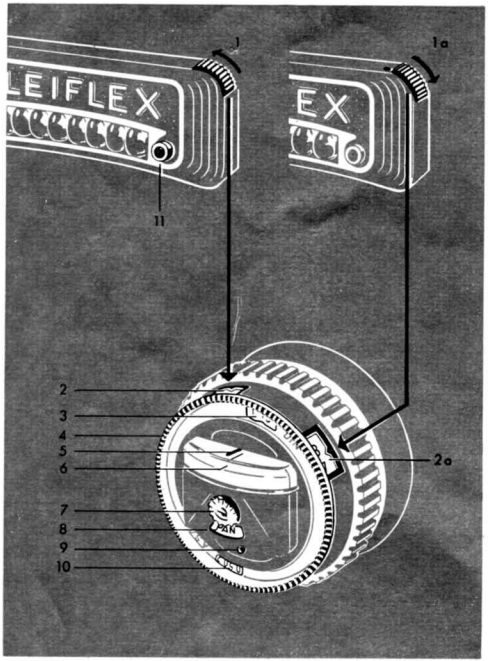
To replace: press hood down on track and slide forward until it locks.

To lift the ground glass: Take hold of the two sides of the frame, pull backwards slightly and lift ⑤. Close by pushing downward.

Inserting the Ground Glass Masks: Drop into place so that the notch and punched holes fit over the studs provided ⑥.

Inserting the Sports Finder Masks: Slip the straight edge under the lip of button ⑦. Fasten by pressing the side pins into the wells ⑧. Remove by lifting the tab ⑨.

Caution: Protect the mirror from dust. Do not touch with the fingers, do not rub. Wipe away dust with soft camel's hair brush. Remove any accidental finger prints with soft cloth.



The Exposure Meter, for subsequent installation

Exchanging the name plate and film reminder dial for the photo cell and measuring instrument is easily accomplished by removing screws 13 and 38 (➤ page 6). Detailed instructions accompany each meter kit.

1 Control switch on nameplate: position 1 for normal light intensities, position 1 a – red dot visible – for weaker illumination.

2 Exposure value indication: use window 2 for switch position 1, window 2 a – edged in red – for switch position 1 a.

3 Setting window for DIN film speed ratings

4 Setting ring

5 Red setting pointer

6 Black indicator pointer

7 Adjustment of film type reminder

8 Film type indicator window

9 Lock screw to fasten meter in its bayonet socket

10 Setting window for ASA film speed ratings

11 Retaining knobs for diffusor

Measuring Exposure

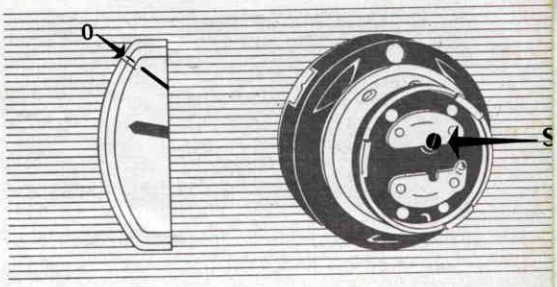
Changing DIN / ASA film speed rating setting (necessary whenever a different film speed is used): turn adjusting ring 4 past the left or right click stop until the correct speed rating appears above the indicator mark.

To take reading: for reflected light measurement (➤ page 32): point camera towards subject or towards most important detail in subject – check in ground glass.

For incident light measurement (➤ page 33): snap diffusor into position, from above retaining knobs 11, over the photo cell. Turn camera around so that the photo cell faces the same direction towards the light as the subject.

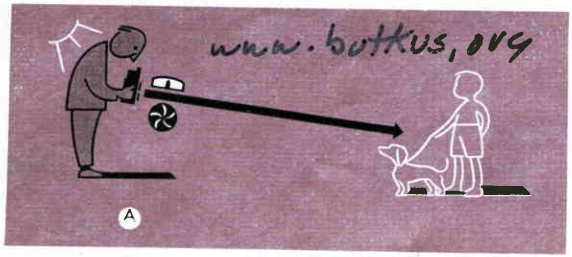
Measuring exposure value: turn adjusting ring 4 until the red pointer covers the black indicating pointer – read the exposure value in the appropriate window 2 (red-edged window 2 a, when red dot is visible at the switch – 1 a). If the red pointer does not reach the black, change to higher sensitivity position with switch (1, 1 a).

The shock mounted exposure meter is ruggedly built and will withstand the strongest light for any length of time, in either switch position. It is not necessary, therefore, to cover the photo cell when not in use.



Checking and adjusting the meter

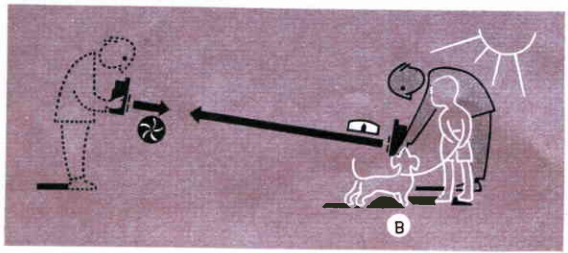
When the photo cell is completely covered, the black pointer should be in zero position, pointing to the short green line. If it is off this position, perhaps due to prolonged and heavy shaking, turn safety screw 9 (➤ page 30) until it stops. Turn meter towards the left to disengage from bayonet socket and remove. Adjust screw S on back of instrument until black indicator needle points to outer green reference mark. Re-insert instrument, lock into position and tighten safety screw.



Reflected (A) and Incident (B) Light Measurement

These two equally valuable methods of measurement permit Rollei to master all light conditions.

A general rule in strong sunlight: give preference to whichever measuring method that does not expose photo cell or diffusor to direct rays of the sun.



Reflected light or object measurement

The quick and convenient method especially suited to the Rolleiflex: aim at the subject (A). Measuring in this position covers the entire picture area, as seen on the ground glass screen. Meter reading, exposure value and focusing image can simultaneously be checked with camera in shooting position. Changes in light intensity can be observed instantly, even up to shooting time.

Using the reflected light method, a reading for the average brightness of the entire subject area is obtained. Application: evenly lighted subjects, for front or side lighting without heavy shadows in picture (standard lighting for color) and also for high contrast subjects when the light and shade areas are evenly apportioned throughout the picture. In special cases, **detail measurement** becomes very helpful: when either very light or very dark areas prevail, take individual readings of light and shade areas and use a mid-point value. The ground glass control image facilitates accurate measurement; it permits concentrating – by altering camera position – on most important elements of the picture or even to choose a nearby substitute object of the same brightness for reading.

Incident light measurement

(with diffusor)

Instead of measuring the light reflected **by** the subject, this method measures the light as it falls **on** the subject. This is accomplished by attaching the diffusor over the photo-cell, to serve as a surface receiving the same illumination as the subject, and pointing the exposure meter in the opposite direction (B).

To get correct reading, aim from subject to intended camera position. In the open, when subject cannot be approached, aim the photo cell, turned around of course, along a line drawn from center of scene to camera. An exposure value of average scene brightness will result. When the important part of the scene is lighter or darker than the average, the measured exposure value should be corrected (usually 1/2 EV is sufficient). Position of the sun, special effects lightings, strong side or back lighting will have no influence on the proper reading and are disregarded. Detail measurements are not necessary, either.

Main uses: against-the-sun shots, strong backlighting, in shade with strong rays of sunshine, for objects with brilliant backgrounds (sky, snow, water, beach), for small objects as in Rolleinar shots.

Speed of Photographic Emulsions

(Comparison values approximated)

ASA (BS)	°DIN	Weston	General-Electric	Scheiner (Europe)
8	10	6	9	21
10	11	8	12	22
12	12	10	15	23
16	13	12	18	24
20	14	16	24	25
25	15	20	30	26
32	16	24	36	27
40	17	32	48	28
50	18	40	60	29
64	19	50	75	30
80	20	64	100	31
100	21	80	120	32
125	22	100	150	–
160	23	125	200	–
200	24	160	250	–
250	25	200	300	–
320	26	250	400	–
400	27	320	500	–
500	28	400	600	–
650	29	500	800	–
800	30	650	900	–
1000	31	800	1000	–

Changing the Magnifier

(if eyesight demands)

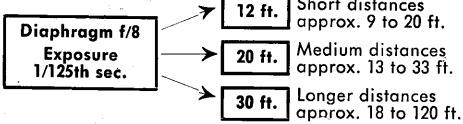
For focusing without glasses, interchangeable magnifiers to adapt to one's eyesight are available in the range from + 3 to – 3 diopters (supply prescription for glasses). To remove, grasp lens from above and below, push against retaining spring (in the direction of the hinge), lift up and out. To insert, reverse procedure. Afterwards, clean with soft cloth.

Tripod pictures with the Rollei

Length of the tripod's screw must not exceed 3/16" (4.5 mm). If necessary, shorten screw or use washer of proper thickness to avoid damaging bottom of camera. A reducing bushing is available for use with smaller tripod screws. A practical accessory: Rolleifix permits instant mounting or demounting of camera to tripod.

For Quick snapshots

Setting camera to certain distances providing required depth-of-field has been found very effective when shooting in a hurry. Use as follows:



Care of the Rolleiflex

A precision camera demands care in handling. Protect it against moisture, dust, sand, strong sunshine, hard blows or falls. First safeguard: the ever ready case. Proper camera protection is especially important on expeditions, in the tropics and for water sports. Use the metal ever ready case which is air-tight when closed and capable of floating. It provides sure protection against dust, humidity, splashes, windblown sand and blizzards. Carry camera around neck to minimize transportation shocks. Keep all parts clear and clean lenses with a soft camel's hair brush or doeskin. Although the mechanism is not unduly sensitive to cold, some condensation may form on the lenses when the camera is brought into a warm room from outside in cold weather. Do not wipe off – let moisture evaporate.

In Case of Damage to the Rolleiflex

The task of repairing major or minor damage is the special province of the expertly trained mechanic. Franke & Heidecke maintain their own special workshop in which all repairs are done with precision at nominal prices. Abroad, apply to photo dealers and factory representatives for full information.

*Rolleiflex T and the Practical Accessories**

Code:	
ROBET	Rolleiflex T/Tessar 3.5
BELAT	Light meter elements for installation
FOVIE	Mask Set for 16 Frames
BEROB	Ever Ready Case with detachable front
BELKA	Protective Cap for exposure meter (plastic)
BELED	Protective Cap for exposure meter (leather)
BEMET	Metal Ever Ready Case
FODRY	Desiccant Cartridge
FOCLI	Neck Strap
FOGUZ	Shoulder Pad for neck strap
BACAP	Lens Cap, chromium-plated
BAOBE	Lens Hood
BAUNE	Rolleinar Lenses: set 1 (40–18")
BADOS	" " set 2 (20–12")
BATRE	" " set 3 (12½–9½")
	Rollei Filters:
BAIHE	Light yellow
BAIMI	Medium yellow
BALIN	Light green
BAEEN	Green
BAORA	Orange
BAUBI	Light red
BABLA	Light blue
BAFIR	Infrared
BASKY	Ultra violet filter
BANEU	Neutral Density Filter 2
BAITY	Neutral Density Filter 4
BAHAZ	H 1 Filter (for Daylight Color Photography)

Code:			
	Rollei Color Conversion Filters:		
BARIM	R 1	BAIMB	B 1
BARWO	R 2	BAWOB	B 2
BARFU	R 5	BAFUB	B 5
BAREL	R 11	BAELB	B 11
BATAR	Rolleipol, Polarising Screen		
BATNU	Diffusion Disc: Rolleisoft 0		
BATON	Rolleisoft 1		
ETCOM	Leather Case containing: 1 Lens Hood, 2 Sets of Rolleinar Lenses (1 and 2) and your choice of 5 Filters		
ETLEE	Leather Case only		
ETSET	Leather Case containing: 1 Lens Hood and your choice of 2 Filters		
ETSOF	Leather Case only		
ETSIX	Leather Case with 6 Color Conversion Filters		
ETVER	Leather Case only		
FOSET	Plate adapter outfit (1 adapter back, 3 slides, 3 cut-film sheaths)		
FOAPT	Adapter Back		
FOSLI	Slide		
FOPLA	Cut-film Sheath		
FOCAS	Leather Case for 2 Slides		
FOFOC	Focusing Screen Slide		
FOFIX	Rolleifix Tripod Head		
FOBUM	Rollei Pistol Grip		
FOEAD	Panorama Head		
FOBIN	Extension Hood with Binocular Magnifiers		

* to fit Tessar 3.5 bayonet size I.

To avoid errors when ordering accessories please specify camera-number. Full information on the use of Rollei accessories in the booklet "The Practical Accessories".

FRANKE & HEIDECKE

BRAUNSCHWEIG

Rolleiflex Rolleicord

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