FLASH TECHNIQUE WITH AGFA CAMERAS

The flashgun is inserted from the rear into the accessory shoe of the camera. The cable plug of the flashgun is connected to the contact bush on the shutter.

Commercially available flashbulbs differ in the duration of the flash, flash intensity, and the time lapse between making contact and occurence of the flash. Flash synchronized shutters are adapted to these variables.

At the fixed synchronization of the Pronto shutter the flash occurs at the moment of maximum aperture of the shutter leaves. Their use, however, is limited to the longer exposure times such as $^1/_{25}$ sec. This is called **X-synchronization.** Osram XP, XO— Philips PF 3 are suitable for this method. **Electronic flash units** are generally designed for X-synchronization only, unless the instructions prescribe M-synchronization.

Speed-synchronized shutters, e. g. Prontor-SVS, beside this X-synchronization, also allow the use of the so-called **M-synchronization.** As opposed to the X-synchronization, which is fixed, M-synchronization permits a delay of several millisecs. in the opening of the shutter-leaves, thus permitting a flash technique in conjunction with the shortest exposure times, but with flashbulbs of higher light output only, e. g. Osram S 0, S 1, S 2, Philips PF 14, 25 and 56, or G. E. No. 5 and 11.

The exposure time during flash exposures depends on the distance of the object and the kind of flashbulbs used. The directions for the use of the flashbulbs should be followed.

VIEW-FINDER PARALLAX

The bright view-finder image shows the area covered by the camera at a reduced scale. However, on near-focusing a slight deviation occurs, the so-called view-finder parallax. Only a little experience is necessary to compensate for this error which practically will only have a disturbing effect at distances of less than 6½ ft. It is sufficient to raise the camera a little in the direction of the view-finder. The view-finder image will then include a small area on the top which is not intended to appear in the picture.

AN IMPORTANT TIP!

On opening the camera do not press the release button (1, p. 2). Otherwise the shutter cannot be released, as in this case the locking device will automatically intervene. To remove the block, close the camera again and open it in the normal way, winding the film on. If you do not wish to sacrifice a piece of film, release in such special cases the shutter by means of the little lever on the lower part of the lens mount.

CARE OF CAMERA

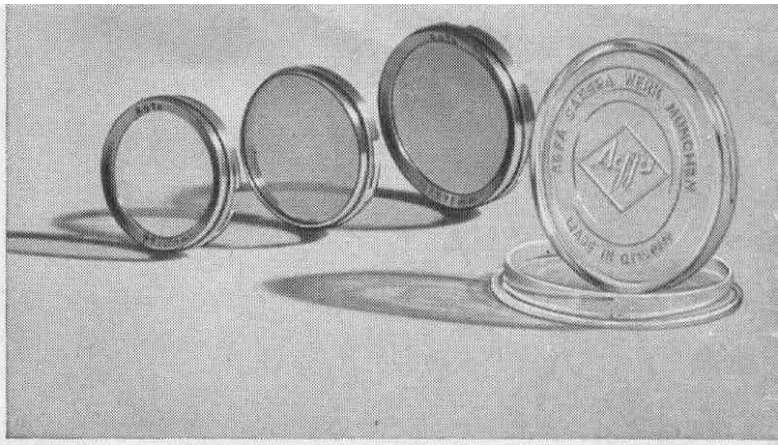
Regular care will prolong the life of your camera. Protect it from dust and needlessly long exposure to sunlight. Before inserting a film, make sure the interior of the camera as well as the lens is free from dust or other foreign bodies.



AGFA CAMERA-WERK AG. MUENCHEN

101 engl. - 0555

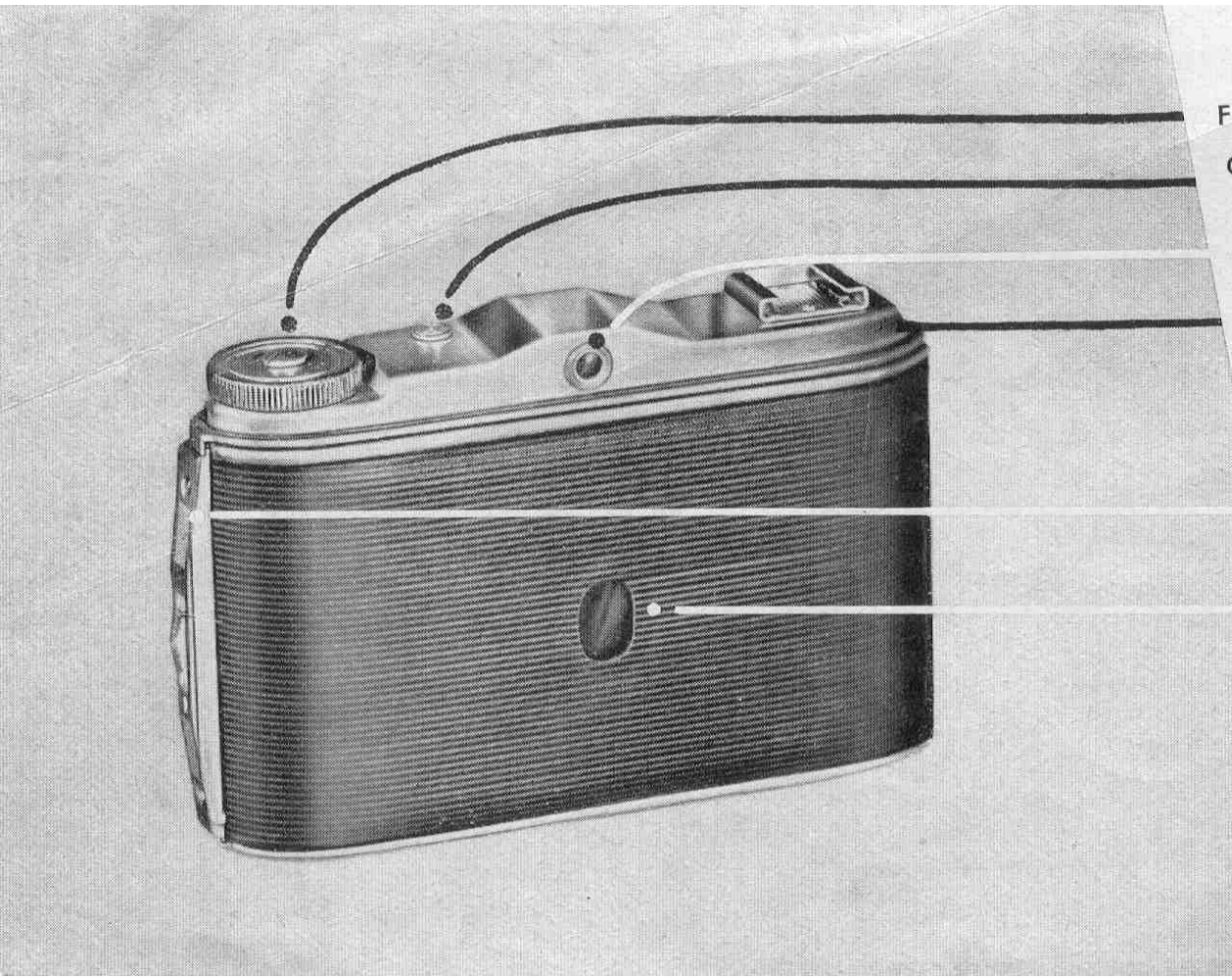
FOR THE AGFA CAMERA—AGFA FILTERS AND LENS HOOD



Agfa filters are used for the correct reproduction of tone-values.
We supply uniformly coloured, optically plane-parallel filters to meet the highest demands. They are available in the densities light and medium yellow, and in yellow-green and red-orange.
The use of filters naturally requires an increase in the exposure time. The exposure factors used in this connection depend, however, to a large degree on the sensitization of the exposure material. The film manufacturers therefore supply with their products information about the factors of the filters most commonly used. Where these are not available, the following data will serve as a rough guidance for panchromatic materials.

Filter	light yellow	No. 1	Exposure factor	1.5 — 2
	medium yellow	No. 2	" "	1.8 — 2.3
	yellow-green	No. 71	" "	2 — 2.5
	red-orange	No. 7	" "	4

Ask your Photo Dealer for Agfa Filters in their modern transparent screwcap-containers, and the handy lens hood which can be fitted together with the filters.



Film transport knob

Camera opening button

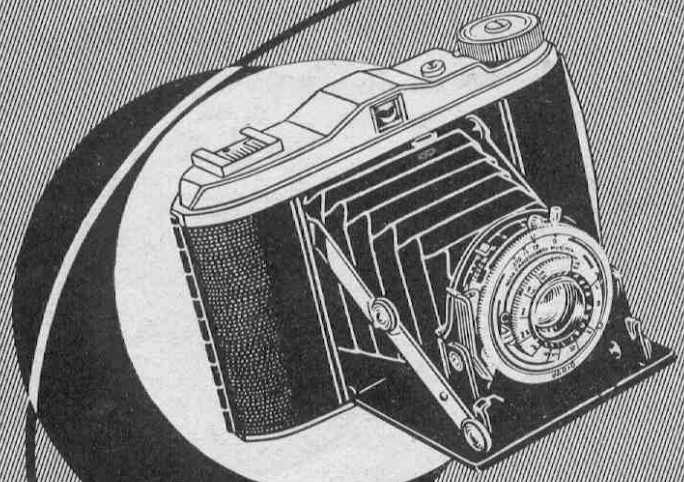
Optical direct-vision view-finder

Holder for accessories

Sliding lock for Camera back

Film number window

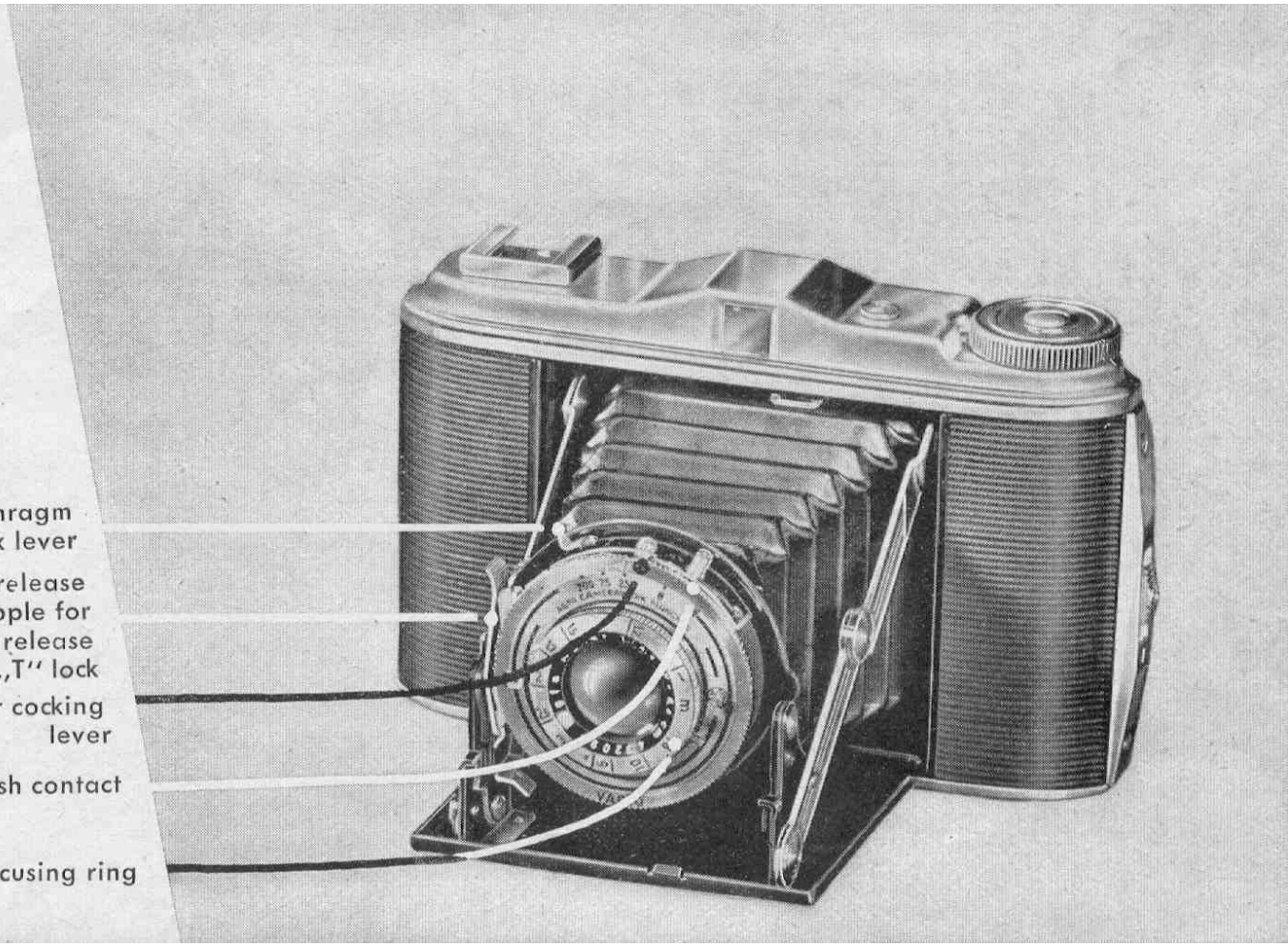
DIRECTIONS FOR USE

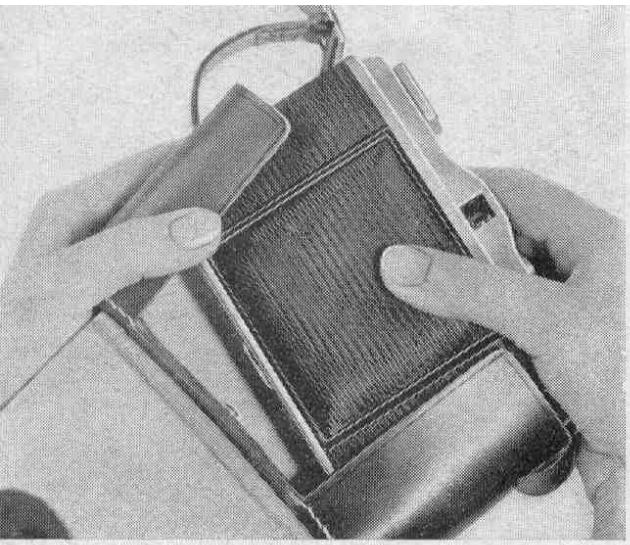


Agfa

MADE IN GERMANY

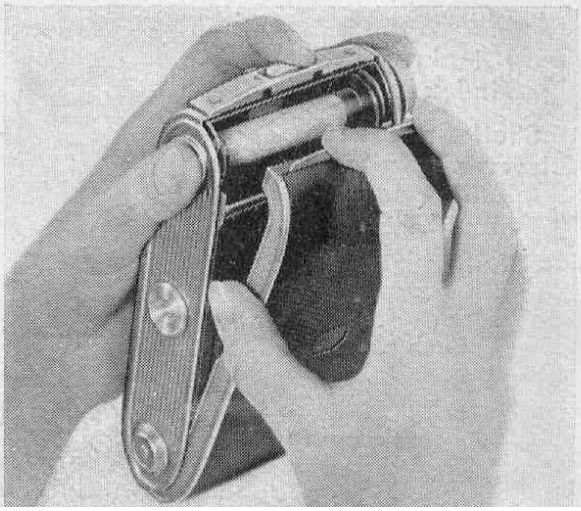
ISOLETTE V


Diaphragm index lever
Shutter-release lever, nipple for cable release and „T" lock
Shutter cocking lever
flash contact
Focusing ring



To load camera,
unscrew dummy tripod screw at bottom of ever-ready case, take camera out.

The ever-ready case supplied with the camera, while fully protecting it from dust and shocks, gives instantaneous readiness for picture taking.



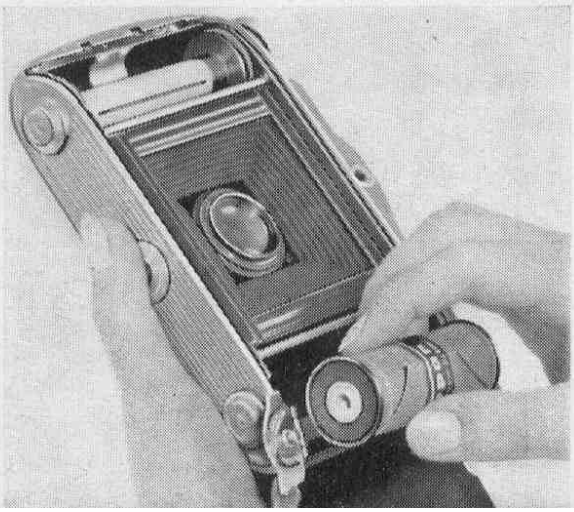
The $2\frac{1}{4}\times3\frac{1}{4}$ No. 120 (B 2) roll film gives twelve exposures $2\frac{1}{4}\times2\frac{1}{4}$ in.

To open camera-back,
push sliding lock in direction of arrow, swing camera-back open.

To prepare camera for loading, swing out lower spool holder, turn hinged spool carrier to the left.

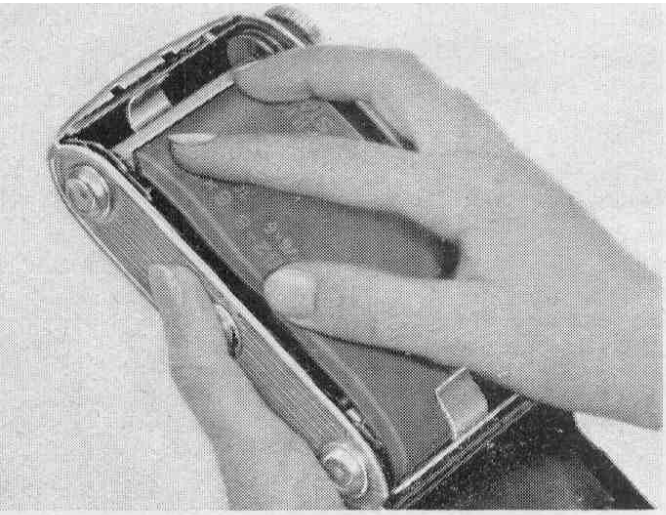
Have an empty spool in readiness in the upper spool chamber. — Be sure to load camera in subdued light only.





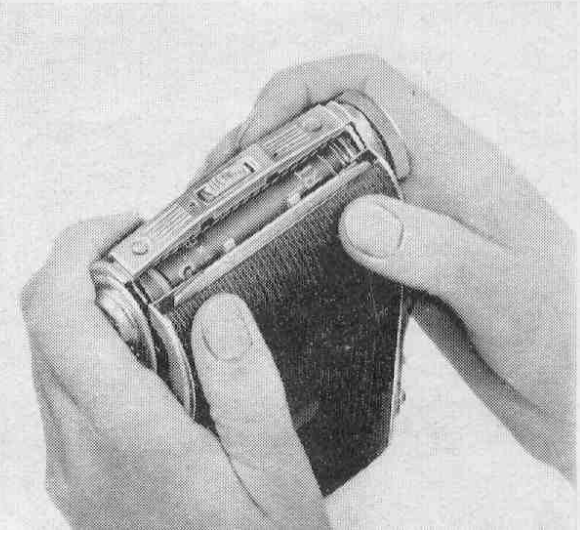
To insert new spool, slip slotted spool end over fixed carrier peg, return hinged carrier to engage second peg, swing spool into chamber.

Attention — Be sure to insert the spool with the narrow end of the backing paper pointing to the empty spool.



To thread film,
tear adhesive tape, carefully remove free ends of tape; then unfold flap of backing paper and thread paper into wide opening of spool slot.

Carefully align backing paper with camera edges and pull paper taut by giving winding knob several turns; be sure to wind paper correctly between spool flanges, thus ensuring protection from stray light.

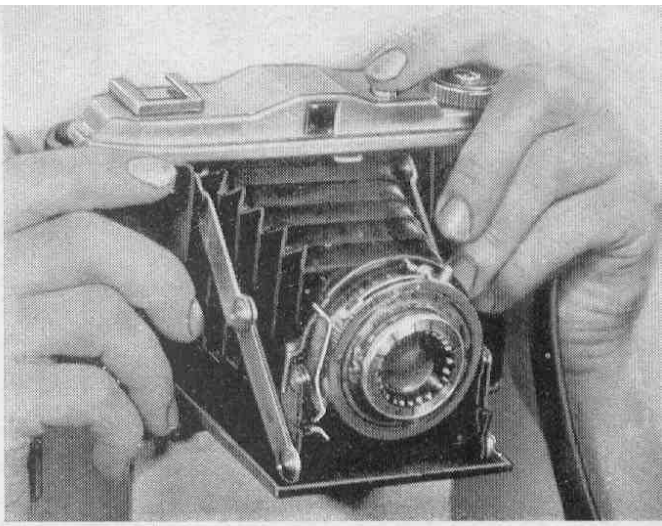


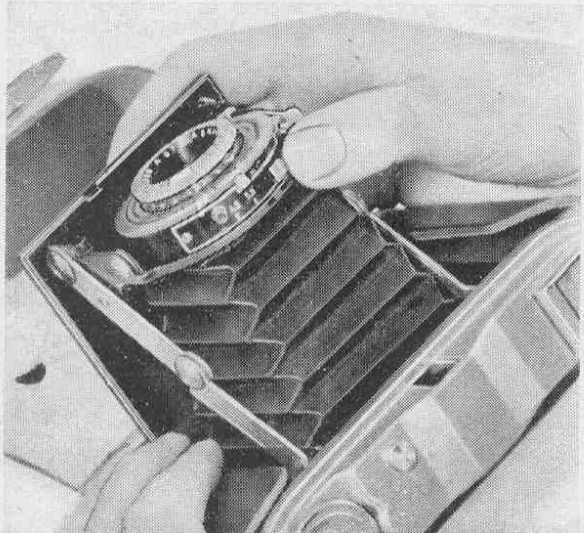
To close camera back,
use both your hands to close camera firmly until it snaps shut.

Upon continued turning of the winding knob at first there will appear the warning marks in the window (dots, hands, arrows). The figure "1" appearing in the window indicates that the camera is ready for the first exposure.

To open camera front,
press buttom on top of camera and the lens board will spring forward; if necessary, assist the braces to snap into position.

The ingenious spring-brace mechanism makes for instantaneous readiness for exposure as well as firm support of the lens.

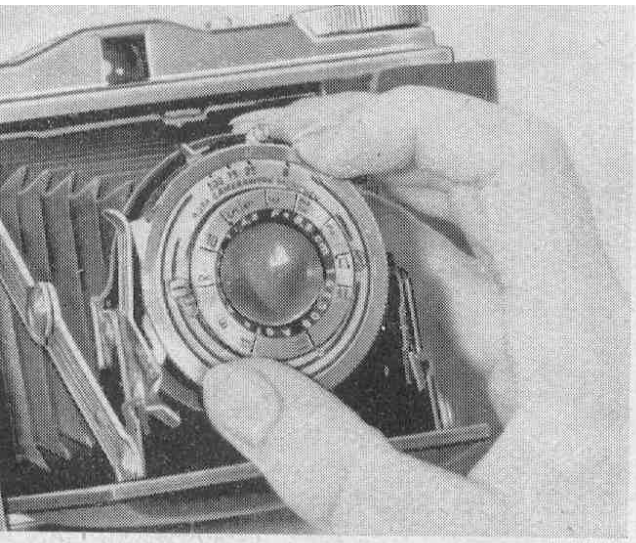




To set the diaphragm,
place right thumb on stop lever and set at desired mark (4,5 — 5,6 — 8 — 11 — 16 — 22 — 32).

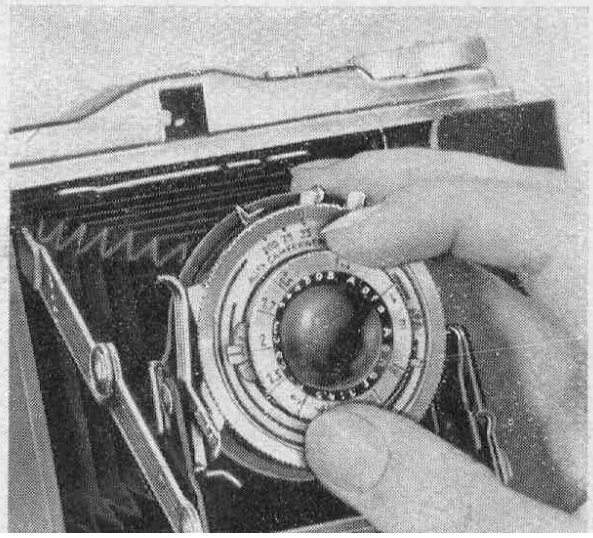
Small stop number, 4,5, for example:
Large aperture, high speed.

Large stop number, 16, for example:
Small aperture, low speed.



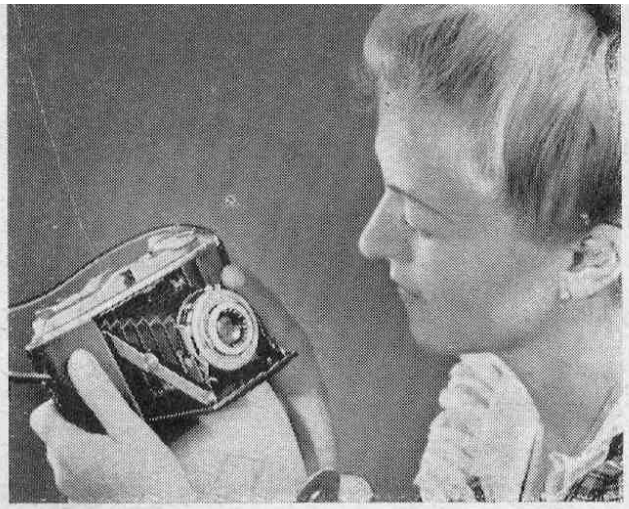
To set the shutter speed,
turn milled shutter ring until "V" mark registers with desired shutter speed (25 — 75 — 200, i. e., $^1/_{25}$ — $^1/_{75}$ — $^1/_{200}$ second).

Setting the "V" mark at "B" will cause the shutter to remain open as long as the release lever is depressed. For long-time exposures, the release can be locked by raising sliding lock "T".

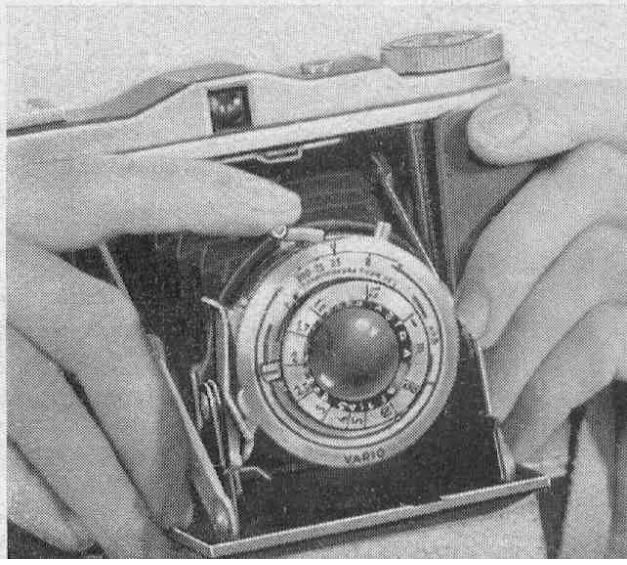


To focus the lens,
rotate front lens mount until desired distance registers with horizontal reference mark.

For close-ups, and when using large apertures, carefully estimate the distance and focus accordingly (Cf. Para. "Depth of Field", p. 14).



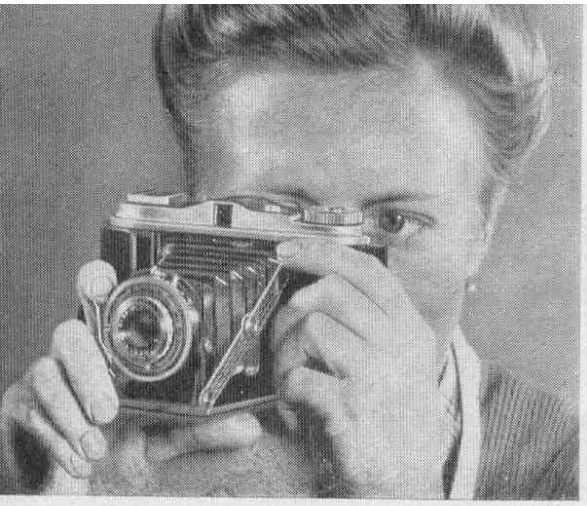
Before every exposure check settings of
diaphragm,
shutter speed,
distance.



To wind the shutter,
prior to every exposure, give the winding lever a lateral pull with your index finger until the lever is caught.

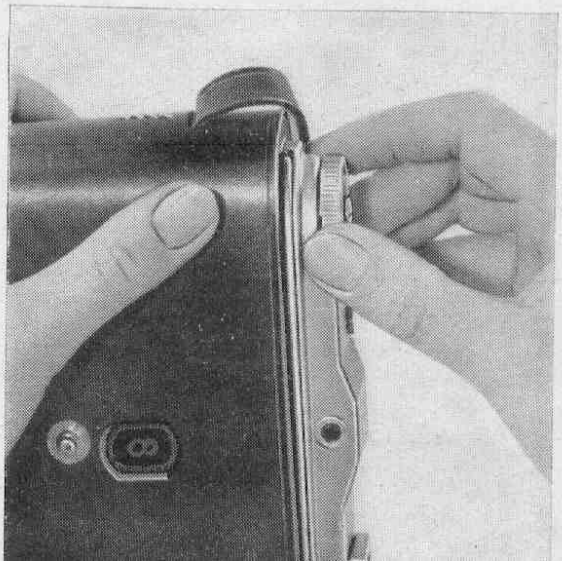
For time exposures, with the "V" mark set at "B", also wind the shutter.

In order to avoid releasing the camera accidentally, and to protect the shutter mechanism, make it a rule to wind the shutter only just before picture-taking.



To take a picture,
bring view-finder close to your eye so that front window will be visible. Use both your hands to hold camera firmly. With your index finger, give release a smooth lateral pull.

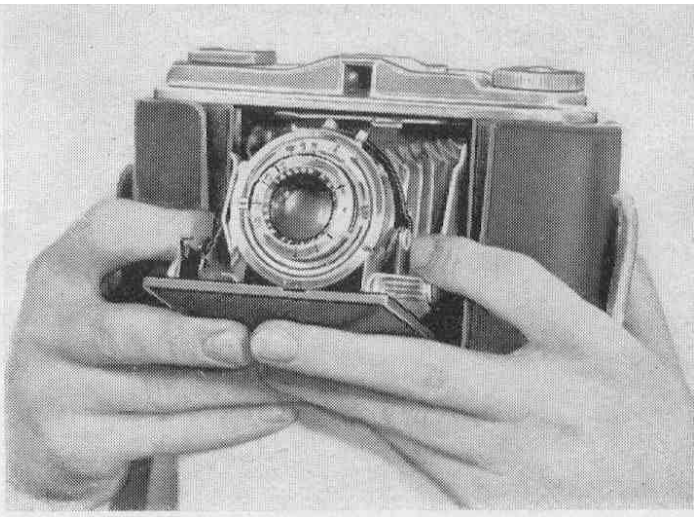
Even at the lowest shutter speed of $^{1}/_{25}$ second, you may be fairly sure of obtaining an unblurred picture. Be sure, however, to stand firmly and to press your upper arms against your body.
Always hold the camera in a horizontal position, never tilt it laterally.

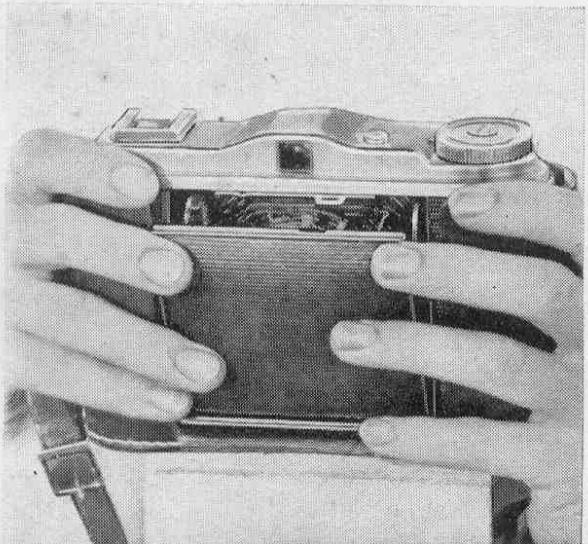


To be ready for the next picture,
turn winding knob until next film number appears in film window.

If you make it a rule, from the very beginning, to advance the film immediately after exposure, the risk of double exposures will be eliminated.

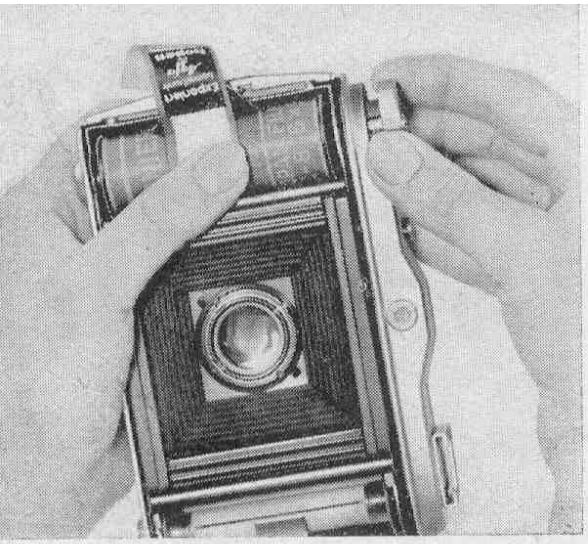
To close camera,
gently depress, with both index fingers, the brace joints and the camera will close.





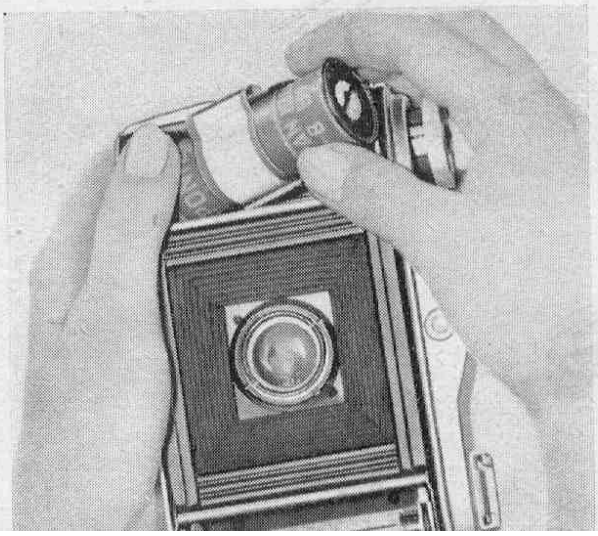
To lock camera front,
press front firmly against camera body until it locks into the closed position.

After taking the last (12th) picture, turn the winding knob until the end of the backing paper has passed the window.



To unload film spool, open camera back (see p. 4), pull out winding knob, at the same time turning it clockwise.

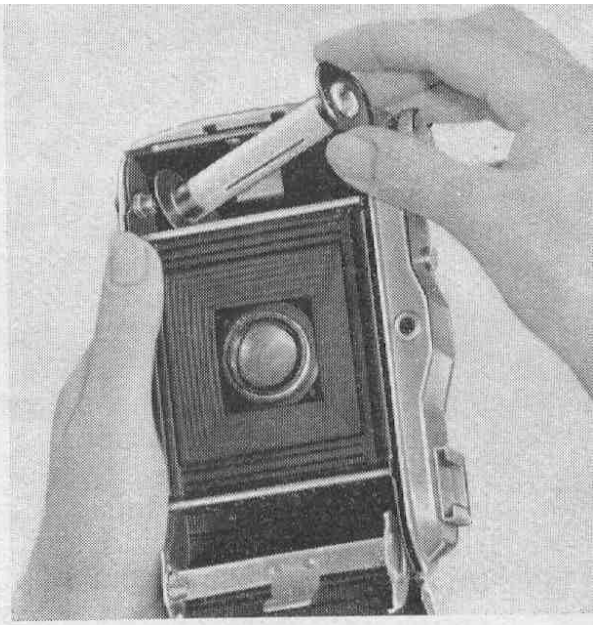
Use your left thumb to hold the backing paper in place in order to exclude stray light.

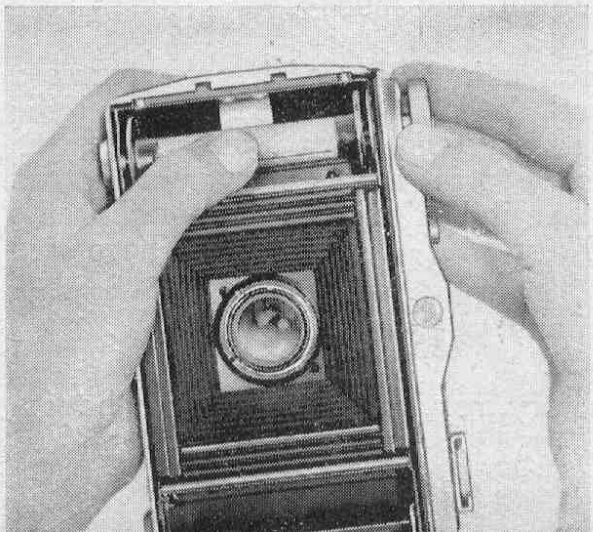


A built-in spring slightly lifts the spool to facilitate removal.

NOTICE — Be sure, during removal, to keep the spool from unwinding. Fold in flap of backing paper and secure with attached adhesive tape. Immediately replace spool into wrapper.

Now change empty spool to opposite chamber by reversing procedure as outlined on p. 5: Swing out spool holder, remove spool and transfer it to opposite chamber- sliding circular hole on fixed carrier peg.





To position empty spool,
push spool into chamber, gently push in winding knob while rotating it clockwise until winder key has engaged slotted spool end.

After loading a new film, return the spool holder into its chamber and close the camera.

Depth of Field

The square image of the Isolette "V" Camera makes it possible to use short-focus lenses characterized by better depth-of-field properties. The depth of field is defined as the zone within which sharply defined pictures are obtained; the smaller part of this zone is located in front of the point on which the lens is focussed, the larger part being located behind that point.

A large diaphragm aperture (small stop-number) results in a smaller depth of field, and vice versa. — The extent of the depth of field is smaller for close-up subjects than it is for distant ones.

A short study of the depth-of-field table will show you how much your pictures may benefit from taking this relationship into account.

The two-point focussing method offers the most convenient way of keeping camera settings within a certain depth-of-field zone. A red dot will be found between the marks "8" and "11" on the stop scale. On the focussing ring, the figures "10" and "30" (feet) are marked in red. Thus it is only necessary to set the stop lever at the red dot while the focussing ring, depending on whether it is desired to use either the close-up or the long-distance zone, is set at "30" or "10", respectively. These two settings offer the following depth-of-field zones:

30-ft. setting: 15 ft. to infinity;
10-ft. setting: 8 ft. to 15 ft.

The two-point focussing method will give satisfactory results with most of the so-called snapshot exposures.

Depth-of-Field Table

for Agfa Agnar 1 : 4.5, f : 3.35 in. (85 mm)

Lens focussed for distance of (feet):	Lens set for:						
	f/4·5	f/5·6	f/8	f/11	f/16	f/22	f/32
	Sharp definition will be obtained within the range given (feet):						
3	2.9—3.1	2.8—3.2	2.7—3.3	2.6—3.4	2.5–3.7	2.4—4.0	2.1— 5.5
3.5	3.4—3.7	3.3—3.8	3.1—3.9	3.0—4.1	2.9—4.5	2.7—5.0	2.6— 7.8
4	3.8—4.3	3.7—4.4	3.6 4.6	3.4—5.1	3.2—5.4	3.0—6.1	2.8— 9.2
5	4.6—5.5	4.5—5.6	4.3—5.9	4.1—6.4	3.8—7.3	3.5—8.9	3.0—13.2
6	5.4—6.7	5.3—7.0	5.0—7.5	4.8—8.2	4.4—9.8	3.9—13	3.5—43.2
8	7.0—9.4	6.8—9.8	6.4—11	5.9—12	5.3—17	4.7—28	3.9—∞
10	8.4—12	8.2—13	7.5—15	6.9—18	6.1—29	5.3—103	4.3—∞
15	12—21	11—23	10—30	9—48	7.5—∞	6.4—∞	5.2—∞
30	19—69	18—101	15—∞	13—∞	10—∞	8—∞	6.0—∞
∞	53—∞	42—∞	30—∞	22—∞	15—∞	11—∞	7.4—∞

View-Finder

The bright image seen in the view-finder shows, on a reduced scale, the field covered by the camera. However, when close-ups are being taken, there will occur a slight deviation, the so-called parallax error. After gathering some experience, the user will find it easy to take this deviation into account. Moreover, a disturbing effect will only occur within a range of 6½ feet or less. To eliminate the error, simply lift the lens slightly. As a result, the view-finder image will include a small zone at its upper edge which, however, will not appear in the picture taken.

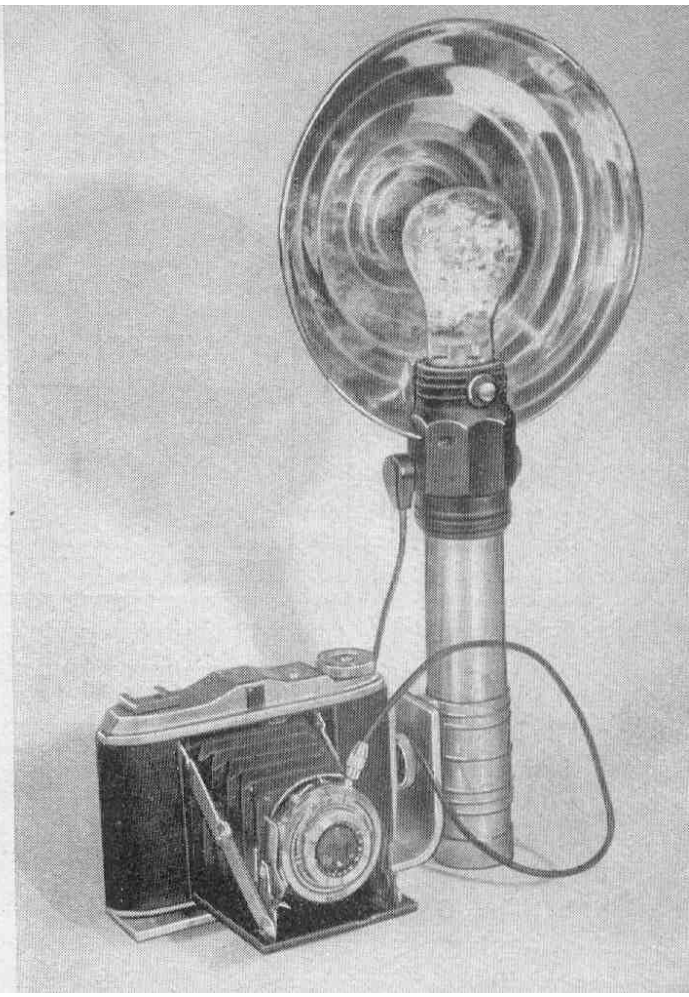
Camera Care

Regular care will extend the life of your camera. Be sure to protect it from dust and excessive exposure to sunlight. Prior to loading a film, remove any dust or other foreign particles that may have entered the camera.

The lens, of course, requires particular attention. Immediately remove from the lens all dust and finger-prints, if any, because they are more detrimental to highly polished lens surfaces than most people think. To wipe the lens clean, take a suitable piece of chamois leather or soft linen which must be absolutely clean and free of dust or grease, and wrap it around your fingertip or a matchstick. On no account must a sharp-edged object or a metallic tool be used. — Never take the lens apart!

Flash Contact

The Isolette "V" is provided with a 1/8-in. (3-mm) nipple to which a flashbulb release cable may be attached. Automatic synchronizing ensures that the flash coincides with the exposure. As a great variety of flashbulbs are available on the world market, all of them having different delay- and flashing-periods, it is recommended, when using a flashbulb, to set the shutter for 1/25 second.



Comparison of Emulsion Speeds

Tenths deg. DIN*	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ASA Logarithmic Exposure Index	8	10	12	16	20	25	32	40	50	64	80	100	125	160	200	250	320	400
ASA Arithmetic Exposure Index	20°	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°	35°	36°	37°
Weston Numbers	6	8	10	12	16	20	24	32	40	50	64	80	100	125	160	200	250	320
General Electric	10	12	16	20	24	32	40	48	64	80	100	125	150	200	250	300	400	500
H. & D. (Ilford)	400	500	600	750	1000	1200	1500	2000	2500	3000								
H. & D. (Europe)	1300	1700	2100	2700	3500	4400	5600	7200	9100	11600								
Relative Exposure Time	8,00	6,40	5,13	4,00	3,20	2,56	2,00	1,60	1,28	1,00	0,80	0,64	0,50	0,40	0,32	0,25	0,20	0,16

The vertical columns indicate films of identical emulsion speed.

The bottom line indicates the relative amounts of light required to expose films of different emulsion speed. — Example: A film of $^{16}/_{10}$ deg. DIN requires double the amount of light needed by a film of $^{19}/_{10}$ deg. DIN (difference 3/10 deg. DIN). This goes to show that

either the lens aperture must be increased by one full stop,

or exposure time must be increased by one full step, i. e., it must be doubled.

* DIN = German Industrial Standard Specification.

Hints for Correct Exposure

Picture-taking time between three hours after sunrise and three hours before sunset.

Emulsion speed 18 to 19/10 deg. Din	Light Conditions	Bright Sun	Sunny	Partly Cloudy	Cloudy	Shutter Speed
		Aperture (Stop)				
	Bright Subject	16	11	8	5.6	1/75 second
	Dark Subject	11	8	5.6	4.5	

In the shade: Increase aperture (smaller stop-number) or expose $^1/_{25}$ second. — For a fast-moving subject, increase aperture by one stop and expose $^1/_{200}$ second.
Extremely bright subjects such as snow-covered landscapes or beaches in bright sunlight permit stopping the lens down to f/22 or f/32, respectively, exposure time remaining unchanged.

When in doubt, use a longer exposure time rather than a shorter one. It is difficult to hold the camera steady for exposure times exceeding $^1/_{25}$ second. Therefore, to make time exposures ("V" mark set at "B"), use a tripod or support the camera in some other way.

A cable release can be screwed into the nipple provided near the release lever.

For long-time exposures, set "V" mark at "B", depress the release lever, and lock it by raising sliding lock "T". The shutter will remain open until the lock is lowered again.

As regards indoor pictures, it is harder to arrive at the correct exposure time. Unless you can draw on personal experience, use an exposure meter, preferably of the electrical type, or a detailed exposure table. In this case, too, the rule applies: Use a longer exposure time rather than a shorter one.

The design of the Isolette "V" camera is subject to changes as may be caused by technical development.

All cameras and lenses bear serial numbers. (The camera serial number will be found on the outside of the fixed spool carrier.) Be sure to make a note of both these numbers as in case the camera has been lost, recovery entirely depends on circulating the numbers among photographic dealers and on publishing them in the daily press.

M 917 E-1149.

Printed in Germany.

Supplement and Correction for Isolette V

Pronto Shutter: B, $^1/_{25}$, $^1/_{50}$, $^1/_{100}$, $^1/_{200}$, "T".

Delayed action selftimer: (cannot be used with "B" setting).
Delay period approximately 10 seconds.

1. Cock shutter,
2. Cock selftimer lever,
3. Release.

Vario Shutter: B, $^1/_{25}$, $^1/_{50}$, $^1/_{200}$, "T".

The Vario Shutter has been changed to the effect that the shutter speed of $^1/_{75}$ sec. has been substituted by $^1/_{50}$ sec. Inasmuch as par. "Hints for correct exposure", page 19, is giving approximate stop numbers only, the numbers pertaining to the $^1/_{75}$ sec. can be used for the $^1/_{50}$ sec. as well. However, when using the $^1/_{200}$ sec. it should be observed that against the indicated shutter speed the aperture is to be increased by one to two stops (smaller figures).

The accessory holder of the Isolette "V" is no longer accomodated at the side of the camera as shown in the illustrations, but is now fitted in the middle right above the optical viewfinder.

AGFA CAMERA WERK, MÜNCHEN
US Administration

110 engl. - 0950 (Correction Slip for M 917 E - 1149).

GUARANTEE

The lens fitted to your camera is a product of the Agfa Camera-Werk and has been computed and manufactured in conformity with the most up-to-date scientific methods.

It reaches a standard of performance never previously attained in lenses of equal speed having the same number of elements. Its chief advantages lie in extremely high resolving power, excellent definition and outstanding reproduction of detail.

The total of these characteristics makes it the ideal lens for successful photography with black and white or colour film.

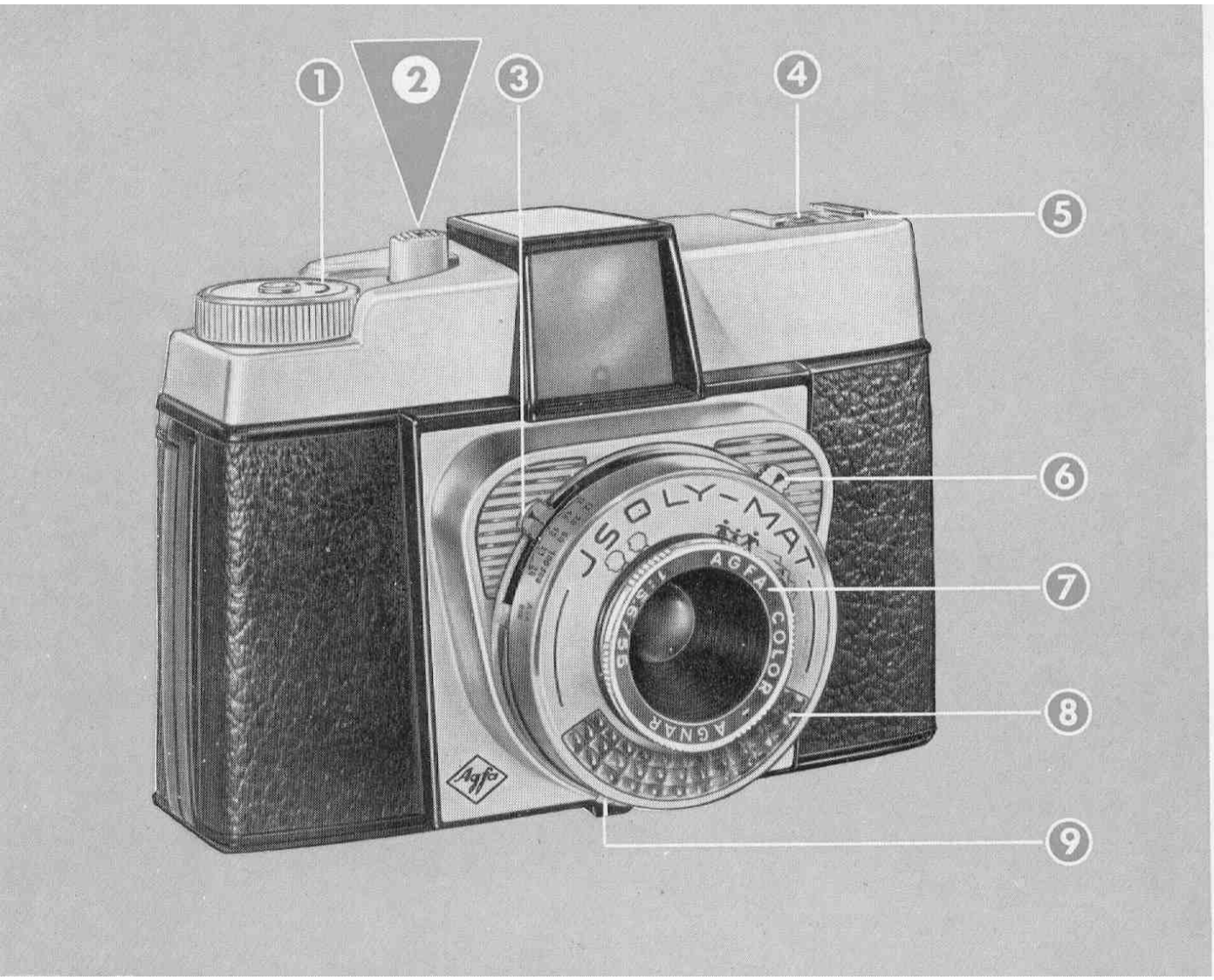
In addition, every lens is thoroughly tested before leaving our factory by the most up-to-date methods and is guaranteed by us for its quality and performance.

AGFA AKTIENGESELLSCHAFT
Camera-Werk Muenchen

EMPORIUM (S.A.) LTD.
CAMERA CENTRE

Agfa

ISOLY-MAT


1
2
3
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9
SOLY-MAT
AGFA COLOR
AGNAR

EXPLANATION
OF ADJACENT ILLUSTRATIONS

① Film transport knob

② Magic release button with cable release connection for time exposures

③ Lever for setting film speed

④ Flash contact

⑤ Accessory shoe

⑥ Setting lever for automatic photography and for flash and time exposures

⑦ Focusing

⑧ Exposure meter

⑨ Diaphragm setting lever for flash photography

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Focusing 3
Holding the camera 4
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b) flash photos 12–14
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Filters 14
Removing exposed film 15–16
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You are now the proud owner of a technically perfect camera—the fully automatic Agfa Isoly-mat which does not require any complicated manual operations and so leaves you free to concentrate on the subject. That will be a source of real pleasure to you and represents the modern age of photography.

The fully automatic mechanism of this camera calculates, thinks and acts for you automatically and invisibly. Just a touch of the magic release knob is sufficient.

The pictures you obtain measure 1½ x 1½ in. (4 x 4 cm.) and a 2¼ x 3¼ in. (6 x 9 cm.) film gives you sixteen of these. Remember therefore you will require a 2¼ x 3¼ film (also known as a B 2-8 or 120 roll film) for your camera.

You can also have your 4 x 4 photographs enlarged. You are certain to obtain good pictures if you read through these brief instructions carefully.

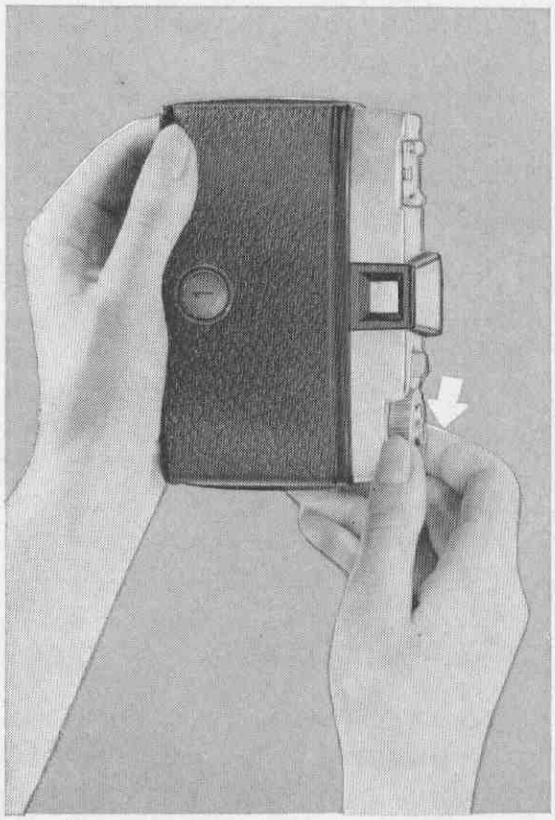


Film transport

The object of the protective paper surrounding the roll film is to guard it against light from outside sources whilst the paper backing provides particulars of the exposure sequence.

Your photographic dealer probably loaded the first film for you. If the number 1 is visible in the window at the back of the camera, it is ready for use (see adjacent illustration).

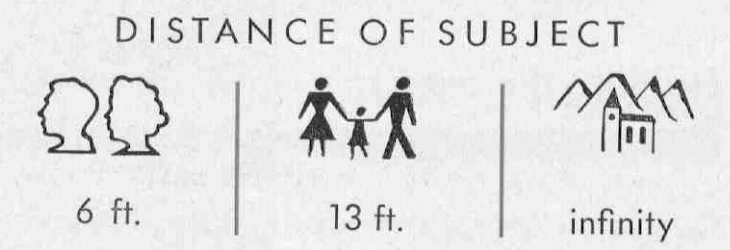
If this is not the case, turn the film transport knob in the direction of the arrow until the number 1 appears. Exact details of how to load the camera are given on pages 7 to 9.

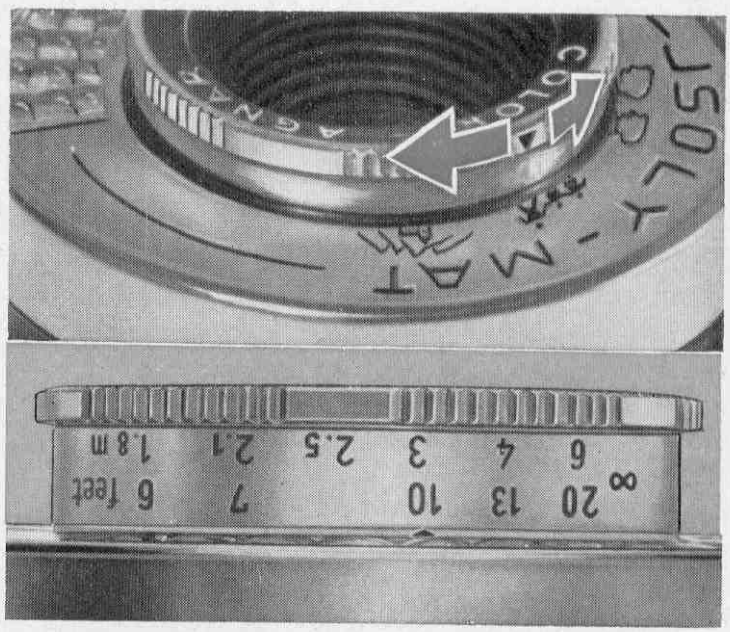


Focusing

Three symbols assist in focusing the camera. According to your subject, set the black mark to one of the symbols illustrated at top right.
If necessary, you can also adjust the setting mark to any intermediate position between two symbols.
Exact focusing particulars will be found on the lower part of the setting ring:

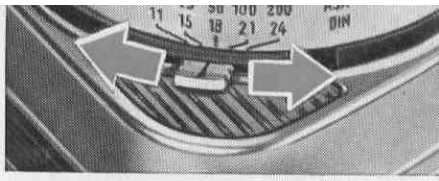
black figures = metres
green figures = feet





Holding the camera

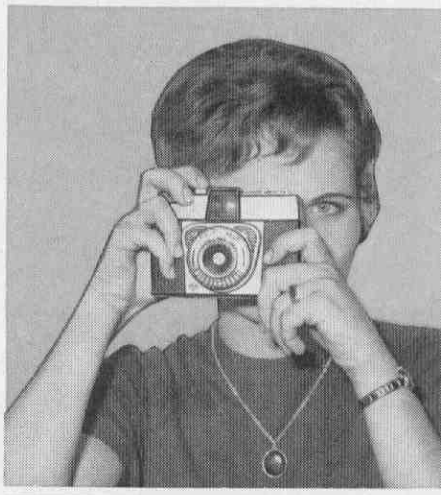
ASA
DIN

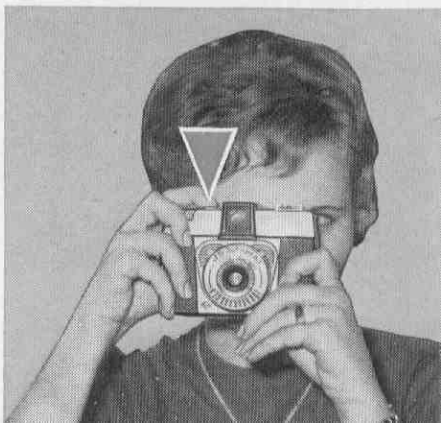


One important requirement in obtaining correctly exposed photographs is to set the film speed beforehand. (This is market on every film carton.) To do this, move the setting lever until the black line is opposite the corresponding number (for further detail see page 10).

Now you can take the first photograph. Take the Isoly-mat in both hands and brace your arms at an angle against your body. The index finger of your right hand should lie gently on top of the magic release button. Bring the view-finder close to your eye and then you will be able to see the exact picture area which will be reproduced on the film.

Important: When taking a photograph, hold the camera absolutely steady and **press the release button evenly.** Then turn the film on for the next photograph.





More fun . . .



TECHNICAL SECTION

is obtained from photography when you have mastered the hints mentioned and are thoroughly familiar with your camera too.

First of all, something about films and how to choose them: The size of the picture given by your camera is 1½ x 1½ in. (4 x 4 cm.), which means that you will obtain sixteen exposures from a 120 roll film.

First use Agfa Isopan F. It is a fine-grain black and white film of good contour sharpness.

In dull weather, it is advisable to use a film of higher speed such as Agfa Isopan ISS or Agfa Isopan Ultra.

With Agfacolor films you can explore the world of colour. These films have been firm favourites for twenty-five years because of their natural reproduction of both pastel and brilliant colours.

For sharp, brilliant colour transparencies

by daylight: Agfacolor Reversal Film CT
by artificial light: Agfacolor Reversal Film CK

For wonderful colour prints
by daylight and artificial light:
Agfacolor Negative Film CN

Note

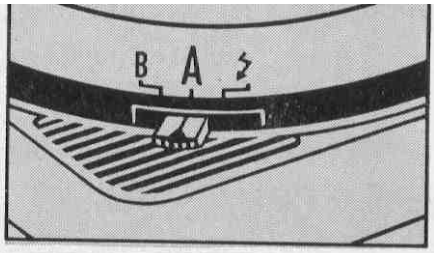
The automatic mechanism is engaged when the black line of the setting lever is opposite the letter "A".

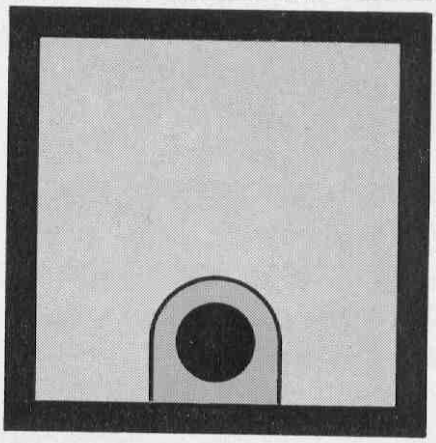
Look through the viewfinder:
red signal will be visible.

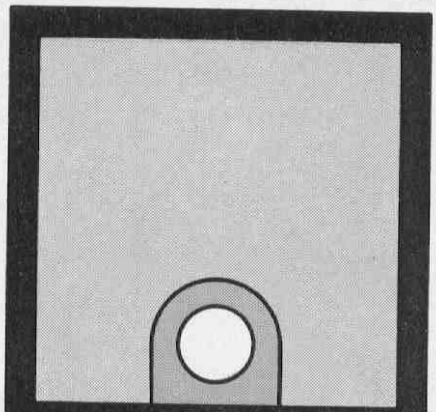
◀ **Press down magic release button to pressure point.**

Green signal is then visible: "All clear" for your photograph.
Press release button
◀ right down.

If signal remains red: stop—remove finger from release button as light is not sufficient.







Exposing

Points to note:

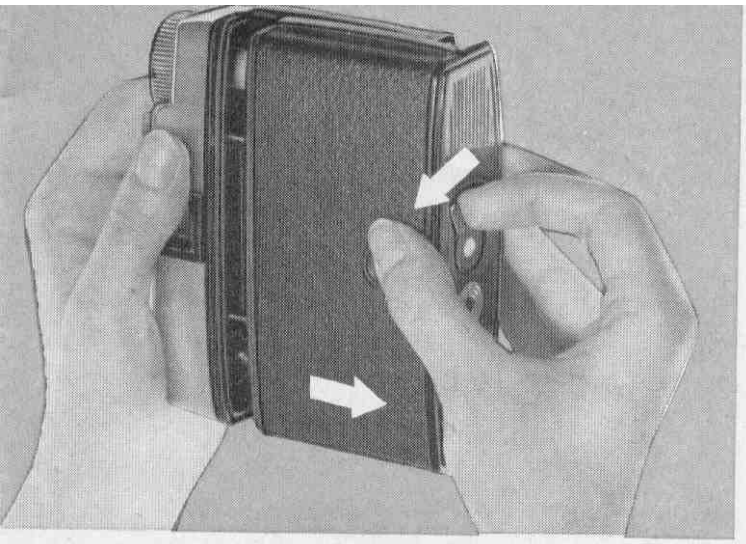
When the release knob is pressed, a resistance point will be felt.

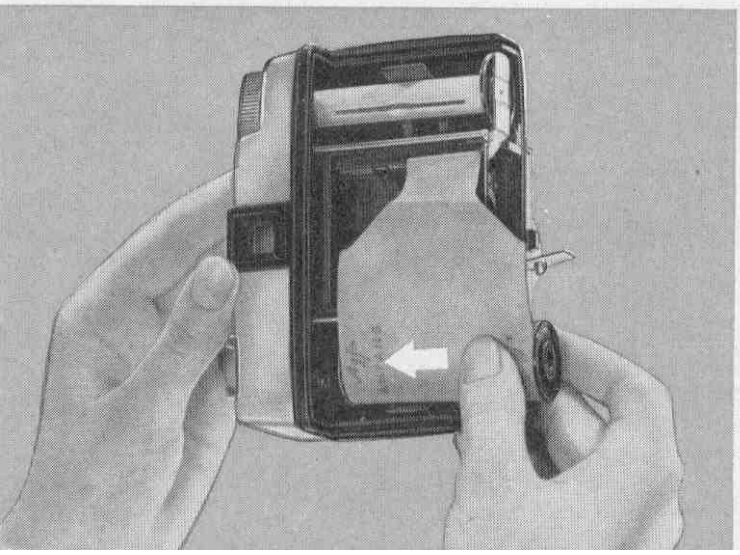
If there is enough light, the green signal will then appear.

In this case hold the camera steady and press release button right down.

If the red signal remains, there is not enough light, therefore free release button again.

Never alter the direction of the camera during the exposure.





Inserting the film

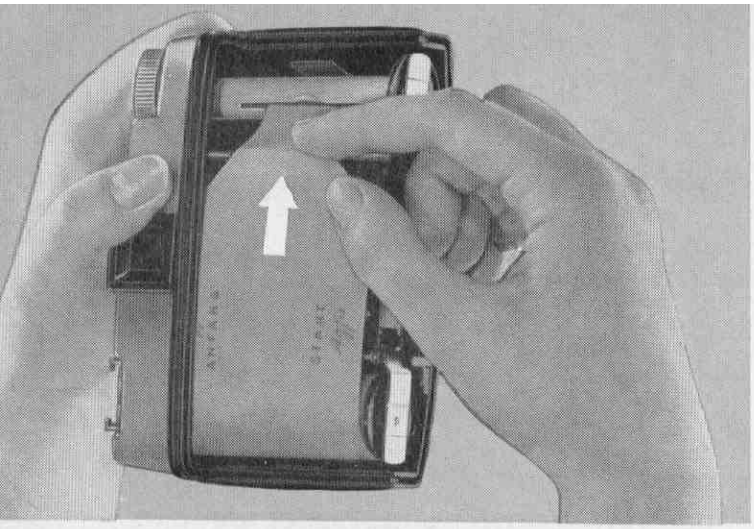
The camera can be loaded in daylight, but always in the shade—at least in body shadow.

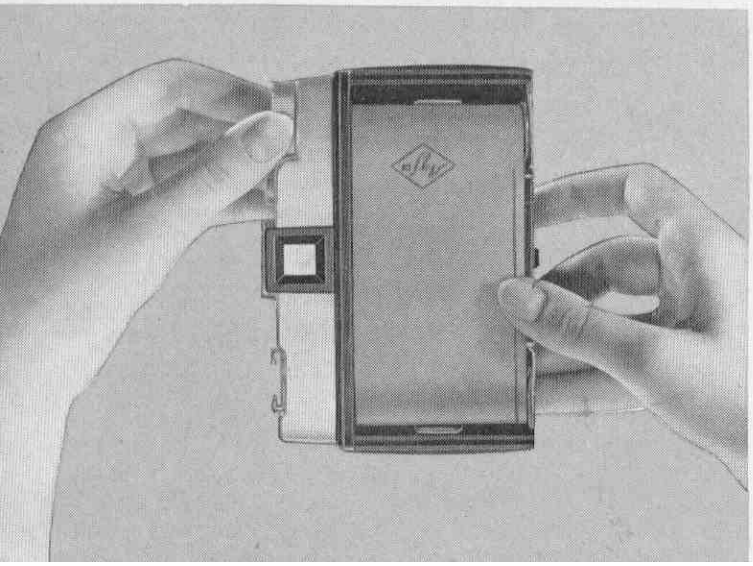
First open the camera back by sliding catch in direction of upper arrow. Remove camera back to the side as shown by lower arrow.

Open up the lower spool retaining clip as illustrated. The upper spool compartment should contain an empty spool.

Break the seal of the film with a finger nail and remove any surplus sealing paper.

Insert the film so that the paper tongue with the writing on the paper uppermost points towards the empty spool. Insert film spool on to the peg. Return spool retaining clip to its original position.



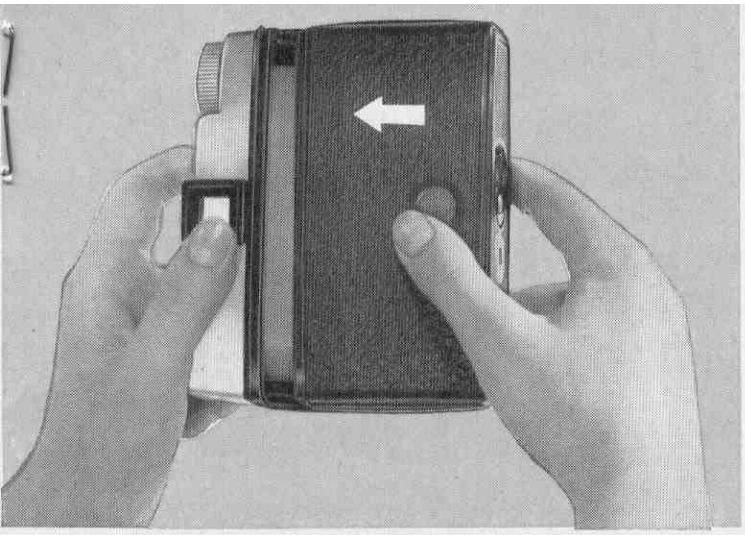


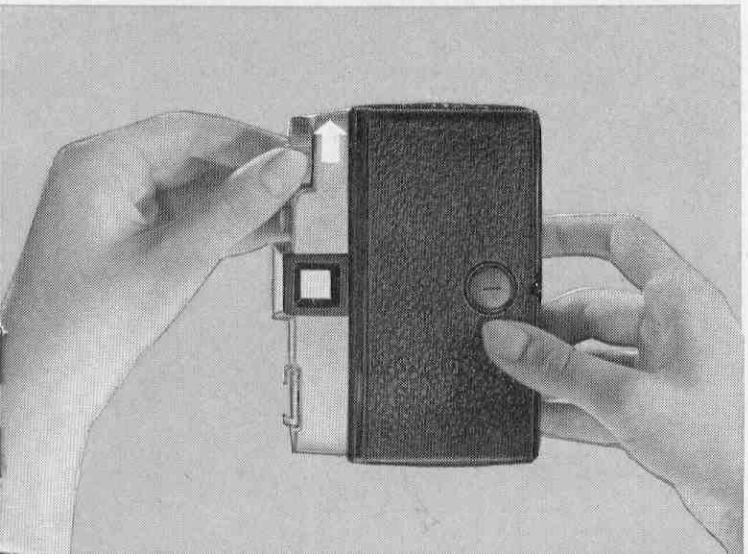
Loading the camera . . .

Draw the paper tongue towards the empty spool and insert it in the longer of the two slits.

Before closing the camera back make sure that the backing paper is exactly in line with the camera edges. Then turn the film transport knob 2 to 3 times to tauten the paper. Make sure that it winds on to the spool evenly to protect it against exposure.

This is important to ensure proper transport of the film.





. . . is so easy

Your Isoly-mat can now be closed again by inserting the back in the housing groove. Push the lid back into position, and secure the catch.

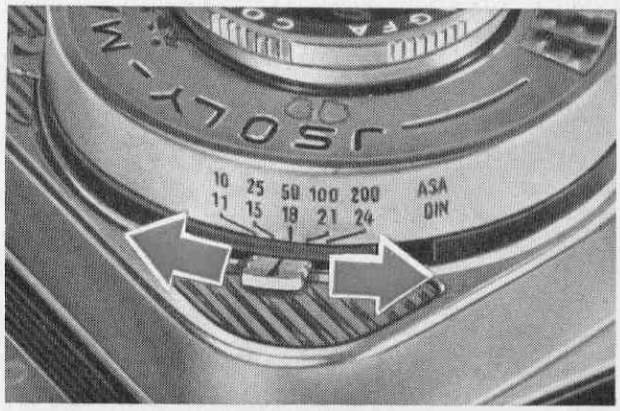
Watch the film window and start to transport the film until the figure 1, preceded by a few dots, is visible in the window. The camera is then ready for use.

Setting the film speed

Directly after loading the camera, note the film speed from the carton and set this figure on your camera. This will ensure correctly exposed photographs.

To do this, set the black line on the lever opposite the corresponding film speed value. The lever can be moved freely to both sides. It engages by click stops in each of the film speed settings shown and the intermediate and final values not marked. You can thus photograph fully automatically with all types of film ranging from 11 to 25 DIN or 10 to 250 ASA.

When the magic release button is pressed down the exposure meter reading is transferred to the shutter. During the exposure the correct lens stop for the constant shutter speed of $1/70$ sec. is selected and set accordingly.





Ever-ready case

After loading the film it is advisable to return the camera to its ever-ready case and to screw it up.

Double exposures impossible

A suitable locking mechanism prevents a picture from being exposed twice by mistake. When the red dot is visible alongside the transport knob, the film has to be transported before making the next exposure.

Close-ups

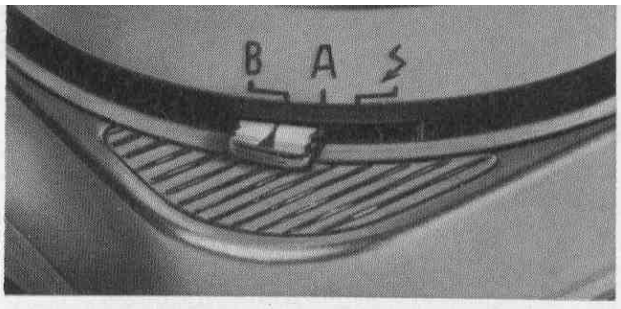
It is a fascinating pastime to explore and capture the world of miniature objects. With the suitable close-up attachment, type 6719/320, for your Isoly-mat, you can cover a range of 59 to 31 in. (150–80 cm.). With the Natarix attachment, type 6711/320, you can actually approach to within 19 in. (48 cm.) of the object photographed. An additional viewfinder attachment is provided for parallax correction.

Without the automatic mechanism

We have already mentioned the two signals in the viewfinder. Photographs with the automatic mechanism are not possible when the signal remains red. However, this mechanism can be disconnected and there are then two possible ways of obtaining satisfactory photographs with your Isoly-mat in poor lighting conditions.

Time exposures

Set the black mark on the lever to "B". On this setting the shutter stays open as long as the magic release button is depressed. You cannot therefore expose with the camera held in the hand. The use of a tripod and cable release



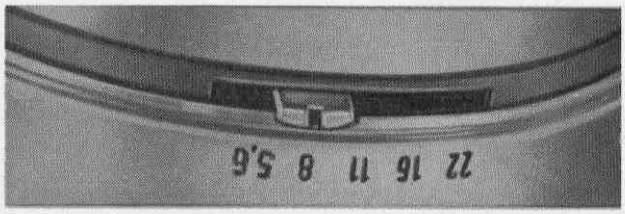
is advisable in such cases. The latter is screwed into a thread in the release button. On the "B" setting you always photograph at the full lens aperture of f. 5.6.

Much simpler—flash photos

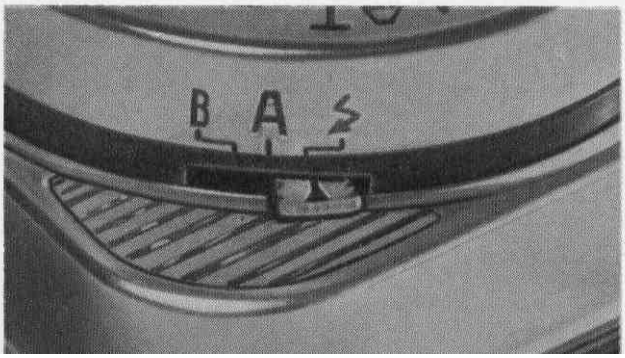
Set the black line on the lever opposite the flash symbol (see illustration on page 13).

On this setting the shutter speed will be $^1/_{30}$ sec. The adjacent table shows the apertures needed for a number of flash bulbs at present on the market. The aperture numbers can be seen and set underneath the lens mount; follow

the particulars given on the flash bulb package but do not set any intermediate aperture values for flash photos.



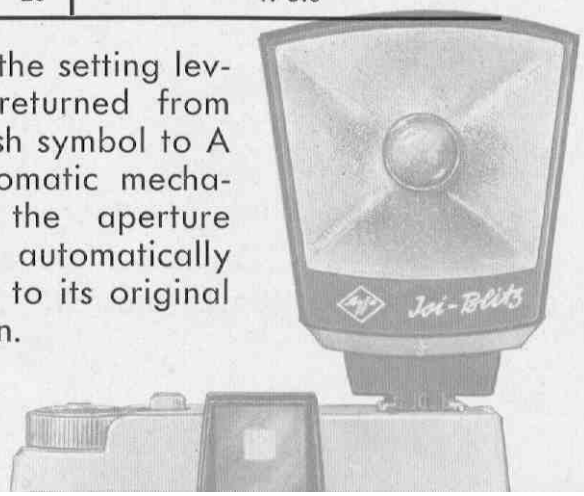
The Isi Flashgun M has a simple contact which is made by merely sliding the foot into the accessory shoe of the camera from the rear. This synchronises the shutter with the flashgun.



APERTURE TABLE FOR FLASH PHOTOGRAPHY

Symbol	Distance feet	Black and white film Negative colour film **17** DIN / **40** ASA	Daylight colour reversal film **18** DIN / **50** ASA
		XM 1 PF 1	XM 1 B PF 1 B
	5 6	f. 16	
	8 13 20	f. 11 f. 8 f. 5.6	

When the setting lever is returned from the flash symbol to A (= automatic mechanism), the aperture lever automatically returns to its original position.



If an **electronic flashgun** is used, an adapter will be necessary. The required aperture can be calculated from the guide number of the flashgun.

Special exposure hints

Where clear detail is required in photographs taken against the light or in deep shadows, the automatic mechanism of the camera can still be used with the setting on the DIN/ASA scale reduced by about 3 DIN. Similarly, with an overcast sky, the reduction should be about 2 DIN and for dull weather about 4 DIN. If, for example, the film in the camera has a speed of 18 DIN = 40 ASA, a reduction of 3 DIN would give a setting of 15 DIN for these special photographs.

Do not forget to re-set the correct DIN number after taking the photograph.

Filters available for your Isoly-mat

Slip-on 32 mm. mount for black and white photographs:

reduce the film speed setting for:

light yellow by 1 DIN

medium yellow by 2 DIN

yellow-green by 2 DIN

UV filter no change

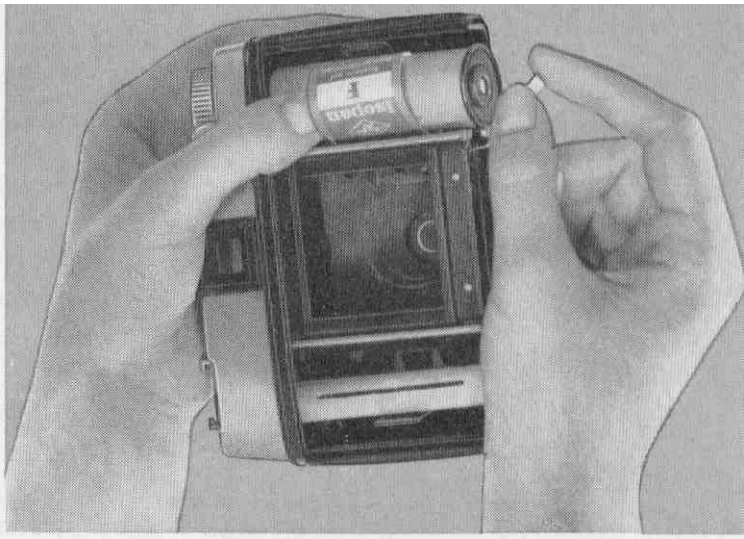
For special colour reversal film photographs:

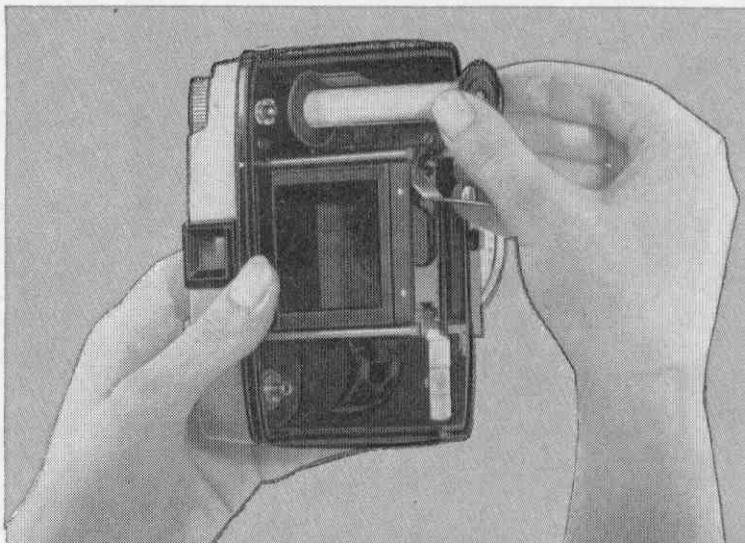
Agfa Color Filter R 1.5 no change

Removing exposed film

After the 16th exposure, the film transport knob should be turned on until the end of the backing paper passes the film window.

Open the camera (only in the shade and at least in body shadow) by pushing the catch towards the back of the camera. Then withdraw the camera back, swivel out the upper spool retaining clip and remove the full film spool from the camera. Fold the end of the backing paper inwards, secure the film with the attached sealing strip and place the film in its protective paper in the carton.





Before inserting the next roll of film, the empty spool will have to be transferred to the top film compartment. To do this, open up both spool retaining clips and place the empty spool from the bottom compartment in the top compartment. Make sure that the slit in the end of the spool engages with the drive of the film transport knob. Then close the two spool retaining clips again.

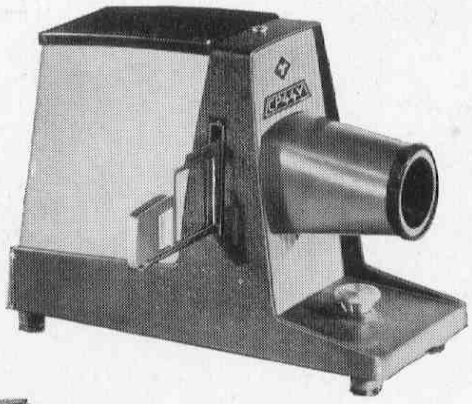
We reserve the right to make alterations arising from further development of the Agfa Isoly-mat.

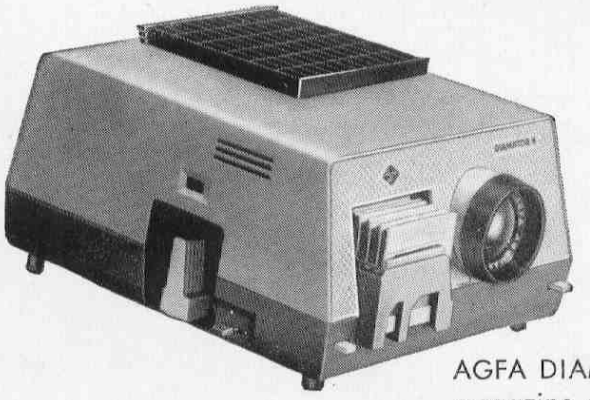
AGFA AKTIENGESELLSCHAFT
Camera-Werk Muenchen

Mounting and projecting slides

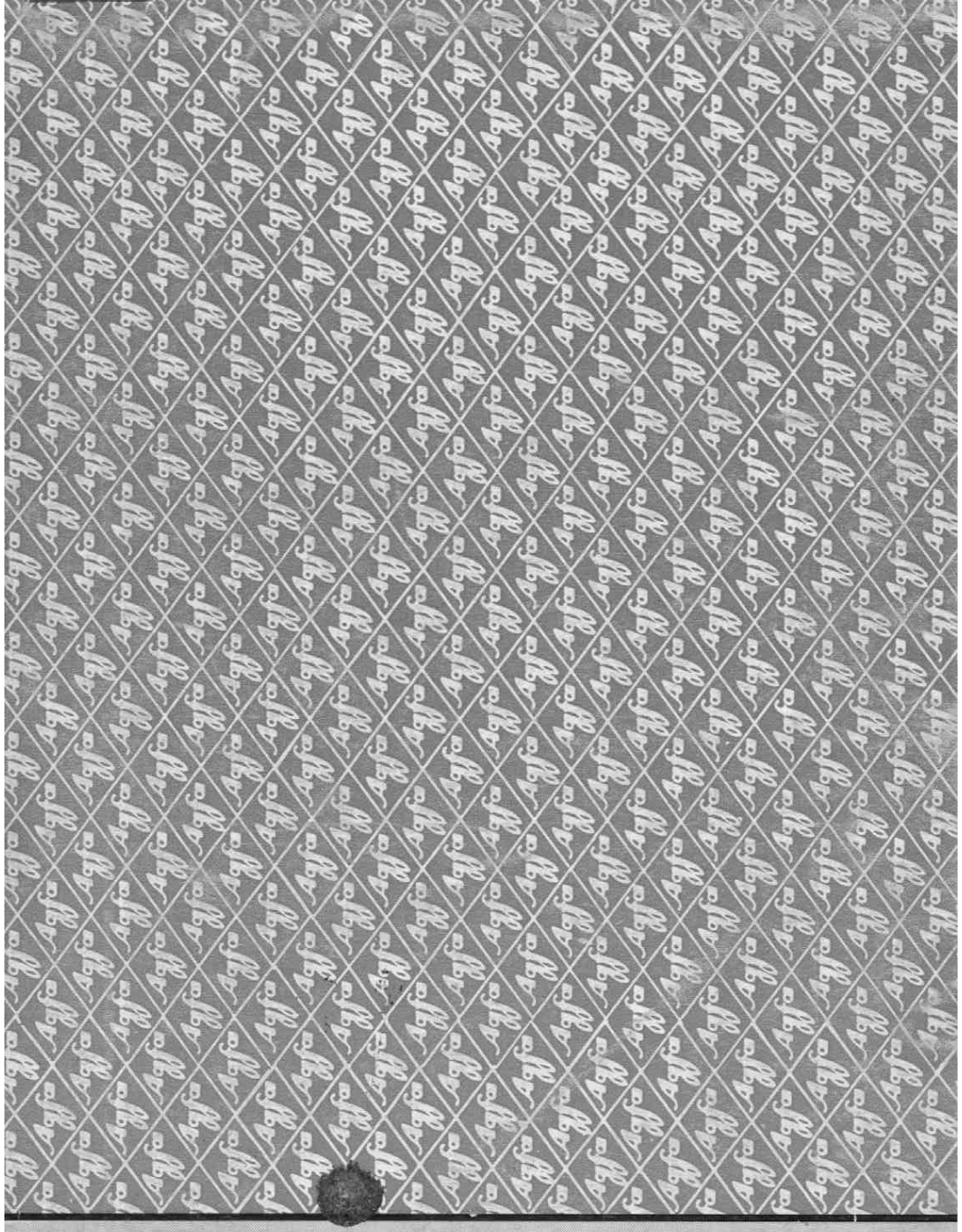
You will be delighted with the first colour transparencies which you take with your Agfa Isoly-mat. Before projecting your slides, however, the film has to be cut and framed separately. We advise you to use Agfacolor Transparency Frames for this purpose. They are practical and you can mount your transparencies quickly with them.
Projecting your own colour transparencies of your holidays or week-end outings is a real experience. Of course, with an efficient Agfa projector. For your Isoly-mat we recommend the Agfa CP 44 or the pleasingly styled magazine projector Agfa Diamator H. The fully automatic Agfa Diamator M projector offers you genuine technical progress. If you own this projector, you can sit back in your easy chair and do everything from there: the commentary, changing the slides and focusing the projector. The finishing touch to your brilliant colour transparencies is provided by the Agfa Lumenta bright silk screen.

AGFA CP 44
projector





AGFA DIAMATOR H
magazine projector



AGFA AKTIENGESELLSCHAFT
CAMERA-WERK MUENCHEN

2435 engl. - 1261

Made in Germany



INSTRUCTIONS FOR USING YOUR

AGFA OPTICUS 100

SETTING UP AND CONNECTING TO SUPPLY

The Agfa Opticus 100 should be set up so that the projection lens points to the middle of the screen. If the screen is so high that the projector has to be tilted upwards, the tilt should not be carried so far that the side margins of the projected picture diverge upwards to any great extent. If this is the case the projector itself should be raised accordingly.

The Agfa Opticus 100 is designed to take a 250V/ 100W ASCC base projection lamp and is provided with a double condenser and heat absorbing filter. It can be used on either AC or DC supply.

INSERTING AND CHANGING THE LAMP

Before a lamp is inserted or changed THE PROJECTOR MUST BE DISCONNECTED BY PULLING OUT THE PLUG FROM THE SUPPLY SOCKET.

The procedure is as follows:

1. Grasp the ventilator top by the two protruding lugs 3, Fig. 1, and swing back. The projection lamp (or lamp holder) will now be visible.
2. Insert the new lamp so that the two lateral pins on the cap slip into the slots of the holder. Press the lamp down against the spring of the centre contact and lock it by a slight turn to the right.
3. To remove a lamp reverse the procedure, turning it to the left with light downward pressure and then withdrawing it. Any fingermarks should always be removed from the glass bulb of a newly inserted lamp.

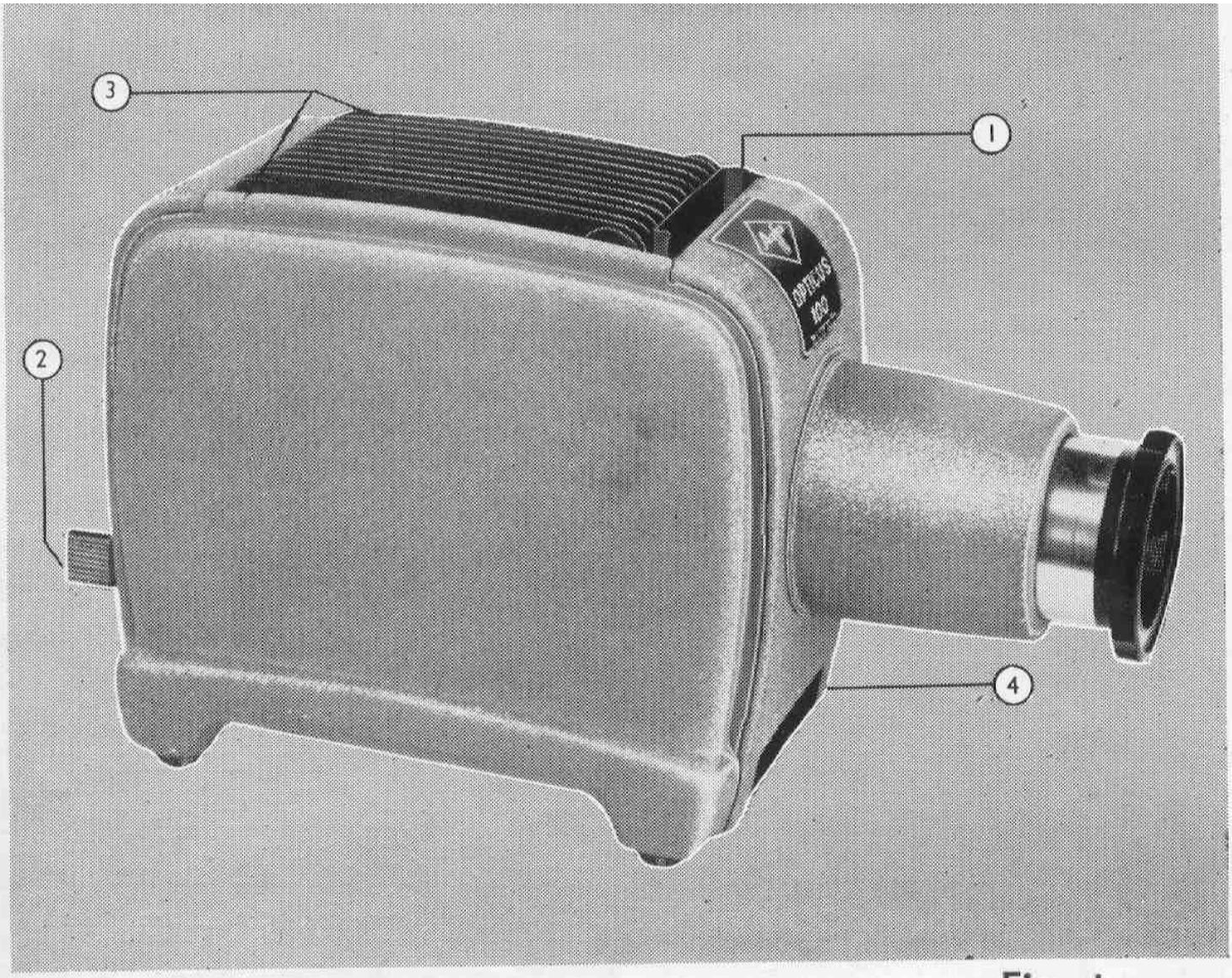


Fig. 1.

Agfa* OPTICUS 100

1. **Slide feed channel**
2. **Slide change lever**
3. **Finger grips for lifting ventilator cover**
4. **Slide exit**

* Registered trade mark Proprietors Agfa Leverkusen

and rest the projector with its front feet on the edge of the table so that the projection lens mount is a few inches from the surface of the book. An image of the luminous filaments (spirals) of the lamp will then be seen. The required adjustment then consists in bringing the blurred reflected images of the filaments as exactly as possible into the spaces between the sharp images.

Fig. 4 shows the ideal appearance to be aimed for. The desired result can be achieved by swinging the base plate of the lampholder; this is accessible only from beneath and can be turned right or left in its tilting mount. The adjustment is facilitated by the two semi-circular finger grips indicated in Fig. 3 by the double arrow. With the front of the Opticus resting on the table, the lamp is easily adjusted to the correct position by the use of both index fingers on the finger grips (see Fig. 2).

CENTRING THE LAMP

Normally the cap of a projection lamp is already pre-set to give the best light distribution. Should the screen image not be evenly illuminated after inserting a new lamp, it will necessitate recentring of the lamp; the procedure is as shown in Figs. 2 to 4.

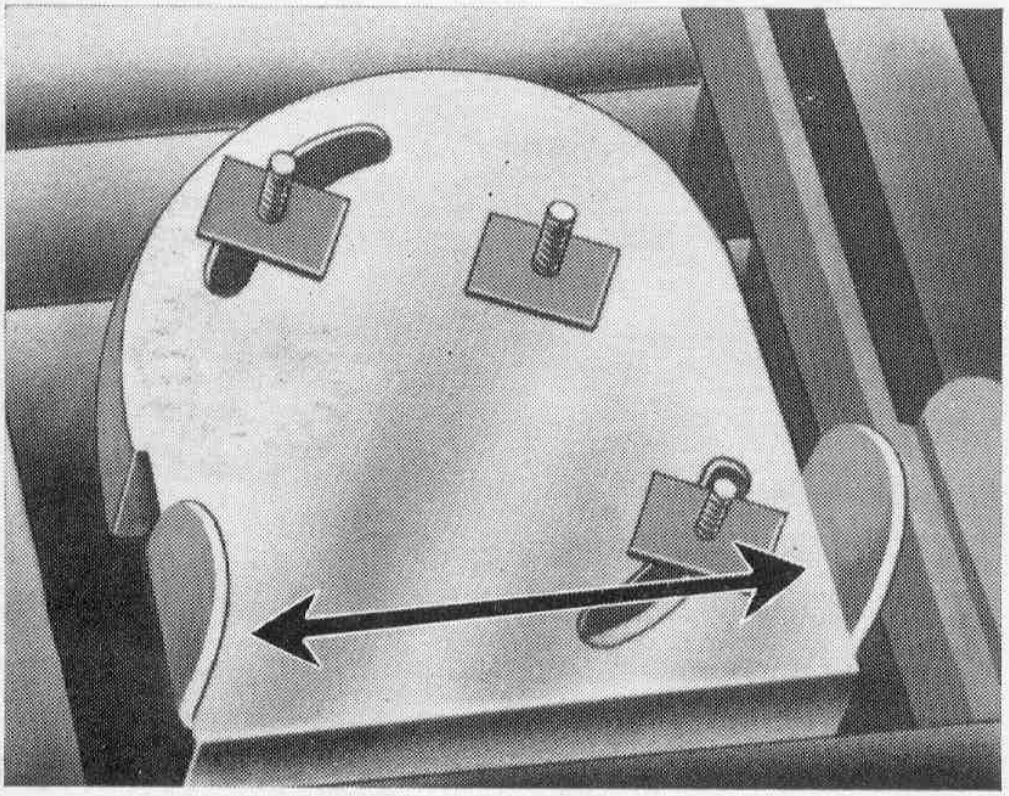


Fig. 2.

INSERTING

First remove the projection lens completely and stand a book, with as dark and smooth a covering as possible, on edge on a table (Fig. 3). Insert the plug

PROJECTION

The Opticus 100 is designed for projecting all types of 2″ x 2″ slides, including paper and cardboard mounted or plastic and metal framed transparencies. The new design of slide feed channel has an ingenious spring device which compensates for difference in thickness between the several types of slide.

Manipulation is simplicity itself: The plug is inserted into a supply socket, and the first slide placed in the feed channel 1, Fig. 1, where it will remain projecting. On depressing the slide change lever 2, Fig. 1, the slide will slip down the channel into the projection gate, where its image on the screen can be brought into sharp focus by rotating the milled collar of the projection lens mount, and by pushing in or drawing out the lens tube. Before this final adjustment is made the distance of the screen should of course have been checked to ensure that both vertical and horizontal pictures are accommodated within it.

The next slide can be inserted while the first is being shown: there is no interruption for slide changing.

A further pressure of the transport lever 2, Fig. 1, causes the projected slide to fall through the forward sloping channel 4, Fig. 1, from which it emerges to lie beneath the lens mount, the next slide automatically falling into position in the projection gate. The slide change lever should always be pressed quickly down as far as it will go and not released too quickly, to ensure that it offers no resistance to the fall of the slide. If slides are being shown in quick succession, each slide as it is ejected should be quickly removed—and preferably replaced immediately in its storage case—to make way for the following slide. For the same reason it is desirable to set up the projector on a polished, or at least a smooth, surface, over which the slides can glide easily, so that if occasion arises two or three slides can be ejected one after the other without hindering the ejection of the next slide.

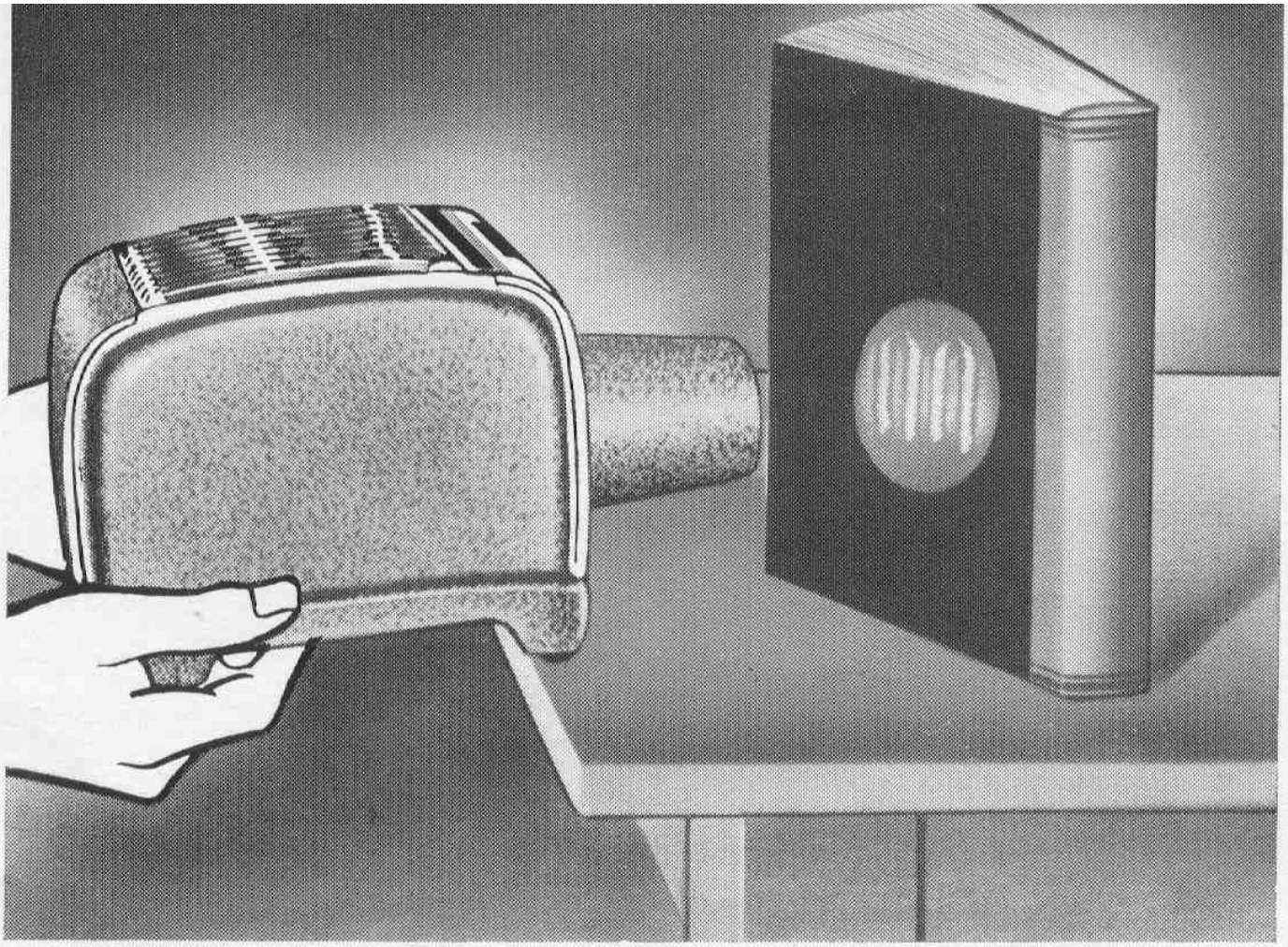


Fig. 3.

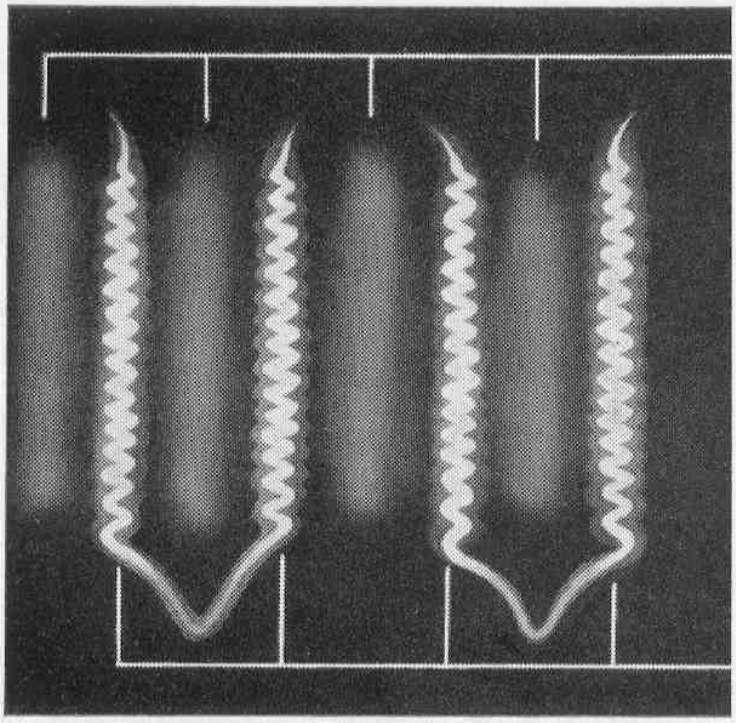


Fig. 4.

Special Note:
Some projection lamps are fitted with a "W" shaped filament. Fig. 4. In this case the blurred reflected image will appear as an "M." This should be superimposed on the "W."

INSTRUCTIONS FOR USE



Agfa

MADE IN GERMANY

AGFA RONDINAX 35 U

Daylight Developing Tank for 35 mm. Films

Type No. 3617

CLEANING AND CARE OF THE PROJECTOR

After use, any projector should, in the interests of lamp and condenser, always be allowed to cool off in the same room in which it has been used, before putting it away in its box or case.

The condenser is best cleaned with a fine hair brush or a soft linen cloth.

The concave reflector and the back surface of the heat filter are accessible from above after removal of the lamp: the condenser from below.

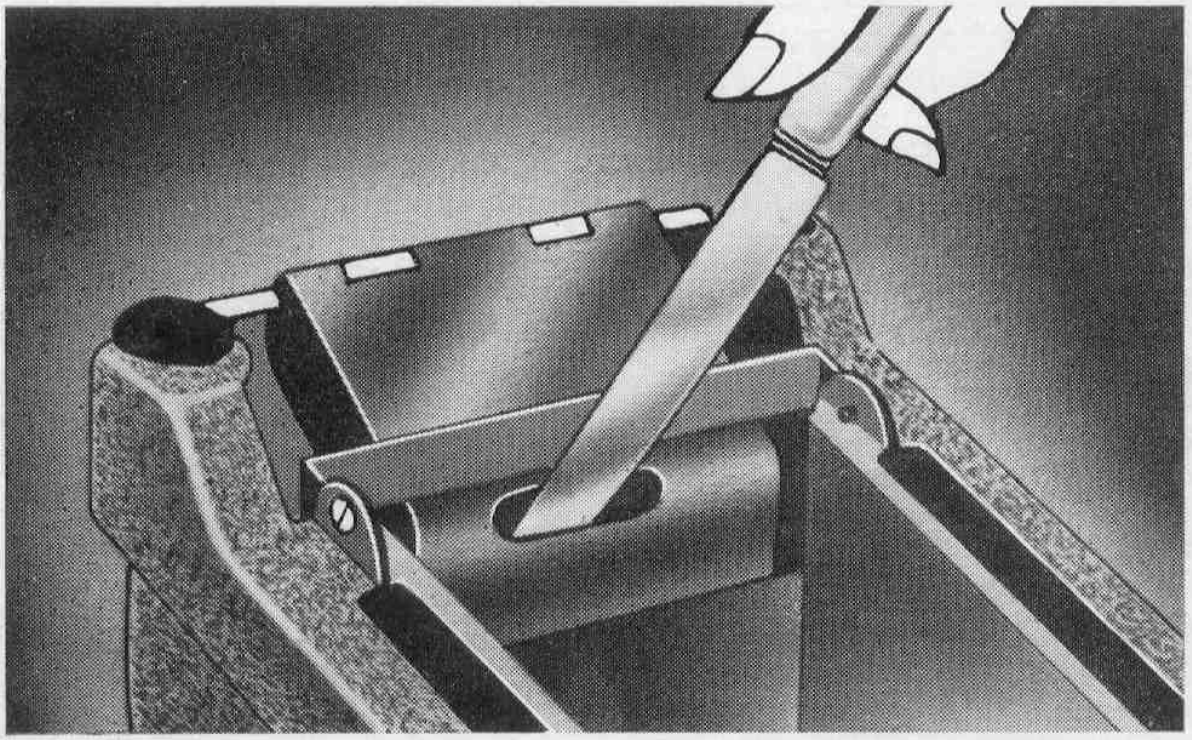


Fig. 5.

As the space between the heat filter and the first condenser is very narrow, these are best cleaned with a wooden spill or a table knife wrapped round with a soft cloth. The side of the front condenser which faces the projection lens can, after withdrawing the latter, be cleaned with a brush from the front. Should a warped or damaged slide become jammed in the slide channel, it may be readily removed by FIRST SWITCHING OFF THE POWER, inverting the projector, and, while keeping the slide change lever depressed, inserting a small knife or similar object in the slot. (Fig. 5.) The slide may then be pushed out through the top of the slide feed channel.

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Fold back this flap when reading the instructions

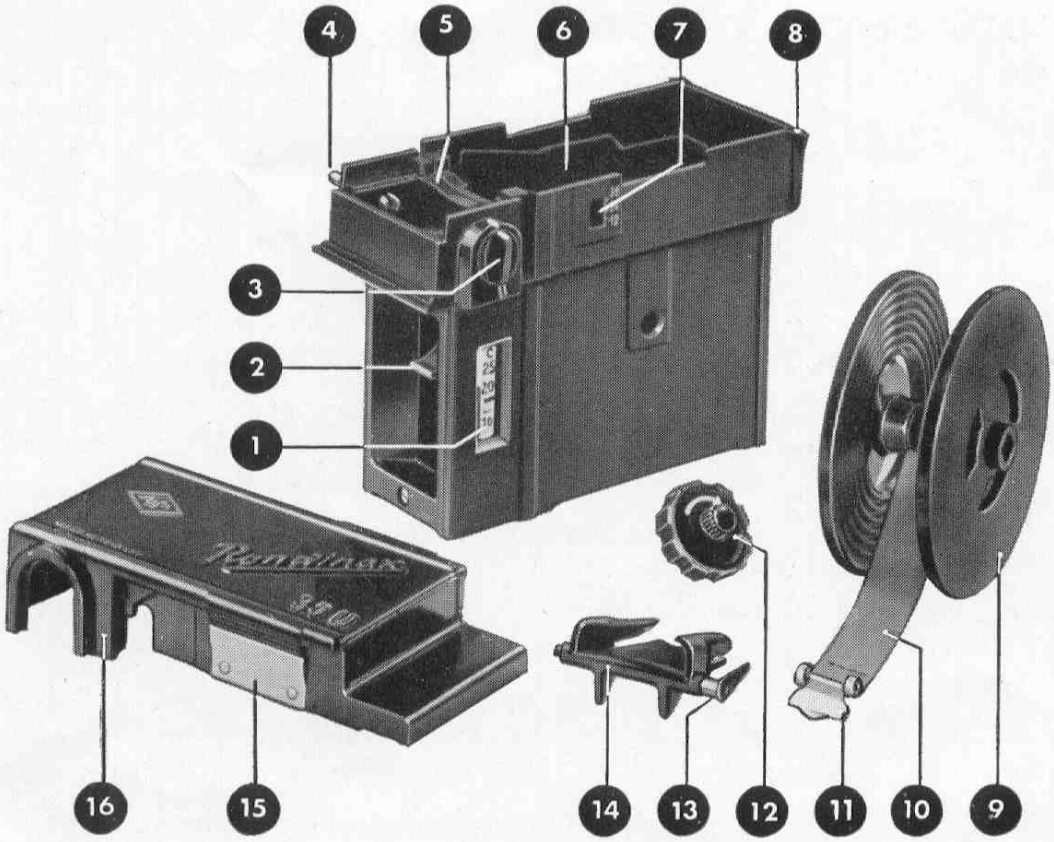


Fig. 1

① = Thermometer
② = Cutting lever
③ = Cassette opening key
④ = Cassette locating peg
⑤ = Guide slot for cutting knife
⑥ = Developing chamber
⑦ = Scale indicating length of film on spiral drum
⑧ = Lip for emptying tank
⑨ = Spiral drum
⑩ = Tension band
⑪ = Film clip
⑫ = Winding knob and sealing knob
⑬ = Locating pin
⑭ = Film guide
⑮ = Spring plate with serrated grip
⑯ = Lid

DEAR READER,

The Agfa Daylight Developing Tank 35 U puts you in the happy position of being able to develop your films yourself without the necessity for a dark room. It makes no difference whether the film you want to develop is a full length 36 exposure or a shorter length: any type of commercial miniature 35 mm. cassettes can be accommodated.

Do not allow yourself to be deterred by the fact that we describe the whole procedure down to the last detail: read the instructions through carefully before attempting to develop a film. The manipulation of the tank is so practical and ingeniously devised that once the first film has been developed in it there is no need to refer again to the instructions. The summarised instructions on page 19 will provide sufficient reminder of the correct sequence of operations and the composition of the chemical solutions required.

PRELIMINARY PREPARATIONS

It is a good plan, before actually developing a film in the tank, to familiarise yourself with the procedure by carrying it through with the tank empty, preferably with a waste film.

The following solutions should be placed ready to hand: 7 fluid oz (200 cc.) developer working strength, at 68° F. (20° C.)—3 x 7 fluid oz (200 cc.) water (for intermediate rinsing)—7 fluid oz (200 cc.) fixing solution at 64–68° F. (18–20° C.). You will also require a bowl, a pair of scissors, a thermometer, a soft, clean chamois leather, and two film clips.

WARMING THE TANK

The correct temperature for development is 68° F. (20° C.), and **both** the developing solution and the tank itself must be brought **separately** to this temperature before winding in the film. The best way to ensure that the tank reaches this temperature with the least possible delay is to keep it at room temperature when not in use; for an empty tank at, say, 50° F. (10° C.) when brought into a warm room takes about an hour and a half to reach a temperature of 68° F. (20° C.). The temperature of the empty tank can be read, with the lid closed, from the built-in thermometer.

The practice of compensating for developing temperatures above or below normal by varying the time of development is liable to lead to incorrect results and should therefore be avoided.

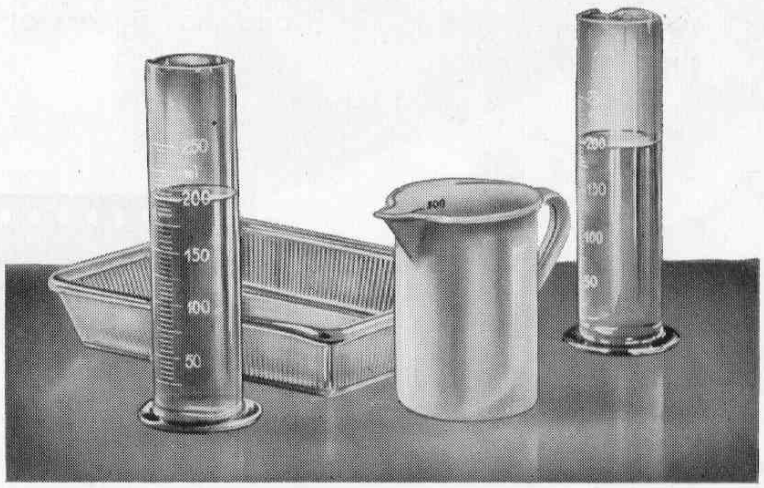


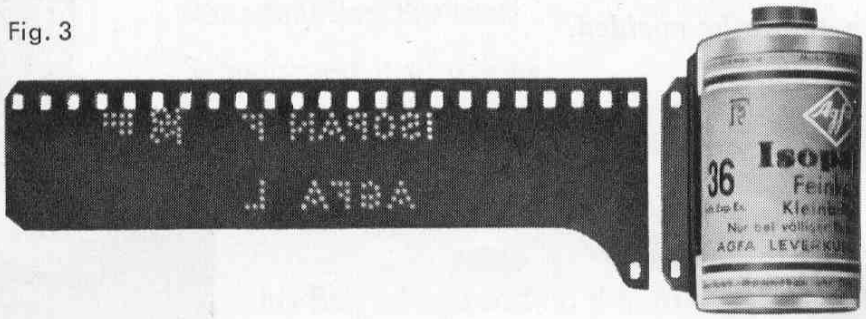
Fig. 2

CUTTING OFF THE FILM TONGUE

Films to be developed in the Rondinax 35 U should **not be completely rewound** into the cassette (the film tongue should protrude a little), and care should always be taken **when rewinding** to ensure that this does not happen. After a little practice you will quickly learn to detect the sound of the film leaving the take-up spool in the closed camera. If by accident the film tongue has been wound right back into the cassette it must be brought out again in the darkroom. If necessary your photographic dealer will gladly perform this small service for you.

The narrowed film tongue projecting from the cassette must now be cut off with a pair of scissors as shown in Fig. 3 and the corners of the leading edge rounded off, and turned slightly under.

Fig. 3



OPENING THE TANK

To open the Rondinax 35 U grip the lid by its two serrated grips (17) and pull it off vertically from the tank body; in doing so a certain amount of spring pressure has to be overcome.

Make sure that when the tank was last cleaned and reassembled the sealing knob (18) was not screwed up too tight, and that the winding knob (19) turns easily, and also ensure that the cassette chamber, film guide (14), spiral drum (9) and tension band (10) (see Fig. 1) **are completely dry.**

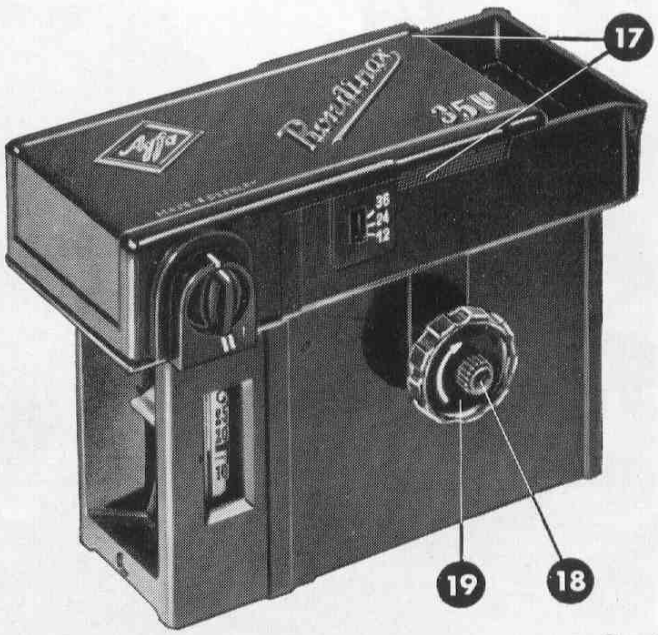
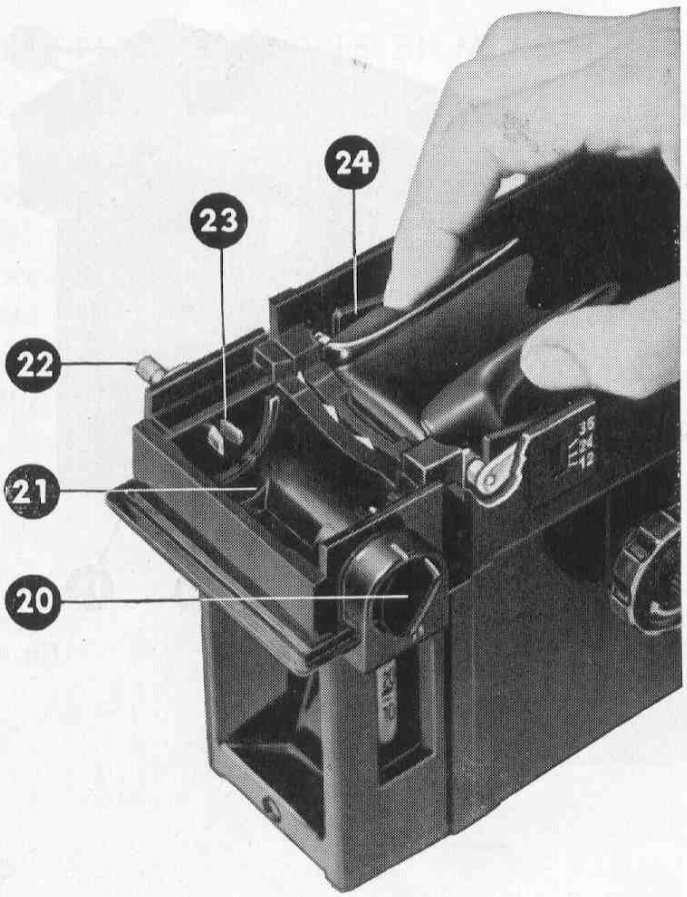


Fig. 4



LOADING THE FILM INTO THE TANK

Loading and developing may be carried out in daylight, but direct sunlight should be avoided.

Before loading any kind of cassette into the tank, the cassette key (20) must first be turned so that its index mark is opposite "I"; the peg (22) and the cassette key must then be pulled outwards. Now lower the cassette vertically into the chamber (21), with the **open end of the cassette** towards the **driving prongs (23)** and the **knob of the spool** facing the **cassette key (20). Finally push the peg (22) and cassette key (20) back home again.**

Before using your Rondinax 35 U to develop films in **special cassettes** (such as the Leica, Contax, Robot, Photavit or Karat) read carefully the explanation relating to the particular cassette involved which will be found on the **Appendix** on pages 16–18.

Fig. 5

ATTACHING THE FILM CLIP

To enable the tension band with its attached film clip to be more easily withdrawn the film guide (24) can be removed (see Fig. 5); however, do not on any account forget to replace it immediately as shown in Fig. 5. Open the film clip (26) attached to the tension band and lay it in the recess (25) (see Fig. 6) provided in the centre partition of the tank. With the left hand place the leading edge of the film up against the hinge of the open clip, holding the clip in the right hand. In closing the clip press the jaws firmly together to ensure that the end of the film is perforated and so held securely. Take care that the film is central in the clip, projecting an equal amount on both sides.

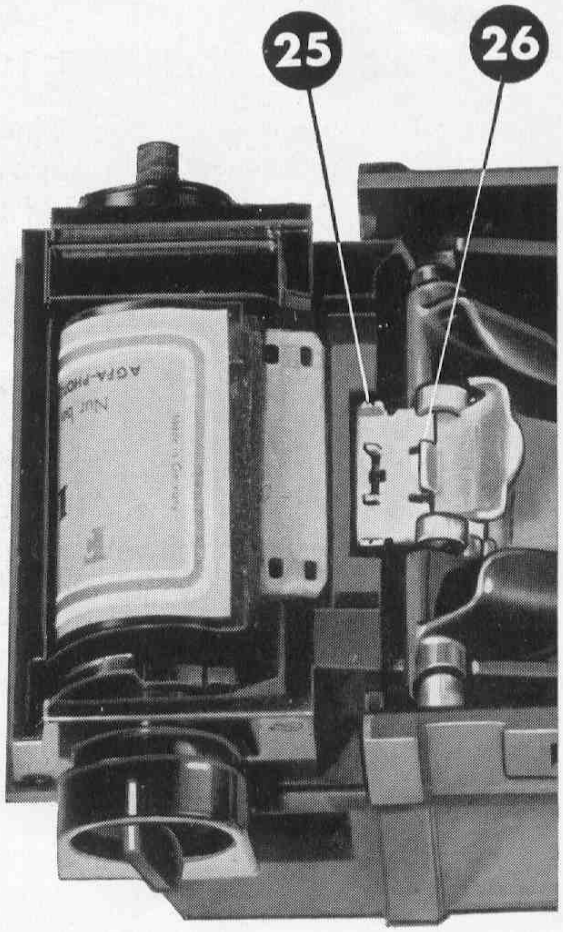


Fig. 6

WINDING THE FILM ON TO THE SPIRAL DRUM

With the lid still off, wind about 2 inches (5 cm.) of the film on to the film guide by turning the winding knob (19) (see Fig. 4) slowly in the direction of the arrow. This length of film is ample to ensure that the end of the film is threaded cleanly into the film guide. No exposed frames will be lost in this way at the beginning of the film, because in loading the camera at least one frame is wound on after the tongue is entirely on the take-up spool before the first exposure is made. Should resistance be felt even when only this short length of film has been wound in, this indicates either that the corners of the film have not been turned under or that the leading edge of the film is not gripped centrally in the film clip, or maybe even that you have forgotten to replace the film guide (14) (Fig. 1).

Replace the lid on the tank and by turning the knob (19) (Fig. 4) wind the film into the spiral grooves of the drum, which will fill outwards from the centre. As winding proceeds, the film length indicator will show approximately the number of exposures which have been wound from the cassette into the tank.

CUTTING OFF THE FILM

As soon as a considerable resistance to winding is felt, **stop turning the knob immediately,** as this indicates that the complete film has been wound on to the drum. In the case of a 36-exposure miniature film this indicator (7) (see Fig. 1) will read 36. The film must then be severed from the empty cassette by pressing the cutting lever hard upwards to a definite stop (see Fig. 7).

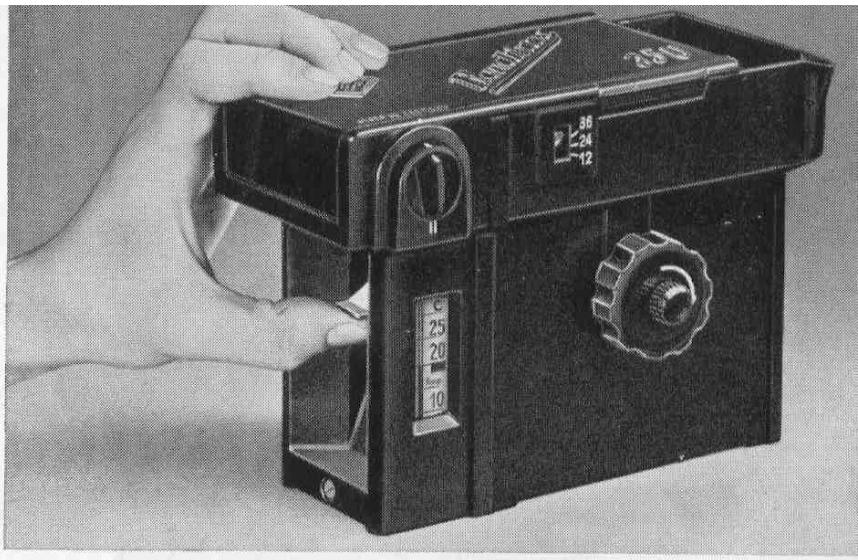


Fig. 7

If only part of the film has been exposed—say, 24 frames—there is no need to develop the whole film: wind the film on to the drum until the indicator (7) (see Fig. 1) points to 24, then with the knife cut off the part to be developed; there will then be wound on the drum 24 exposed frames together with about 2 inches (5 cm.) of unexposed film.

Leica and Contax all-metal cassettes must be closed **before** the film is cut.



DEVELOPMENT

The following procedure must be carried through continuously without a break, and it is therefore essential to be familiar **in advance** with the details and sequence of the operations. It is also advisable to read carefully through beforehand the section headed "Developers — Types of Film — Temperature — Development Time" (pages 12–13).

Check the temperatures of tank and developer and look up the "correct" developing time from the Table on page 20.

Pour the 7 fluid ounces (200 cc.) of developer into the filling funnel aperture in the lid and **turn the winding knob continuously in a series of jerks.** During the whole period of development **this rotation of the spiral drum must be continued,** the knob being given a half turn every two seconds in the direction of the arrow.

It is strongly recommended that the developing solution should be used once only.

Fig. 8

INTERMEDIATE RINSING

When the developing time has elapsed pour off the developer by tilting the tank, still **continuing to turn the knob,** and give the film three successive rinses, turning the knob all the time. Throughout each rinse the film must be kept continuously in motion. **The tank must however still not be opened** because the film remains sensitive to light until after it has been fixed which is carried out in the next stage of the procedure.



Fig. 9

FIXING

After emptying the last rinse water slowly pour 7 fluid ozs. (200 cc.) of the already prepared fixing solution into the filling aperture in the tank lid and immediately resume rotation of the spiral drum. After about two minutes the rate can be slowed up, and for the rest of the fixing time it will suffice to give the drum about three quarters of a turn every minute.

For films with a speed rating of 18° DIN or less the fixing time is about 5–8 minutes; higher speed films, such as Agfa ISS and Agfa Isopan Ultra require 8–10 minutes. The tank may now be opened. Should the film, notwithstanding having been fixed for the full specified time, still appear milky in places, the lid should be replaced and rotation of the knob continued. After another 1–2 minutes the film should be completely fixed. The fixing bath can be safely used twice, but we do not advise its use for more than two films. Details of the preparation of the fixing solution will be found on page 13.

FINAL WASHING

To free the film completely from chemicals, fixing must be followed by thorough and systematic washing. Continuing to rotate the knob, pour the fixing solution out of the tank. If you intend to use the solution again for a second film it must be poured into a separate bottle. The final washing operation can be carried out either in the tank or in a basin.

If the tank is to be used for washing, first remove the lid and take out the film guide.

Fill the tank with water until the drum is completely covered. To remove any air bubbles which may have been trapped between the turns of film, give the winding knob a few turns. Leave the film soaking in the tank full of water for about 5 minutes, rotating the knob a few times. Repeat this process five or six times.

If the film is to be washed outside the tank, the sealing knob must first be unscrewed and the winding knob removed. The spiral drum can then easily be taken out of the tank and may be placed in a deep bowl or washbasin and washed in running water for about 30 minutes.

When Agfa Atomal has been used for development, washing must be particularly thorough: about 8 to 10 changes of 5 minutes each in the tank or 45 minutes in running water. Only by meticulously observing all these times can it be guaranteed that even after a number of years the film will yield perfect enlargements.

DRYING

Wet films are very susceptible to damage, and must therefore be handled with the utmost care. It is therefore advisable to remove the film from the spiral drum for drying in manner shown in Fig. 10. The spiral drum can of course be left in the tank, but in that case to ensure frictionless unrolling of the film the sealing knob must be loosened. A film clip is then attached to the free end of the film and the film hung free from a line stretched at about 75 inches (190 cm.) from the ground. Holding the spiral drum or Rondinax tank

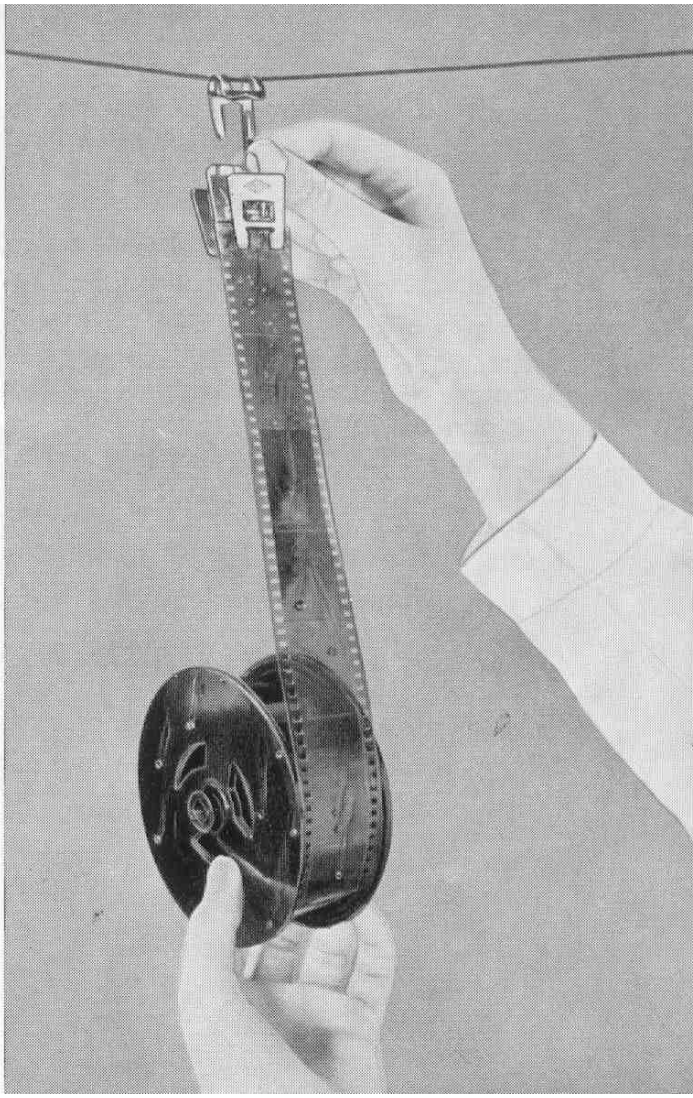


Fig. 10

beneath the stretched line lower it gradually to the ground; this causes the film to unroll from the grooves of the drum without any need to touch it at any point. When the whole film has unrolled, release the end from the clip on the tension band and replace it by another clip to weight the end down.

Do not use the spiral drum itself as a weight.

Surface water and water drops should be removed from the film. To do this pull the film taut by pulling on the free end and wipe it down carefully on both sides with a clean, moist, very soft chamois leather. Do not use any kind of makeshift rag for the purpose, because the emulsion in the wet condition is extremely tender and very susceptible to damage by scratching. Take care, too, that the top end of the film is securely held in the clip so that it does not become detached by the pull on the bottom clip. Never dry films in the sun or near a radiator. Dust is the greatest enemy in miniature photography, every speck on the negative making itself unpleasantly obvious in the enlargement. Always dry them, therefore, in a room free from dust.

DEVELOPERS — TYPES OF FILM — TEMPERATURE — DEVELOPMENT TIME

The developing solution must always be made up with the greatest care. If a number of films are to be developed in succession, have sufficient developer solution ready made up in advance.

Films should be developed in accordance with the instructions issued with them, and the development temperatures and times stated rigidly adhered to.

Always work under the same conditions—the same strength developer and the same temperature—in this way you will quickly get to know the characteristics of the types of film you use and the most suitable developing time.

The Table on page 20 gives details of the developing times which experience has shown to be most suitable for correctly exposed Agfa miniature films using Agfa developers; these will serve as a useful guide.

IMPORTANT

Once having found the best developing time as the result of experience, it should be strictly adhered to in order to obtain consistently good results.

Water straight from the tap is usually too cold, and solutions should therefore be made up well in advance. They should be stored in well sealed, dark glass bottles, and in winter kept in a warm room.

THE FIXING SOLUTION

For fixing a single film dissolve 1½ oz (40 gm.) of Agfa Fixing Salt in 7 fluid oz (200 cc.) of water. For a stock working solution dissolve a 7½ oz (200 gm.) package in 35 fluid oz (1 litre) of water. The solution cools rapidly as the salt dissolves; it should therefore be prepared well in advance and brought to 64–68° F. (18–20° C.).

CLEANING THE RONDINAX 35 U

After use, the Rondinax 35 U must be dismantled, and all its component parts—tank body, lid, winding knob, sealing ring, film guide, and more especially the spiral drum with its tension band—thoroughly washed in running water. If necessary, the grooves of the spiral drum should be cleaned of traces of gelatine etc. with a brush. When cleaning the body of the tank take care that no liquids penetrate into the loading chamber (27, Fig. 11) or into the guide slot of the cutting knife (28); otherwise the next film to be wound into the tank may pick up impurities. If need be, however, the knife and its guide slot can be cleaned by undoing the three screws (33, Fig. 11) on the front of the tank and lifting the loading chamber out of the tank, whereupon the knife will fall out. After cleaning, the retaining ring of the tension spring must be pressed on to the small bolt, the other bolt engaging with the driving pin of the lower part of the knife. The knife must be held in place while the loading chamber is being replaced on the tank. The two parts are then reunited with the three screws (33).

REASSEMBLING THE RONDINAX 35 U

The procedure for reassembling the tank is as follows:

Insert the spiral drum so that the square hole faces the hole in the tank wall. The sealing knob (30) with its spacing washer (32) and rubber washer (31) connects the winding knob (29) with the spiral drum. Tighten up the sealing knob only just sufficiently to seal the tank effectively while still allowing the winding knob to be easily turned. When inserting the film guide take care that the locating pins are lying correctly in their slots. Fig. 5 shows the correct position.

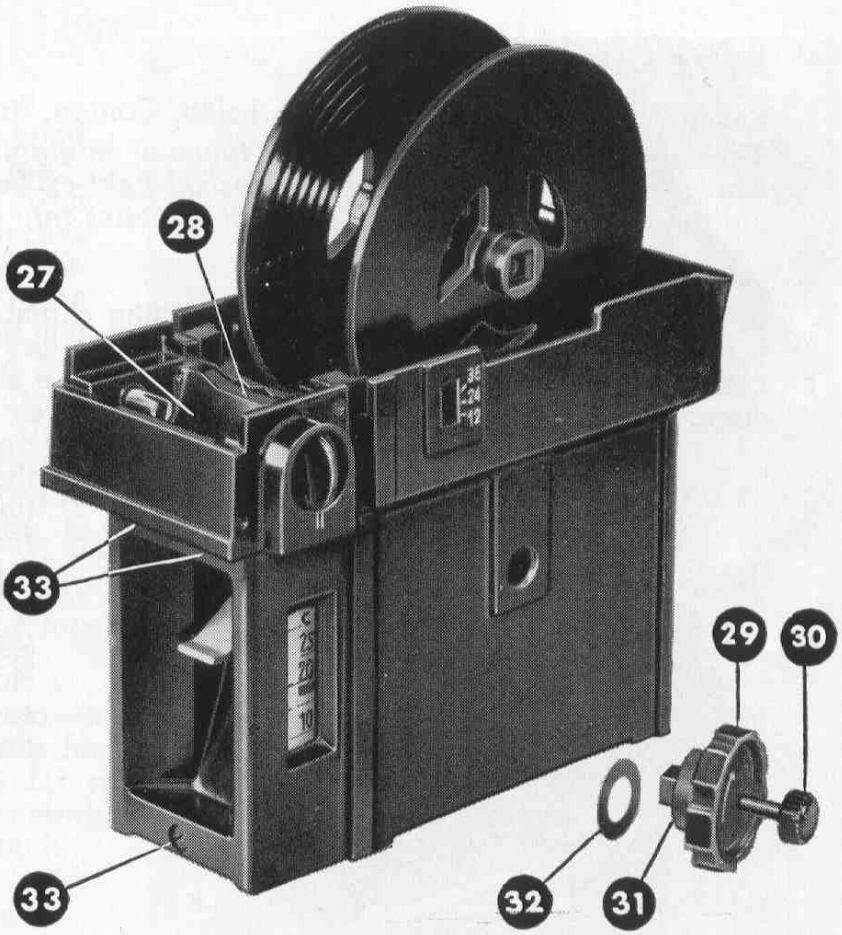


Fig. 11

APPENDIX

Special procedure when loading Leica, Contax, Robot, Photavit, and Karat cassettes.

The all-metal cassettes of various types of miniature cameras differ in construction and in dimensions, some of them having special light-excluding closing devices. Special instructions are therefore needed for loading such cassettes into the tank.

Leica Cassettes:

In placing the Leica cassette in the loading chamber take care that the cassette spring is **facing downwards** and that when the cassette key (3) is pressed inwards the recess of the cassette opening mechanism beside "C" can be slid over the operating knob "K" of the cassette. Press in the peg (4) and the cassette key (3), attach clip to the film as explained on page 5 and close the tank by replacing the light-tight lid. Open the cassette by turning the key (3) to the position II. All further procedure is as already described for standard cassettes.

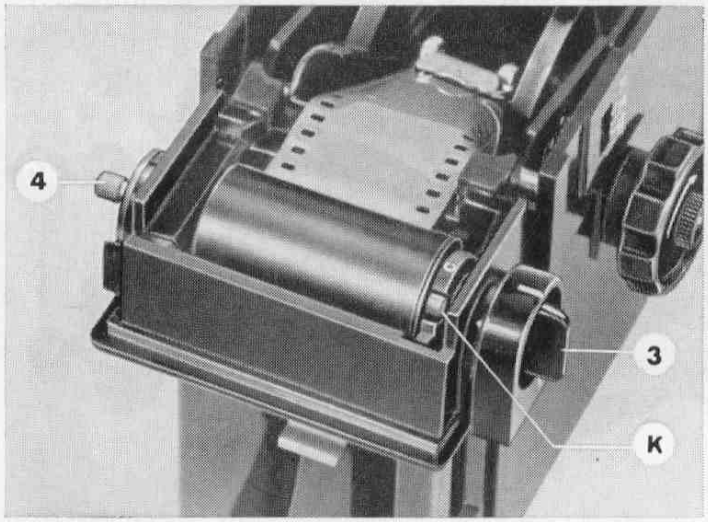


Fig. 12

If only **part of the film** is to be developed (see also page 7), the cassette must be closed **before cutting off the film,** i. e. **the cassette key** (3) must be turned **to the position "I".**

Contax Cassettes:

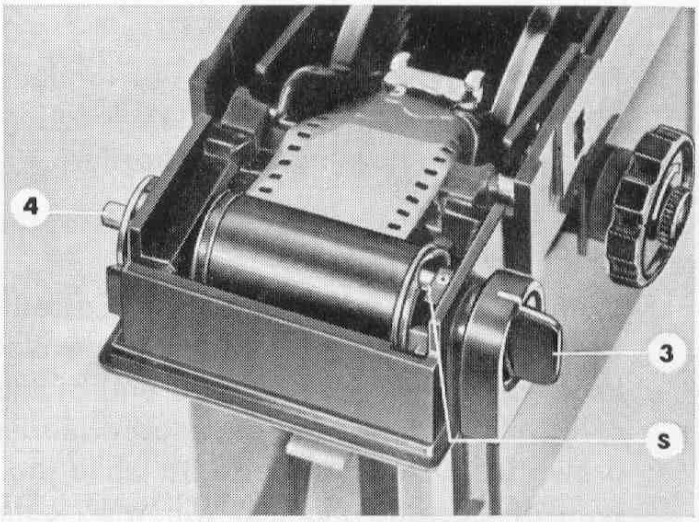


Fig. 13

In the case of Contax cassettes the end of the film must be attached to the tension band clip **before** the cassette is placed in the loading chamber. The procedure differs also from standard procedure in that about 2 inches (5 cm.) of film must be withdrawn from the cassette before clipping it up to the tension band. Thread the end of the film into the film guide by turning the winding knob in the direction of the arrow, and **only then** lower the cassette into the loading chamber. Then pull the film taut with the winding knob and turn the latter until the operating pin S of the cassette is exactly opposite the letter C (Contax). Push in the cassette locating peg, and close the tank by replacing the light-tight lid. The cassette may now be opened by turning the cassette key to the position "II". All further procedure is as already described.

If only **part of the film** is to be developed—see page 7—the cassette must be closed and rendered light-tight **before cutting off** the film by **turning the cassette key to "I".** When the cassette is removed from the tank for replacement in the camera, a small further movement of the closing shutter must be made by hand to bring the word "zu" (= closed) exactly to the middle of the cassette mouth.

Robot and Photavit Cassettes:

These two types of cassette are loaded in exactly the same way as manufacturers' film cassettes except that **the cassette locating peg and cassette key remain pulled out throughout the whole development procedure.**

Karat Cassettes:

With the 12-exposure Agfa Karat Cassettes, likewise, the cassette locating peg and cassette key remain pulled out throughout development. After clipping in the film turn the winding knob very slowly to feed the end of the film into the film guide. On account, however, of the shortness of the unexposed leader, **not more than five perforations** must be withdrawn from the Karat cassette while the tank remains open. There being no spool in this type of Cassette the film will wind completely out into the tank spiral as soon as the indicator reaches 12. For the same reason it is not possible to cut off for development a still shorter length of film by means of the cutting knife.

SUMMARISED INSTRUCTIONS

1. Prepare solutions (7 oz = 200 cc., see Introduction). Bring them and the tank to 68° F. (20° C.).
2. Open the tank by removing lid and hang tension band over edge of tank.
3. Cut off film tongue (not necessary with Karat cassettes) and pull about ¾" (2 cm.) of film out of cassette.
4. Place cassette in loading chamber (see page 4).
5. Place opened film clip (fixed to tension band) in recess in dividing wall of tank, insert end of film in clip and press the clip so that its teeth penetrate the film (see p. 5).
6. Thread about 2 inches (5 cm.) of film (for Karat films see p. 18) into film guide by turning winding knob (corners of film must be bent under); replace lid on tank.
7. Wind film into spiral drum by turning winding head. Finally cut off film from spool with cutting knife.
8. Carefully pour 7 oz (200 cc.) of developer into tank, i. e. into opening in lid, turning winding knob in direction of arrow, with short jerky movements, half a revolution every two seconds. Developing time 5–18 minutes—see Table, page 20.
9. Pour off developer while continuing to turn knob. Rinse for about 1 minute.
10. Pour 7 oz (200 cc.) of fixing solution into tank, and fix for 10 minutes continuing to turn knob.
11. Wash thoroughly: 20–30 minutes (see page 10). Finally hang up film to dry.
12. Take tank to pieces, thoroughly clean, and reassemble.

Agfa Films and Agfa Developers

Development times at temperature of 68° F. (20° C.)

The table gives times of development in minutes for correctly exposed negatives.	Isopan FF	Isopan F	Isopan ISS	Isopan Ultra	Isopan Record
DIN °	13°	17°	21°	25°	29°
Agfa Atomal New Ultrafine grain developer	9–10	11–12	12–14	12–14	10–12
Agfa Final Fine-grain developer	5–6	8–9	10–11	10–11	—
Agfa Rodinal Universal developer 1:50 dilution	—	—	—	—	15–20
1:75 dilution	12–14	14–18	14–18	—	—
1:100 dilution	16–20	—	—	—	—



AGFA AKTIENGESELLSCHAFT
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1714 engl. - 1259

Hints on Developing Agfa Isopan Record Film

For films exposed under very poor lighting conditions use Rodinal (1 : 50) or Atomal and increase developing time by 50–100% in order to make the most of the high speed of this film. The same applies to subjects of weak contrast.

Fix from 6 to 7 minutes in an acid fixing bath.

For very urgent cases:

Rapid developing: Rodinal diluted 1 : 10, developing time 2–2½ minutes (68° F. = 20° C.); rotate spiral drum continuously. The grain of the negative will then become slightly coarser.

Rapid fixing: When using a rapid fixing bath (e. g. Agfa 304) the fixing time will be from 2 to 3 minutes.

Agfa 304:

Sodium thiosulphate	4 ounces	(200 grams)
Ammonium chloride	1 ounce	(50 grams)
Potassium metabisulphite	175 grains	(20 grams)
Dissolve in water and make up to	1 pint	(1 litre)

ALPHABETICAL LIST OF CONTENTS

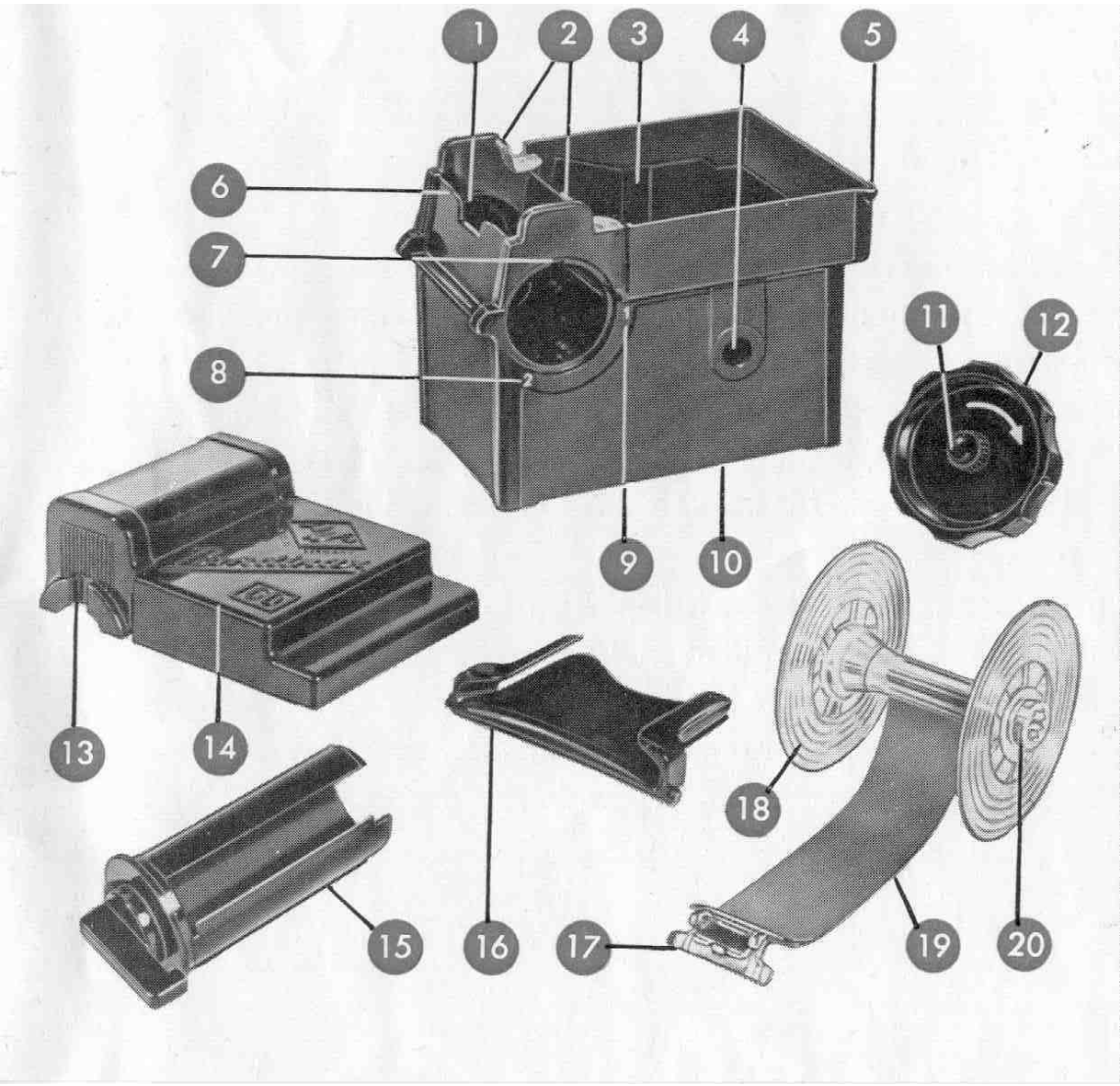
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PREPARATIONS

It is advisable to learn how to handle the tank before using it, and the various operations should therefore be practised on the dry tank without a film.

The following solutions and items should be prepared before starting work:

4–5 ounces (130–150 ml.) ready-for-use developer at 68° F (20° C)
3 x 5½ oz. (150 ml.) water (for intermediate washes)
5 oz. (150 ml.) fixing solution at 64–68° F (18–20° C)
also a dish — scissors — a thermometer — a soft, clean chamois leather, or better still — an Agfa film wiper — two film clips.



① Spooling chamber
② Clamping springs
③ Developing chamber
④ Guide hole for turning knob
⑤ Pouring lip
⑥ Knife edge
⑦ Cassette guide groove
⑧⑨ Setting marks for cassette handle
⑩ Tank body
⑪ Packing screw
⑫ Turning knob
⑬ Guide groove
⑭ Lid
⑮ Cassette
⑯ Film guide
⑰ Leader strap clip
⑱ Spiral
⑲ Leader strap
⑳ Square spindle end

Now that you have decided to develop your own films the Agfa Rondinax 60 will help you to achieve the personal touch and will ensure that the developing process can be carried right through to its conclusion without handling the negatives at all. The easy, trouble-free operation of this daylight developing tank is confirmed by its thousands of owners and by the fact that it has remained unchanged in design for many years.

Before using it for the first time it is important to become thoroughly conversant with the sequence of the various operations, because development should proceed without interruptions of any kind. We therefore advise you to pay special attention to the sections dealing with the preparatory work and loading, and wish you every success with your films.

Under no circumstances should higher or lower developing temperatures be compensated by shortening or increasing the development time. This can very easily lead to faulty results and should therefore be avoided.

TEMPERATURE

The correct developing temperature is 68° F (20° C). Both tank and developer must therefore **each** be brought to the prescribed temperature before loading the film. The quickest way of reaching this temperature is to store the empty tank at normal room temperature, because an empty tank cooled, for example, to 50° F (10° C) requires about 1½ hours in a warm room before it reaches 68° F (20° C). The temperature can be determined by placing a thermometer in the empty tank.

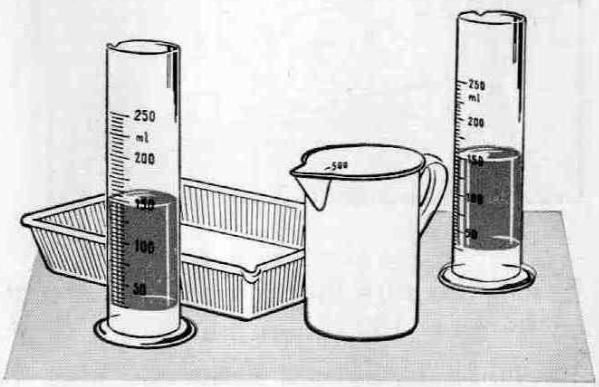


Fig. 2

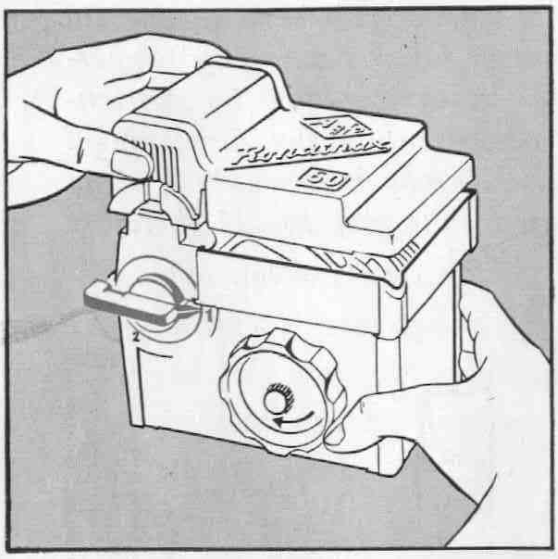


Fig. 3

OPENING THE TANK

To open the Rondinax 60 first turn the cassette handle until the pointer is opposite the mark "1" and then lift off the lid. To keep the film clip quite dry draw the leader strap taut over the edge of the tank. The film guide should also be removed beforehand.

ADDING THE DEVELOPER

First make sure that the packing screw is tight enough to allow the turning knob to revolve; only then the tank is watertight. The developer can now be poured into the developing chamber. You will require 4–5 fluid. oz. (130–150 ml.), just enough to cover the middle of the spiral spindle. *Take care that no liquid spills or splashes on to the cassette, the spooling chamber or the leader strap and clip.*

Check the temperature of the developer with a dish-type thermometer and find the correct development time from the table on page 18.

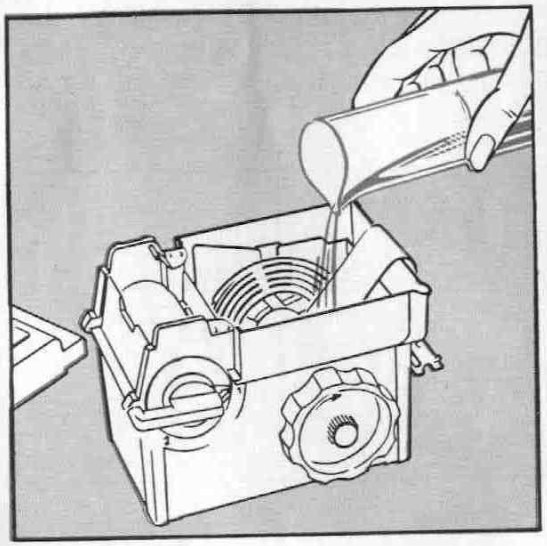
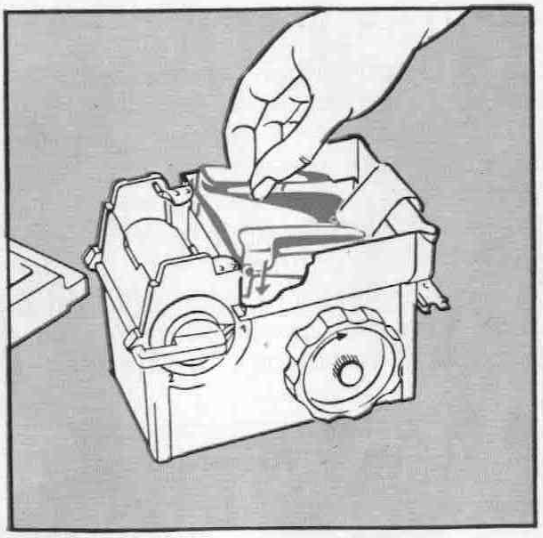


Fig. 4



Fig. 5



INSERTING THE FILM GUIDE

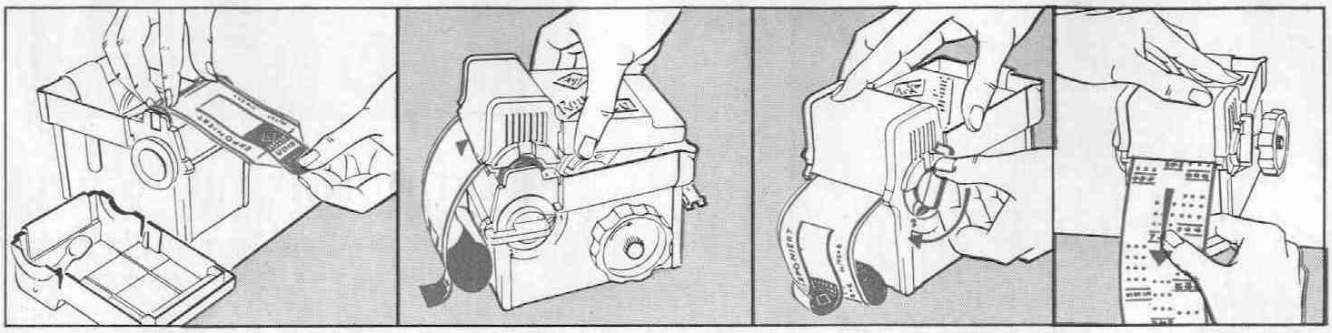
After pouring in the developer the film guide should be inserted with its ribs uppermost. By moving the axis of the film guide gently to and fro its end can be lowered to rest on the spindle of the spiral.

LOADING THE FILM

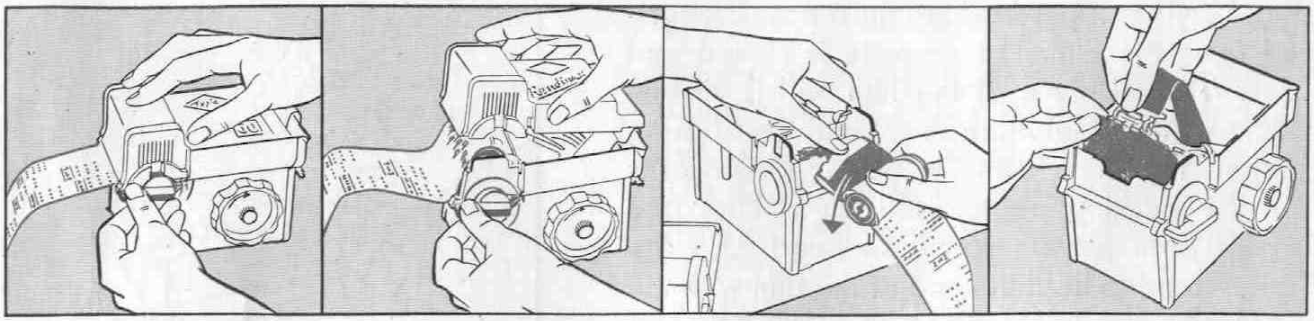
This and all other operations can be carried out in daylight, but direct sunlight should be avoided. Before inserting the film make sure once again that *the spooling chamber, cassette, film guide and leader strap are perfectly dry*, otherwise they must be rubbed dry with a cloth.

Only films which are properly and tightly rolled can be developed in your Rondinax 60. If necessary, the backing paper can be tightened up carefully, but attention must be paid to the risk of electrostatic discharge in hot weather. Please read the special instructions on page 16.

Fig. 6 With your fingernail slit the seal securing the exposed film. Now insert the film so that the paper backing can be drawn out to the rear. By pressing the film against the clamping springs visible in illustration 6 it will be secured firmly in the tank.



6 7 8 9



10 11 12 13

Fig. 7 Now unroll about 4 inches (10 cm.) of the paper backing and put the lid on.

Fig. 8 Then fasten the tank by pressing down the lid firmly and turning the handle so that the pointer is opposite the mark "2".

Fig. 9 Pull out the backing paper slowly and evenly, preferably downwards at an **oblique** angle, until No. "1" on the paper appears and greater resistance is felt. This resistance is caused by the joint between film and backing paper.

Fig. 10 This operation has fed the actual film into the cassette, which is now rendered light-tight by turning the pointer on the handle to "1". **Important!**

Fig. 11 When the cassette is closed this unlocks the tank and the lid can then be removed with safety.

Fig. 12 The paper backing must now be parted from the film. The cassette is closed and only a small piece of the film end is visible. Remove the empty film spool and the backing paper, lay them with the paper downwards on the backing paper used for pulling and grasp **both** papers with one hand. Use the other hand to hold the end of the film with the joint. Lay the joint across the knife edge of the tank and the paper backing can then easily be severed obliquely. To prevent the cassette from opening during this operation it is advisable to hold down the handle to keep it in the locked ("1") position.

Fig. 13 Now open the clip of the leader strap and fasten it to the end of the film exactly **in the middle** of its width, using the cut-out portion of the knife edge as a positioning guide. Fasten the clip firmly so that its point pierces the rather thick joint of the film.

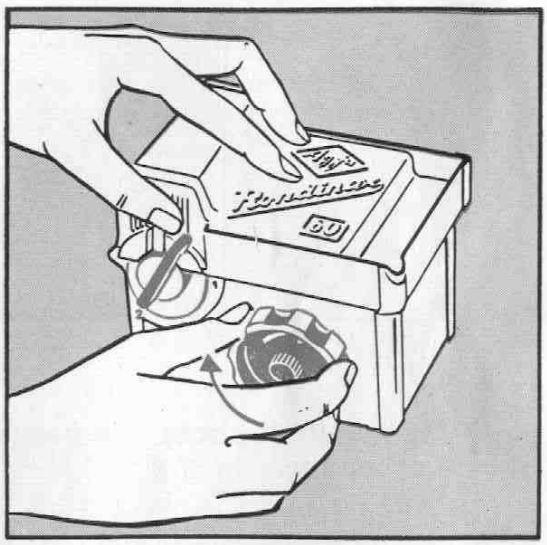


Fig. 14

DEVELOPING

First close the lid in the usual way, turning the handle to **position "2"**. Fig. 14 By turning the knob of the spiral the film is now drawn by the

The following operations must be carried out without a break, and no films should be processed until you are fully conversant with the nature and sequence of them. You are advised to read the section on developers, film types, temperature and times on page 13 carefully beforehand.

leader strap into the developer, wound on to the spiral and slowly agitated in the developer. The knob should be turned in short, jerky movements in the direction of the arrow during the **entire development time,** about half a turn every other second. The development time depends on the developer, type of film and temperature which, as already mentioned, can be seen from the table on page 18.

BRIEF INTERMEDIATE WASH

When development is complete the developer is poured from the tank by tilting it as illustrated and **turning** the spiral **all the time.** This is followed at once by three washing operations, still moving the film by turning

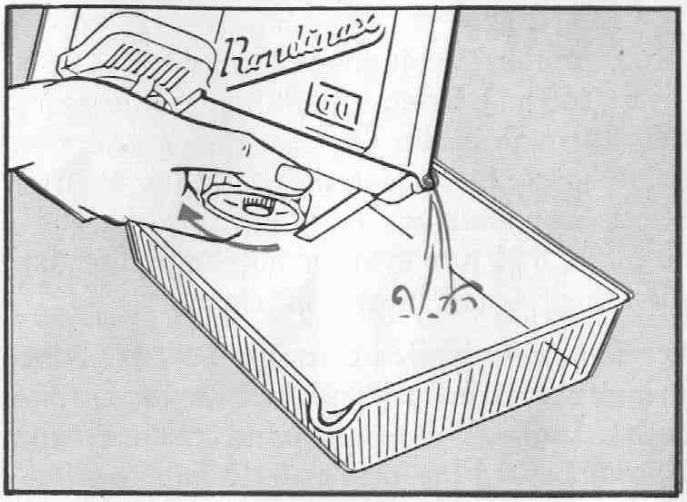


Fig. 15

the knob. **Do not open the Rondinax 60 at this stage,** as the film remains sensitive to light until it has been fixed.

FIXING

After the third wash empty the tank and pour 5 oz. (150 ml.) fixing solution into the small filling trough in the lid. Commence agitation immediately by turning the spiral knob. After about 2 minutes you need not turn the knob so often, a ¾ turn every minute until the completion of fixing being sufficient.

For films of speeds up to 18° DIN (50 ASA) fixing takes about 5–8 minutes, for faster films such as Agfa ISS, Agfa Isopan Ultra and Agfa Isopan Record the time is 8–10 minutes.

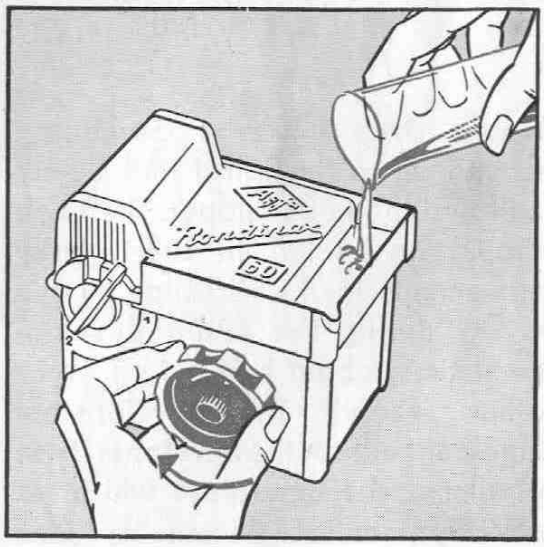


Fig. 16

You can now open the tank. If the film still bears evidence of milkiness in several places, in spite of adhering to the correct fixing time, replace the lid and continue turning the knob for about 1–2 minutes more when the film will be properly fixed. It is quite safe to use the fixing solution twice, but not more than this. See page 16 for instructions on preparing the fixing solution.

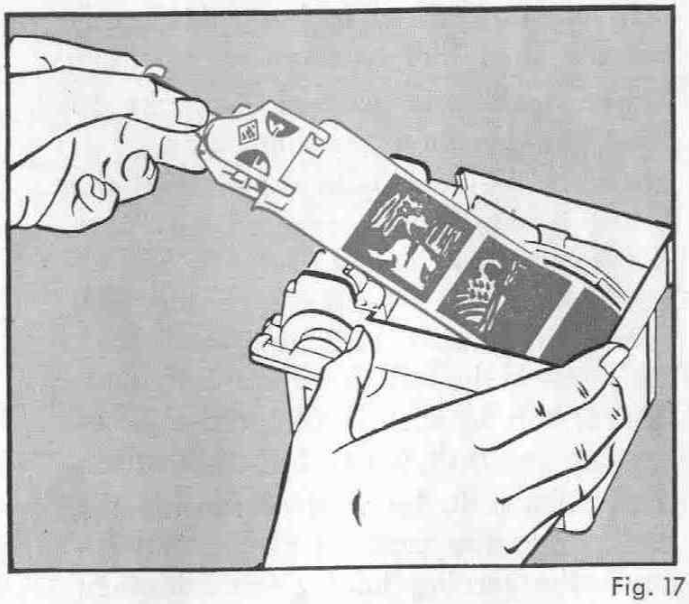


Fig. 17

FINAL WASH

After fixing, the film must be thoroughly washed to remove unwanted chemicals. Pour off the fixing solution, moving the agitation knob continuously. If you wish to use the solution again it should be poured into a separate container. The final wash can be given either in the tank or in a sink. If several films are to be developed in succession it is advisable to wash the film out-

side the tank so as to have this ready for the next film as soon as possible.

When washing in the tank first take off the lid and remove the film guide.

Now fill the tank with water until the spiral is completely covered and turn the knob a few times to release any air bubbles between the coils of the film. Rotate the knob occasionally and leave the water in the tank for about 5 minutes. Repeat this operation about 5–6 times pouring in fresh water for each wash.

If the film is to be washed **outside the tank,** undo the packing screw and remove the turning knob. You can then remove the spiral with ease and place it under running water in a deep basin, sink or similar receptacle. By this method the film should be washed for about 30 minutes.

After developing in Atomal the film should be washed extra thoroughly; in the tank about 8–10 washes each of 5 minutes' duration, or 45 minutes under running water outside the tank. If these instructions are followed rigorously you can be certain of obtaining satisfactory prints and enlargements from the negatives even after many years.

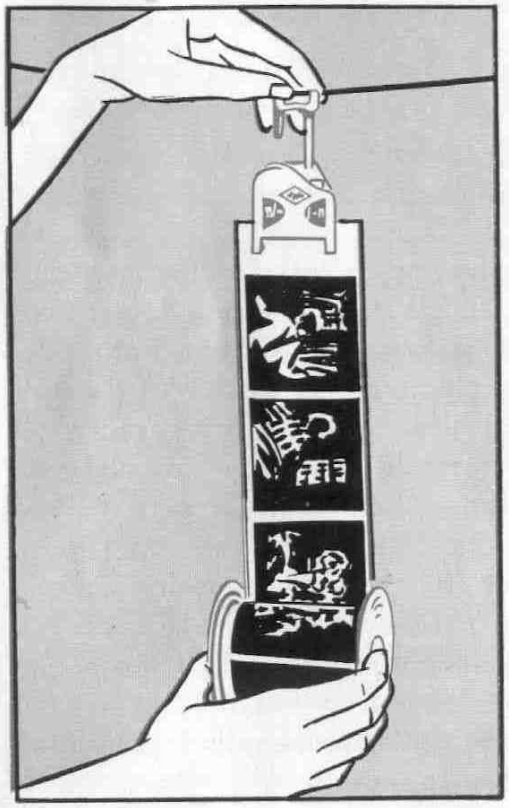


Fig. 18

DRYING THE FILM

Wet films are very susceptible to scratches and should therefore be handled as carefully as possible. When hanging up a film to dry it is best to unroll it from the spiral as shown in fig. 18.

You can also leave the spiral in the tank but then the packing screw will have to be loosened if the film is to unroll satisfactorily. Fasten a film clip to the free end of film and hang this from a taut string or wire about 6 ft. above the floor.

Now hold the spiral or Rondinax tank beneath this string and draw it slowly downwards; in this way the film unwinds from the spiral without being touched by hand. As soon as you have unwound the entire film, release the end from the leader strap clip and attach a second film clip to this end. *Do not use the tank spiral to weight the film.*

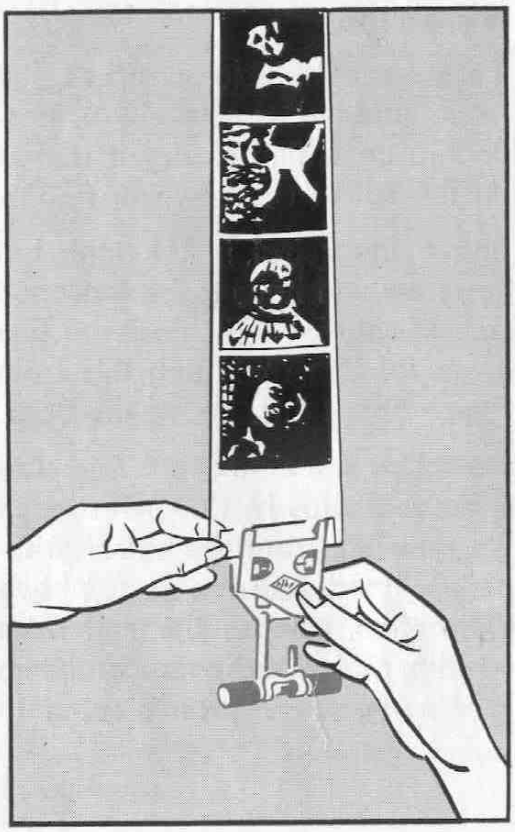


Fig. 19

After this, remove any excess water or drops from the film. To do this, pull the lower free end of the film taut and wipe down both sides carefully with a clean, moist, extra soft chamois leather. Do not use cloth or other materials because the film emulsion is very soft and sensitive to scratches when wet. Be sure to see that the film is held firmly by the top clip so that it does not fall down. Never dry films in the sun or near a stove or fireplace! Dust is the greatest enemy in photography and the slightest particle of dust on a negative is clearly visible in enlargements, so see that your films dry in a dust-free room.

DEVELOPERS • FILM TYPES • TEMPERATURE • TIMES

Developers should be made up in the prescribed manner. If several films are to be developed in succession it is advisable to prepare suitable amounts of stock solution.

Follow the makers' instructions accompanying films and developers and keep exactly to the developing temperature and times given.

If working conditions in development are standardized—always use the same concentration of solution at the same temperature—one will very soon become familiar with the characteristics of the respective type of film and developer, and ascertain the specific times of development.

The table on page 18 contains reliable information about development times with Agfa developers, and this can be used as a standard guide.

IMPORTANT!

Times of development shown by personal experience to be most suitable should be maintained on all future occasions in order to obtain uniform, optimum development.

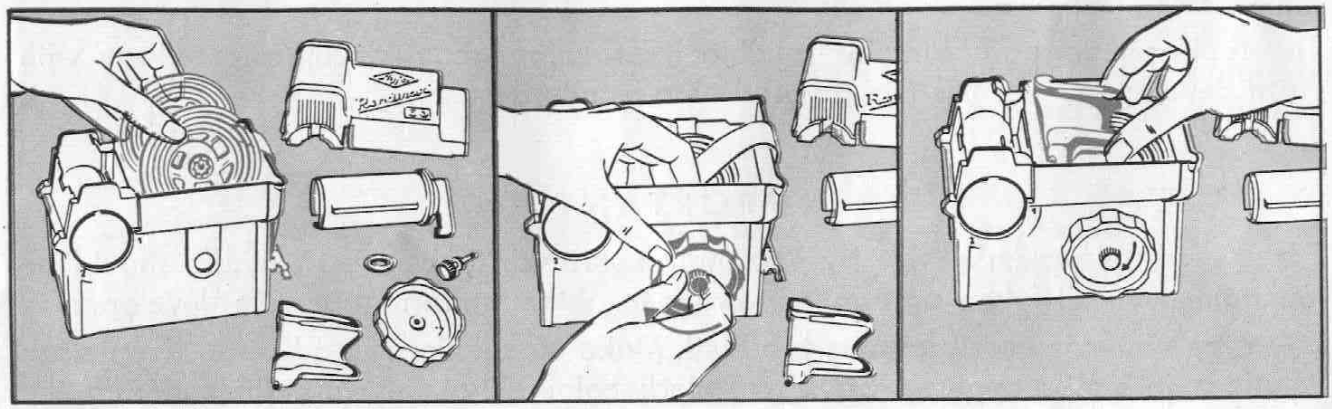
Fresh tap water is nearly always too cold. Make up solutions in advance. Keep stock solutions in well stoppered bottles of dark coloured glass, store them during the winter in heated rooms.

CLEANING

After use the tank must be thoroughly cleaned and should be dismantled for this purpose. Thoroughly wash the tank body, lid, turning knob and packing screw (do not lose the thin washer), film guide, spooling chamber and especially the spiral, leader strap and clip in running water. In some cases it may be necessary to use a brush to free the grooves of the spiral from gelatin residues etc. After cleaning, all parts—particularly the leader strap and clip—should be wiped down until completely dry.

REASSEMBLING THE TANK

Fig. 20 Replace the spiral with its square spindle hole facing the hole in the tank side.



20 21 22

MAKING UP THE FIXING SOLUTION

To fix only one film 1½ oz. (40 grams) fixing salt are dissolved in 7 fl. oz. (200 ml.) of water. A stock solution is made by dissolving 7 oz. (200 grams) of fixing salt in 35 fl. oz. (1 litre) of water. The solution cools quickly as the salt dissolves and so fixing baths must be made up in advance and allowed to warm up to 64–68° F (18–20° C).

APPENDIX

Instructions for special cases

1. Films with torn backing paper should not be developed in the Rondinax tank. Damage of this kind can cause trouble when separating the paper from the film, and this can only be remedied in complete darkness.

2. If you wish to develop a partly exposed (and therefore only partly rolled up) film left in the camera for some length of time (2 weeks

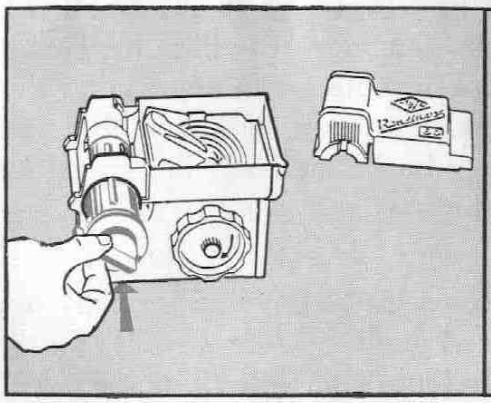
Fig. 21 Secure the turning knob to the spiral with the packing screw and washer. Tighten the packing screw so that the knob rotates readily.

Fig. 22 Insert the film guide with its ribs uppermost and its axis resting in the two guide grooves.

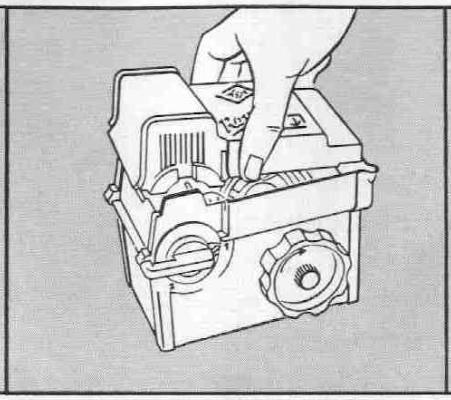
Fig. 23 Replace the spooling chamber so that the guide rib engages with the tank groove, and push right home.

Fig. 24 Place lid on tank

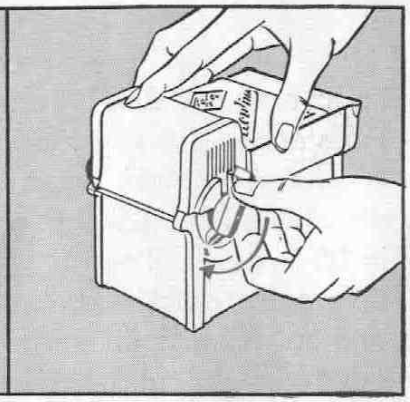
Fig. 25 and press down, at the same time turning the handle to position "2" to lock the tank.
The tank is then ready for further use.



23



24



25

or more), it may happen that difficulty will be experienced in feeding it into the spooling chamber. This is due to the fact that the film has lost its curl through being stretched for too long. This applies particularly to films used in Rolleiflex and box type cameras. The curling tendency can be restored by leaving the film rolled up for at least one day.

3 Films used in roll film adapters cannot be developed in the Rondinax 60 because after exposure they are wound on to the take-up spool in the opposite direction to that of the feed spool.

4 If loading difficulties should be experienced when separating the paper backing (possibly caused by faulty camera spooling), do not use force! Open the tank in complete darkness by moving the handle **to the vertical position** and remedy the deficiency. Then close the lid and re-set the handle pointer to "2".

Note! Use the vertical position of the handle only in this particular instance.

Records of practical experience

Development time in minutes	Temperature	Type of film
DIN (ASA)		
Developer		

Agfa Films and Agfa Developers — Developing times at 68° F (20° C)

The table gives the developing times in minutes for normally exposed negatives	Isopan FF	Isopan F	Isopan ISS	Isopan Ultra	Isopan Record
DIN° (ASA)	13° (16)	17° (40)	21° (100)	25° (250)	
Agfa Atomal new Ultra fine-grain developer	**7–10**	**10–12**	**10–12**	**10–12**	**9–12**
Agfa Final Fine-grain developer	5–6	7–9	7–9	7–9	—
Agfa Rodinal Universal developer 1:75 dilution	15–18	**14–18**	**14–18**	—	—
1:50 dilution	—	—	—	—	15–20
Agfa Rodinal Universal developer 1:100 dilution	**16–20**	—	—	—	—

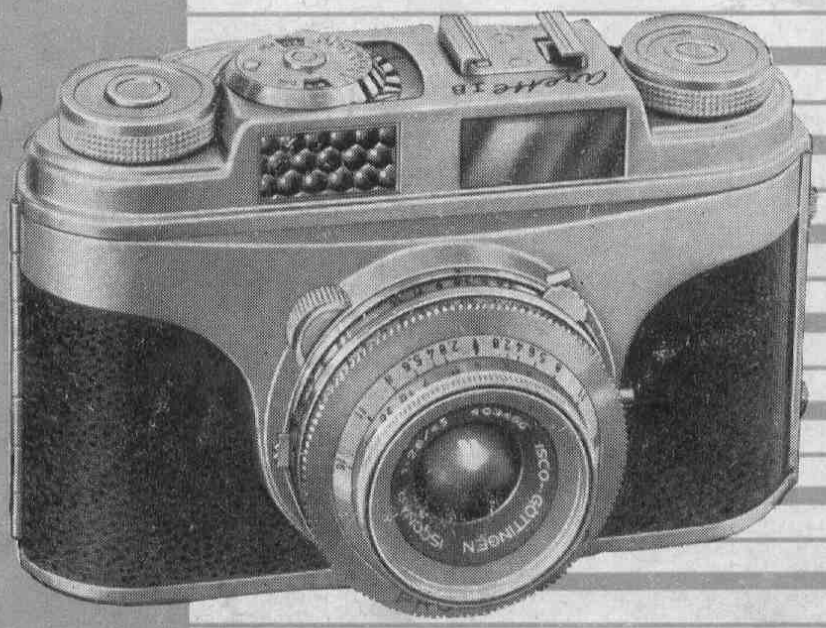
The times specially recommended are printed in **thick type.**

INSTRUCTIONS IN BRIEF

1. Prepare solutions (each 4 to 5 oz. or 130 to 150 ml.). Adjust temperature of solutions and tank to 68° F (20° C).
2. Set pointer to "1", remove lid, lay out leader strap and film guide.
3. Add 4–5 oz. (130–150 ml.) developer, check temperature, replace film guide.
4. Insert film and press against clamping springs, slit paper backing and draw out about 4 inches.
5. Put lid on, pointer to "2", draw out paper backing obliquely downwards.
6. Stop when exposure number "1" appears. Turn pointer to "1", open tank.
7. Sever paper backing, attach film clip, close tank, set pointer to "2", wind film on to spiral by continuous movement of turning knob.
8. During development (see page 18 for times) turn spiral knob in short, jerky movements.
9. Pour off developer, turning knob continuously.
10. Wash three times by pouring water into trough in lid; turn spiral knob all the time.
11. Pour in about 4–5 oz. (130–150 ml.) fixing solution. Fix for 10–15 minutes, again turning the knob. Afterwards pour off fixing solution.
12. Thorough final wash in tank or sink, at least 20–30 minutes.
13. Hang up film and weight free end, remove excess water.
14. Dismantle tank, clean thoroughly and dry, then reassemble.

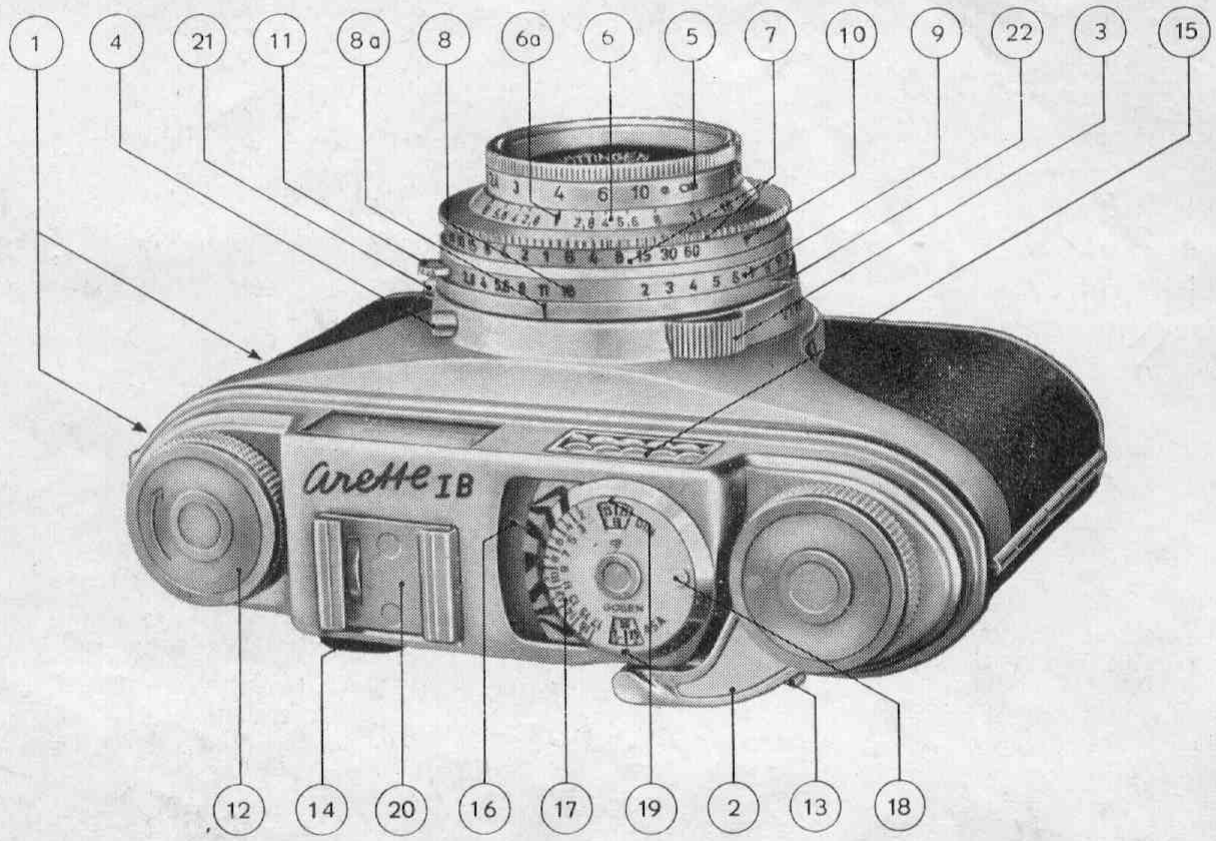
Arette IB

with exposure value meter



DIRECTIONS FOR USE

E


1
4
21
11
8a
8
6a
6
5
7
10
9
22
3
15
Arette IB
12
14
20
16
17
19
2
13
18

OPERATIONAL PARTS OF THE ARETTE IB

1 Double bolt of back
2 Rapid lever wind, simultaneously operates film transport and shutter cocking
3 Release knob
4 Cable release socket
5 Focussing ring with scale in feet
6 Depth of focus scale with focussing marker 6a
7 Time setting ring combined with scale for exposure times
8 Diaphragm scale with focussing marker 8a
9 Exposure value scale with red exposure value figures 2 to 17
10 Red focussing triangle marker for exposure value setting
11 Interlocking latch for exposure value setting
12 Rewind knob
13 R-lever for use during rewind
14 View finder eye-piece
15 Photo cell of the exposure value meter
16 Pointer of the exposure value meter
17 Dial with red exposure value figures
18 Button for adjusting figure dial 17
19 Scales for adjusting film sensitivity
20 Accessory shoe
21 Flash contact Socket
22 Synchro switch lever V-X-M on underside of camera (see page 6)
24 Exposure counter
25 Film indicator, to mark type of Film inserted

The attractive miniature camera ARETTE will become your reliable companion, soon to be indispensable. You will need to acquaint yourself with only a few manipulations in order to obtain successful pictures at all times. Contributing to this end are four distinguishing features of ARETTE; which:

ENSURE firm grip, by means of the original shape, which affords a natural grip

ENSURE faultless framing by means of the bright and accurate combined exposure meter – view finder

ENSURE rapid and reliable action by means of the rapid lever wind and shutter with exposure value setting

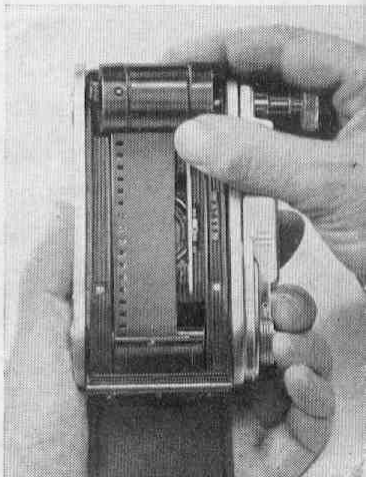
ENSURE correct exposure and colour-tone rendering by means of the built-in exposure value meter

FILM

The ARETTE takes the perforated miniature film (35 mm) as obtainable in the standard miniature cassette for 20 or 36 exposures, 24×36 mm. To open the back of the camera, the two bolts (1) are pressed against each other with the thumb and index finger of the right hand.

Thread the tapered end of the film which protrudes from the cassette into the red marked slot of the take-up spool until **a few millimeters** of the film jut out at the other side, then fold back pressing lightly with a finger. During this operation the perforated edge of the inserted film must lie against the lower wall. Care must be taken **that the end of the film not leave the slot unintentionally** as this may cause an obstruction towards the middle or end of the exposures.

The film cartridge is then inserted into the cassette chamber of the camera, after the backward winding knob (12) has been fully extended. As soon as the cassette is in its correct position, the rewind knob (12) is pushed back and by turning in the direction of the arrow the film is straightened, so that it lies on the focal plane. The back wall can now be replaced. Before taking photographs the film should be advanced as described on page 6.

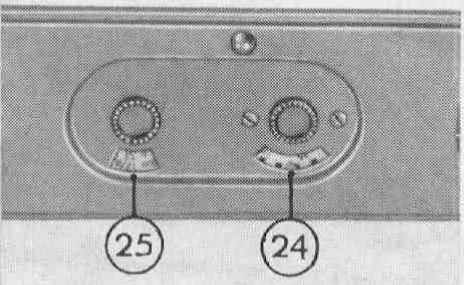


FILM TRANSPORT

To advance the film the lever wind (2) is moved until it comes to a halt. Prior to the next release, the film can be advanced by only one exposure as the built-in dual purpose interlocking device makes double exposure impossible. In order to obtain regular picture intervals on your film strip care should be taken that the rapid lever wind (2) is turned right up to the halting point. If this is not done the exposure counter (24) will not accurately indicate the correct number. This would, of course, only result in a slight imperfection which would have no bearing on the correct functioning of the ARETTE and would be rectified during the next lever action.

EXPOSURE COUNTER

The end of the film which protrudes from the cassette is always pre-exposed. Before photographs are taken this section of the film should be removed by means of 2 or 3 blank lever actions. Only after these blank lever actions should the counter (24) be brought into its basic position by pressing the knob with tip of the finger and turning the exposure indicator either right or left on to figure 0.



If, when practicing with the camera, before it is loaded, you cannot get the exposure counter (24) to indicate the expected value, don't be disconcerted. This discrepancy always adjusts itself during the next lever action. Once the camera is loaded

the blank retro-action of the counter mechanism which causes this apparent fault is completely checked and the exposure counter (24) will always reliably indicate the number of exposures made.

ADJUSTMENT OF FILM SENSITIVITY

After loading, the film sensitivity, which is shown on the package in DIN or ASA, should be transfered onto the exposure value meter. At the same time the dial (17) is set to indicate the sensitivity value of the film on the window (19) with the designation "DIN" or "ASA" as the case may be, by turning button (18). In addition, the type of film used should be shown on the film-in-use indicator at the base of the camera, the designations "Color-positive" and "Color-negative" indicating reversal colour film or negative colour film, respectively.

EXPOSURE VALUE READING AND EXPOSURE VALUE ADJUSTMENT

One of the most important factors in obtaining successful photographs is that precisely the right amount of light falls on to the film. In principle, it is the same whether this light volume is obtained by the effect of little light over a longer or of much light over a shorter period.

The principle of modern exposure value adjustment is to express this light volume, having due regard to the film sensitivity, in one number, the so-called exposure value.

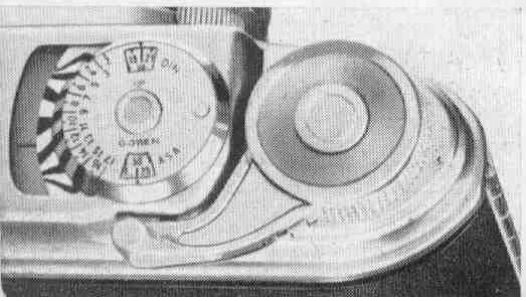
This exposure value number is read off the instrument of the exposure value meter and then adjusted on the shutter of the camera. The mechanism of the shutter takes care that the correct volume of light for exposure value adjustment always reaches the film in that it shuts the diaphragm for long exposures, so that the light only penetrates through a slight aperture and increases the aperture of the lens for short exposures.

This coupling of exposure time and diaphragm in the exposure value shutter permits facile and rapid action, unaccompanied by unnecessary mental effort. This particularly refers to colour film photographs which allow relatively little margin for exposure and must be exposured accurately.

PHOTOELECTRIC EXPOSURE VALUE METER

The camera is pointed towards the object. The needle of the exposure value meter, which can be read conveniently from above, will then move. The amount of reflexion is an exact indication of how much light falls from the object onto the camera.

As mentioned on page 7, sensitivity on the exposure meter is adjusted immediately after the film has been loaded by turning knob (18). The black-and-white framed field connects the needle deflexion with the red numerals on dial (17) from which the exposure value number can readily be read. Readings must be confined to the position of the needle inside this framed field and its extension should be disregarded. As an example

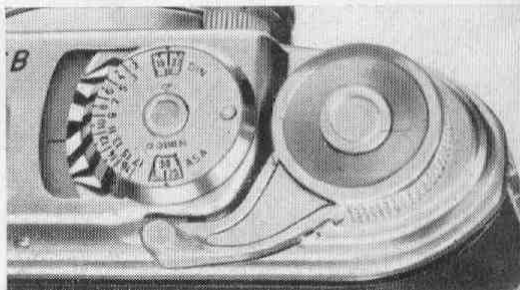


the illustration on page 8 shows the position of the needle at exposure value number 10. Frequently the needle (16) does not point to the centre of the field, but, as shown on the illustration on this page, points to an intermediate value. If the accuracy of the exposure value meter is to be fully used the intermediate exposure value – in this instance 9,5 – should be read.

The exposure value arrived at should be transfered to the shutter, as described on page 14.

The built-in exposure value meter and your ARETTE always view the subject in the same manner.

In order to obtain complete uniformity the optical system of the honeycomb lens captures the same picture angle as your camera subject. You will always be successful, provided care is taken that the essential features of the subject are being held. Very bright surroundings may falsify the result; the photos will be underexposed. Honeycomb lenses should, therefore, not be exposured to the glare of the sun, strong reflexes or lamps. For out-door readings the camera should be held inclining slightly downwards. The exposure meter is thus pointed toward the usually more important fore-ground and the bright sky eliminated as an adverse factor. Very dark surroundings can also lead to imperfections, though the resulting over-exposure is usually meaningless. Should strong contrasts appear, you must draw a little nearer to the more important features without, however, casting on them the shadow of your own body.



The honeycomb window may only be cleaned with clear water, under no circumstances may cleansing agents such as benzine, etc., be used.

LENS

The ARETTE I B is fitted with a lens of universally recognized quality, focus and contrast reproduction, ensuring equal success for black-and-withe and colour photographs. Five scales will be found on the lens mount:

(5) The distance scale on the distance ring (graduated in feet, 3.3 to inf. or meters, 1 to inf.)
Focussing results on the centre marker (6a) of the near-by depth of focus scale.

(6) Depth of focus scale with diaphragm values 2,8 4 5,6 8 11 16 engraved on both sides of the centre marker (6a).

(7) Time setting ring of shutter, to which the ring with the scale of the exposure times is connected. Focussing results on the centre marker (6a) of the depth of focus scale or on marker (8a) lying in alignment with the former. Only the black values 300, 125, 60 etc. signifying fractions of seconds (125 = $^1/_{125}$ sec.) can be adjusted on the shutter. The green figures 4, 8, 15, 30, 60 cannot be adjusted;

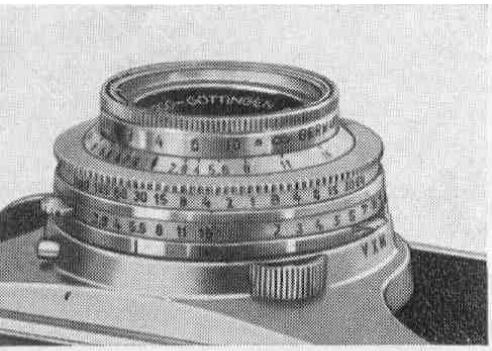
they are merely calculating aid implying full seconds for long exposures.

(8) Diaphragm scale with diaphragm values 2,8 to 16, to be adjusted on marker (8a).

(9) Exposure value line with red figures 2 to 17 to be focussed on to the red triangle marker (10).

DIAPHRAGM AND DEPTH OF FOCUS RANGE

The volume of light admitted by the lens is regulated by the diaphragm. However, this is by no means its most important function as the light volume affecting the film can also be influenced by other means, such as the selection of shutter speeds and fitting of colour filters. The diaphragm's main task in modern photography is to determine an adequate focussing area, the so-called depth of focus range. This extends from the focussing point both forward and backward and is largely dependent on the selected diaphragm aperture and focussing distance (distance from subject). This area can be easily read from the depth of focus scale (6) of the lens for any diaphragm value: The lens focusses clearly for this area which lies on the distance scale (5) between the corresponding markers of the diaphragm indicated on the depth of focus scale (6).



Example: At a distance of about 10 ft. (3 m.) selected at random and shown on the illustration, the depth of focus range extends:

		feet calibration	metric calibration
with aperture	2.8	from 9 ft. to 12 ft.	2.5 m. to 3.5 m.
„ „	5.6	„ 7.5 ft. „ 15 ft.	2.2 m. „ 4.3 m.
„ „	8	„ 6.8 ft. „ 18 ft.	2.0 m. „ 5.7 m.
„ „	11	„ 6 ft. „ 30 ft.	1.8 m. „ 10 m.
„ „	16	„ 5.2 ft. „ inf.	1.5 m. „ inf.

The less experienced may adopt the following rules for distance setting and selection of diaphragm:

When the **subject of the photograph is close at hand** set the distance in accordance with the centre marker (6a), following which the available depth of focus range can be read forward and backward, as described above.

Long distance photographs without foreground –, set at inf.

Close-up snaps – set diaphragm 8 at 8 ft. (2,4 m. or 2,5 m.), then the depth of focus will extend from about 5.8 ft. (1,7 m.) to about 13 ft. (3,8 m.).

Distant views with foreground – set diaphragm 5.6 at 30 ft. (10 m.); depth of focus then covers everything between inf. and 15 ft. (5 m.).

SHUTTER

The ARETTE is fitted with the PRONTOR SVS Shutter with exposure value. You need not concern yourself with the cocking of the camera shutter, as this is automatically controlled by the filmtransport. By adjusting time setting ring (7), 9 different exposures between 1 sec. and $^1/_{300}$ sec. can be focussed, as well as position B for long exposures (focussing marker 6a).

In order to set the shutter at the exposure value determined by means of the exposure value meter, the interlocking latch (11) is pressed down; thereafter the ring with the black diaphragm numbers (8), on which the red exposure value figures (9) are also inscribed, can be adjusted freely. You can also, on pressing the interlocking latch (11) adjust the time setting ring (7) or both rings (7) and (8) simultaneously.

The exposure value shutter is correctly set when the red triangle marker (10) points to the exposure value previously determined. Full and intermediate exposure value figures can be obtained.

Now you have adjusted the shutter to the correct exposure and can make your selection freely.

For photographs taken from the hand, select intermediate exposure, thus avoiding movement, say $^1/_{60}$ sec.

If much depth of focus is required, select a small diaphragm aperture (high diaphragm number).

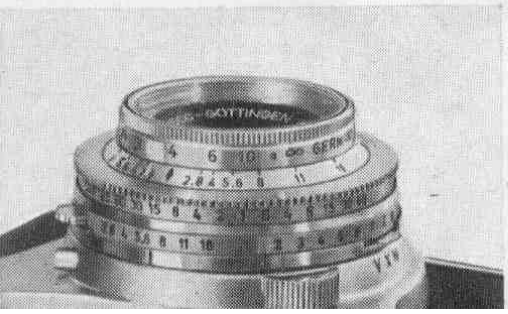
For rapid subjects select a short exposure time, say $^1/_{125}$ sec. or $^1/_{300}$ sec.

A few examples may illustrate the above. The illustration on page 12 shows (although not easily discernible from the picture) adjustment on exposure value 10. The time-setting ring was set at $^1/_{30}$ sec., the diaphragm opened automatically at 5,6. If, by adjusting the time-setting ring (7) the exposure times is altered to $^1/_8$ sec., the diaphragm shuts at 11. If $^1/_{125}$ sec., is selected, the diaphragm opens at 2,8.

Exposure time can be set before or after shutter cocking, as desired. Only the exposure times marked are available. Intermediate values cannot be indicated. If the marker points between two figures, either the shorter or the longer exposure time expires.

If, on the other hand, an intermediate exposure value (see page 9) has been indicated, intermediate graduation will be obtained on the diaphragm values. The illustration on this page shows the light value at 9,5.

For exposure value numbers over and above 12, all 6 diaphragm values can no longer be adjusted. For light values below 7, exposure times exceeding 1 sec. may result for small diaphragm apertures. In that case time-setting ring (7) should be set at "B". The green figures indicate the exposure time for the diaphragm value shown below in full seconds. For the photograph itself time-setting ring (7) should be left at "B" and, while the interlocking latch (11) is pressed downwards, diaphragm ring (8) should be set at the selected diaphragm value.



RELEASE

To release the shutter, release knob (3) is lightly pressed to the right in a downward direction with the index finger,until the shutter has operated. Sudden jerks and backward movements should be avoided, as these may blur the results. For time exposures set time setting ring (7) at "B". The shutter then remains open as there is pressure on the release. If a cable release is used, this should be screwed into socket (4). For long exposures it is adviseable to use a cable release with fixing screw.

SELF RELEASE

The self release has many uses, for instance when the camera user himself desires to appear on the photograph or when time exposures are taken from an insecure position and release is to result without the hand gripping the camera moving.

Shutter PRONTOR SVS of the ARETTE is set for self release when synchro switch lever (22) is brought into position V, **after adjustment of the rapid lever wind.** Exposure takes place approximately 8 seconds after pressing the release knob. Following release, the lever automatically returns to X.

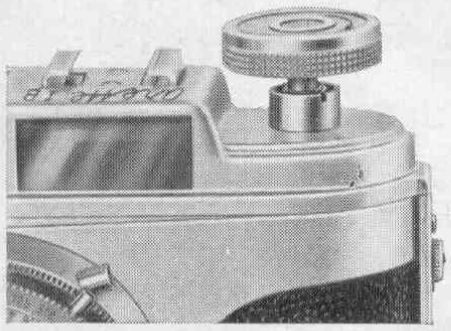
The self release mechanism always cocks automatically. When self release is not used lever (22) should remain in position X or M.

FILM REWIND

When winding the film after it has run through (20 or 36 exposures) a pronounced obstruction will be felt, this indicates the end of the film. Don't worry if the exposure counter (24) now shows a different figure from the expected 20 or 36. This is the case when the film cannot be pulled out a further full picture length due to film storage being exhausted.

Before opening the back wall the film must be re-wound into its cartridge. First, set lever for release of back winder (13) at idle (blank) by turning it towards R.

The rewind knob (12) is then pulled out a little for better grip, but only just until slight resistance is encountered. By then turning this knob in the direction of the arrow the film is wound back into its cassette. A change in the noise when windig the decreased resistance indicate that the film has now been rewound. Moreover, the exposure counter (24) ceases to revolte. Now open the back and remove the film in the enclosed cassette and have it developed. Do not forget to replace lever (13).



AFFIXING FLASH EQUIPMENT

The flash cable is fitted into the flash contact socket (21). The shutter takes flash pictures with flash tubes or expendable bulbs at all speed and enables you to master daylight exposures with additional flash light, including quick sport-action shots.

In order that the flash operates at the exact moment when the shutter opens, it is essential that the synchro switch lever (22) is correctly set. This requires no hard thinking if the table on page 18 is followed:

a) Duration of electronic tube flashes is very short. **For all exposure speeds** from 1 sec. to $^1/_{300}$ sec. the synchro switch lever is set **at X.**

b) For flash bulb equipment of the X range (say Osram XO and XP) and also for the electrically ignited flash caps, the synchro lever switch (22) is set at X. Only speeds 1 and $^1/_{30}$, possibly $^1/_{60}$, give correct exposures. **For standard conditions select $^1/_{30}$ sec.**

c) For flash bulb equipment of the M range (Osram XM 1 or Philips PF 1, PF 3 etc.) the synchro switch lever (22) is set at M. This applies to all speeds from 1 sec. to $^1/_{300}$ sec. **For standard conditions select $^1/_{60}$ sec.!** At speeds $^1/_{125}$ and $^1/_{300}$ sec. only part of the light given out by the flash lamp is utilized. In order to avoid

POSSIBLE SHUTTER SPEEDS FOR FLASH PHOTOGRAPHY

FLASH GUN	FLASH LAMP		SYNCHRO LEVER POSITION AT X or V Shutter time longer than duration of flash	SYNCHRO LEVER POSITION AT M Shutter time also shorter than duration of flash
	Manufacturer	Type		
Flash tube equipment (Electronic flash)	All outfits without ignition delay		B, 1 to 1/300	no exposure
Flash lamps "flash bulb type" only suitable for X position	General Electric Westinghouse	SM	B, 1 to 1/125	not suitable for M position
	Sylvania Wabash	SF		
	Osram	XO XP	B, 1 to 1/60	
		F 1 F 2	B, 1 to 1/30	
Flash lamps (flash bulb) suitable for M- and X-position	Philips	PF 100	B, 1 to 1/30	1 to 1/60
		PF 1 PF 3 PF 14 PF 25 PF 60	B, 1 to 1/30	1 to 1/300
	Osram	XM 1 SO S 2		
	General Electric Westinghouse	No. 5 11 22		
	Sylvania Wabash	Press 25 40 50 No. 0		
	Sylvania Wabash	No. 2	B, 1 to 1/30	1 to 1/125

under-exposure the directions included with flash bulb equipment should be followed.

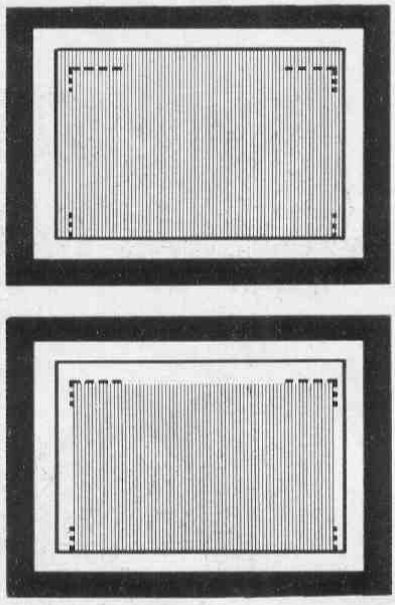
It is important that **exposure speeds are set before the diaphragm** by pressing inter locking latch (11). If the diaphragm is set first it will change again when the exposure speed is set.

For delayed action (self release) exposures, synchro switch lever (22) is set at V. Exposure then results with a delay of approximately 8 seconds and synchronization of flash lamps is always equal to setting X. When, therefore, synchronizing flash bulbs under **standard conditions select** $^1/_{20}$ **sec.** Following shutter release, the synchro switch lever (22) automatically reverts to X.

LUMINOUS FRAME VIEW-FINDER

The reflected frame view-finder greatly facilitates reliable definition of the image field. The image boundaries appear as brightly illuminated frames, apparently standing in the room, when applying the eye close to the view-finder eye-piece.

Strictly speaking, this luminous frame is intended only for sighting at "infinity". When observing at shorter distances the image field is slightly smaller, due to parallaxes and the fading of the image field. This smaller field is indicated at the corners by dotted lines for a distance of 3 feet (1 m.). Intermediate values can be estimated without difficulty.



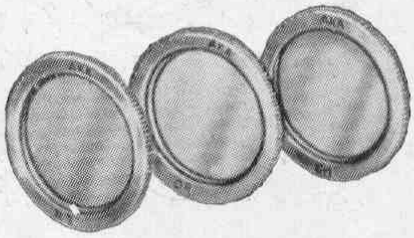
It is significant that the position of the reflected boundary lines in the view-finder image is unaffected by the direction from which the eye looks into it. Even when viewing slantwise, focussing errors cannot occur. This gives the user great confidence. He can go so close to the object as to completely the view finder-field without having the fear that parts of the image are missing on the photograph. Whatever his eye has seen inside the frame (and as a precaution a little beyond it) he will find on his film.

CONDITIONS OF GUARANTEE

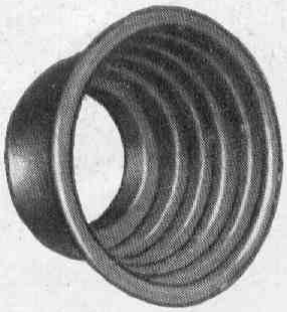
It is pointed out that markers' guarantee to repair as new extends only to cameras returned unopened within one year of purchase. Cameras and exposure meter which – for any reasons whatever – have been opened by strangers are excluded from this guarantee.

COLOUR FILTER AND LENSHOOD

The focussing ring (5) of the ARETTE lens has an internal thread so that accessories, i. e. colour filters, lens hood or close-up lenses, can be screwed into it.



Colour filters and close-up lenses, as supplied for AKARELLE, are suitable. These are double threaded and can, therefore, be interchanged at random. It is quite safe to screw a close-up lens, a colour filter and a lens-hood on to the lens; however, when doing so, the sequence indicated above has to be observed.



The screwed-on colour filter causes the incident light to be weakened by a certain degree. To make up for this the exposure time must be lengthened or – simpler still – the exposure value obtained must be decreased by the exposure value points mentioned on page 23.



Example: When using orange filter O 3 and the exposure value number arrived at 13, the exposure value shutter is set at 13 — 2,5 = 10,5.

When taking photographs against the light and for colour photographs a lens hood is indispensable. Otherwise you will obtain dull and unsatisfactory photographs.

There is, however, no reason at all why you should not use the hood for all your photography.

In this respect the ARETTE offers you special facilities. Lens-hood and, if necessary, a colour filter may permanently remain screwed into the lens, even when the ever-ready case is shut. The lenshood only needs folding back and is thus stored away comfortably in the roomy ever-readay case.

After the ever-ready case is opened it only requires a slight movement of the hand and the lenshood returns to its correct position. Trifles may frequently by decisive. Such is the case with this special feature of the lenshood which contributes largely to the constant state of readiness of the ARETTE.

ARETTE IB ACCESSORIES

Lens Hood: 32 mm, collapsible, rubber,
the indispensible protection from light falling diagonally from the front and for use with colour photography.

Colour filters: 32 mm, in practical screw-on mount:

Light yellow	32-G 1	Extension Factor . . 2	Decrease of light value 1
med. yellow	32-G 2	" " . . 4	" " " " 2
green yellow light	32-GR 1	" " . . 2	" " " " 1
green yellow medium	32-GR 2	" " . . 4	" " " " 2
orange	32-O 3	" " . 4-6	" " " " 2,5
red	32-R 3	" " . . 8	" " " " 3
Ultra violet	32-UV	without extension	0
Blue (for artificial light photography)	32-B	f. art. lt; factor approx. 8	" " " " 3
		f. day. lt; factor . . 2	" " " " 1

Colour filter COLOR without extension to avoid the violet or blue tint when using colour films, where this may be expected. It corresponds to the Agfacolor-Photo Filter K 29 C.

Ever-ready case B, made from velvet lined smooth hide.

De Luxe ever-ready case C, with chromium plated vignette.

Lens lid (32 mm) as spare.

Close-up lenses, 32 mm, in screw-on mount

lenses 1,0 1,5 2,5 diopt. — for three distance ranges

Focussing table for close-up lenses for ARETTE I B for lenses of 45 mm focal length.

Objectives with feet-calibration

		Setting of the Focussing Scale feet	∞	60 ft	30 ft	20 ft	15 ft	10 ft	8 ft
Supp. Lens No. 1	Dioptre 1,0	Near Point inch	42,5	39,4	38,2	37,0	35,6	32,5	30,4
		Focussing Distance inch	**45,1**	**41,7**	**40,3**	**39,0**	**37,4**	**34,2**	**32,0**
		Far Point inch	47,9	44,5	43,0	41,3	39,6	36,4	33,7
		Size of Field inch x inch	19,3x29,1	17,7x27,0	17,1x26,0	16,7x25,2	16,1x24,2	14,6x22,0	13,8x2,5
Supp. Lens No. 2	Dioptre 1,5	Near Point inch	27,7	27,0	26,3	25,5	24,9	23,8	22,9
		Focussing Distance inch	**29,1**	**28,3**	**27,4**	**26,6**	**25,9**	**24,6**	**23,8**
		Far Point inch	30,8	29,7	28,7	27,8	27,0	25,7	24,8
		Size of Field inch x inch	12,2x18,1	11,8x17,7	11,2x16,9	10,8x16,5	10,6x15,9	9,8x15,0	9,4x14,2
Supp. Lens No. 3	Dioptre 2,5	Near Point inch	18,4	17,7	17,4	17,2	17,0	16,6	16,1
		Focussing Distance inch	**18,9**	**18,3**	**17,9**	**17,7**	**17,5**	**17,0**	**16,5**
		Far Point inch	19,5	18,8	18,4	18,2	18,0	17,5	17,0
		Size of Field inch x inch	7,1x10,6	6,7x10,2	6,7x10,0	6,7x9,9	6,7x9,7	6,5x9,4	6,3x9,0

The distances should be measured from the rear of the camera. It is advisable to stop the lens down to at least 5,6; very small diaphragm apertures should, however, be avoided. In view of the close-up lenses, an extension of the exposure time is unnecessary.

7 ft	6 ft	5 ft	4,5 ft	4 ft	3,5 ft
29,2 **30,6** 32,3	27,8 **29,0** 30,9	26,1 **27,3** 28,8	25,4 **26,4** 27,8	24 **25,3** 26,6	23,2 **24** 25
13,4x20,0	12,4x18,7	11,8x17,9	11,2x17,3	10,8x16,5	10,2x15,6
22,3 **23,1** 24,1	21,6 **22,3** 23,2	20,6 **21,2** 22,0	20,2 **20,8** 21,5	19,5 **20,1** 20,8	18,7 **19,3** 19,9
9,2x13,8	8,8x13,2	8,3x12,4	8,1x12,0	7,7x11,4	7,3x11,0
15,8 **16,2** 16,6	15,5 **15,9** 16,2	15,1 **15,5** 15,8	14,9 **15,2** 15,6	14,6 **15,0** 15,3	14,3 **14,7** 15,0
6,1x8,9	6,0x8,7	5,7x8,5	5,6x8,3	5,4x8,1	5,3x7,9

The figures on the uppermost line show the distance values of the scale of the lens mount. The heavy-type numerals in each group indicate the appropriate distances of the object from the camera rear, measured in feet. The depth of focus range applying to diaphragm 5,6 can be ascertained from the figure above it (front focussing boundary) and the figure below it (back focussing boundary). The size of the field is the subject area captured in the photograph.

Close-up lenses, 32 mm, in screw-on mount
lenses 1,0 1,5 2,5 diopt. – for three distance ranges

Focussing table for close-up lenses for ARETTE I B for lenses of 45 mm focal length.

Objectives with meter-calibration

	Setting of the Focussing Scale meter	∞	20 m	10 m	7,0 m	5,0 m	4,0 m	3,0 m	2,4 m	2,0 m
Supp. Lens No. 1 Dioptre 1,0	Near Point cm	108,0	100,5	98,0	95,2	91,8	87,6	82,5	78,0	74,1
	Focussing Distance cm	**114,5**	**106,5**	**103,5**	**100,4**	**96,6**	**92,7**	**86,6**	**81,7**	**77,5**
	Far Point cm	121,8	113,4	109,8	106,2	102,0	97,6	91,1	85,6	81,0
	Size of Field cm x cm	49x74	45x68	44x67	43x65	41x62	39x60	37x56	35x52	33x50
Supp. Lens No. 2 Dioptre 1,5	Near Point cm	70,4	69,3	67,5	66,1	64,3	62,5	60,2	58,2	56,1
	Focussing Distance cm	**74,0**	**72,5**	**70,5**	**68,9**	**67,0**	**65,1**	**62,6**	**60,4**	**58,2**
	Far Point cm	78,2	76,3	74,0	72,2	70,1	68,1	65,3	62,9	60,5
	Size of Field cm x cm	31x46	30x45	29x43	28x42	27x41	26x39	25x37	24x36	23x34
Supp. Lens No. 3 Dioptre 2,5	Near Point cm	46,7	45,6	44,8	44,4	44,0	43,5	42,6	41,1	40,3
	Focussing Distance cm	**48,0**	**46,8**	**46,0**	**45,5**	**45,1**	**44,6**	**43,6**	**42,2**	**41,2**
	Far Point cm	49,5	48,2	47,3	46,8	46,3	45,8	45,0	43,3	42,3
	Size of Field cm x cm	18x27	17x26	17x25	17x25	17x25	17x24	16x24	16x23	15x22

The distances should be measured from the rear of the camera. It is advisable to stop the lens down to at least 5,6; very small diaphragm apertures should, however, be avoided. In view of the close-up lenses, an extension of the exposure time is unnecessary.

1,7 m	1,5 m	1,3 m	1,2 m	1,1 m	1,0 m
70,5	67,7	64,2	62,0	60,0	57,8
73,5	**70,4**	**66,7**	**64,3**	**62,2**	**59,8**
76,8	73,4	69,4	66,9	64,6	62,0
31x47	30x45	28x42	27x41	26x40	25x37
54,2	52,4	50,5	49,2	48,2	46,8
56,2	**54,2**	**52,2**	**50,8**	**49,8**	**48,3**
58,4	56,3	54,1	52,6	51,6	49,9
22x33	21x32	20x30	19x29	19x28	18x27
39,3	38,7	37,8	37,4	36,9	36,4
40,3	**39,6**	**38,7**	**38,3**	**37,7**	**37,2**
41,3	40,6	39,6	39,2	38,6	38,0
15x22	14x22	14x21	14x21	14x20	13x20

The figures on the uppermost line show the distance values of the scale of the lens mount. The heavy-type numerals in each group indicate the appropriate distances of the object from the camera rear, measured in cms. The depth of focus range applying to diaphragm 5,6 can be ascertained from the figure above it (front focussing boundary) and the figure below it (back focussing boundary). The size of the field is the subject area captured in the photograph.



Apparate- und Kamerabau GmbH.
Friedrichshafen/Bodensee

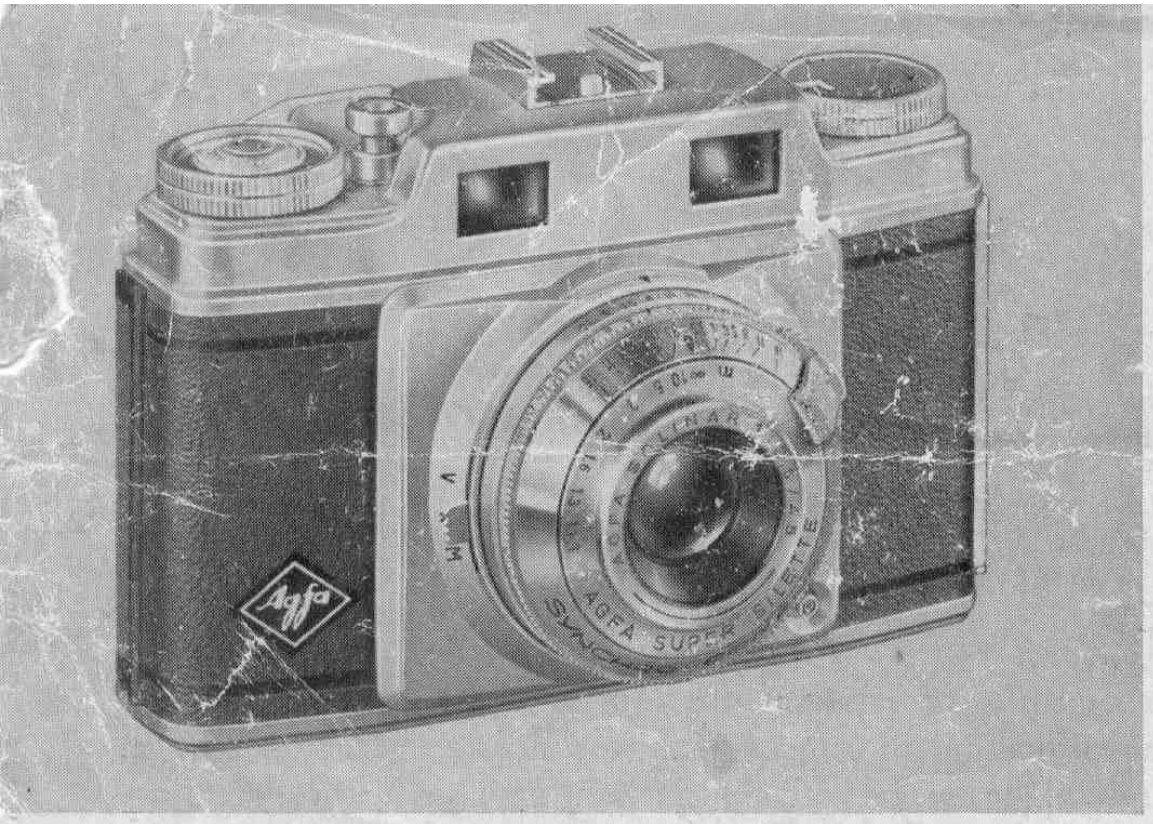
Western Germany

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Printed in Germany

DEAR READER,

If you have acquired an Agfa Super Silette your enjoyment of it should not be marred by any difficulties in using it. The few simple instructions which are set out in this booklet can be quickly learnt in a single careful reading, trying out for yourself, with the unloaded camera, the operations which are



Agfa

MADE
IN GERMANY

INSTRUCTIONS FOR USE
AGFA SUPER SILETTE

described and illustrated in it. The general view of the camera on page 4, with its numbers corresponding to the index on the opposite page, will simplify reference to the names and functions of the various parts.

A few trial settings of the coupled rangefinder, checked against the actual measured distances of the object on which the camera is focused, will quickly convince you how simple to use and how reliable it is.

The 24 x 36-mm. Agfa Super Silette is designed to take 35-mm. miniature film, both black-and-white and, of course, colour film (Agfacolor).

The Agfa Super Silette is supplied in two models one of which is equipped with the three-element Agfa Apotar lens in Prontor-SVS shutter whilst the other is fitted with the four-element Agfa Solinar lens in Synchro-Compur shutter with Light Value Scale; both lenses are f / 3.5 – 45 mm. miniature anastigmats of highest correction and utmost sharpness.

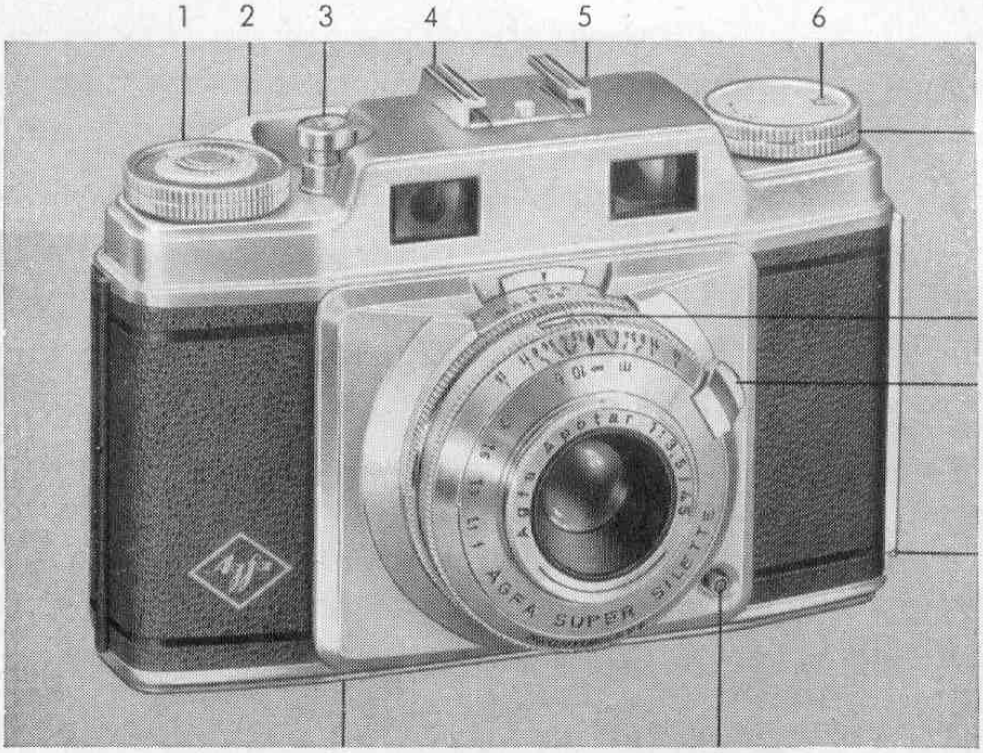


Fig. 2

INSTRUCTIONS FOR USE OF THE AGFA SUPER SILETTE

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1	Exposure Counter	12
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4	Accessory Shoe	36
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6	Film Type Indicator	6
7	Rewind Knob	20
8	Shutter Speed Scale Prontor-SVS	25
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9	Focusing Lever	16
10	Back Lock	7
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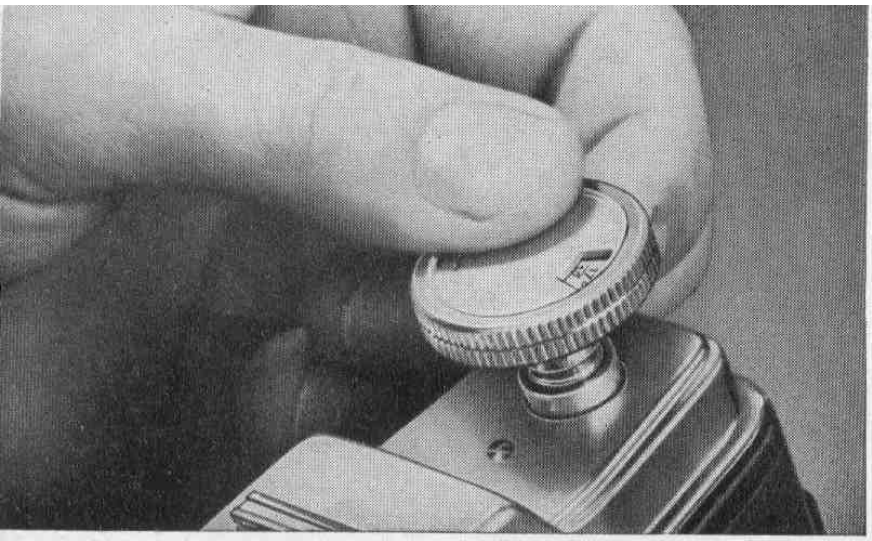


Fig. 3

FILM TYPE INDICATOR

Before loading the film into the camera it is advisable to set the film type indicator, which will be found on the face of the rewind knob, so that if a long interval should elapse between exposures there will never be any doubt as to what type (or speed) of film is in the camera.

To set the indicator, the rewind knob is pulled right out and taken between index and thumb as shown in Fig. 3. The indicator disc can then be rotated by the milled edge pointing downwards until the required film designation appears in the window, for example:

8 ASA	40 ASA	100 ASA	160 ASA	Col NT	Col ND	Col RT	Col RD

OPENING THE CAMERA

The back of the Super Silette is opened by sliding the latch plate by its projecting lip (Fig. 4) in the direction of the arrow. The back will then spring up and can be opened by the finger grip provided.

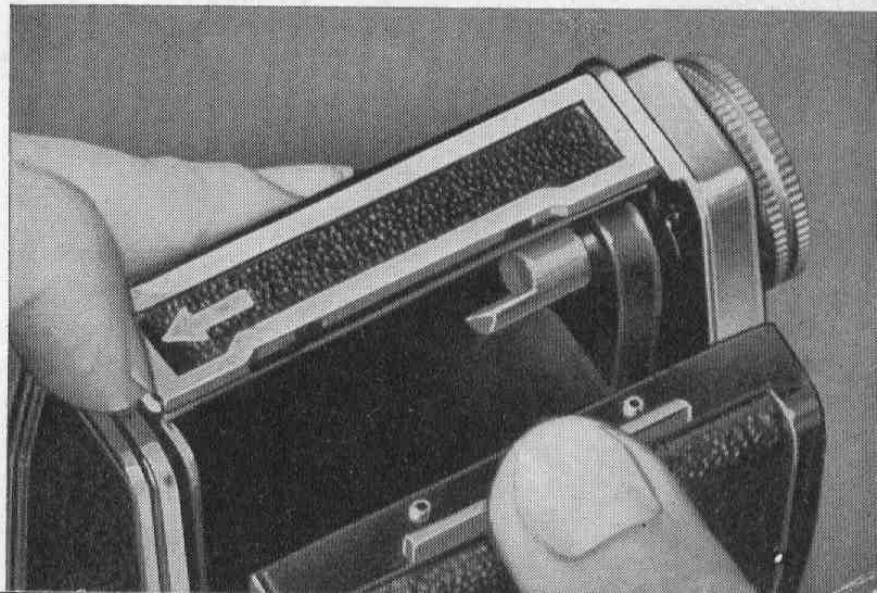


Fig. 4

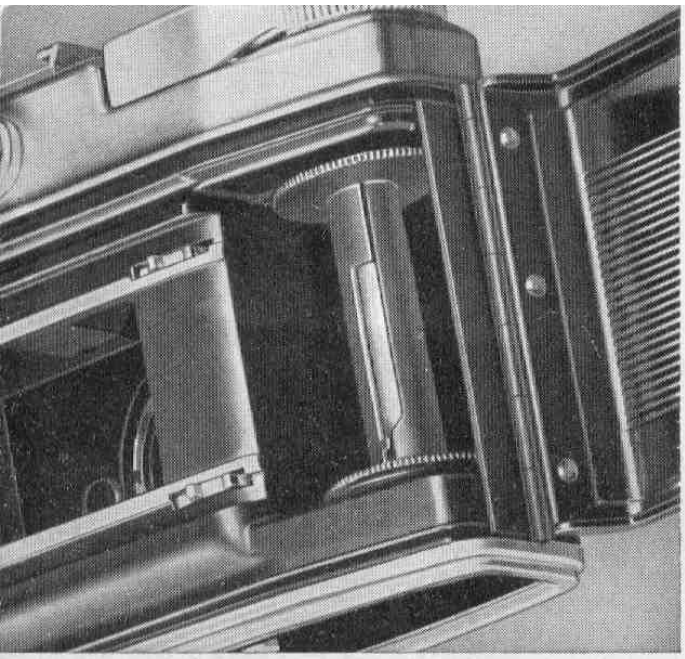


Fig. 5

WITH THE BACK OPEN

the two film chambers are visible, on the left the empty chamber to take the 35 mm. cassette and on the right (Fig. 5) the fixed take-up spool. For loading, the milled disc should be rotated until the slot with its transport cog is in the position shown.

INSERTING THE CASSETTE

To insert the new cassette—this should be done if possible in subdued light—the rewind knob is pulled right out. With the new cassette inserted the knob is then gently pushed back, rotating it slightly, so as to engage with the spool of the cassette.

Note:

The rewind knob is rather loose in its seating.

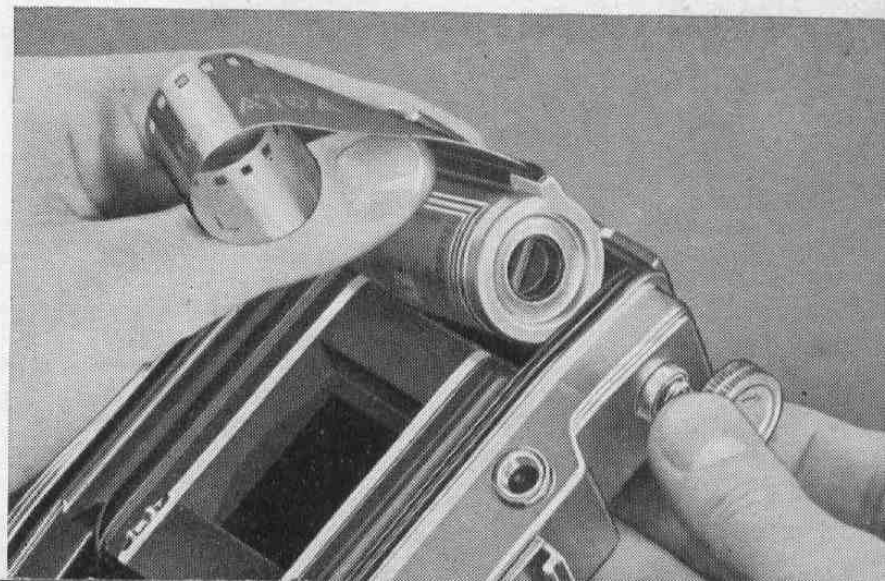
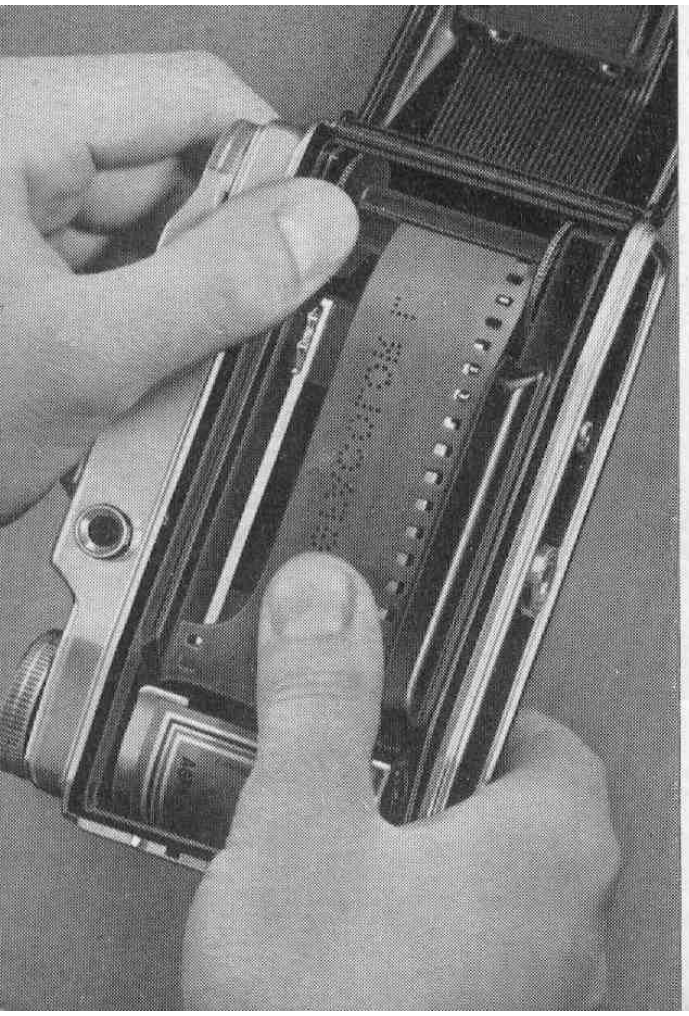


Fig. 6



THREADING THE FILM AND PULLING IT TAUT

The **narrow** end of the film is now inserted into the spool slot as far as the second perforation; the perforation must engage with the small cog on the take-up spool. The take-up spool is then turned by means of the milled disc until the film is pulled taut. Only about $1/3$" of the **full** width film should project from the cassette.

Fig. 7

CLOSING THE CAMERA

Having checked that the film perforations are engaging cleanly with the teeth of the lower drive sprocket the back of the camera may be closed, and locked by pressing with both hands, as shown in Fig. 8, until the catch snaps to.



Fig. 8

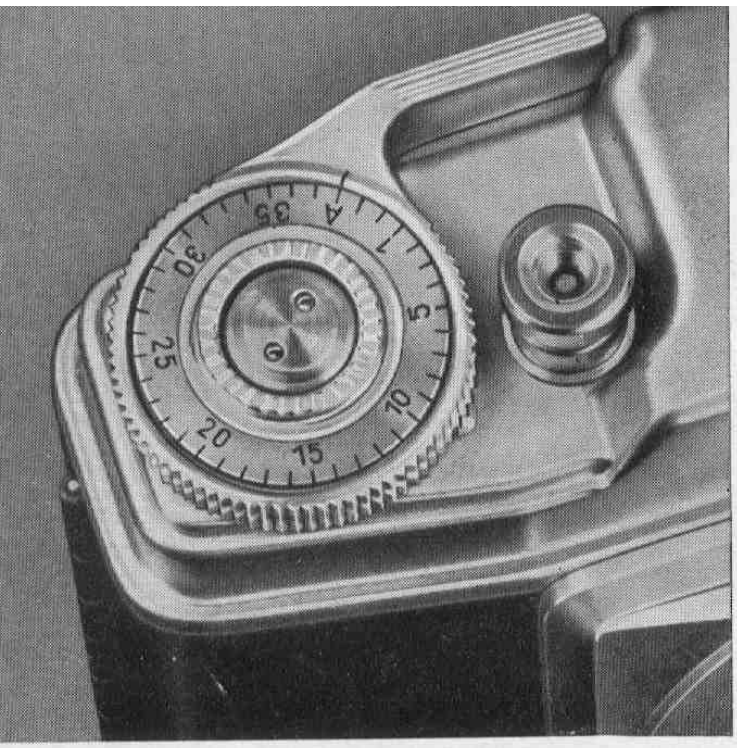


Abb. 9

EXPOSURE COUNTER

Before the first exposure can be made the film counter must be set to the zero position.

The inner, milled, ring on the top of the dial, which is incorporated in the rapid winding lever, is depressed with the thumb and rotated anti-clockwise until the letter A is opposite the index line on the rim (see Fig. 9). Two blank exposures must now be made as follows:

Each time the lever is operated it transports the film by one frame and at the same time winds the shutter.

With the thumb of the right hand grip the edge of the lever and swing it firmly round as far as it will go (Fig. 10).

If the lever is found to be locked it must be freed by first pressing the shutter release button.

Caution: In operating the rapid winding lever do not forget to pull it right to its stop.

Now depress the shutter release knob which is beside the counter dial and repeat once again the whole operation of winding on the film and releasing the shutter. The exposure counter is now set on one stroke ahead of "1".

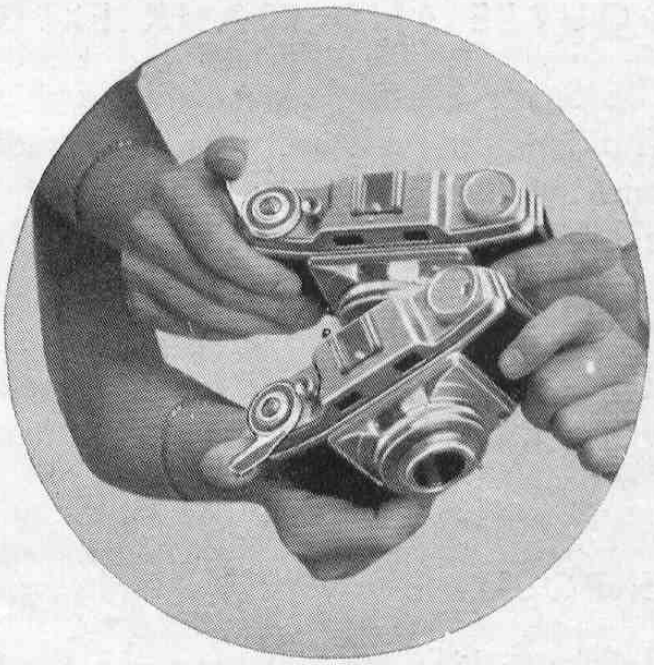


Fig. 10

Caution: The rewind knob usually rotates as the film is wound on: it must not therefore be prevented from turning while the lever is operated.

DOUBLE AND BLANK EXPOSURE LOCK

The Super Silette has a safeguard against double and blank exposures. That is to say, it is not possible to make two exposures on the same frame, and the film cannot be inadvertently fed forward until an exposure has been made. If therefore it is found that the release button cannot be pressed, the film must be wound on by operating the rapid winding lever, or the lever was not moved right up to the stop. This can be remedied, without wasting any film, by again operating the lever as far as it will go. When it cannot be moved the camera is ready for another exposure.

EXPOSURE

Before making the first exposure, the film should be moved on one frame by operating the rapid winding lever, so that the exposure counter index now reads "1" (see page 13).

The handling of the shutter fitted to the Agfa Super Silette calls for detailed explanation since the exposure (determined by the shutter speed and the relative aperture) is decisive for obtaining negatives of correct density.

Please read carefully the chapter referring to the shutter of your camera (p. 25 for Prontor-SVS, or p. 28 for Synchro-Compur).

RANGE FINDING

Range finding with the built-in coupled rangefinder is an extremely simple operation, and is carried out as follows: A glance through the view-finder eyepiece will reveal that in the middle of the slightly tinted field-of-view there is a circular central patch of a light blue colour.

This central image, which is the part used for range finding, will at first appear double, consisting of two overlapping identical images laterally displaced relatively to one another (see Fig. 11).

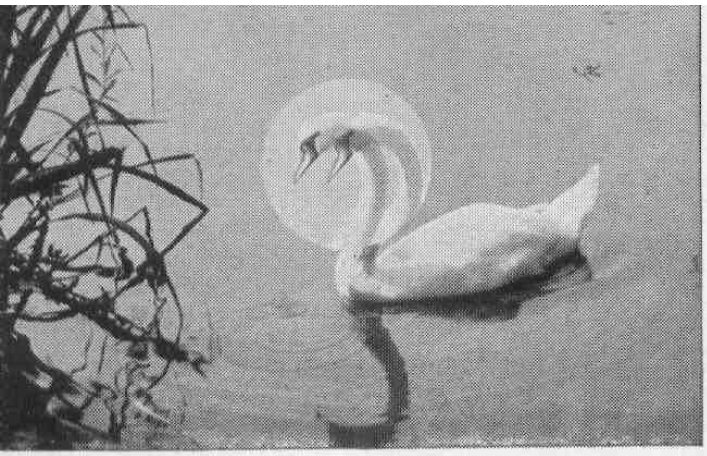


Fig. 11

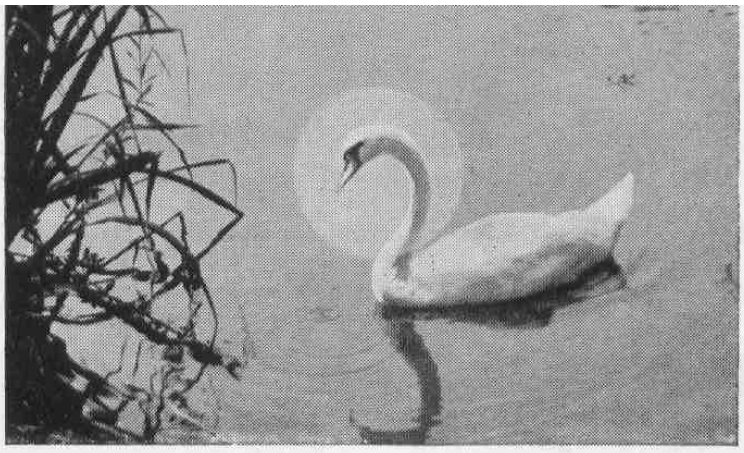


Fig. 12

If the focusing lever 9 on the front of the lens mount (Fig. 2) is now moved with the middle or index finger of the left hand the overlapping images in the centre will approach one another and at one position of the focusing lever will completely coincide (Fig. 12).

At this point the camera lens is automatically focused on that portion of the subject which is seen in the central blue image. This can be checked by noting the distance which is now indicated on the distance scale by the black index mark in the centre of the depth-of-field scale.

The focus settings obtained with the rangefinder can be absolutely relied upon; they entirely eliminate any need for judging distances. When the camera is used horizontal the images move sideways — with vertical pictures they move up and down.

Here are a few hints:

Cover up for a moment with the finger the front viewfinder window on the release button side. It will be found that the image, now all one colour, is more agreeable, particularly for selecting and studying the subject. By removing the obstructing finger only when it is desired to use the rangefinder, the advantage is gained of a sudden change of colour in the small central patch which shows up the double image very clearly.

Moving subjects, such as processions, can be photographed with greater certainty if the most suitable distance is first of all decided upon, the distance scale set to this distance, and the subject watched in the rangefinder as it passes into the range of sharp focus. All that one need then do is to watch the procession in the rangefinder and press the shutter release at the moment that the two images coincide in the bright central circle, indicating that the subject is exactly in focus.

small error arises from the fact that the view-finder is higher than the camera lens. In practice this only affects pictures in which the subject is within about 3–6 feet from the camera. To compensate for this the camera should be slightly raised when taking horizontal pictures; for vertical pictures it should be turned slightly towards the viewfinder side.

When taking *vertical pictures* it is most convenient to use the thumb of the right hand to operate the shutter release.

UNLOADING THE CAMERA

When the exposure counter registers 36, 20, or 18, as the case may be, there is only enough film left for one exposure. If, in loading, too much film has been wound up, it may happen that the film cannot be wound on to this last exposure, the rapid film transport lever coming to a stop before the end of its travel. In this case, the last exposure has to be sacrificed.



For *horizontal pictures* the camera is held firmly in both hands as shown, and with the index finger or middle finger of the right hand the release button is pressed down gently and steadily as far as it will go. It is important to take up a firm stance, and not to tilt the camera sideways.

Viewfinder parallax: The image in the viewfinder shows at a reduced scale the actual picture which will appear on the film. When taking *close-ups* a

Fig. 13

whether it can still be rotated after release of release knob 12. When this point is reached rewinding should be stopped, for it must be remembered that the processing laboratory has still to develop the film, and its end must not be allowed to slip into the cassette. The back of the camera can now be opened as described on page 7. The rewind knob is pulled right out to the stop so that the cassette can be removed easily. It should be placed as soon as possible in a light-tight wrapping, and for convenience marked "exposed".



After the last exposure, the film must be wound back into its light-proof cassette. To do this, the release knob on the base of the camera (see fig. 14) should be depressed with the left thumb whilst with the right hand the rewind knob is pulled out **until the first stop** (appr. ¼"), and the film wound right back by turning the knob in the direction of the arrow. This point has been reached when the film leaves the take-up spool; this can be felt by the slightly increased resistance which has to be overcome. The knob is then given a careful further turn to see

Fig. 14

DIAPHRAGM – EXPOSURE TIME – DEPTH-OF-FIELD

The diaphragm scale of the Agfa Super Silette shows the following stop values:

3.5 4 5.6 8 11 16. Stops may be set to intermediate half-way positions.

Stop: The choice of stop, or aperture, calls for some more detailed explanation of its function. The light coming from the subject has to pass through the iris diaphragm. This will allow more or less of the light to pass through, according to whether it is fully open or closed down, but in any case it only allows a fraction of the light to reach the film. The apertures corresponding to the numbers which appear on the diaphragm ring are so chosen that, commencing with the aperture f/4, the next smaller aperture (next higher number) reduces by one half the light which is actually used in taking the photograph.

Shutter speed: The amount of light needed to photograph any particular subject on any particular film is definitely fixed. There is a fixed relationship between the shutter speed (or exposure time) and the size of the stop,

and in order to maintain this relationship the following rule must be observed: The higher the stop number, the longer must be the exposure time; the lower the stop number, the shorter the exposure time. For example, if the exposure table gives an exposure time of $^1/_{30}$ second at f/8, and it is necessary to use $^1/_{60}$ second in order to avoid camera shake, then this shorter exposure time demands a larger stop so as to let through more light, and the diaphragm scale must therefore be set to 5.6.

Depth-of-field: Similar to the exposure time, the range of sharp definition in front of, and behind, the distance focused depends on the choice of the stop number. With a small stop (stopping down) this range of sharpness is considerably enlarged and is known as depth-of-field. Its extent increases further with the object distance.

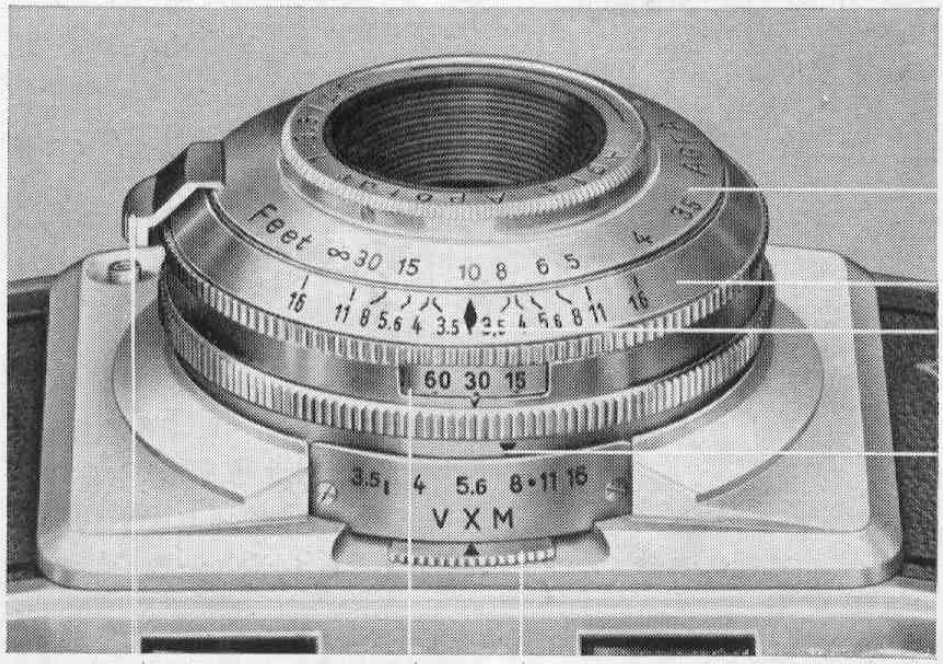
The depth-of-field is thus a function of the stop and the subject distance, and the exact values corresponding to a range of subject distances and f/numbers are given in the table on pages 38/39.

The **approximate** depth-of-field corresponding to the actual distance on which the camera is focused can, however, also be read off from the *depth-of-field scale* on the focusing ring. Take for example the setting shown in Fig. 15, page 25, where the camera is focused on 10 feet. The stop numbers are marked out symmetrically to left and right of the distance index. The scale shows that if the lens is stopped down to f/8 the range of sharp focus will extend from the distance which appears opposite 8 on the one side to that opposite 8 on the other side, viz. from about 6 feet to about 20 feet.

The two-point setting is the easiest and quickest practical way of arriving at the depth-of-field. The index of the diaphragm ring is set on the red dot between 8 and 11 and the focusing index mark to the red 10 or 30 of the distance scale. The following data should then be noted:

DIAPHRAGM SETTING	DISTANCE SETTING	DEPTH-OF-FIELD
between 8 and 11	10 feet (near)	7 feet to 20 feet
	30 feet (distant)	15 feet to infinity

THE PRONTOR-SVS SHUTTER



Distance Scale

Depth-of-Field Scale

Index Mark
for Distance Setting

Diaphragm Ring
and Index

Fig. 15

Setting Lever for Flash Synchronization and Delayed Action

Window and Index Notch for Shutter Speeds

Focusing Lever

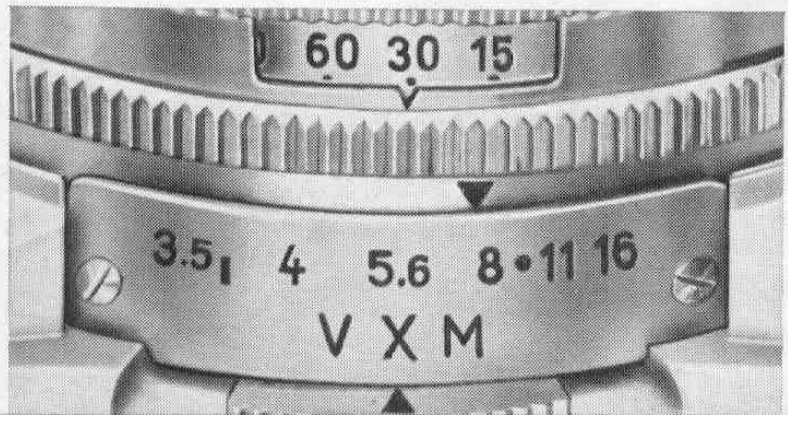
If the photographer himself wishes to be in the picture, he must set the synchro-lever to the "V" position, which cocks the delay mechanism. (**Cannot be used with B setting.**) This may be done either before or after winding the shutter. Moreover, should the lever have been set to "V" inadvertently, it can be moved back again without setting the delay mechanism in operation. When set to "V" the delayed action can be used with flash, but only for X-synchronization. The lever should be returned to the X setting after each exposure using the delayed action, as a safeguard against making the next exposure with the delayed action unwittingly in operation.

By rotating the upper milled ring (Fig. 16) the following shutter speeds may be set against the notch in the small window:

B 1 2 4 8 15 30 60 125 300

It is not possible to set intermediate values.

These figures indicate fractions of a second: thus, for example, 2 = $^1/_2$ second, 30 = $^1/_{30}$ second. The setting B gives time exposures (from a tripod): so long as the release button continues to be pressed, the shutter remains open. The B setting must not be used when taking pictures with delayed action (synchro-lever set to "V").



The shutter is fully synchronized, i. e. it has a synchro-lever (Fig. 16) which can be set either to X or M as desired. The purpose of these settings is explained under the heading "Flash Technique" (p. 35).

Fig. 16

THE SYNCHRO-COMPUR SHUTTER WITH LIGHT VALUE SCALE

THE MEANING OF LIGHT VALUE

Before commencing for the first time to use a camera with a "Light Value" shutter the following notes should be very carefully studied, with the camera at hand, in order that the fullest possible use may be made of the advantages of the Light Value system. The figures given in this chapter refer to Fig. 17, page 33.

The correct exposure for a particular subject has in the past been expressed—whether by tables, or exposure meter, or as the result of experience—in terms of the required shutter speed and stop for a film of given sensitivity. The factor which determines the ultimate density of the negative is however simply that proportion of the total *quantity of light* reflected from the subject which is permitted to reach the film. This factor is completely determined by the shutter speed and the relative aperture.

It is quite immaterial, so far as correct exposure is concerned, how these two factors are varied so long as their product remains the same: whether, in other words, the lens is permitted to pass a high proportion of light (by using a large stop) for a short time, or whether a longer exposure is given

with a smaller stop to pass the same total quantity of light. To simplify work and allow the use of *one* value, expressing the quantity of light in relation to a film of given sensitivity, the *Light Value* method has been introduced. By an ingenious coupling of the iris diaphragm ring with the ring which sets the shutter speed it has now been made impossible, having once set the shutter to a particular Light Value combination of stop and shutter speed, to alter this Light Value inadvertently. Any alteration to the shutter speed automatically adjusts the iris diaphragm to compensate, so that the Light Value remains unaltered and the same total light reaches the film.

THE NEW SHUTTER SPEED SCALE

With the introduction of the Light Value scale the shutter speed scale has been altered from that hitherto customary on between-lens shutters. Because the speed scale and diaphragm scale are coupled, the successive speeds have had to be adapted to the factor of 2 by which the effective aperture increases from one stop to the next. Commencing, therefore, with $^1/_{500}$ sec., the exposure time is doubled with each successive setting, viz. $^1/_{250}$, $^1/_{125}$, $^1/_{60}$, $^1/_{30}$, etc. At the same time the spacing of the figures on the diaphragm scale is now completely uniform.

The new Synchro Compur shutter has the further advantage that the correct Light Value corresponding to the combination of shutter speed and stop to which it has been set can be read off direct opposite the red mark 7. So long as the lighting conditions remain unaltered this figure may be used as the basic Light Value setting for any further exposures.

The Light Values of the following Table apply to the time between 3 hours after sunrise and 3 hours before sunset.

Subject	Bright sunlight	Hazy	Slightly overcast	Overcast (dull)
Bright	Light Value 14	13	12	11
Medium	Light Value 13	12	11	10
Dark	Light Value 12	11	10	9
In the shade	Light Value 7—9	6—8	5—7	4—6

These Light Values apply to negative material of $^{17}/_{10}°$ DIN (ASA Exposure Index 40). When using material of different sensitivity, increase or reduce the Light Value by *one* number for every $^{3}/_{10}°$ DIN difference.

SETTING THE LIGHT VALUE

It is of advantage, but not indispensable, to use an exposure meter which is already calibrated in Light Values. To set the shutter to the measured Light Value the small serrated projection 1, on the sprung diaphragm ring is pressed down towards the camera body and held securely in this position.

The milled shutter speed ring is then rotated with the other hand until the required Light Value on the red scale 6 comes opposite the red dot 7.

It should be noted that:

Light Values and stops may be set to the intermediate half-way positions but *not* shutter speeds. This latter situation may arise if when setting the shutter speed the beginning or end of the diaphragm scale is reached, and must be avoided. The step from f/4 to f/3.5, in any case, is only a half stop.

Should it be desired to set shutter speed and stop independently, as in the past, *without using the Light Value,* the only precaution necessary is that the *shutter must be set first,* and *then the stop.* As explained above, the finger grip 1 is pressed back, and the required shutter speed first set to the black arrow head 4. Then, and not before, the iris diaphragm ring may be rotated to give the desired stop.

THE USE OF THE SCALES

On the shutter speed ring there are three separate scales:

Red figures: The Light Value scale, graduated from 2–17. The Light Value is set by rotating the adjoining diaphragm ring until the required figure comes opposite the red dot 7.

Black figures: These are the shutter speeds, with the revised timings already explained, viz. 1 2 4 8 15 30 60 125 250 500. These values represent fractions of a second, e. g., 2 = $^1/_2$ sec., 60 = $^1/_{60}$ sec.

Green figures: This is not a setting scale, but is used for calculating Time exposures. With the shutter speed ring set to B, and the Light Value scale to one of the lower values 2½ to 6, the green figure indicates the length in seconds of the exposure required, and what stop to use.

If for example the Light Value is set to 3, any of the following combinations may be used:

4 secs. at f/5.6 * 8 secs. at f/8 * 15 secs. at f/11 or 30 secs. f/16.

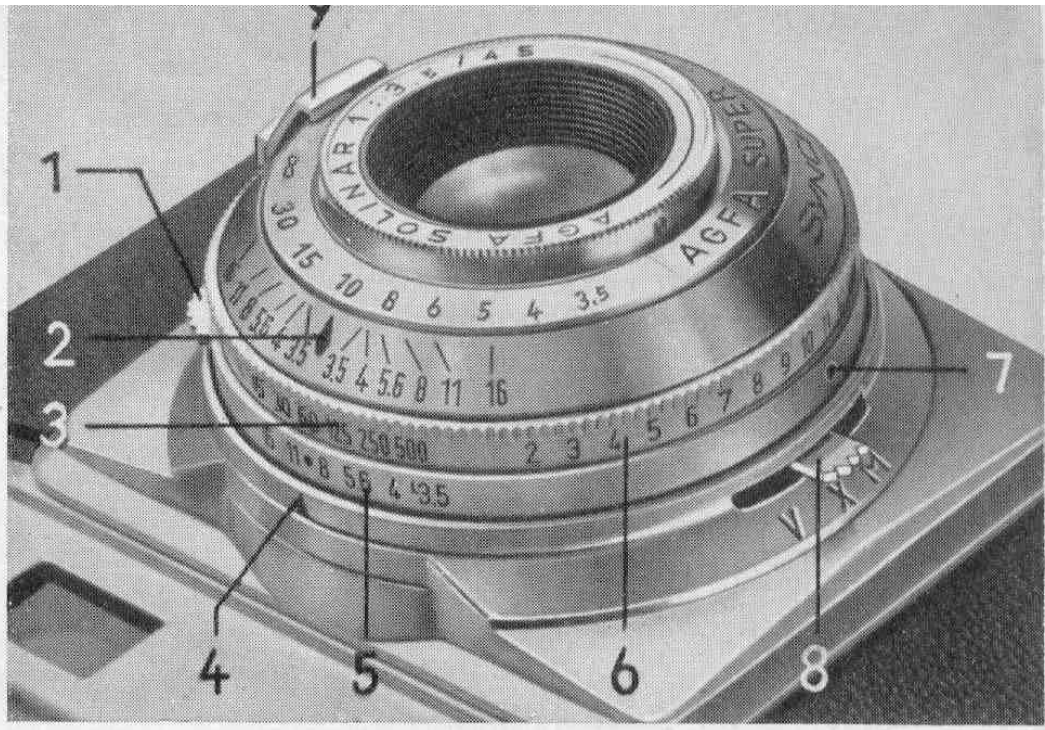


Fig. 17

① Finger grip for setting the diaphragm ring

② Index mark for distance setting (e. g. 10 feet)

③ Black figures = shutter speeds

④ Index mark for setting diaphragm and shutter speeds

⑤ Diaphragm scale

⑥ Red Light Value numbers

⑦ Red index dot for setting Light Value

⑧ Synchronizing and delayed action lever (green). Never set this lever to "V" unless shutter is wound.

⑨ Finger grip for distance setting and range finding.

and M-synchronization when set to M. See the following chapter "Flash-Technique".
In addition to these settings, the green lever can be set to V (delayed action mechanism) so that pictures with selftimer can be taken. When released the shutter opens with a delay of approx. 10 seconds.
The delayed action can only be set when the shutter is wound, i. e., when the film has been wound on; it may also be used in conjunction with flash but for X-synchronization only. The delayed action lever automatically returns to X after each exposure, and must therefore be re-set each time it is required. On no account must it be moved, or the release again operated, while the delay mechanism is running.

Important! The lever must not be set to **"V"** unless the shutter **has been wound.**

FLASH TECHNIQUE

Commercial flashbulbs differ in their duration of flash, their total light output, and the delay between making contact and firing of flash (firing delay). These characteristics are all allowed for in fully synchronized shutters.
When shutter is set to *X-Synchronization* the flash occurs at the instant that the shutter blades are fully open. It can however only be used with

SHUTTER SPEED — DIAPHRAGM

Assuming that the required exposure — expressed in Light Values — has been set by means of the diaphragm lever, the coupling of the shutter speed and diaphragm rings will allow up to five combinations. The more you approach the beginning or the end of the diaphragm scale when rotating the shutter speed scale, the smaller is the number of possible combinations; e. g. Light Value 17 : $^1/_{500}$ sec. at f/16, or Light Value 3 : 1 sec. at f/4. Good lighting conditions give a high Light Value, poor light a low Light Value. It therefore remains only to decide which shutter speed and stop combination is the best to choose, and this naturally depends entirely on the subject. For landscapes importance will be attached to small stops, in order to increase depth-of-field; for sports photography, on the other hand, the shortest possible exposure will be needed to stop movement.

No matter which combination is chosen, there is always the assurance that the resulting negative will be of the correct density as determined by the basic Light Value setting.

FLASH SYNCHRONIZATION — DELAYED ACTION

The Synchro Compur shutter fitted to the Super Silette is fully synchronized and provided with a green lever 8 giving X-synchronization when set to X,

the longer shutter exposures, e. g. $^1/_{25}$ (or $^1/_{30}$); flashbulb types recommended for this method are: Philips PF 1 and PF 3 or G.E. No. 1.

M-Synchronization: In contrast to X-synchronization, when the synchro-lever is set to M the opening of the shutter blades is delayed by a few milliseconds (thousandths of a second), thereby permitting the use of flash with the shortest exposures. Only the more powerful flashbulbs are suitable for this method, e. g. Philips PF 1, 14, 25, and 56 or G.E. No. 5 and 11.

Electronic flash units can be used with **X-Synchronization** only which, however, allows of taking pictures with the fastest shutter speeds in order to catch quick movement.

The *exposure time* and the *stop setting* in flash photography depend upon the distance of the subject and the type of flashbulb used, and for this the instructions issued with the flashbulb must always be followed.

The Super Silette has an accessory shoe on which a flashgun can be mounted. The plug of the flashgun is then inserted in the flash socket 11 (page 4) on the camera front. If the flashgun is mounted on the Super Silette by means of a bracket, care must be taken that the rewind release knob on the bottom of the camera is not inadvertently pressed in by any projection on the bracket, thus possibly interfering with the film transport.

DEPTH-OF-FIELD TABLE FOR 45-mm. f/3.5 AGFA LENSES

Distance	Apertures		
feet	3.5	4	5.6
3	2′10 3/4″—3′1 1/2″	2′10 1/2″—3′1 3/4″	2′10″—3′2 1/4″
3.5	3′4 1/4″—3′8″	3′4″—3′8 1/4″	3′3 1/4—3′9 1/4″
4	3′9 3/4″—4′2 3/4″	3′9 1/4″—4′3″	3′8 1/4″—4′4 1/2″
5	4′8 1/4″—5′4 1/4″	4′7 3/4″—5′5″	4′6 1/4″—5′7 1/4″
6	5′6 1/2″—6′6 1/2″	5′6″—6′7 1/2″	5′3 3/4″—6′10 3/4″
8	7′2 1/2″—9′	7′1 1/4″—9′2″	6′9 1/2″—9′8 3/4″
10	8′9 1/4″—11′7 1/2″	8′7 1/2″—11′11″	8′2″—12′10 3/4″
15	12′4 1/2″—19′1″	12′3/4″—19′10 1/4″	11′2 1/4″—22′9 3/4″
30	20′11 1/4″—53′1/2″	20′1″—59′7 1/4″	17′8 3/4″—∞
∞	52′8 3/4″—∞	47′6″—∞	36′1 1/4″—∞

Circle of confusion of diameter 0.03 mm.

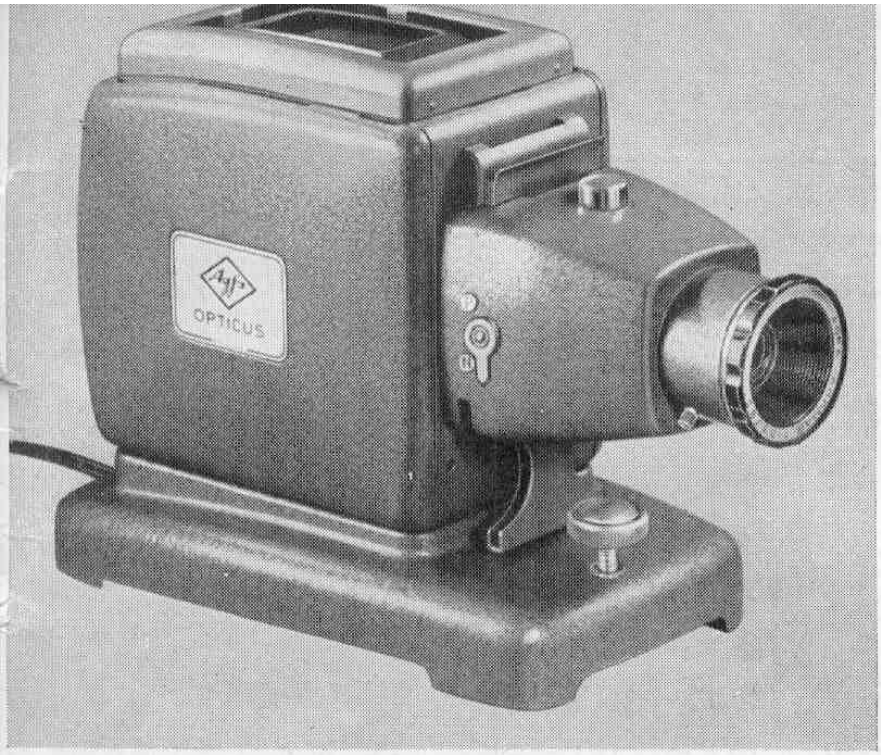
The subject distance should be measured from the focal plane (the back edge of the accessory shoe).

DEPTH-OF-FIELD TABLE FOR 45-mm. f/3.5 AGFA LENSES

Distance	Apertures		
feet	8	11	16
3	2′9 1/4″—3′3 1/2″	2′8 1/4″—3′4 3/4″	2′6 3/4″—3′7 1/2″
3.5	3′2″—3′10 3/4″	3′3/4″—4′1″	2′11″—4′5″
4	3′7″—4′6 1/2″	3′5 1/4″—4′9 1/2″	3′2 3/4″—5′3 1/4″
5	4′4″—5′10 3/4″	4′1 3/4″—6′4″	3′10″—7′2 3/4″
6	5′3/4″—7′4 1/2″	4′9 1/2″—8′1″	4′4 1/2″—9′7 1/4″
8	6′4 3/4″—10′8 3/4″	5′11 1/4″—12′3 3/4″	5′4″—16′4 1/2″
10	7′7″—14′9″	6′11 1/2″—17′11 1/2″	6′1 1/2″—28′3 3/4″
15	10′1 1/4″—29′5 1/4″	9′—46′2 1/2″	7′7 1/2″—∞
30	15′1 1/4—∞	13′1″—∞	10′1 1/2″—∞
∞	26′6 1/2″—∞	19′11 3/4″—∞	14′2″—∞

Circle of confusion of diameter 0.03 mm.

The subject distance should be measured from the focal plane (the back edge of the accessory shoe).



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The stylish home projector with 150 W. lamp; elegant shape, high light intensity, and easy handling.

If you wish to get your colour transparencies mounted between glasses, ask your Photodealer for the practical Agfa Slide Frames.



We reserve the right to make structural alterations of the Agfa Super Silette as a result of further development of the camera.

AGFA CAMERA-WERK AG. MUENCHEN

383 engl. - 556

It is first of all necessary to become thoroughly familiar with the various parts of the camera. Before inserting a film go over the necessary operations several times. Good snapshots can only be achieved if your

Paxette

is ready for instant action.

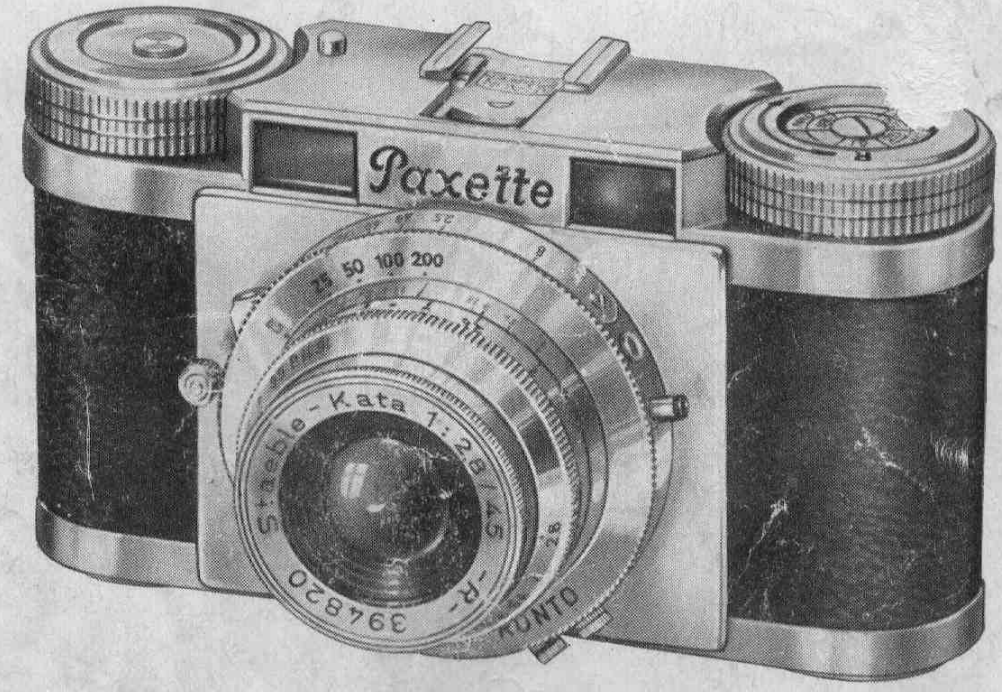


see page

Key to numbers on opposite page

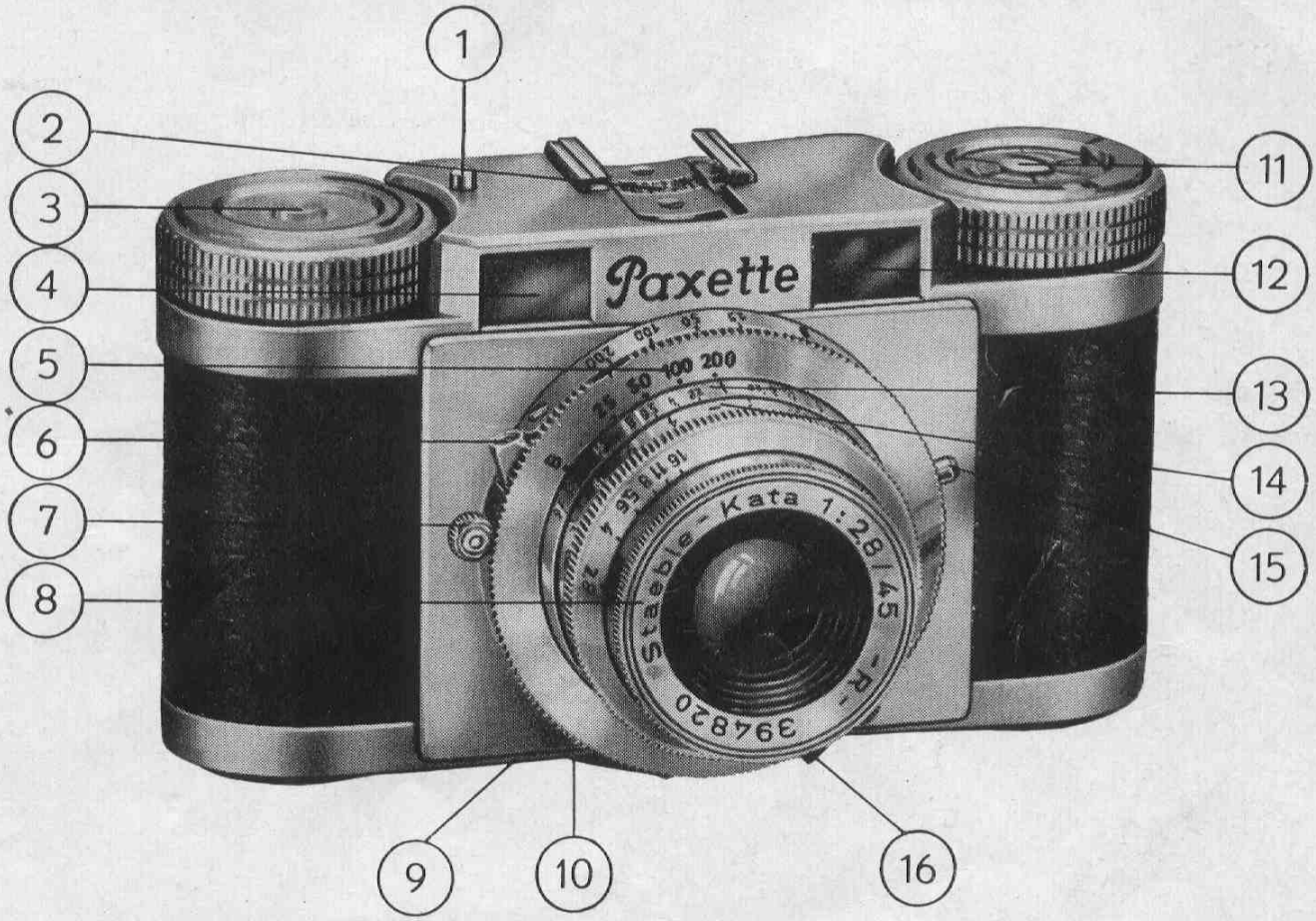
1. Film locking stud 11
2. Film counter 9
3. Knob for winding on film and cocking shutter 10
4. Optical exposure meter 15
5. Shutter setting 18
6. Socket for cable release . . . . . —
7. Shutter release lever 20
8. Lens aperture control 14
9. Locking ring 5
10. Tripod bush ($^1/_4$" Whitworth) . . . . . —
11. Film rewinding knob 11
12. Optical eye level view finder . . . . . —
13. Depth of field ring 19
14. Focussing ring 18
15. Flash socket . . . . . —
16. Delayed action release 14

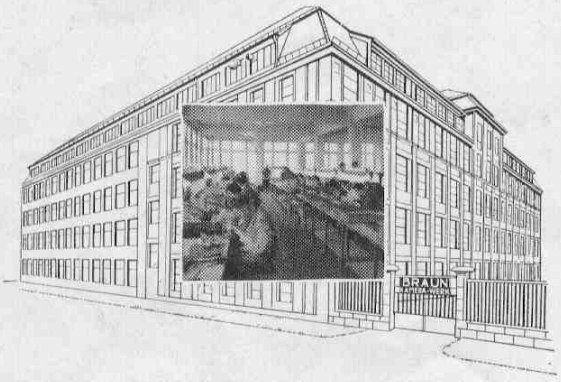
BRAUN
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Paxette Ib

INSTRUCTION-BOOK


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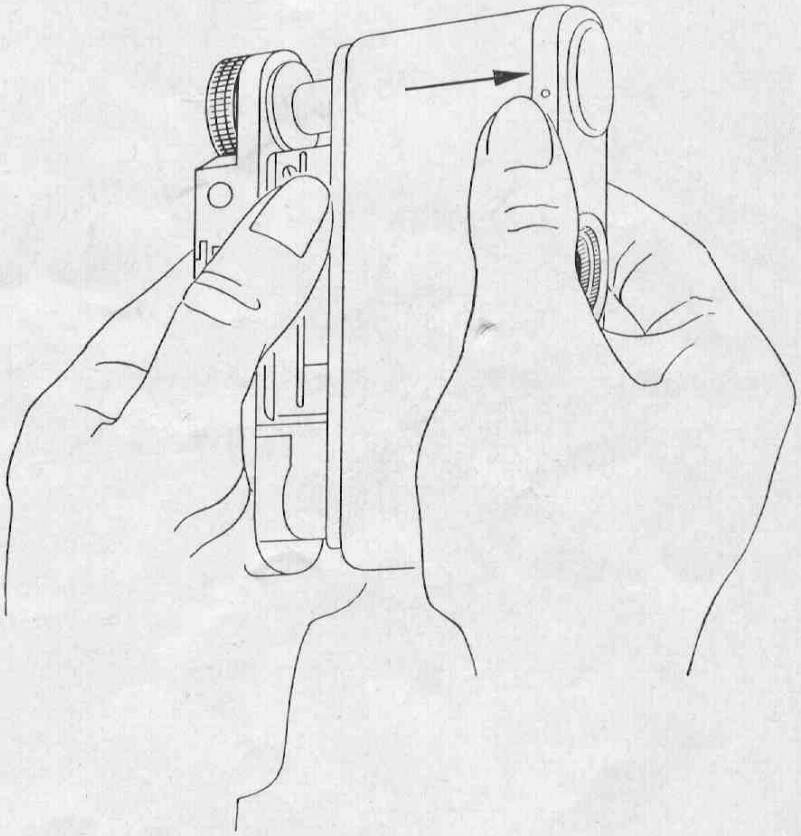
Part view of "Paxette" assembly-room

Introduction

The *Paxette* camera is made by Carl Braun of Nurnberg under the most modern conditions.

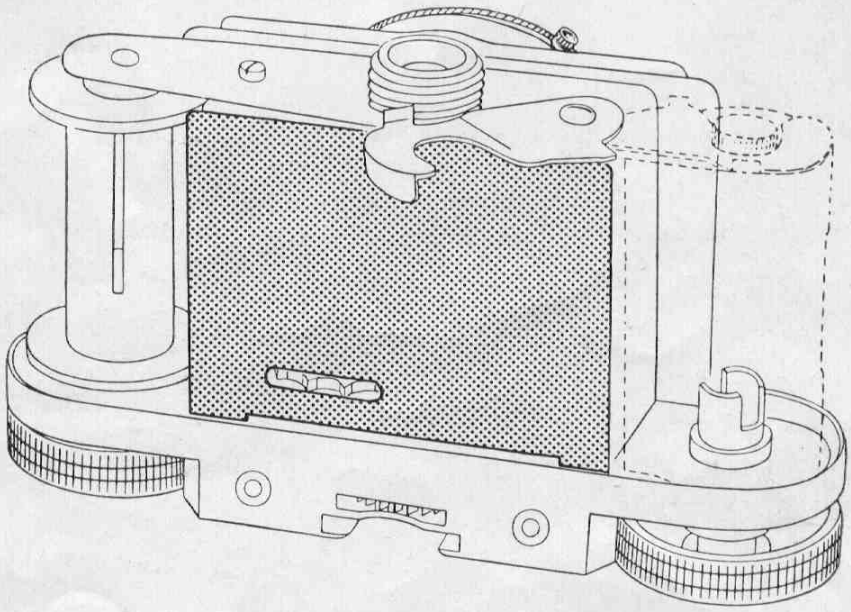
The beautiful finish of the *Paxette* is the first evidence of the quality of the plant and the skill and care of the operatives which lie behind its production. Actual use of the camera very quickly confirms the first impression. It will be found delightful to handle, thoroughly reliable and an instrument capable of producing the most perfect pictures.

Careful study of this booklet is necessary to get the best out of this camera. Once the mechanical details are mastered every photographic problem can be faced with confidence and the *Paxette* will become a constant friend and companion of leisure hours.



How to Open the Camera

The milled locking ring on the bottom of the camera is released by turning anti-clockwise. The back and bottom of the camera can then be slid out.

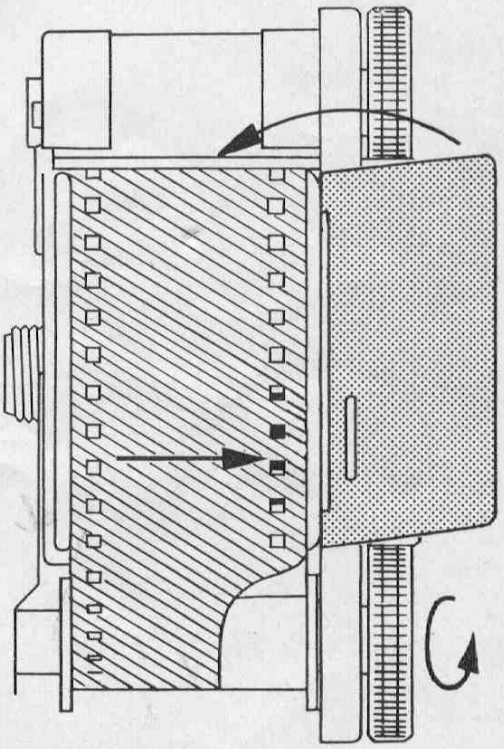


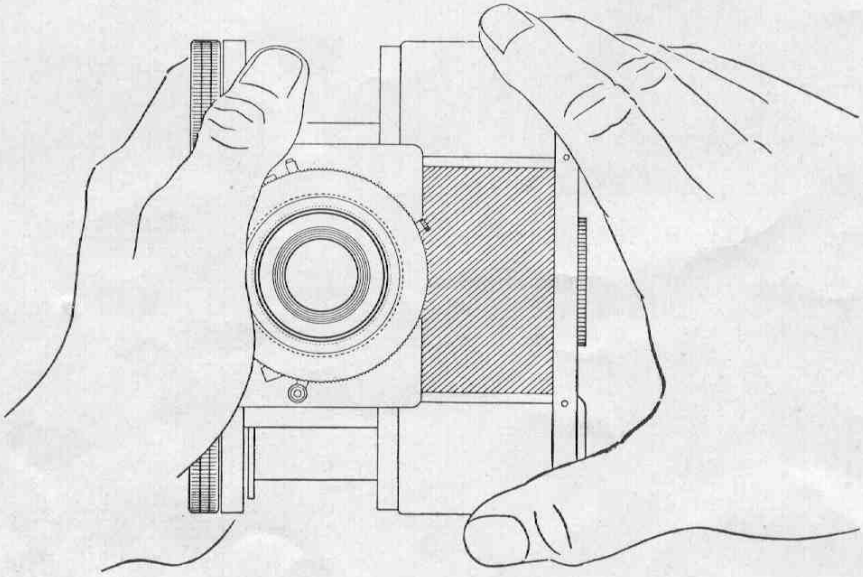
How to Insert the Film Cassette

The arm which retains the cassette is swung outwards by about 90° and the cassette is engaged in the REWIND dog. The lever holding the cassette is then swung back again so that it fits over the protruding spool knob.

How to Attach the Film

The film pressure plate is swung upwards Draw out the trimmed end of the film far enough for it to be inserted in the slot of the take-up spool. Wind the film winding knob in the direction of the arrow until the sprocket teeth of the film transport mechanism engage in the perforations in the film. Then drop back the film pressure plate as indicated by the arrow in the diagram. Winding the film winding knob simultaneously cocks the shutter so that it is not possible to continue winding until the shutter has been released. Repeat winding and releasing the shutter alternately until the perforations have passed over the sprockets, and then close the camera.



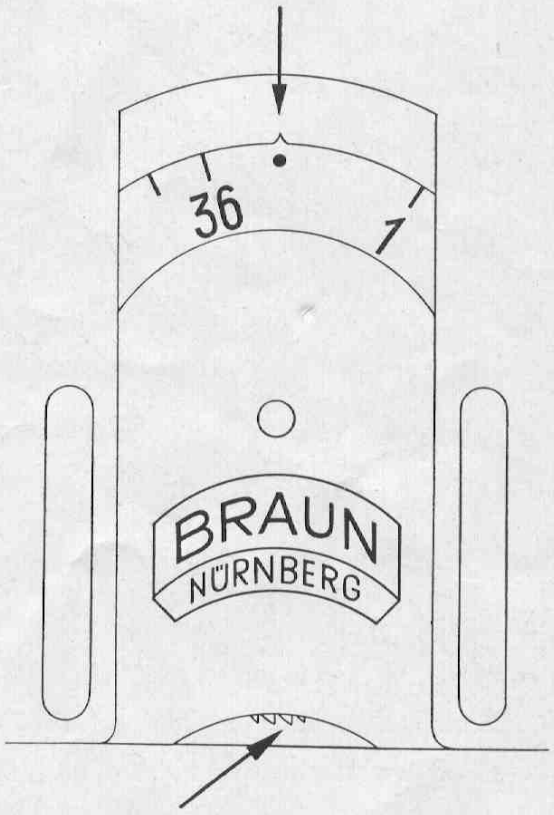


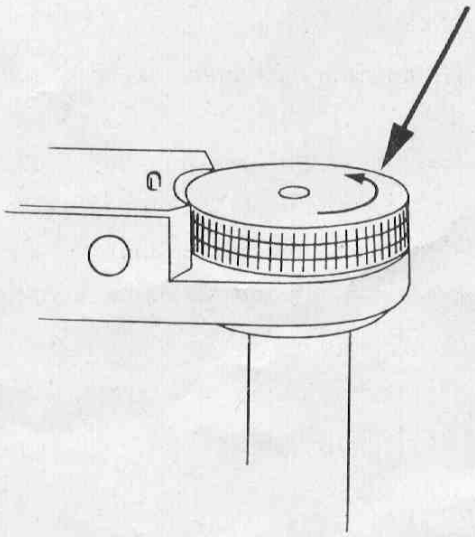
How to Close the Camera

To close the camera the back should be inserted between the camera housing and front plate and the locking ring tightened.

The Film Counter

The film counter reads backwards from 36 to 1. It thus indicates the number of unexposed frames still available. After the film has been loaded and the camera closed, the counter should be set at the red dot near the figure 36, by means of the projecting teeth. The film winding knob is then turned until the reading is 36. It is necessary to release the shutter to allow the film to wind on.





Film Winding and Film Transport

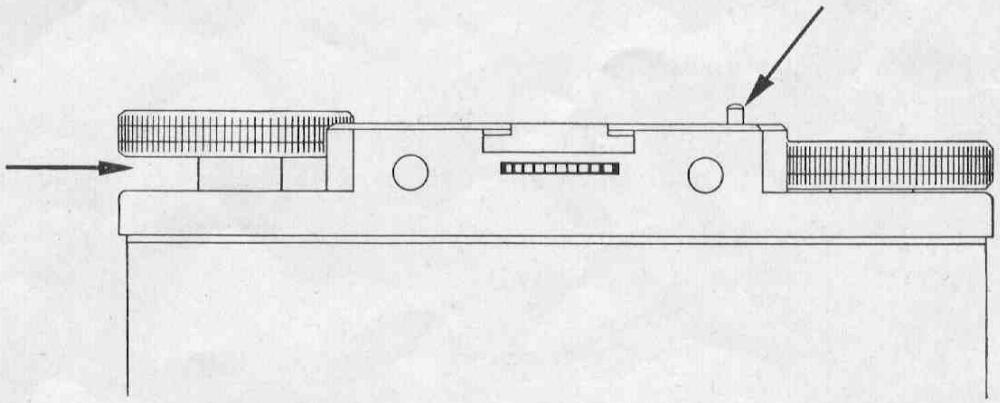
The shutter winding mechanism, film transport and film counter are coupled so that they are operated when the winding knob is wound in the direction of the arrow. After the shutter has been released and until the camera has been re-wound, the safety device which prevents double exposure is in operation.

How to Unload the Camera

The whole length of the film has been exposed when the counter reads figure 1 and the shutter has been released.

To wind back the film, press the locking stud; pull out the rewind knob as far as it will go and turn it in the direction of the arrow. Towards the end of the film a somewhat stronger resistance is felt which indicates that the film is being held by the take up spool. A few turns further will then wind the film completely into the cassette, and the camera can be opened for insertion of a new film.

Note. The locking stud must remain depressed throughout the whole rewinding operation. It throws the sprocket out of gear.



Loading the *Paxette*

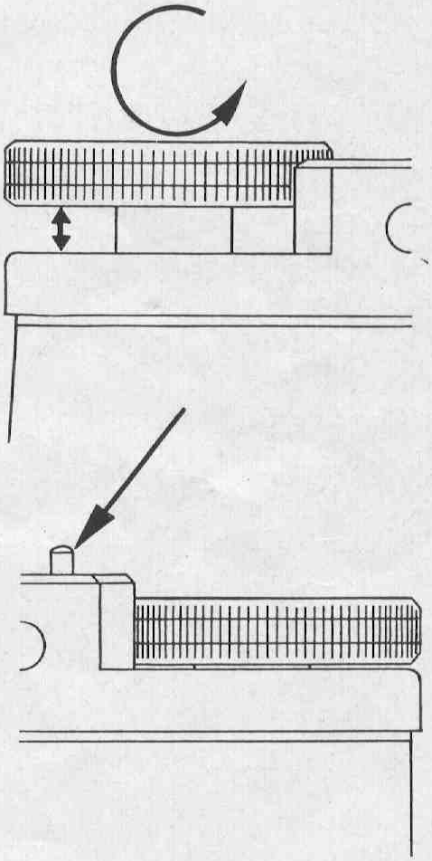
1. Open the camera
2. Insert film cassette
3. Attach the film to the take-up spool
4. Close the camera
5. Set the film counter on the red dot near 36
6. Wind on until 36 is against the index mark

Unloading the *Paxette*

1. Press down locking stud throughout the winding operation
2. Raise rewind knob as far as it will go
3. Turn rewind knob in the direction of the arrow
4. Wind the whole of the film into the cassette
5. Open the camera
6. Remove the cassette

Checking the Film Transport

To make sure that the film transport is functioning properly and the film really being wound on, lift the rewind knob as far as it will go. If the film transport is functioning properly the rewind knob will turn in the opposite direction during winding operations.

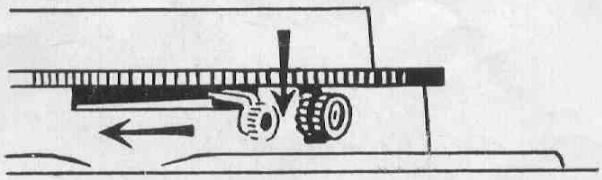


Checking the Re-Winding

To check the rewinding, release the locking stud during rewind operations. It will then stand proud and there should be a strong resistance if the mechanism is working correctly.

Warning. If force is used against this resistance the perforation of the film will tear. When continuing to rewind, press home the locking stud.





The Lens Diaphragm

The lens aperture or diaphragm is set by means of the front ring on the lens. Bring the red dot into register with the black line at whatever setting is required.

Note. The smaller the aperture number the more light is admitted, but the more limited is the depth of field. The larger the aperture number, the less light passes but the greater the depth of field. For example, f/2.8 passes more light than f/16, but the depth of field is much less.

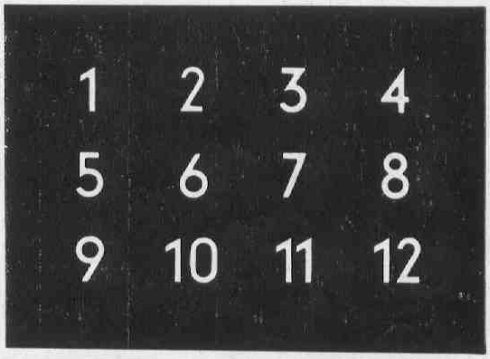
The Delayed Action Release

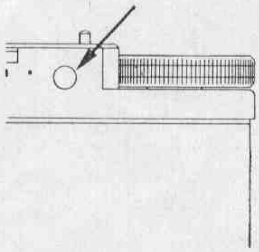
This is positioned on the under side of the shutter. The small lever is pushed, as indicated by the arrow on the diagram, as far as it will go. **Simultaneously** the button next to it is pushed downwards.

Note: At B (time) setting, the delayed-action release cannot be used and is therefore locked at that shutter setting.

The Optical Exposure Meter

There are three rows of figures of different density inside the exposure meter (right hand eye piece). With the eye piece held close to the eye, aim the camera at the subject to be taken. The highest figure which is discernible after looking through the eye piece for about 20 seconds will be the light value and is the basis for reading off the exposure time from the exposure tables on the camera case.



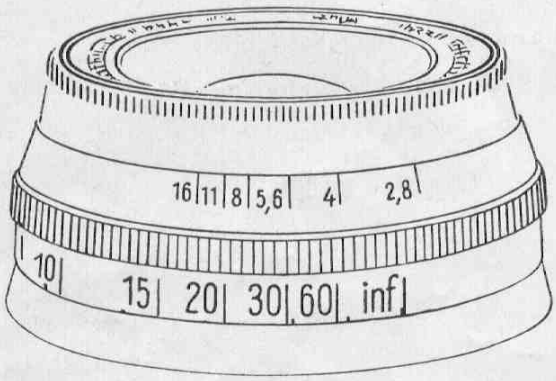


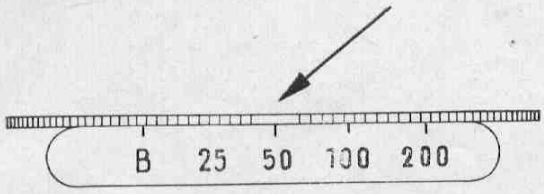
Lichtwert/light-value

Blende/diaphragm	1	2	3	4	5	6	7	8	9	10	11	12
2,8	2	1	1/2	1/5	1/10	1/25	1/50	1/100	1/200	—	—	—
3,5 4	4	2	1	1/2	1/5	1/10	1/25	1/50	1/100	1/200	—	—
5,6	8	4	2	1	1/2	1/5	1/10	1/25	1/50	1/100	1/200	—
8	15	8	4	2	1	1/2	1/5	1/10	1/25	1/50	1/100	1/200
11	30	15	8	4	2	1	1/2	1/5	1/10	1/25	1/50	1/100
16	60	30	15	8	4	2	1	1/2	1/5	1/10	1/25	1/50

Zeit/time

12/DIN 12/ASA	x 4	15/DIN 25/ASA	x 2	18/DIN 50/ASA	x 1	21/DIN 100/ASA	x 0,5





How to Focus

After estimating the distance between the camera and the subject to be taken or after ascertaining it by means of a range finder (which can be mounted on the camera), the second milled ring situated on the lens is turned to register with the line which will be found in the middle of the fixed ring engraved in red. The scale of the distance setting ranges from $3\,^1/_2$ ft. to infinity.

Exposure Time

The shutter is set by bringing the red line on the milled ring of the shutter into register with the desired speed which is engraved on the collar on top of the shutter housing.

How to Read the Exposure Time from the Exposure Table

Example. Assuming that the figure 10 is the highest discernible figure in the exposure meter, refer to the table which is attached to the back of the camera case and look for figure 10 in the top horizontal row. The left-hand vertical row, in front of the thick black line gives the apertures from 2.8 to 16. It is then possible to read off the exposure times for each aperture from the vertical row running down from the figure 10. Assuming that aperture 16 has been chosen (smallest aperture), the reading in the vertical line under the figure 10 for aperture 16 will be $^1/_{10}$ second. For aperture 11 an exposure time of $^1/_{25}$ second would be required, for aperture 8, $^1/_{50}$ second, for aperture 5.6, $^1/_{100}$ second, for aperture 4, $^1/_{200}$ second. The same procedure should be adopted for all other light values.

Note. The table is compiled for films with a sensitivity of 18/10 DIN. For 21/10 DIN the exposure times should be halved and for 15/10 DIN they should be doubled.

The corresponding values for other sensitivity scales may be taken to be as follows:

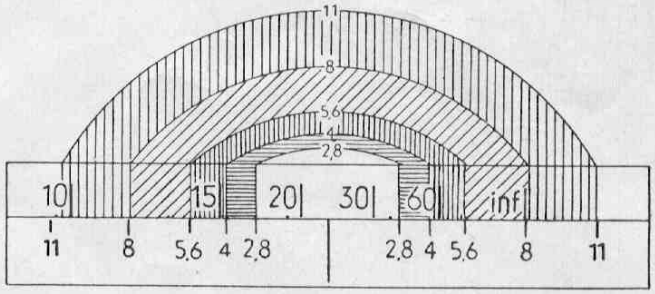
DIN	SCHEINER	WESTON	ASA/BS
21/10	31	80	100
18/10	28	40	50
15/10	25	20	25
12/10	22	10	12

The Depth of Field

The depth of field comprises the area which is sharply defined by the lens, from the foreground to the background. This area or depth varies according to the aperture chosen, that is to say, a large aperture (f/2.8) gives less depth of field and a small aperture (f/16) gives a greater depth of field. The depth of field for every aperture setting can be read off the red scale on the middle ring of your *Paxette*

This repeats on the left and on the right of the centre LINE, the range of lens apertures.

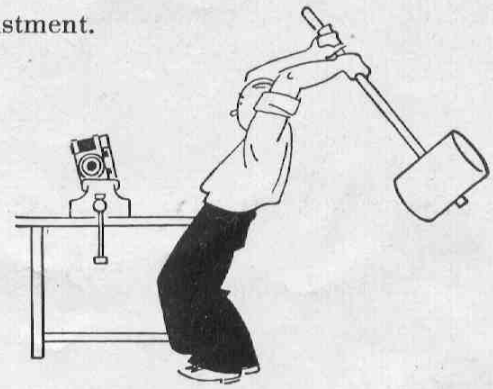
Example. If the focus is set between 20 and 30 ft., everything will be sharp from 60 ft. down to about 15 ft. when working with an aperture of f/4. If working at f/8 however, everything will be sharp from infinity down to 12,5 ft.



The *Paxette* should be held firmly in both hands, so that the rounded bottom edge is resting on the palms of the hands. When the shutter is released, the left hand will then be keeping the camera steady.

This should be done gently and without jerking. Move the finger only and not the whole hand. Allow the finger to rest on the release lever until the release has run off. Remain calm whilst taking a picture, especially when taking snapshots with the *Paxette* Good results amply repay the trouble taken.

22 We do not recommend this method of camera adjustment.



If the *Paxette*

should happen to go wrong, temptation to get a screwdriver and open it up should be resisted. The correct assembly of, say, the shutter or the relationship of the lens to the focal plane are most delicate matters, and even a skilled mechanic not accustomed to cameras should hesitate. A faulty camera should not be touched but should be handed to a good photographic dealer who has a repair specialist with special tools at his disposal.

THE PAXETTE BOOK.

by R. M. Fanstone.

It is noteworthy that R. M. Fanstone, the well-known photographic writer, should have elected to write the book about the *Paxette.*

Paxette owners will find it full of interest and a great help in getting the best out of their camera. Every aspect of *Paxette* photography is covered.

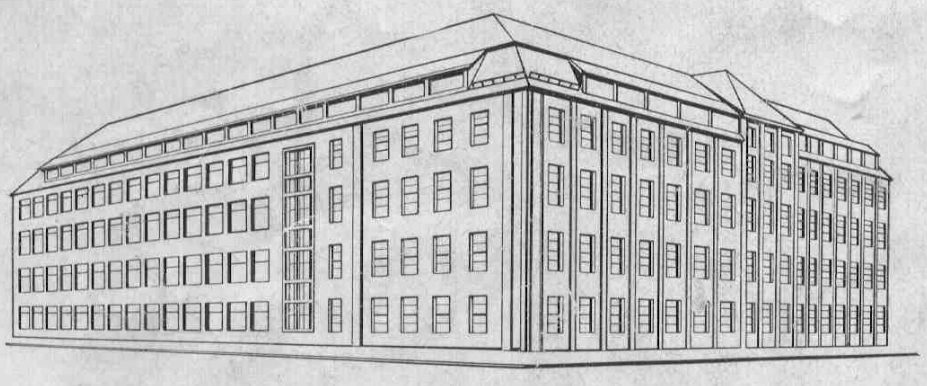
The *Paxette* for colour photography - your negatives - and a host of other interesting topics - complete with numerous illustrations and drawings.

Ready shortly. Obtainable from all good photographic dealers.

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SUPER Paxette II

INSTRUCTION-BOOK

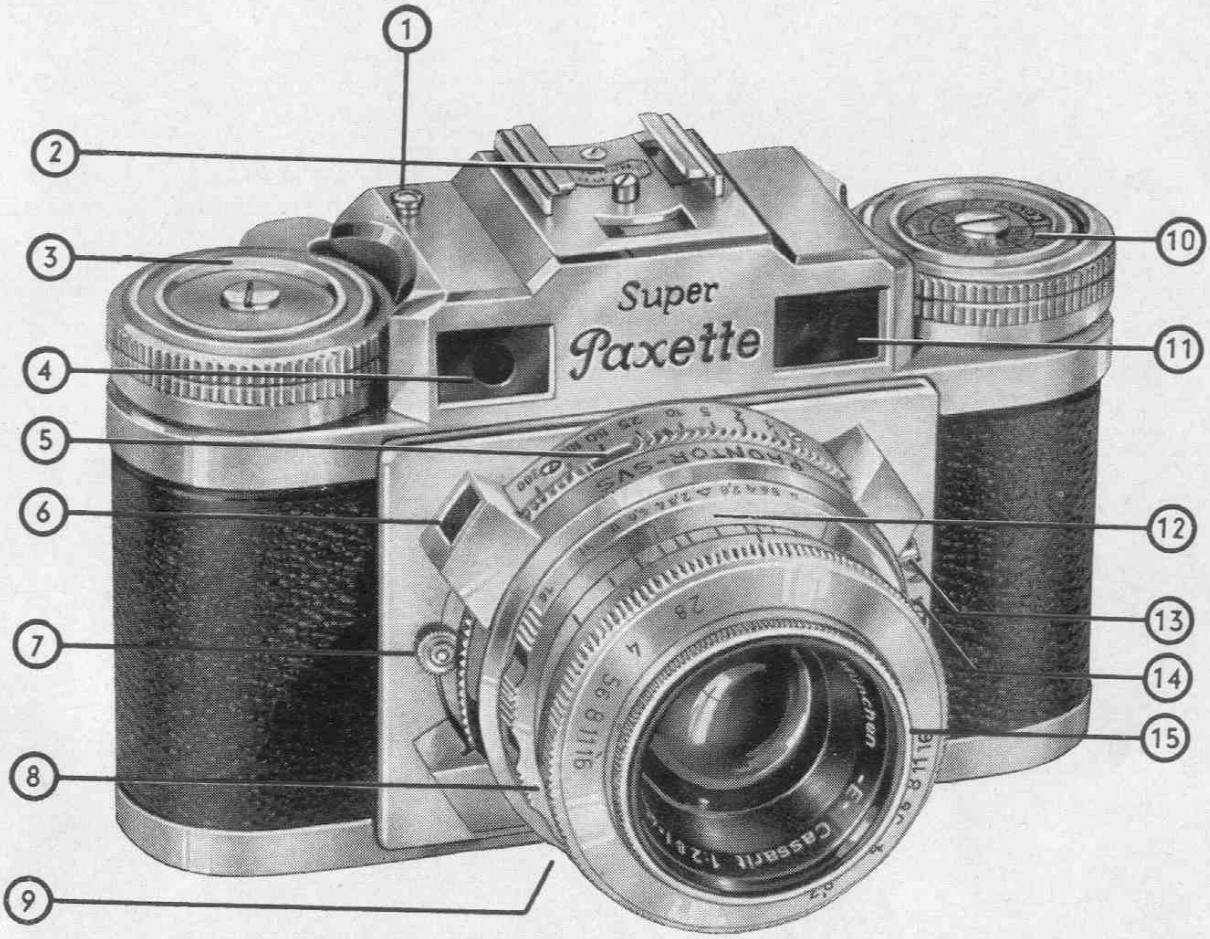
First of all make yourself thoroughly familiar with the various parts of the camera and, before inserting a film, go over the necessary operations several times. Good snapshots can only be achieved if your

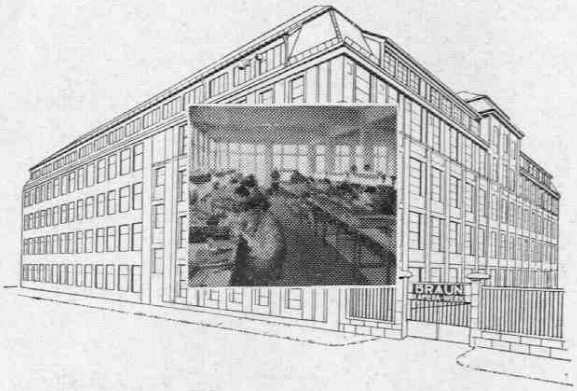
SUPER - *Paxette*

is always ready for instant action.

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1	Rewind push button	11
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SYNCHRO-COMPUR
Cassar I 1:2.8 f=5.8 cm
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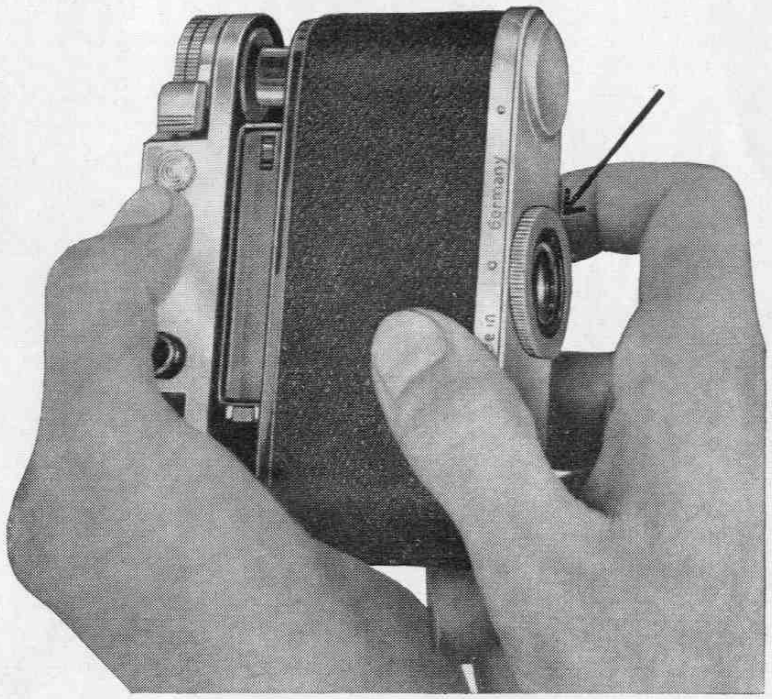
Part View of "Paxette" Assembly-room

Introduction

The **SUPER - Paxette** camera, made by Carl Braun of Nuremberg, is a first class product which reflects the skill and care of the operatives behind its manufacture and also the modern quality of the plant itself. These facts are self-evident and are very quickly confirmed by actual use of the camera.

This booklet describes the **SUPER - Paxette** in detail and should be carefully studied before handling the camera.

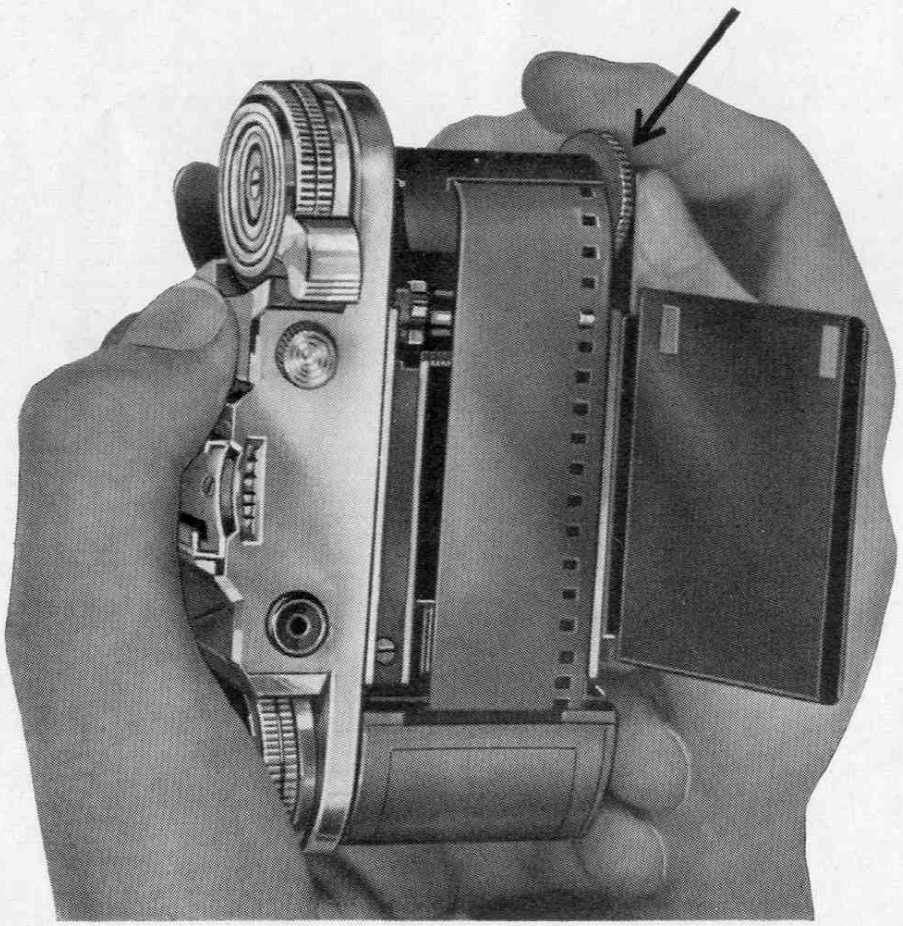
The **SUPER - Paxette** will prove a constant friend and pleasant companion at all times.



How to Open the Camera

Release the milled locking ring on the camera base by turning it to the left. The back of the camera can then be slid off.

6



Insert the film cassette into the film chamber so that it engages in the rewind knob. Open the film pressure plate and draw out the trimmed end of the film far enough to be inserted into the slot of the take-up spool. At the same time ensure that the lug on the take-up spool hooks into the perforation in the film. Now wind the lower wheel of the empty spool until both sprockets engage in the perforations of the film; it is also advisable to depress the film rewind push button at the same time. Lastly, swing the film pressure plate back into the closed position and close the camera.

Important: Avoid direct sunlight when loading or unloading the camera. Turn your back to the light and hold the camera in your own shadow.

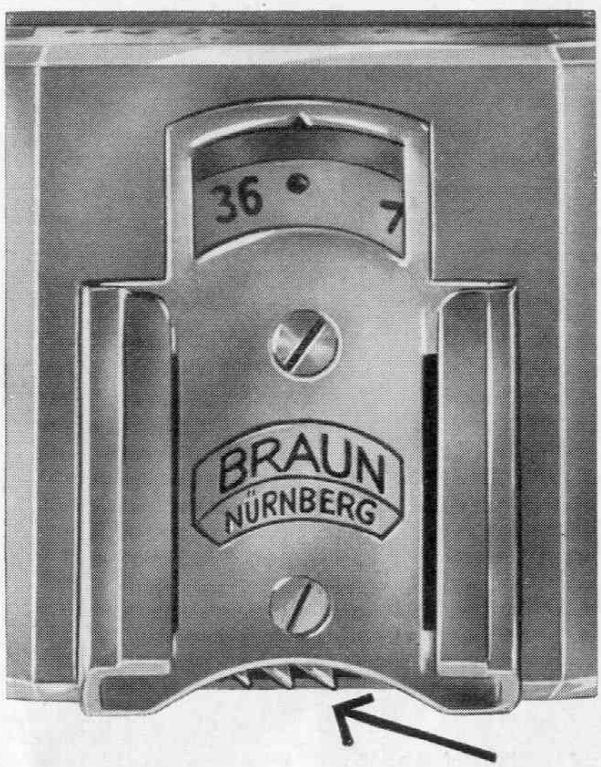


How to Close the Camera

To close the camera the back should be inserted between the camera housing and front plate and the locking ring tightened.

The Exposure Counter

The exposure counter reads backwards from 36 to 1, indicating each time the number of unexposed frames still available. After the film has been inserted and the camera closed, set the counter at the red dot near the figure 36 by turning the toothed wheel which is positioned just below the maker's name. Advance the film twice (each time advancing the rapid wind lever $1\,^1/_2$ times until a definite resistance is felt), and the film counter should then read 36.





The Rapid Winder

The shutter winding mechanism, film transport and film counter are coupled and operated by means of the rapid wind lever. Advance the lever as far as possible, then release it, allowing it to spring back; then advance it approximately half way until a noticeable resistance is felt. The film is now transported, the shutter cocked, the exposure counter correctly set and your Super-Paxette is ready for the next shot.

Loading the

SUPER-*Paxette*

1. Open the camera
2. Insert film cassette
3. Attach film to take-up spool
4. Close the camera
5. Set the exposure counter
6. Advance the rapid wind lever twice
7. The camera is ready for the first shot

Unloading the

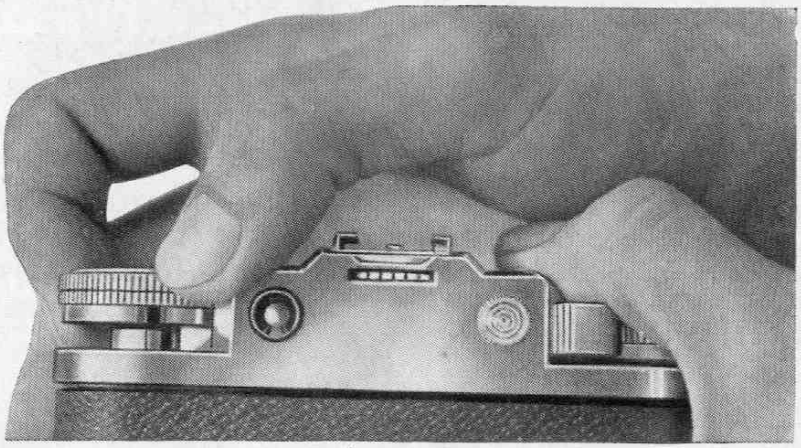
SUPER-*Paxette*

1. Press down rewind button
2. Pull out rewind knob as far as it will go
3. Turn rewind knob in direction of arrow
4. Wind the entire film into cassette
5. Open the camera
6. Take out cassette

When the exposure counter shows figure 1, this means that the entire length of the film has been exposed.

To wind back the film, press the rewind push button, then pull out the rewind knob as far as it will go and turn in the direction of the arrow. Just before the rewinding operation is completed, a more marked resistance will be noticeable indicating that the end of the film is still held by the take-up spool. A few more turns will wind the film completely into the cassette. The camera can then be opened and the film changed.

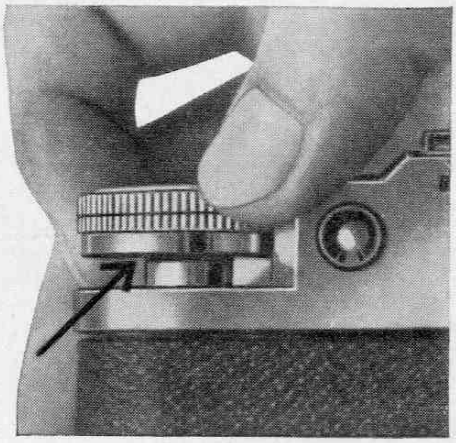
Important: The rewind button must remain depressed throughout the rewinding operation.



Checking the Film Transport

In order to ensure that the film transport is functioning correctly, pull up the rewind knob as far as it will go. If the film is moving forward properly, the rewind knob will turn in the direction opposite to that indicated by the arrow when the rapid winder is advanced.

Important: This check should be made for a short time only. After checking, push the rewind knob in again.



Checking the Rewinding

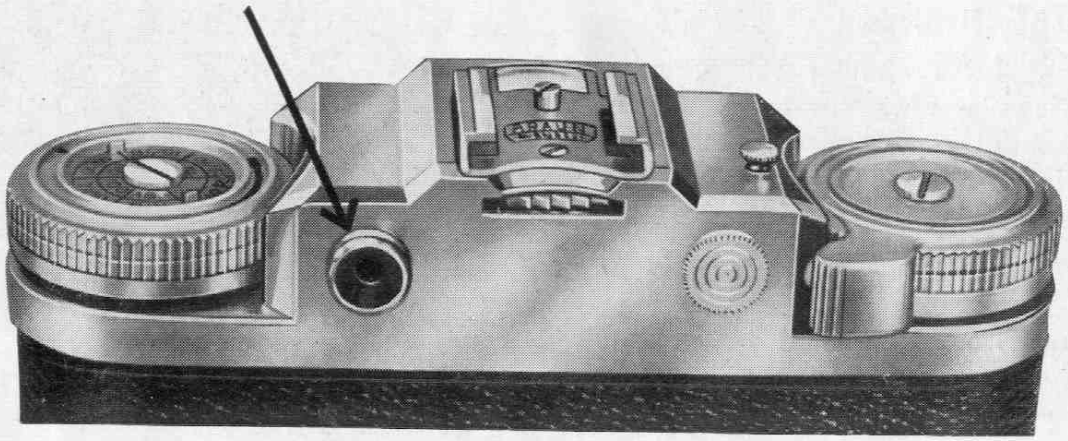
To check the rewinding action, release the locking stud during the rewinding operation. If the mechanism is functioning properly a very definite resistance will be noticeable. If no resistance is felt, this means that the film has been pulled out of the cassette and cannot be wound back. This fault can only be remedied by opening the camera in a darkroom.

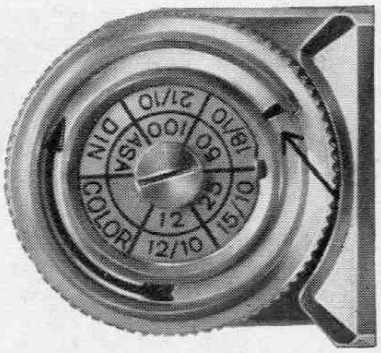
Important: Do not attempt to force the film or the perforation of the film will tear. When continuing to rewind, press in the lucking stud again.

14 The Coupled View and Range Finder

The coupled view and range finder of the **SUPER - *Paxette*** does not only give the frame of the picture but also the range finder image which is visible as a light circular area in the centre of the field. By turning the focussing ring on the lens the exact distance to the subject can be measured and is automatically set.

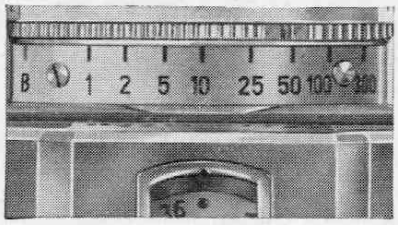
Attention: All interchangeable lenses for the Super-Paxette are coupled to the range finder.





The Film Speed Reminder

In order to avoid errors when choosing aperture and shutter speed, set the film speed indicator to the speed of the film used as soon as the latter is inserted into the camera.



Exposure Time

The shutter is set by bringing the red mark on the milled ring of the shutter into register with the desired speed engraved on the collar of the shutter housing.

In the middle of the light circular area you will see a double image of the subject sighted. By turning the



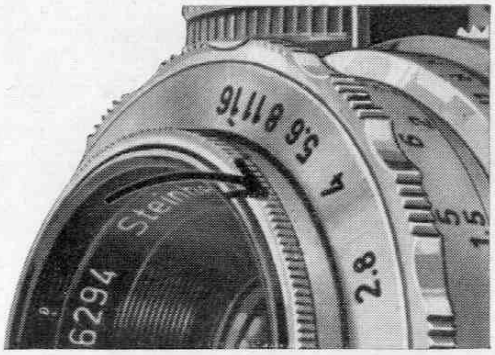


focussing ring these two contours should be made to coincide; in this way the exact distance to the subject is established and the lens focussed.

The Lens Diaphragm

The lens aperture or diaphragm is set by means of the front ring on the lens. Bring the red dot into register with the black line at whatever setting is required.

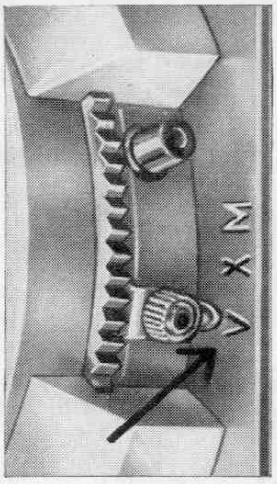
Note. The smaller the aperture number, the more light is admitted, but the more limited is the depth of field. The larger the aperture number, the less light passes, but the greater is the depth of field. For example, f/2.8 passes more light than f/16, but the depth of field is much less.

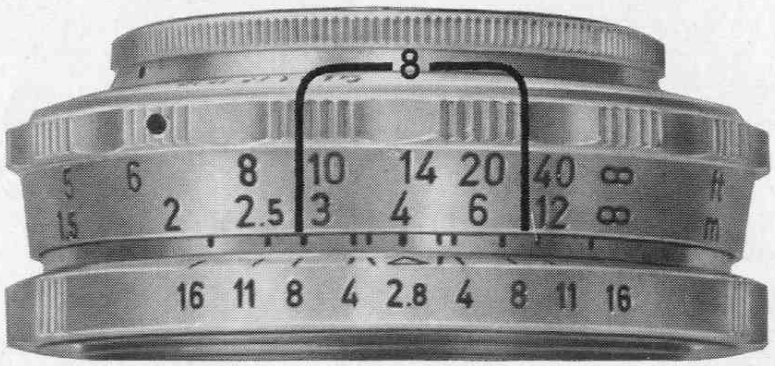


The Delayed Action Release

With the Prontor SVS shutter, put the lever at the green setting "V". The delayed action release can be set either before or after the shutter is cocked.

Attention! When the setting "V" is used, the shutter setting time B cannot be used.





Depth of Field Ring

The depth of field or depth of definition comprises the zone from the foreground to the background of the picture which is sharply defined in the reproduced image. This area or depth varies according to the aperture chosen, that is to say, a large aperture (f/2.8) gives less depth of field and a small aperture (f/16) gives a greater depth of field.

With the **SUPER - *Paxette*** the depth of field for every photograph can be easily read off the depth of field ring which is between the focussing ring on the lens and the shutter speed setting ring; this repeats on the left and on the right of the setting mark the range of apertures.

The **SUPER - Paxette** should be held firmly in both hands with the rounded bottom edge resting in the palms of the hands. When the shutter is released hold the camera steady with the left hand.

Release the shutter gently and deliberately without jerking it, moving the middle finger only and not the whole hand. Allow the finger to rest on the release lever until the release action is completed. Remain perfectly still and composed whilst taking a picture, especially when taking snapshots. If you follow these rules you will be delighted with the excellent results achieved.

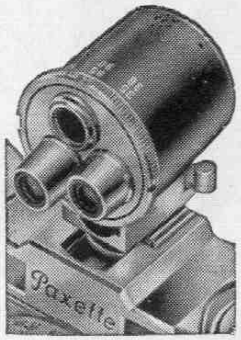
Changing the Lens

The lens should be screwed firmly home into the lens panel in a clockwise direction. If correctly screwed in, the central dot on the red engraved depth of field scale should be just below the engraving "SUPER-PAXETTE". Remove the lens by unscrewing it in the opposite direction. When screwing the lenses in and out they should be held by the knurled fixed ring bearing the depth of field scale.



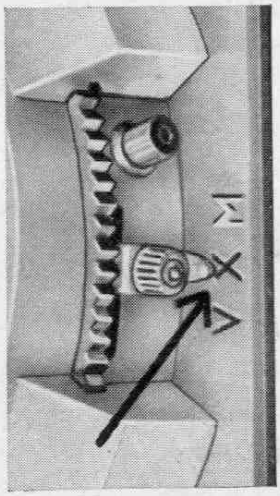
The Attachable View Finder

Without mask this view finder gives the exact framing of the picture when using the wide angle lens of 38 mm focal length. The mask must be used with long focus lenses of 85 and 90 mm. For the 135 mm tele-lens an additional mask is necessary, which is supplied together with the lens. Furthermore these focal lengths are engraved on the bottom edge of the view finder and on the mask.



For High Demands!

Ask your photodealer for the Universal Prismatic view finder of Steinheil or for the Polyfocus Universal view finder which give you the exact images for all focal lengths. (See also page 23)



Flash Synchronisation for the Prontor SVS shutter

The new Gauthier shutter Prontor SVS is fully synchronised for flash, and enables you to set the lever in any desired position, before and after cocking the shutter.

Three settings are possible:

Setting M, yellow

In this position, the M-type flash lamps are ignited with shutter speeds of 1/50 sec. to 1/300 sec. Setting M cannot be used for electronic flashes. The delayed action release does not work. If no flash-gun is attached the shutter operates normally.

Setting X, red

In this position electronic flash shots can be taken at any shutter speed. For flash lamps, only shutter speeds up to 1/25 second can be used. The delayed action release does not work. If no flash unit is attached the shutter operates normally.

Setting V, green

This position is used if you want to work with the delayed action release. For flash shots the same conditions apply as for position "X".



Accessories for the **SUPER** - *Paxette*

Interchangeable lenses coupled to the range finder

Wide angle lens Choro f:3,5/38
Wide angle lens Westron f:3,5/35
Long focus lens Telexon f:5,6/85

Long focus lens Quinar f:3,5/85
Long focus lens Telenar f:3,8/90
Long focus lens Ennaston f:3,5/135

Prismatic View Finder Made By Steinheil for focal lengths 38, 85/90 and 135 mm with parallax compensation.

TEWE-Polyfocus Universal View Finder for focal lengths 35/38, 45/50, 85/90 and 135 mm with parallax compensation.

Optical View Finder for 38 mm with mask for 85/90 or 135 mm

Paximat 35 mm Slide Projektor with rapid slide changer. Amazingly simple to handle.

Branax 35 mm Enlarger can be used for reproduction and macro photography in conjunction with ground glass adapter, intermediate rings and repro lens.

Paxitron Home Flash works without dry or wet batteries and takes its energy directly from the mains. Guide number 44 for 17/10 DIN = 40 ASA films. Light output: appr. 80-90 W/sec.

Pico Electrical attachable exposure meter masters all exposure problems. Ranging from 15 sec. - 1/1000 sec.

Eveready and combi-cases - filters and filtersets - sunshades

The right for change of construction due to improvement is reserved herewith

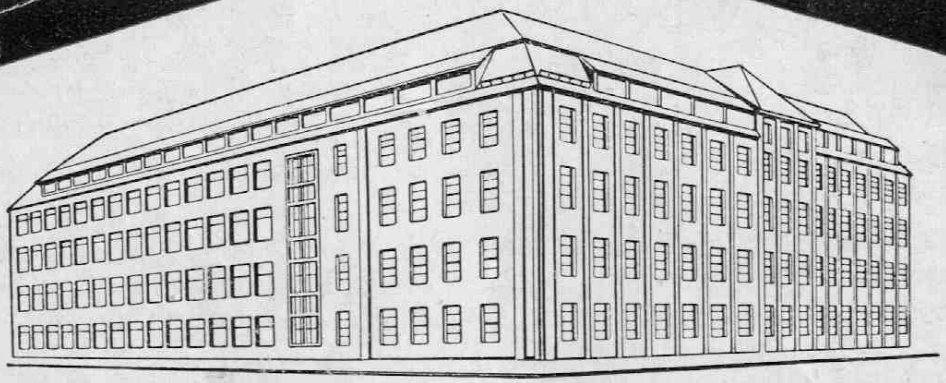
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WARNINGS:

1. To assure the lifetime service of the shutter: **First** set the speed, **Then** transport the film (which also cocks the shutter), **Then**, if wanted, set the self-timer. This order of procedure will assure that the film will not wrinkle in consequence of changes in temperature.
2. When re-winding the film, press the clutch properly (Instruction Book p. 13) and never use force. You may not only tear the film but also severely damage the mechanism.
3. If you have a Paxette I or Paxette IM camera with fixed lens, do not try to unscrew the lens. It is not meant to be unscrewed - you may break the mount.

Repairs which should be necessary which are due to the non-observance of these warnings and/or of those mentioned in the Instruction Book, will be charged.

"PHOTIMPORT", Pty. Ltd. Melbourne
Sole Australian Agents for
CARL BRAUN, Nürnberg.



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MADE IN GERMANY

HASSELBLAD®

Instruction Manual

500C/M

500EL/M

SWC/M

People who buy their first Hasselblad seldom do so on the spur of the moment. Their decisions are usually preceded by careful study of the camera at one or more demonstrations. But a Hasselblad is literally packed with features to which no brief demonstration can do justice. So read this Instruction Manual carefully.

Previous owners of Hasselblad may choose only to leaf through the Manual. Not advisable, we feel. The Manual should be read from cover to cover. Even experienced photographers could miss a piece of information of potential importance. Our cameras are also modified from time to time. The Instruction Manual now covers the Hasselblad 500C/M, 500EL/M, and SWC/M cameras. All the basic concepts, such as film loading, attaching and detaching film magazines, lenses, viewfinders, focusing screens, etc. are described under the "Hasselblad 500C/M" heading. Features pertinent to the 500EL/M and SWC/M will be found under those headings.

Hasselblad cameras are renown for their quality and precision, but, like any other precision instrument, they demand skill and know-how to yield the best results. So let us once again recommend a careful reading of this Instruction Manual. It will be worth the effort.

HOW TO PREPARE YOUR 500C/M AND 500EL/M FOR OPERATION

Front protective cover

Unscrew the protective cover (with bayonet mount) in the direction of the arrow.

Fig 1



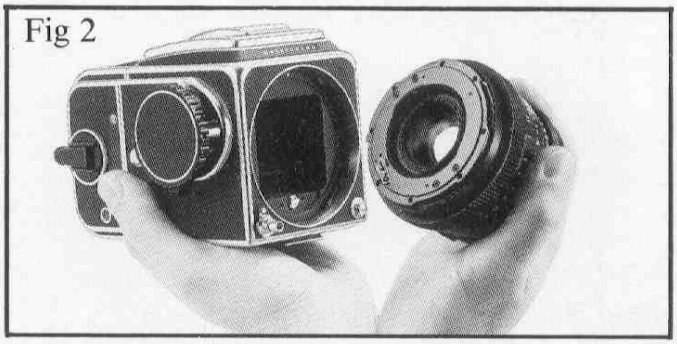
Attaching the lens

First make sure that the camera is advanced and not in the pre-released mode.

Make sure the lens mechanism is cocked. The slot (A) on the head of the cocking shaft should point to the adjacent red index dot (B). See also p. 11 for the procedure of cocking a released, detached lens.

Align the red delta at the rear of the lens with the red dot (O) on the camera lens mount. Rotate the lens **clockwise** until it stops and locks into place with a **click.**

Fig 2



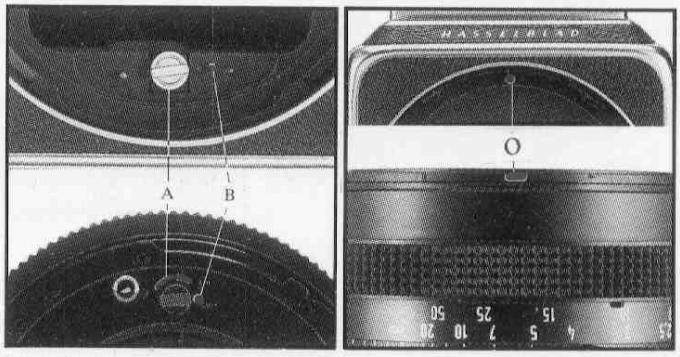
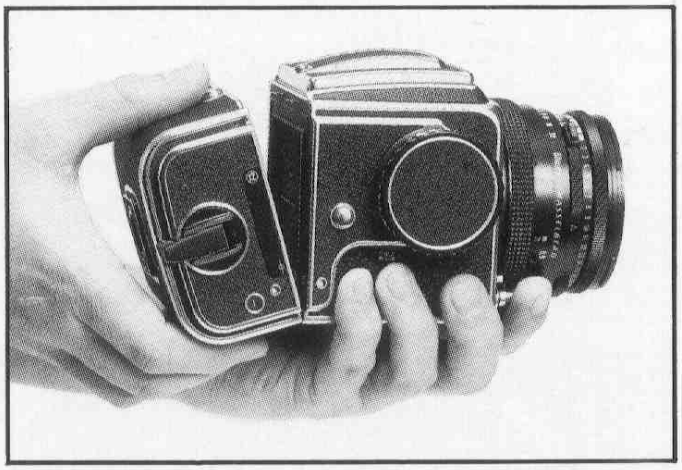


Fig 3

Fig 4



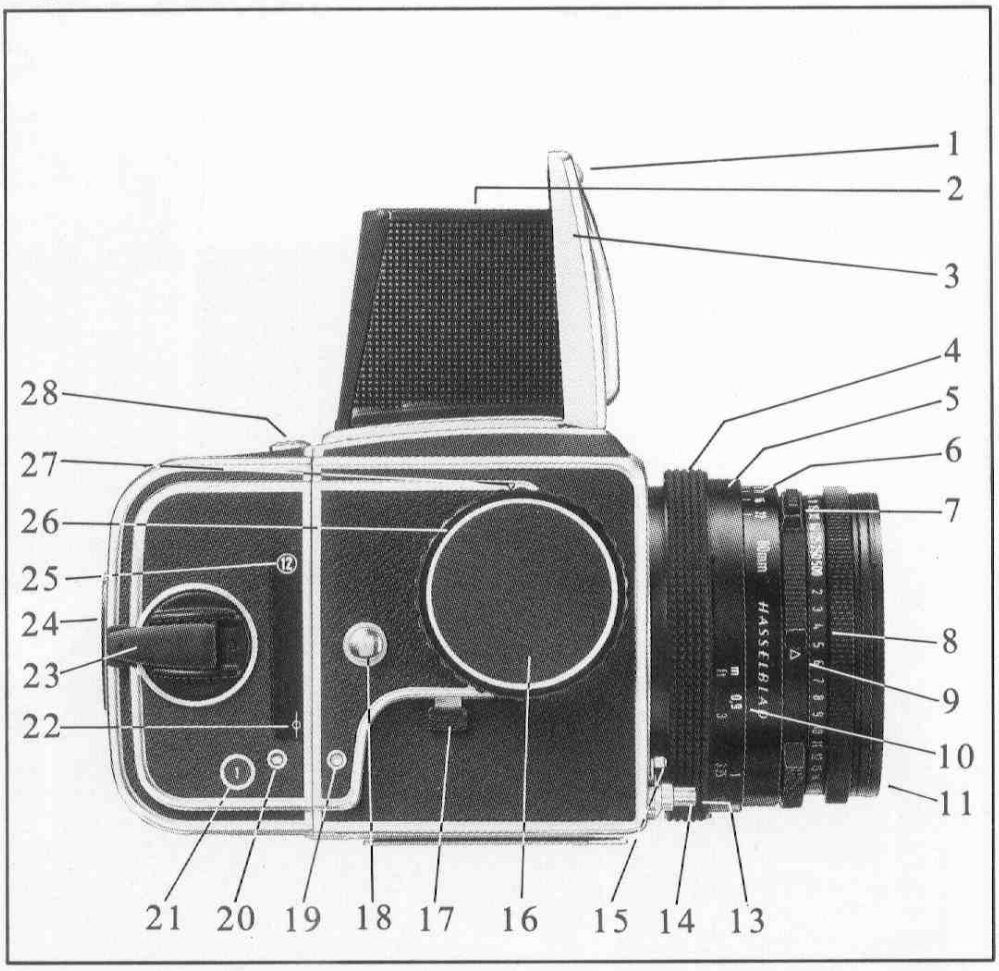
Rear protective cover
Press the catch in the direction of the arrow and tip the cover backwards. Lift it off the lower magazine support catches.



Attaching a magazine
Hook the magazine onto the camera's lower magazine support catches (40) and make sure the attachement is secure. Then pivot the upper part of the magazine against the upper catches while sliding the magazine release catch (28) to the right. Release the catch and *make sure the magazine is locked in place by sliding the catch to the left.*

Fig 5

Fig 6

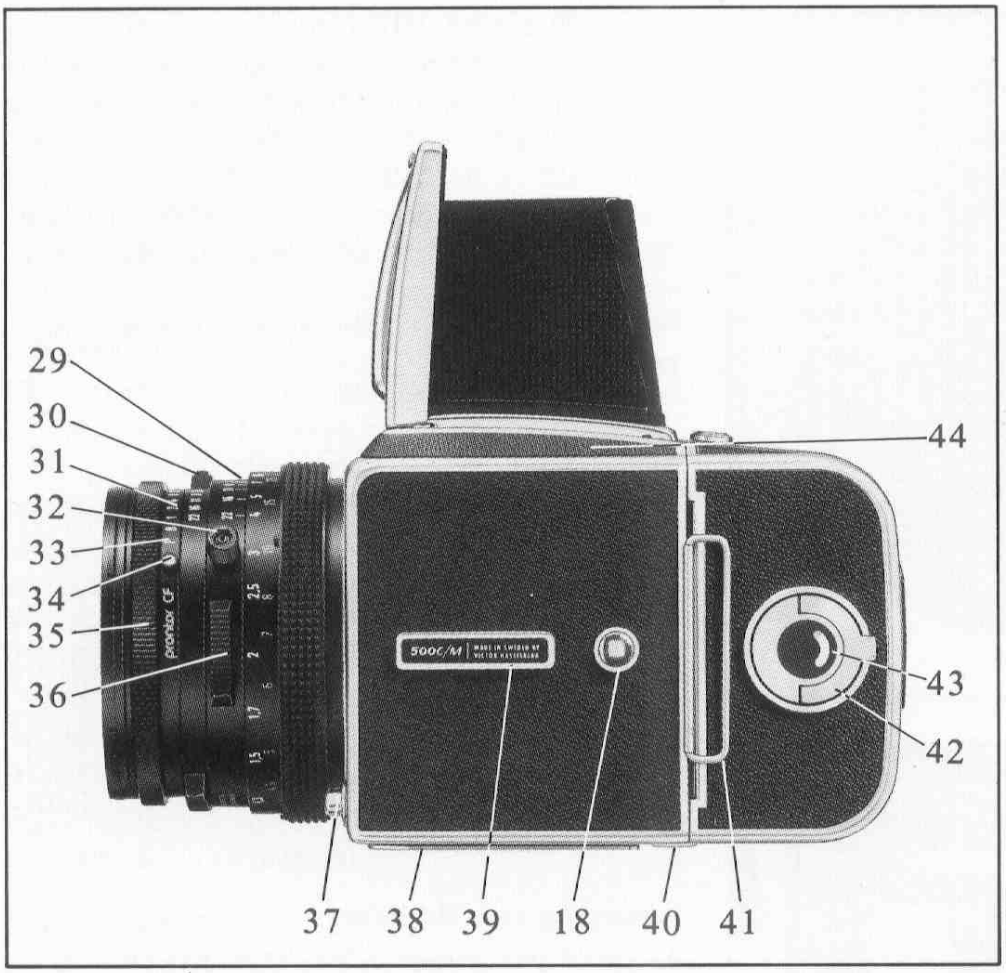


1. Catch for focusing hood and fine-focusing magnifier
2. Fine-focusing magnifier
3. Focusing hood
4. Focusing ring
5. Central index
6. Depth-of-field scale
7. Button for cross-coupling of shutter speed and aperture rings
8. Exposure value scale
9. Exposure value index
10. Distance scale (feet and meters)
11. External and internal accessory mounts
13. Threaded cable release socket
14. Shutter release
15. Time exposure lock
16. Knob for film advance and shutter cocking
17. Pre-release button
18. Strap lug (one on each side)
19. Shutter status indicator
20. Film advance indicator
21. Frame counter
22. Film plane indicator
23. Folding film winding crank
24. Film reminder
25. Magazine designation
26. Knob release catch
27. Knob positioning index
28. Magazine release catch

500C/M



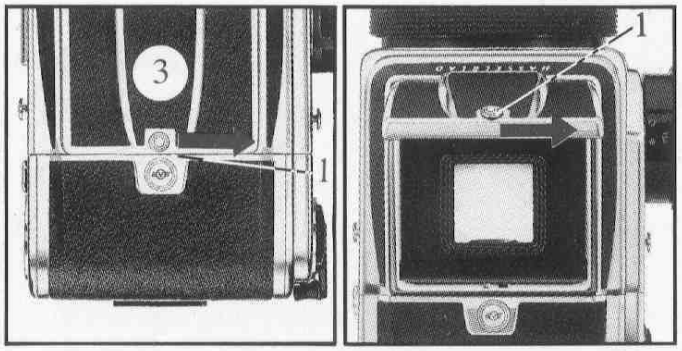
Fig 7



29. Index for infrared compensation
30. Aperture ring with aperture scale
31. Shutter speed scale
32. PC flash terminal
33. F setting (used only with 2000FC/M)
34. Detent button for F setting
35. Shutter speed ring
36. Depth-of-field preview tab
37. Lens lock release button
38. Tripod plate and 3/8″ tripod socket
39. Accessory rail
40. Magazine support catches
41. Magazine slide
42. Roll holder key
43. Film consumption indicator
44. Focusing screen

Fig 8





Figs 9—10

LEFT-HAND GRIP (Fig. 8)

Fig. 8 shows the best way to hold a Hasselblad 500C/M when taking pictures. Hold the camera cradled in your *left* hand with your *left* index finger on the release button. This leaves your right hand free to carry out other operations, such as film winding, focusing, etc.

Always make it a habit to use the left-hand grip.

FOCUSING HOOD (Figs. 9—10)

The focusing hood (3) automatically opens when the catch (1) is slid to the right. For critical checks on image sharpness, use the fine-focus magnifier which pops up when the catch (1) is again slid to the right. Flip the magnifier down until it clicks into place before closing the focusing hood. Then fold the hood's side leaves down over the focusing screen, followed by the rear leaf and finally the front leaf.

Changing viewfinders:

1. Remove the film magazine (see p. 15).
2. Slide the viewfinder back out of the grooves.
3. Slide the new viewfinder into the grooves and press it firmly forward.
4. Replace the film magazine.

CF LENSES

The 80mm f/2.8 Planar is the standard Hasselblad lens. Lenses developed for the 500C/M and 500EL/M are referred to as CF and C lenses (for C lenses, see p. 35).

CF lenses can also be used on the 2000FC and 2000FC/M and can then operate with their

built-in leaf shutter or with that shutter disconnected (exposure is made with the camera's focal plane shutter).
The CF lenses feature built-in Prontor CF leaf shutters with an automatic diaphragm, exposure value scale and X synchronization. These lenses attach to the camera via a bayonet mount.

Diaphragm (Fig. 11)
CF lenses have an automatic diaphragm that stops down to the working aperture immediately prior to exposure.

Depth-of-field preview:
Press down on the top part of the depth-of-field preview tab (36). Use your left thumb. The lens will then stop down to the preset working aperture.
Upward pressure on the tab will reopen the diaphragm to the maximum aperture.
(After film advance, the diaphragm is always reopened to the maximum aperture unless the tab is depressed.)

Shutter speeds (Fig. 12)
Shutter speeds are set on the shutter speed ring (35) opposite the index (5). The shutter speed ring has two scales, an F setting and a green detent button. The white scale shows the shutter speeds and the orange scale the exposure values.

The green F setting is only used when the lens is attached to a 2000FC or a 2000FC/M camera (the F setting disconnects the optic's built-in leaf shutter. See the Instruction Manual for the 2000FC/M.) The F setting can be made only after depressing the green detent button (34).

Fig 11

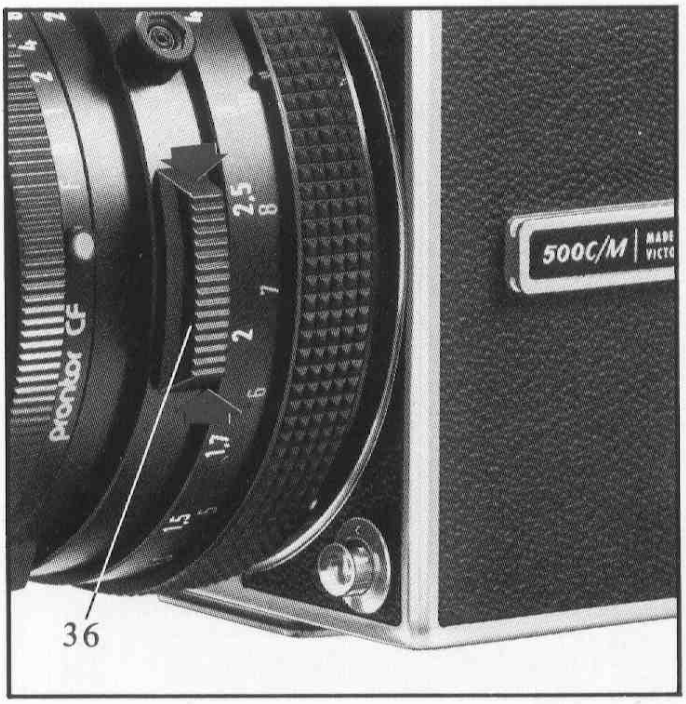


Fig 12





Fig 13

Shutter speeds: 1 to 1/500 s and B.
At the B setting, the shutter remains open as long as the shutter release is depressed.
Always use a cable release for long exposures.

NOTE Some films may display a loss of speed in very long exposures (reciprocity failure). Any exposure compensation necessary here is usually specified by the film manufacturer.

Warning signal
There is a red marking on the shutter speed scale opposite the 1, 1/2, and 1/4 s. This is to warn against possible exposure errors. The auxiliary shutter remains open as long as pressure is maintained on the shutter release. If the pressure is relaxed too soon, the auxiliary shutter will terminate the exposure prematurely. So make a habit of maintaining pressure on the shutter release until the leaf shutter has opened and closed fully.

Exposure values (Fig. 13)
The aperture and shutter speed combination set opposite the central index (5) determines the exposure. Every combination of shutter speed/aperture has an equivalent exposure value (8).

The shutter speed ring (35) and the aperture ring (30) can be cross-coupled by pressing the cross-coupling button (7). When this button is depressed, the shutter speed/aperture combination can be changed without altering the exposure value (EV).

Should you, for example, wish to change from f/8 to f/11, the shutter speed ring will automatically switch to the corresponding shutter speed when the shutter speed and aperture rings are cross-coupled.

Focusing (Figs. 14—15)
The lens is focused with the focusing ring (4). The ring is turned until the subject is as sharp as possible on the focusing screen. "Rock" the ring back and forth around the point of apparent sharp focus a few times for maximum focusing accuracy.

The distance between the subject and the film plane is read off on the distance scale (10) opposite the central index (5). The distance in meters is shown in white numerals, and the distance in feet is in orange numerals.

Objects on the near or far side of the set distance can be sharp within certain limits. The limits for this field of sharp focus, i.e. depth of field, vary with the f/stop.

A small f/stop yields wide depth of field.

A large f/stop yields shallow depth of field.

The depth of field available at any given f/stop can be read off on the depth-of-field scale (6) on both sides of the central index (5). In the example shown here (Fig. 15), the lens is set at 7 m. Depth of field at f/11 will then range from 4 m to 20 m. (Also see "Depth-of-field Preview" on p. 7.)

Fig 14

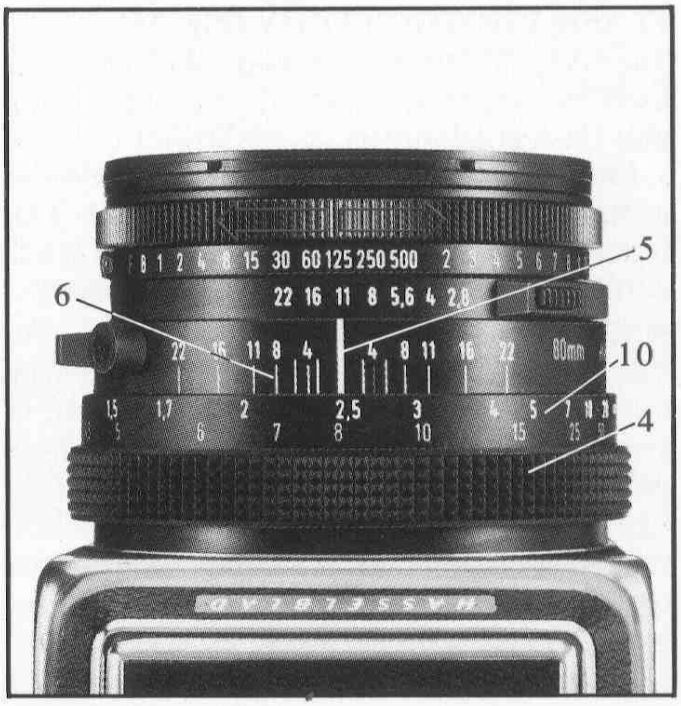




Fig 15

FLASH PHOTOGRAPHY (Fig. 16)

The 500C/M, 500EL/M, and SWC/M can be used for synchronized electronic and expendable flash at all shutter speeds from 1 to 1/500 s. Flash synchronization is made via the built-in leaf shutter's PC flash terminal (32). This terminal has a friction lock to keep the synch cord's PC contact more securely in place.

X synchronization

The shutter is fully synchronized for electronic flash (X) at all speeds (1 to 1/500 s). X synchronization triggers the shutter without delay to accomodate the brief duration of the light output from electronic flash units. Expendable flash is also possible with shutter speeds of 1/30 s or slower.

Infrared photography (Figs. 17—18)

Infrared (IR) rays (wavelengths longer than 800 nanometers) are refracted to a focal plane somewhat behind the focal plane of the visible light images formed on the focusing screen. To compensate for this discrepancy, proceed as follows:

Focus as usual on the focusing screen. Then rotate the focusing ring (4) until the distance set is opposite the red IR index (29).

Example: In Fig. 17 the lens is set at infinity for normal photography.

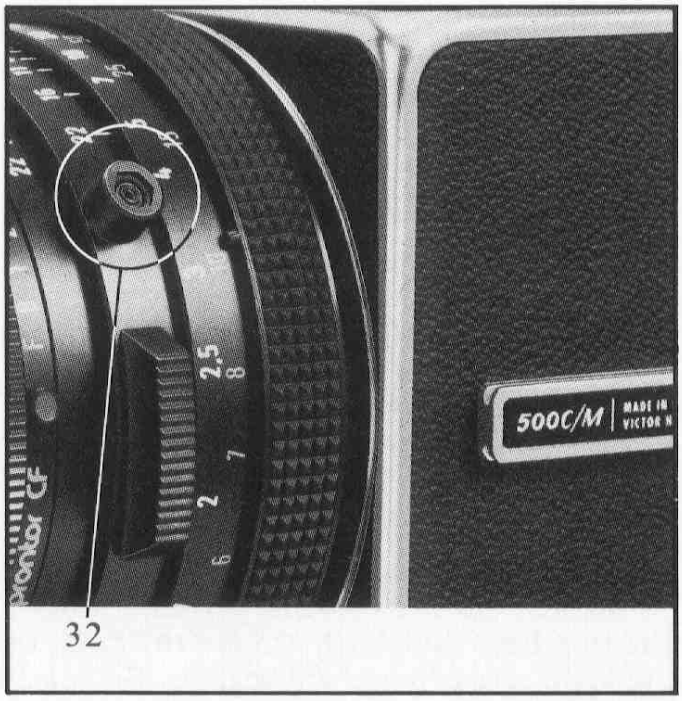
In Fig. 18 the setting distance has been adjusted for IR photography by setting the infinity symbol opposite the IR index (29). Infrared (IR) is the designation for wavelengths longer than 800 nm.

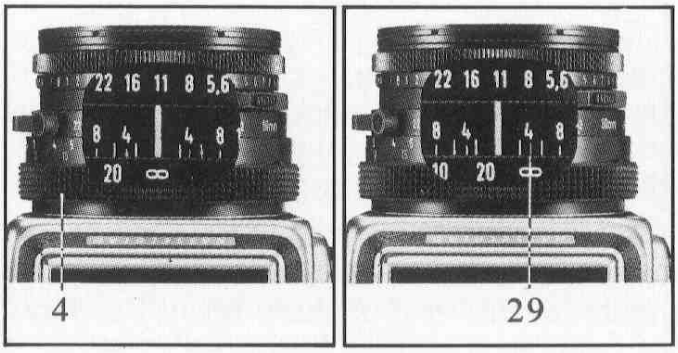
CHANGING LENSES (Figs. 19—20)

Lens removal

Make sure the camera is cocked (white signal in the film advance indicator window 20) and

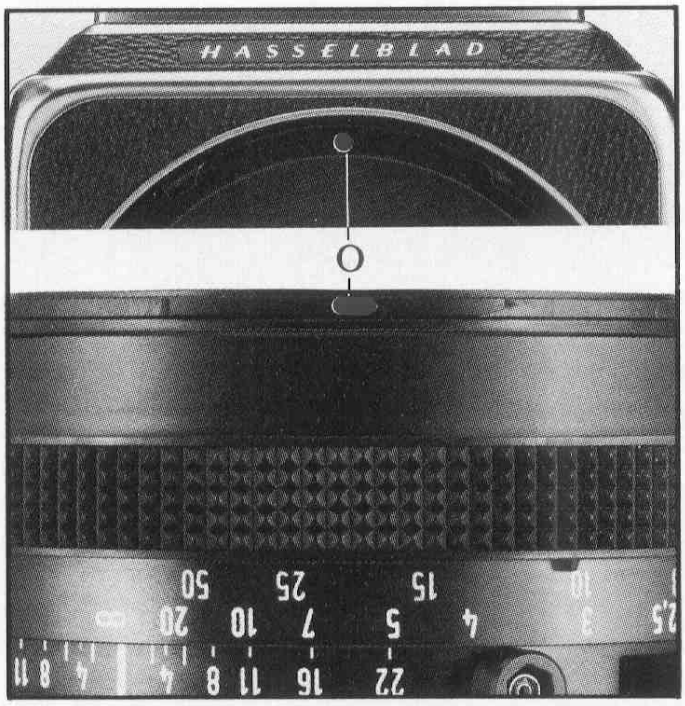
Fig 16





Figs 17—18

Fig 19



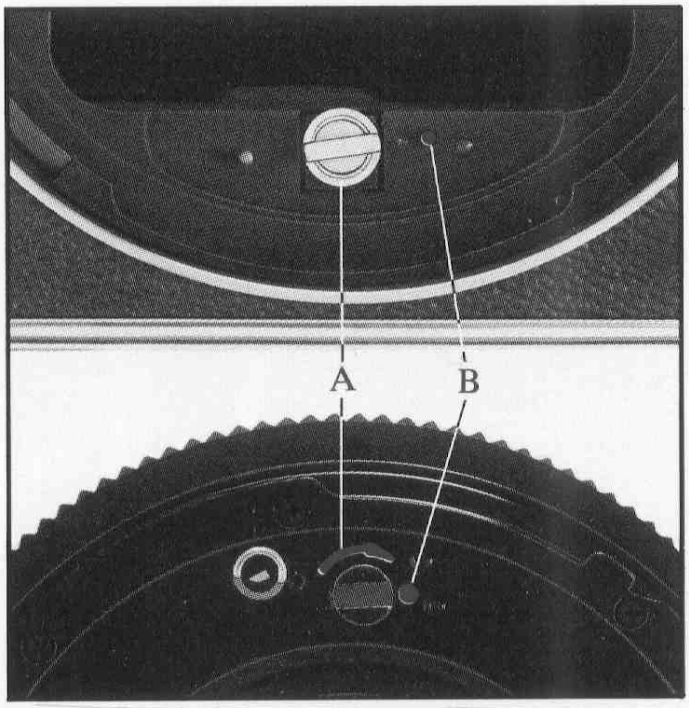


Fig 20

not pre-released. ("Pre-release", p. 13.) Press the button (37) with your left index finger. Twist the lens *counter-clockwise* one tenth of a turn and remove it.

NOTE. The 500EL/M must **not** *be set at RS or AS when lenses are changed.*

Lens attachement

Ensure that the camera is cocked and not pre-released. Make also sure the lens is cocked. The slot (A) on the cocking shaft should point to the red index dot (B). (See "Shutter cocking" below for cocking untensioned, detached lenses.)

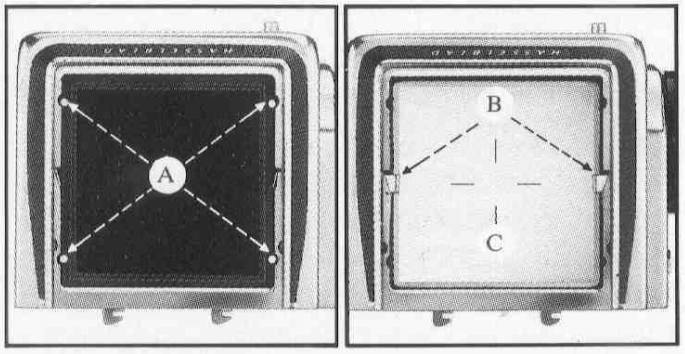
Carefully insert the lens into the camera's lens mount with the red marking on the lens barrel aligned with the red marking on the camera body. Twist the lens *clockwise* until it clicks into place.

Shutter cocking

When the lens is attached to the camera, the shutter mechanism is automatically cocked each time the film is advanced. If the lens has been off the camera and the shutter inadvertently released, the shutter mechanism must be cocked before the lens is attached to the camera's lens mount.

The shutter in a detached, untensioned lens is cocked with a coin inserted into the slot (A) on the cocking shaft. Rotate the shaft *clockwise* slightly more than one turn until it stops. (Do *not* use a screwdriver or any other sharp object which could slip and damage the rear lens element.) When the lens is cocked, the slot (A) on the shaft will point to the red index dot (B). See Fig. 20.

Figs 21—22



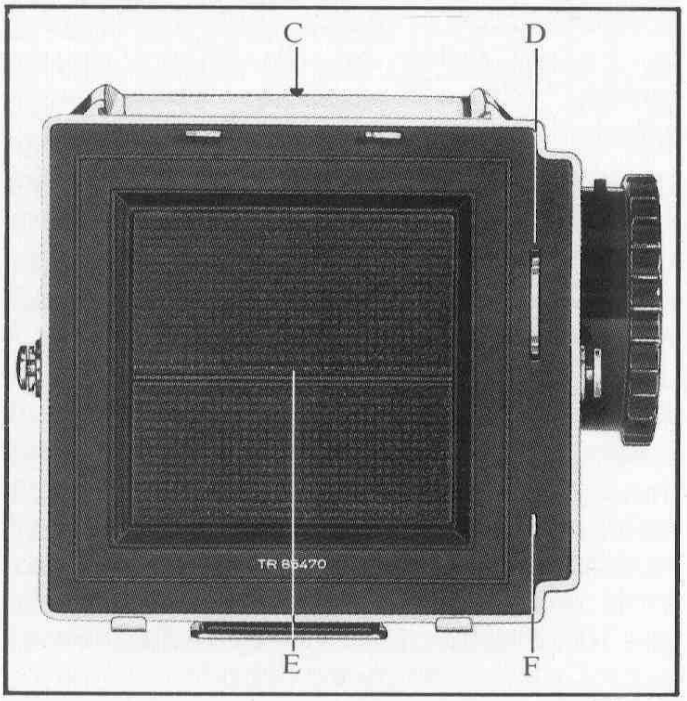


Fig 23

CAMERA BODY (Figs. 21—23)

Focusing screen

The focusing screen (C, Figs. 21—22) has 4 inscribed lines to facilitate horizontal and vertical alignment. Masks can be placed on top of the focusing screen when formats other than 2 1/4 × 2 1/4 are used.

Changing the focusing screen

Remove the magazine and focusing hood. Slide the screen retaining catches (B) into the retracted position. Cup your hand over the focusing screen and turn the camera upside down. The focusing screen should then drop into your hand. If it fails to do so, remove the camera lens and gently tap the underside of the screen from inside the camera body. ***Note.*** *The mirror must be in the down position.* Insert the new focusing screen into the camera body. Make sure it rests firmly on all four screen supports (A). The retaining catches (B) automatically lock the screen in place as soon as a viewfinder is attached.

Camera body rear plate (Fig. 23)

The auxiliary shutter (E), which consists of two vertically moving blinds, can be seen through the rear opening of the camera body. The gear wheel (D) transfers the force applied to the film advance knob or crank to the magazine mechanism.

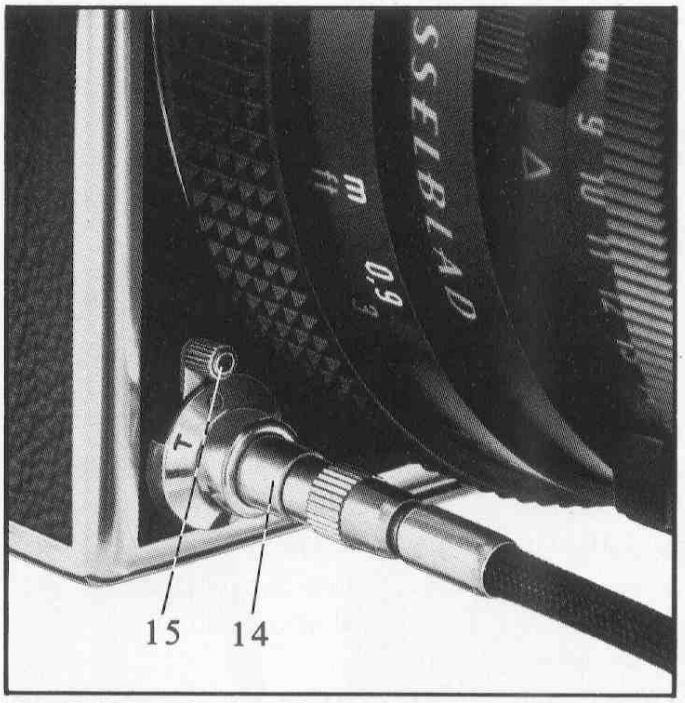
The pin (F) actuates the film advance indicator and automatically blocks the shutter release after the last frame is exposed.

Make sure (D) and (F) are kept clean and free from dirt and dust.

Exposure (Fig. 24)

Exposure takes place when the shutter release (14) is depressed.

Fig 24



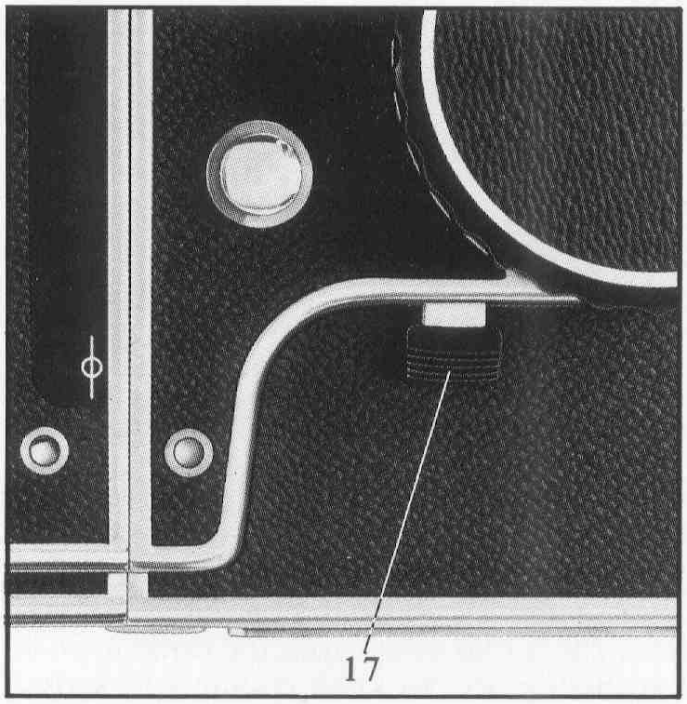


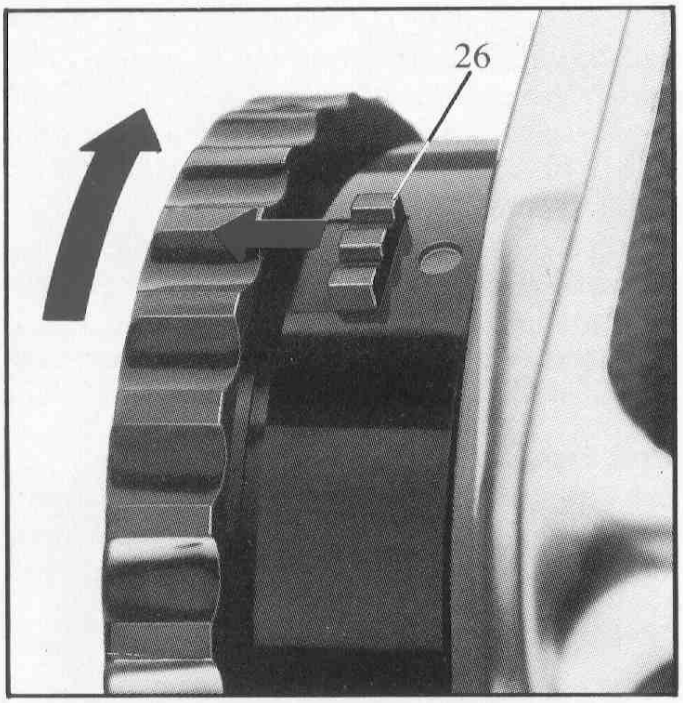
Fig 25

As a general rule for all exposure with the time exposure lock 15 at the O setting, the shutter release must be kept depressed until the between-the-lens shutter has opened and closed fully. This is especially important at shutter speeds from 1 s to 1/15 s.
If pressure on the release is relaxed too soon, the auxiliary shutter will terminate the exposure prematurely.
The cable release is screwed into the threaded socket in the shutter release.

Time exposure lock
The time exposure lock (15) has two settings: O (= disengaged) and T (= depressed shutter release locks in the depressed position until the lock is returned to the O setting).
The T setting can thus be used for time exposure when the shutter is set at B.
Film cannot be advanced until the lock is reset to O.
The setting cannot be used in operation with a cable release.

Pre-release (Fig. 25)
To reduce the low level of camera-induced shake to a minimum, the camera can be pre-released by pressing the pre-release button (17). This is what happens when the pre-release button is pressed: the mirror flops up, the lens stops down to the preset working aperture, the auxiliary shutter opens, and the shutter closes (but remains cocked).
When the shutter release is pressed, only the operation of the between-the-lens shutter remains. Since the image on the focusing screen disappears in a pre-released camera, a sports viewfinder is a good way to keep track of moving subjects.

Fig 26



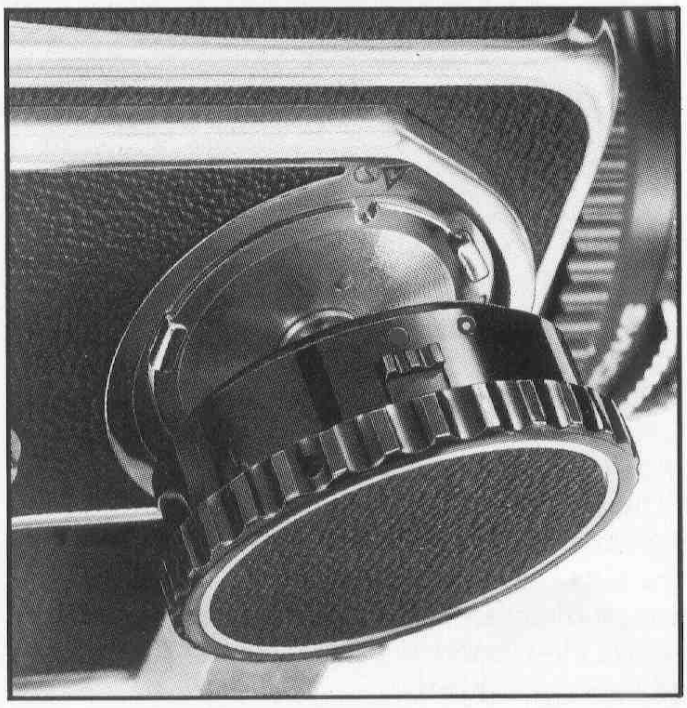


Fig 27

KNOB FOR FILM ADVANCE AND SHUTTER COCKING (Figs. 26—27)

An interchangeable knob for film advance and shutter cocking is standard equipment with each new camera. This knob can be replaced with a crank or a knob with a built-in exposure meter.

The knob has two functions:

- To advance the film.
- To set up the camera for a new exposure by actuating the mechanism which flips down the mirror, reopens the diaphragm, and cocks the shutter. Knob operation also actuates the film advance and shutter status indicator signals (see also p. 18).

Note The *shutter release* may refuse to budge for one of the following reasons:

- The last film frame has been exposed. This automatically blocks the shutter release. There will then be no number in the frame counter.
- The magazine slide has not been withdrawn.

The *knob may refuse to budge* for one of the following reasons:

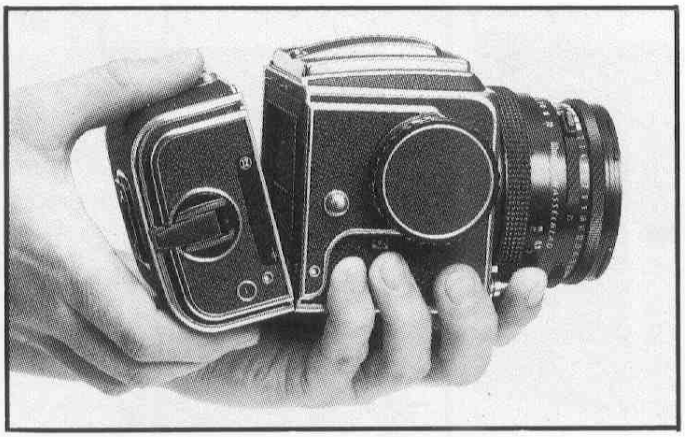
- The time exposure lock is set at T.
- The auxiliary shutter was tripped with the release button but the shutter release was not subsequently pressed to trigger the leaf shutter (see p. 13).

Changing the knob

It is best to change the knob with the camera tensioned.

Knob removal: Push the spring-loaded release catch (26) away from the camera while bayoneting off the knob counter-clockwise.

Fig 28



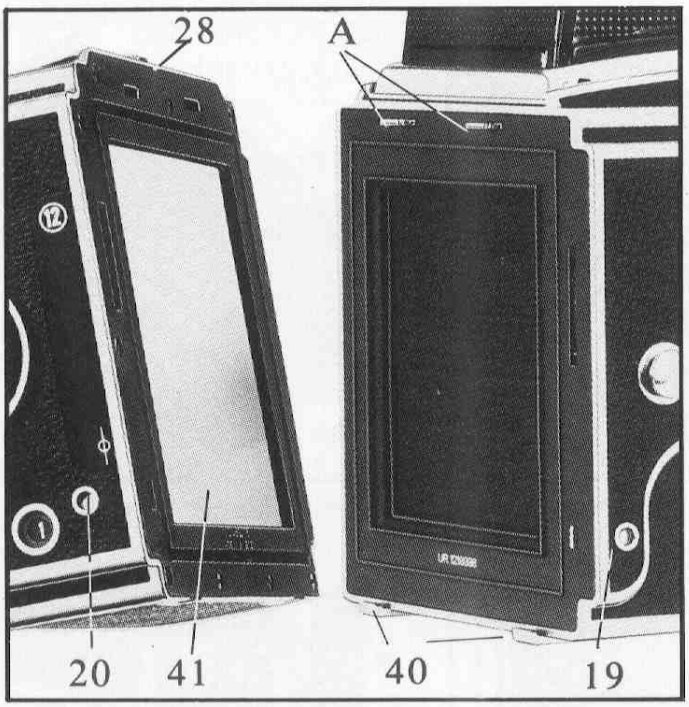


Fig 29

Knob attachment: Align the red circle on the knob with the red delta on the camera (see the picture) and bayonet the knob clockwise onto the mount.

FILM MAGAZINES

Changing the magazines (Figs. 28—29)

Make sure the indicator windows (19 and 20) are displaying white signals whenever magazines are changed. Insert the magazine slide (41). Slide the magazine release catch (28) to the right and swing down the magazine on the two lower support catches (40). The magazine slide protects the film from fogging if the magazine is detached from the camera. The magazine is attached to the camera as follows:

Hook the magazine onto the lower magazine support catches (40) and make sure the connection is secure. Then swing the top of the magazine up against the upper catches (A) while simultaneously pushing the magazine release catch (28) to the left. Release the catch and *then push it to the left to make sure the magazine is securely locked in place.* Remove the magazine slide.

NOTE A magazine can only be detached when the magazine slide is inserted. *No exposure can be made until the magazine slide is withdrawn from the attached magazine.*

Loading the magazine

The magazine can be loaded on or off the camera. When the magazine is loaded off the camera, the magazine slide (41) must be inserted with the curl of its handle retainer facing the roll holder key (42).

Fig 30



Fig 31



Fig 32

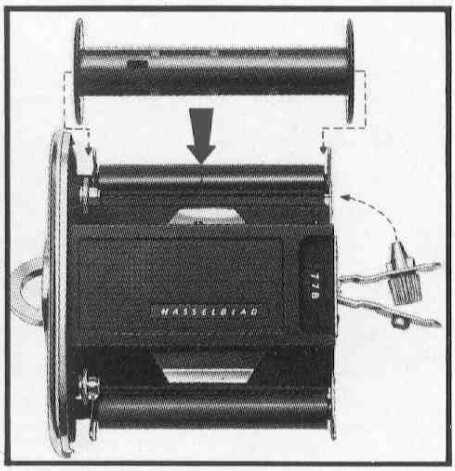


Fig 33

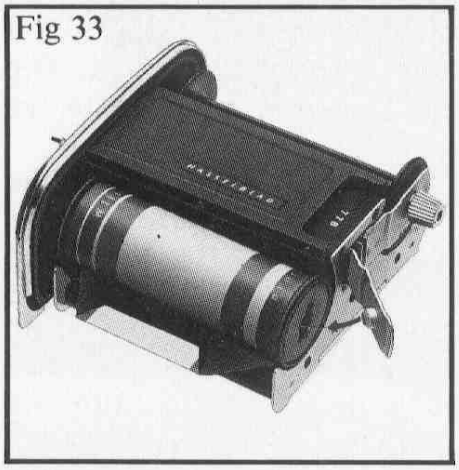


Fig 34

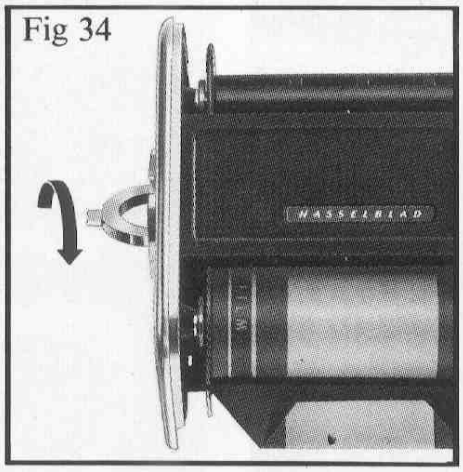
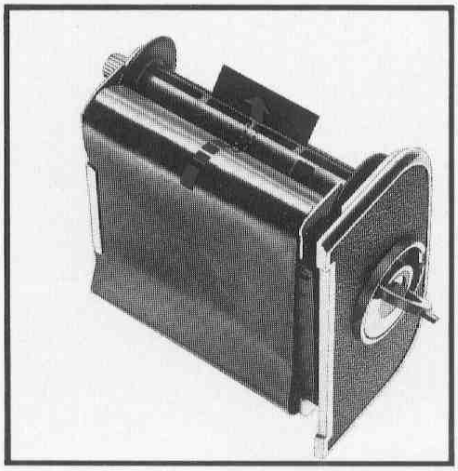
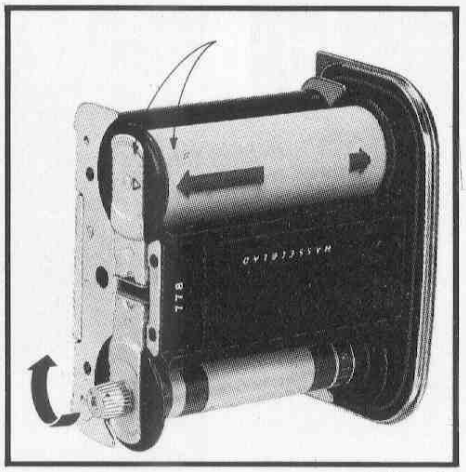


Fig 35







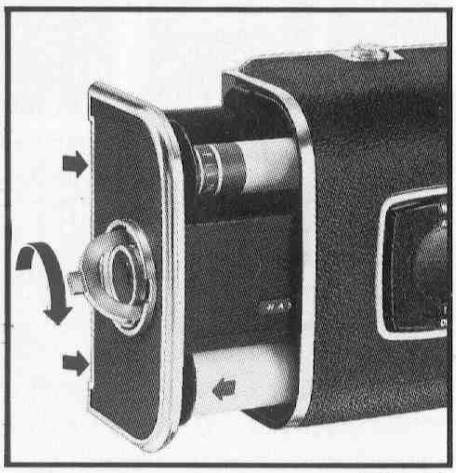


Fig 36

Fig 37

Fig 38

Fig. 30. Fold out the roll holder key.

Fig. 31. Turn the key counter-clockwise. Withdraw the roll holder completely.

Fig. 32. Flip both spool clips. Insert an empty take-up spool on the take-up side (with the knob clip) and flip down the clip. Twirl the spool to ensure that it is correctly seated.

Fig. 33. Insert a roll of film as shown in the illustration and flip down the clip. *Make sure the narrow, glued paper strip securing the paper backing is removed completely.*

Fig. 34. Turn the roll holder key on the side of the magazine *clockwise* so the film clamp (A, Fig. 35) opens.

Fig. 35. Pull out 3 to 3 1/2 inches of paper backing from the roll of film and guide it under the film clamp (A).

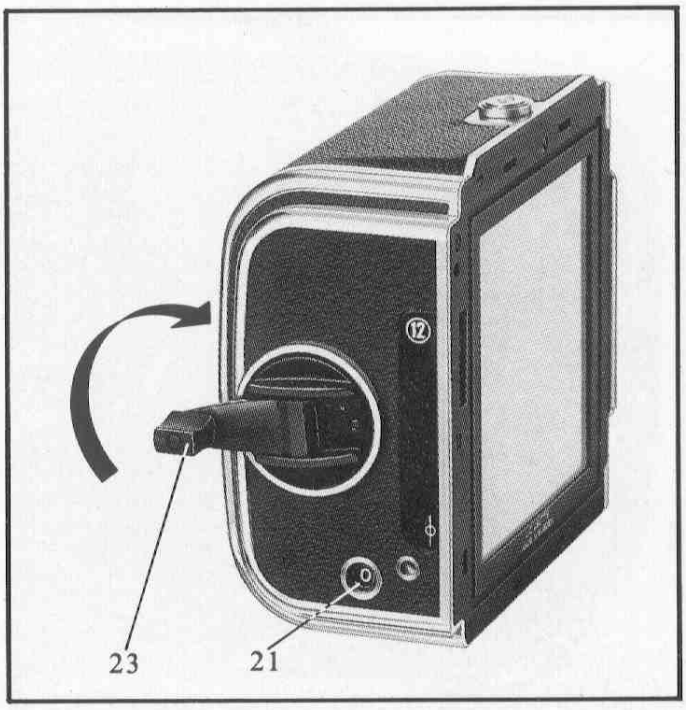
Fig. 36. Insert the tongue of the paper backing into a slit in the take-up spool.

Fig. 37. Turn the knurled knob *clockwise* until the arrow on the paper backing is opposite the delta on the spool clip. Then turn the roll holder key *counter-clockwise.*

Fig. 38. Slide the roll holder key into the magazine, jiggling it a little if it does not immediately click into place, and lock it by turning the key *clockwise.*

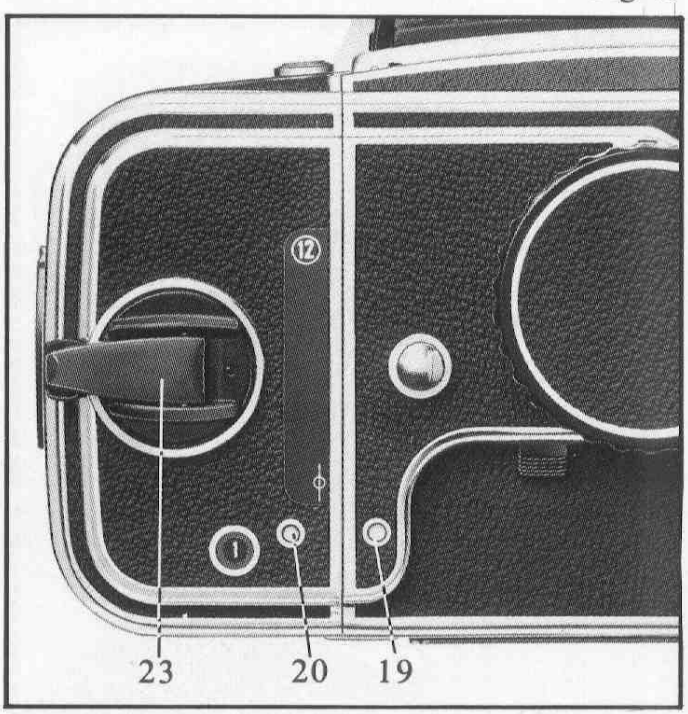
Fig. 39. Make sure the magazine slide is inserted (or that the magazine is attached to the camera). Fold out the film winding crank (23) and turn it clockwise until it stops (about 10 turns). Refold the crank. The number '1' will be displayed in the frame counter (21). The magazine is now loaded and ready for use.

Fig 39



Note. The magazine can only be removed from the camera when the magazine slide is inserted. No exposure can be made when the magazine slide is inserted with the magazine on the camera.

Fig 40



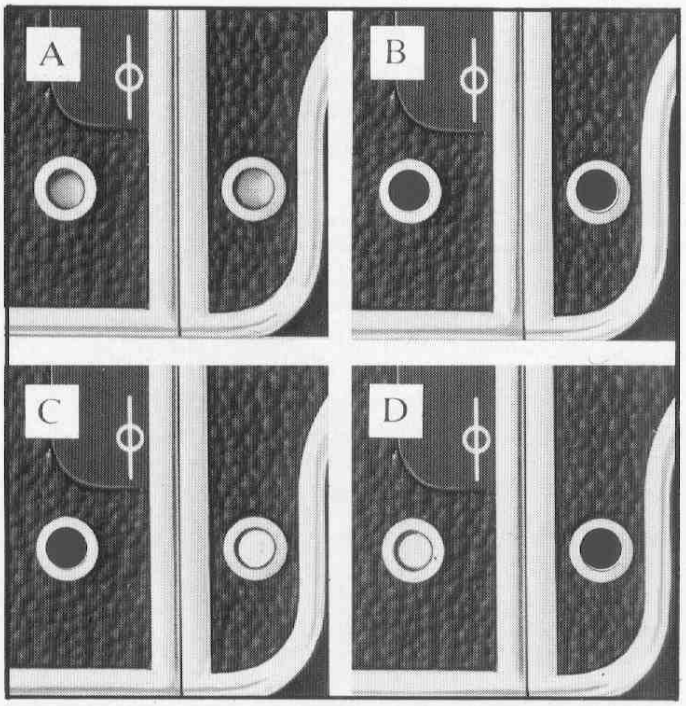


Fig 41

Indicator signals (Figs. 40—41)
Indicator signals (19 and 20) in the camera body and film magazine are actuated by film advance. The following signal combinations may be displayed in the indicator windows:

A Both windows white = Camera ready for exposure.

B Both windows red = Film not advanced and shutter not cocked. Advance the film. This operation automatically cocks the shutter.

C Magazine window red and camera body window white = Magazine was attached to a tensioned camera with the exposed frame unadvanced. Remove the magazine, trigger the camera, replace the magazine, and advance the film.

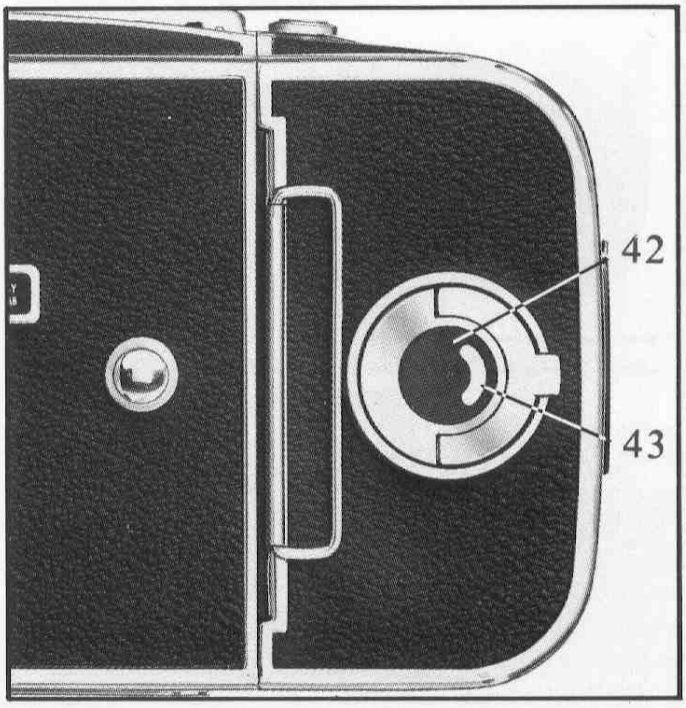
D Magazine window white and camera body window red = A magazine with exposed film frame advanced was attached to a triggered camera. Remove the magazine and tension the camera with the knob.

GOLDEN RULE: Make sure the signals in both windows display the same color when you attach a magazine to the camera.

After the final exposure
The camera's release mechanism is automatically blocked when the final frame has been exposed. Fold out the magazine's film winding crank and wind the remaining film onto the take-up spool.

Miscellaneous (Figs. 42—43)
The magazine's film winding crank (23) is blocked only at frame '1'. So a partially exposed roll of film can be wound onto the take-up spool at any time.
The frame counter is automatically reset whenever the roll holder key is removed.
The center of the roll holder key (42) features a film consumption indicator (43) which is blank when the magazine has a full load on the supply spool. But the indicator gradually turns red as the film is exposed and advanced onto the take-up spool. A completely red indicator shows that the final frame has been exposed or that there is no film left in the magazine.
The film reminder (24) can be set at the ASA or DIN speed of the film used. You set this speed by flipping down the hinged clip and turning the serrated ring. There is a space behind the clip for a film box end.

Fig 42



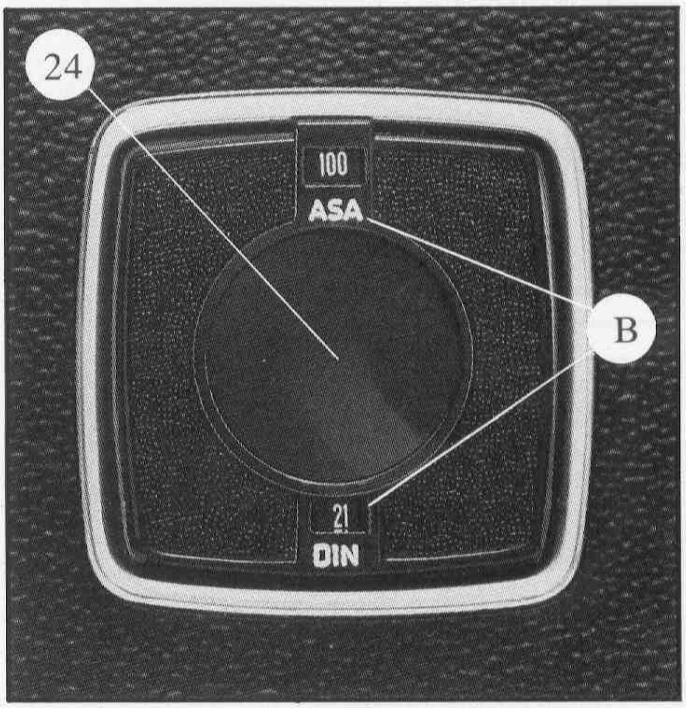
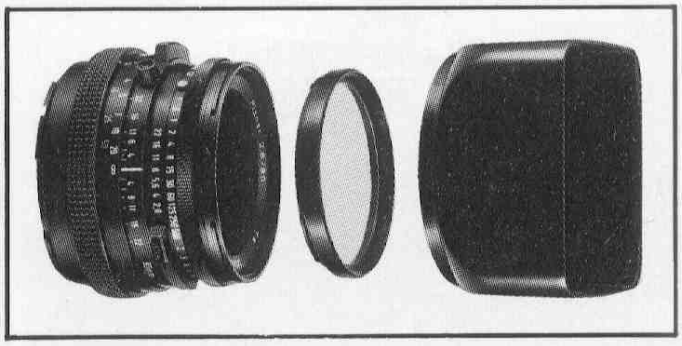


Fig 43

Fig 44



ACCESSORIES

Lens bayonet mounts

Hasselblad lenses with a 60mm Ø accessory mount have an internal bayonet mount for filters and Proxars and an external bayonet mount for lens shades and ringlight.

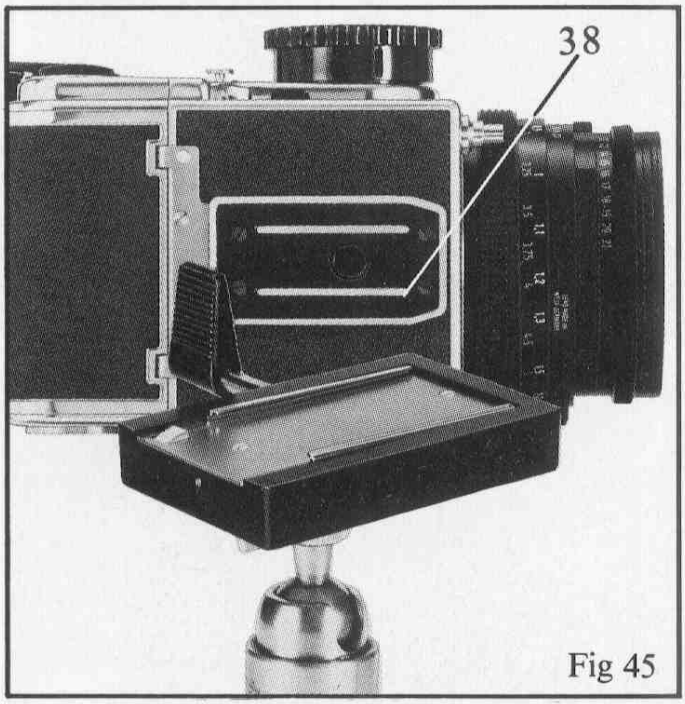


Fig 45

Tripod attachment (Fig. 45)

There is a tripod plate (38) on the base of the Hasselblad 500C/M and 500EL/M. It has a 1/4″ and a 3/8″ tripod socket.

STRAP LUGS

Strap attachment (Fig. 46)

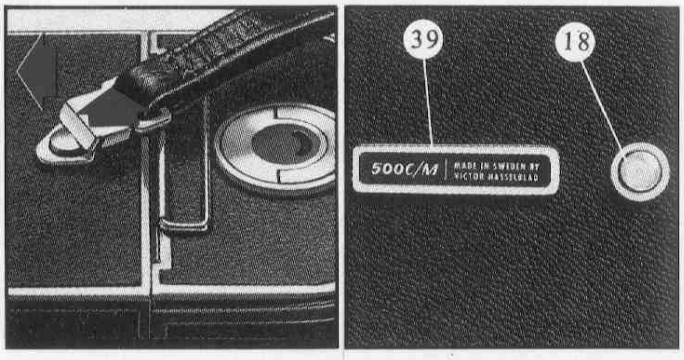
Place the main body of the strap clip onto one of the camera's strap lugs (18). Press down on the tip of the clip and pull back so the strap lug slips into the opening at the tip of the clip. Repeat this procedure on the other side of the camera.

Strap removal

Lift the clip locking plate and slide the clip forward. The clip will then slide off the strap lug.

Accessory rail (Fig. 47)

The accessory rail (39) is used as the seat for e.g. the sports viewfinder, spirit level, or adjustable flash.



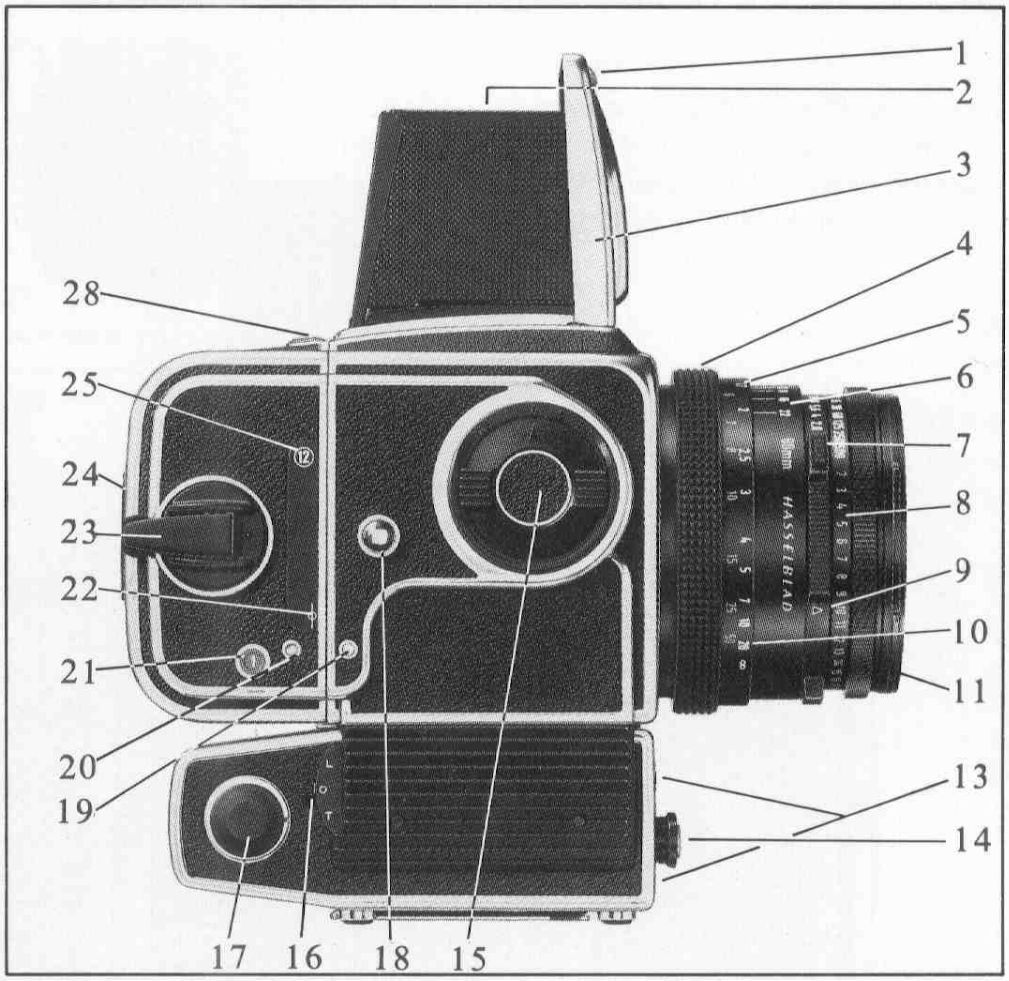
Figs 46—47

500EL/M

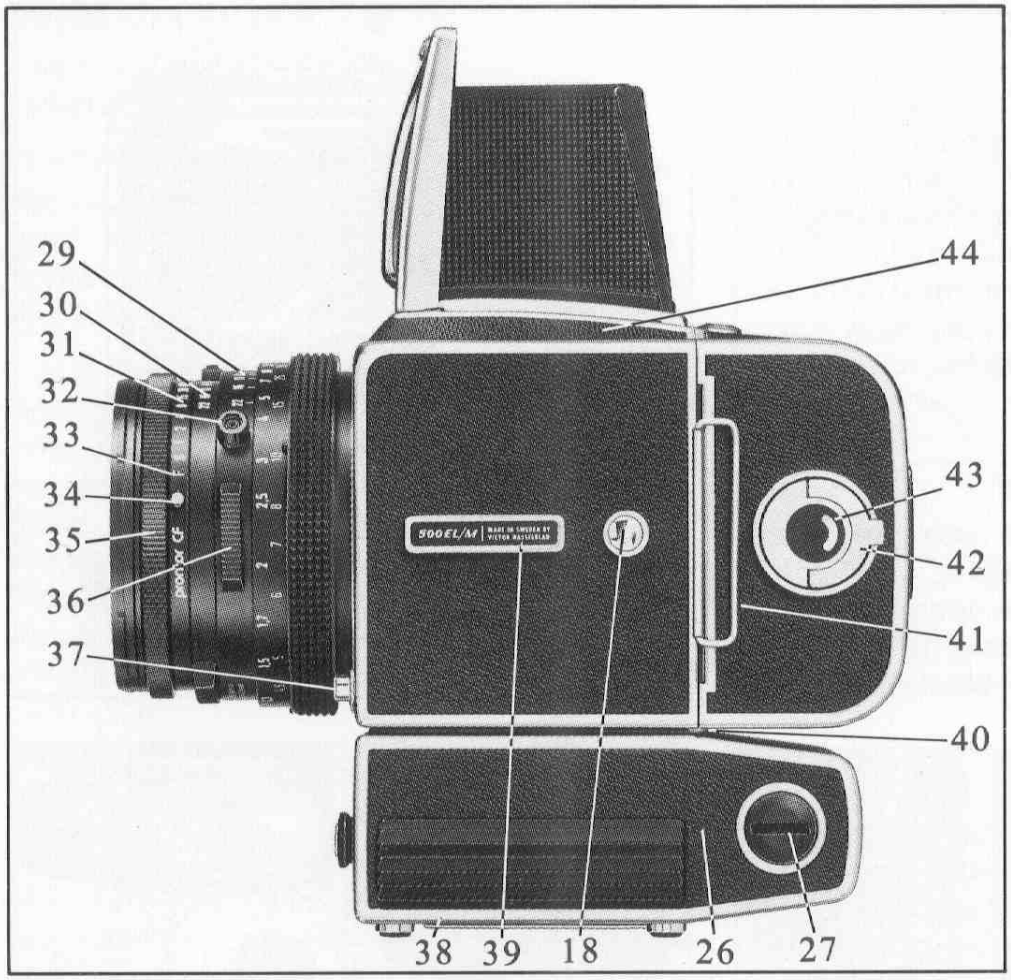


Instructions on:

Focusing hood	p. 6
CF lenses	p. 7—10
Focusing screen	p. 12
Film magazines	p. 15—19
Accessories	p. 20
C lenses	p. 35—40



1. Catch for focusing hood and fine-focusing magnifier
2. Fine-focusing magnifier
3. Focusing hood
4. Focusing ring
5. Central index
6. Depth-of-field scale
7. Button for cross-coupling of shutter speed and aperture rings
8. Exposure value scale
9. Exposure value index
10. Distance scale (feet and meters)
11. External and internal accessory mounts
13. Front release sockets
14. Shutter release
15. Mode selector
16. Time exposure, locking and charging lever
17. Side socket for camera release and battery charging
18. Strap lug
19. Shutter status indicator
20. Film advance indicator
21. Film counter
22. Film plane indicator
23. Folding film winding crank
24. Film reminder
25. Magazine designation
26. Battery compartment cover
27. Battery compartment cover catch
28. Magazine release catch

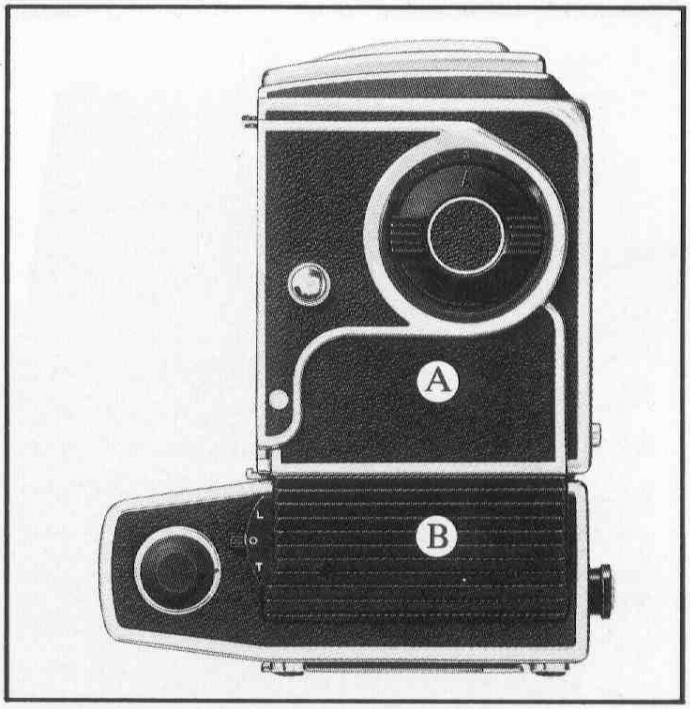


29. Index for infrared compensation
30. Aperture ring with aperture scale
31. Shutter speed scale
32. PC flash terminal
33. F setting (used only with 2000FC/M)
34. Detent button for F setting
35. Shutter speed ring
36. Depth-of-field preview tab
37. Lens lock release button
38. Tripod plate and 3/8″ tripod socket
39. Accessory rail
40. Magazine support catches
41. Magazine slide
42. Roll holder key
43. Film consumption indicator
44. Focusing screen

CAMERA BODY (Fig. 48)

The camera body contains the mechanical and electrical componets for camera operation. The lower section (B) contains compartments for the batteries, fuse, and motor. The upper section (A) contains the mode selector, focusing screen, mirror, and auxiliary shutter. The camera body is equipped with fixtures for viewfinders, lenses, and film magazines plus sockets for camera release and battery rechargers.

Fig 48



BATTERIES (Figs. 49—50)

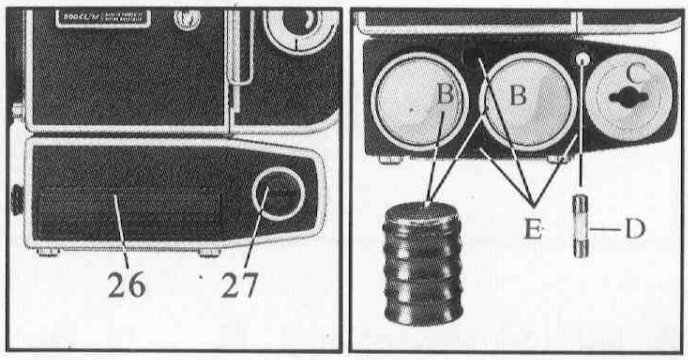
The camera is operated by a battery-powered motor (C). Rechargeable DEAC 5/600 DKZ batteries (nickel-cadmium accumulators) are used. The battery compartment (B) holds two batteries. Each battery is good for about 1,000 exposures.

Battery insertion

Use a coin in the slot to turn the battery compartment cover catch (27)—the slot should then be vertical. The battery compartment cover (26) then unlocks at the rear end and can be removed.

Insert each battery with the '+' end first. The battery compartment cannot be closed if a battery has been inserted incorrectly.

The camera cannot be released, nor the batteries charged until the battery compartment cover has been closed.

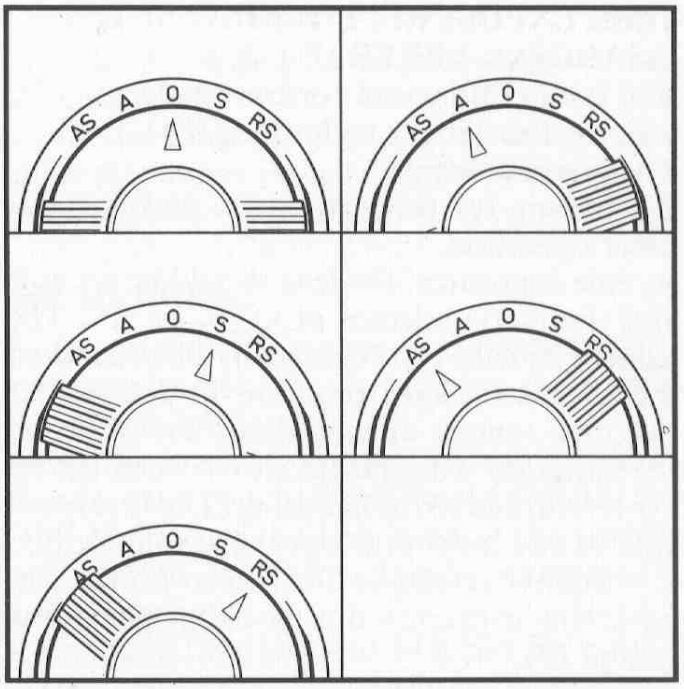


Figs 49—50

Fuse

A 1.6 A medium slow-blow fuse (5 × 20 mm) must be used in the fuse receptacle (D). Always have a spare fuse on hand. Spare fuses can be stored in the three receptacles (E).

Fig 51



MODE SELECTOR (Fig. 51)

The mode dial has five settings governing the camera release mode.

O = Normal mode. When the shutter has been triggered and pressure on the shutter release relaxed, the film is advanced, the between-the-lens shutter is cocked and the mirror is returned to the focusing position.

S = Pre-release. Certain mechanical functions are pre-released in this mode, leaving only operation of the between-the-lens shutter when the release button is pressed. This reduces camera-induced shake even further and reduces to a minimum the time elapsing from the moment the shutter release is pressed until the shutter actually operates. The mode selector automatically returns to the O mode after each cycle.

RS = Pre-release repeat. Operation is the same as in the S mode but the camera remains in the S mode after shutter release.

A = Automatic. The camera makes continuous exposures as long as the triggering impulse is supplied and unexposed film remains in the magazine. The sequential exposures in this mode are at a rate of about 1 frame/s. The A setting cannot be used with shutter speeds slower than 1/15 s.

AS = Automatic pre-release. The same operation as in the A mode, but the camera remains in the pre-release mode after every exposure sequence.

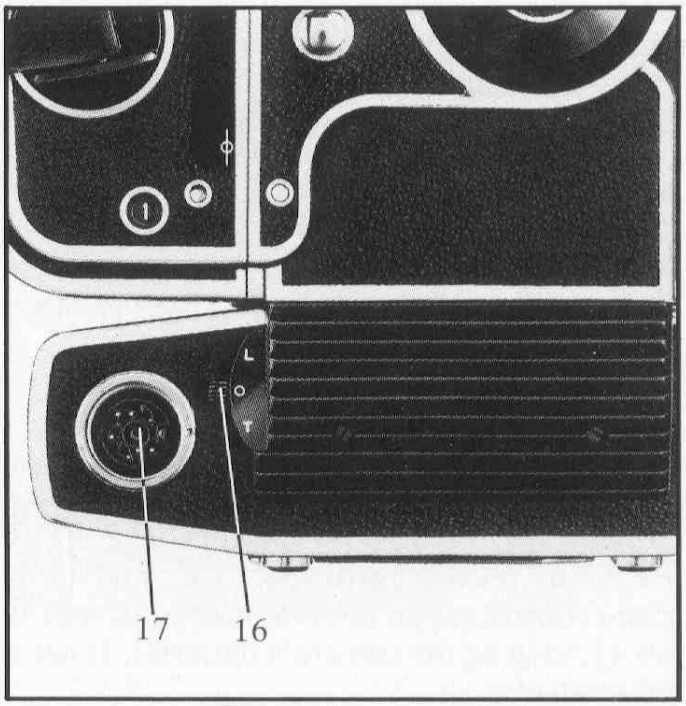


Fig 52

TIME EXPOSURE, LOCKING AND CHARGING LEVER (Fig. 52)

The lever (16) is used for time exposure (T), locking and battery recharging (L).
O = Normal setting.
T = Setting for time exposures and for self-timer operation.
In time exposures, the lens should be set at B and the mode selector at O, S, or RS. The camera shutter is mechanically opened when the lever is shifted from O to T. The shutter can then remain open without any drain on the batteries. The shutter closes when the lever is returned to the O setting. The film is advanced and the shutter cocked automatically.
L = Shutter release is blocked to prevent inadvertent triggering during battery charging (see p. 27).

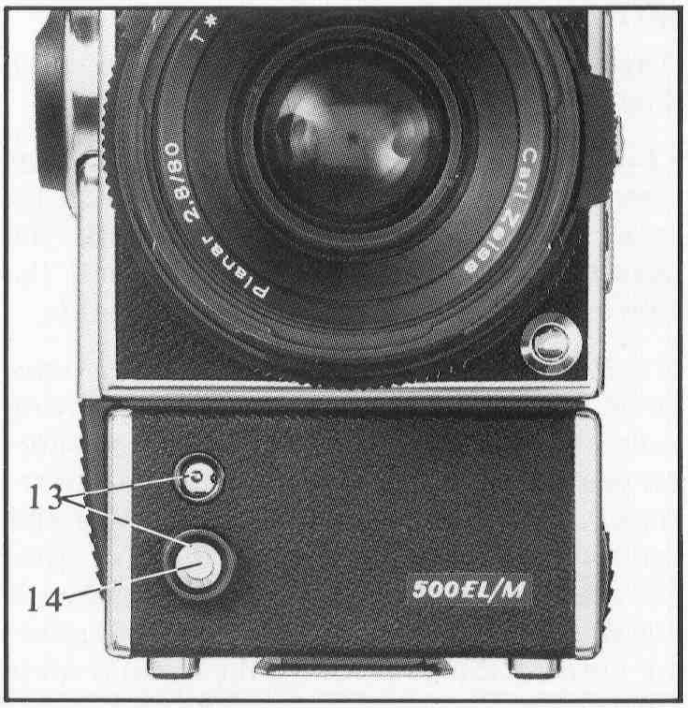
Double exposure

Proceed as follows when multiple exposures are desired on the same frame:
Press the shutter release and keep it depressed. Move the time exposure, locking and charging lever (16) to the L setting. Insert the magazine slide and remove the magazine. Return the lever (16) to the O setting. Replace the magazine. Make an exposure in the normal way. Repeat this cycle if additional exposures are desired on the same frame.

Side socket for camera release and battery charging

The camera's side socket for camera release and battery charging (17) is a standard 5-pole DIN socket. It is used for shutter triggering by means of release cords (SK, LK, and DK), radio control, or an intervalometer, as well as for recharging the camera's batteries. It has a protective cover.

Fig 53



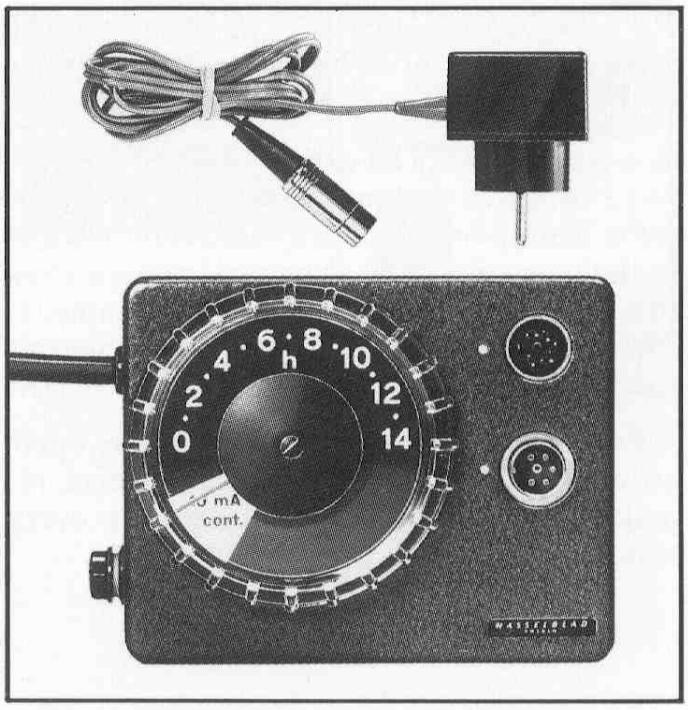
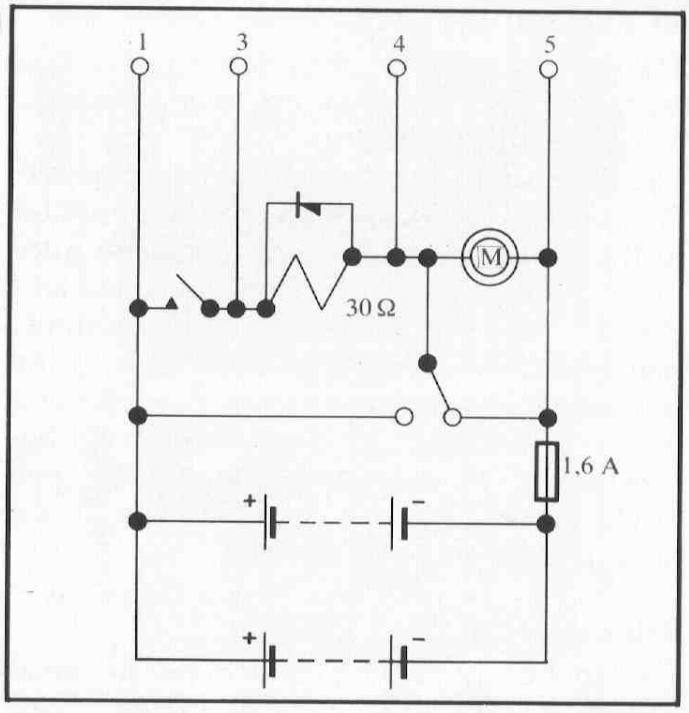


Fig 54

CIRCUIT DIAGRAM

Voltage:	6 V
Batteries:	One or two DEAC 5/600 DKZ without soldering tabs or battery terminals.
Fuse:	1.6 A medium slow-blow (5 × 20 mm).
Socket:	Preh 8-6404
Exposure current (pins 1 and 3):	O.2 A

Fig 55



ALTERNATIVE RELEASE METHODS

The camera can be triggered in different ways, e.g. with a release cord, intervalometer, by radio control, etc.

The general rule for all release methods is that the button which triggers the release impulse to the camera must be kept depressed until the between-the-lens shutter has opened and closed completely. This is especially important at shutter speeds from 1 to 1/15 s. If the shutter speed is set at 1 s, for example, and pressure on the release button is relaxed before the between-the-lens shutter has had time to close, the auxiliary shutter will terminate the exposure prematurely.

Release sockets (Fig. 53)

The front of the camera features two identical sockets (13) for attachment of a release cord or a release button. The release button or shutter release (14) is normally in the lower socket but can be removed by simply pulling it out.

FK type cords are suitable release cords.

Release cords

A tripod should be used when operating the camera at slow shutter speeds. Camera release by release cord is then suitable. Release cords in lengths from 1 ft to 20 ft are connected to the front sockets (13). Release cords from 100 ft to 600 ft and cords for connection of a recharge unit are connected to the side socket (17). When cords longer than 100 ft are used, an amplifier should be put between camera socket and cord.

General

The 500EL/M can also be released by closing the electric circuit between pins 1 and 3 (see the circuit diagram in p. 28). External resistance should not exceed 6 ohms if triggering is to be reliable.

RECHARGING

Recharge unit I is standard equipment with each new camera and is used for recharging the camera's batteries.

Move the lever (16) to the L or O position. Connect the recharge unit to the side socket (17). Make sure the unit is set at the correct voltage (110 or 220 VAC) and connect it to a wall outlet.

Recharging time is about 14 hours for a fully discharged battery and 28 hours if two batteries are recharged simultaneously. Batteries should not be overcharged.

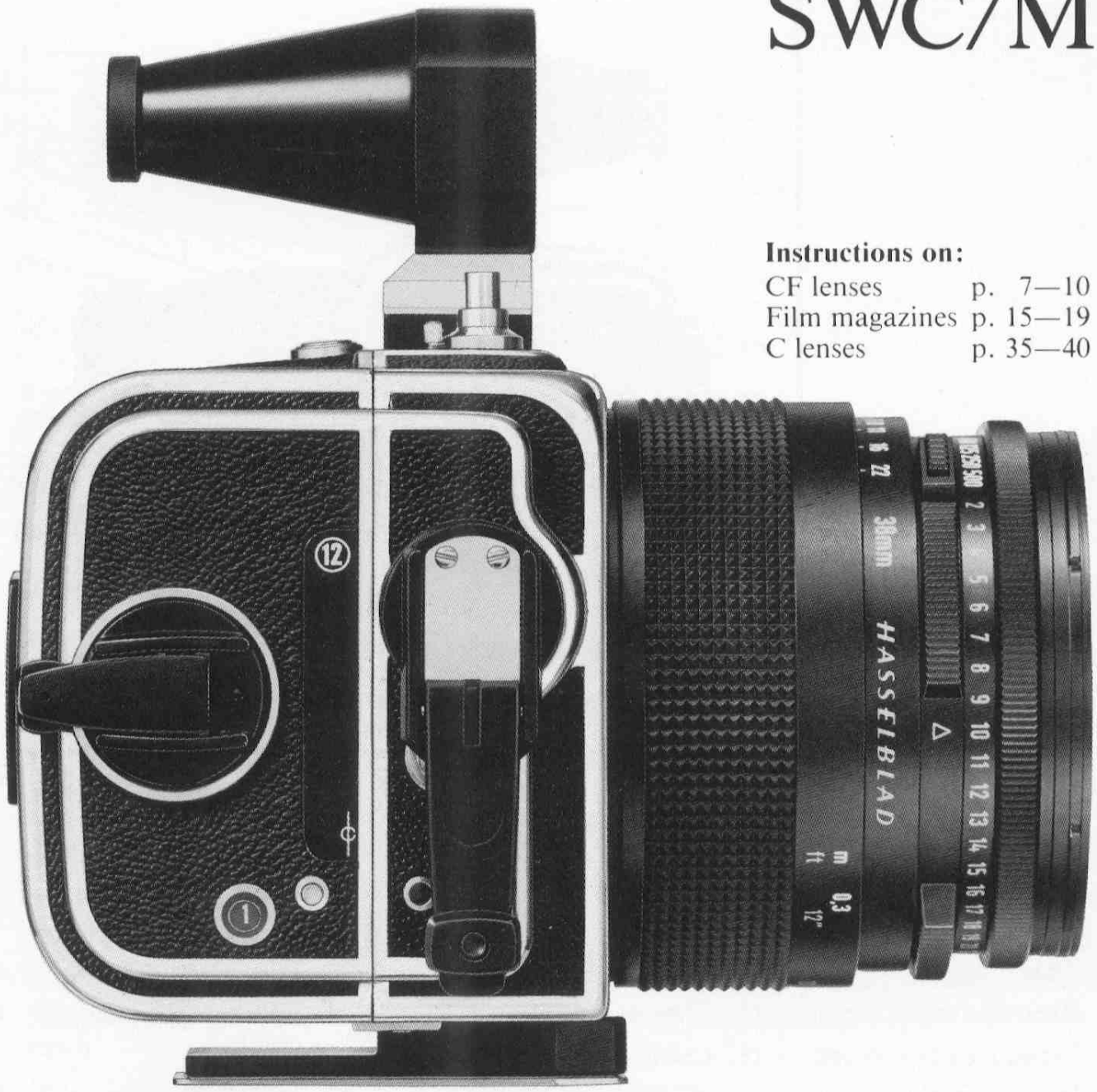
Change or recharge a battery as soon as the camera recycling time becomes noticeably prolonged. If a battery becomes so exhausted that the camera stops working or stops in the middle of a cycle, move the lever (16) to L and connect the recharge unit.

NOTE! The L setting must be used if the camera has not recycled fully. If the camera has recycled, either the L or the O setting can be used for battery recharging.

Battery charger option

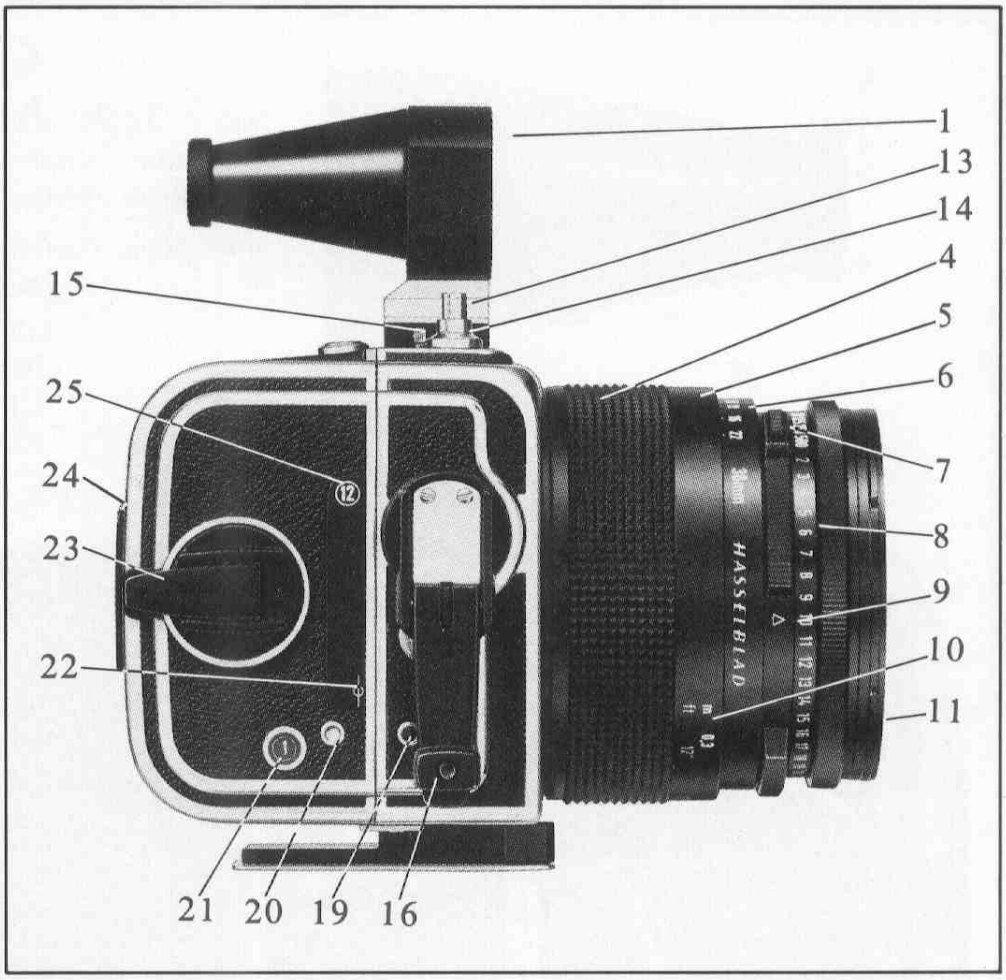
Recharge unit III with a built-in timer is available as an optional extra.

SWC/M

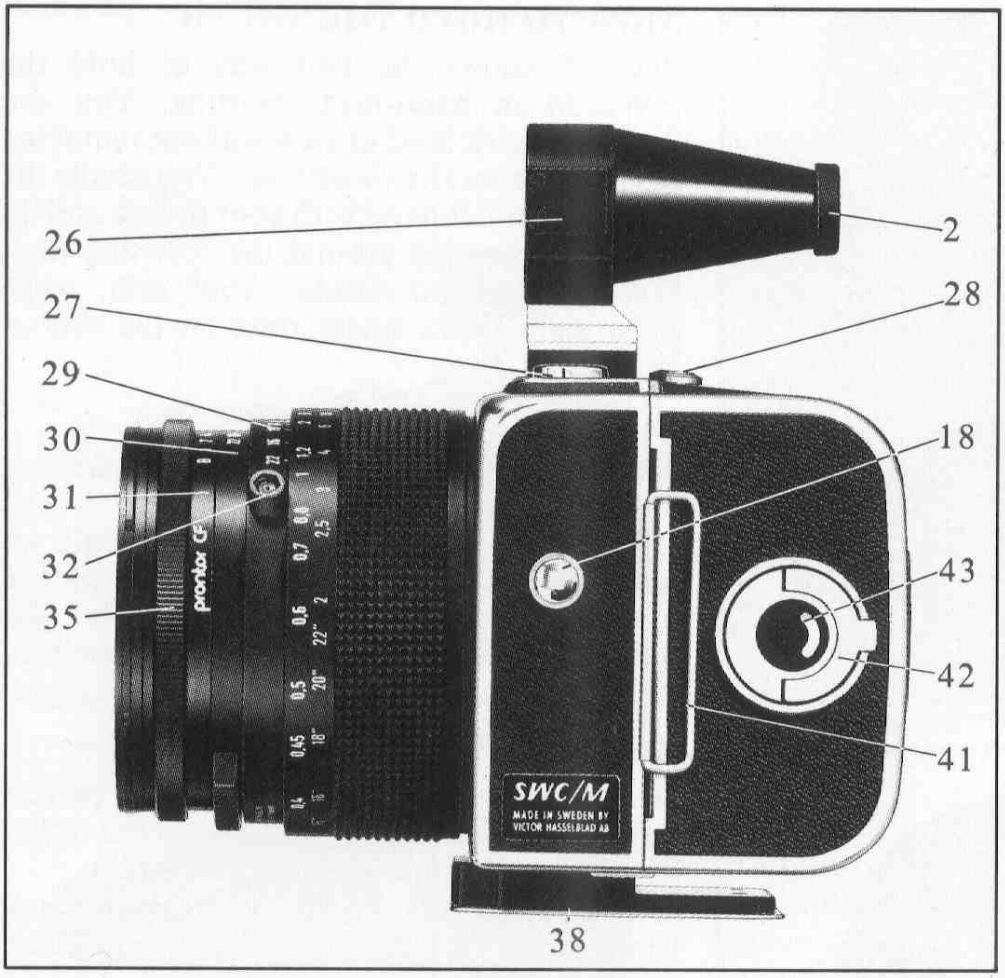


Instructions on:

CF lenses p. 7—10
Film magazines p. 15—19
C lenses p. 35—40



1. Viewfinder
2. Protective rubber ring
4. Focusing ring
5. Central index
6. Depth-of-field scale
7. Button for cross-coupling of shutter speed and aperture rings
8. Exposure value scale
9. Exposure value index
10. Distance scale (feet and meters)
11. External and internal accessory mounts
13. Threaded cable release socket
14. Shutter release
15. Time exposure lock
16. Crank for film advance and shutter cocking
18. Strap lug
19. Shutter status indicator
21. Film counter
22. Film plane indicator
23. Folding film winding crank
24. Film reminder
25. Magazine designation



26. Reflector prism for spirit level
27. Spirit level
28. Magazine release catch
29. Index for infrared compensation
30. Aperture ring with aperture scale
31. Shutter speed scale
32. PC flash terminal
35. Shutter speed ring
38. Tripod plate
40. Magazine support catches
41. Magazine slide
42. Roll holder key
43. Film consumption indicator

Fig 56



HOW TO HOLD THE SWC/M

Fig. 56 shows the best way to hold the SWC/M in hand-held shooting. You can keep the spirit level in view without removing your eye from the viewfinder. You cradle the lens in your left hand with your thumb and index finger curled around the focusing ring. Your right hand steadies your grip, while your right index finger rests on the shutter release.

MAIN CAMERA COMPONENTS

The Hasselblad Super Wide C/M consists of three main components:
The camera body with its permanently attached Biogon lens, the detachable optical viewfinder, and the interchangeable film magazine which also fits the other Hasselblad cameras.



Fig 57

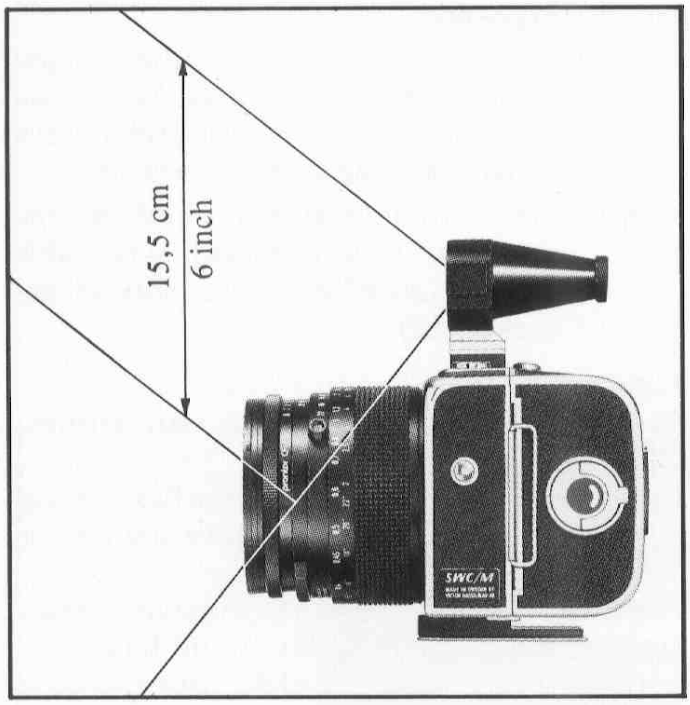
VIEWFINDERS (Figs. 57—58)

The optical viewfinder (1) shows the picture area and a simultaneous view—via the reflecting prism (26)—of the spirit level (27).
The reflector makes it possible to keep a constant check on the spirit level during hand-held use of the camera.
The viewfinder has the same angle of view as the lens, but it takes in a slightly larger field because of its location on top of and behind the lens. The difference is as follows:

Top of the field:	6 in. larger.
Bottom of the field:	Viewfinder and lens field coincide.
Sides of the field:	3 in. wider on each side.

This is the case irrespective of the lens-to-subject distance.

Fig 58



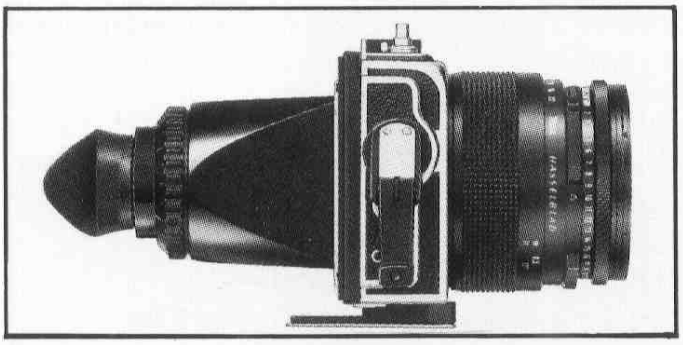


Fig 59

So decide on the desired framing and camera angle and use the spirit level (27) to level the camera. In hand-held work, you should concentrate on keeping the camera level at the moment of exposure.

This is extremely important, since the ultra wide-angle lens demands careful alignment for accurate rendition of vertical lines in the subject. Leveling the camera with the aid of the spirit level is even easier if a tripod is used.

Focusing screen adapter (Fig. 59)
The focusing screen adapter is used when an exact check on depth of field and image composition is necessary. It is attached to the camera in place of the film magazine. The focusing screen adapter has a seat to permit attachment of a magnifying hood, prism viewfinder, or focusing hood.

Image checks on focusing screen
Set the shutter at B.
Set the lens at the maximum aperture.
Set the time exposure lock (15) at T.
Open the shutter by depressing the shutter release.
When the checks have been completed, return the time exposure catch to O, thereby closing the shutter. Cock the shutter with the film advance crank. Remove the focusing screen adapter and reattach your film magazine. Then make your exposure in the ordinary way.

Cleaning the Biogon lens
The optical design of the Biogon lens has resulted in unsurpassed performance for a wide-angle lens. However, the short distance between the rear lens element and the film means that performance can easily be impaired by even a trace of dust. So when cleaning your lens, pay particular attention to the rear lens element.

C lenses

Instructions on:
Changing lenses p. 11



Fig 60

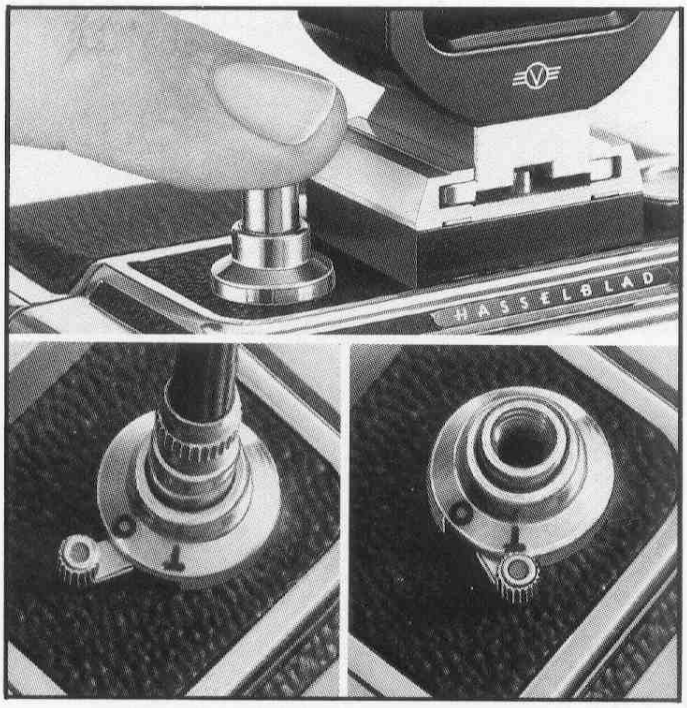




Fig 61

Making exposures

The Hasselblad SWC/M has a shutter release button on top of the camera body. When you make an exposure, press the shutter release (14) smoothly, exerting steady pressure.

Note! *The shutter must be cocked and the magazine slide removed.* The cable release is attached to the cable release socket (13).

Time exposure lock

The time exposure lock (15) has two settings:
O = Normal setting
T = Release button locked after being pressed. Remains depressed until the lock is returned to the O setting.
The T setting is used for time exposures when the lens is set at B. The film cannot be advanced with the crank (16) until the time exposure lock is returned to the O setting.
This blocking function will not operate when a cable release is attached.

Magazines for Polaroid film (Fig. 61)

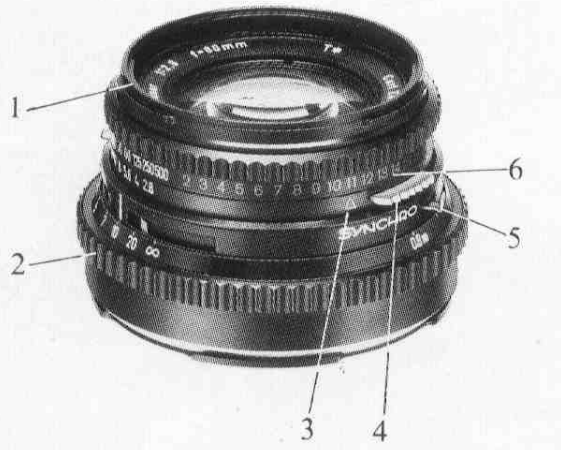
When a magazine for Polaroid film is used with the SWC/M, the film advance crank is unable to make a complete turn.
Proceed as follows in this case:

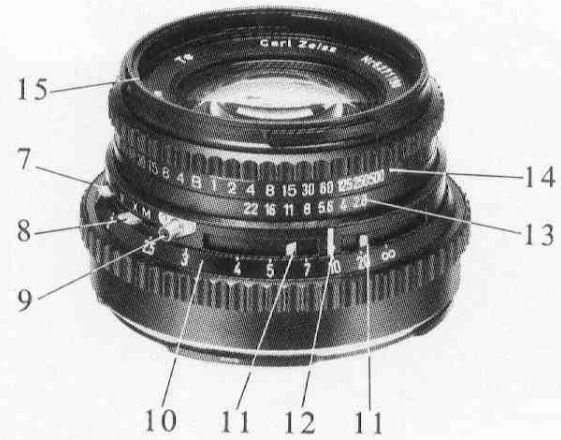
Attach a magazine for Polaroid film.
Make an exposure.
Move the crank up and down with a pumping movement (2 1/4 times) until it stops.

Note! *The magazine ~~100~~ 80 for Polaroid film must* ***never*** *be used with the SWC/M.*

Tripod attachment

There is a tripod plate (38) on the base of the Hasselblad SWC/M. The plate has two tripod sockets (1/4″ and 3/8″).





1. External and internal accessory mounts
2. Focusing ring
3. Exposure value index
4. Cross-coupling release
5. Depth-of-field preview catch
6. Exposure value scale
7. Catch for synchronization and and self-timer selector (8)
8. Synchronization and self-timer selector
9. PC flash terminal
10. Distance scale
11. Automatic depth-of-field indicators
12. Central index
13. Aperture scale
14. Shutter speed ring and shutter speed scale
15. Grip ring for setting shutter speed, aperture, and exposure value

C LENSES

C lenses (this designation does not appear on the lenses) can be used with the 500C, 500C/M, 500EL, 500EL/M, 2000FC, and 2000FC/M (see also the Instruction Manual for the 2000FC/M).

They all feature a built-in Synchro-Compur leaf shutter, an automatic diaphragm, an exposure value scale, automatic depth-of-field indicators, M and X flash synchronization at all speeds, and a self-timer V. The C lenses attach to the camera via a bayonet mount.

Diaphragm (Fig. 62)

The aperture ring (13) and shutter speed ring (14) are cross-coupled. Both rings are operated with the grip ring (15). For independent setting of the aperture or shutter speed, press the cross-coupling release (4) to the rear and rotate the ring until the desired value is opposite the central index (12). The lens is normally focused wide open. The diaphragm automatically closes down to the working f/stop at the moment of exposure. Press the depth-of-field preview catch (5) to check out the available depth of field. This will stop the lens down to the working aperture. The diaphragm is reopened to the maximum aperture by turning the aperture ring (13) to the maximum aperture or tripping the shutter (with a detached film magazine) and winding the camera.

Shutter speeds (Figs 63—64)

The shutter speed ring (14) has three different scales with white (black on chrome finish lenses), green, and red numerals. Only the white (black) numerals and B can be set opposite the central index (12).

Fig 62

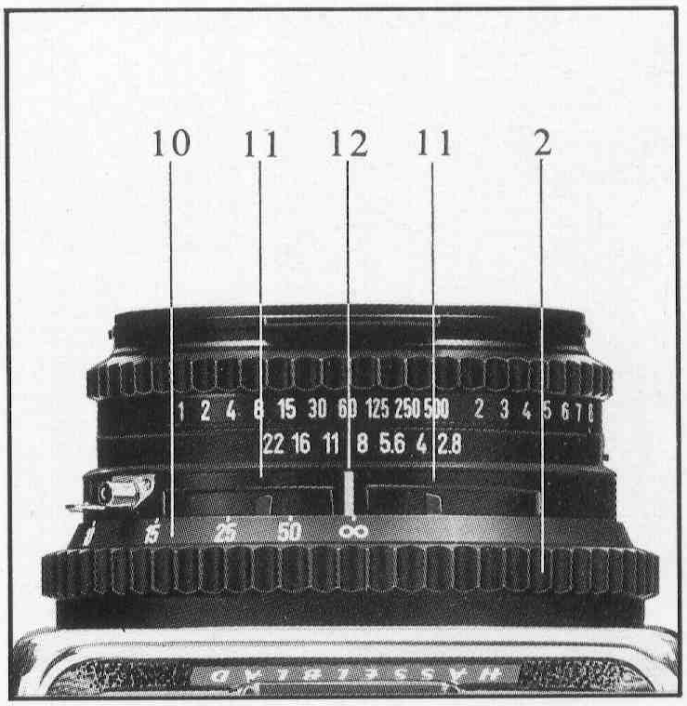


Objects on the near or far side of the set distance may also be in focus within certain limits. The limits for this area of sharp focus, depth of field, vary with the aperture. A small aperture yields wide depth of field, a large aperture yields shallow depth of field.
The depth of field available at any given aperture is automatically designated on the distance scale by the depth-of-field indicators. There is greater depth of field on the far side of the distance set than on the near side.

Depth-of-field indicators (Fig. 65)
The automatic depth-of-field indicators (11) greatly simplify focusing. They consist of two moving pointers. The distance between the pointers changes when the aperture setting is changed. The largest aperture provides shallow depth of field, so the distance between the pointers is narrow at this f/stop. A small aperture, such as f/22, yields wide depth of field, and the distance between pointers is then wide. See Fig. 65. The thin ring shows the position of the depth-of-field indicators at the largest aperture (f/2.8). The thick ring shows the position at the smallest aperture (f/22).

Some practical tips
Proceed as follows if you have predetermined a desired depth of field. Focus on the closest part of the subject and read off the distance on the distance scale. Do the same thing for the most distant part of the subject. Set the depth-of-field indicators so they point to the two distances obtained. In sports photography, for example, you can preset the depth-of-field indicators to the desired depth of field. All the action within these preset distance limits will then be in sharp focus.

Fig 64



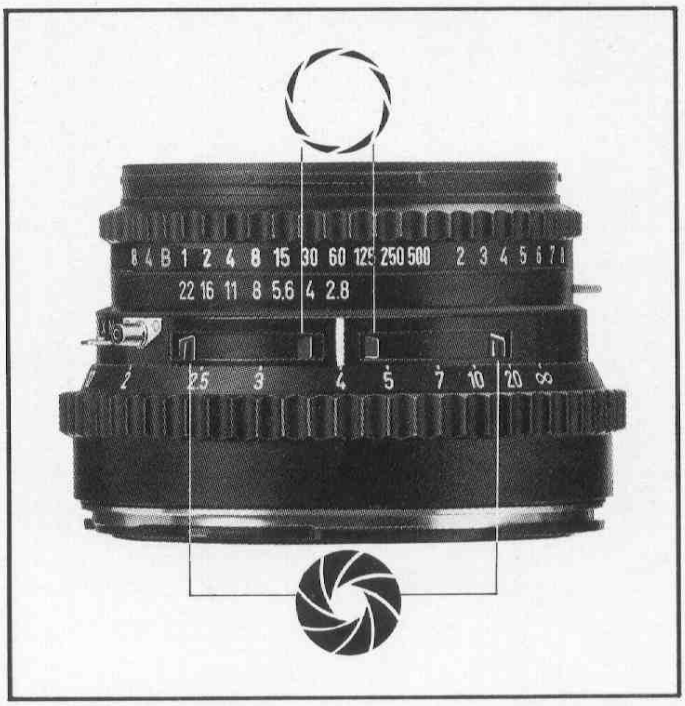


Fig 65

Shutter speeds: 1 s to 1/500 s and B. The B setting enables you to make exposures lasting more than one second. The shutter remains open as long as the shutter release remains depressed. Use a cable release at slow shutter speeds. The numerals '1' to '500' designate the speeds 1, 1/2, 1/4, 1/8, 1/15 s, etc.
The green scale is used for calculating exposures when lighting is so weak that a 1 s exposure is inadequate.
Exposure values are set on the red scale.

Exposure values (Fig. 63)
The aperture/shutter speed combination opposite the central index (12) determines the exposure. Each such combination has an equivalent exposure value (6).
The exposure value is determined with an exposure meter, such as the Hasselblad knob with exposure meter.
The value obtained is set opposite the index (3). Once the correct exposure value is set this way, a correct exposure will be obtained with any shutter speed/aperture combination set opposite the central index (12) using the grip ring (15). (Not applicable to B.)

Time exposure
C lenses have a green shutter speed scale to facilitate the calculation of correct exposures lasting longer than 1 s. The green figures on the scale designate **full seconds** from 4 s to 125 s (B stands for 2 seconds).

Example: The exposure meter indicates an exposure value of 7. This would be equivalent to an exposure of e.g. f/2.8 at 1/15 s. If f/22 is preferred for more depth of field, turn the grip ring (15) for shutter speeds/apertures to B. Read off the number on the green scale opposite 22, i.e. 4 (seconds) in this case. Retain the B setting. Uncouple the diaphragm ring so that 22 is opposite the central index. Then make a 4 s exposure with the aid of a cable release.

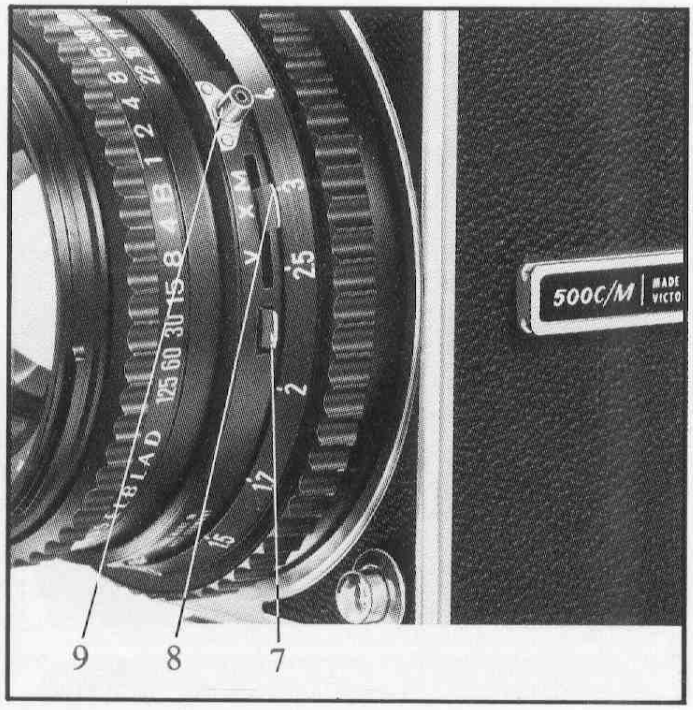
Fig 63



Note! Some films may display a loss of sensitivity (reciprocity failure) at very long exposures. Any exposure compensation necessary will be indicated on the data sheet supplied with the film.

Focusing (Fig. 64)
The distance is set with the focusing ring (2). The ring is turned until the subject is as sharp as possible on the focusing screen. "Rock" the ring back and forth past the point of apparent sharpest focus before you stop. This will make it easier to ensure that the lens is focused properly. The distance from the subject to the film plane is read off on the distance scale (10) opposite the central index (12).

Fig 66



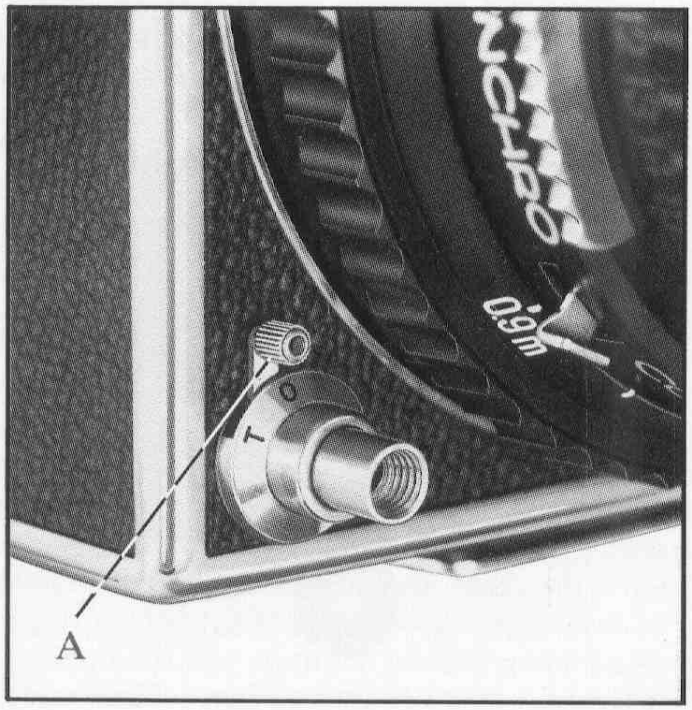


Fig 67

FLASH PHOTOGRAPHY (Fig. 66)

The 500C/M, 500EL/M, and SWC/M can be used with electronic or expendable flash at all shutter speeds, i.e. from 1 to 1/500 s. Flash synchronization is made via the leaf shutters PC flash terminal. The selector for V, X, and M has a detent to prevent inadvertent movement of the catch (7).

Flash synchronization

The leaf shutters have X and M synchronization. The catch (7) is pressed forward, thereby freeing the synchronization and self-timer selector for setting at X or M. The flash connecting cord is connected to the standard PC terminal (9) on the lens.

X synchronization

The X setting is for electronic flash at all shutter speeds and expendable flash at speeds of 1/30 s or longer. The shutter is triggered without delay because of the brief duration of electronic flash output.

M synchronization

The M setting is used for all M class flashbulbs/cubes at all shutter speeds. The shutter is delayed slightly since expendable flash takes time to build up to its maximum output.

Self-timer (V) (Figs. 66—67)

The self-timer operates at shutter speeds from 1 to 1/500 s. X synchronization is then automatic. Press catch (7) forward. Then cock the self-timer mechanism by moving the selector (8) to the V position. Set the time exposure lock (A) at T. The self-timer begins working as soon as the shutter release is pressed. The shutter then trips 8-10 s later. After the exposure, *return the time exposure lock to O* before the camera is recocked and the film is advanced.

SERVICE AND MAINTENANCE

Cameras and lenses subjected to heavy-duty professional use should be serviced regularly at an authorized Hasselblad service center. We recommend regular checkups to ensure maximum operating reliability.
Lubricants can dry up in cameras put aside for any length of time, e.g. six months or more. The high-precision mechanism in a leaf shutter, for example, could then malfunction. So a stored camera should be taken out from time to time and operated at each shutter speed a few times.
It is especially important to "loosen up" the shutter before working with the camera for the first time after a long period of disuse. First operate the camera without a magazine attached. Look through the camera body and lens to ensure that all the shutter speeds are working.

WARRANTY

The Hasselblad cameras are made in Göteborg, Sweden. They are products of the highest quality and are therefore warranted against defects in workmanship and materials for a period of twelve months from the date of purchase.
Please fill in and mail the enclosed registration card as soon as you take delivery of your new camera. Please print clearly. The warranty certificate will be sent to you as soon as we receive your registration card. We will also put you on our mailing list and send you our printed matter as it is published.
Damage caused to the camera by improper use is not covered by the terms of the warranty. Shipping costs to and from the nearest Hasselblad authorized service center will be defrayed by the camera owner.

VICTOR HASSELBLAD AKTIEBOLAG
Box 220, S-401 23 Göteborg, Sweden

10022 GB Printed in Sweden 11 6 1982 Hammar Offsettryck AB

Picture-making with the No. 3 and No. 3A Autographic Kodaks.

Price Threepence.

SPAIN: KODAK Sociedad Anónima.
MADRID 12: Puerta del Sol, 4.
14: Avenida del Conde de Peñalver, 23.
BARCELONA: Calle de Fernando, 3.
Paseo de Gracia, 22.

SWITZERLAND: KODAK Société Anonyme.
LAUSANNE: Avenue du Tribunal Fédéral, 13.
GENEVA: Rue de la Confédération 21, angle, rue du Commerce 9.

TURKEY: KODAK (Egypt) Société Anonyme.
CONSTANTINOPLE: 1, 3, 5 Passage du Tunnel, Tunnel Square, Pera.

EGYPT: KODAK (Egypt) Société Anonyme.
CAIRO: Opera Square.
Shepheard's Hotel.
ALEXANDRIA: Rue Chérif Pacha, 30.
LUXOR: Winter Palace, shops 3 and 4.

SOUTH AFRICA: KODAK (South Africa) Limited.
CAPE TOWN: 38-40, Adderley Street.
DURBAN: 339, West Street.
JOHANNESBURG: Imperial House, 86, Eloff Street.
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CHICAGO (Ill.): 18th Street and Indiana Avenue.
NEW YORK (N.Y.): 235-239, West 23rd Street.
ROCHESTER (N.Y.): State Street.
SAN FRANCISCO (Cal.): 241, Battery Street.

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SHANGHAI: 46, Nanking Road.

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Kodak manufactures may be obtained from Photographic Dealers all over the United Kingdom, at the prices given in the Kodak Price Lists.

A2012 K.W.7722

"KODAK"

Trade Mark, 1888.

KODAK Limited, Kingsway, London, W.C.2.

BIRMINGHAM: 45, Corporation Street.

LIVERPOOL: 45 Church Street.

NEWCASTLE-ON-TYNE: 34, Grainger Street.

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ITALY: KODAK Società Anonima.
MILAN: Corso Vittorio Emanuele, 34.
NAPLES: Via Roma, 288.
ROME: Corso Umberto I, 399.
VENICE: Piazza S. Marco, 52.

PORTUGAL: KODAK Limited.
LISBON: Rua Garrett, 33.

Af. K.W.10422

When Buying Film



When buying film for your Autographic Kodak see that you get Autographic Film—the only film with which you can make autographic records.

Before Taking a Picture

Read the following instructions carefully. Make yourself perfectly familiar with your Kodak, and especially with the working of the shutter. Work the shutter for both time and instantaneous exposures several times before inserting the film in the Kodak.

Bear in mind that the light which records the picture can spoil the sensitive film as quickly as it makes the picture. Throughout loading and unloading, be very careful to keep the paper wound tightly around the film to prevent light getting in.

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Loading.

AUTOGRAPHIC Film is sold in light-proof spools (Fig. 1), and all Kodaks can therefore be loaded in daylight. They should, however, be loaded in a subdued light, not in the glare of bright sunlight. It should also be borne in mind that after the seal round the spool is broken, care must be taken to keep the paper taut on the spool, otherwise it



Fig. 1.



Fig. 2.
Removing the back.

may slip and loosen sufficiently to admit light and spoil the film.

To load the Kodak, hold it in the left hand, and remove the back by pressing the clasps simultaneously with the thumb and second finger of the right hand, as shown in Fig. 2.

An empty reel will be seen at one end of the Kodak. This is the reel upon which the film is wound after each exposure. It should be at the end of the Kodak provided

with the winding key—shown in Fig. 6—but should it be



Fig. 3. Drawing out the spool pins

found in the other end it must be transferred to the winding end, according to the directions given on page 38.

The unexposed spool of film is to be placed in the empty recess at the other end of the Kodak. To do this draw out the spool pins (see Fig. 3) and drop the film spool into the recess, as shown in Fig. 4. An easy way is shown in Fig. 4a. After the spool pins have been pulled out (Fig. 3) wrap a slip of paper around the spool. You will then be able to

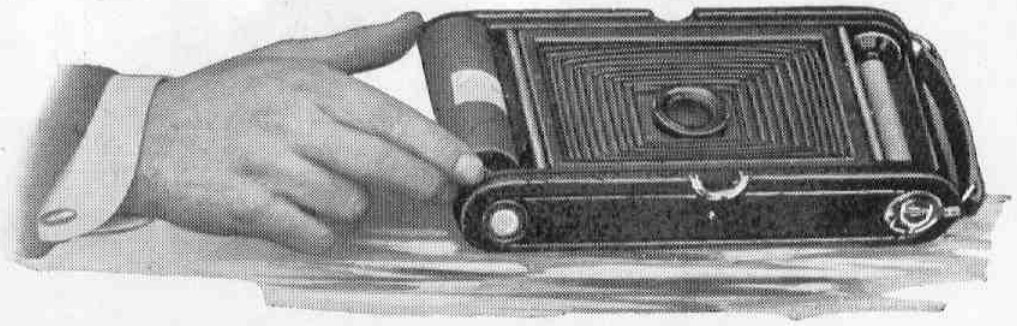


Fig. 4. Putting the spool into the Kodak.

raise or lower the spool slightly, so that the spool pins may be readily pressed into place.

On the red paper you will see the word TOP in black letters towards one end of the spool. Place the spool in the recess, so that this end is at the same side of the Kodak as the winding key.

NOTE—If the spool is inserted wrong end up, the paper instead of the film will be brought towards the lens, resulting, of course, in the loss of the pictures.



Fig. 4a. Pressing home the spool pins.

Press home the heads of the spool pins. This centres the pins in the spool so that it revolves upon them.

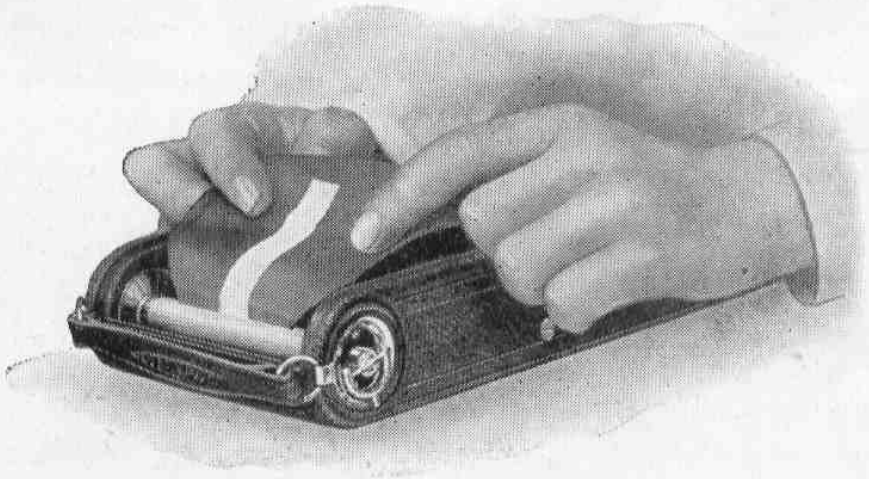


Fig. 5. Connecting the spool paper and the empty reel.

Break the gummed slip that holds the end of the paper at the point where the paper is turned under; unfold the end of the paper, and pass it over the two metal rollers, and into the slit in the empty reel, as shown in Fig. 5. The slit is longer on one side than on the other. Insert the end of the paper in the long slit. Take care that the paper draws straight and true.

Give the key one or two turns—just enough to bind the paper on the reel—and no more. See Fig. 6.

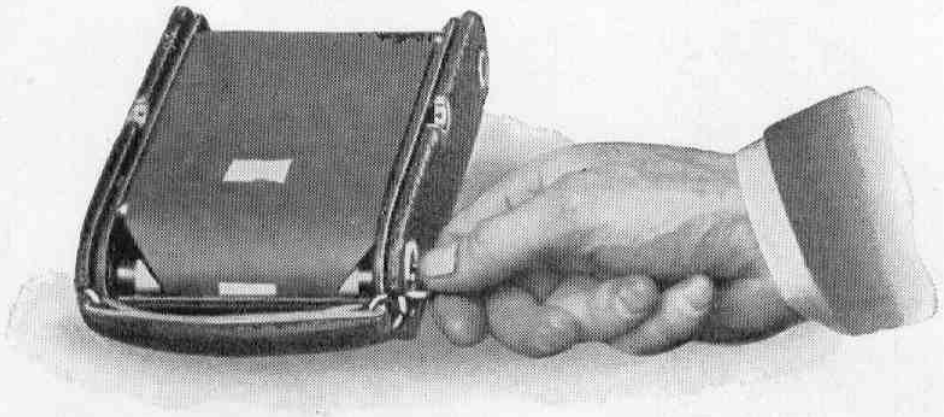


Fig. 6. A turn of the key binds the paper on the reel.

Replace the back of the Kodak, being careful to do so right side up (the wide spring at the same side as the winding key), and snap the clasps into place. Always handle the back of the Kodak carefully, especially when it is detached, as even a slight bend may make it fit badly, resulting, very probably, in a leakage of light and the spoiling of the film.

Throughout the foregoing operations, from the time the gummed slip on the fresh roll of film is broken until the back is once more in place, keep the paper wound

tightly on the spool. If it is allowed to loosen, light will be admitted and the film will be spoiled.

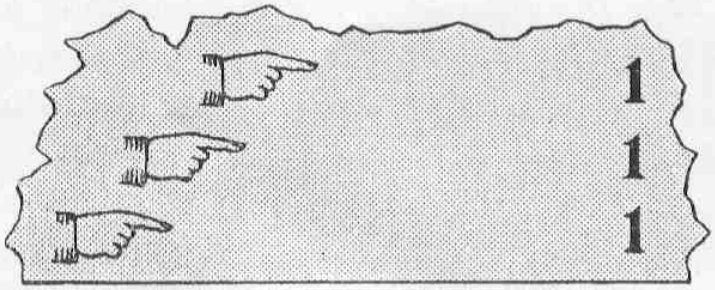


Fig. 7. You will see the hand and then number 1 in the red window.



Fig. 8.
Opening the front.

The film is covered with paper, and the excess of this, forming the safety cover of the film, must be wound off before a picture can be taken. Turn the key *slowly* and watch the little red celluloid window at the back of the Kodak. When about 15 turns have been given, first a hand and then number 1 (black on red) will be visible through the window, Fig. 7.

The film is now in position for taking the first picture.

To Open the Kodak.

Press the concealed button with the forefinger, as shown in Fig. 8. The hinged front of the Kodak will drop forward and should be pressed down until it locks.

Focussing.

Focussing is the operation of setting the lens at such a distance from the film that the subject will be sharply defined in the picture. The distance of the film from the lens will vary with the distance of the Kodak from the subject.

It is not necessary to estimate the distance of the subject with more than approximate accuracy. For instance, if the Kodak is set for 25 feet, the sharpest part of the picture will be the objects at that distance from the Kodak, but everything from 15 to 50 feet will be in good focus, and the Kodak may be set for 25 feet when photographing the majority of street scenes. Where the principal object is nearer or farther away than 25 feet, the Kodak should be set accordingly. Always endeavour to set the Kodak for the distance of the principal object. Everything beyond 100 feet is in the 100 feet focus.

NOTE.—The focussing scales give the distances in feet and metres and care should be taken not to confuse them.

No. 3 Autographic Kodak.

Turn the milled head shown in Fig. 9 until the metal projection on the shaft comes through the slot marked for the distance desired—6, 10, 25, or 100 feet. Now grasp the springs at the base of the lens support (Fig 11) and draw it forward until it is stopped by the focussing catch, when the Kodak will be in focus for the distance engraved against the slot.

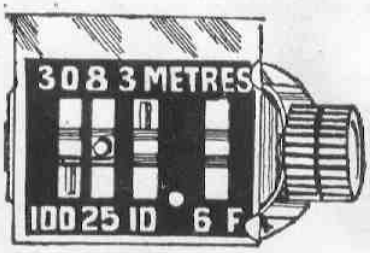


Fig. 9.
Focussing Scale

When not in use, the milled head should be turned so that none of the catches project.

No. 3A Autographic Kodak.

Press upon the milled lever of the focussing catch (Fig. 10), thus lifting the catch from the slots, and slide it backward or forward until the catch is over the slot corresponding with the distance of the principal object to be photographed. Release the lever and make sure that the catch engages with the slot. Now grasp the springs at the base of the lens support (Fig. 11) and draw it forward until it is stopped by the focussing catch, when the Kodak will be in focus for the distance engraved against the slot.

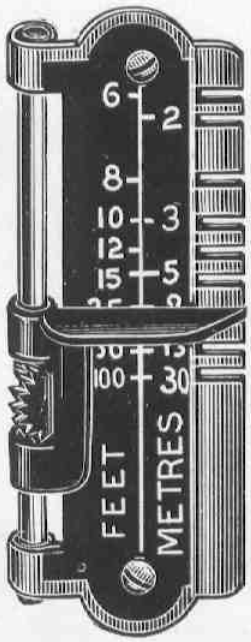


Fig. 10.
Focussing Scale.

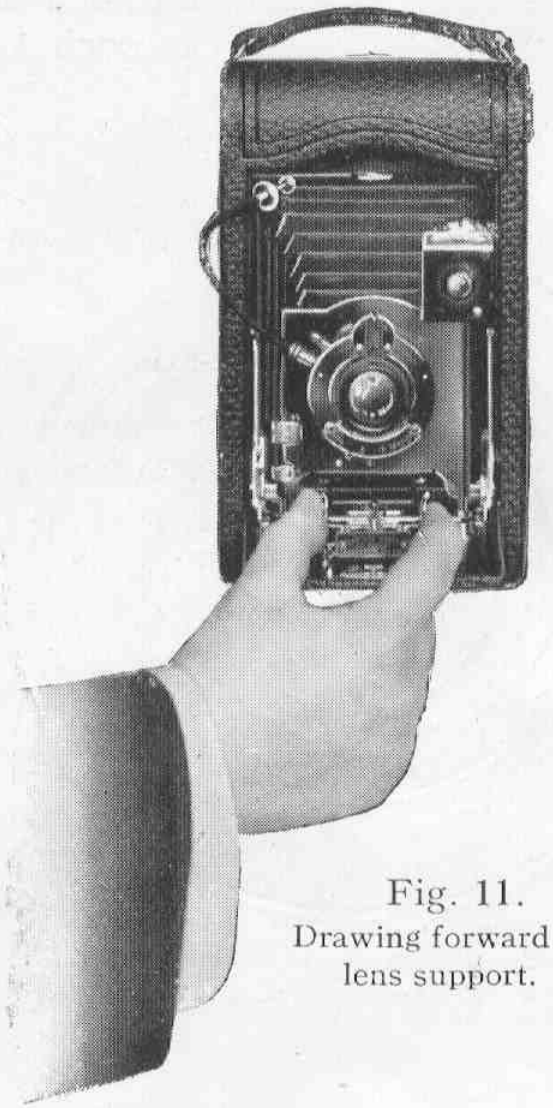


Fig. 11.
Drawing forward the lens support.

The Shutter.

Perfect familiarity with the working of the shutter is essential to successful picture taking.

The No. 3 and No. 3A Autographic Kodaks are usually fitted with the Kodak Ball Bearing Shutter shown in Fig. 12. This gives instantaneous exposures of $\frac{1}{25}$, $\frac{1}{50}$ and $\frac{1}{100}$ of a second, as well as time exposures. (See also p. 14).

Do not oil any part of the shutter.

The Diaphragm or Stops.

The diaphragm, worked by lever B, Fig. 12, is placed between the back and front components of the lens, and controls the amount of light passing through the lens.

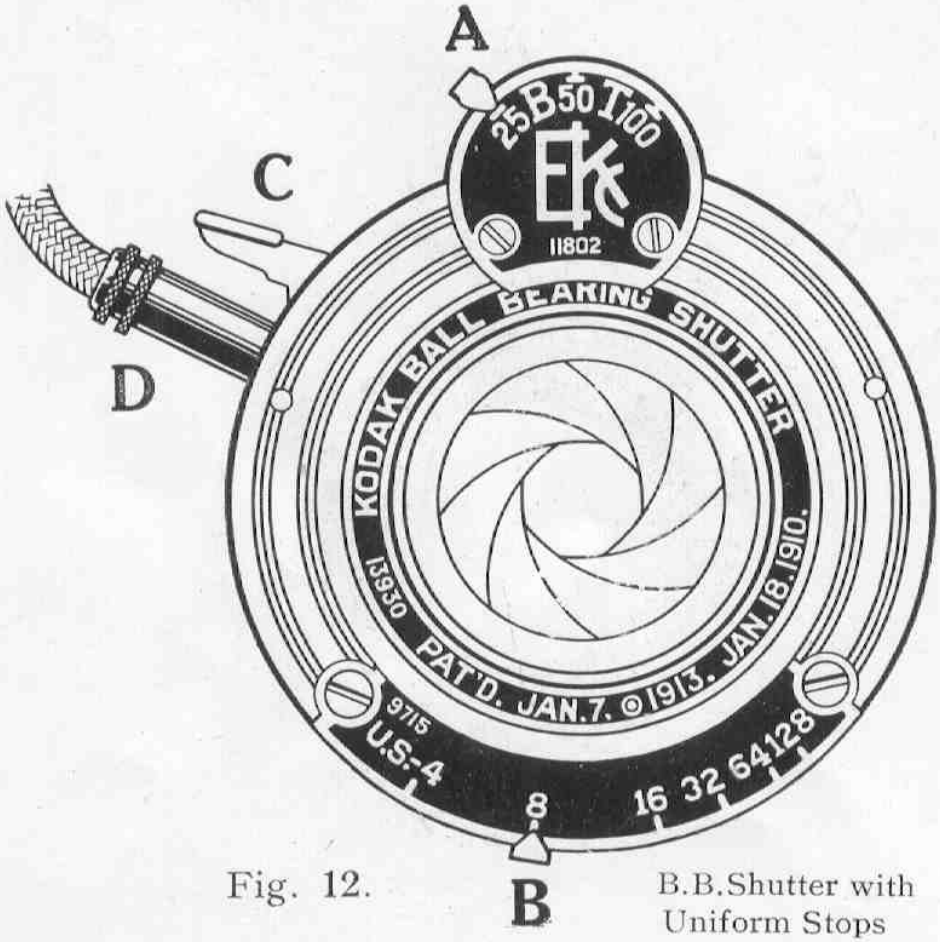


Fig. 12. B.B.Shutter with Uniform Stops

It is a device with a circular aperture which can be enlarged or reduced in diameter, the several openings being numbered 4, 8, 16, 32, 64, and 128. This System of marking the apertures is called the U.S. or Uniform System.

The largest stop is No. 4. This admits twice the light passed by No. 8, and will require only half the exposure required by stop No. 8, in a given light.

No. 8 admits twice as much light as No. 16
,, 16 ,, ,, ,, ,, 32
,, 32 ,, ,, ,, ,, 64
,, 64 ,, ,, ,, ,, 128

Thus one second with stop No. 4 and two seconds with stop No. 8 will be equal in action although not in duration, but it should be noted that the smaller the stop the sharper the definition of the picture.

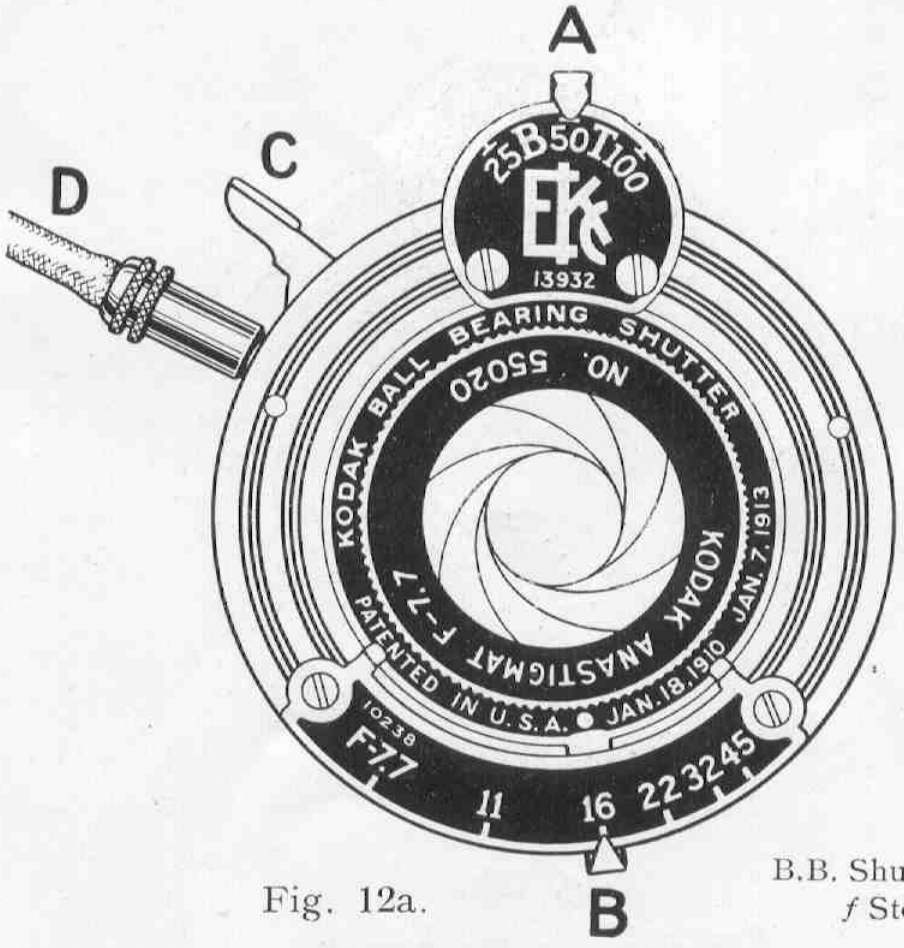


Fig. 12a. B.B. Shutter with *f* Stops

Anastigmats.

If your Kodak is fitted with an Anastigmat Lens the shutter will be marked according to the *f* system of stops illustrated in Figs. 12a. and 12b. The aperture *f*.7·7 admits slightly more light than the largest aperture U.S.4 in the rectilinear lenses, but for all practical purposes in exposing the difference may be disregarded, as the latitude of Kodak Film covers it well. In the following pages the *f* markings 7·7, (and *f*.8) 11, 16, 22, 32 and 45 are treated as equivalent to U.S. 4, 8, 16, 32, 64 and 128 respectively.

The Compur Shutter (Fig. 12b) gives exposures of 1 second, and the following fractional parts of a second:— $\frac{1}{2}$, $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{25}$, $\frac{1}{50}$, $\frac{1}{100}$ and $\frac{1}{200}$. The letters T. B. and I. stand for "Time," "Brief Time" and "Instantaneous" exposures.

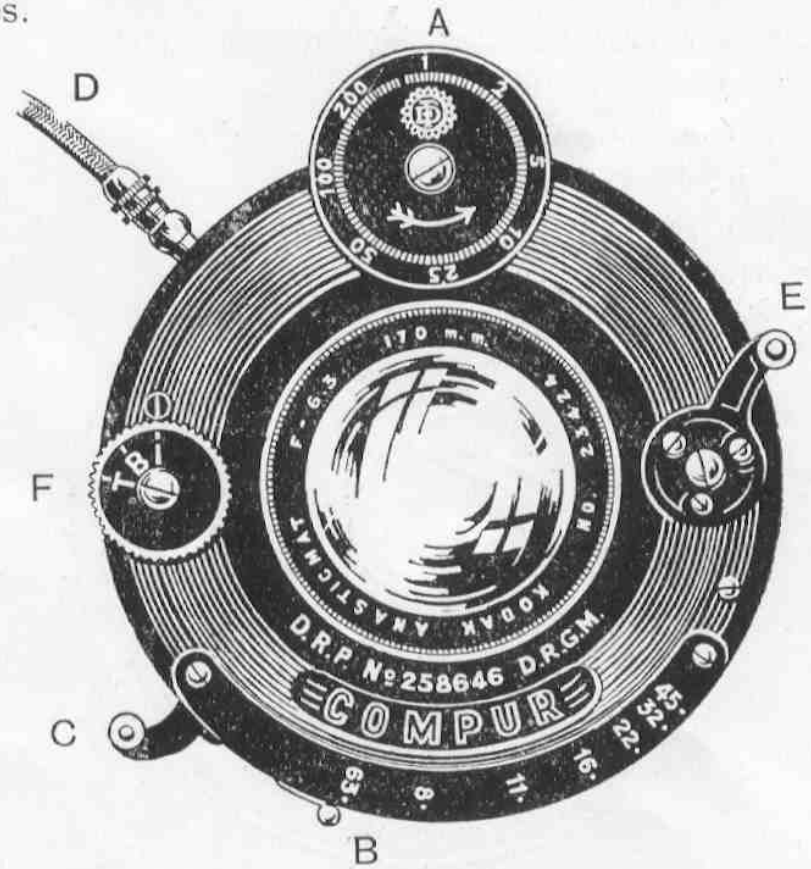


Fig. 12b.

Compur Shutter with f. stops.

The T.T. & H.-Kodak Anastigmat *f*6·8 is a faster lens than the Kodak Anastigmat *f*7·7.

Now the larger the stop you use the more accurately you must focus. Therefore, when using the largest stop, *f*6·8, take care to estimate as exactly as possible the distance from the lens to the principal object in the picture; then be sure that the automatic focussing lock is set to the figure on the focussing scale most nearly corresponding to this distance.

As a rule the same stop should be employed and the same exposure be given if your Kodak is fitted with the *f*6·8 anastigmat as if it were fitted with the *f*7·7 anastigmat.

But, let us suppose that $\frac{1}{25}$ of a second at *f*7·7, when the subject is in rapid movement, gives a negative showing the movement, though otherwise correctly exposed. The same amount of light must pass the lens to impress the picture satisfactorily on the emulsion, but it must do so in less time to avoid showing the movement. You can accomplish this by giving $\frac{1}{100}$ second exposure at stop *f*6·8.

Again, when the light is so weak that $\frac{1}{25}$ second, the longest instantaneous exposure, at stop *f*7·7 would result in an under-exposed negative, you can open the diaphragm to its largest aperture, stop *f*6·8, and still obtain a satisfactory picture, since considerably more light can act on the emulsion in the same time with stop *f*6·8 than with stop *f*7·7.

Instantaneous Exposures (Ball Bearing Shutter).

First—Extend the front of the Kodak to the figure on the focussing scale, representing the distance of the principal object to be photographed. See page 10.

Second—See that an unexposed section of film is in position.

Third—Set the lever A (Figs. 12 and 12a) at 25.

Fourth—Set the lever B (Figs. 12 and 12a) to the diaphragm stop required.

U.S. 4 or *f*7·7.—On slightly cloudy days. With heavy clouds do not attempt instantaneous exposures.

U.S. 8 or *f* 11.—When the sun shines.

U.S.—16 or *f* 16.—When the sunlight is unusually strong and

there are no heavy shadows, such as in views on the sea-shore or on the water, or in tropical or semi-tropical climates.

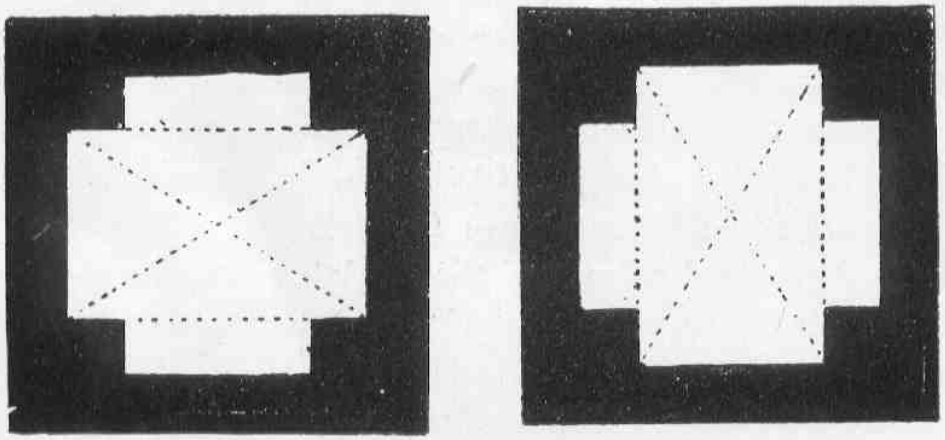
Do not use a stop smaller than No. 16 for instantaneous exposures as the light will be so much reduced that it will not sufficiently impress the image on the film.

Instantaneous Exposures (Compur Shutter).

1. Revolve the disc F. until the letter I. is at the top and directly under the indicator line just above the disc.
2. Revolve the disc at the top of the shutter until the line above the figure representing the exposure you desire to make is in the centre of the notch A.
3. Set the shutter by pushing down the lever E. as far as it will go.
4. Press the trigger C. or the release attached to D. This makes the exposure.

Arranging the Picture.

Point the Kodak at the object to be photographed, lifting the hood of the finder in the case of the No. 3 Autographic Kodak, and see that the image is in position in the finder. Always look into the finder from directly over it, not at an angle. The finder shows the scope of view and as nearly as possible a facsimile of the picture, but on a reduced scale.



View included when Kodak is held in Horizontal position — A.

View included when Kodak is held in Vertical position — B.

Fig. 13.

Any object that does not show in the finder will not show in the picture.

It will be noticed that the top of the finder is notched, as in Fig. 13. This enables the one finder to show the view included when the Kodak is held in either a horizontal or a vertical position. Remember that only the view indicated by the dotted lines in Fig. 13A will show in a horizontal picture, the dotted lines in Fig. 13B indicating the view in a vertical picture.

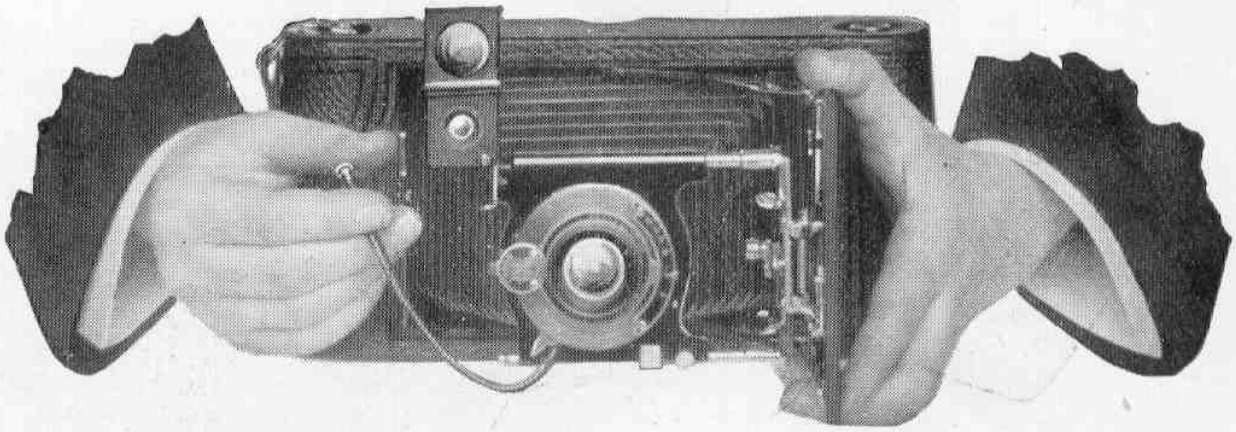


Fig. 14.

For a horizontal picture and an instantaneous exposure hold the Kodak as shown in Fig. 14, turning the finder as indicated.

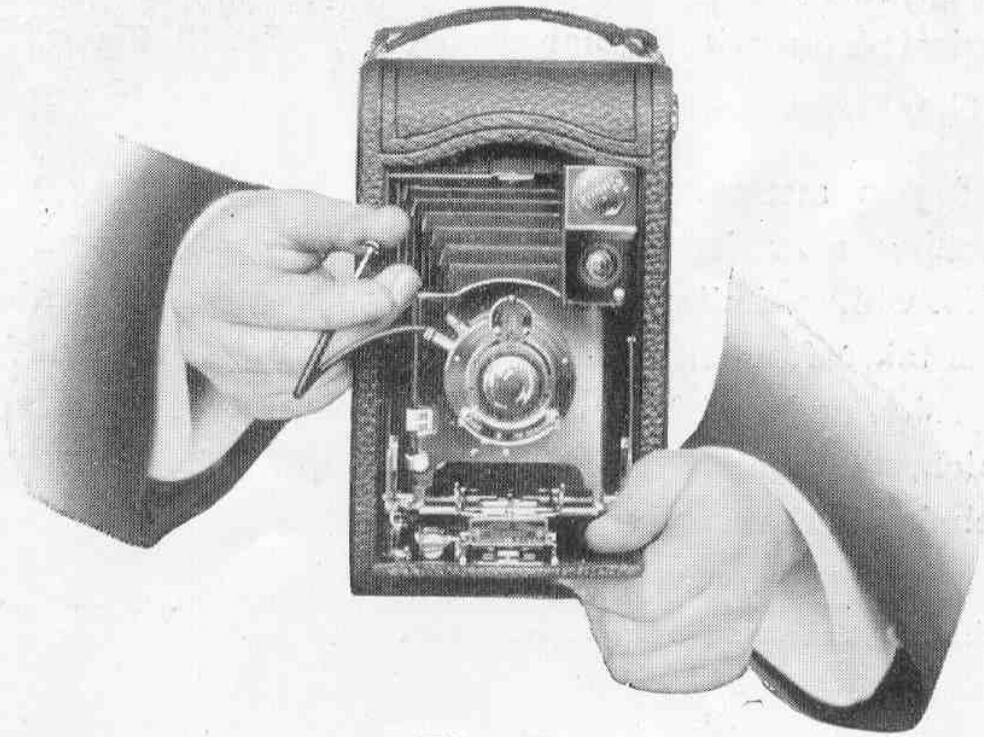


Fig. 15

For a vertical picture and an instantaneous exposure the Kodak must be held as in Fig. 15 with the finder as shown.

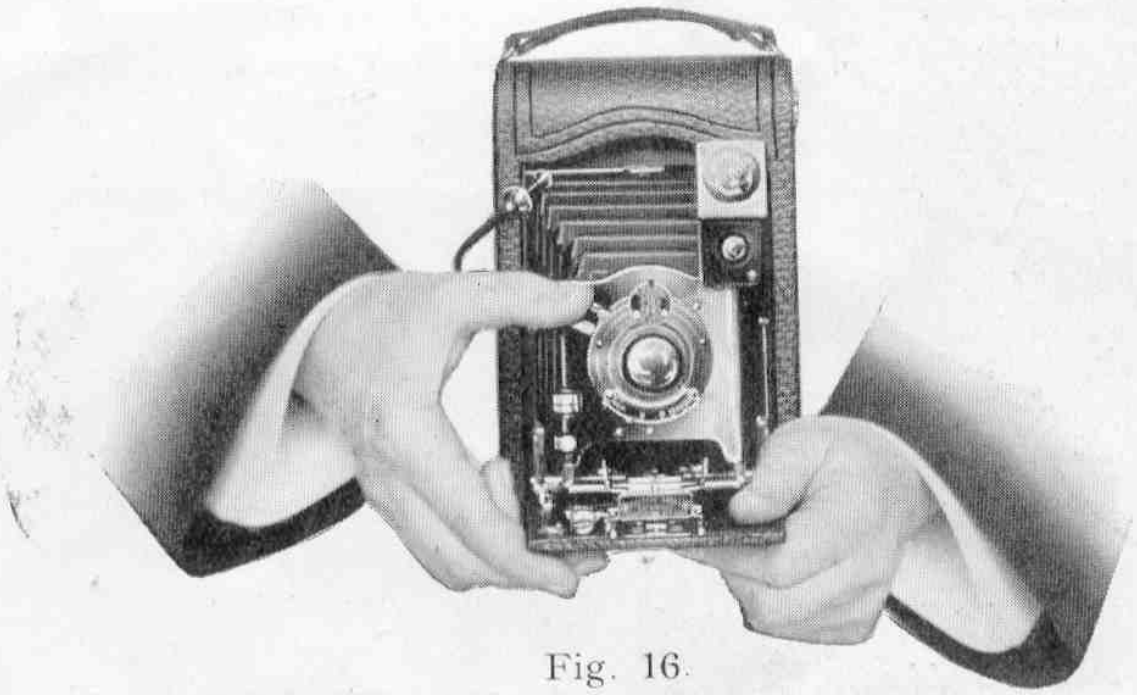


Fig. 16.

Fig. 16 shows how to hold the Kodak when making a vertical picture with the finger release C. (Fig. 12, 12a or 12b).

The Kodak must be held level.

If you attempt to photograph a high building while standing near it, by pointing the Kodak upward the result will be similar to Fig. 17. This building should have been taken from the middle storey window of the building opposite, or by withdrawing, if possible, to the distance, at which, the Kodak being level, the top of the building is included in the finder.

NOTE.—The rising front described on page 28 may be used to include high objects in the picture.

covering a narrow slot through which the writing is done upon the red paper. An automatic safety spring border acts when the door is open and presses the red paper and the black tissue under it into contact with the back of the film; this makes the writing sharp and prevents the light from spreading. The slot is in such a position that normally the writing comes between the exposures.



Fig. 18.

Opening the Autographic Door.

After the picture is taken, push back the sliding lock with the thumb (Fig. 18), in the direction indicated by the arrow. Open the door. Use the stylus, or a smooth pointed pencil (which must not be of the "indelible" or copying kind), held in as upright a position as is convenient, and write on

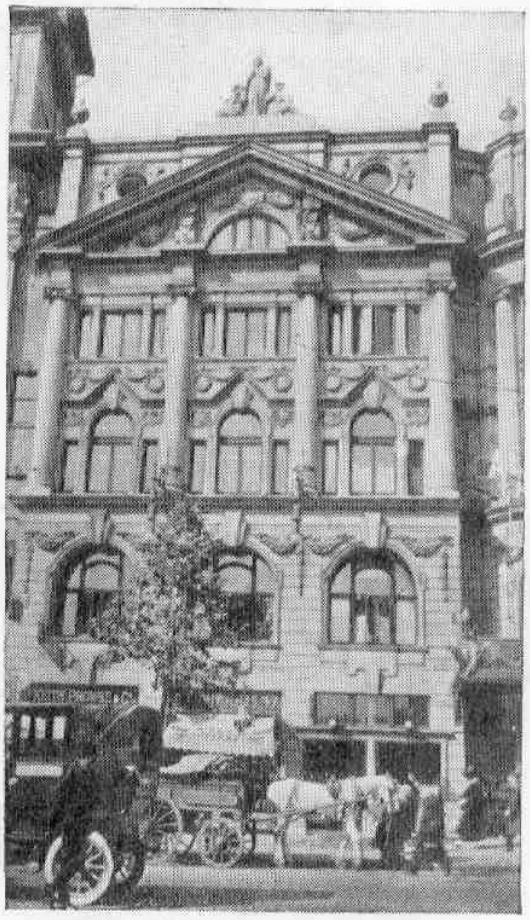


Fig. 17.

The effect of tilting the Kodak upward.

If the object is at a low level, like a small child or a dog, the Kodak should be held down level with the centre of the object.

Fifth.—Hold the Kodak level and steady, and press the cable release, on tube D, (Fig. 12, 12a or 12b) with a firm movement, or press down the release C with the thumb, as shown in Fig. 16. This makes the picture.

The pressure on the cable release or finger release may be relaxed immediately the shutter is heard to operate. The length of an instantaneous exposure is determined by the position of the lever A (Figs. 12, 12a and 12b), not by the length of time the cable is compressed or the finger release pressed down. It must not be supposed that a "time" exposure can be given by maintaining the pressure on the cable or finger release unless the lever A is at B (Figs. 12 and 12a) or letter T on disc F (Fig. 12b) is directly under the indicator line.

The Autographic Feature.

Autographic Kodaks* have a spring door on the back,

* You can buy Autographic Backs for Nos. 3 and 3A Folding Pocket Kodaks and so convert them into Autographic Kodaks.

the strip of red paper any title you wish the picture to have and the date or details of the exposure, light, stop, etc. (Fig. 19).

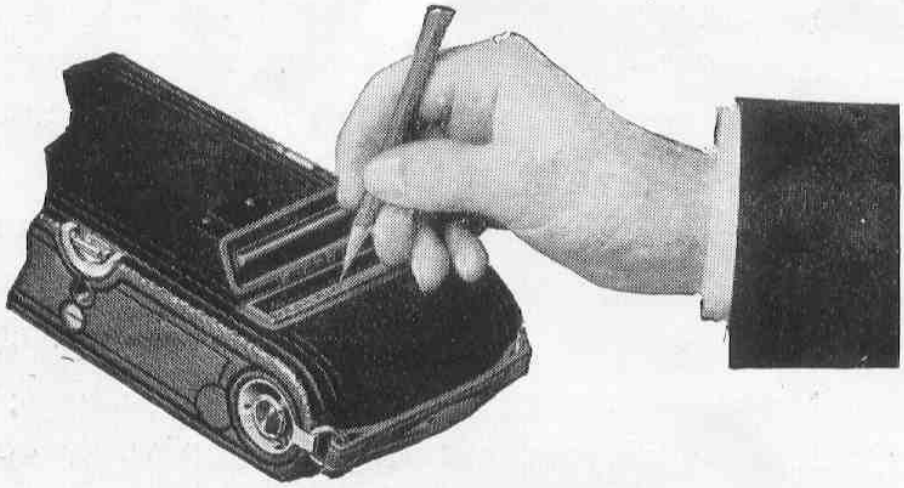


Fig. 19. Writing the date and the name of the picture.

To get a clear impression, press as heavily as the paper will stand without tearing, on both up and down strokes. *While writing or afterwards the sun should not be allowed to shine upon the paper.* The pressure of the pencil or stylus so acts upon the tissue as to let the light record the writing upon the film. After finishing the writing, the door should be left open for printing, in accordance with the following table.

(Expose to the sky but not to the sun).

	Out of doors	Indoors close to window
Brilliant light Dull light	2 to 5 seconds 5 to 10 seconds	5 to 7 seconds 10 to 15 seconds
Electric light, distance 2 inches, 30 to 60 seconds Incandescent gas, distance 6 inches, 30 to 60 seconds.		

Important.—When you have used the last exposure on your spool of film and have written the autographic record, turn the winding key until the letter "A" appears in the centre of the little red window. Raise the spring-door and write your name on the red paper, then expose it to the sky in the same way as you exposed the titles of your pictures. Close the spring-door and finish winding film and red paper for removal from the Kodak. Your film is now ready for development, and if you give it to anyone else to develop it will be recognised after development by the autographic copy of your name which you wrote on the red paper.

Lock the spring door before winding a new film into place.



Winding the next film into place.

Fig. 20.

They also carry two struts—a hinged spring strut on the outer side of the folding base for vertical pictures, and a slightly different strut on the inner side near the focussing scale for horizontal pictures—enabling the Kodak to stand on a table or other firm and level support if a tripod is not available.

Exposures longer than $\frac{1}{25}$ second cannot safely be made with the Kodak in the hands.

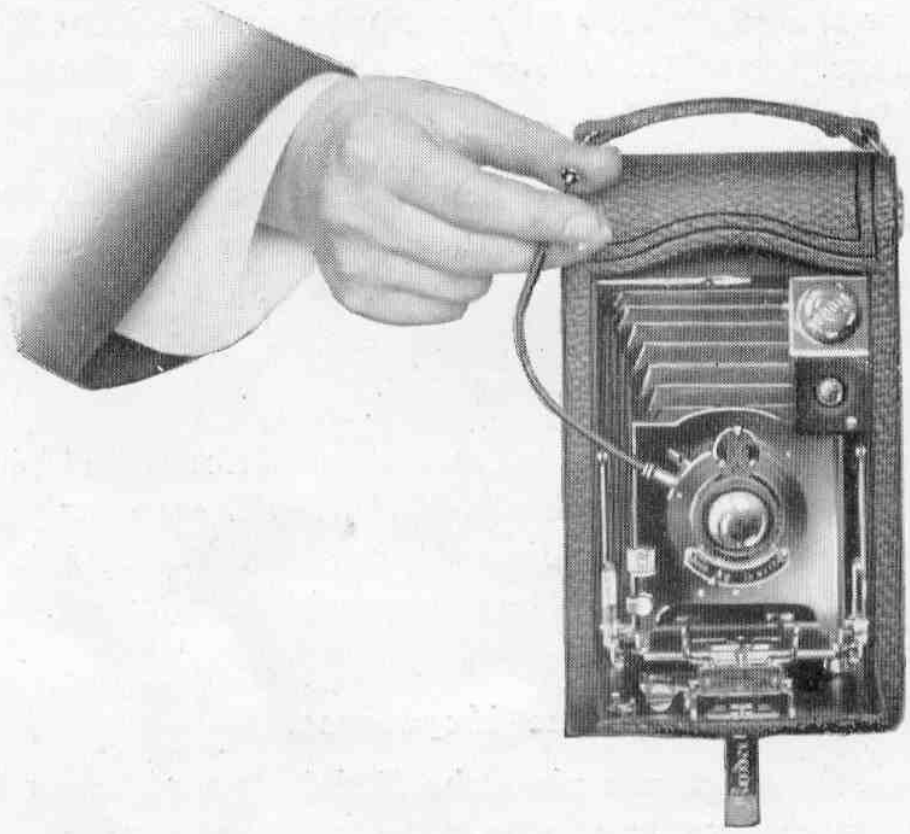


Fig. 21.

Fig. 21 shows the Kodak in position for a vertical picture, with the hinged strut pulled down to support the front.

Turn the winding key slowly to the left, until the next number appears before the red window (Fig. 20). Three or four turns will be enough. The warning hand appears before No. 1, and dots appear before the other numbers. You must be careful to get the number exactly in the centre of the red window in order that the writing may come in the proper place between the negatives.

Moving Objects.

When it is desired to photograph moving objects the shutter should be set at 50 or 100 by means of the lever A (see Figs. 12 and 12a) according to the amount of movement shown by the object.

To compensate for the shorter duration of exposure, the diaphragm stop should be set at U.S. 4 or *f* 7·7, when the subject is in sunlight, and at U.S. 16 or *f* 16 only if it is in unusually strong light, by the sea, on the water, or in tropical or semi-tropical countries.

For all ordinary exposures with the Kodak held in the hand $\frac{1}{25}$ of a second will be fast enough. It is only when moving objects are near the Kodak and the light is very good that the more rapid exposures will be required. (See pages 13, 14 and 15.)

Time Exposures.

For a time exposure place the Kodak on a tripod or some other firm support and focus as described on page 10.

The No. 3 and No. 3A Autographic Kodaks are provided with tripod sockets for both vertical and horizontal pictures.

The tripod socket for vertical pictures will be found on the outer side of the hinged front or folding base. The tripod socket for horizontal pictures is on one of the sides of the camera.

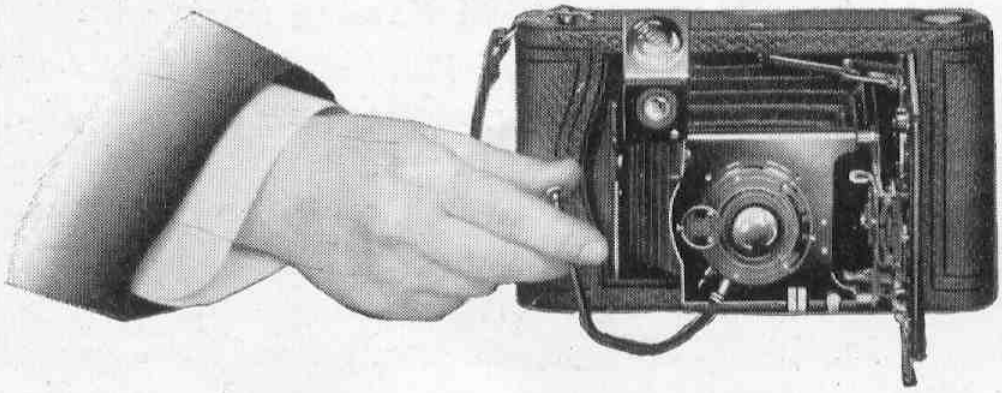


Fig. 22

Fig. 22 shows the Kodak in position for a horizontal picture, with the front supported by the strut provided for this position.

Interiors

Set the Kodak in such a position that the finder will embrace the view desired.

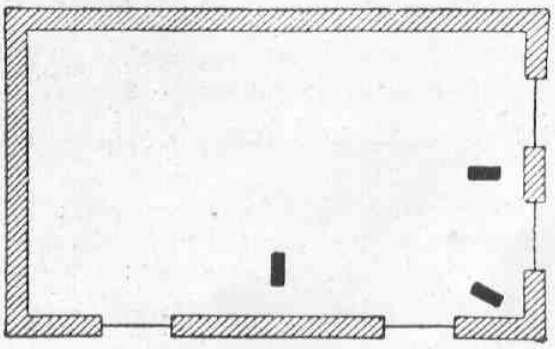


Fig. 23.

Fig. 23 shows three positions, each chosen so that the Kodak will not be pointed directly at a window, for the reason that the glare of light would blur the picture. If all the windows cannot be avoided, pull down the blinds or shades of those which come within the range of the Kodak.

Time Exposures (Ball Bearing Shutter).

Set the lever A (Figs. 12 and 12a) at the point T. This adjusts the shutter for time exposures, *i.e.*, one second and upwards.

Set the lever B. (Figs. 12 and 12a) at No. 16, 32, 64 or 128 (or *f* 16, 22, 32 or 45).

The smaller the stop the sharper the picture.

Stop No. 16 in ordinary circumstances is the best for interiors. The following table gives the approximate exposure required under varying conditions of light, with the stop No. 16 in use, for rooms whose windows get the direct light from the sky, and for times of day between three hours after sunrise and three hours before sunset.

If earlier or later, the time required will be longer.

White walls and more than one window:

Bright sun outside, 4 seconds;
hazy sun, 10 seconds;
cloudy bright, 20 seconds;
cloudy dull, 40 seconds.

White walls and one window:

Bright sun outside, 6 seconds;
hazy sun, 15 seconds;
cloudy bright, 30 seconds;
cloudy dull, 60 seconds.

Medium coloured walls and hangings, and more than one window:

Bright sun outside, 8 seconds;
hazy sun, 20 seconds;
cloudy bright, 40 seconds;
cloudy dull, 80 seconds.

Medium coloured walls and hangings, and one window:

Bright sun outside, 12 seconds;
hazy sun, 30 seconds;
cloudy bright, 60 seconds;
cloudy dull, 120 seconds.

Dark coloured walls and hangings, and more than one window:

Bright sun outside, 20 seconds;
hazy sun 40 seconds;
cloudy bright, 80 seconds;
cloudy dull, 2 minutes 40 seconds.

Third—Press the release to open the shutter and remove the pressure to close the shutter.

The exposure may be made by means of the lever C if desired, but in this event care must be taken not to jar the Kodak.

The shutter will remain open as long as the release or lever is under pressure, but the method is not recommended for a long "time" exposure.

Use the time exposure movement (lever A at T) for exposures of more than one second.

Brief Time Exposures (Compur Shutter).

1. Revolve the disc F. (Fig. 12b) until the letter B. is at the top and directly under the indicator line just above the disc.

2. Press the trigger C. or the release attached to D. The shutter will remain open as long as the trigger or release is under pressure.

NOTE. The shutter does not require setting for "Brief Time" exposures and it is immaterial what the speed dial indicates. The setting of the disc F to B throws the "instantaneous" movement out of action.

Write the Autographic record and turn a new section of film into position.

The Rising and Falling Front.



Fig. 24a.
Rising Front not used.



Fig. 24b.
Rising Front used.

Dark coloured walls and hangings, and one window:

Bright sun outside, 40 seconds;
hazy sun, 80 seconds;
cloudy bright, 2 minutes 40 seconds;
cloudy dull, 5 minutes 20 seconds.

If the stop U.S. No. 8 (or *f* 11) be used, give half the above times. If stop 32 (or *f* 22) be used, double the time in the table. If stop 64 (or *f* 32), multiply by 4. If stop 128 (or *f* 45), multiply by 8.

When all is in readiness press the cable release. *This opens the shutter.* Time the exposure by a watch. Again press the release. *This closes the shutter.* Then write the Autographic record as already described.

The shutter may be opened by pressing the lever C, and closed by a second pressure if desired, but this course is liable to jar the Kodak and to spoil the definition of the picture.

Time Exposures (Compur Shutter).

1. Revolve the disc F. (Fig. 12b) until the letter T. is at the top and directly under the indicator line just above the disc.

2. Press the trigger C. or the release attached to D. This opens the shutter. Time the exposure by a watch and press the trigger or release again to close the shutter.

NOTE. The shutter does not require setting for "Time" exposures, and it is immaterial what the speed dial indicates. The setting of the disc F to T throws the "instantaneous" movement out of action.

Brief Time Exposures (Ball Bearing Shutter).

A very brief time exposure—anything up to one second—is best given in the following way:—

First—Set the lever A (Figs. 12 and 12a) at the point B (brief).

Second—Set the lever B (Figs. 12 and 12a) at U.S. Nos. 16, 32, 64, or 128 (or *f* 16, 22, 32 or 45).

The Kodaks described in this manual are provided with rising and falling fronts, the object of which will be seen on reference to the foregoing illustrations. Fig. 24a shows a picture of a high building taken from so near a point of view that the top of the building is cut out. By raising the lens of the Kodak (do not tilt the Kodak—see page 19), the picture is made to include the top of the building as in Fig. 24b, the undesirable excess of foreground being cut out.

The amount of foreground may be increased by reversing this operation. *i.e.*, by lowering the lens from its ordinary central position.

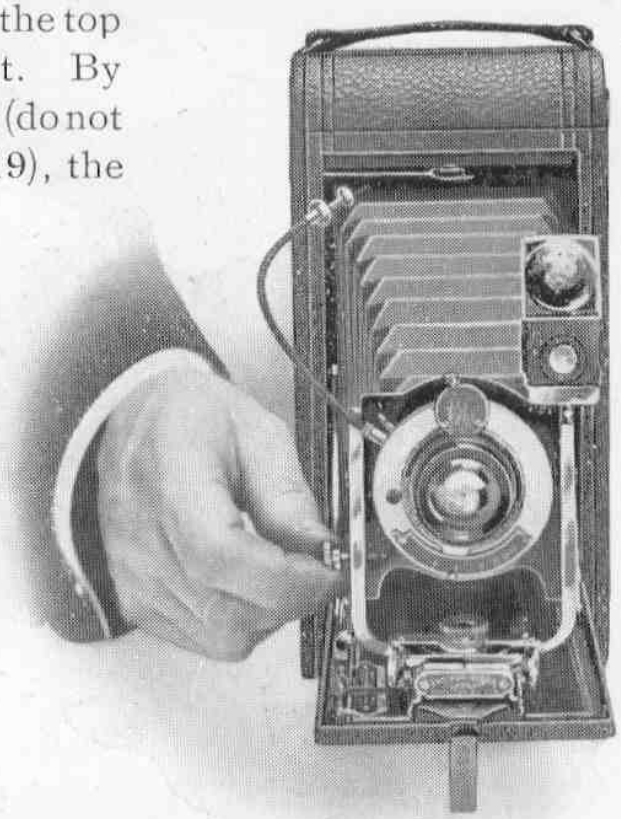


Fig. 25.

Adjusting the Rising Front.

Fig. 25 shows how to raise or lower the lens when making vertical pictures with the No. 3 and No. 3A Autographic Kodaks. Pull out the milled head at the left of the camera front and turn until the lens is in the desired position; then press in the milled head; this secures the front.

If your Kodak is fitted with the rising front shown in Fig. 26, the front may be raised or lowered by pressing on the eccentric catch just below the milled screw, and at the same time turning the screw to right or left.

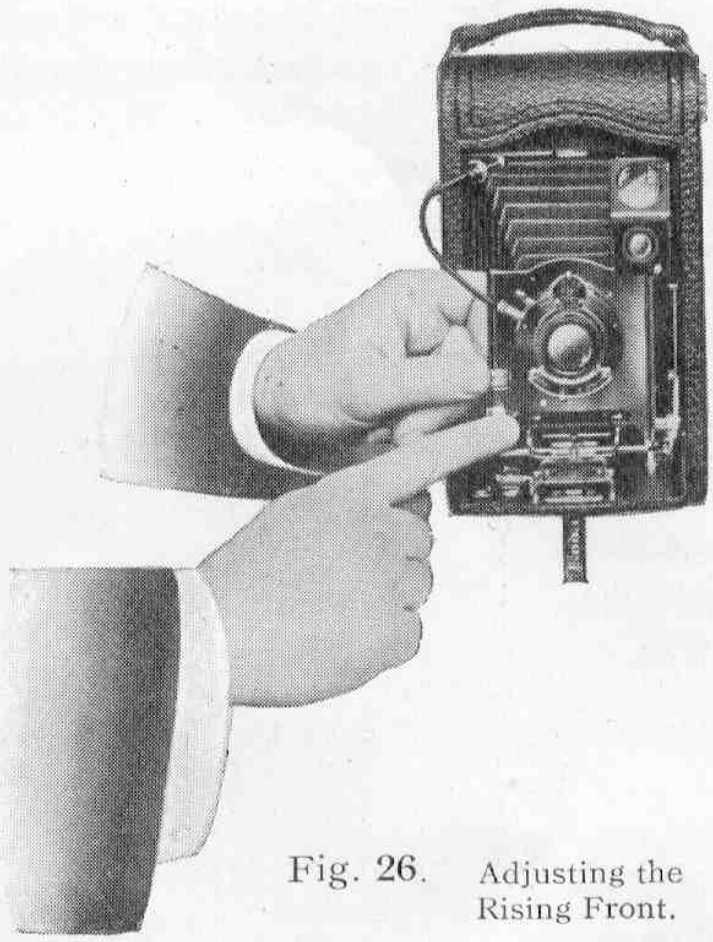


Fig. 26. Adjusting the Rising Front.

The front can also be moved to the right or left (up or down when the Kodak is placed on its side for horizontal pictures) in the No. 3 Autographic Kodaks by pushing to the right the locking lever directly under the shutter, and sliding the front in either direction to the desired position.

NOTE: In some Kodaks a milled screw nut takes the place of the lever. Lock in position by pushing the lever to the left as far as it will go or by means of the screw nut.

In order to make a sharp picture when using the rising front, it will be better to use a small stop (U.S. No. 32 or 64, or *f* 22 or 32), and, as this in turn may necessitate a time exposure, a tripod or other firm support must be provided.

NOTE.—Do not fail to centre and lock the lens front before closing the Kodak, otherwise the bellows will not fold properly.

The Kodak Portrait Attachment does not interfere in the slightest degree with the ordinary use of the Kodak, as the Attachment can be removed, when not required, as quickly as it can be affixed.

The distance at which the Kodak is to be used, and therefore the size of the picture, depends upon the distance for which the Kodak is focussed. Full directions are supplied with the attachment.

The Kodak Portrait Attachment is useful also in photographing flowers and other small objects on an enlarged scale.

See price list, and special pamphlet post free on application.

Be sure to specify the name, lens and shutter of your Kodak when ordering the attachment.

Groups.

Arrange the chairs in the form of an arc, facing the Kodak, so that each chair will be about the same distance from the Kodak. Half of those composing the group should be seated, and the rest should stand behind the chairs. If the group be large, any number of chairs may be used, but none of the subjects should be seated on the floor with limbs extended towards the Kodak.

Backgrounds.

In making single portraits or groups care should be taken to have a suitable background against which the figures will show in contrast or relief; a light background is better than a dark one, and often a single figure or two will show up

To centre the lens after using the rising front, with the model shown in Fig. 25, see that the indented line immediately under the locking screw nut or lever coincides with a similar mark on the moving lens support.

To centre the lens after using model shown in Fig. 26, move up or down until the catch fastens in the notch in the standard.

To centre the lens after using the sliding front, see that the indented line on the upright lens support coincides with the slot immediately above the milled head.

Portraits.

Place the sitter in a chair partly facing the light, and turn the face slightly towards the Kodak, which should be at the height of an ordinary table. The proper distance from the Kodak to the subject can be ascertained by looking at the image in the finder.

For a bust picture or a three-quarter figure the Kodak should be 6 to 8 feet from the figure, and for a full figure, 8 to 10 feet.

Kodak Portrait Attachment.

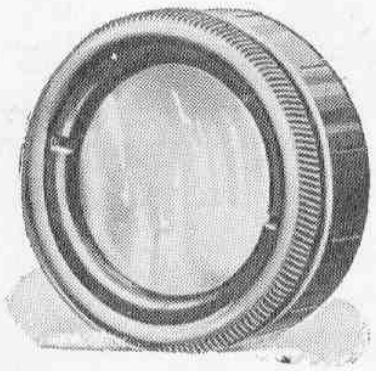


Fig. 27.

By the use of a Kodak Portrait Attachment, Fig. 27, large head and shoulder pictures of various sizes may be made. This Attachment is so valuable on many occasions that every Kodak user, when he knows what it will do, will add one to his outfit.

The attachment is an extra lens which slips over the Kodak lens, and enables the user to approach closer to the subject, and thus get a larger image, without spoiling the definition.

well against a curtain. For larger groups, a medium light wall will be suitable.

Flashlight Pictures.

The Kodak Amateur Flashlight Outfit has wonderfully simplified picture-taking at night, and enables anyone to obtain souvenirs of evening parties, groups around the dinner or card table, and single portraits which, but for the flashlight would be beyond the range of the camera.

This Flashlight Outfit makes it possible also to photograph interiors which cannot be taken by daylight, by reason of a lack of illumination or for some other cause.

The Kodak Amateur Flashlight Outfit *gives a minimum of smoke.*

The Kodak should be prepared for "time" exposures, as directed on page 23 of this Manual, *except that stop U.S.4 or f 7.7 should be used*, and placed on a tripod, or some firm level support, where it will take in the view desired.

To prepare the powder for use

Empty the contents of *both* portions of the glass tube on to a sheet of smooth paper (such as writing paper) and *mix well* with the aid of any bone or wooden implement, for example a bone paper knife. When mixed return all the powder to the large section of the tube.

To use the Lamp

Place the requisite amount of flashpowder in the tray at the opposite end to the *as yet unlighted* taper (or match). When ready, the taper (or match) is lighted, the shutter of

the camera opened and the lamp tipped steadily forward. The powder slips down the tray and is ignited instantaneously. Care should be exercised not to jerk the lamp forward but to tip it over boldly and steadily. After the flash, blow out the taper or match. Then press the release to close the shutter, make the Autographic record and turn a fresh section of film into place with the key, ready for another picture.

Quantity of powder to use

For portraits or average interiors, use as much powder as can be heaped on to a threepenny piece or as much as easily covers a sixpence without piling up. Small groups or larger interiors need rather more powder—say as much as can be heaped on to a sixpence, but not more.

Where to hold the Flashlamp

The lamp should be held just behind the camera either to the left or right, and well above the lens. Provided that the shutter is only opened just before exposure and no lights are included in the picture, it is not necessary to extinguish the lights in the room.

Full instructions are supplied with the Outfit.

The finder on the Kodak will aid you in arranging the subject for the best effect. In order to make the image visible in the finder, the room will have to be well lighted with its ordinary illuminant, which need not be extinguished while the picture is being made, provided none of the lights is placed so that it shows in the finder.

In the case of a portrait the flash should be on the side of the Kodak away from the face, that is, the subject should not face it, and the flash should not be higher than the head of the subject.

For the arrangement of a group or a single figure, and the choice of a background, see page 32.

Under-Exposure

To take an example, a negative is under-exposed when, after correct development, the parts that were well lighted show a fair amount of detail, but the parts that were in the shade lack detail. To avoid this, always calculate your exposure for the dark portions of your picture.

In an extreme case the negative does not show detail in either the worse lighted or the better lighted parts of the picture. This means you should have given at least three times as much exposure.

An under-exposure can be made worse by incorrect development. The Kodak Film Tank will ensure correct development.

The only remedy for a badly under-exposed photograph is take the picture over again. Always give sufficient exposure. (See pages 15, 16 and 23 to 28).

Over-Exposure.

This, if not extreme, is a good fault. With correct development there is a lack of contrast between the well-lighted parts of the picture and the shady parts, and in addition, the negative may take a long time to print. This can be corrected a reducer.

Closing the Kodak.

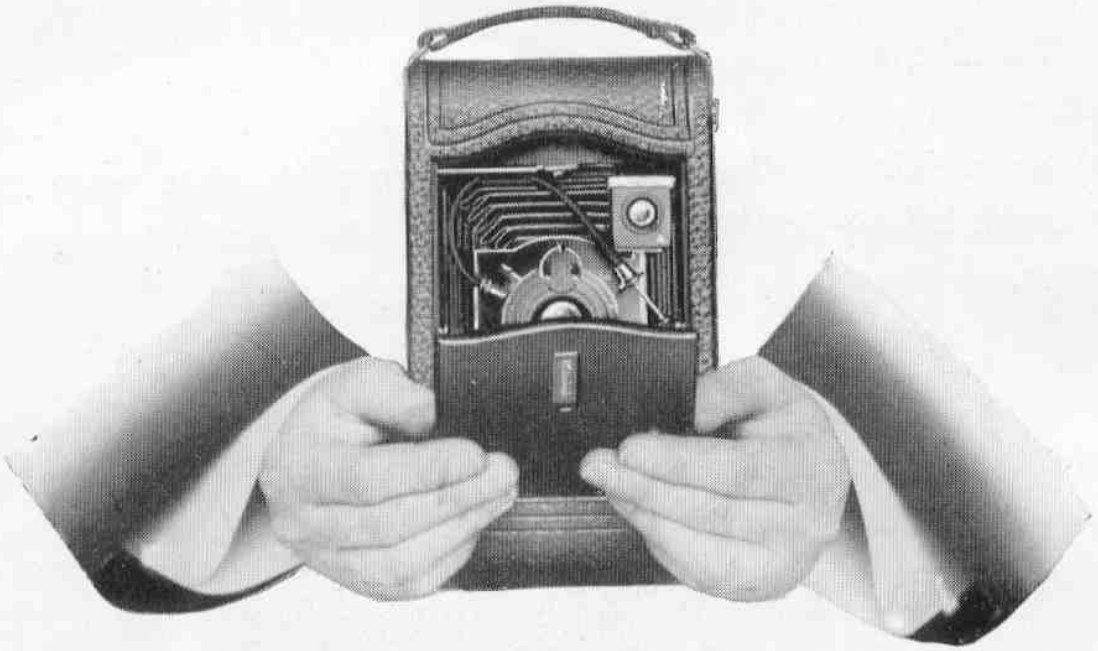


Fig. 28.

After using the Kodak, see that the finder is in the upright position and the hood down, push back the lens support reversing the operation shown in Fig. 11, and press down the slotted struts at each side of the Kodak as shown in Fig. 28. The hinged front will now close quite readily.

Removing the Film.

The operation of removing the exposed spool and inserting a new one in the Autographic Kodak should be performed in a subdued light, but a dark room is not required.

When the last section of the film has been exposed, and you have written your name, turn the key about five half turns

Have a new spool of film ready.

Remove the back from the Kodak as described on page 5.

Holding the paper taut, so that it winds tightly, turn the key until all the paper is wound upon the reel (See Fig. 29).

Hold the ends of the red paper and gummed slip together to keep the red paper taut on the reel.

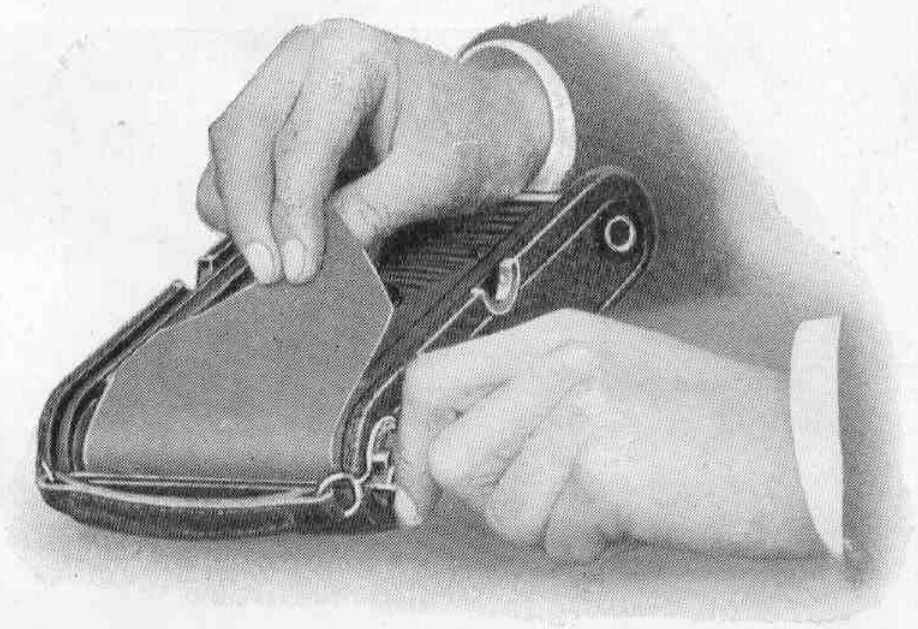


Fig. 29. Winding up the spool paper.

Pull out the spool pin at the end of the recess which contains the exposed spool, as described on page 6.

Pull out the winding key, and lift out the roll of film by the end of the red paper and the gummed slip (Fig. 30).

Fold over half an inch at the end of the red paper and seal with the gummed slip. Thus it will be easy to break the seal when required.

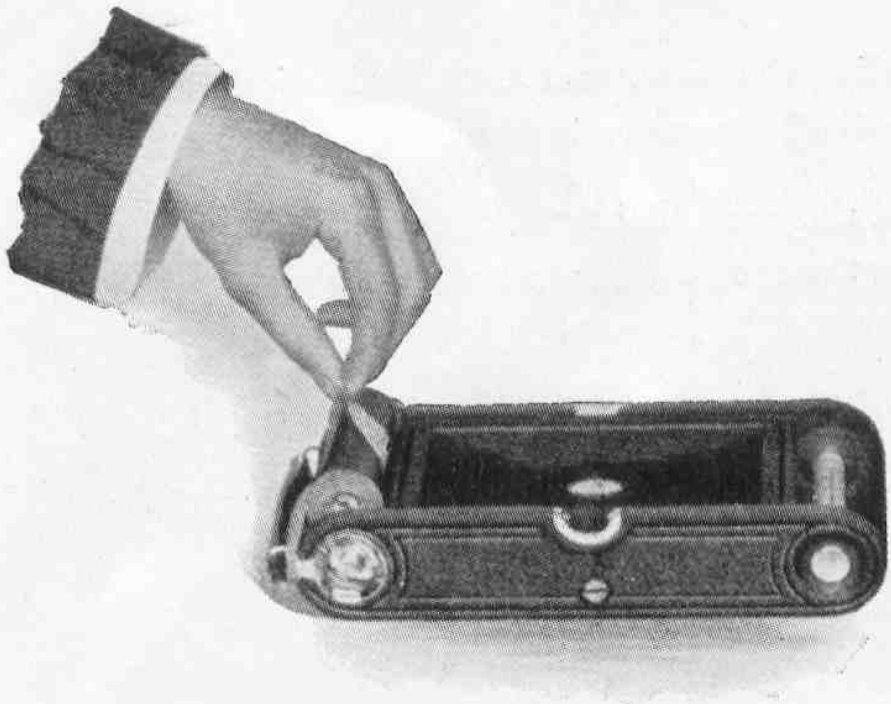


Fig. 30. Removing the exposed roll of film from the Kodak

Wrap up the spool of exposed film to prevent possible injury by exposure to strong light.

Now take out the empty reel, first withdrawing the spool pins as before described. (See Fig. 3, page 6).

Drop this reel (which will serve as the receiving reel for the next film) into the empty recess at the end of the Kodak carrying the winding key, taking care that the slotted end is towards the winding key. Pull out the key in so doing, as shown in Fig. 31, and fit the web of the winding key into the slot in the end of the reel. Now insert the pin in the opposite end of the reel by pressing home the pin head.

Load as described on page 5.

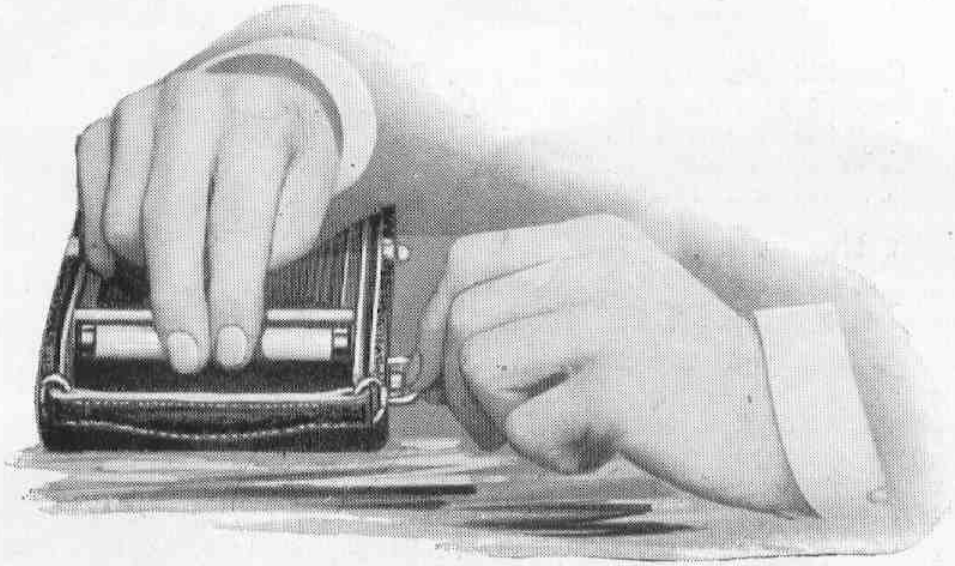


Fig. 31. Placing the empty reel in the Kodak.

"Cinch Marks."

If the film and paper loosen up a trifle when taken from the camera, do not take the spool in the hand and wind it as closely as possible, cinching it lightly with a winding motion. There is nothing more likely to injure the negative than this tight drawing of the film since it abrades the surface, making fine scratches running lengthwise of the film, which in some cases, will ruin the negative. *Do not "cinch" the spool.* The paper merely needs to be wound tightly enough to keep inside the flanges.

The exposed spool is now ready for development. (See page 42).

When Cut Films are used.

When you are using cut films a dark room will be required.

By a dark room is meant one that is wholly dark—not a ray of light in it. Such a room can easily be secured at night almost anywhere. The reason a dark room is required is that the emulsion is extremely sensitive to white light, either daylight or artificial light, and would be spoiled if exposed to it even for a fraction of a second.

Provide also

Combination Back for Cut or Roll Films
Double Cut Film Holders with Sheaths.
1 dozen Kodak Cut Films.
A Wratten Junior Safelight Lamp.
A Shelf or Table on which to work.

Light the lamp.

Open the box of Cut Films by running a thin knife blade around the edge underneath.

The sheaths are held in position in the holder by springs worked by the metal catches at the top of the holder. To load the holder withdraw the draw-out slides and turn the catches so as to release them from the screw heads which hold them down. Free the sheaths by rapping the top of the holder on your open hand or on the table.

Take out one of the films from the packet. A small V shaped notch will be seen on one edge. When the film is so placed that this notch is on the upper edge and at the right hand corner, the film is lying face up. Place it in the sheath face outward, and replace the sheath in the holder first inserting the top end and then the lower end, which drops into a groove at the bottom of the holder. Push the catch down and give it a turn to engage it in the screw head, thus firmly securing the film and sheath in the holder.

Replace the draw-out slide in the holder and fill the other side in the same way.

Repeat the operation until all the holders have been filled, then close up the remaining films in the box, wrap up securely and put them away in a dark drawer.

After taking the pictures withdraw the draw-out slide, release the button, turn the holder upside down and allow the sheath to fall into the hand.

Take the film from the sheath and place it in a light-tight box, for example, an old Kodak Cut Film box, so that it will be safe while you are getting ready to develop it.

Instructions for Using the Combination Back.

Remove the Autographic Back from the Kodak (see page 5) and substitute the Combination Back, taking care that the springs at each side engage with the catches and that the back is right side up, the wide spring at the same side as the winding key.

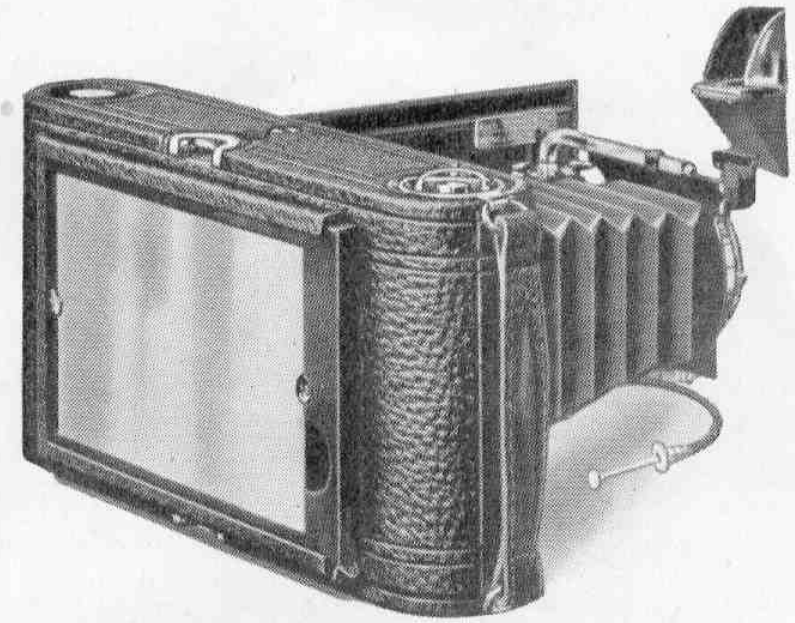


Fig. 32. The Combination Back with focussing screen for Cut Film.

TO USE THE COMBINATION BACK AS A CUT FILM ADAPTER. Before fitting the Combination Back, release the sliding panel by pressing down the metal spring on the inside. In the back for the No. 3A Kodak this spring is near the red window, but in the back for the No. 3 Kodak it is at the other end. This enables you to slip out the panel, leaving an aperture in which you fit the ground glass focussing screen. Replace the Combination Back on the Kodak, open the

shutter, focus the picture on the screen (by pulling out the front) with the diaphragm stop at its largest aperture, and then substitute the Cut Film holder for the focussing screen. Adjust the stops when necessary (see pages 13 and 26). Close the shutter, withdraw the slide and expose as for roll film, immediately reinserting the slide.

As Cut Films do not lie in the same plane as the roll film it is necessary when using them to focus on the ground glass, and not to use the focussing scale.

Developing.

If you post your Roll or Cut Films to your photographic dealer or to Kodak Limited for developing, please enclose your name and address in the packet, and send separately a letter of advice with a remittance to avoid delay.

If you wish to develop your spools yourself you will prefer the modern method of developing in Daylight with the Kodak Film Tank to the old-fashioned dark-room method. Printed instructions for either method will be sent post free on request. It takes many years' experience to enable even an expert to get results in the dark room equal to those which the beginner obtains by the more convenient daylight method.

Similarly the most convenient method of developing Cut Film is in the Kodak Developing Box No. 1.

Printing.

For printing, if the negatives are lacking in contrast, Vigorous Velox will be the most suitable paper; if the

negatives themselves are contrasty, Soft or Special Velox will be preferable.

Enlarging.

Any negative that gives a good contact print will give a good enlargement on either Kodak Bromide or Soft Velox Paper by means of daylight.

From No. 3 Kodak negatives enlargements $8\frac{1}{2} \times 6\frac{1}{2}$ in. can be made with the No. 3 Brownie Enlarging Camera.

From No. 3A Kodak negatives enlargements 11 × 7 in. can be made with the No. 3A Brownie Enlarging Camera.

With the Kodak Auto-Focus Enlarger you can make pictures in the dark-room up to 21×14 inches from No. 3 and No. 3A Autographic Kodak negatives, and you can do this from the whole negative or from any part you choose.

Mounting.

Mounting with paste is the method known to everyone. Kodak Mounting Paste is specially manufactured so that it will have no deleterious effect on the emulsion of any print or enlargement mounted with it.

Eastman Double Coated Mounting Tape will be found even more convenient. This is an exceedingly thin paper coated on both sides with a specially prepared adhesive. One side is moistened and attached to the print; then the other side is moistened in its turn, and the print fixed in position on the mount or in the album.

When large numbers of photographs are to be mounted, the use of Ademco Dry Mounting Tissue and a Dry Mounting Press can be recommended.

Amateurs will usually find the following alternative method with a flat iron equally convenient. The iron should be just the right heat for ironing starched linen; the tissue

is laid over the back of the print and touched with a corner of the iron to attach it to the print. Print and tissue are then trimmed to the required size and placed in position on the mount; a sheet of clean paper is placed on top and the whole surface is pressed (not ironed) with the hot flat iron.

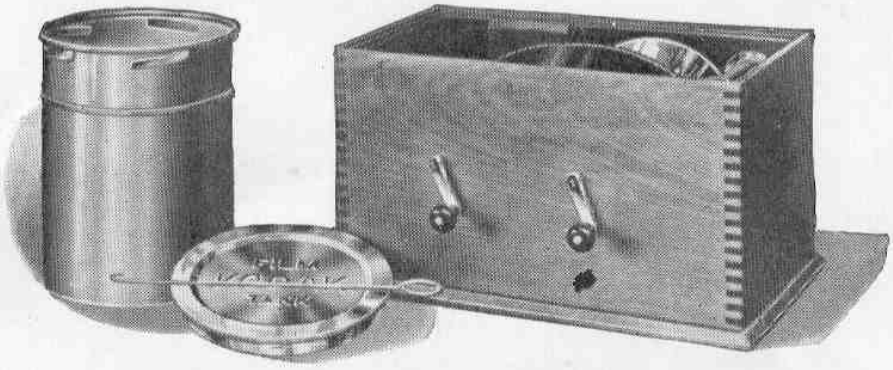
The most convenient way of heating the iron is to stand it in a pan of boiling water, which must be kept on the boil. On removal from the water the iron will dry in a few seconds. The iron will soon cool and it must be put back frequently into the boiling water. If the tissue does not stick to the mount, it means either that the iron has not absorbed sufficient heat, or that longer pressure is required.

Kodak Service.

If you have any trouble in getting perfect results with your Kodak, please ask for a free demonstration some morning at any Kodak branch; if that is not convenient, write about your difficulty to Kodak Limited, Kingsway, London, W.C.2.

Kodak Limited employs a staff of demonstrators and experts to see that all photographic problems are explained which Kodak owners find difficulty in solving for themselves.

Kodak Film Tank



When you have unloaded your Kodak you have a spool of exposed film to develop. The next step is to do this in daylight by means of the Kodak Film Tank. In this way the sensitive Film remains in the dark, but you keep in daylight.

Owing to the use of a weak developer, combined with scientific development for a fixed time at a given temperature, each picture, whatever its exposure may have been, is given the best possible treatment.

From all Kodak Dealers

KODAK Ltd., Kingsway, London, W.C.2

Velox

The original Gaslight Paper

Velox prints can be developed in any ordinary artificial light, so that it is an ideal paper for use indoors.

Velox is made in two grades:—

Vigorous for negatives lacking in contrast.

Soft for all other negatives.

Each grade of Velox is made in several surfaces, so that a surface suitable for every class of picture is available:—

Art: a semi-mat surface, recommended for the majority of negatives.

Carbon: a dead mat surface, suitable for all pictures where sharp detail is not desired.

Glossy: a brilliant surface, giving delicate pictures from delicate negatives.

Portrait: a nearly mat surface, especially suitable for portraits, as its name implies.

From all Kodak Dealers

KODAK Ltd., Kingsway, London, W.C.2

Useful Helps

When you are Taking Pictures :—

Leather Carrying Case with Shoulder Strap.
Kodak Autographic Film—
A118 to make 12 or 6 pictures with No. 3 Autographic Kodak.
A122 to make 10 or 6 pictures with No. 3A Autographic Kodak.
Kodak Portrait Attachment, Sky Filter and Colour Filter—
No. 3 for No. 3 Autographic Kodak R.R. or *f*7·7 lens.
No. 6 for No. 3 Autographic Kodak T.T.H—Kodak lens.
No. 5 for No. 3A Autographic Kodak.
Kodak Self Timer.
Kodak Amateur Flashlight Outfit.
Kodak Amateur Flashlight Outfit Refllls.
Optipod.
Kodapod.
Kodak Metal Tripod and carrying case.
Combination Back for Kodak Cut Film or Roll Film, with Focussing Screen.
Double Cut Film holders and sheaths.
Kodak Cut Films.

When you are developing :—

3½ inch Kodak Daylight Developing Tank for roll film.
Kodak Tank Developer Powders for 3½ inch Tank.
Kodak Acid Fixing Salt.
Eastman Thermometer.
Kodak Flexible Rubber Tray.
Kodak Metal Film Clips.
Kodak Push Pins.

Kodak Developing Box No. 1 for Cut Film.
Wratten Junior Safelight Lamp.
Film Storage Album for 100 negatives.

When you are Printing :—

Maskit Printing Frame.
Solio Paper and Post Cards.
Kodak Neutral Gold Toning and Fixing Salts.
Velox Paper and Post Cards.
Velox Developing Powders.
Kodak Acid Fixing Salt.
Eastman Print Paddle.
Kodak Amateur Printer.

When you want "Something Different :—

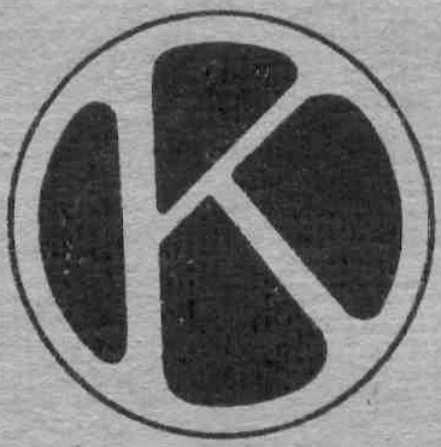
Kodak Auto-Focus Enlarger.
Bromide Paper.
Kodak Special Developer.
Kodak Chromium Intensifier.
Kodak Sepia Toner.
Eastman Double Coated Mounting Tape.
Kodak Print Roller.
Kodak Trimming Board.
Mounts.
Albums.
"The Fundamentals of Photography."
"How to Make Good Pictures."

From all Kodak Dealers.

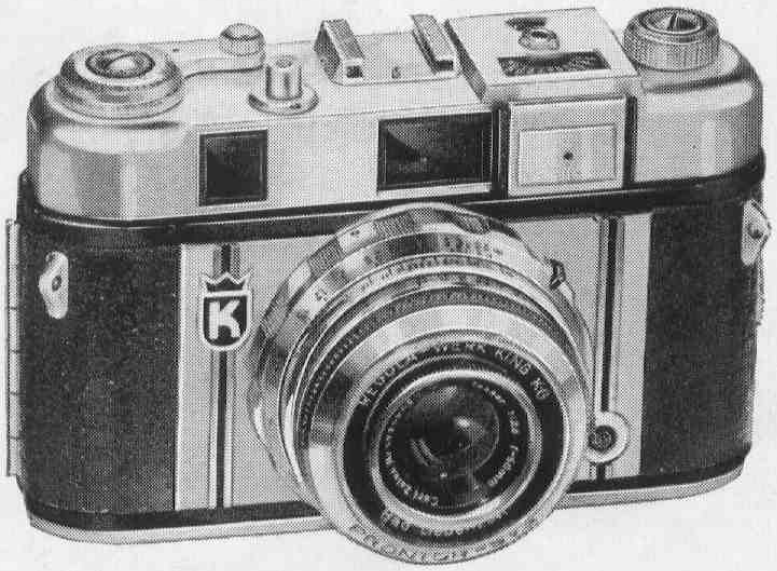
KODAK Ltd., Kingsway, London, W.C.2

The Kodak Catalogue gives particulars of many useful accessories, mounts, albums, and supplies, all of which can be obtained through your photographic dealer. A copy will be sent post free on application to

KODAK Ltd., Kingsway, London, W.C.2

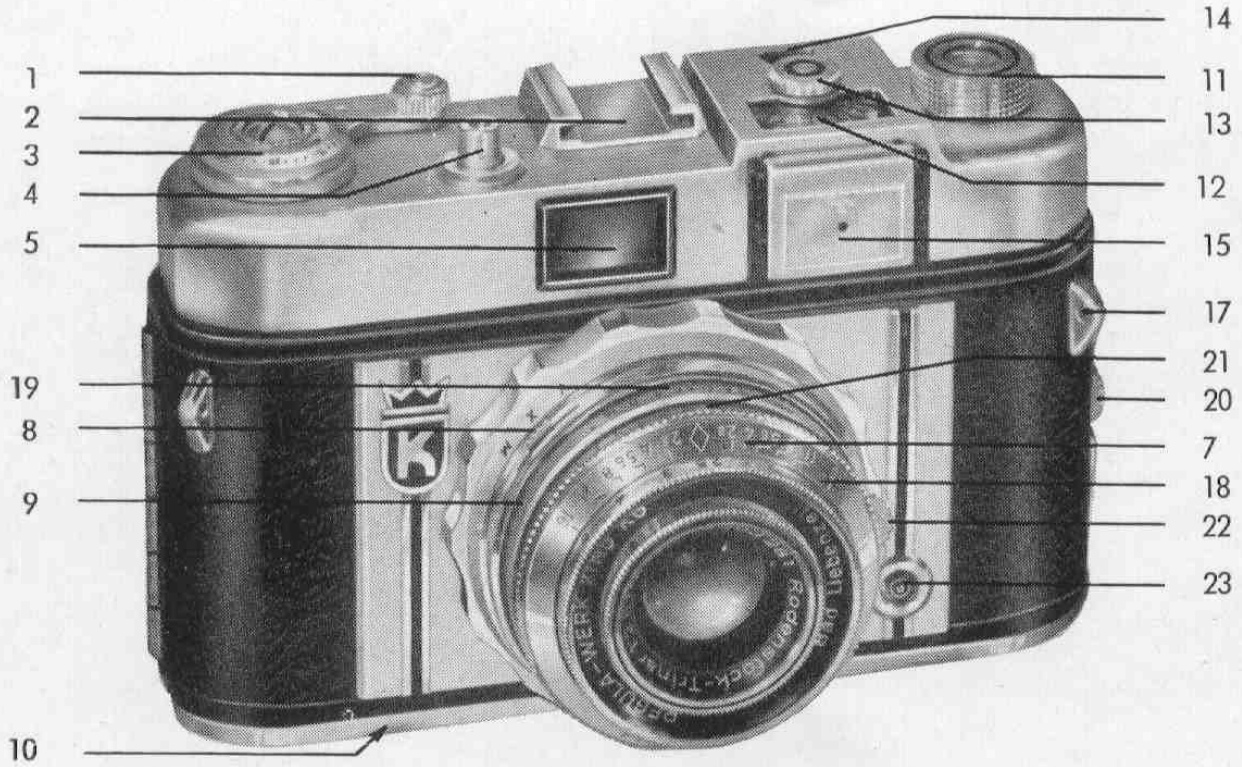


REGULA-WERK KING KG. BAD LIEBENZELL

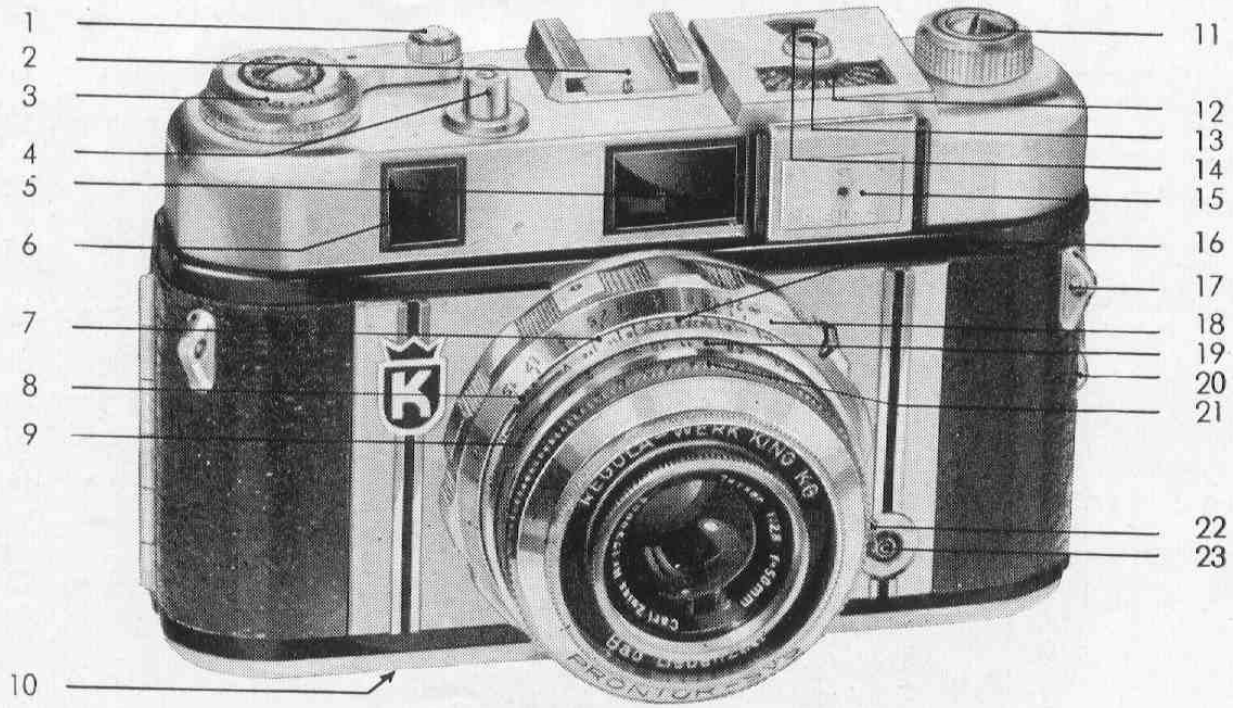


REGULA III-b and REGULA-CITA III

24 x 36 mm


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1 Rapid Transport Lever
2 Accessory Shoe
3 Film Counter
4 Release Button
5 Viewfinder
6 Rangefinder
7 Depth of Focus Scale
8 MXV-Synchronisation Lever
9 Light-Value-Scale
10 Rewind Lock Button
11 Rewind Knob
12 Exposure Meter
13 Knob for Setting the Film Speeds
14 Film Speed Scale
15 Exposure Meter Cover
16 Mark for Distance, Diaphragm and Speed
17 Lugs for Neck Strap
18 Distance Scale
19 Diaphragm Scale
20 Body Lock
21 Shutter Speeds
22 Clutch lever
23 Synchronisation Contact


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FRONTOMAT

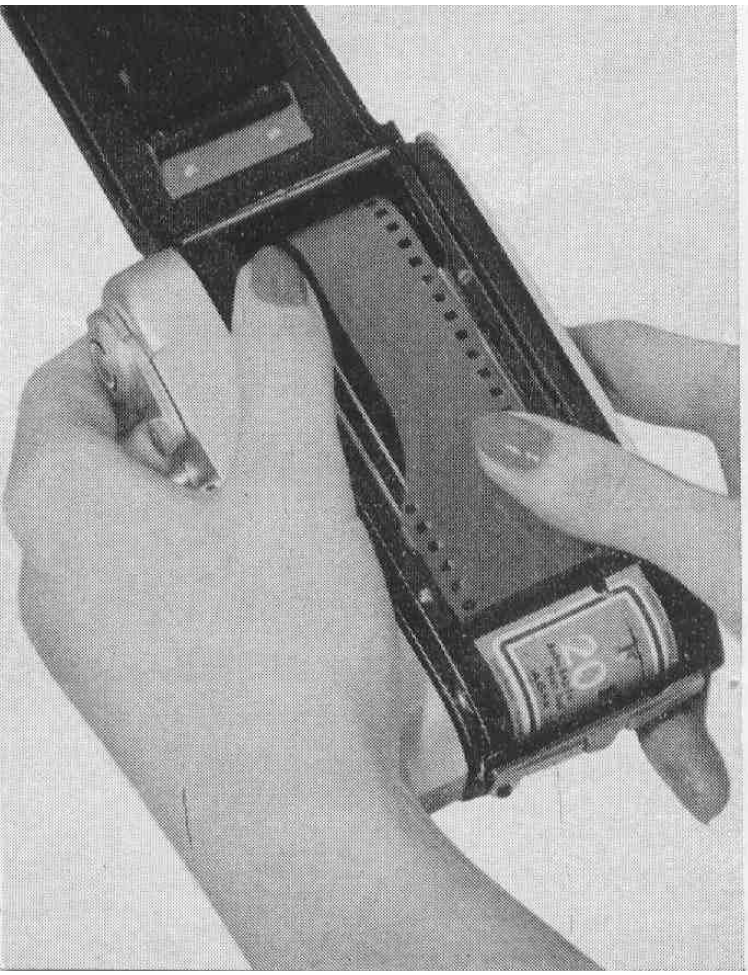
It is advisable to unfold this page when reading the instruction booklet.

Dear Regula-friend!

You are now the proud owner of a REGULA camera, and your photo dealer and the manufacturer wish you every success. The camera has been designed and built to the highest precision standards, and this means complete reliability.

The following instructions are designed to help you avoid making errors. Please read them. It's far better to be safe than sorry.

With the camera in front of you, read these instructions carefully. Use the illustration to locate the various parts of the camera, and where possible handle the parts mentioned. The good worker always familarises himself with his tools.



LOADING THE FILM

Only use films of good name — here, your photo dealer will help. The camera is designed to accept standard 35 mm film cassettes (24 x 36 mm) 20 or 36 exposures — Black and White or Colour. Choose a shady spot — not bright sunlight.

(a) To insert the film, first press down the body lock (20), open the camera back and press or pull the rewind knob (11) up, as far as it will go. This enables you to insert the film cassette, into the empty space that remains.

(b) Push the rewind knob down, to its original position. At times, it may have to be turned slightly.

(c) Fold inwards, about 1/4 inch of the

end of the film. Insert this end into the slot of the take-up spool. Turn the take-up spool, so that the film is tightened and ensure that the transport wheel engages firmly in one of the perforations. This is very important, for if the film is not attached firmly to the take-up spool, no photographs will be taken!

(d) Close the lid firmly. It will "click" into place.

(e) Now that film is loaded into the camera, two blank exposures must be made before the film is in the correct position for "shooting". To do this, the following steps must be taken:

Turn the transport lever (1) forward with a steady movement of your Right Thumb until it stops. At the same time ascertain that the rewind knob is turning against the arrow. This ensures that te film is being transported correctly. Allow the transport lever to glide to it's normal position (If the transport lever is blocked in any way, press the release button).

Now press the release button (4) and repeat the same operation once again. At the third movement of the transport lever, the film will be in the correct position for your first exposure. Turn the film counter (3) to 20 or 36 according to the length of film. The counter will then automatically show the remaining number of exposures.

(f) Your REGULA camera has a double exposure prevention device, and therefore it is impossible to make the error of photographing two different subjects on the same negative. Also it incorporates a double transport prevention device — this means that you cannot transport the film without releasing the shutter. If you cannot release the shutter you have to transport the film. Not only that — if you have not turned the transport lever enough, it must be turned once again — But you do not loose any film!

(g) The next 3 steps are easy — Set the distance (18). — Set the diaphragm (19) and the exposure time (21). But let's explain the new light value — Prontor-SVS-Shutter.

SHUTTER

1. Gives you a range of speeds from 1 to $^1/_{300}$ seconds. These speeds can be set before or after the film transport has been turned. It is not possible to use "in between" speed settings. N. B. speed setting 30 = $^1/_{30}$ second. When using "B" (Bulb) the shutter will remain open as long as the release button is pressed down. For speed settings longer than $^1/_{30}$ second, we recommed that you use a reliable tripod, and also a cable release, which screws into the thread of the body release button. Incidentally, the shutter is cocked automatically when the film is transported.

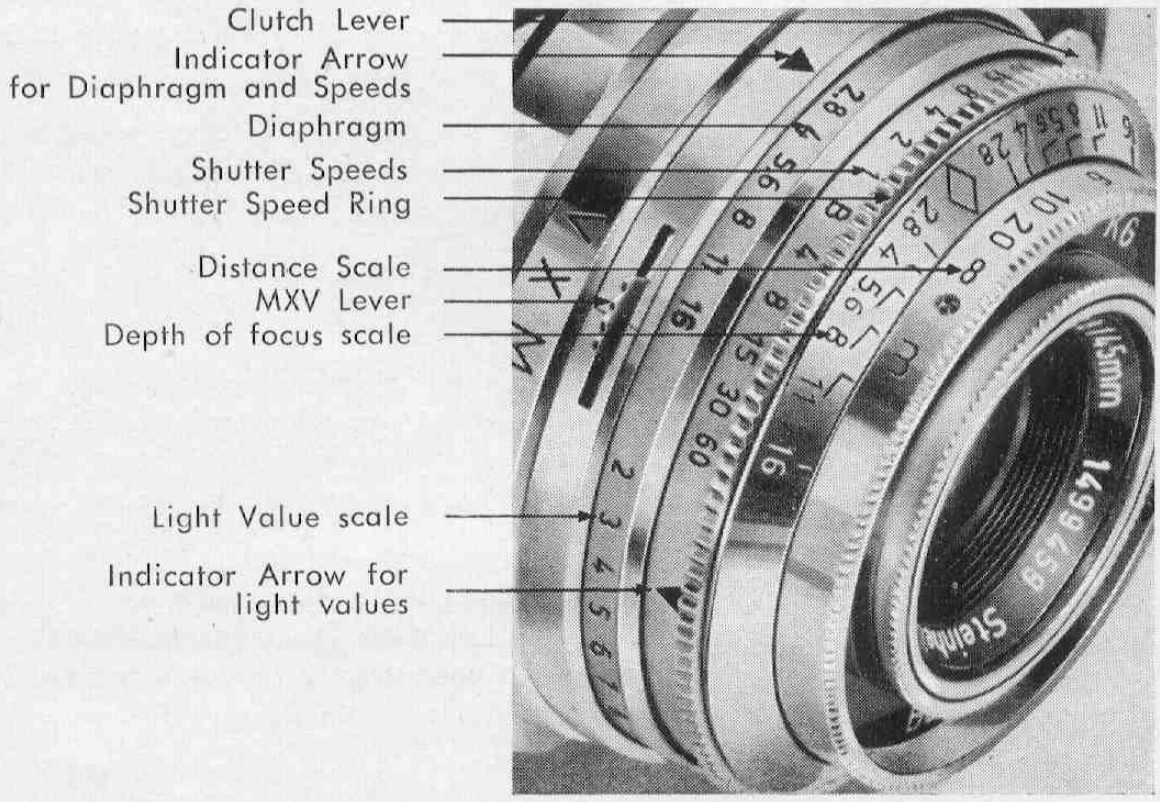
2. The M-X lever (8) normally stays on X. To use the "M" setting, refer to the exposure tables listed on the carton containing your flash bulbs.

For delayed action the lever is set to "V" — and this is only possible **after** the shutter is cocked. After the shutter is released you have 6-8 seconds available before the photograph is taken. The lever will then automatically return to "X".

3. DIAPHRAGM & EXPOSURE SETTINGS

The REGULA camera has the advantage that the diaphragm and shutter mechanisms are coupled by the light value system. Here are some hints about this new system. You probably know that you will always get an evenly exposed negative by closing the diaphragm 1/2 stop, providing of course that you lengthen the shutter speed to the same extent.

A setting of 1/125 sec. at f 2.8 would correspond to 1/60 sec. at f 4 or 1/30 sec. at f 5.6, or 1/15 sec. at f 8 or 1/8 sec. at f 11 or 1/4 sec. at f 16. These figures illustrate that this relation of diaphragm to shutter speed gives exactly the same exposure. This relationship is known as "light value" and in the example shown "light value 10".


Clutch Lever
Indicator Arrow for Diaphragm and Speeds
Diaphragm
Shutter Speeds
Shutter Speed Ring
Distance Scale
MXV Lever
Depth of focus scale
Light Value scale
Indicator Arrow for light values

4. With the REGULA camera, this has been simplified for you, by providing a light value scale (LVS) exposure meter, built by the world's most famous and largest manufactures of exposure meters — Gossen. This meter provides a LV reading at which the shutter must be set. Hence at LV "10" you would be in a position to choose any combination of shutter speed and diaphragm, as illustrated above in para. 3. To do this, the following action is taken:

Press in the clutch lever (22) and set the red LV number to the red arrow by moving the ring to the left or right. For very high LV readings, it will be necessary to move the knurled shutter speed ring (21) — this is only possible by pressing in the clutch lever. Having set the LV reading, it is only necessary to decide on the best combination of shutter speed and diaphragm which will suit your subject and produce the most suitable depth of field.

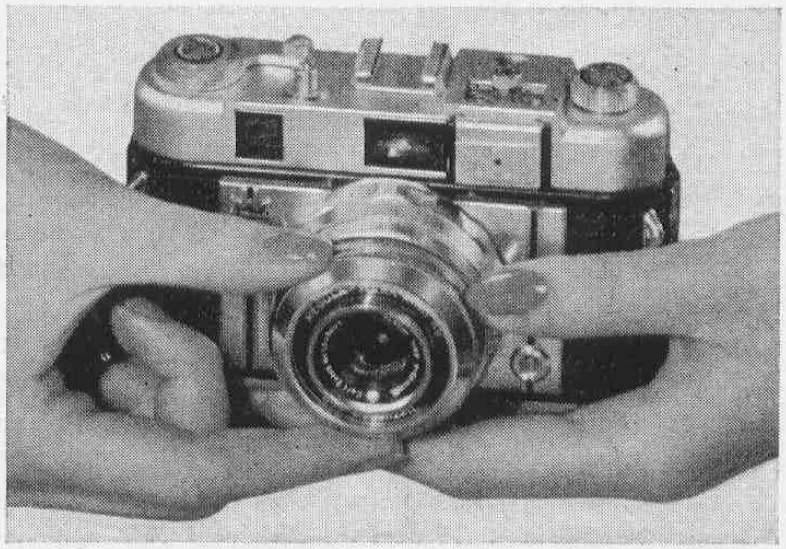
5. With the REGULA camera, it is also possible to set the diaphragm and shutter independently of the LV setting. This is, once again done, by pressing in the clutch lever and turning the approximate rings to their correct setting. Make sure that these rings click into position. So, should you want to alter the shutter speed the diaphragm will change automatically in the correct ratio.

6. The green numbers cannot be set — they only indicate exposure in full seconds at a certain diaphragm setting. e. g. 4 seconds at F/8 — such an exposure can only be obtained at "B" setting, and holding the release down for 4 seconds.

DEPTH OF FIELD

This is purely dependent on the diaphragm setting. The more you close your diaphragm (the higher the number), the greater the depth of field. It also becomes greater, as the distance from the subject increases.

To make it simple for you, a depth of field scale (7) is provided above the di-



stance ring (18). This shows, on either side of the centre mark the figures F 2. 8 to F 16. Now follow these two examples:

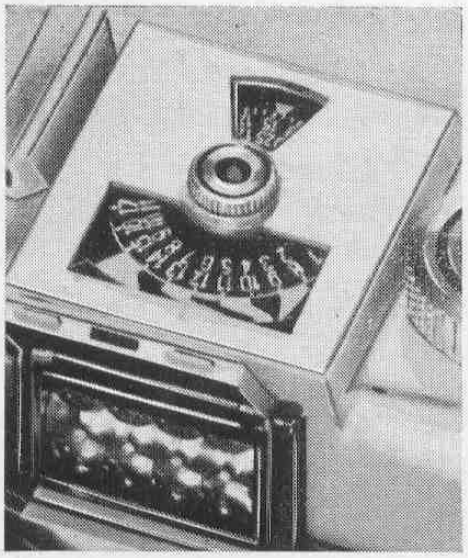
1. Set the diaphragm ring to 8 and the distance ring to 20. On the depht of field scale (left) at F. 8 the distance ring reads "Infinity" and on the scale (right) the distance shown is approximately "10 feet". This means, that at F8 focussed on "20 feet" the photograph will produce good focus between "10 feet" and "Infinity".

2. Set the distance ring to 8, leaving the diaphragm ring at 8. At F 8, you will see that the focus range lies between "12 feet" and "6 feet".

In these two examples, you will see the importance of depth of field. Now, it is simple to decide on any depth of field at any distance or any diaphragm setting.

7. THE LIGHT VALUE EXPOSURE METER

Gossen — designers of the Sixon Tri-Six and Sixtomat x 3 Exposure Meters, have designed this meter with special care, and if used correctly your REGULA camera will produce first class results.



When loading the camera with Film, set the film speed by turning the knob on the rear window of the LV Meter. As your subject is viewed, point the LV Meter towards it. Out-doors it is advisable to tilt the meter downwards slightly to avoid too much sky light from entering the very sensitive photo-electric cell. Where possible, the subject should be approached closely and the LV Meter pointed at the main area to be photographed. Care should be taken to avoid casting a shadow of the LV Meter into the area being measured.

On subjects that have wide ranges of brightness, it is better to measure the brightest and the darkest areas, and take an average reading.

For Incident Light Measurement slide the diffusing disk over the front of the honeycomb lens and point the meter from the subject to the position from which you will take the picture.

AGFA AMBI SILETTE

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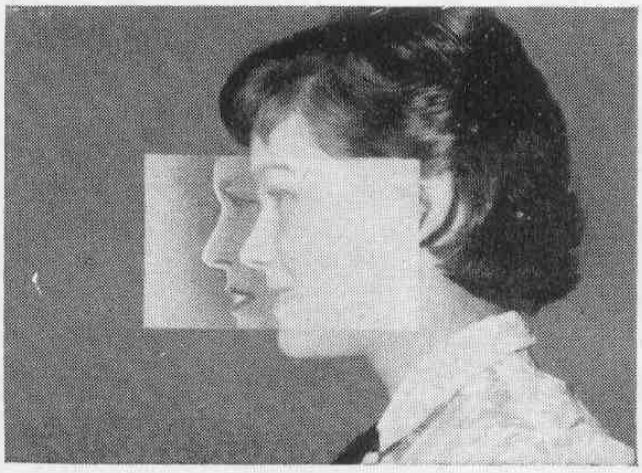
MADE IN GERMANY



INSTRUCTIONS FOR USE

Axiom — With Black and Withe Film, "Expose for the shadows and the highlights look after themselves". With Colour Film, "Expose for the highlights and the shadows look after themselves".

The Gossen LV Meter has two ranges of light sensitivity. Normally the Front Cover is closed — and the position of the needle noted viz by the white numbers corresponding with the white or black channels. Under poor lighting conditions, the





needle will not move — so, press the top edge of the front cover. The LV Reading is then read from the yellow numbers. To remind you, the rear side of the front cover when you open is marked in yellow.

8. THE COUPLED RANGEFINDER

This is fitted to the **REGULA CITA III** (REGULA-RM), and is very simple to use. In the middle of the viewfinder field you will see a light coloured rectangle and in this you will notice that your subject has two images. If the set ring (18) is turned with your fingers, one image will move. Turn the ring until both images are exactly superimposed — at this point you are in accurate focus.

With moving objects viz motor racing and sports etc., it is only necessary to predetermine the distance at which you want to work. Set that distance on the distance scale and view your subject through the rangefinder. When the images coincide — press the body release.

9. GENERAL HINTS

1. Always hold the camera steady and level.
2. Put your eye as close to the viewfinder as possible and frame your subject accurately.

3. When taking the "shot" — don't jerk the body release — an easy steady pressure is ideal. Hold your breath as the release is pressed.

10. FLASH "SHOTS"

When purchasing a flash gun, ask your dealer for his advice. It will be fitted into the accessory shoe (2) of the camera, or with certain types on to a bracket or arm. The contact of the synchronization cord will then be slipped on the synchronization contact of the camera (23).

For exposure of $^1/_{30}$ second and longer, the shutter synchro lever (8) is to be set at "X", or if you want to be in the picture yourself set it to "V". For exposures $^1/_{30}$ second to $^1/_{300}$ second the "M" setting is required — in this position delayed action shots are impossible. Every carton of flashbulbs is supplied with full information on shutter setting, guide numbers and the "flash to subject" distance.

11. ELECTRONIC FLASH

Accurate synchronization at the "X" setting is possible at all speeds. A normal setting of $^1/_{60}$ second is very useful for average subjects.

13. **REGULA ACCESSORIES**

A full range of accessories is available for your REGULA camera:

1. A beautiful Leather Ever Ready Case which will always protect your camera.
2. A variety of Filters for use with Black and White or Colour Film. Conversion Filters for using Daylight Colour Film in artificial light and vice versa.
3. Close-up Attachments for flowers, insects, copying etc.
4. Sunshade — a very essential accessory.
5. Tripods.

For full details contact your photo dealer or write to the Distributors. They are at your service at all times.

14. **CARE**

Treat the camera carefully. Do not touch the Lens, with your fingers. If this happens, it must be cleaned at once with a piece of clean, oftenwashed linen, lens cleaning tissue or a high quality chamois.



12. REWINDING THE FILM

When the film counter (3) reache "O" the film is fully exposed, and it is now necessary to rewind the film back into the cassette.

With your left thumb, press the lock button (10) on the bottom of the camera, and keep it pressed during the rewinding operation. With the right hand turn the rewind knob (11) in the direction of the arrow, until the film is rewound into the cassette. When the film is almost completely rewound, a slight resistance will be felt. It is overcome easily and smoothly, by an extra revolution of the rewind knob — and at this stage the end of the film has left take-up spool.

Open the back of the camera, pull out the rewind knob and remove the film cassette.

An air blower or camel hair brush will also remove dust from the lens or the inside of the camera. If the camera is not to be used for some time — release the shutter.

LAST BUT NOT LEAST

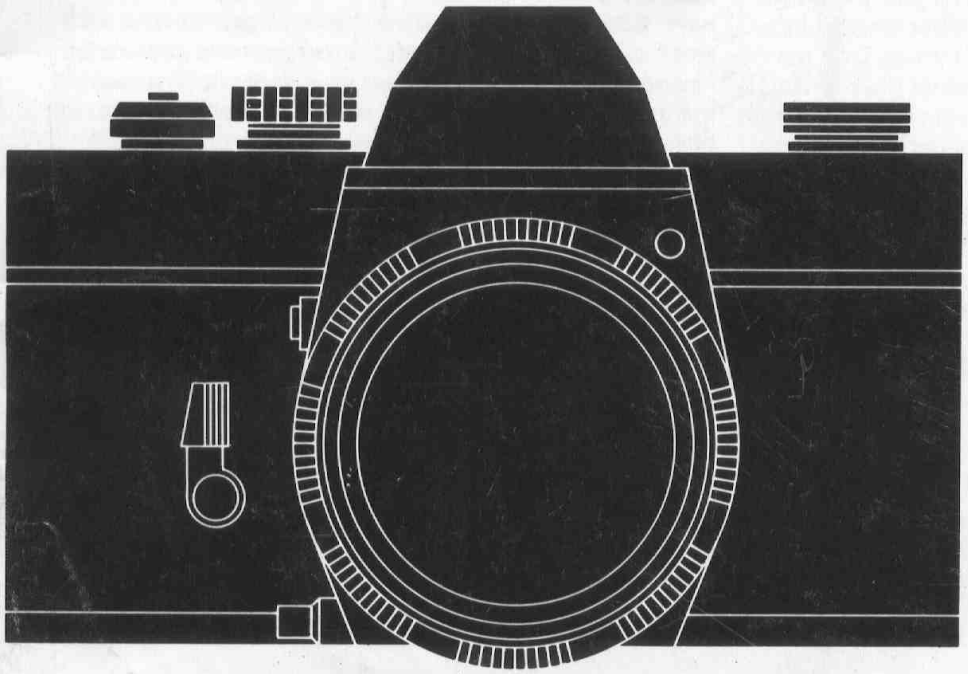
Read these instructions once more. Photography is lots of fun — Experience makes perfect. Your REGULA camera will always be reliable.

Good luck!

REGULA-WERK KING KG. BAD LIEBENZELL SCHWARZWALD

Printed in Germany

MINOLTA SR-T 101



OWNER'S MANUAL

E

Since the inception of through-the-lens exposure measuring for single-lens-reflex cameras, several systems have been developed. Some "spot" read only a very small part of the total area. Other systems provide an "average" reading composed of independent measurements taken by two cells which is not accurate in high-contrast situations.

Only the Minolta SR-T 101 has an exclusive new type of circuit (CLC) to provide optimum reading of the entire picture area regardless of degree of contrast.

In addition to its more accurate exposure meter system, your Minolta SR-T 101 is designed to handle more easily, with greater speed, than other "through-the-lens metering" cameras.

The ability to compose, focus, set exposure and shutter speed without looking away from the finder makes the Minolta SR-T 101 particularly suitable for professional photography, when operating speed is often of vital importance. (All illustrations used in this booklet are with the F1.4 lens. There is, however, no fundamental difference in usage between the F1.4 and the F1.2 or F1.7 lens.)

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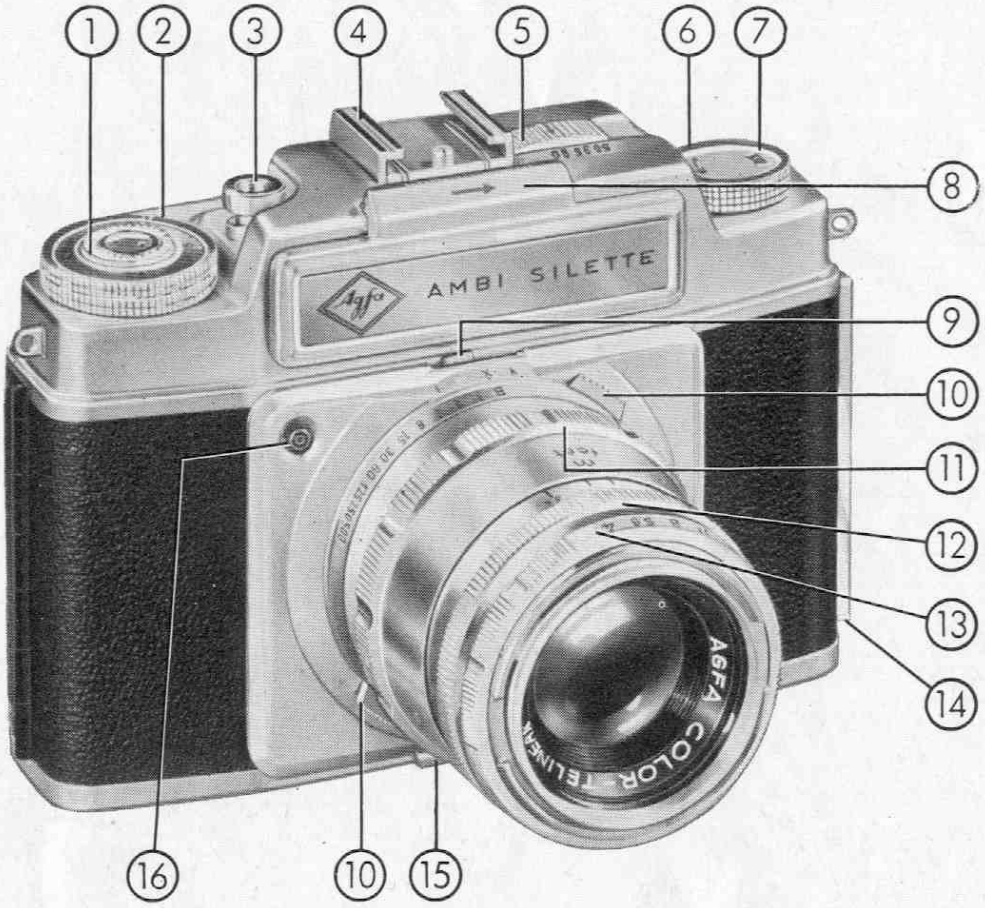
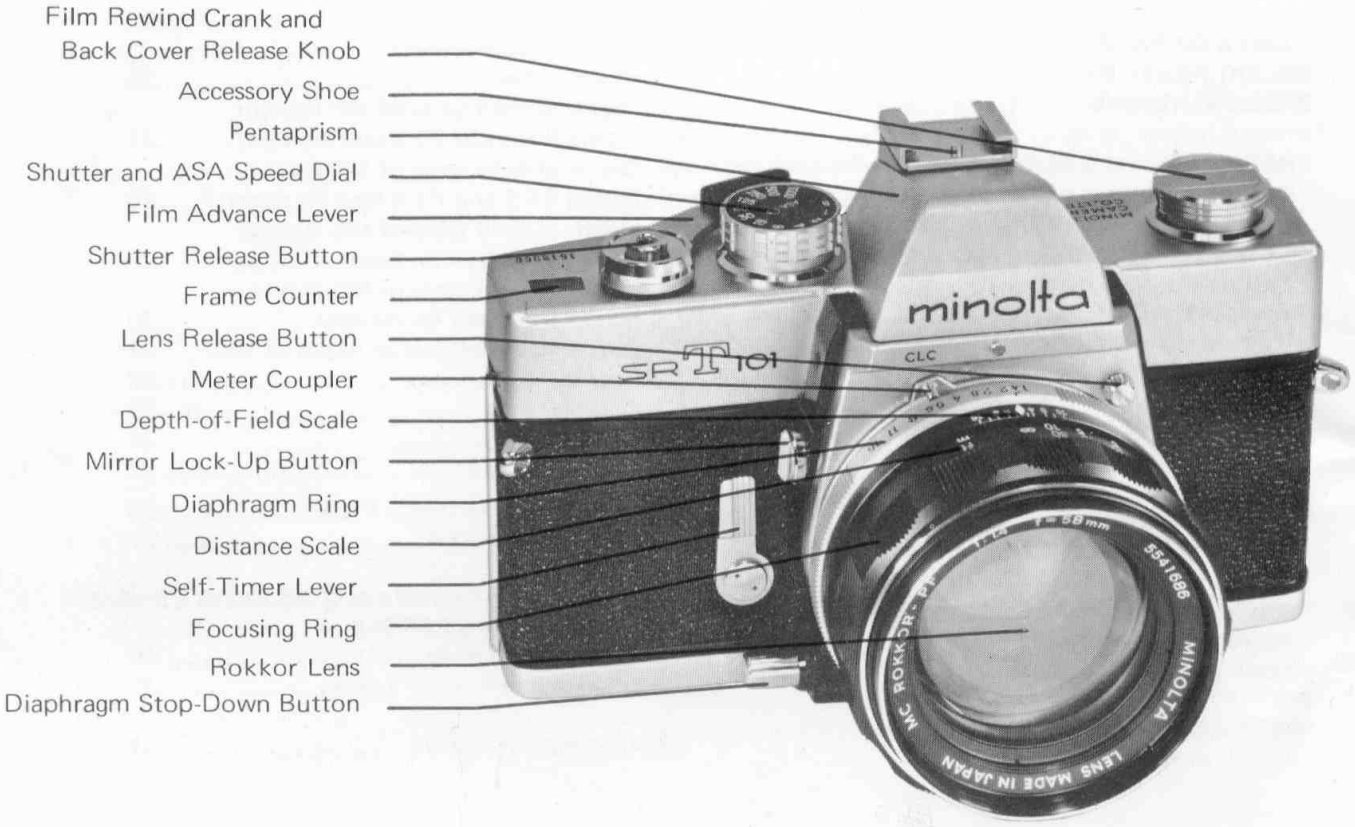
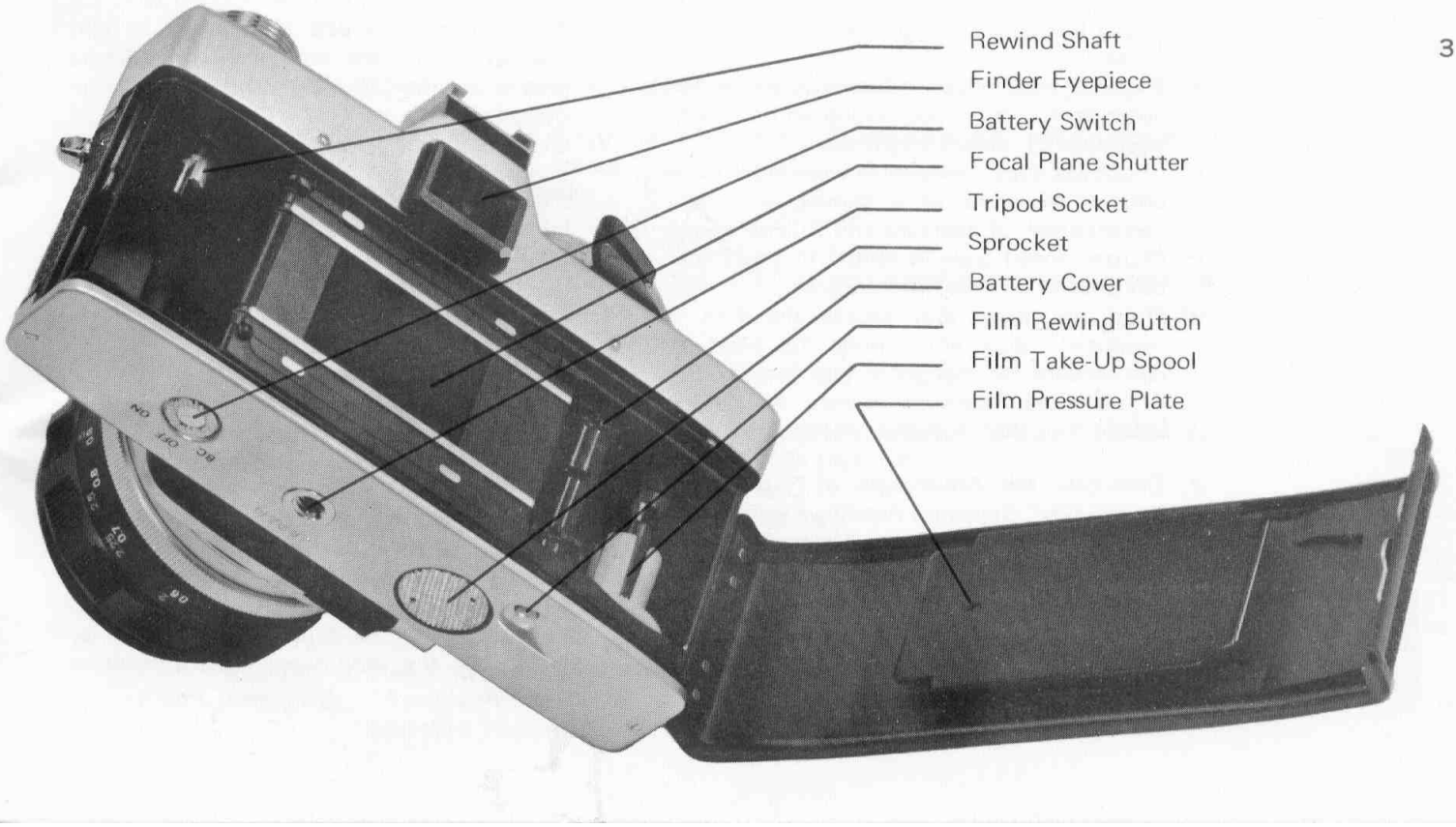

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AMBI SILETTE
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Fig. 1

NAMES OF PARTS




Rewind Shaft
Finder Eyepiece
Battery Switch
Focal Plane Shutter
Tripod Socket
Sprocket
Battery Cover
Film Rewind Button
Film Take-Up Spool
Film Pressure Plate

MAJOR FEATURES OF THE MINOLTA SR-T 101

1. Rapid-Reading Through-the-Lens Exposure System

a) Exposure readings are taken with lens at full aperture for rapid composing and focusing regardless of subject brightness.
b) "Follower-type" needles in viewfinder show correct exposure at a glance, with any combination of aperture and shutter speed.
c) Shutter speed scale is visible in viewfinder but outside of "live" picture area.
d) Only the light that strikes the film is measured, thus eliminating the need to compensate for changes in lens focal length or compute exposure factors for filters, bellows or other lens attachments.

2. Combines the Advantages of "Spot" and "Averaging" Exposure Reading Systems

a) Exclusive "CLC" Metering System (Contrast Light Compensator) maintains extreme accuracy regardless of lighting situation, even with high-contrast subjects.
b) Automatically corrects for changes in light intensity from one section of the picture area to another, thus providing an optimum overall reading.
c) Oversize, instant return mirror prevents image cutoff and incorrect exposure readings no matter how long the focal length of lens.
d) Unique positioning of CdS cells prevents incorrect readings due to light entering viewfinder.

3. World-Renowned Rokkor Lenses

Superior resolving power resulting from the combination of rare earths, patented Achromatic coating and computer design.

4. Complete System of Lenses and Accessories for Maximum Versatility

Almost all Rokkor lenses designed for use with the Minolta SR-1, SR-3 and SR-7 can be used with the Minolta SR-T 101 by means of the stop-down light measuring method.

SPECIFICATIONS OF THE MINOLTA SR-T 101

—35mm single-lens-reflex camera with through-the-lens exposure meter—

Standard lens MC Rokkor 58mm F/1.4 (F1.2 or 55mm F/1.7) equipped with meter coupler

Composition:	6 elements in 5 groups
Coating:	Achromatic coating
Angle of view:	41° with 58mm lens (43° with 55mm lens)
Diaphragm:	Fully automatic
Diaphragm scale:	(1.2), 1.4, (1.7), 2, 2.8, 4, 5.6, 8, 11, 16 with equal-space and intermediate click F-stops
Filter mount:	ϕ55mm (ϕ52mm), screw-in
Shade mount:	ϕ55mm (ϕ52mm), screw-in
Lens mount:	SR bayonet mount

Shutter Focal plane type

Speeds:	B, 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500, and 1/1000 sec.
Selector dial:	Single, non-spinning, equal-space, click stop dial
Sync. contact:	FP (all speeds) and X (up to 1/60 sec.)
Self-timer:	Time adjustable, 10 sec. maximum delay

Film advance Lever type, quick advance winding with shutter locking and double exposure prevention

Winding method:	Single- or multiple-stroke, with 20° free clearance
Winding angle:	150°
Frame counter:	Automatic resetting counter showing number of exposed frames
Film rewinding:	Rapid rewinding with crank
Frame size:	36 x 24mm
Film:	Standard 35mm film, 12, 20, or 36 exposures

Viewfinder Real-image type through fixed, eye-level pentaprism; exposure control needles (follower system), battery check mark, and shutter speed scale visible in finder
Focusing screen: Central microprism with fine ground glass collar and field lens
Image magnification: Life-size image viewing with 58mm lens at infinity

Exposure meter Through-the-lens metering system
Exposure meter: Contrast light compensator (CLC) with CdS meter, two cells on the pentaprism
Measurement: Measuring at full aperture coupled to shutter speed, aperture, and film speed setting
Control: Follower-needle system viewed in the finder
Working range: EV 3 to EV 17 with ASA 100 film
Diaphragm button: Depth-of-field preview button for MC Rokkor lenses; measuring (stop-down) button for other than MC Rokkor lenses
Film speed range: ASA 6 – 6400, DIN 9 – 39
ASA setting: On shutter speed dial; built-in ASA/DIN conversion scale on camera back
Battery: 1.35v mercury battery, Mallory PX-625 or equivalent
Switch: ON, OFF, and battery check switch on base of camera

Focusing Bright-screen with microprism and fine ground glass
Focusing distance: 60cm (2 ft.) to infinity
Focusing method: Direct helicoid focusing with infrared index

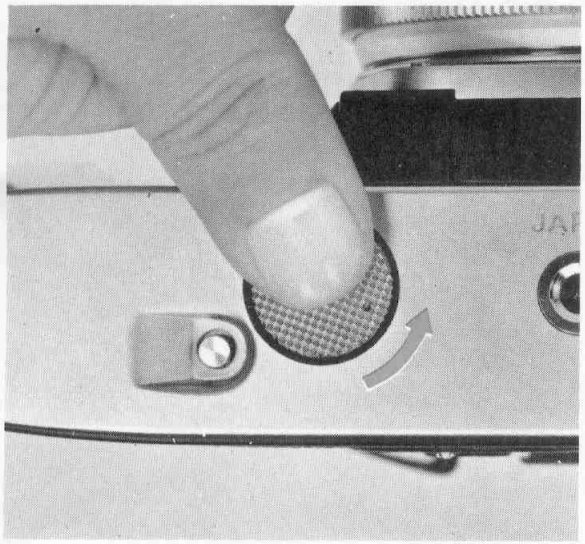
Mirror Oversize quick-return mirror with lock-up device

Others Built-in accessory shoe

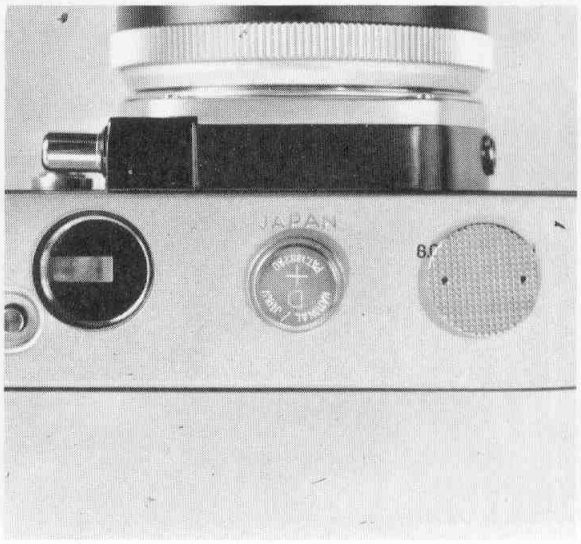
Size and weight With F1.4 lens
Width 145mm (5¾"); Depth 89mm (3½"); Height 95mm (3¾"); 990g (35 oz)

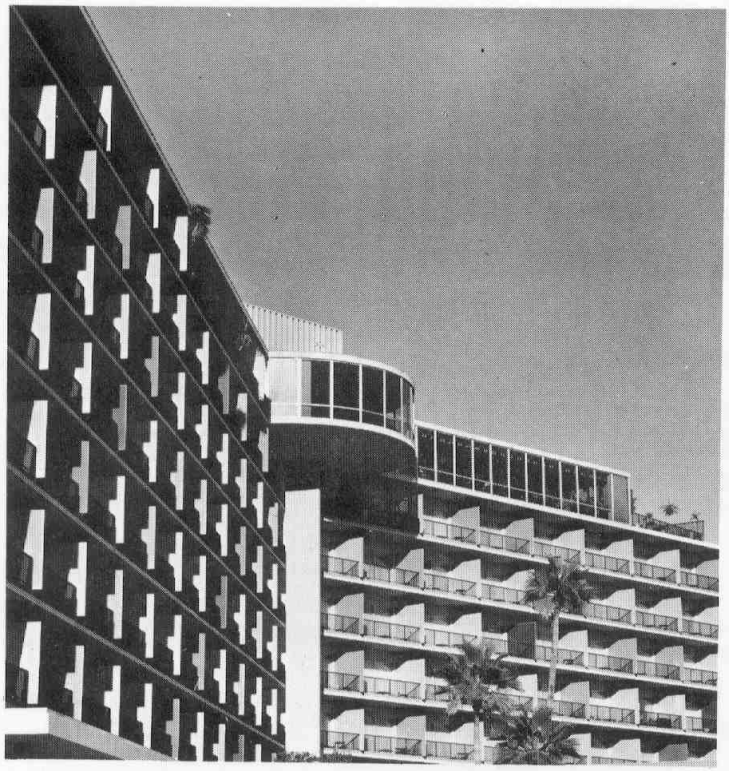
Inserting the mercury battery

1. The Minolta SR-T 101 uses a 1.35v, button-shape mercury battery for photographic applications (Mallory PX-625, PX-13, Eveready EXP-625, EPX-13 or equivalent).



2. To install, remove the battery chamber cover with your thumb by turning it counterclockwise. Place the battery in the chamber with its plus side out and replace the cover.





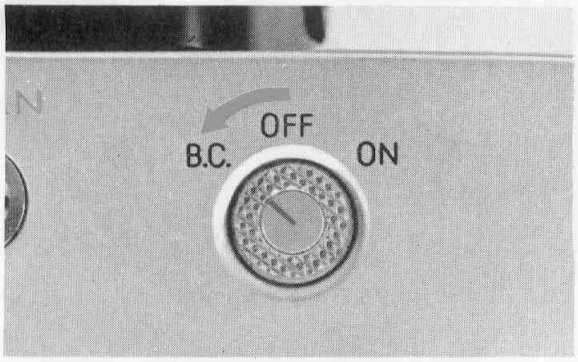
CAUTION:

- Do not touch the battery terminals with moist or dirty hands, as this can cause them to deteriorate and make the battery inoperative.
- Do not discard a mercury battery in a fire or break it up.
- When the camera is not being used, it is advisable to turn the battery switch on the base of the camera to the "OFF" position.
- If the camera is not to be used for over two weeks, remove the battery and stor it is a dry, cool place.
- Before putting the battery back in the camera, clean both sides of the battery and the contact lead of the battery chamber with dry cloth.

Checking the battery power

The battery checker is designed to check the output of the mercury battery. By taking a few seconds to check battery output before starting each new roll of film, and particularly when using the camera after it has been stored for an extended period of time or a new battery has been inserted, you can avoid poor exposure due to insufficient electric power.

1. Turn the battery switch on the base of the camera to the "B.C." position.



2. If the indicator needle points to the battery check mark as shown in the picture, the battery can be regarded as functioning properly.

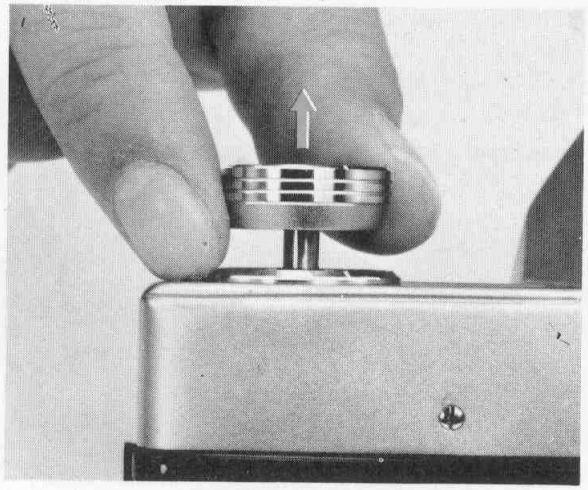
CAUTION:

- Do not leave switch setting at battery check position as the continuous high battery drain will cause the battery to go "dead" in a few hours.

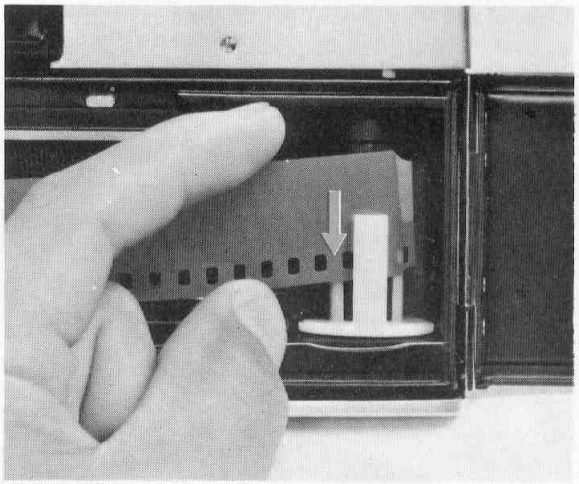


Loading film

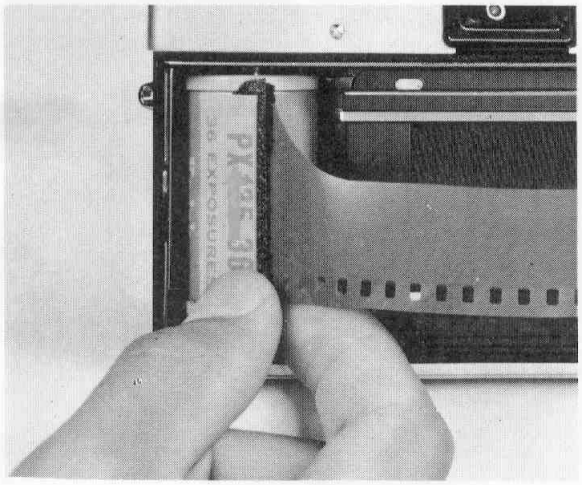
1. Raise the back cover open release knob (which also incorporates the film rewind knob) until some resistance is felt. With a slight additional pull, the back cover will automatically "pop" open.



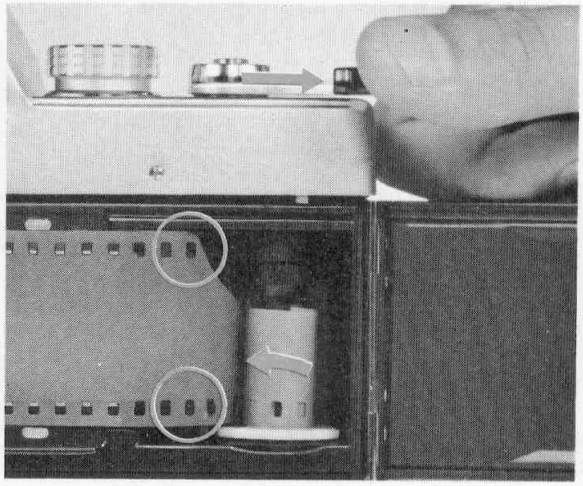
2. Insert the film leader into a slot in the film take-up spool as shown.



3. Place the film magazine into the film chamber and push the back cover release knob all the way down. (When inserting the film magazine, its projecting center drum must be placed in a downward position.)



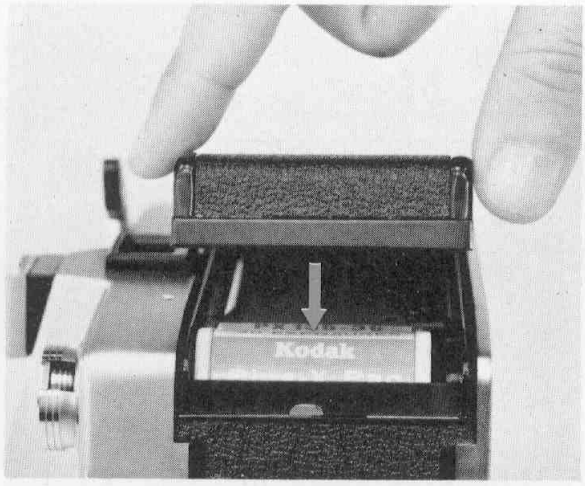
4. Operate the film advance lever in several "short" strokes until the film has begun to wind firmly around the take-up drum and both sides of the film perforations are securely engaged with the teeth of the sprocket gear. If the film advance lever locks during this procedure, press the shutter release button and then continue.



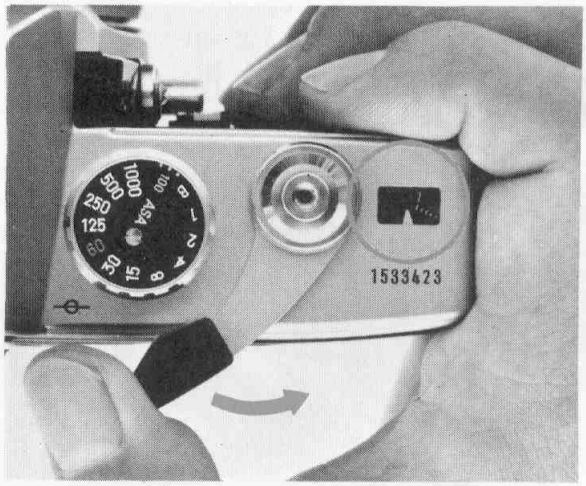
LIST OF COMPONENT PARTS

	Description on page
① Exposure counter	14
② Rapid film wind lever	15
③ Shutter release button	15
④ Accessory shoe	25
⑤ Slide for viewfinder frame selector	6/7
⑥ Rewind knob	17
⑦ Film type indicator	10
⑧ Protecting cover for viewfinder window	6
⑨ Synchronizing lever M X V	21 & 24
⑩ Finger grip for setting shutter speeds	22
⑪ Milled ring for focusing	8
⑫ Milled ring for gripping lens for changing	3/4
⑬ Diaphragm ring	20/21
⑭ Lock for camera back	13
⑮ Supporting slide for time exposures	23
⑯ Flash socket	25

5. Close the camera back once you are certain that the film is winding securely on the take-up spool and engaged with on both sprockets.
   Rotate the film rewind crank gently in the direction of the arrow to make sure that the film is flat against the pressure plate.

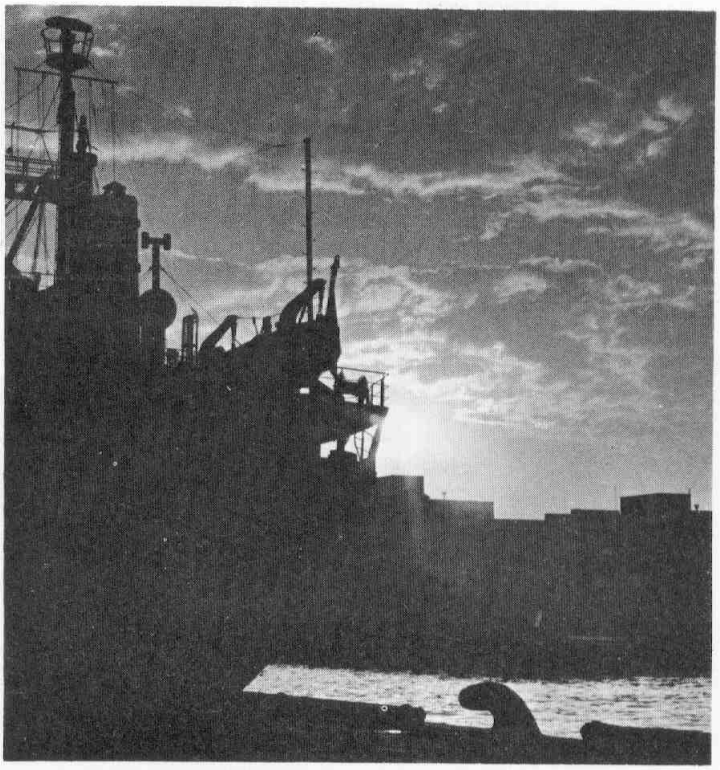


6. Advance the film and press the shutter release button. Repeat this action until the number "1" appears at the arrow mark in the frame counter window.



NOTE:

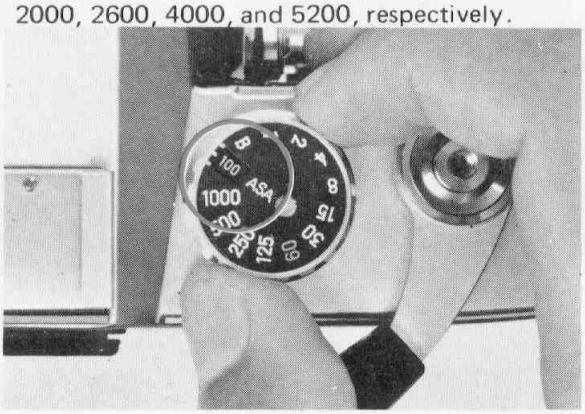
- The frame counter indicates the number of pictures taken from 1 to 36.
- The film advance lever has a total "throw" of 170°; of this distance, the first 20° have no effect on the film but are intended to provide a "free play" range through which the lever may be "offset" from the body for rapid shooting.
- When the camera back is opened, the counter automatically resets itself to the start (S) position.



Setting ASA number (film speed)

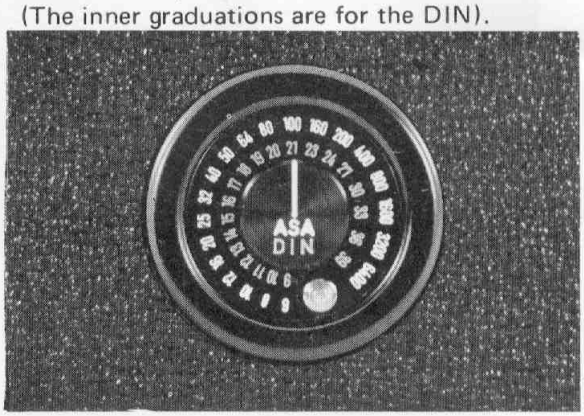
Lift and rotate the shutter speed dial until the figure (6 to 6400) which corresponds with the ASA rating of your film is visible in the ASA window.

On the ASA dial the following figures are printed: 6 • 10 • 16 • 25 •• 50 •• 100 •• 200 •• 400 •• 800 •• 1600 •• 3200 •• 6400.
The dots (•) denote ASA 8, 12, 20, 32, 40, 64, 80, 125, 160, 250, 320, 500, 640, 1000, 1300, 2000, 2600, 4000, and 5200, respectively.



ASA/DIN conversion scale

When converting a DIN speed to the corresponding ASA speed or to remember a film speed, use this conversion scale. Turn the knob of the dial and set the film speed to the white pointer marked with ASA. In the case of ASA 100 film, for example, set the film speed as shown in the picture.
(The inner graduations are for the DIN).

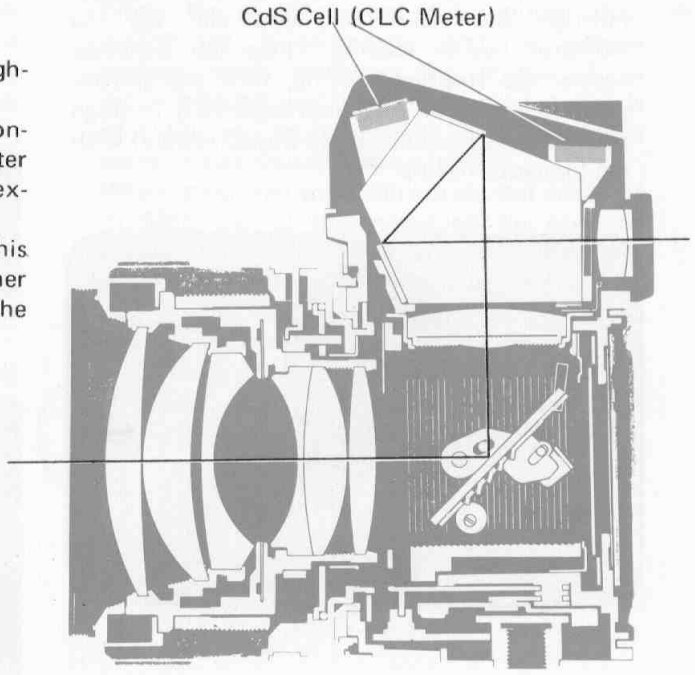


TTL with CLC: A new exposure measuring system

The Minolta SR-T 101 camera has a through-the-lens measuring system with CLC meter.

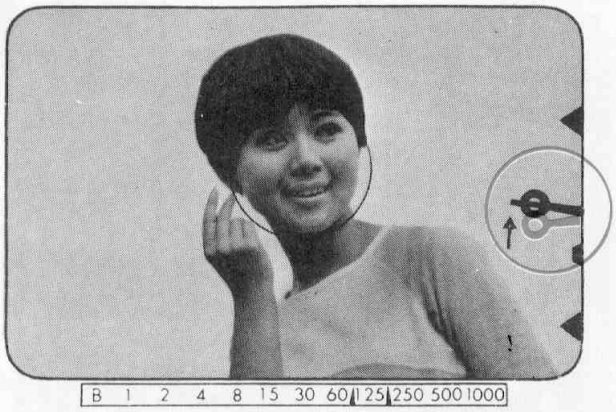
Minolta's exclusive, revolutionary CLC (Contrast Light Compensator) promises better photographic results with multiple split exposure measuring system.

Under normal photo-taking conditons this new system gives excellent results; under other conditions, such as in high-contrast scenes, the CLC feature prevents possible photo failures.

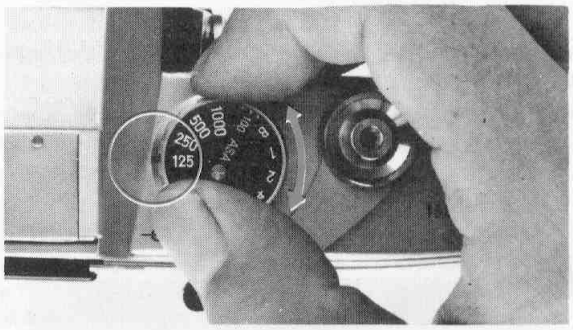


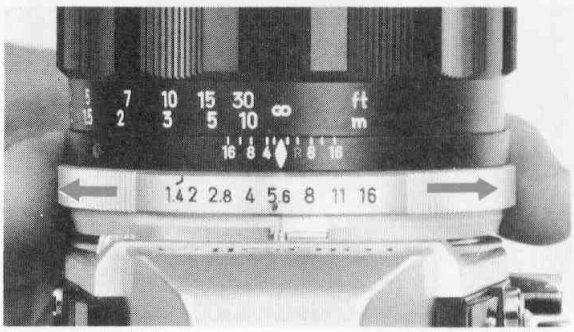
Setting the correct exposure

When aiming the camera at your subject through the viewfinder, you will see the indicator needle moving. Once the indicator needle has stopped moving, turn the shutter speed dial and/or the diaphragm ring to align the follow-up needle (circle-tipped needle) with the indicator needle.



The shutter speed is indicated in the viewfinder, when you set it on the shutter speed dial.





When the proper combination of aperture and shutter speed setting is made for correct exposure, the follow-up needle (which is coupled to the aperture, shutter speed and ASA speed settings) will align with the indicator needle over a range of EV 3 through EV 17 at ASA 100. The EV range will vary with film speed.

It is a recommended procedure to set the shutter speed first (depending on the motion or lack of motion of your subject or the overall lighting) and to then adjust the aperture.

If the needle fails to move when the diaphragm ring is rotated, this singnals a need to adjust your shutter speed setting.

A shutter speed scale is visible in the viewfinder which permits you to make all exposure adjustments without removing the camera from your eye.

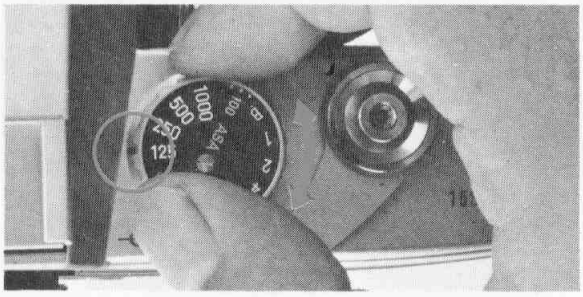
CAUTION:

- When setting the aperture first, be sure not to set the shutter speed between click stops.
- When the shutter speed is set slower than 1/30th sec., be extremely careful of camera motion while releasing the shutter. It is recommended that a tripod be used at speeds of 1/30th sec. or slower. For "Bulb" setting, a cable release should also be used.
- When using high-speed film, a shutter speed of 1/250th sec. is recommended for outdoor photography, and 1/30th sec. for indoor use.
- When photographing a group of people or a building requiring great depth of field, close down the diaphragm as much as possible. See the "depth of field" on page 25 for details.
- All metering should be done in horizontal position.

Shutter speed and aperture settings

The shutter speed (actually the period of time during which the shutter remains open) works in conjunction with the lens opening (aperture) to determine the amount of light striking the film. The higher the shutter speed, the more effectively it will momentarily "stop" the action of your subject.

To set shutter speed, simply rotate the shutter speed dial until the desired speed is aligned with the indicator on the camera body, or until it is centered between indicators on the shutter speed scale in the viewfinder.



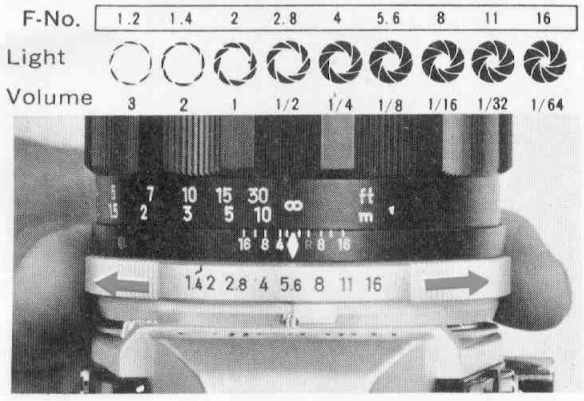
The figures of B and 1 through 1000 on the shutter speed dial indicate bulb action and shutter speeds from 1 to 1/1000th second. (At "B" the shutter will remain open indefinitely until pressure is removed from the release button.)

The aperture setting controls the light volume reaching the film in terms of area. In addition it determines the "depth of field." (See page 25.)



The index for the aperture setting is the diamond (♦) symbol in front of the diaphragm ring. The ring is engraved with figures from 1.4 through 16 for the MC Rokkor 58mm F1.4 standard lens.

When the shutter speed remains constant, the light passing through the lens decreases 50% for every increase in the aperture F-number. (Example: When the diaphragm ring is turned from 2.8 to 4 the light volume decreases 50%.)



As the aperture figure decreases, the light passing through the lens increases. The relation between aperture (F-number) and light volume is shown in the diagram.

NOTE:

- "Click" stops are provided for intermediate aperture settings between any two full F-stops. Intermediate shutter speeds cannot be set.
- The figure "B" on the shutter speed dial is used when an exposure duration of over 1 second is required. The shutter will remain open while the shutter release is depressed.
- The red figure of "60" on the shutter speed dial is to be used in conjunction with an electronic flash unit.
- The shutter speed at which the camera is set is shown on the shutter speed scale visible in the viewfinder.
- Since light striking the film is affected by a combination of aperture and shutter speed, exposure can be adjusted by changing either or both of these settings.

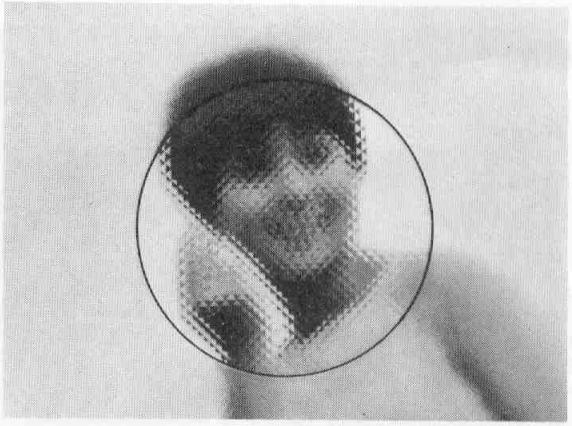
Focusing the camera

To focus, hold the camera to your eye and turn the lens-focusing ring clockwise or counter-clockwise until a sharp image appears in the center spot of the viewfinder. This center spot, the microprism, consists of many diagonal lines which will aid in ultra-sharp and rapid focusing.

In focus



Out of focus



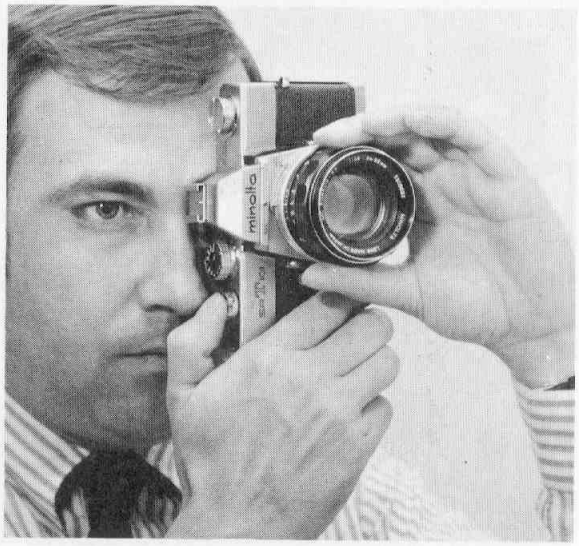
Holding the camera

The camera may be held horizontally or vertically. In either case, be sure to hold the camera in a comfortable position. This will help to prevent movement of the camera during exposure and avoid blurred pictures.



NOTE:

- Pressing the camera gently against your face, or supporting the elbow of the hand holding the camera against your body, will aid in steady holding.
- The camera will tend to move more when used in the vertical position.



The Agfa Ambi Silette

The Agfa Ambi Silette is an improvement on the well known Agfa Silette. Without sacrificing the small, convenient shape of the Silette, the Ambi Silette has been given the added facility of easily interchangeable lenses, which are obtainable in various focal lengths.

When you have familiarized yourself with your Ambi Silette with the help of this little handbook, you will appreciate that the designers of the Agfa Camera Works have succeeded in reducing the manipulation of the camera to the simplest possible terms.

Reflected in the viewfinder can be seen the exact limits of the picture for any one of the 35, 50 or 90 mm. focal length lenses, according to the setting of the slide on the top of the camera. As this is independent of the lens which happens to be in the camera it simplifies the choice of focal length, since each field of view can be examined in turn and judged accordingly.

Viewfinder parallax, which can be particularly troublesome in close-ups, is automatically compensated as the viewfinder framing is changed from one focal length to another. The actual changing of the camera lens is a matter of seconds only.

All in all these small refinements make the Ambi Silette a joy to use, for this model now comprises:

A miniature camera with rapid film wind lever,
automatic shutter wind, and double and blank exposure lock,
equipped with the rapid 4-element standard
Agfa Color-Solinar 50 mm. f/2.8 lens.

TAKING FLASH PICTURES

Flash bulbs and electronic flash units are recommended for indoor and night photography and for shooting in shaded areas.

There are two sync. terminals on the Minolta SR-T 101: one is designated "FP"; the other, "X."

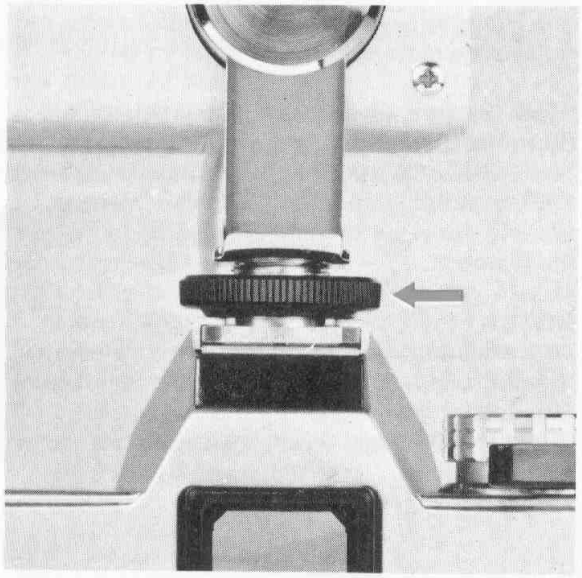
When using an electronic flash unit, set the shutter speed at 1/60th sec. (red figure on dial), and use the "X" terminal.

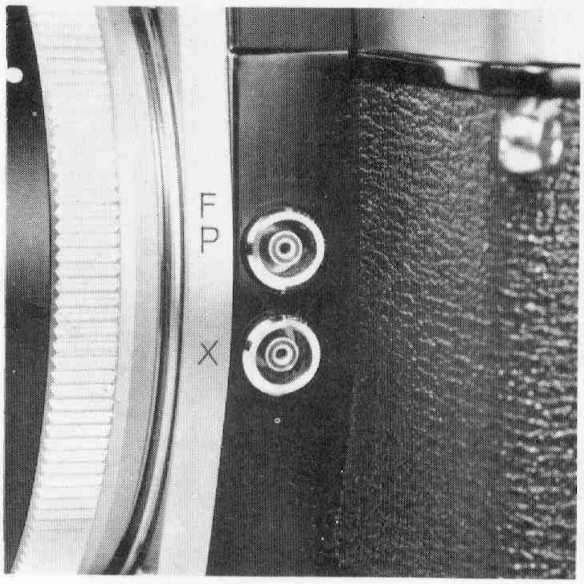
When using "FP" class bulbs, you can use any shutter speed from 1 to 1/1000th sec., as the flash bulbs synchronize with the release of the shutter. A shutter speed above 1/60th sec. should be used in photographing a moving subject with comparatively bright surrounding light.

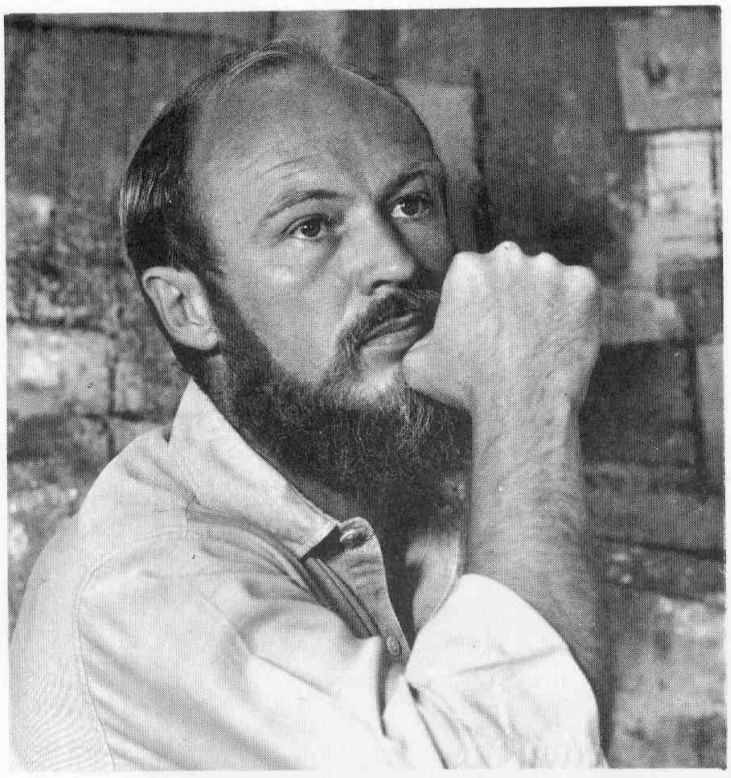
Terminal / Flash Bulb \ Shutter Speed (Seconds)		B	1	1/2	1/4	1/8	1/15	1/30	1/60 (X)	1/125	1/250	1/500	1/1000
FP Terminal	FP Bulb												
X Terminal	F Bulb												
	M Bulb												
	Electronic Flash												

Attaching flash unit

Slide the foot of the flash unit into the camera's accessory shoe from the back of the camera, then tighten the screw of the flash unit for secure, wobble-free operation.







Setting correct exposure

To determine the correct aperture for flash photography, get the "guide number" of the flash bulb you are using. Then make this simple computation:

$$\frac{\text{Guide Number}}{\text{Distance to Subject}} = \text{Aperture Setting (F-stop)}$$

For example, when flash bulb guied number is 80 (in feet) and the distance to the subject is 10 feet (with ASA 100 film, using shutter speed or 1/60th sec.),

the F-stop is: $\frac{80}{10} = 8$

NOTE:

- When using M-class flash bulbs, a shutter speed of 1/15th sec. or slower is recommended.
- Use "blue" flash bulbs generally for color photography.

Depth of field

Lens aperture controls depth of field

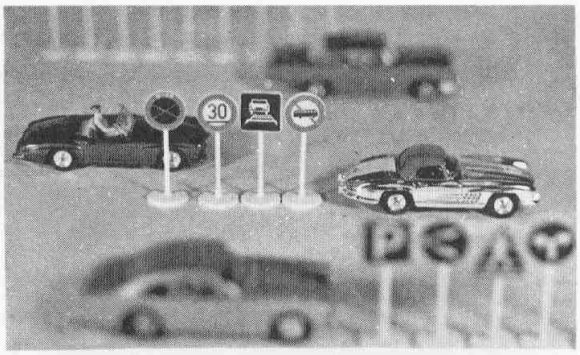
When the lens is accurately focused on a subject, there is a certain depth both in the foreground and the background, which is also considered to be in focus. This area is known as the "depth of field."

The sharp focus area in the foreground is usually shallower than the sharp focus area in the background.

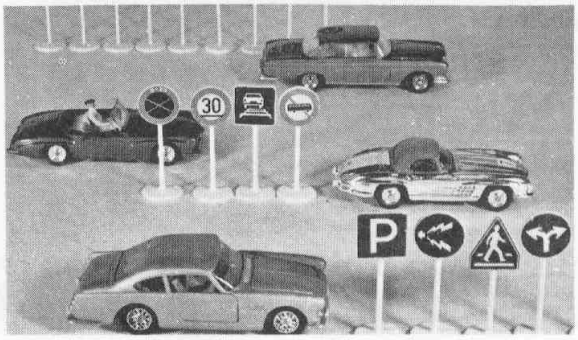
Depth of field has the following characteristics which should be considered when pictures are composed:

1. As the lens aperture decreases, the area of sharp focus increases. As lens aperture increases, the area of sharp focus decreases.
2. As the distance from camera to subject is increased, so is the area of sharp focus.
3. A telephoto lens has a shallower depth of field than a wideangle lens.

Full aperture opening

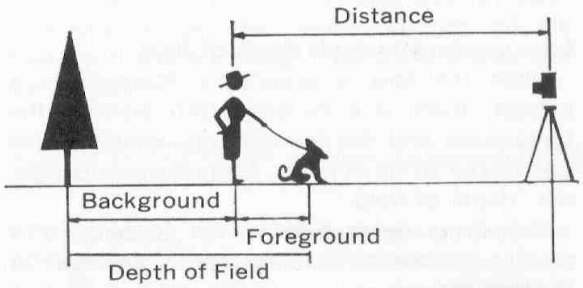


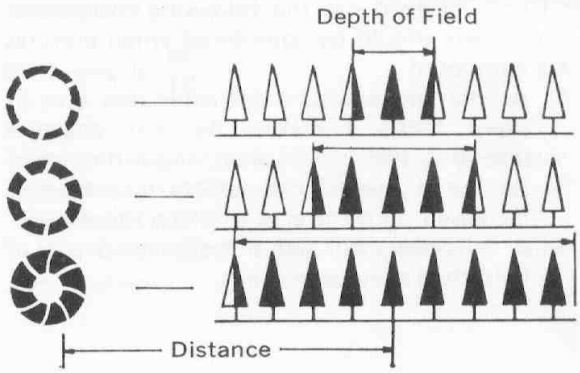
Small aperture opening



The depth-of-field scale engraved on lens barrel enables you to determine the depth of field in which focus will be acceptably sharp. For example, if you focus on a subject 15 feet away and use an F8 aperture, read the distance opposite the two figures 8. In this case the picture will be sharp from approximately 11 to 23 feet. (See next page.)







Depth-of-field table of MC Rokkor 58mm F1.2 and F1.4 Lens (in meters)

Dis (m) \ F No.	1.2	1.4	2	2.8	4	5.6	8	11	16
∞	∞ 86.0	∞ 74.2	∞ 53.8	∞ 38.0	∞ 26.9	∞ 19.1	∞ 13.5	∞ 9.6	∞ 6.8
10	11.3 9.0	11.5 8.8	12.2 8.5	13.5 8.0	15.8 7.3	20.8 6.6	37.7 5.8	∞ 4.9	∞ 4.1
5	5.3 4.7	5.4 4.7	5.5 4.6	5.7 4.4	6.1 4.2	6.7 4.0	7.8 3.7	10.2 3.3	18.1 2.9
3	3.10 2.90	3.12 2.89	3.17 2.85	3.24 2.79	3.36 2.71	3.53 2.61	3.81 2.48	4.29 2.31	5.22 2.11
2	2.04 1.96	2.05 1.95	2.07 1.93	2.10 1.91	2.15 1.87	2.22 1.82	2.32 1.76	2.48 1.68	2.76 1.57
1.5	1.52 1.48	1.53 1.47	1.54 1.46	1.56 1.45	1.58 1.43	1.61 1.40	1.67 1.37	1.75 1.32	1.88 1.25
1.2	1.22 1.19	1.22 1.18	1.22 1.18	1.23 1.17	1.25 1.16	1.27 1.14	1.30 1.11	1.35 1.08	1.42 1.04
1	1.01 0.99	1.01 0.99	1.02 0.99	1.02 0.98	1.03 0.97	1.05 0.96	1.07 0.94	1.10 0.92	1.14 0.89
0.9	0.91 0.89	0.91 0.89	0.91 0.89	0.92 0.88	0.93 0.88	0.94 0.87	0.95 0.85	0.98 0.84	1.01 0.81
0.8	0.81 0.79	0.81 0.79	0.81 0.79	0.81 0.79	0.82 0.78	0.83 0.77	0.84 0.76	0.86 0.75	0.89 0.73
0.7	0.71 0.70	0.71 0.70	0.71 0.70	0.71 0.69	0.71 0.69	0.72 0.68	0.73 0.67	0.74 0.66	0.76 0.65
0.6	0.60 0.60	0.60 0.60	0.61 0.60	0.61 0.59	0.61 0.59	0.61 0.59	0.62 0.58	0.63 0.57	0.64 0.56

Depth-of-field table of MC Rokkor 58mm F1.2 and F1.4 Lens (in feet)

Dis (ft) \ F No.	1.2	1.4	2	2.8	4	5.6	8	11	16
∞	∞ 282′	∞ 244′	∞ 171′	∞ 121′	∞ 85′	∞ 61′	∞ 43′	∞ 30′	∞ 22′
30	33′ 6″ 27′ 2″	34′ 2″ 26′ 9″	36′ 3″ 25′ 7″	39′ 9″ 24′ 1″	45′11″ 22′ 4″	59′ 20′ 2″	98′ 17′ 9″	∞ 15′ 2″	∞ 12′ 8″
15	15′10″ 14′ 3″	15′11″ 14′ 2″	16′ 5″ 13′10″	17′ 1″ 13′ 5″	18′ 1″ 12′10″	19′ 9″ 12′ 1″	22′ 9″ 11′ 3″	29′ 10′ 2″	47′ 7″ 9′
10	10′ 4″ 9′ 8 1/16″	10′ 5″ 9′ 8″	10′ 7″ 9′ 6″	10′10″ 9′ 3″	11′ 3″ 9′	11′10″ 8′ 8″	12′11″ 8′ 2″	14′ 8″ 7′ 7″	18′ 2″ 6′11″
7	7′ 2 7/16″ 6′10 1/16″	7′ 2″ 6′10″	7′ 3″ 6′ 9″	7 ′5″ 6′ 8″	7′ 7″ 6′ 6″	7′10″ 6′ 4″	8′ 3″ 6′ 1″	8′11″ 5′ 9″	10′ 1″ 5′ 5″
5	5′15/16″ 4′11″	5′ 1″ 4′11″	5′ 2″ 4′10″	5′ 2″ 4′10″	5′ 3″ 4′ 9″	5′ 5″ 4′ 8″	5′ 7″ 4′ 6″	5′10″ 4′ 4″	6′ 4″ 4′ 2″
4	4′ 9/16″ 3′11 3/8″	4′ 1″ 3′11″	4′ 1″ 3′11″	4′ 1″ 3′11″	4′ 2″ 3′10″	4′ 3″ 3′ 9″	4′ 4″ 3′ 8″	4′ 6″ 3′ 7″	4′ 9″ 3′ 5″
3.5	3′ 6 7/16″ 3′ 5 1/2″	3′ 6 1/2″ 3′ 5 1/2″	3′ 6 3/4″ 3′ 5 1/4″	3′ 7″ 3′ 5″	3′ 7 1/2″ 3′ 4 1/2″	3′ 8 1/4″ 3′ 4″	3′ 9 1/4″ 3′ 3 1/4″	3′10 3/4″ 3′ 2 1/4″	4′ 3/4″ 3′ 3/4″
3	3′ 5/16″ 2′11 5/8″	3′ 1/2″ 2′11 5/8″	3′ 1/2″ 2′11 1/2″	3′ 3/4″ 2′11 1/4″	3′ 1″ 2′11″	3′ 1 1/2″ 2′10 1/2″	3′ 2 1/4″ 2′10″	3′ 3 1/4″ 2′ 9 1/4″	3′ 4 3/4″ 2′ 8 1/4″
2.5	2′ 6 3/16″ 2′ 5 3/4″	2′ 6 1/4″ 2′ 5 3/4″	2′ 6 1/2″ 2′ 5 3/4″	2′ 6 1/2″ 2′ 5 1/2″	2′ 6 3/4″ 2′ 5 1/4″	2′ 7″ 2′ 5″	2′ 7 1/2″ 2′ 4 3/4″	2′ 8 1/4″ 2′ 4 1/4″	2′ 9″ 2′ 3 1/2″
2.25	2′ 3 1/8″ 2′ 2 13/16″	2′ 3 1/4″ 2′ 2 3/4″	2′ 3 1/4″ 2′ 2 3/4″	2′ 3 1/2″ 2′ 2 3/4″	2′ 3 1/2″ 2′ 2 1/2″	2′ 3 3/4″ 2′ 2 1/4″	2′ 4 1/4″ 2′ 2″	2′ 4 3/4″ 2′ 1 1/2″	2′ 5 1/2″ 2′ 1″
2	2′ 1/8″ 1′11 13/16″	2′ 1/4″ 1′11 3/4″	2′ 1/4″ 1′11 3/4″	2′ 1/4″ 1′11 3/4″	2′ 1/2″ 1′11 3/4″	2′ 3/4″ 1′11 1/2″	2′ 3/4″ 1′11 1/4″	2′ 1 1/4″ 1′10 3/4″	2′ 1 3/4″ 1′10 1/2″

Depth-of-field table of MC Rokkor 55mm F1.7 Lens (in meters)

Dis (m) \ F No.	1.7	2.8	4	5.6	8	11	16
∞	∞ 53.4	∞ 32.5	∞ 23.0	∞ 16.3	∞ 11.5	∞ 8.2	∞ 5.8
10	12.3 8.4	14.4 7.7	17.6 7.0	25.6 6.2	72.6 5.4	∞ 4.5	∞ 3.7
5	5.5 4.6	5.9 4.4	6.3 4.1	7.1 3.9	8.7 3.5	12.5 3.1	33.9 2.7
3	3.17 2.85	3.29 2.76	3.43 2.67	3.64 2.55	4.00 2.41	4.64 2.22	6.01 2.01
2	2.07 1.93	2.12 1.89	2.18 1.85	2.26 1.80	2.39 1.72	2.59 1.63	2.96 1.52
1.5	1.54 1.46	1.57 1.44	1.59 1.42	1.64 1.39	1.70 1.34	1.80 1.29	1.97 1.22
1.2	1.22 1.18	1.24 1.16	1.26 1.15	1.28 1.13	1.32 1.10	1.38 1.06	1.47 1.02
1	1.02 0.98	1.03 0.98	1.04 0.96	1.06 0.95	1.08 0.93	1.12 0.91	1.18 0.87
0.9	0.91 0.89	0.92 0.88	0.93 0.87	0.94 0.86	0.96 0.85	0.99 0.82	1.04 0.80
0.8	0.81 0.79	0.82 0.78	0.82 0.78	0.83 0.77	0.85 0.76	0.87 0.74	0.90 0.72
0.7	0.71 0.69	0.71 0.69	0.72 0.68	0.73 0.68	0.74 0.67	0.75 0.66	0.77 0.64
0.6	0.61 0.60	0.61 0.59	0.61 0.59	0.62 0.58	0.62 0.58	0.64 0.57	0.65 0.56
0.55	0.55 0.55	0.56 0.54	0.56 0.54	0.56 0.54	0.57 0.53	0.58 0.53	0.59 0.52

Depth-of-field table of MC Rokkor 55mm F1.7 Lens (in feet)

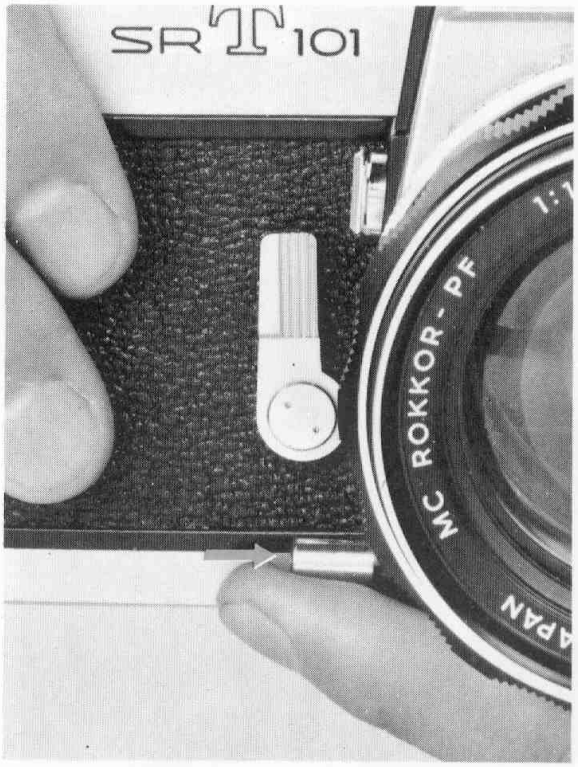
F No. / Dis (m)	1.7	2.8	4	5.6	8	11	16
∞	∞ 175′	∞ 107′	∞ 75′ 5″	∞ 53′ 5″	∞ 37′ 9″	∞ 26′ 9″	∞ 19′
30	36′ 1″ 25′ 8″	41′ 6″ 23′ 6″	49′ 5″ 21′ 7″	67′ 7″ 19′ 4″	141′ 16′10″	∞ 14′ 3″	∞ 11′ 9″
15	16′ 4″ 13′10″	17′ 4″ 13′ 2″	18′ 7″ 12′ 7″	20′ 8″ 11′10″	24′ 6″ 10′10″	33′ 2″ 9′ 9″	67′ 4″ 8′ 6″
10	10′ 7″ 9′ 5 7/8″	10′12″ 9′ 2 1/4″	11′ 5″ 8′10 5/8″	12′ 2″ 8′ 5 7/8″	13′ 5″ 7′11 7/8″	15′ 7″ 7′ 4 5/8″	20′ 5″ 6′ 8″
7	7′ 3 1/4″ 6′ 8″	7′ 5 1/2″ 6′ 7 1/4″	7′ 7 7/8″ 6′ 5 3/8″	7′11 3/4″ 6′ 2 7/8″	8′ 5 5/8″ 5′11 3/4″	9′ 3 3/8″ 5′ 7 5/8″	10′ 9″ 5′ 2 5/8″
5	5′ 1 1/2″ 4′10 1/2″	5′ 2 5/8″ 4′ 9 5/8″	5′ 3 3/4″ 4′ 8 5/8″	5′ 5 1/2″ 4′ 7 3/8″	5′ 8 1/8″ 4′ 5 5/8″	6′ 1/4″ 4′ 3 3/8″	6′ 7″ 4′ 1/2″
4	4′ 1″ 3′11 1/8″	4′ 1 5/8″ 3′10 1/2″	4′ 2 3/8″ 3′ 9 7/8″	4′ 3 3/8″ 3′ 9 1/8″	4′ 4 7/8″ 3′ 8″	4′ 7 1/4″ 3′ 6 1/2″	4′11″ 3′ 4 1/2″
3.5	3′ 6 3/4″ 3′ 5 3/8″	3′ 7 1/4″ 3′ 4 7/8″	3′ 7 3/4″ 3′ 4 3/8″	3′ 8 1/2″ 3′ 3 3/4″	3′ 9 5/8″ 3′ 3″	3′11 1/4″ 3′ 1 3/4″	4′ 2″ 3′ 1/4″
3	3′ 1/2″ 2′11 1/2″	3′ 7/8″ 2′11 1/8″	3′ 1 1/4″ 2′10 7/8″	3′ 1 3/4″ 2′10 3/8″	3′ 2 1/2″ 2′ 9 3/4″	3′ 3 3/4″ 2′ 9″	3′ 5 1/2″ 2′ 7 3/4″
2.5	2′ 6 3/8″ 2′ 5 3/4″	2′ 6 1/2″ 2′ 5 1/2″	2′ 6 3/4″ 2′ 5 1/4″	2′ 7 1/8″ 2′ 5″	2′ 7 3/4″ 2′ 4 1/2″	2′ 8 3/8″ 2′ 4″	2′ 9 5/8″ 2′ 3 1/4″
2.25	2′ 3 1/4″ 2′ 2 3/4″	2′ 3 3/8″ 2′ 2 5/8″	2′ 3 5/8″ 2′ 2 3/8″	2′ 3 7/8″ 2′ 2 1/4″	2′ 4 1/4″ 2′ 1 3/4″	2′ 4 7/8″ 2′ 1 3/8″	2′ 5 3/4″ 2′ 1 1/4″
2	2′ 1/8″ 1′11 7/8″	2′ 1/4″ 1′11 3/4″	2′ 1/2″ 1′11 5/8″	2′ 3/4″ 1′11 3/8″	2′ 1″ 1′11 1/8″	2′ 1 1/2″ 1′10 3/4″	2′ 2″ 1′10 1/4″
1.75	1′ 9 1/8″ 1′ 8 7/8″	1′ 9 1/4″ 1′ 8 3/4″	1′ 9 1/4″ 1′ 8 5/8″	1′ 9 1/2″ 1′ 8 1/2″	1′ 9 5/8″ 1′ 8 1/4″	1′10″ 1′ 8 1/8″	1′10 1/2″ 1′ 7 7/8″

Checking the effects of depth of field

MC Rokkor Lenses are designed with a meter coupler which permits them to remain wide open during viewing, focusing, and exposure setting. In order to check your depth of field visually when using these lenses push the diaphragm stop-down button on the camera body after the aperture has been set.

When using other Rokkor Lenses designed for the Minolta SR-1, SR-3 or SR-7, use the preview button on the lens barrel or the camera's diaphragm button.

- When the diaphragm stop-down button is pushed, after you advance the film, the diaphragm closes down to the preset aperture and locks. When the button is pressed again, the diaphragm reopens fully.



As alternative lenses there are the

Agfa Color-Telinear f/4.0 – 90 mm. telephoto and
Agfa Color-Ambion f/4.0 – 35 mm. wide angle,
each in helical focusing mount.

With all three focal lengths is incorporated:

the built-in coupled range and viewfinder
with automatic viewfinder parallax compensation and
reflection framing of field of view.

All three lenses have the same 37 mm. outside diameter front cell, so that only one set of filters and one lens hood is needed to serve all lenses. As an exposure meter we recommend the Agfa Lucimeter M or S or one of the accessory shoe attachable meters now commercially available.

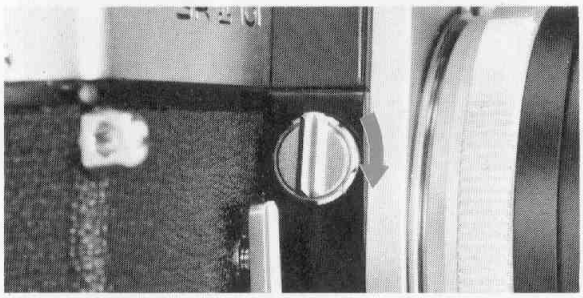
May we finally suggest that you first of all take your camera and try out for yourself —without a film in the camera—the various points which are explained in the following pages? By so doing you will come to appreciate the advantages which the Ambi Silette has to offer, and at the same time familiarize yourself with the few operations that are needed to use it.

Mirror lock-up control

The mirror lock-up control is used in conjunction with the Rokkor 21mm ultra wideangle lens. When activated, the mirror is locked in an "up" position to prevent it from coming into contact with the rear element of the lens which projects into the interior of the camera.

To operate, turn the mirror lock button downward (clockwise) until it stops. The distance of movement is approximately 135°.

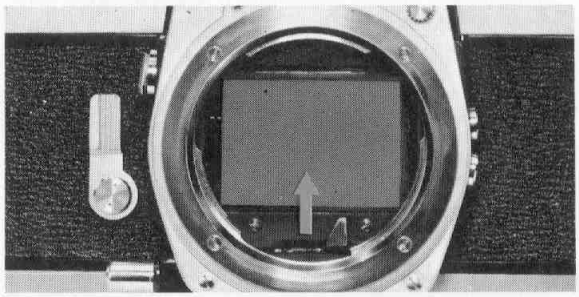
The mirror will return to its usual operation when the lock button is returned to the red mark.



The mirror lock button operates independently of the shutter release and film advance and can, therefore, be activated at any time.

The mirror lock-up system is also helpful for photomicrography, sequence, and close-up photography, as it eliminates the possibility of camera motion caused by the movement of the mirror when the shutter is released.

- When the mirror is locked in an "up" position, the exposure meter of the camera cannot operate, and an independent meter must be used.



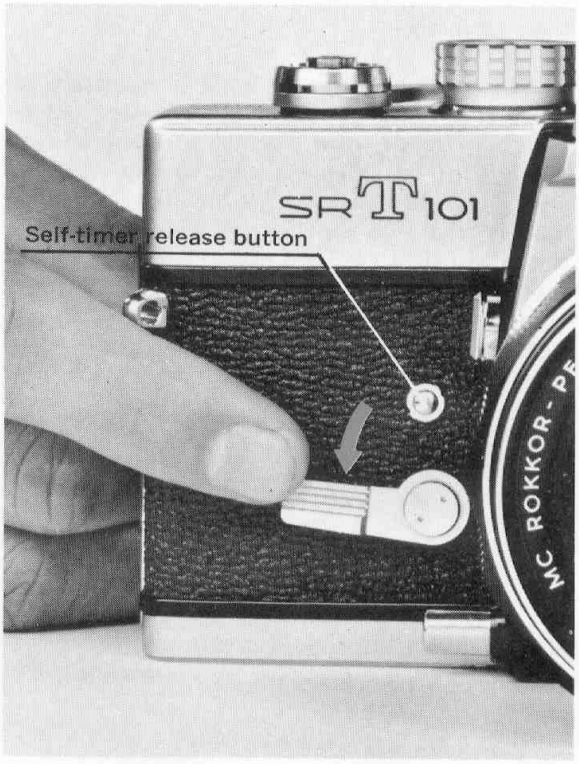
Self-timer

The self-timer delays shutter release about 10 seconds from the time you press the self-timer release button. This allows time for you to get into the picture.

To operate, advance the film (this will automatically cock the shutter). Next, push the self-timer lever down (about 90°) and then press the self-timer release button. The self-timer is now operating, and the shutter will automatically be released after about 10 seconds.

NOTE:

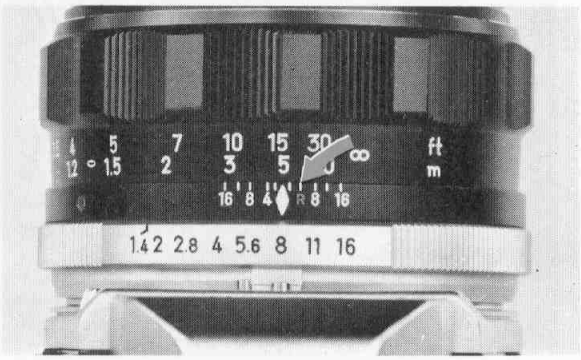
- If the film has not been advanced, the self-timer lever will stop after returning about 45° and the shutter will not be released.
- You can override the self-timer mechanism by pushing the shutter release button either before or after the self-timer has been activated.



Infrared index

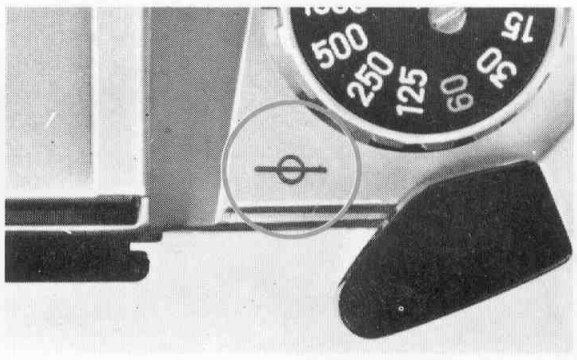
When using infrared film it is necessary to make an "infrared focus adjustment." After you have made your normal focusing adjustment, turn the focusing ring to the right to align the distance on the focusing scale with the red "R" mark on the depth-of-field scale. After this adjustment has been made you are ready to shoot.

- To determine correct exposure for infrared photography, consult the instruction are enclosed in the film package.



Film plane index

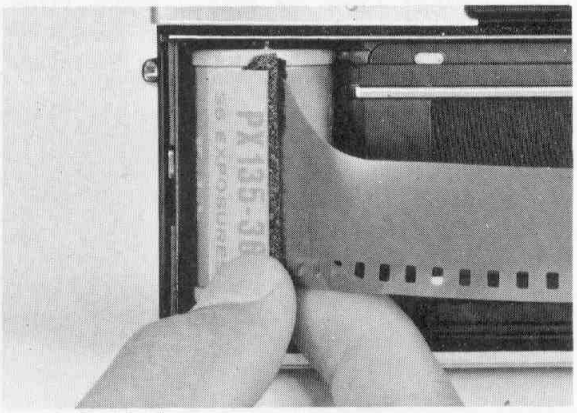
The ⊖ symbol engraved to the left of the film advance lever shows the exact position of the the film in the camera. It is used to precisely measure the distance from subject to film for close-up photography and photomacrography.

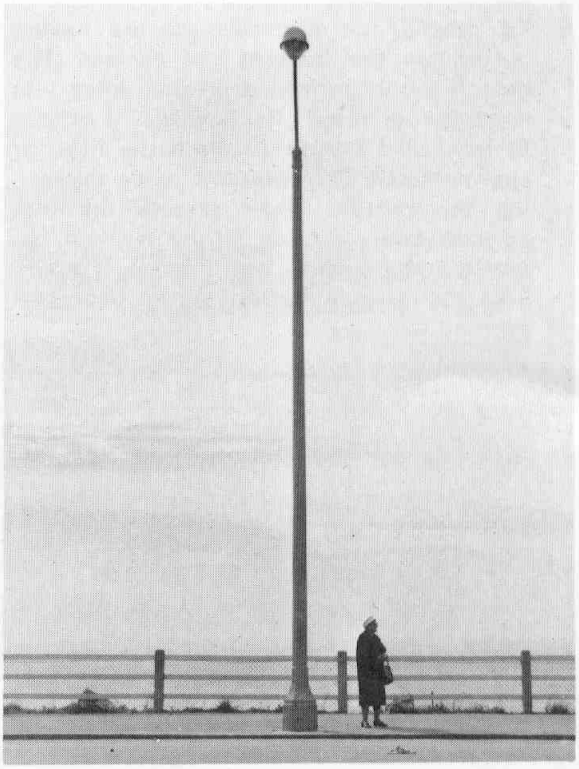


3. Now, pull the back cover release knob out to open the camera back and remove the film magazine.

NOTE:

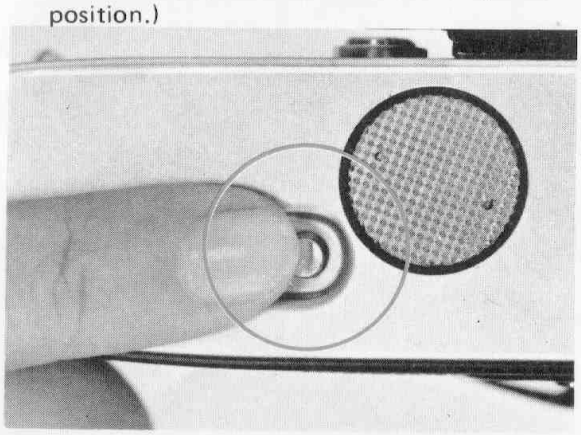
- The film rewind release button will automatically return to its original position as the film advance lever is activated.



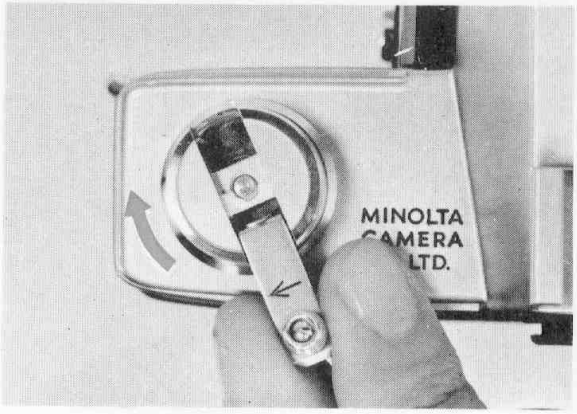


UNLOADING EXPOSED FILM

1. To rewind the film, depress the rewind button on the base of the camera. The button should remain depressed when you remove your finger. (If, however, it returns to its locked position, rewind the film for approximately 2 revolutions while depressing the button. Then actuate the film advance lever one full stroke without depressing the button and depress it again. This should lock button in the depressed position.)



2. Lift the rewind crank and turn it clockwise. This will rewind the film into the magazine. When you feel a slight resistance, you have rewound nearly all the film and it has disengaged from the take-up spool. After one or two more turns you can assume all the film has been rewound into the magazine.

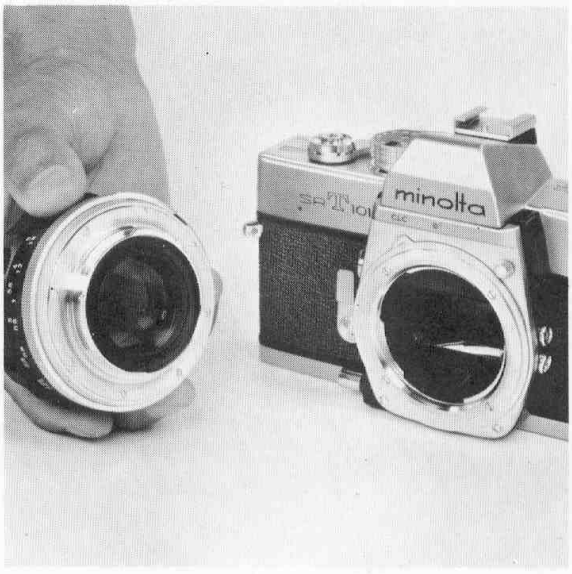


CHANGING LENSES

Lenses can be changed even when the film has been advanced and the shutter locked. To remove the mounted lens, push the lens release button down and rotate the lens counterclockwise until it stops. It can now be lifted out.



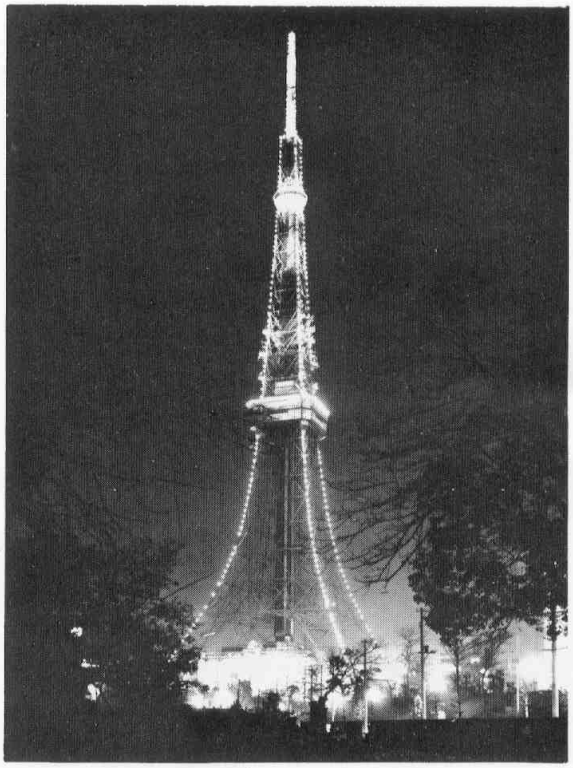
To mount a lens, insert it into the bayonet socket by lining up the red dot on the lens barrel with the red dot on the camera body. Now, turn the lens clockwise until it stops with a "click."



CAUTION:

- Touch nothing inside the bayonet mount while lens is removed.
- If the lens is left removed, replace it with a body cap to prevent dust from collecting on the mirror and shutter mechanisms.





Manual preset Rokkor Lenses

1) Set the shutter speed.
2) Set the maxim aperture of the lens, then close down until the two needles are aligned.
3) Release the shutter.



- It is not necessary to use the diaphragm stop-down button, with manual preset lenses.
- Compose and focus your picture before making your exposure setting.
- If you focus or compose your picture after making your exposure setting, and you do this by opening the lens to maximum aperture, be sure to close it down again to the proper point before you shoot.

NOTE:
- The indicator needle moves when the aperture is adjusted.
- The follow-up needle moves when the shutter speed is adjusted.

USING INTERCHANGEABLE ROKKOR LENSES OTHER THAN MC LENSES

When using Rokkor Lenses designed for the Minolta SR-1, SR-3 or SR-7, which do not have a meter coupling pin, you must use the "stop-down measurement system" to set exposure.

With this system the indicator needle moves when the lens diaphragm is opened or closed and the follow-up (circle-tipped) needle is activated by the shutter-speed dial.

Auto Rokkor Lenses

1) Advance the film.
2) Press the diaphragm stop-down button (it will remain depressed).
3) Set the shutter speed.
4) Turn the diaphragm ring until the two needles are aligned. (The diaphragm can be set first.)
5) Press the diaphragm stop-down button again.
6) Focus and shoot.

- The diaphragm stop-down button will not operate if the film advance lever has not been advanced completely.
- When the diaphragm stop-down button is pressed the second time, the diaphragm reopens to maximum aperture.
- When the shutter is released, the diaphragm automatically closes down to the preset aperture and reopens.



Minolta MINOLTA MASTERS PHOTOGRAPHY

SRT-005E

Printed in Japan

CHANGING THE LENS

A loaded camera should never be left for any length of time exposed to light without its lens. In changing the lens, therefore, do it as quickly as possible and always in the shadow of the body, so that no direct light reaches the unprotected shutter. To remove the lens from its mount, press the catch (see short arrow, Fig. 2) at the same time giving the lens a small turn to the left. In doing so, the lens should always be gripped, as shown, by the fixed milled ring ⑫ (Fig. 1) behind the diaphragm ring. The lens is then simply lifted out while a certain amount of resistance has to be overcome.

There are two possible ways of inserting the alternative lens; the first to be described is the simpler, the second the quicker one.

Fig. 2

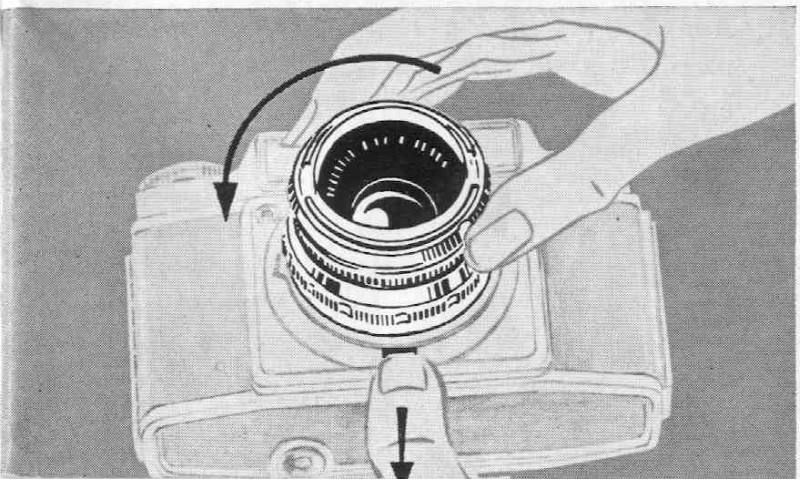
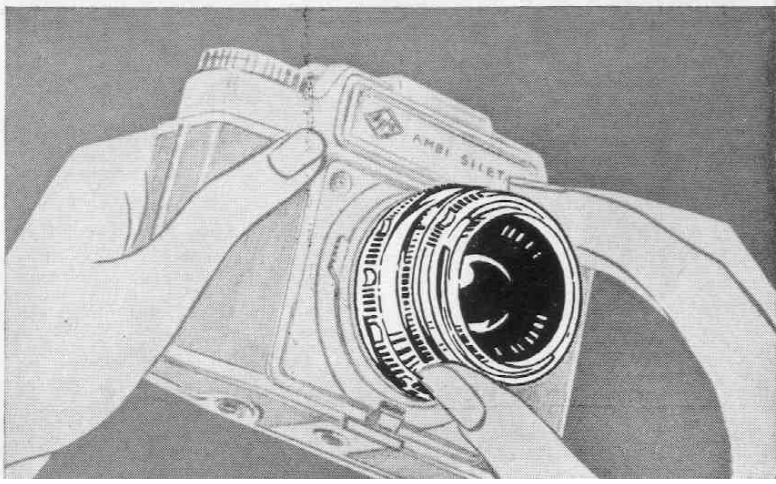


Fig. 3



CARE AND STORAGE OF YOUR MINOLTA SR-T 101

Do not touch the lens. If it becomes dirty, use a rubber ball blower to blow dust off its surface, then gently wipe its surface from the center outward with a lens cleaning cloth or tissue.

- Try to keep the lens clean. Brush it with a soft brush from time to time.
- Do not touch the mirror, but dust it with a soft brush.
- External camera surfaces may be cleaned with a silicon cloth.
- When storing the camera, set the distance scale to ∞, release the shutter, and put the camera in its leather case.
- Do not drop or jar the camera.
- Do not store the camera in high temperature or humidity.
- When leaving the camera unused for a long time, remove the mercury battery from it.
- When storing the camera for a long period of time, put in original packaging with a small bag of drying agent, such as silica gel.

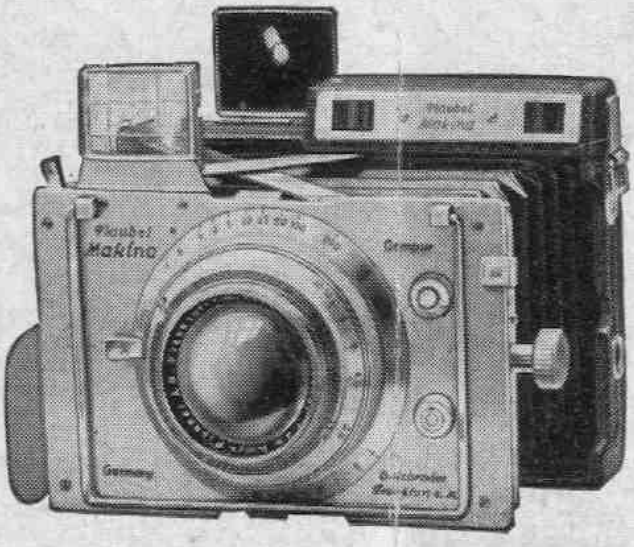
CAUTION:

- *Lens cleaning fluid should be used only when fingerprints or scum formation cannot be removed with lens tissue.*
  In this case, use one drop only of lens cleaner on lens cleaning paper or a soft cloth and wipe the lens gently from its center toward the edge. Be sure not to drop the fluid directly on the lens.

We hope that you'll enjoy your Minolta camera.

If you have any questions, ask your Minolta dealer. He is knowledgeable in all aspects of photography, and he can help you with all of your photographic needs.

Minolta Camera Co., Ltd., 18, 4-chome, Shiomachidori, Minami-ku, Osaka, Japan
Minolta Corporation, 200 Park Avenue South New York, N.Y. 10003, U.S.A.
Minolta Camera Handelsgesellschaft m.b.H., 2 Hamburg 1, Spaldingstrasse 1, West Germany



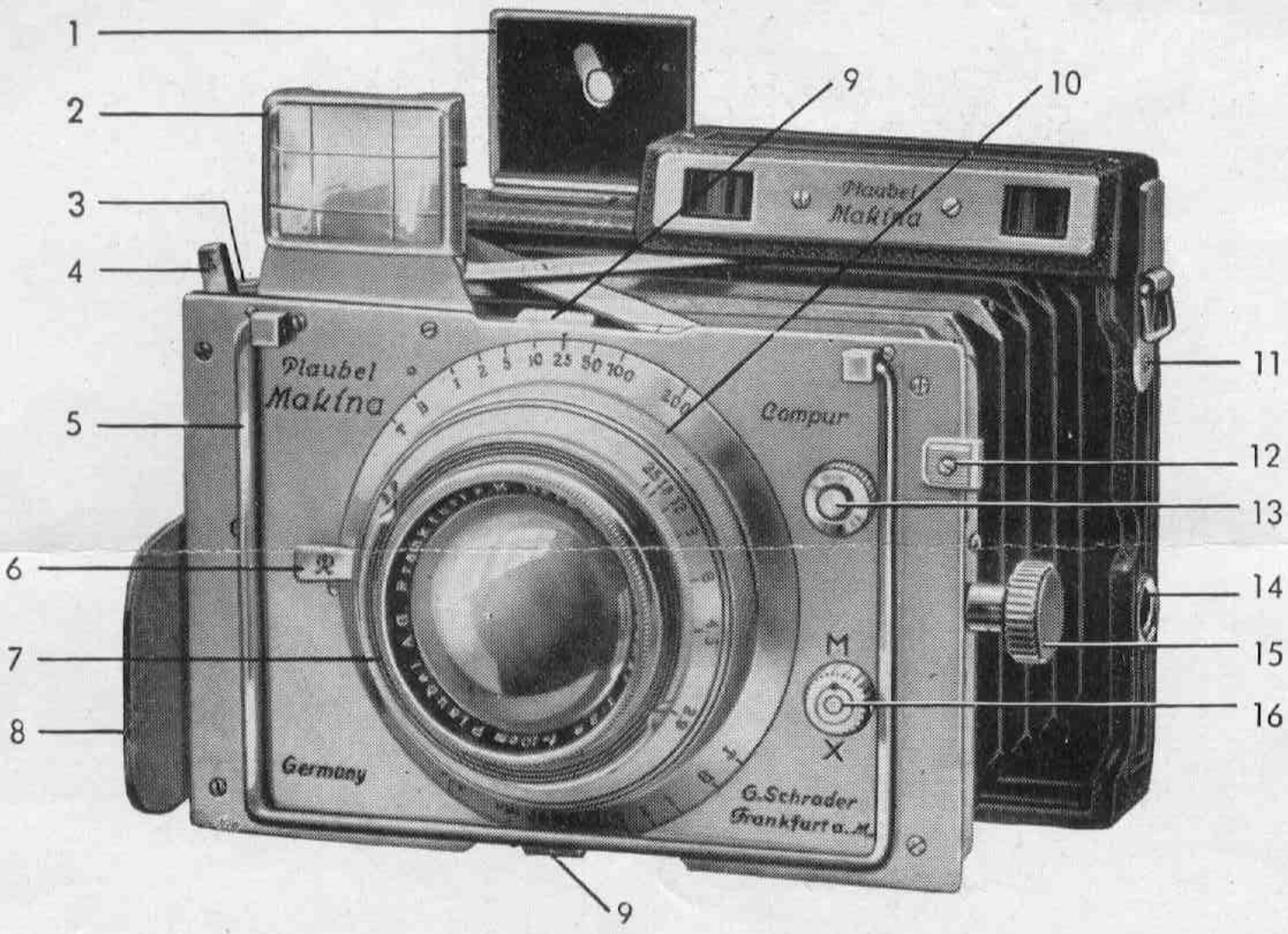
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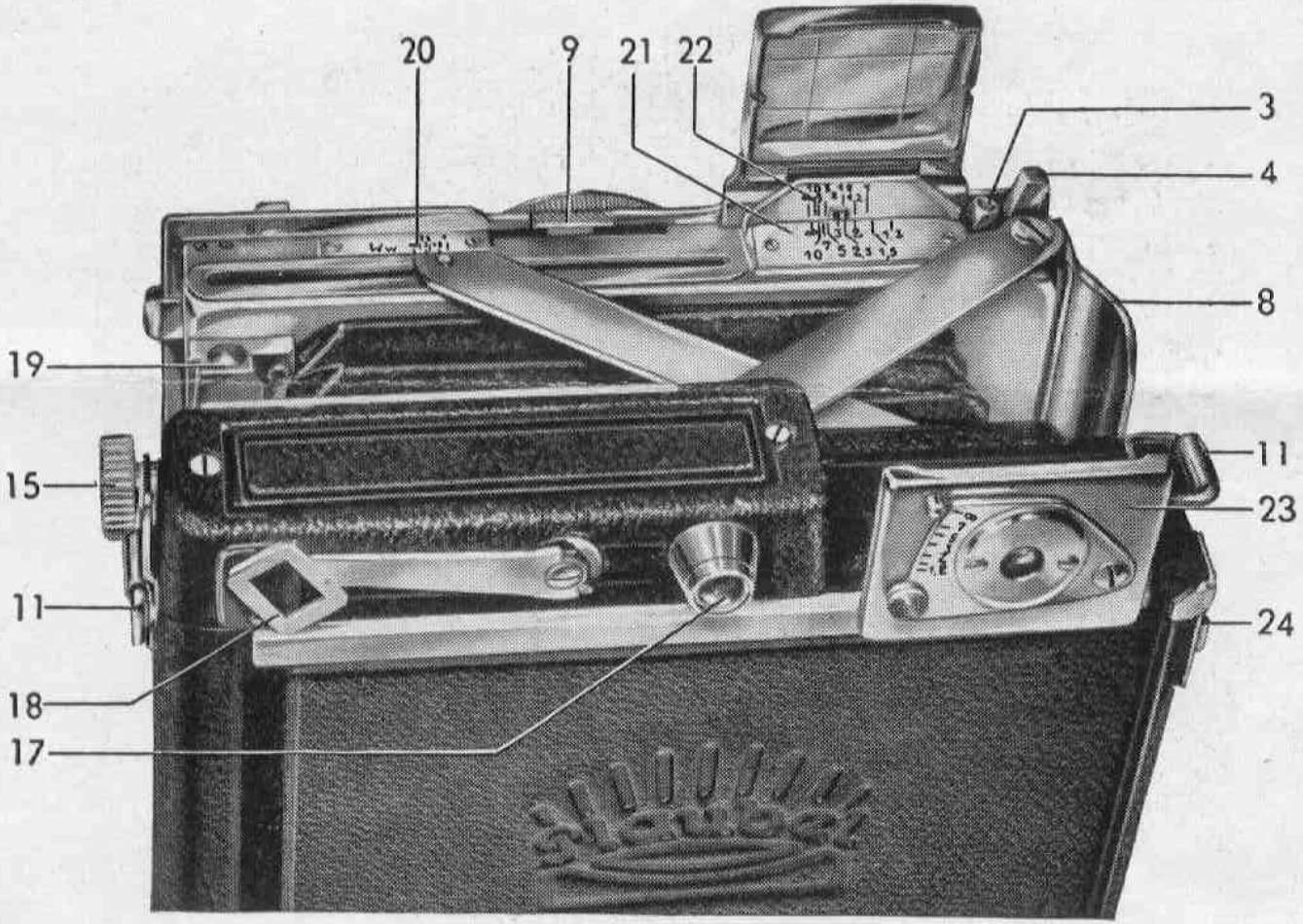
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Feinmechanik und Optik

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G.Schrader
Frankfurt a.M.


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1) Optical viewfinder-back
2) Optical viewfinder-front
3) Thread for cable-release
4) Release knob
5) Frame-finder
6) Ring for setting the exposure times
7) Ring for setting the stops (diaphragm)
8) Holding support
9) Grip to disengage the lazy tongs
10) Quick-change lens mount
11) Eyelets for shoulder strap
12) Lever for tensioning the Compur shutter
13) Stopper
14) Tripod bush
15) Focusing knob
16) Knob for setting M and X
17) Eyepiece of range-finder
18) Sight for frame-finder
19) Mounting piece for flash-equipment
20) Scale for Wide-angle Orthar 6.8/7.3
21) Scale for Anticomars 10 cm
22) Scale for Anticomars 10 cm when the focale-plane attachment is used
23) Optical viewfinder back with parallax compensation
24) Lock for plate holders.

To open the Makina

Hold the camera by its long side with the left hand and draw the front forward with thumb and middle finger of the right hand until the struts snap in audibly. Make sure that both the struts really click in so that the front is parallel to the back.

The Makina has snap-in positions, one for the shorter and the other for the longer extension. The short extension must be used when the Rapid-Wide angle - Orthar is employed, while the longer extension fits the Anticomar and the Tele Makinar. Make sure you have the correct extension for the lens you use. The rangefinder is designed for the longer extension and does not work with the wide-angle lens and the Tele-Makinar.

To close the camera

If camera has been set for near objects, turn indicator back to infinity. With the thumb and middle finger of right hand press the ribbed metal grips (9) on each side and push front back; first close Newton finder on the front and also the protecting cover with the lens on the back.

How to hold the Makina

Span holding grip (8) on camera front with **right** hand (thumb behind, index finger on the release knob, the other fingers in front) while the left hand holds camera with thumb and index finger by the focusing knob. At the same time press camera slightly against forehead. By this means the camera can easily be held quite steady and is always ready for action.

Focusing

On the left hand side of camera front is the focusing screw (15) by which the crossed struts are moved with the distance indicator over the scale (21) on right side of camera front. This scale gives the distance in meters or feet. The focusing knob is on the left side. As the

camera is held with the right hand the focusing knob can be turned even just before the exposure (the right index finger on the release knob) and the distance setting may be changed at the last instant (an important feature when children at play or animals have to be photographed).

Between the „infinity" mark and the 30 feet mark a special dot indicates the „hyperfocal distance" (near-distance dot) upon which the lens (at apertures between f : 5,6 and f : 11) should be focused to give the greatest depth-of-field possible. All objects from about half the hyperfocal distance to infinity will be sharp, that is, especially in the middleground which is important for most of the pictures.

The coupled range-finder

The range-finder of the Plaubel Makina is based upon the „coincidence principle", i. e. it contains 2 mirrors, one rigid and one adjustable, the latter of which is moved by the focusing device of the camera. When looking through the eye-piece of the range-finder you will see a rectangular image of yellowish colour and a small, round picture of white colour. By turning the focusing screw (on left side of the camerafront) the lazy tong struts of the camera adjust simultaneously the front plate and the movable mirror, so that the circular white picture moves over the yellowish one; when both pictures coincide the picture is correctly focused and absolutely sharp.

For using the range-finder, first pull out the Makina until both struts snap in position. Now pull out the nickled telescopic eye-piece of the range-finder and look through it. When the camera is set for „infinity", you will see that both pictures of the range-finder coincide for distant objects, whereas near objects will show 2 different pictures, side by side. By turning the focusing screw until both pictures coincide, you will get the correct distance and definition. Please

always keep in mind that the „sine qua non" of all range-finders is to look straight through the eye-piece, not obliquely (sideways).

For objects in motion the range-finder may also be used as a direct finder (though the angle of view is only about 1/3 of the whole angle of the picture shown on the plate or film), as in most cases instantaneous photos require only the main object focused. First set the Compur shutter to the exposure.

The range-finder of the Makina is coupled only to the Anticomars 1 : 2,9/10 cm and 1 : 4,2/10 cm, but not to the Tele-Makinar 1 : 4,8 and the Wide-angle Orthar 1 : 6,8. It is possible, however, to use the range-finder for these lenses also by measuring the distance and setting the distance found by using the metre-or foot-scale that is placed at the front of the Makina below the optical viewfinder. See particulars given with the various lenses and supplementary lenses.

Important! We wish to emphasize that all coupled range-finders are instruments of the highest precision and therefore sensitive to rough handling. The camera should be carefully handled and any hard knocks should be avoided. The nickel-plated holding screws should under no circumstances be touched, unscrewed or adjusted! If the range-finder or the coupling should be damaged the camera must be returned to the factory.

The Compur-Shutters of the Makina

The Makina cameras II, II S and III are equipped with the **Compur I** - shutter. The Makina III R has the new **Rapid Compur I** shutter.

The setting of the exposure time required is done by rotating the wide, bright rotary ring (6) surrounding the lens. To simplify the setting it has a setting mark on top as well as below. The values given are fractions of a second (e. g. 25 = 1/25 second) and the

exposure time indicated is obtained when the locating mark with the figure coincides with the white or black dot on the front-panel. When set to 1/200 or 1/400 a marked resistance will be felt and a little more force has to be used to turn the ring. This is quite in order as an additional spring is tensioned for these speeds.

Prior to exposure Compur shutters have to be cocked by pressing down the lever (12) on the right side of the camera front until it snaps in. After cocking this lever (12) runs home automatically into its original position.

For long time exposures as well as for the examination of the image on the ground glass screen, the shutter must be set to „T". When the release lever (4) or the cable release is pressed home the shutter opens and stays open until a second squeeze of lever (4) closes it. The setting „B" for short time exposures is different in that the shutter opens when the release lever (4) is pressed and closes the moment the pressure ceases. When set to „T" or „B" **the shutter must not be cocked** or it will be damaged!

Delayed action release (selftimer) for Makina II and II S.

Set shutter to the desired speed from 1 second to 1/100 second. It is important to note that the selftimer cannot be used without damage to the shutter when the latter is set to 1/200, T or B.

Push lever S down, now press with the finger on knob V and then press down with lever S a second time. Then trigger A is pressed down either with the finger or the cable release. After a delay of about 10-12 seconds the shutter will be released automatically. This delay allows the photographer to appear in the picture himself.

Makina III and III R

The shutters of these two models have no delayed

action release! Otherwise the instructions for use of the Compur Shutter hold true for these cameras too.

With one important exception concerning only the Makina III R:

The new Rapid Compur shutter has to be cocked even when set to „T" and „B"!

Stop-Adjustment. – An important feature: The Compur shutter set to 1 – 1/400 second can be opened without rotating the exposure-time setting ring in case you wish to have that famous „last look" at the focusing screen:

Cock the shutter in the normal way, but hold the cocking lever (12) down thus preventing it from sliding home, press button A and release lever 12. This lever now remains half cocked. Press release lever 4 and the shutter will open and will stay so.

To close the shutter, press lever 12 down again until it snaps in. The button A will then spring back and lever 12 slides back. Prior to the actual exposure the shutter has, of course, to be cocked again.

The shutter release lever (4) is placed in the right-hand top corner of the front panel. The shutter is released by a slow, steady pressure with the right index finger. To avoid camera shake it is vitally necessary to **squeeze** the release lever and not to press it with a jerk.

The cable release should be screwed into the threaded ferrule (3) at the side of the release lever (4). It is used for time exposures mainly.

The viewfinder

The Makina is equipped with a direct vision optical viewfinder, and, furthermore, with a frame-finder (which is always reliable and the most convenient of all). Both viewfinders are eye-level finders which automatically eliminates any lateral parallax.

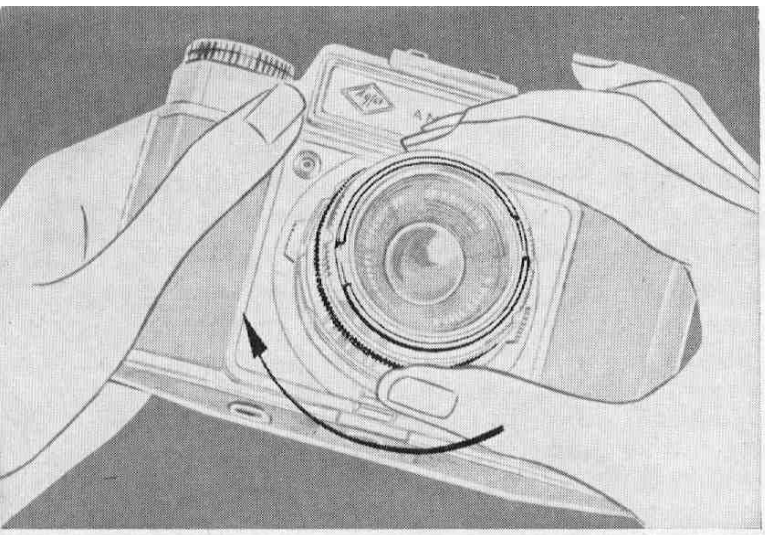


Fig. 4

Insertion without prior location

The lens is simply placed on the mounting ring of the camera (Fig. 3) and by means of the front, fixed milled ring rotated clockwise until a perceptible click is felt (Fig. 4). From this point only a small further turn in the same direction is needed, at the same time pressing the lens in against the camera, when the catch will engage with a decided click. Note, therefore, that the lens is not properly in place until the **second** click is heard. Fig. 5 shows the correct position.

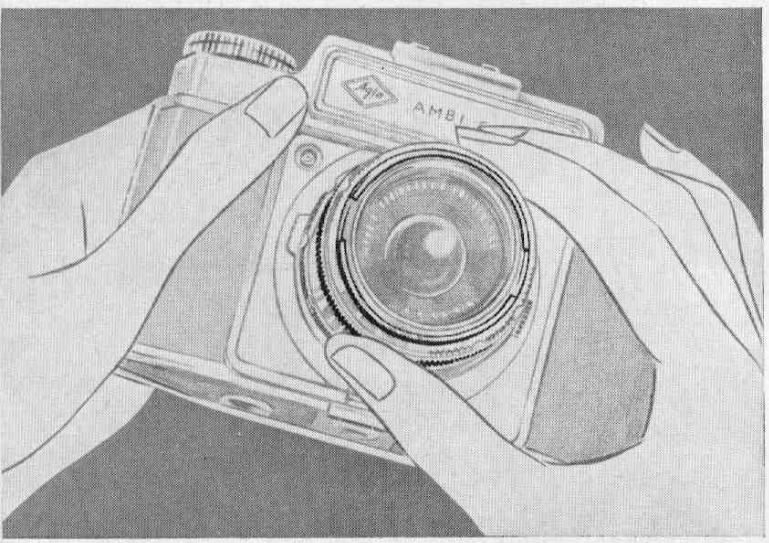
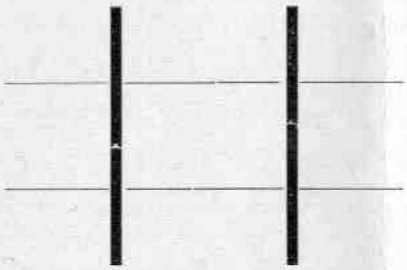
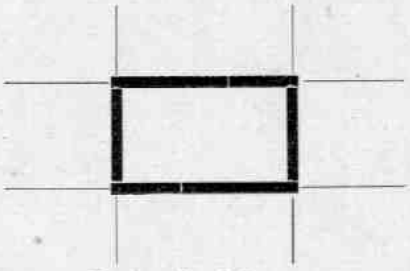


Fig. 5

Within the rectangular white lens of the optical viewfinder the size 4,5 x 6 cm (the full size divided into two halves) is clearly marked to simplify operations, as is the image field of the tele-lens also. The bold lines in the drawing below explain the markings. See also page 12.



Anticomar F : 10 cm
4,5 / 6 cm



Tele F : 19 cm
6 / 9 cm

Parallax compensation: The eyepiece of the optical viewfinder is attached to a revolving sector, which when elevated lowers the visor lens. At the end of the second is a distance scale that allows correct focusing of the image field – especially of close-ups. The revolving sector ensures the compensation for the vertical parallax.

Cassettes: The filmpack, roll film, and plate-holders must be inserted into the ground-glass screen frame in the usual way (prior to this remove the nickel-plated holding bar (24)!)

Plaubel Plate holders

Above the plush lining of the holder is a small lever which operates a vernier inside the holder; turn this lever up to the right then put the plate into the holder taking it by the thumb and middle finger of the left hand and pressing down the upper edge of the plate with the first finger, then turn the lever down to its closed position when the plate will be firmly fixed.

It is necessary, of course, to press home the plate sufficiently. It must be pushed underneath the supporting flange and not against its edges. Otherwise the plate-holder may be damaged or the plate crack.

The plate-holder should be pulled out of the camera by pressing the holder upward with the thumb of the left hand while pulling it out with the right hand.

Roll film holders are available for the sizes 6 x 9 cm (2 1/4 x 3 1/4 ins); 6 x 6 cm (2 1/4 x 2 1/4 ins) or 24 x 36 mm. As usual the 120 spool gives eight negatives 2 1/4 x 3 1/4 ins., eleven to twelve negatives 2 1/4 x 2 1/4 ins. and 16 negatives 4,5 x 6 cm (1 3/4 x 2 1/4 ins.) The 24 x 36 mm film holder is used with the normal miniature film cartridge for 36 exposures. Carefully study the instructions for use of rollfilm holders.

Filmpacks: The single film sheets in filmpacks are never completely flat like a glass plate. The distance of the various sheets from the front of the pack differs greatly with the various makes, and in some filmpacks the single sheets curve outwards, in others inwards.

To ensure a sufficient definition the lens should be stopped down to at least 1 : 5,6 and smaller.

Filmpacks must be handled with the utmost care, only the **narrow sides** should be touched. Pressure on the back or the safety sheet at the front will cause light to penetrate the pack before it is inserted into its holder. Filmpack holders should never be loaded in sunshine, always in the shadow.

The camera should not be opened when the shutter of the darkslide is pulled out. Although the Makina is fitted with efficient air ducts, suction of the bellows is unavoidable and makes the films curve when the dark-slide is open.

The tripod plate should be used when exposures have to be made from a tripod. The camera should be fixed to the plate with both its tripod bushes. The camera can then be screwed to the tripod in horizontal or vertical position by means of the tripod bushes in the tripod plate.

The Optical Outfit

In the Makina with rapid-change-mount the laminae of the Compur shutter are behind the lens.

The lens is a complete unit in a precision rapid-change-mount. The insertion or removal of the lens is done by a short rotation to the left or the right by gripping the lens mount at the wide milled edge just above the front plate. Do not use force when screwing in the lens! The rapid-change-mount ensures the lens having always its correct position mechanically as well as optically. It does not matter wether the stop-numbers engraved on the barrel are in a different place from that before the last removal. Each lens has its own iris-diaphragm which can be set to the stop-number by rotating the ring (7) until the notch coincides with the stop required.

The Anticomar 1 : 2,9/10 cm is an ideal lens for spontaneous work, especially for pictorial work in landscape and portrait photography. Where a graduation of subtile grey tones, a soft definition and a certain „plasticity" is required this lens is unsurpassed.

The Anticomar 1 : 4,2/10 cm is a lens yielding the highest possible definition and contrast and is the objective for the photographer of every - day task, news,machines,architectural details and reproductions. It is the lens of the press - photographer and the traveller.

The Tele-Makinar 1 : 4,8, f - 19 cm (7 1/4 ins.)
To mark the **different image areas** covered by the Tele-lens the white lens of the optical viewfinder shows the engraving mentioned on page 10 under „Viewfinder". The changing and the removal of the Tele-Makinar S does not differ from that of the Anticomar. On the front-panel of the Makina you will find a red triangle, and another red mark is on the diaphragm-

to the range-finder, but the latter can be used by measuring the correct distance between subject and camera. Then the lazy tongs are made to engage the catch spring provided for the wide-angle lens and the distance measured then transferred to the helical mount's distance setting. In this way good, rapid work can be done without using the focusing screen.

Supplementary lenses for close-ups

The supplementary lenses shorten the focal length and, also, the distance between camera and object. This results in a magnification of the image scale, so these lenses are mainly employed for the taking of small objects, for making reproductions of prints and pictures and for photographing small objects in their natural sizes. The focusing is done with the micrometer focusing drive of the Makina after the distance between camera and object has been established. When the Tele-Makinar is employed together with supplementary lenses the focusing mount of this lens can also be used. The stop-numbers of the original lenses (Anticomar, wide-angle lens, Tele Makinar) can be employed without alteration, as the equivalent focal lengths of the various lens-combinations will always be reset to the original focus length when close-ups are made.

When supplementary lenses are used it is advisable to stop down considerably to ensure a good definition at the edges. For the combination 1-7 and 11, about f : 8 should be chosen, while for the other combinations the lens should be stopped down to about f : 11 or f : 16 (see table).

All our supplementary lenses have a thread for screw-in filters so that the combination lens and supplementary lens plus filter is always possible.

With **lens T 1,5** (especially suitable for flowers, still

ring of the Tele-Makinar. In order to enable the photographer to read the stop-numbers from above it is recommended that the two red markings on ring and front-panel should coincide when the Tele-Makinar is inserted. However, should it be screwed in differently, no harm will be done. The Tele-Makinar as well as the Anticomar have their own iris-diaphragm that can be set in the usual way. On top of the lens barrel, stop numbers are engraved, and above them are placed the distances in metres or feet. These two scales together form a convenient depth-of-field-ring giving the correct depth of field for every aperture. The Tele-Makinar S employs the same catch spring as the Anticomar. It is semi – automatically coupled to the range-finder, which means that the distance is measured with the range-finder and then read off from the Anticomar-scale. The focusing device of the camera remains unaltered, but the distance measured is set on the Tele-Makinar, which has its own distance setting in its helical mount. For instance: The subject is 9 feet away from the camera. Measuring with the range-finder results in the Anticomar scale showing a distance of 9 feet. Now the Tele-Makinar 1 : 4,8/19 cm by virtue of its helical mount is also set to 9 feet, **without altering the distance setting of the camera.**

The Rapid Wide-angle-Orthar 1 : 6,8, f : 7,3 cm (2 3/4 ins.)

Owing to its short focal length a special catch spring for the lazy tongs of the camera is necessary (20). The Rapid Wide-angle-Orthar has its own iris-diaphragm and must be interchanged like the other rapid change-lens.

The correct image area is found either by focusing on the groundglass screen or by using a small slip-on cap with lens for the optical viewfinder. This cap is slipped on the viewfinder in such a way that the lens of the cap points toward the subject to be photographed. The Rapid Wide-angle Orthar is not coupled

life, portraits) photographs can be made at a distance of about 65 cm (2 ft 2") when the Anticomar is employed. The distance will be about 115 cm (46 ins.) when the Tele-Makinar is used instead. When taking portraits with Anticomar and T 1,5 it must be borne in mind that the distance is rather short and distortions cannot be avoided. Portraits in profile or semi-profile will be better than frontal pictures.

The **lens DIN** can be used for a distance of about 45 cm (16 1/4 ins.)

The **lens R 0,1** is for photographing small objects in their natural sizes. It is not recommended that the Tele-Makinar should be used for this purpose and the lens R 0,1 does not fit the Makinar therefore.

The mounts of the supplementary lenses T 1,5 and Din for the Makina have two threads in order to fit the outer-threads of the Anticomar and the Wide-angle-Orthar as well as the inner thread of the Tele-Makinar 1: 4,8, f - 19 cm. The lens R 0,1 can be screwed only into the inner threads of the Anticomar and the Wide-angle-Orthar.

Nr.	Lens Combination	Camera setting: Anticomar catchspring A Wide-angle catchspring W Tele: catch spring A	Position of the pointer on the equivalent feet- or metre-scale m	Approximate distance between objekt and groundglass screen cm	Greatest possible expansion of object cm	Approximate image scale in relation to actual size of object
1	T1.5 and Anticomar	A	∞	121	58.0×86.0	0.10
			1.5	76	36.0×54.0	0.16
2	T1.5 and Tele-Makinar	A	∞	127	26.5×41.0	0.21
			2	92	20.0×29.5	0.29
3	T1.5 and Wide angle	W	∞	119	97.0×14.3	0.06
			1	64	34.0×50.0	0.17
4	T1.5 and Wide angle	A	∞	36	14.0×21.0	0.41
			1.5	32	10.7×15.9	0.54
5	DIN and Anticomar	A	∞	60	26.5×39.0	0.22
			1.5	49	19.3×28.6	0.30
6	DIN and Wide angle	W	∞	59	36.0×54.0	0.16
			1	44	23.0×34.5	0.25
7	DIN and Wide angle	A	∞	30	10.7×16.0	0.54
			1.5	28	8.6×13.0	0.66
8	R 0.1 and Anticomar	A	∞	25	6.8×10.1	0.85
			1.5	24	5.8× 8.6	1.0
9	R 0.1 and Wide angle	W	∞	23.5	8.8×13 2	0.65
			1	21.5	7.1×10.3	0.82
10	R 0.1 and Wide angle	A	∞	21.2	5.6× 7 8	1.1
			1.5	20.5	4.5× 6.6	1.3
11	Wide angle alone	A	∞	41	16.6×24.5	0 35
			1.5	35	13.5×20.0	0.43

Filter	Subject matter	Filter Factor	Type of negative material	Makina I and II Order No:	Makina II S and III Order No:
Yellow, light	scenes with violent motion, portraits, landscapes	2	ortho	118	505
Yellow, medium	landscapes, snow	3	ortho	118/1	505/1
Yellow, strong	against the light, colours, still-life, paintings, landscapes and distant views	4	ortho	118/2	505/2
Orange	distant views, reproductions	5	ortho	118/3	505/3
Grreen	landscapes with distant views, against the light, snow, reproductions of paintings	3–4	pan	120	506
Red	distant views, night effects, reproductions	6–8	pan	120/1	506/1
Blue	photographs with artificial light (reducing red), reproductions	1.5	correct pan	120/2	506/2
Ultra-violet	high mountains (over 6000 feet) beaches in sunshine	1	correct pan	120/3	506/3

Plaubel filters

In order to obtain a satisfactory representation of colour in terms of grey tones a good filter is indispensable. We recommend the exclusive use of our Plaubel filters for which flatness and parallelism is guaranteed. They are made of Jena special glass stained in the mass and are in threaded mounts. Screwing the filters on the lens mount is the safest way of ensuring a correct optical fitting with the least loss of definition.

With our Plaubel filters (see the table on page 17) instantaneous exposures are often possible on account of the high speed of the Anticomar. With the „stronger" filters time exposures should be made and it is useful to stop down the lens to f : 11 or f : 16 to obtain a sufficient depth of field.

For our Makina with rapid-change-mount filters in a special mount are available which allow their employment for all our rapid-change-lenses. The inner thread fits the outer-thread of the Anticomar and Wide-angle Orthar, while the outer thread fits the inner thread of the Tele-Makinar 1 : 4,8, f = 19 cm.

Sun shade (lens hood)

The all-metal sun shade with its cylindrical tube (dead-black inside) protects the lens from reflections on the glass surfaces. It can be screwed on the lens either by its outer or inner thread. The Plaubel sunshade allows the insertion of Plaubel filters, supplementary lenses and Duto disks without the removal of the shade from the lens. Pressing down the latch on the tube and hinging off the ring exposes an inner thread in the fastening ring of the sunshade into which the filter or supplementary lens can be screwed. The tube is then swung back and the combination is ready for use.

Instructions for using the detachable focalplane shutter unit with the Plaubel Makina camera.

The focal-plane shutter unit is slid into the rails on the camera back in place of the usual dark slide. On its own back are provided a second set of rails, into which the dark slide, film-pack adapter, roll-film adapter or ground-glass screen can be fitted in the usual way.

Owing to the thickness of the shutter the extension of the bellows has to be altered to restore the correct distance between the lens and the film plane. A special catch spring can be supplied by the factory to serve this purpose. However, the focal plane shutter and the Wide-angle Orthar cannot be employed together on account of the two catch springs that can, of course, not be used simultaneously.

Focusing is done by the special scale provided when the focal-plane shutter is in use. This is usually placed over the top of the focusing scale for the Anticomar lens. In those cameras that have not been designed for use with the Orthar Wide-angle lens, it will be found at the moving end of the lazy-tongs focusing scale. The distance meter should not be used with the focal-plane shutter unit, though it may be used to read the distance of a subject on the normal Anticomar focusing scale, and the mount then altered to read this same distance on the special scale provided. The lazy-tongs must then be moved into the nearer position before exposure.

The alteration of the shutter speed is easily arranged by the plain knob. The latter is pulled out gently from the camera and turned to indicate the desired speed. The knob is then released, care being taken that the peg on its under side engages correctly in the appropriate hole below it. The shutter is released by a brief pressure on the protruding button.

When using the focal-plane shutter unit, it is naturally

Insertion by red dot location

A red dot will be seen on the inner mount of the camera and another on the rear face of the lens mount. Place the lens on the mount so that the two red dots (marked R in Fig. 6) come together: it is then necessary only to give the lens one short clockwise turn, pressing it against the camera the while, to engage it securely.

The small catch (see the short arrow, Fig. 2) must not be touched in either case.

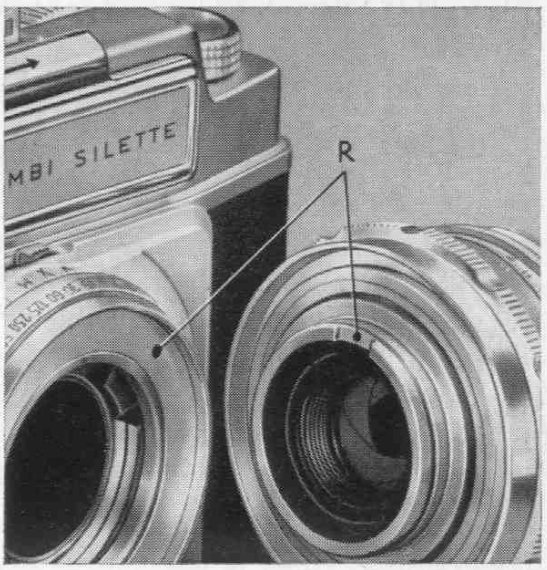


Fig. 6

The correct location of the lens on the camera can at any time be checked by a glance at the lens from above. The red index ④ (see Fig. 19, page 21) must always be exactly in the centre of the camera (over the optical axis). In any case if the lens has been properly inserted it will not be possible to turn it any further to the left.

essential to be sure that the Compur shutter of the Makina is set to „T" and open.

Flash mechanism

The flash mechanism consists of three different parts:

1. Rotary knob 2 and flashcontacts d on the front plate of the camera (Fig. 2)
2) Slide c (Fig. 1) to take the flashgun and
3) the flashgun (Fig. 3)

The actual flashgun (Fig. 3) consists of:

A Reflector
B Socket for flash bulb
C Sockets for two extension flashes
D Battery tube to take 3-U2 cells
E Support for clamping device
F Press button for shutter release via electro-magnet
G Cord with three-point plug
H Lock nut at lower end of battery tube.
I Strap lug.

a. Press button for stop adjustment
b. M and X adjustment
c. Slide for flashgun
d. Sockets for flash cord

There are two different kinds of flashlight:

a) with consumable flashbulbs. – The Makina has a built-in electro-magnet which ensures the synchronous opening of the shutter and firing of the bulbs up to 1/400 second. All flashbulbs with a delay of 16 to 19 milliseconds can be fired when the knob b on the front plate is set to „M". The electro-magnet works only when the shutter is cocked

properly! – Flashbulbs to use: G.E. and Mazda No. 5, 11, 22; Sylvania Press 25, 40, 50; Philips Pf 14, 25, 38, 60.

b) with electronic flash (strobe-or speedlamp). Modern speedlamps work **without** delay! The knob b has, therefore, be set to „X".

Consumable flashbulbs **without delay** can also be fired with setting „X" and 1/25 sec. Flashbulbs to use: Philips PFS, G. E. Speed Midget.

How to attach the flashgun to the camera.

Push the flashgun directly over the slide c (Fig. 1) hinge down clamping lever E 1 and fasten it thoroughly. Connect plug G (Fig. 3) with sockets d (Fig. 1 and 2). The electrical release of the synchronised shutter is done by pressing button F (Fig. 3).
The flashgun can be used separately from the camera if required in which case only the flash-cord is connected to the camera.

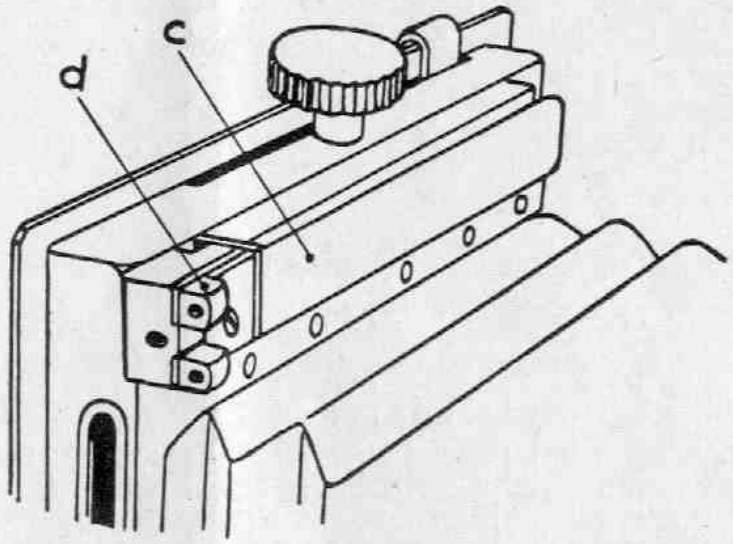


Fig. 1

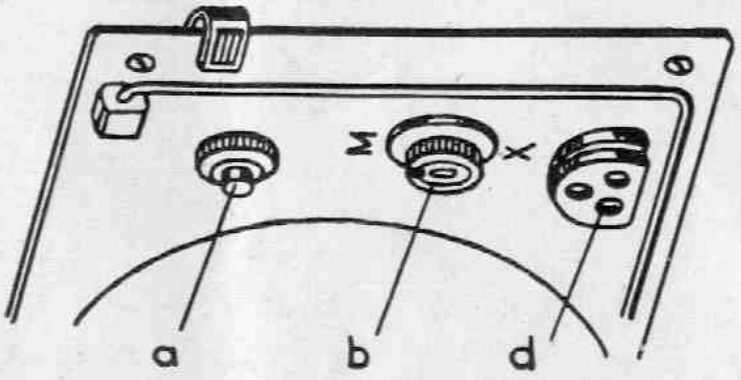


Fig. 2

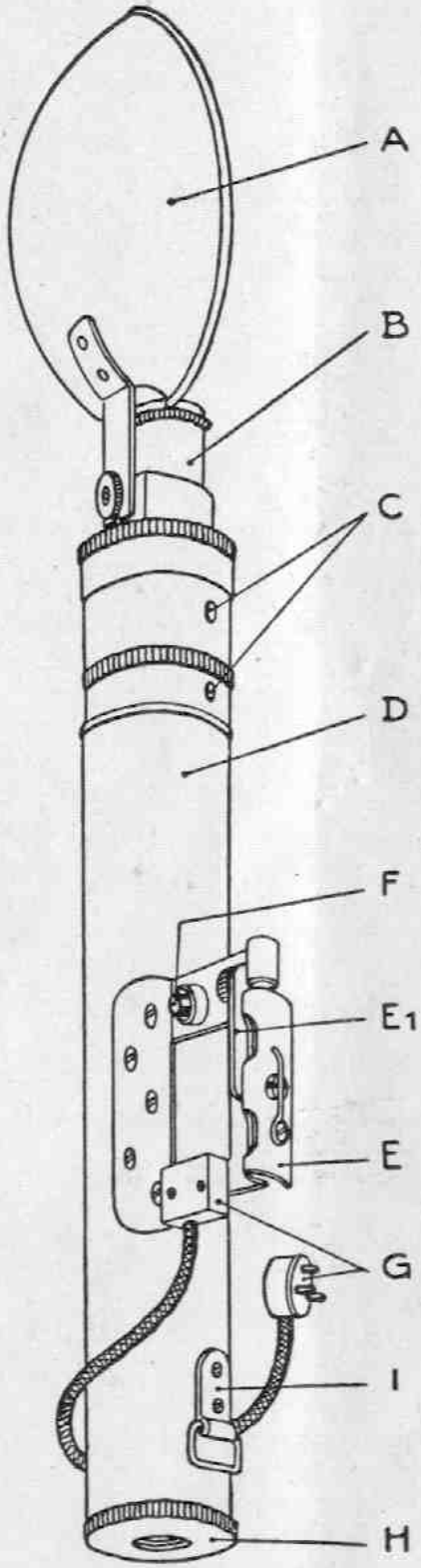
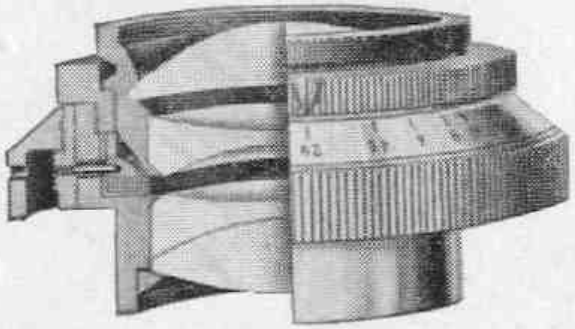
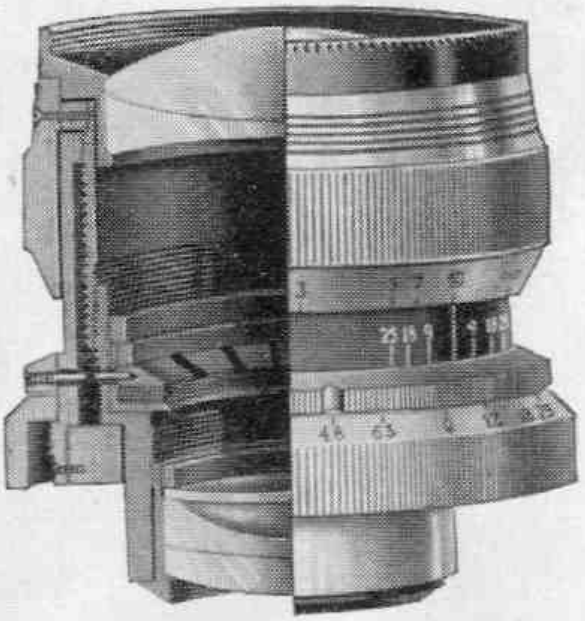


Fig. 3

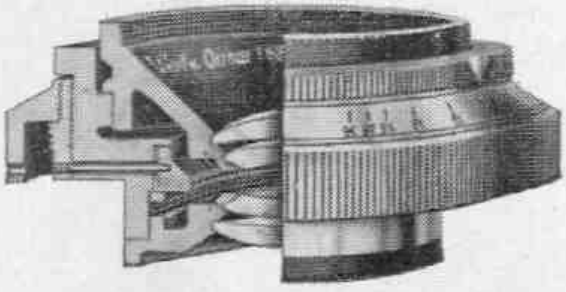
Makina-Lenses



Anticomar 1 : 2.9 f : 10 cm.



Tele Makinar 1 : 4.8 f : 19 cm.



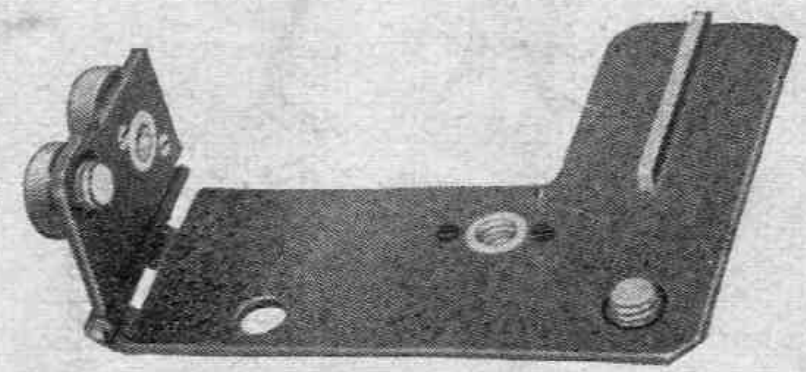
Rapid Wide-angle-Orthar
1 : 6.8 f : 7.3 cm.

Important recommendations:

1) Prior to firing the flash the shutter must be cocked.
2) Keep all electrical contacts scrupulously clean and dry.
3) Use fresh U2 batteries only, special flash batteries with at least a current of 3 amps are best.
4) Test batteries with 1/400 second as this exposure time requires the highest amount of current. If one single pressure on button F suffices to release the shutter the batteries are in working order.
5) The flashgun should be clamped firmly to the camera otherwise the electric connections may not be secure. The clamping screw should be firmly tightened.
6) Keep the caps of the flashbulbs dry otherwise they will corrode the contacts in the sockets. To ensure a clean metallic surface insert bulb in socket and rotate it a few times to and fro.
7) The socket B fits bulbs with ES-caps. When bulbs with A.S.C.C.-caps must be used an adapter (Order No. BE 1/13) should be employed.
8) To protect the lazy-tong mechanism from damage the Makina must be held firmly by the front plate when the flashgun is mounted or dismounted!
9) When using flashbulbs make sure to adhere to the instructions for use with regard to guide-numbers, delay and general operation.
10) For flashbulbs with a high current consumption or for the firing of more than 2 flashbulbs simultaneously employ 4 batteries and use extension-tube (order No. BE 1/20) for battery – container.



Battery capacitor inset



Tripod plate

Printed in Germany

Plaubel



Automatic Roll Holder

8 Exposures 2 1/4 x 3 1/4 or 16 Exposures 2 1/4 x 1 1/2
on Rollfilm No. 120 or B 2

Release the spring catch on the end and open the leather covered back to the left.

Pull out the film key and lock it in position by a slight turn to the left. Remove the film cage. (Fig. 1 shows the Rollholder open. Fig. 2 the film cage).

In the left section of the film cage there are two pin bearings, the upper one is hinged. Insert in this the full, unexposed, rollfilm in such a manner that the cover paper pulls from below, black side up. The right compartment has one fixed wing with a pin bearing and a hinged plate with a circular opening. In this compartment place an empty take up spool so that the slotted end faces the open circle.

Pull out the cover paper to the left about 8 inches, turn the paper round the left roller, and pass it over the flat side of the film cage. About 3 inches should then protrude beyond the right toller.

Replace the film cage in the rollholder-casing. This will cause the point of the cover paper to bend upward on the right. Insert the cover-paper point into the long slot of the empty film spool.

It is very important that the paper passes straight into the take-up spool, and does not scrape against the spool ends on either side. Upon the careful and well centered insertion of the cover paper depends the correct functioning of the film in any rollfilm camera and rollholder.

With **rollholders not having a film window** in the cover, turn the film with open cover so far that about

THE UNIVERSAL RANGE AND VIEWFINDER

When the protecting cover has been opened by pressing it in the direction of the arrow, on looking into the large, brilliant viewfinder of the Ambi Silette the fields of view for the three focal lenghts, 35, 50, and 90 mm., will be seen indicated by reflected frames. As already mentioned, these frames can be selected by means of a small slide ⑤ (Fig. 1) on top of the camera, regardless of which lens may be in the camera at the time. This enables the user to examine the subject successively as limited by the respective fields of view, and so to decide which focal length will be most suitable. The accompanying diagram (Fig. 7) indicates which reflected frame corresponds to each position of the slide. It should be noted that the corners of the largest frame (corresponding to the 35 mm. wide angle lens) remain visible even when the frame for the standard 50 mm. lens is reflected; this frame is emphasized by specially thick lines.

Users whose sight is defective are recommended to make use of an attachable correcting lens mount, which is obtainable on request.

The use of the circular rangefinding patch which also appears in the viewfinder is explained in the following section.

2—3 mm of the beginning film are visible. Then close the cover and put the counting wheel on 0.
After this turn the film - key and lock it in position (Nr. 1). Now the film is ready for the first exposure.
In order to prevent the film from going off from cover paper, which might be the case with films that are badly glued, it is advisable not to turn the film into position of Nr. 1 until shortly before the first exposure.

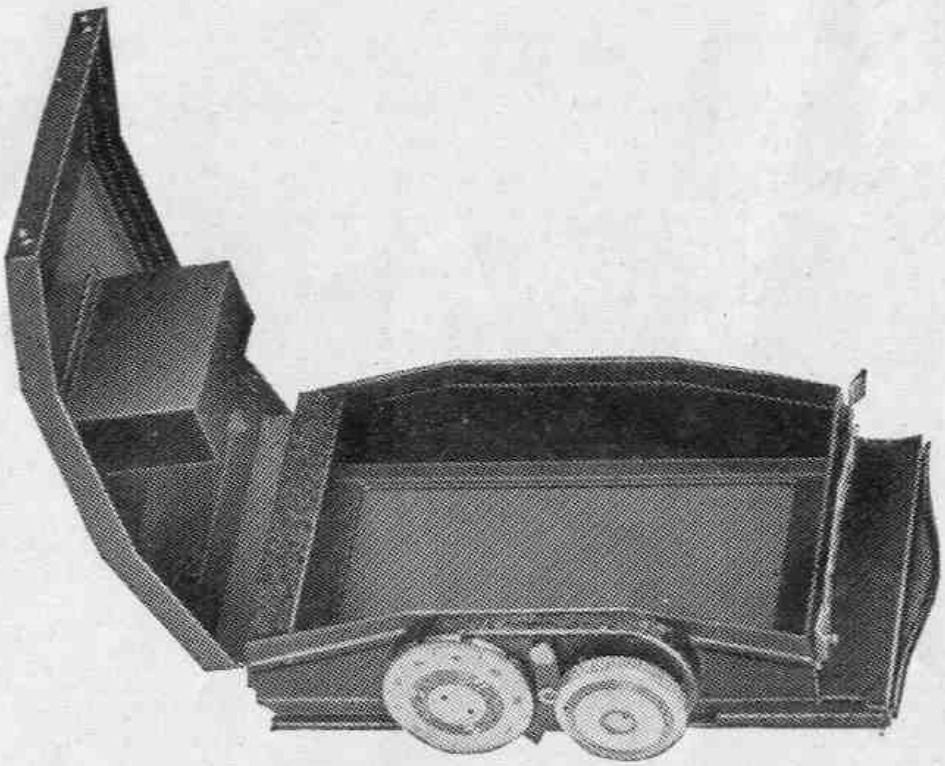


Fig. 1

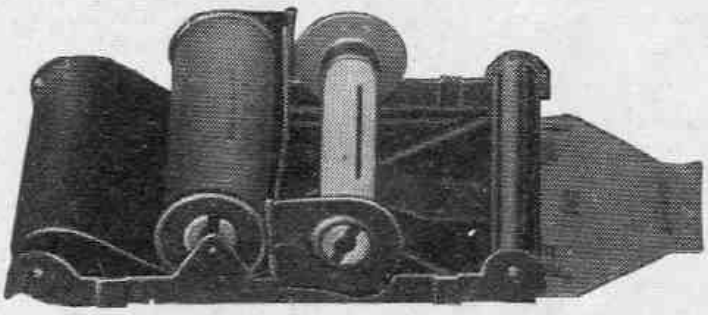


Fig. 2

The counting device of the rollholder is stopped automatically for all 8 exposures by the lever entering in holes of the counting wheel. In this position the film key cannot be moved. You must therefore release the lever by a slight pressure in the direction of the arrow, before you can give the above mentioned 2 or 3 turns to the key.

Rollholder with film-window

On the outside of the rollholder back is a specially shaped protective shield, to guard against fogging of Pancromatic film, while the red window is temporarily open. Do not bend this shield.

After releasing the film key by a slight turn to the right, and having it grip into the slot of the spool, give 2 or 3 turns, to ensure that the cover paper is secured to take up spool.

Close the cover of the holder, open the nickeled protective shield of the film window, and turn the key clockwise until the figure „2" which is printed on the cover paper is centered in the red window. During this manipulation the lever must of course be pulled back, otherwise the counting wheel would stop the movement by its holes as soon as one of the figures 1—8 appears opposite the index.

After you have centred figure 2 of the cover paper in the window, shut the protecting shield, as for the subsequent exposures it is unnecessary to look into the red window.

Now the counting wheel is to be set for exposure 1. This is done by pulling up the counting wheel a little, and turning it until the mark of figure 1 (Red) is exactly opposite the indicator; then set back the counting wheel.

Now the rollholder is ready for the first exposure.

After the first photo is made, release again lever for a moment, and turn the key until exposure 2 is stopped automatically by lever.

In the same manner every one of the exposures is wound forward by first pulling the trigger lever, and then winding clockwise until stopped. The counting wheel always shows which exposure is ready.

Besides the regular sized pictures $2^1/_4 \times 3^1/_4$, the rollholder also allows 16 exposures of about half this size. For this purpose a mask is to put into the holder, which is to be placed under the film cage, in the case of the rollholder in such a way that you see the white dot in the case through the hole in the right upper edge of the mask.

For these halfsized pictures the counting wheel is engraved with additional marks between the figures. For number 1 exposure proceed as usual, and set the indicator against the figure 1. For number 2 exposure it must be turned only until it is opposite the engraved mark between the figures 1 and 2; the third picture will then be No. 2 on the indicator, and so on.

Do not fail to release the lever when it stops at

the numbers as it does not stop at the intermediate marks.

After all exposures are made turn key until the whole of the cover paper is spooled. Open the back, withdraw the film key, fix it by a slight turn to the left, take out the film cage and remove the exposed filmroll.

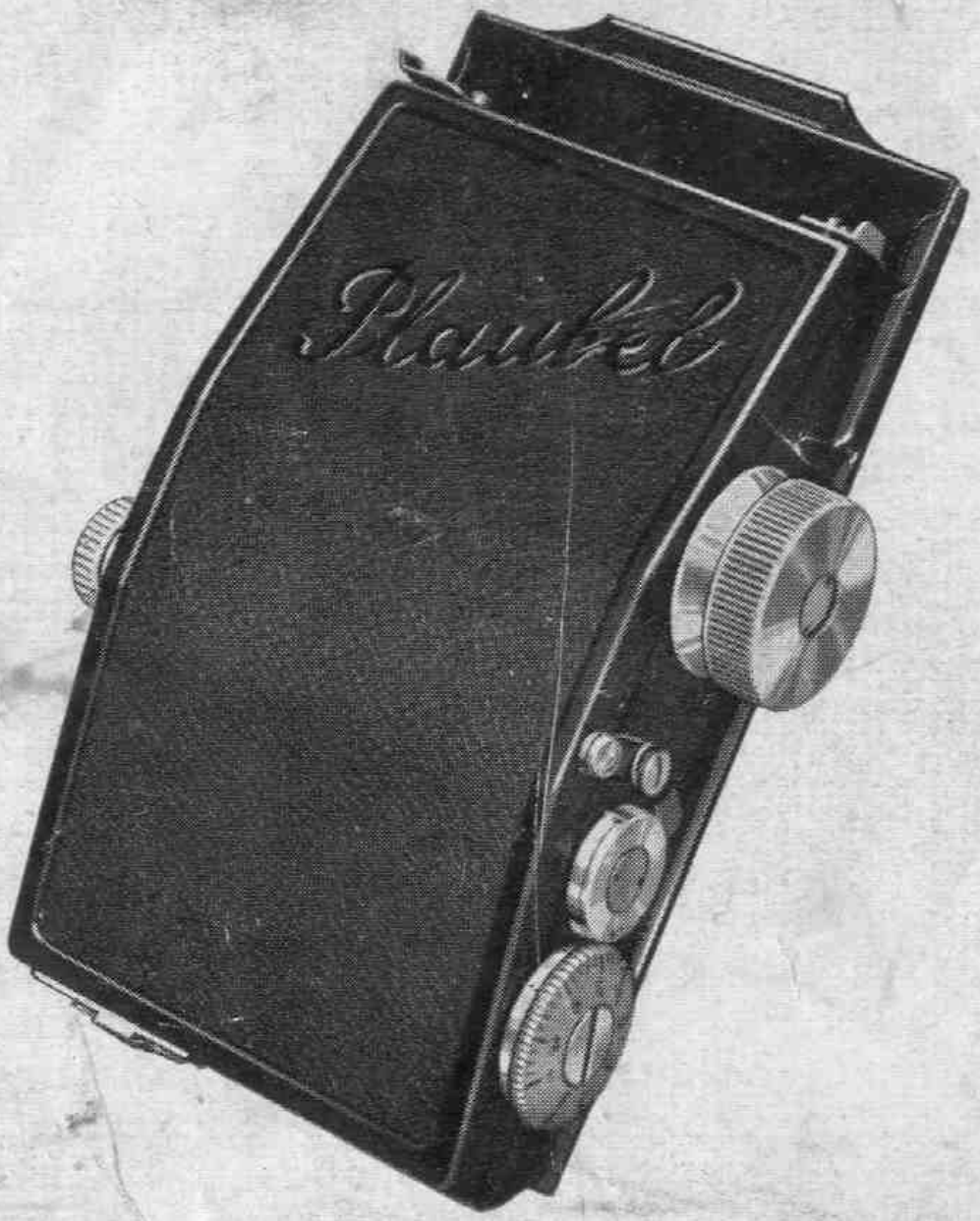
For viewing the halfsized pictures (about $2\,^1/_4 \times 1\,^1/_2$) a mask is furnished for the Newton finder of the Plaubel Makina.

Plaubel Feinmechanik und Optik
Frankfurt am Main / Gräfstraße 66

Printed in Germany.

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Plaubel



Instructions for using

the Makina miniature film adapter

(for negatives $1^1/_2 \times 1'' = 24 \times 36$ mm).

By using the miniature film adapter, taking the standard $1^1/_2 \times 1''$ (24×36 mm) negative, the range of use of the Makina camera is considerably widened. Moreover, it will be found that once the working of the adapter is thoroughly understood, its use is surprisingly simple, and that when the small negative size can be used interchangeably a considerable simplification is possible in a good many fields of photographic work.

The miniature adapter is similar in appearance to the Plaubel roll-film adapter and the film-pack adapter, and is opened by the two spring clips beside the grip for the dark-slide shutter. These clips engage on pegs, and after lifting them from the latter the back of the adapter can be swung open on its hinge.

The adapter itself consists of two principal parts: (1) the outer casing with dark-slide shutter, winding knob and picture counter, and rails fitting the camera back, as shown in fig. 1, and (2) the internal and detachable film-holder seen in fig. 2. To load 35-mm film in the adapter, whether monochrome or colour stock, it is necessary to remove the film-holder from the outer casing.

For this purpose, the rewind knob 5 is pulled outwards as far as possible, and then, by holding the film-holder at the metal rib between the full and empty spool-holders, it may be tilted slightly and raised out of the main casing. The holder for the film cartridge 7 is then opened, and the full cartridge of film placed in position. The cartridge must be placed so that the notch in the rewinding knob will engage in the corresponding peg of the core in the cartridge itself, which means that the "hollow" end of the cartridge faces the rewind knob 5. After closing the cartridge holder 7 once more, the end of the film is led over the guide rollers below the film-holder, and brought round to the take-up spool core 8, on which is a spring clip. The clip is used

to attach the film end to the empty core and the latter turned round once or twice to make sure that the film is firmly held. The film-holder is then replaced in the outer casing of the adapter, by lowering it obliquely first of all, and then pressing it flat against the picture mask of the outer casing itself. The rewind knob 5 is then pressed into its original position, and turned until its notched end engages in the peg of the core in the film cartridge. It is important that the film winding knop 4 also engages correctly with the take-up spool 8, and this is seen to as the film holder is lowered into its outer casing. Finally, the adapter is closed by swinging over the back 9 until the spring clips snap into place on their studs.

The film winding knob 4 is then turned twice until it locks. The picture counter 1 is then turned until the number "1" on it is against the small red dot on the disc 2. (It may be necessary to hold the disc 2 stationary when doing this.) The dark-slide shutter can now be withdrawn when the adapter is on the camera back, and the first exposure made.

After each exposure, the small locking lever 3 is moved over, and the film winding knob turned until the lever snaps back once more and locks the winding gear.

After 34 to 37 exposures have been made, and the film can no longer be turned forward, the upper portion of the film winding knob 4 is pulled slightly outwards to release the connection between it and the take-up spool, and held in the outer position with one hand. The other hand then rotates the rewind knob 5 on the other side of the adapter. The picture counter turns backwards with movement of the rewind knob, and when this counter ceases to move all the film has been rewound back into the film cartridge. The adapter may then be opened as before, and a new film put in the place of the exposed one under the holder 7.

FIG. 1

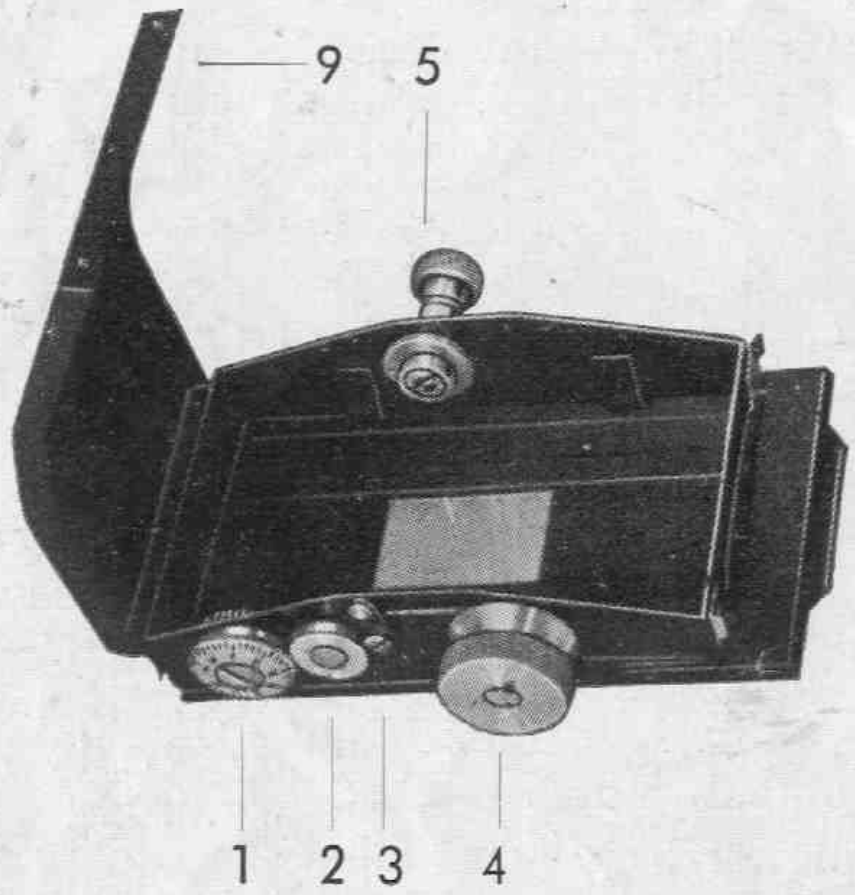
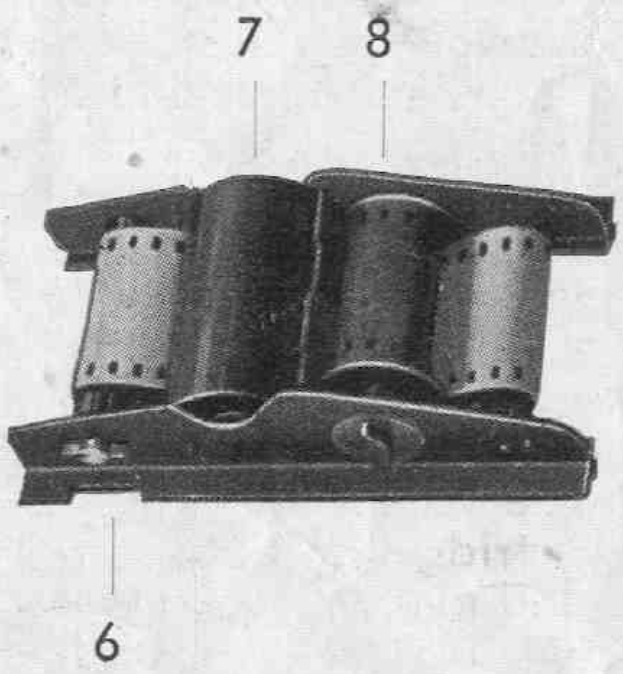


FIG. 2



In order that the correct field of the camera is indicated when the adapter is in use, a special mask is delivered for use with the f./2.9 Anticomar lens with focal length 10 cm. This mask is placed on the camera view-finder.

Universal view-finder set for miniature negatives.

This accessory consists of a lens engraved with the fields covered by wide-angle, standard Anticomar, and Telephoto lenses. It is placed over the normal finder lens in such a way that the supplementary glass with the engraved fields lies over the focussing scale on the camera.

SPECIAL NOTE: The Makina miniature film adapter taking $1^1/_2 \times 1$" (24 × 36 mm) pictures is primarily intended for use with the new types of colour films. Monochrome negative film can naturally also be used, but necessarily involves some difficulties on account of grain effects, and is thus less satisfactory for general use.

The following point should also be noted: a 15 × 10 inch enlargement from a miniature negative $1^1/_2 \times 1$ inch in size is equivalent to enlarging the $3^1/_2 \times 2^1/_2$" Makina negative to 35 × 25 inches, but the viewing distance for the latter is naturally considerably greater, and the grain effects will be less liable to be troublesome than in the 15 × 10 inch enlargement from the miniature negative that is seen from a shorter viewing distance. In each case the negative has been enlarged ten diameters, so that the grain effects have been treated identically, but the greater viewing distance required for the print from the larger negative has a marked effect on their appearance.

On these grounds, we strongly recommend that for monochrome negative work the standard negative size of the Makina model available should be used in preference to the miniature negative.

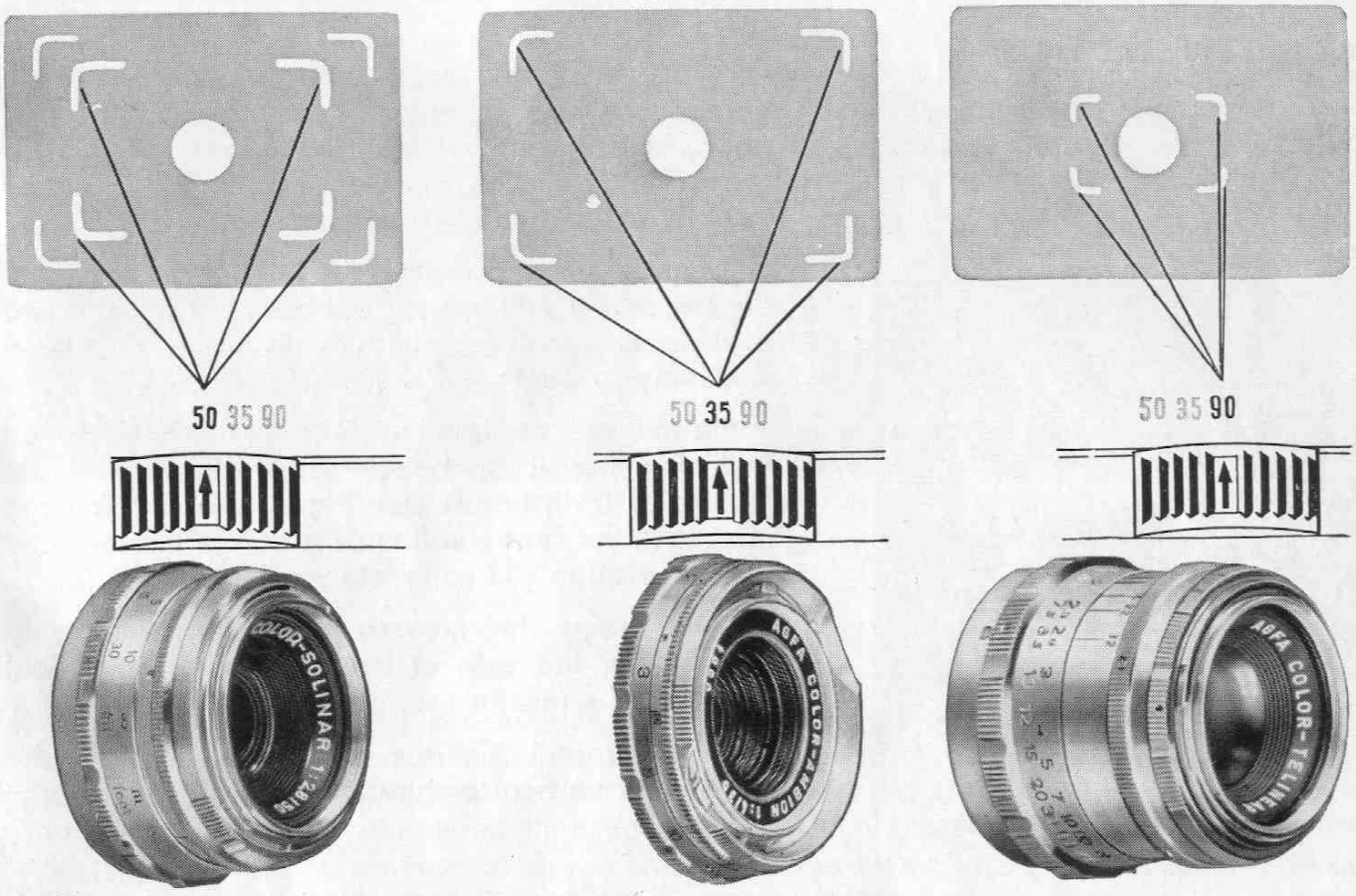

50 35 90
50 35 90
50 35 90
COLOR-SOLINAR
AGFA COLOR-ULTRALINAR
AGFA COLOR-TELELINAR

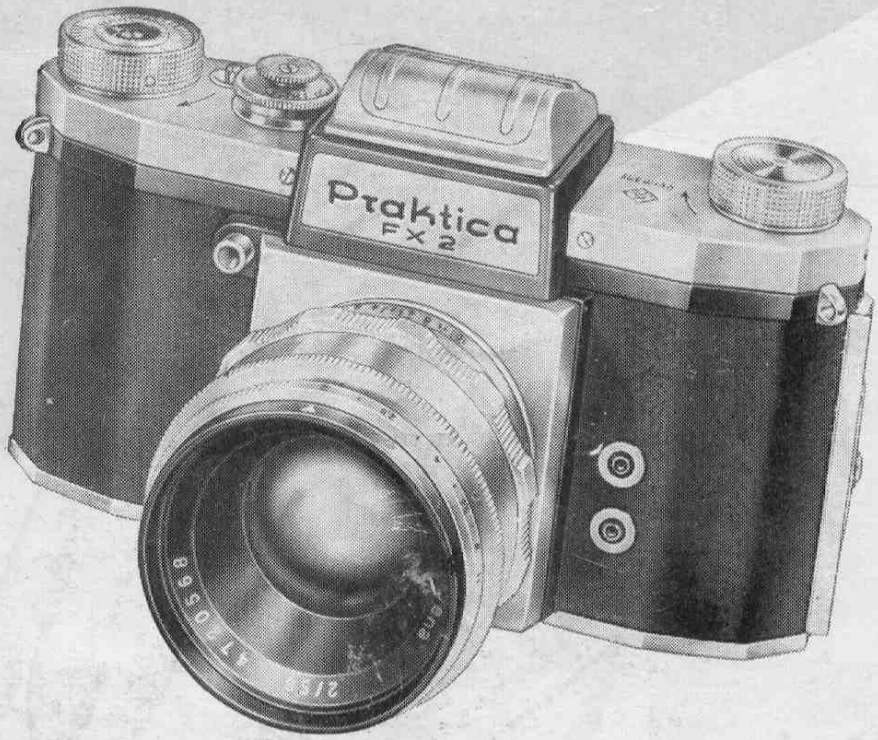
Fig. 7

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From the
Tele-photo
down to the
Micro picture



Praktica FX 2

35 mm Reflex Camera with Interchangeable Lenses

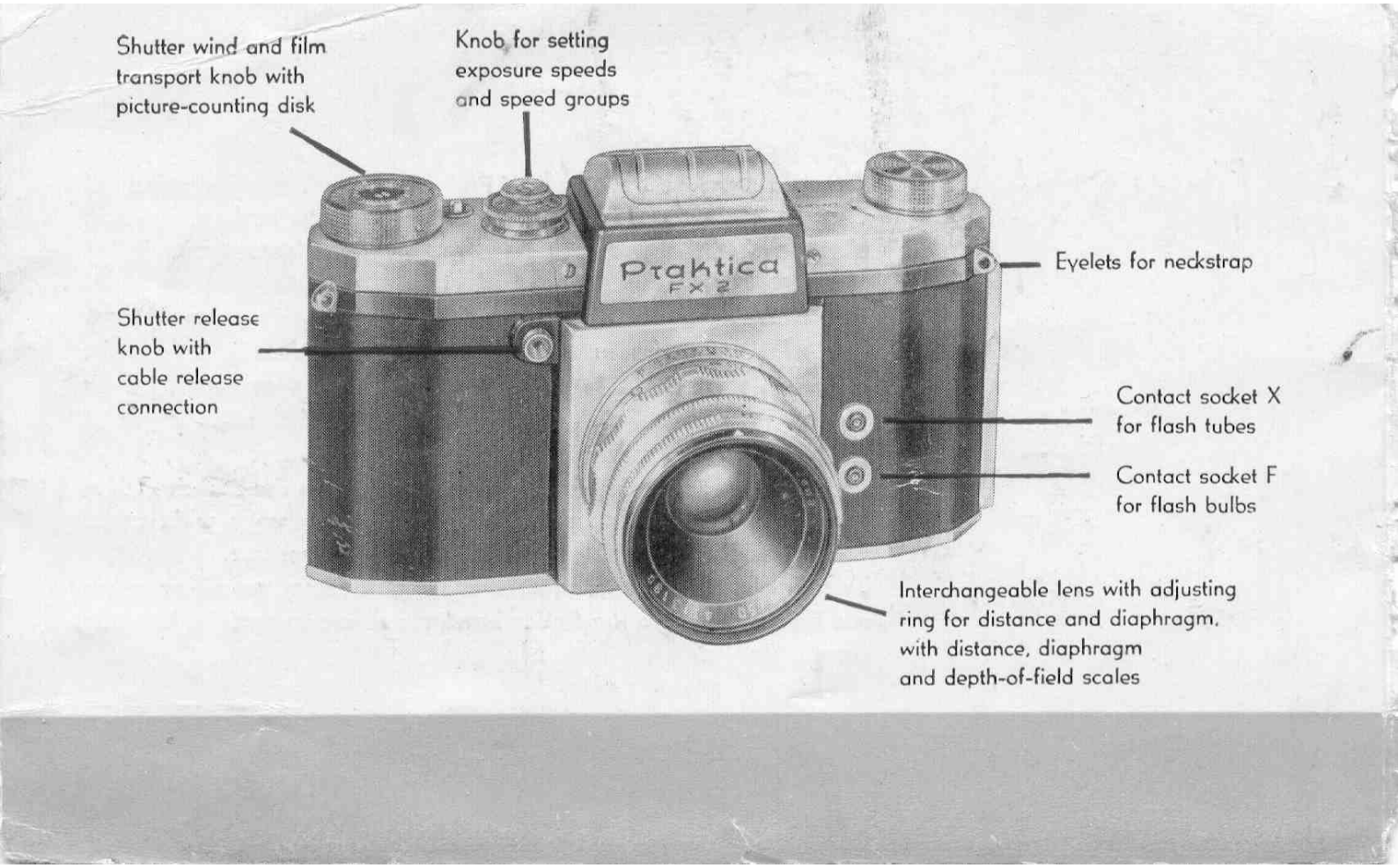
Dear Photo Friend!

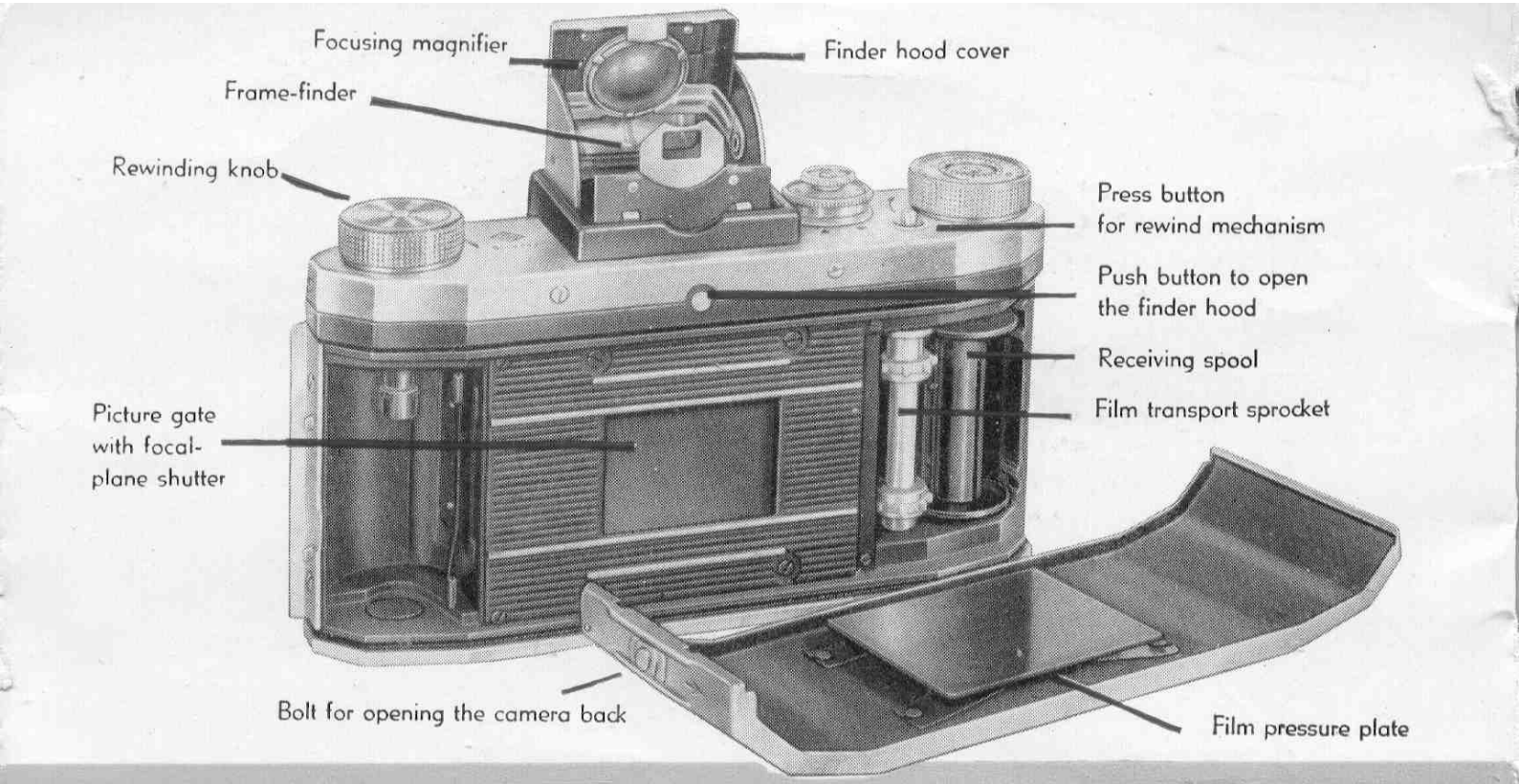
The miniature reflex camera "Praktica FX 2", a masterpiece of German craftsmanship, discloses to the amateur and professional photographer the extremely versatile and wondrous territories of photography.

The advantages of the single-lens reflex camera system become particularly obvious in the Praktica FX 2. Already before the exposure, the subject is visible, free from parallax error, in the ground-glass image, making it possible to predetermine depth of field and picture composition with utmost accuracy.

Interchangeable lenses of various focal lengths in the Praktica FX 2, some of them with automatic diaphragm, open up a wide range of applicability for tele-photo and close-up exposures.

To complete the finder system, a supplementary reversing prism can be inserted into the finder hood, revealing an upright, laterally correct image.


Shutter wind and film transport knob with picture-counting disk
Knob for setting exposure speeds and speed groups
Praktica
FX 2
Eyelets for neckstrap
Shutter release knob with cable release connection
Contact socket X for flash tubes
Contact socket F for flash bulbs
Interchangeable lens with adjusting ring for distance and diaphragm, with distance, diaphragm and depth-of-field scales


Focusing magnifier
Finder hood cover
Frame-finder
Rewinding knob
Press button
for rewind mechanism
Push button to open
the finder hood
Receiving spool
Film transport sprocket
Picture gate
with focal-
plane shutter
Bolt for opening the camera back
Film pressure plate

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Magnifying lens	
Frame finder	
Reversing prism	
The Film-feed Mechanism	18-20
Close-up Exposures	21-22
Photomicrography	23
Color Filters	23
Maintenance of the Camera	24-25

Technical Data

Lenses

35 to 500 mm focal length with speeds ranging from f/1.5 to f/8. All lenses are coated

Shutter

Focal-plane shutter $1/2$ to $1/500$ sec. and B, synchronized for electronic and regular flash

Finder System

Reflex finder with image field lens and magnifier for critical focusing (free from parallax)
Built-in sports finder
Insertable reversing prism

Film Transport

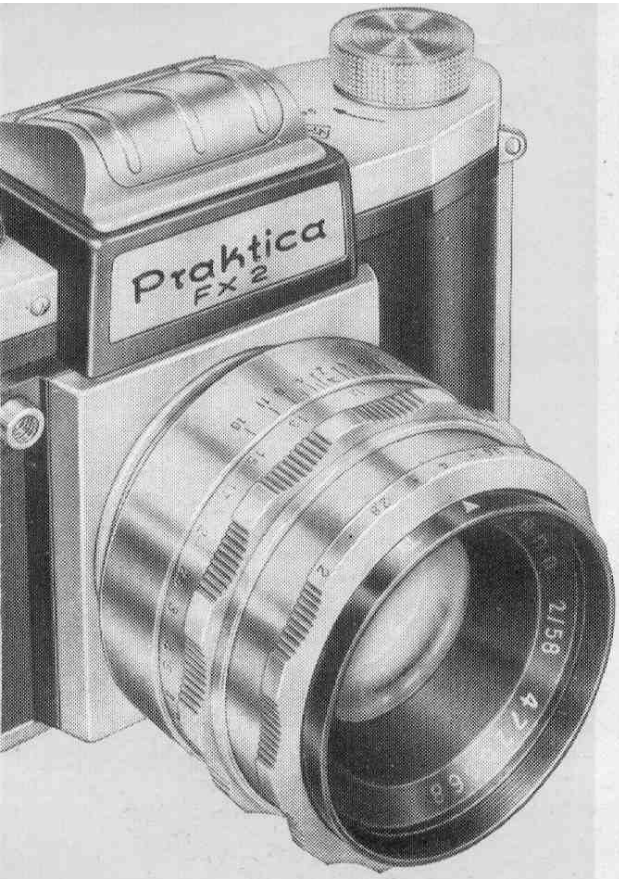
Coupled with shutter wind, no unintentional double exposures or blanks

Weight

620 grams, without lens

Dimensions

15 x 8 x 4 cm ($6 \times 3\frac{1}{4} \times 1\frac{1}{2}$ ins.)



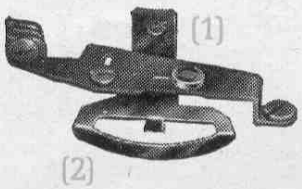
The Lenses

The *Praktica FX 2* may be used with normal or special-type lenses with focal lengths from 35 mm to 500 mm and with speeds up to f/1.5, hence making it possible *to penetrate into practically any sphere of photography.*

All the lenses are easily interchangeable by means of their threaded mounts. It is advisable, before changing the lens, to release the camera shutter, so that the mirror, a very sensitive element, will be protected from damage. Any unclean spots on the anti-reflex coating should be removed only with a soft, perfectly clean and grease-free brush. In case there is a film in the camera during lens change, take care to protect the opening from glaring light.

The Pre-setting Diaphragm

When exchanging lenses with the diaphragm pre-setting device, make sure that the pressure lever (2) always rests against the rear stop. If necessary, push it to the rear stop with your finger tip. Should the camera be equipped with an automatic pre-set lens, the arresting knob (1) with the red dot has to be moved to the left (looking at the camera from the front).



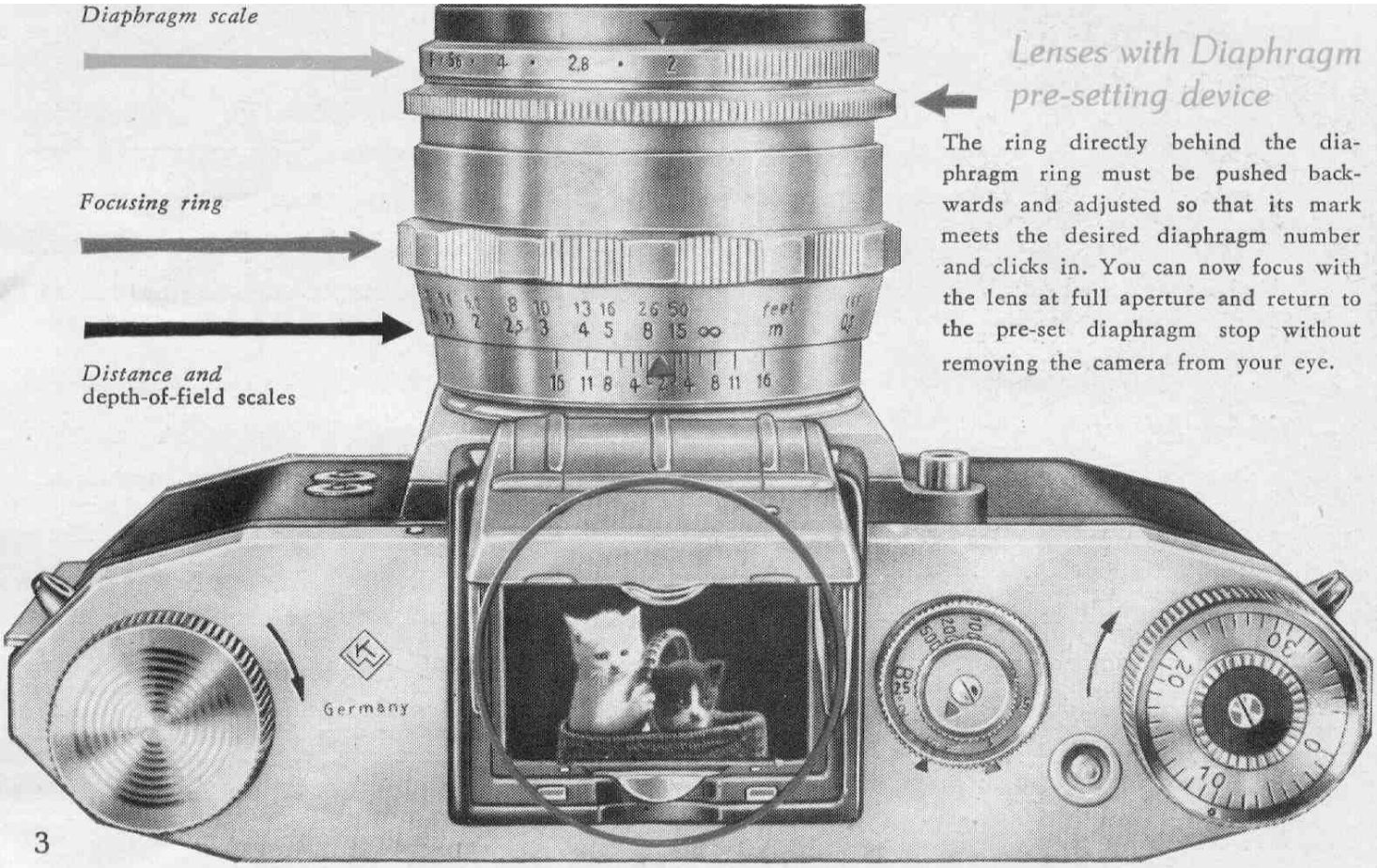
Focusing

is performed by means of the distance-setting ring on the lens mount. This ring has to be turned to the left, or to the right, until the image on the ground-glass screen appears perfectly sharp. During focusing, the lens should be set at full aperture. When using the sports finder, you may either focus beforehand on the ground-glass, or set the distance adjusting ring to an estimated, or measured range.

The Diaphragm

is adjusted by means of the diaphragm ring. The small numbers indicate wide lens apertures, whereas the large diaphragm numbers refer to the smaller apertures. The volume of light entering the camera through the lens can be regulated by the diaphragm. Large diaphragm apertures permit short exposure speeds, small apertures require longer speeds. The next diaphragm number upwards on the scale makes it necessary to double the exposure time.

Besides, the diaphragm is a primary means of regulating the depth of field in relation to the various distance settings, as may be seen from the chart on page 7.

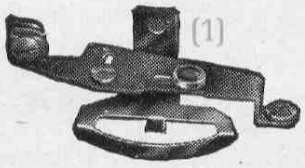


Lenses with Diaphragm pre-setting device

The ring directly behind the diaphragm ring must be pushed backwards and adjusted so that its mark meets the desired diaphragm number and clicks in. You can now focus with the lens at full aperture and return to the pre-set diaphragm stop without removing the camera from your eye.

The new Automatic Diaphragm

For lenses with automatic diaphragm, the Praktica FX 2 has been equipped with a special release mechanism. Lenses of this type offer a considerable facility with regard to readiness for action owing to the fact that the diaphragm closes down automatically to the pre-set stop. Remove the lens from the camera, and the release mechanism for the automatic diaphragm becomes visible inside the camera front. This mechanism has to be disconnected if other lenses than those with automatic diaphragm are to be used (1).



For lenses with automatic diaphragm, the mechanism is put into working position by pushing the red-marked knob to the left.

To wind up the automatic diaphragm, turn the front tensioning ring on the lens mount as far as it will go to the right. The aperture selected for the exposure is adjustable on the same ring by means of a locking device either before or after the shutter is wound up.

Meyer lenses with automatic diaphragm need not to be wound up. Intermediate tubes to be used with automatic lenses must be marked "2".



RANGE FINDING

The rangefinder is automatically coupled to whichever lens is in position. Range-finding is an extremely simple operation, and is carried out as follows: A glance through the viewfinder eyepiece will reveal that in the middle of the field of view there is a brighter circular patch.

Fig. 8



This central image, which is the part used for range-finding, will at first appear double, consisting of two overlapping identical images laterally displaced relatively to one another (see Fig. 9).

If the milled focusing ring ⑪ (Fig. 1) is now moved with the index, or better still, with the middle fingers of both hands (see Fig. 8), the overlapping images in the centre will approach one another and at one position will completely coincide (Fig. 10).

At this point the camera lens is automatically focused on the subject irrespective of the focal length of the lens in use.

With horizontal pictures the images move side-ways, with vertical pictures, up and down.

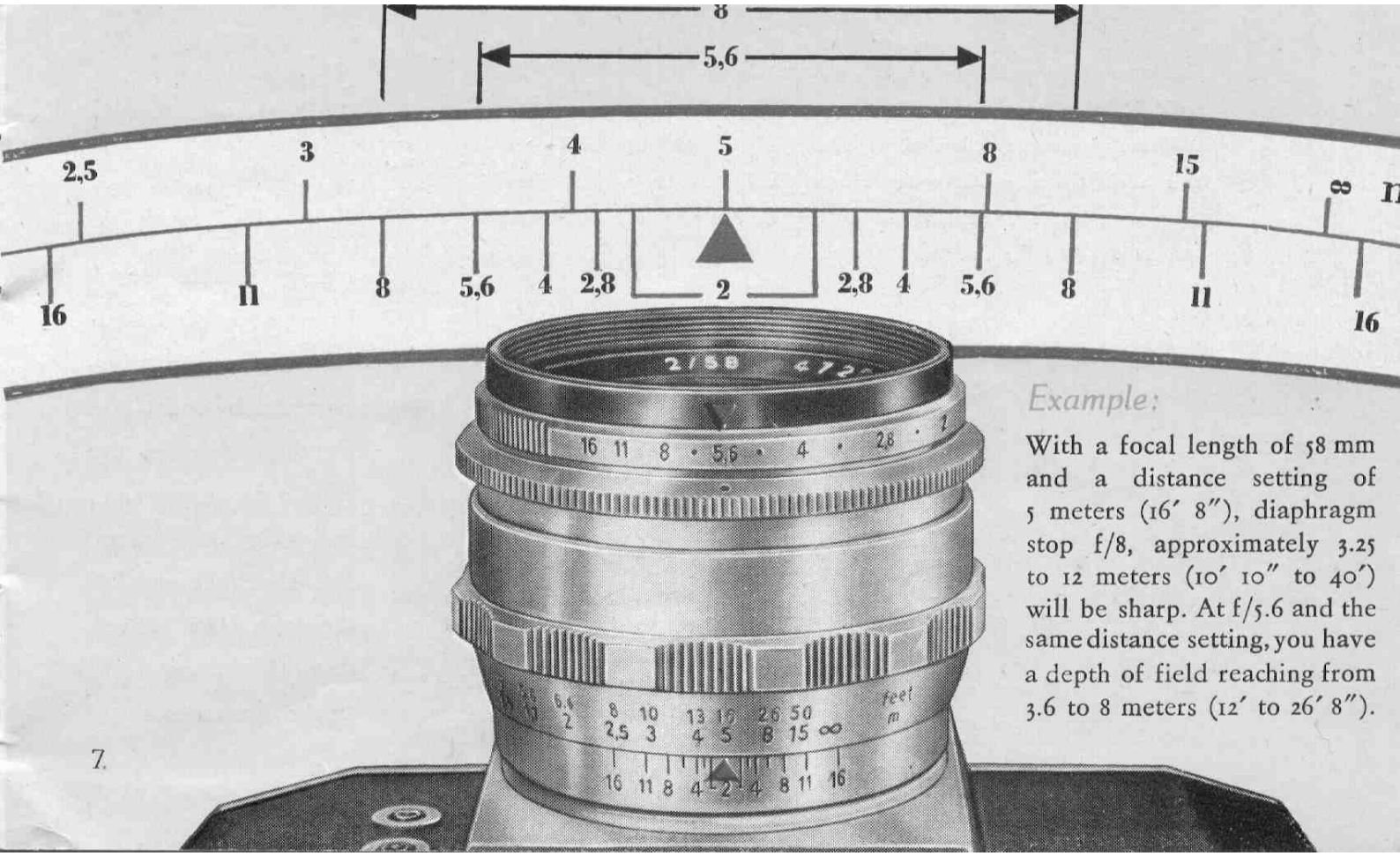
The distance scale

on the Praktica lenses is not of primary importance, focusing chiefly being performed on the field lens. You may, of course, compare the distance on the scale.

This distance scale gains greater value in connection with the parallel-running depth-of-field scale which indicates the range of sharpness pertaining to the various settings.

Diaphragm and depth of field

The extent of the depth-of-field is shown, for every diaphragm stop and distance setting, on the depth-of-field scale. The part of the image within the range of the two identical diaphragm numbers indicating the selected lens aperture on the depth-of-field scale will always be sharp. The left-hand numbers signify the depth of field in front, and the right-hand numbers the depth of field at the back of the focal plane.



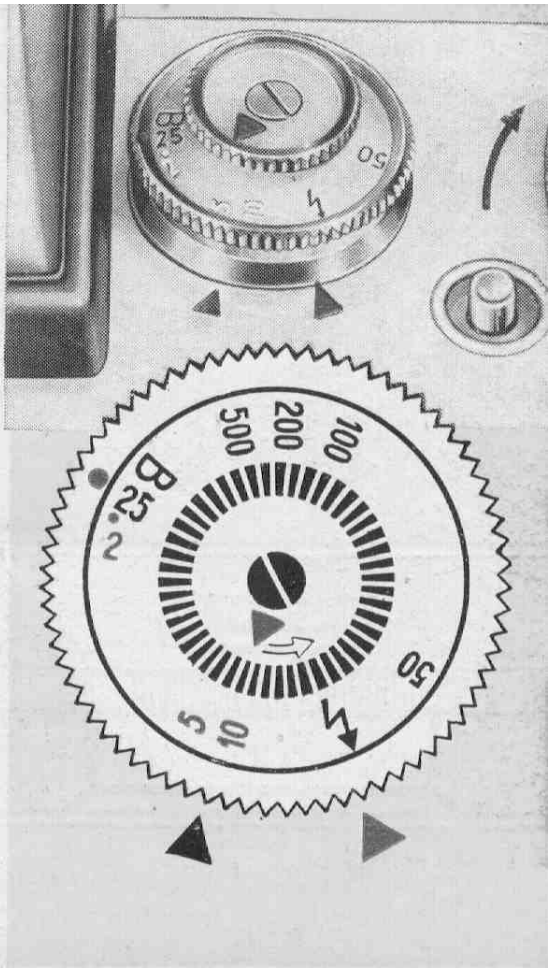
Example:

With a focal length of 58 mm and a distance setting of 5 meters (16′ 8″), diaphragm stop f/8, approximately 3.25 to 12 meters (10′ 10″ to 40′) will be sharp. At f/5.6 and the same distance setting, you have a depth of field reaching from 3.6 to 8 meters (12′ to 26′ 8″).

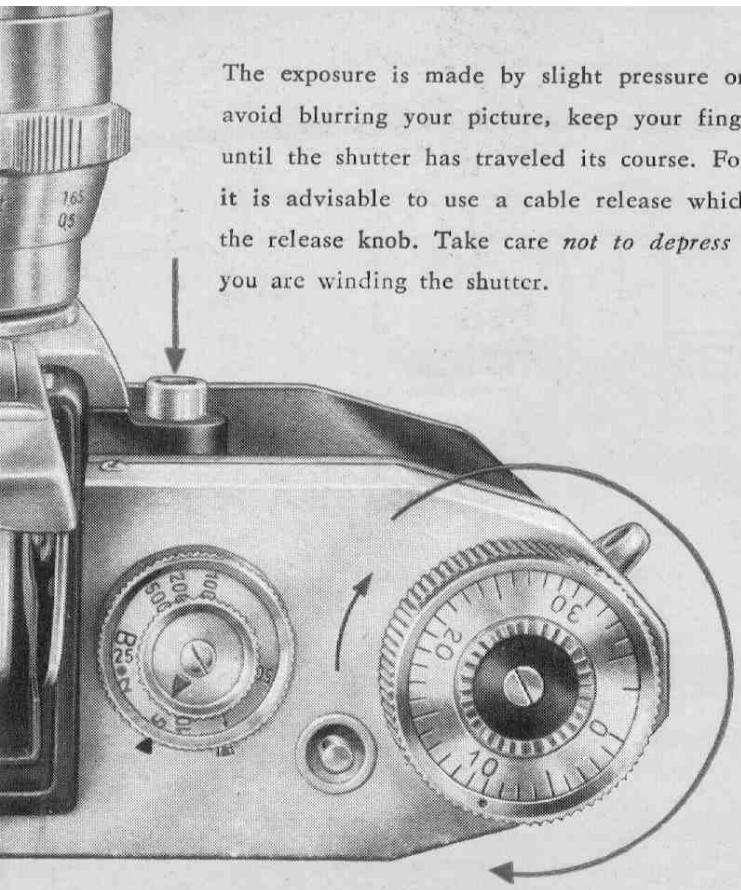
Setting the shutter speeds

The duration of the exposure is set by means of the speed-setting knob and the milled disk on top of this knob. There are black numerals on the knob marking the short speeds ($^1/_{500}$ to $^1/_{25}$ sec. and ϟ $-^1/_{40}$ sec.) and red numerals marking the longer speeds ($^1/_{10}$ to $^1/_2$ sec.), and "B" for any desired length of time.

For short speeds, the red triangle on the milled disk must point towards the black triangle on the camera top, whereas for longer exposures, the red triangle on the disk has to stand opposite the red triangle on the camera top. "B" exposures should be made with the disk set on the short speeds.



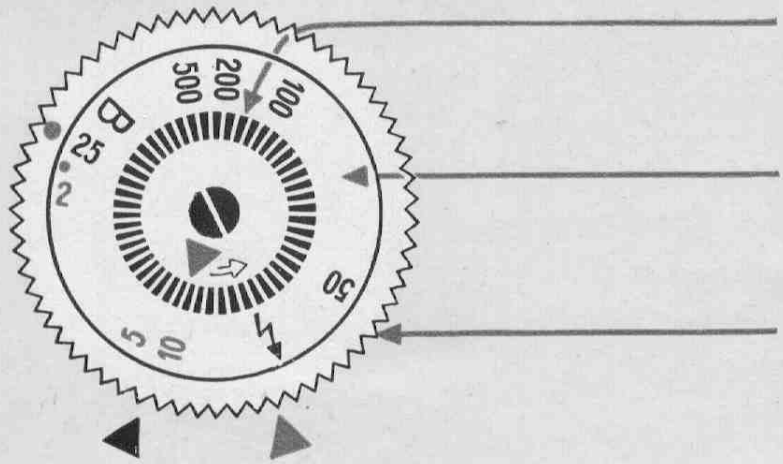
The exposure is made by slight pressure on the release knob. To avoid blurring your picture, keep your finger on the release knob until the shutter has traveled its course. For longer time exposures it is advisable to use a cable release which may be screwed into the release knob. Take care *not to depress* the release knob while you are winding the shutter.



One complete clockwise rotation of the film transport knob as far as it will go, cocks the shutter and advances the film to the next frame.

Shutter and film transport

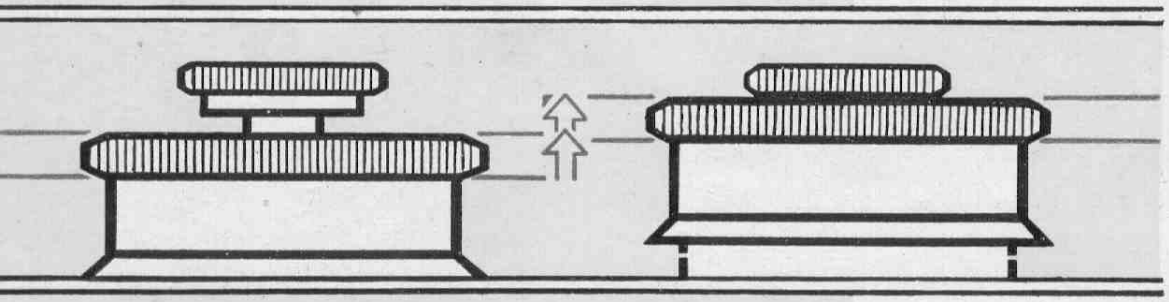
in the Praktica are coupled, hence eliminating double exposures and blanks. A turn of the film transport knob cocks the shutter, advances the film to the next frame, and swings the mirror into the light path of the lens. The picture counter moves one stroke further on.



Milled disk with red triangle for setting the shutter to long or short speeds.

Speed-setting knob with engraved numerals for "B", $1/2$ to $1/10$ second and $1/25$ to $1/500$ second and ϟ.

Outer ring (to be lifted) of the speed-setting knob, with red marking dot.



To set the exposure speed, the outer ring of the speed-setting knob, with the red marking dot, has to be lifted and rotated until the red dot rests next to the desired number. $^1/_2$ second and $^1/_{25}$ second click into the same rest hole.

With the shutter set at "B", you are at liberty to expose for any length of time. The shutter remains open as long as you depress the release knob.

The speed may be set either before or after winding the shutter.

Setting the shutter speeds in the Praktica FX 2 – brief summary of main points

Short instant speeds

Red triangle on milled disk stands opposite black triangle on camera top. Setting for speeds from $^1/_{25}$ to $^1/_{500}$ second, for ϟ and "B".

Long instant exposures

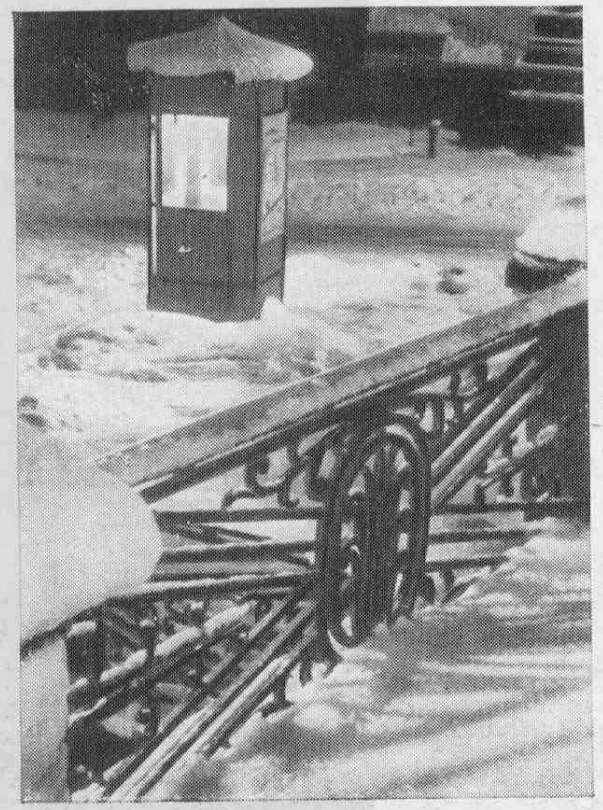
Red triangle on milled disk stands opposite red triangle on camera top. Setting for $^1/_2$, $^1/_5$ and $^1/_{10}$ second.

Time exposures

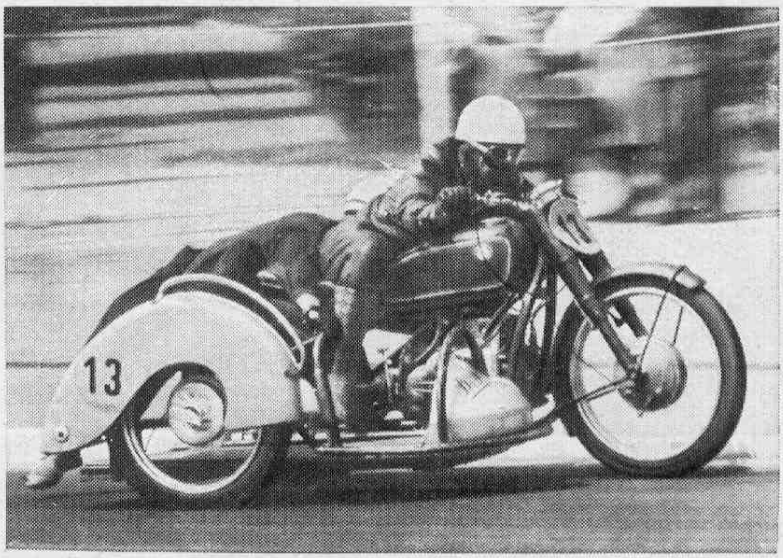
To make exposures at the "B" setting, the red triangle on the milled disk may point either to the black or the red triangle on the camera top.

Long time exposures

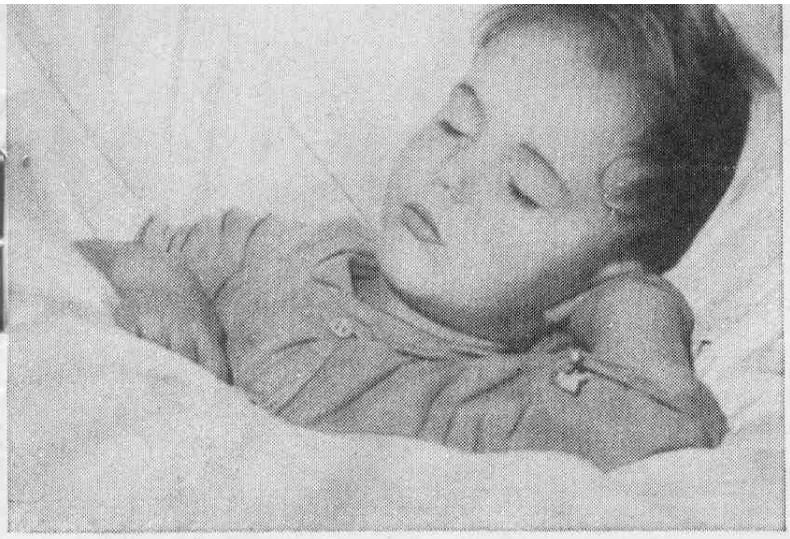
These are made with the "B" setting. The shutter is actuated by means of a special cable release.



Nocturnal – long time exposure



Rapid movement – short instant exposure



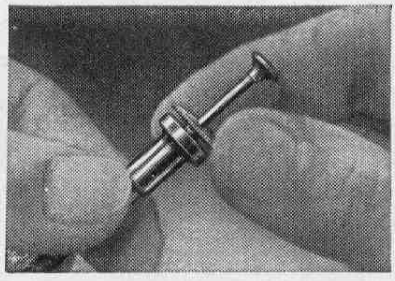
Almost motionless – long instant exposure

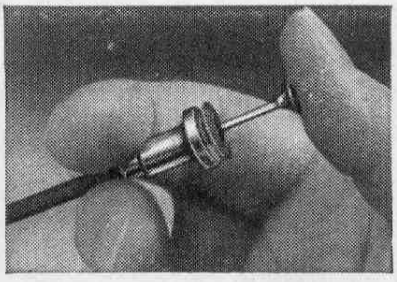
The special cable release

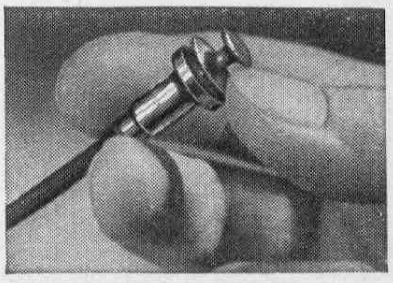
The special cable release permits exposing for any length of time. The shutter having been set at "B", you depress the release plunger, thereby locking the little knurled plate and keeping the shutter open. By slight pressure on the knurled plate it becomes unlocked, followed by closing of the shutter.

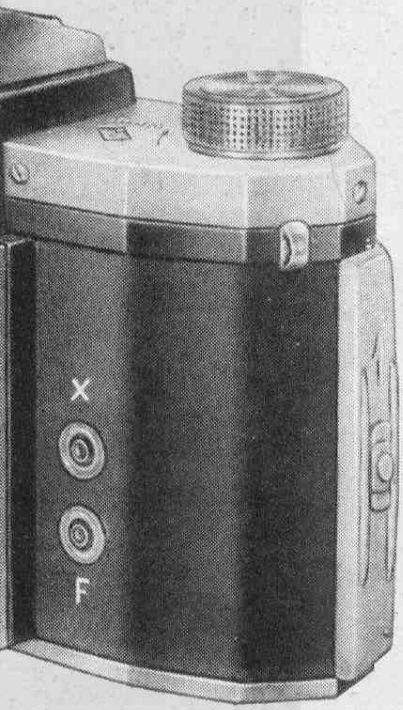
If you depress the knurled plate and turn it to the right before pushing in the plunger, the mechanism is not locked and the cable release works in the ordinary manner.

As soon as you remove your thumb from the plunger knob, the shutter closes automatically.









Flash synchronization

On the front of the camera are two bipolar contact sockets, the X contact (above) for electronic flashes and short-burning flash bulbs, and the F contact (below) for long-burning flash bulbs.

X contact (above):

Shutter speed $^1/_{50}$ sec. with a flash duration of 0.1 to 1 ms ($^1/_{10000}$ to $^1/_{1000}$ sec.). For a flash period of 1 to 5 ms ($^1/_{1000}$ to $^1/_{200}$ sec.) the shutter has to be set to the ϟ mark. This contact is also designed for short-burning flash bulbs, in which case the shutter speed depends on the practical flash period. As a rule, this will be $^1/_{25}$, or $^1/_{10}$ sec.

F contact (below):

With this contact it is possible to synchronize the shortest shutter speeds to those flash bulbs whose ignition period is less than 10 ms and whose practical flash duration is greater than 20 ms.

Where longer shutter speeds than $^1/_{500}$ sec. are being used, the value of 20 ms has to be added to the shutter speed in ms. The resulting total represents the practical duration which has to be achieved by the flash.

Important: Never put the flash bulb into the flash unit bejore the shutter bas been cocked.



Taken with 50 mm focal length



180 mm focal length



500 mm focal length

The high-quality interchangeable lenses of the Praktica FX 2 permit taking any desired section of the subject from an equidistant viewpoint. Long-focus lenses draw far distant objects close up, whereas short-focus lenses encompass a wide angle of field.

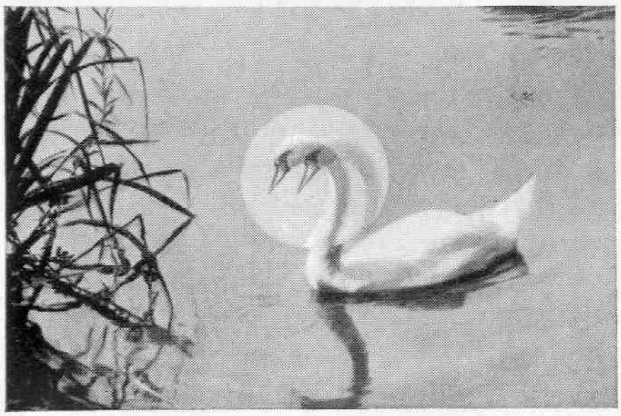


Fig. 9

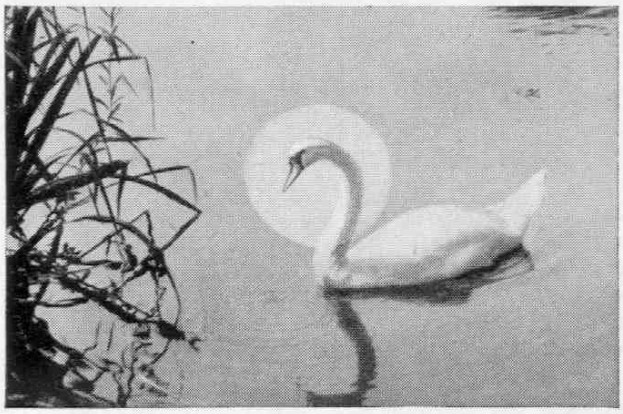
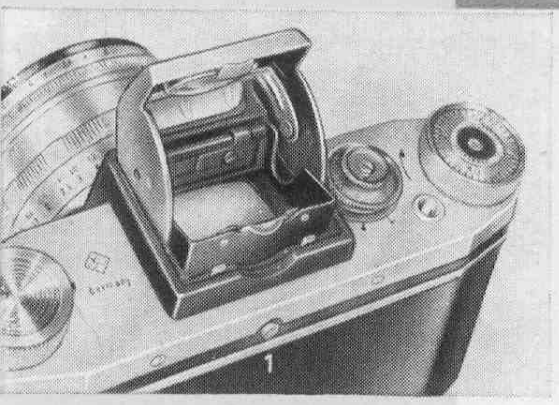
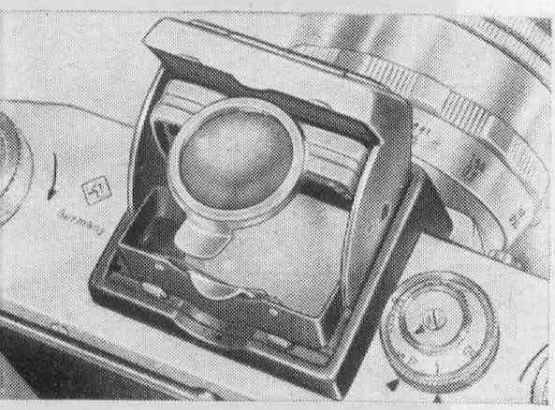


Fig. 10

Moving subjects, such as processions, can be photographed with greater certainty if the most suitable distance is first of all decided upon, the distance scale set to this distance, and the subject watched in the rangefinder as it passes into the range of sharp focus. All that one need then do is to watch the procession in the rangefinder and press the shutter release at the moment that the two images coincide in the bright central circle, indicating that the subject is exactly in focus.

The finder systems





The lighthood

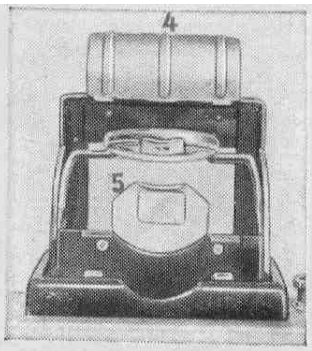
Depressing a little knob 1 on the back of the camera causes the lighthood to spring open and the image field lens to become visible. The lighthood is closed by pressure on the lighthood cap, whereby all the parts are folded automatically into their original position, except the rear finder eyepiece which has to be pushed in beforehand.

The magnifying lens

For critical focusing of the finder image a magnifying lens may be swung in, yielding an approximately 4fold magnification of the ground-glass image.

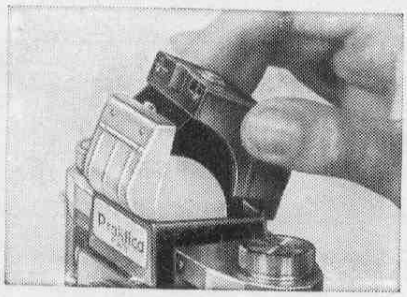
The sports finder

Rapidly moving objects may be taken with the direct-vision frame finder. The flap of lighthood cap 4 has to be swung up, the magnifier brought into operating position and rear eyepiece 5 pulled up. The eyepiece must be pushed in again before the lighthood is closed.



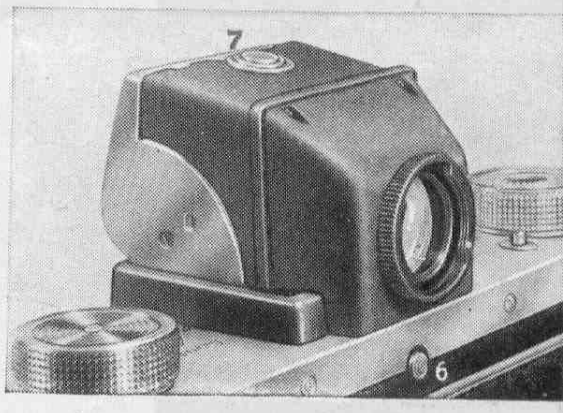
The reversible prism

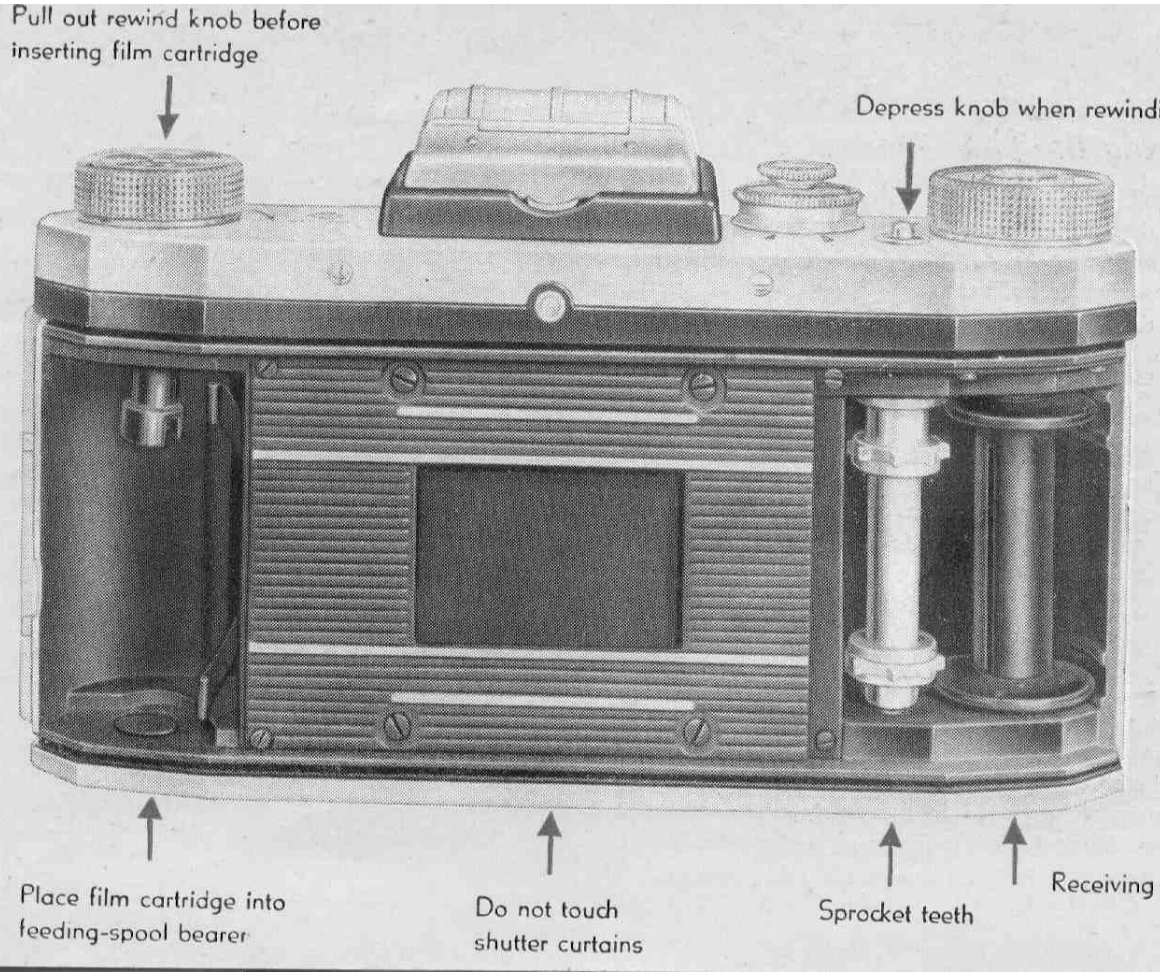
The prism reveals, at eye-level, an upright and laterally correct reflex image. This is of great advantage in sports scenes where you can follow your subject in the direction of its movements.

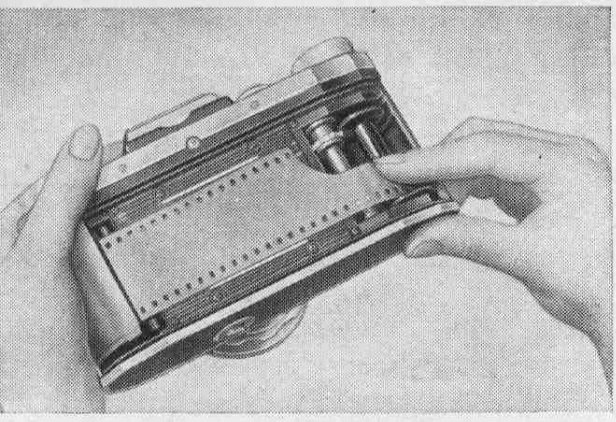


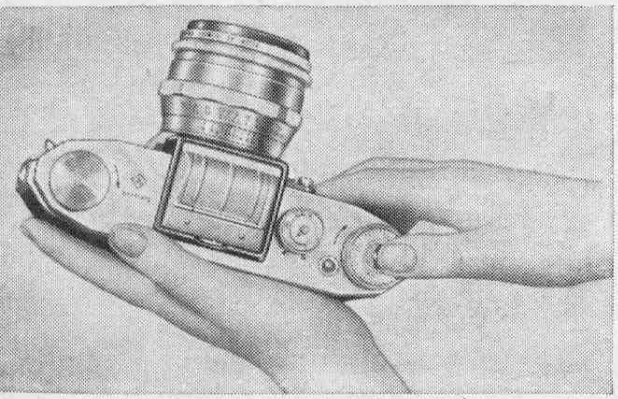
Magnification of finder image: approx: 4 times.

The reversible prism is inserted into the open lighthood from above, while the latch button is being depressed, whereupon it is bolted by means of fastening knob 7.




Pull out rewind knob before inserting film cartridge
Depress knob when rewinding
Place film cartridge into feeding-spool bearer
Do not touch shutter curtains
Sprocket teeth
Receiving spool



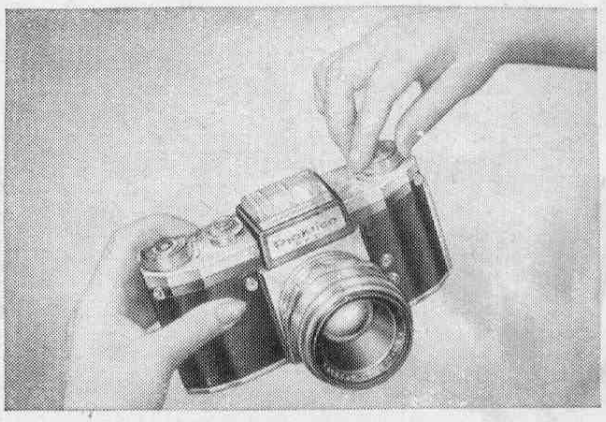


The film-feed mechanism

By pushing of the bolt in the direction of the arrow, the camera back is unlocked and may be taken off. Spool holds, parts of the transport mechanism, and the focal plane shutter are now open to view. Never touch the shutter curtains! Pull out film rewind knob and place the film cartridge into the feeding-spool bearer with the film leader, coating downwards, pointing towards the receiving spool. Draw approximately 10 cm of film out of the cartridge and fix the beginning of the film into the slit in the receiving spool. Make sure that the sprocket teeth catch the film perforation. Advance the film by turning the transport knob.
Link the camera back into its groove and close it with slight pressure. The latch must snap in audibly. You now expose two blanks. Check the transport mechanism by paying attention, while winding the shutter, that the rewind knob rotates in the opposite direction of the arrow. After these two blank exposures you set the counting mechanism on stroke 1 – and your Praktica is ready for picture-taking.

Removing the film

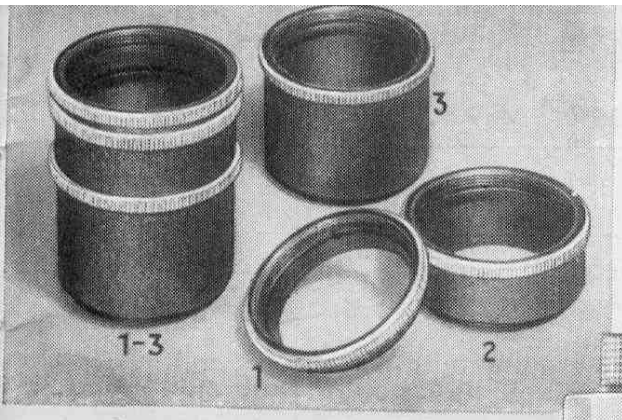
At the end of the film, you will feel a certain resistance when winding the shutter – a sign that the entire film strip has been exposed and must be rewound into the cartridge. This is done by depressing the release knob of the rewind mechanism and rotating the rewind knob evenly in the direction of the arrow. The film leader slips out of the receiving spool noticeably – whereupon the rewind performance is completed. Open the camera back and take out the cartridge with the exposed film. Do not exchange films in bright sunlight but, if possible, in the shade. The cartridge with the exposed film should be wrapped in light-tight paper, or in its original packing material, before being given away for processing. – The camera is now free to accept a new film.



Negative material

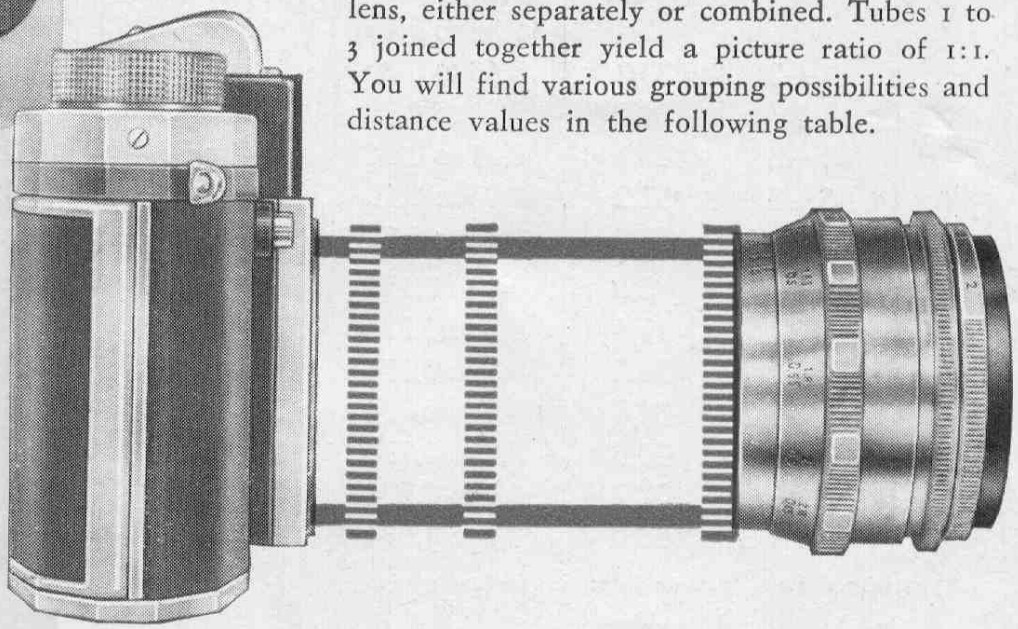
The Praktica FX 2 takes perforated 35 mm cine film, available at your photo dealer's either in cartridges or in bulk. The film strip in a cartridge yields 36 exposures. Sometimes, however, half-length cartridges are used. In case you fill your own cartridges or cassettes, you need 1.60 meters (5′ 4″) of film for 36 exposures. You can, of course, load shorter lengths if you wish to.

Color films are supplied in the same lengths and packings as black-and-white. It is precisely the color film that goes so well with the Praktica, for you pre-view much of the final effect of the color picture already in the colored ground-glass image. The Praktica lenses are color-corrected, too.



Close-up exposures

The helical focusing mount of the normal lens makes it possible to approach your object up to about 50 cm (20 ins.). Exposures at a shorter distance necessitate the use of extension tubes. These tubes are screwed in between camera and lens, either separately or combined. Tubes 1 to 3 joined together yield a picture ratio of 1:1. You will find various grouping possibilities and distance values in the following table.



The image is viewed in the field lens, the same as for any other exposure.

Table for close-up exposures

Focal length	Tube No.	Length of tube (mm)	Picture ratio β	Distance *) of object (mm)	Size of object (mm²)	Increase in exposure time
50 mm	1	5,8	0,11 to 0,25	455 to 224	207×311 to 96×144	1,2
	2	17,4	0,35 to 0,49	167 to 126	69×104 to 49×74	1,7
	1+2	23,2	0,46 to 0,60	131 to 106	52×78 to 40×60	2,0
	3	34,8	0,69 to 0,83	95 to 83	35×52 to 29×43	2,6
	1+3	40,6	0,81 to 0,94	84 to 76	30×45 to 26×38	2,9
	2+3	52,2	1,05 to 1,19	71 to 65	23×34 to 20×30	3,6
	1+2+3	58,0	1,16 to 1,30	66 to 61	21×31 to 19×28	4,0
58 mm	1	5,8	0,1 to 0,174	622 to 374	240×360 to 138×207	1,2
	2	17,4	0,3 to 0,374	234 to 198	80×120 to 64×96	1,7
	1+2	23,2	0,4 to 0,474	187 to 165	60×90 to 50×76	2,0
	3	34,8	0,6 to 0,674	139 to 128	40×60 to 35×53	2,6
	1+3	40,6	0,7 to 0,774	125 to 117	34×51 to 31×46	2,9
	2+3	52,2	0,9 to 0,974	107 to 103	26×40 to 24×36	3,6
	1+2+3	58,0	1,0 to 1,074	100 to 96	24×36 to 22×33	4,0

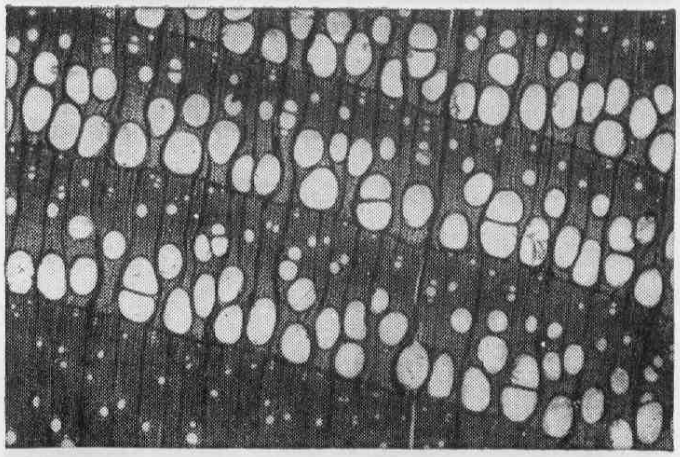
*) measured from extreme front rim of lens mount

Micro exposures

require an additional adapter for connecting the microscope to the camera. Please note that the image field lens of the Praktica is available also with clear glass spot and hairline cross for extreme enlargements.

Color filters

to be used in the Praktica may have slip-on or screw-in mounts. This holds good also for sunshades.





The prism finder permits checking sharpness of screen image in direct vision.

Maintenance of the Praktica FX 2

The camera is protected by the Everready Case. The case holds the camera, also during the exposure, without causing the slightest inconvenience. The camera, with screwed-in lens, should always be kept in its case. It must be spotlessly clean, especially those parts which come into contact with the film. Use only a very soft brush to remove any dust.

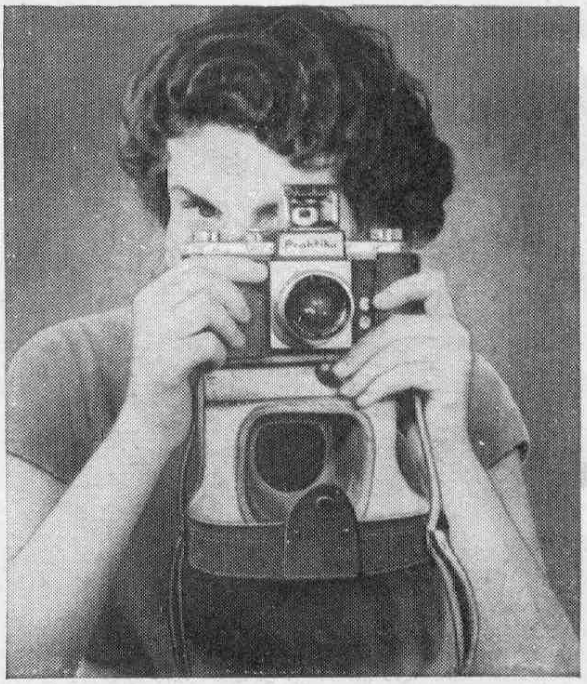


Never touch the lens surfaces with your fingers. They may be cleaned with a soft leather cloth. This will do no harm to the bluish anti-reflex coating.

How to hold the camera when making the exposure



When focusing on the image field lens, hold your Praktica in chest level and take it up close to your eye when using the magnifying lens.



For frame-finder viewing (especially in sports scenes) the position of the camera will be naturally adapted to the situation.

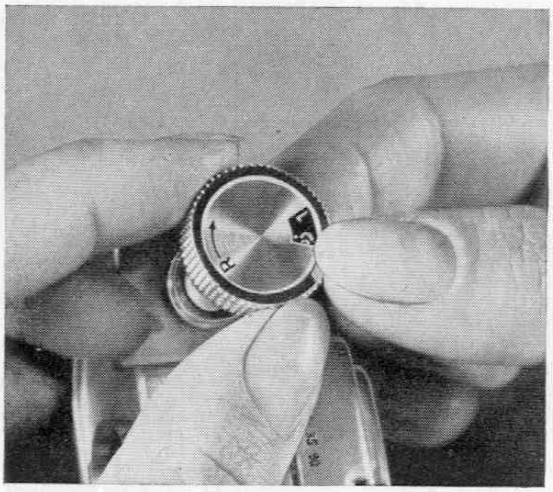


Fig. 11

FILM TYPE INDICATOR

Before loading the film into the camera it is advisable to set the film type indicator, which will be found on the face of the rewind knob, so that if a long interval should elapse between exposures, or a second camera should be used, there will never be any doubt as to what type (black and white or colour film, or what speed) of film is in the camera.

To set the indicator, the rewind knob is pulled out as far as it will go and the milling held between the thumb and first finger of one hand so that the head cannot move. The milled disc situated in the bottom part of the knob can then be rotated as shown, until the required film designation appears in the window.

The following film types are provided for on the disc:

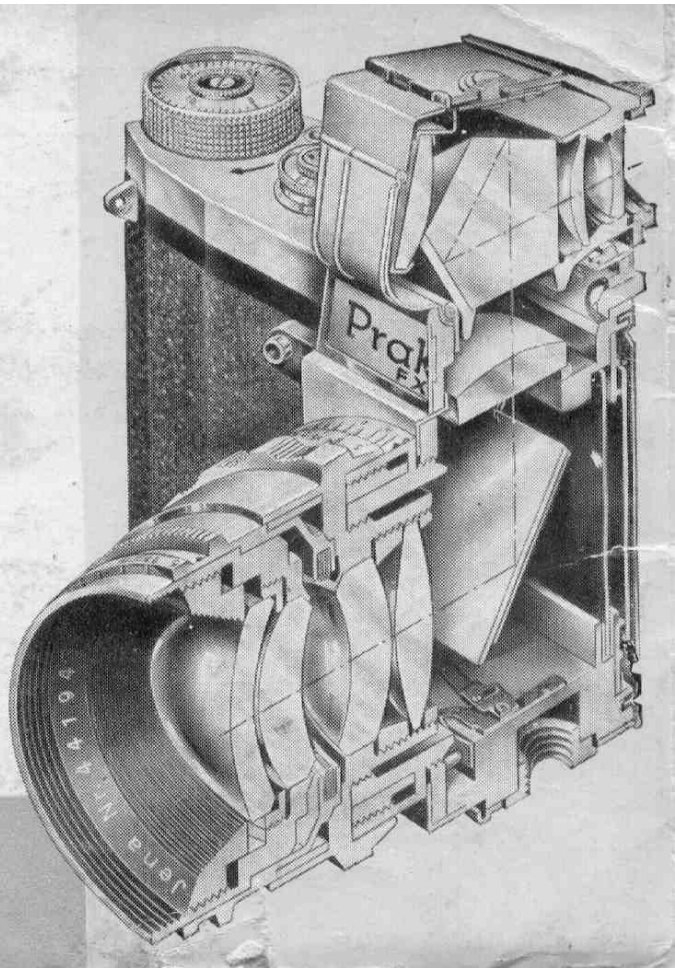
$\frac{10}{10}$	$\frac{13}{10}$	$\frac{17}{10}$	$\frac{21}{10}$	$\frac{23}{10}$	Col T	Col K	Col NT	Col NK

The figures $\frac{10}{10}$ to $\frac{23}{10}$ correspond to the DIN degrees as indicated on film cartons. The ASA values corresponding approximately to the DIN degrees mentioned above are: 6.4 12 32 80 125.

Do not, under any condition, interfere with the camera mechanism. Necessary repairs should be carried out at the factory. Oil or grease applied by other than factory expert hands may cause disturbance in functioning and decrease in picture quality. The manufacturers will be pleased to give information or advice at any time.

VEB KAMERA-WERKE NIEDERSEDLITZ
Dresden A 17, Edgar-André-Straße 56

III-9-19 Ag 10/0303 456 200 E



Filtri verdi Rollei

Solo per pellicole bianconere, mai per colore!

materiale sensibile	numero di correzione per filtro	
	verde chiaro	verde
pancromatico	— 1	— 1,5
ortocromatico	— 1,5	— 2

Nella fotografia bianconera i colori vengono convertiti in toni grigi. Mediante filtri adatti ("filtri di contrasto") si può ottenere un maggior contrasto fra determinati colori, perchè nella fotografia si stacchino meglio l'uno dall'altro. Impiegando un filtro si schiarisce sempre il colore corrispondente a quello del filtro stesso.

Col filtro verde risulteranno più chiari i colori gialloverde e verde e più scuri il rosso e il blu. Quanto più il filtro è intenso, tanto più notevole sarà questo effetto. Vantaggio, ad esempio, per fotografie di paesaggi: rischiaramento del verde delle fronde, riproduzione più efficace, molto accentuata, delle nuvole, tetti di tegole più scuri, in inverno più ricca gradazione di tonalità nelle ombre azzurre della neve. Per ritratti alla luce del giorno, tonalità dell'epidermide più marcata, labbra di un rosso più intenso. Allo stesso tempo ha l'identico effetto di un filtro UV. Con materiale ortocromatico non ha alcuna influenza sulla riproduzione delle tonalità rosse.

Attenzione! Per ogni unità del numero di correzione il valore di esposizione va ridotto pure di una unità; o p p u r e va aperto di un numero il diaframma o raddoppiato il tempo di esposizione. Per mezze unità del numero di correzione il valore d'esposizione va ridotto solo di mezza unità, o p p u r e il diaframma va aperto solo di mezzo numero.

Montaggio del filtro sull'obiettivo da presa: introdurlo nell'attacco a baionetta e girarlo verso destra sino all'arresto.

Filtros Rollei verdes

A empregar só nas fotografias a preto e branco, mas não a côres!

Material fotográfico	Valor de filtro	
	verde claro	verde
pancromático	— 1	— 1,5
ortocromático	— 1,5	— 2

Na fotografia a preto e branco, as côres são transformadas em tonalidades cinzentas. Por meio de filtros adequados ("filtros de contraste") é possível levar certas côres a um maior contraste de cinzento e destacá-las assim mais nìtidamente umas das outras. Ao mesmo tempo aclara-se sempre a côr própria do filtro.

Com os filtros verdes aclaram-se as côres verde-amarelado e verde, ao passo que o vermelho e o azul são reproduzidos em tonalidades mais escuras. O filtro mais denso intensifica este efeito. A vantagem por exemplo nas fotografias de paisagens: aclaramento do verde das folhagens; reprodução mais vigorosa até pesada do ambiente das nuvens; o vermelho tijolo (dos telhados) torna-se mais escuro; no inverno, uma graduação mais rica das sombras azuladas na neve. Nos, retratos à luz do dia: tons de pele mais saturados, vermelho dos lábios mais intenso. — Ao mesmo tempo o pleno efeito dum filtro UV. — Nos materiais fotográficos ortocromáticos, nenhuma influência na reprodução do vermelho.

Observação: Cada valor de filtro inteiro exige uma diminuição do valor de exposição (valor de luminosidade) por um valor, o u a abertura do diafragma por um degrau, o u a duplicação do tempo da exposição. Meios valores de filtro são tomados em consideração por diminuição do valor de exposição por meio degrau, o u pela abertura do diafragma por meio degrau.

Fixação do filtro na objectiva fotográfica: Fazer engatar a baioneta por giração para a direita, até ao embate.

Filtro verde Rollei

¡Sólo para fotos en blanco y negro, no para color!

Material fotográfico	Valor de compensación del filtro	
	verde claro	verde
pancromático	— 1	— 1,5
ortocromático	— 1,5	— 2

En la fotografía en blanco y negro los colores se traducen por tonos grises. Mediante filtros apropiados ("filtros de contraste") es posible dar mayor contraste de gris a ciertos colores y diferenciarlos en la foto unos de otros de modo más ostensible. El filtro siempre aclara el color que corresponde al suyo propio.

Con el filtro verde salen más claros los colores verdeamarillo y verde; el rojo y el azul, en cambio, salen más obscuros. Cuanto más denso el filtro, más intenso es este efecto. Ventaja en las fotos de paisaje, por ejemplo: aclaración del verdor del follaje, realce intenso, hasta grave, del efecto de las nubes, obscurecimiento de la tonalidad roja de los ladrillos (tejados), en invierno mayor escala de matices en las sombras azules de las nieves. En los retratos a la luz del día: intensificación de los tonos de las carnes, rojo más profundo de los labios. — Al mismo tiempo, acción completa de un filtro UV. — Con material ortocromático, ninguna influencia en la reproducción del rojo.

Nota: Cada valor de compensación entero exige que se reduzca en un grado el valor de exposición (valor de luminosidad), o b i e n se abra un grado más el diafragma, o b i e n se doble el tiempo de exposición. Los medios grados del valor de compensación se aplican reduciendo el valor de exposición en medio grado o b i e n abriendo el diafragma medio grado más.

Fijación del filtro delante del objetivo fotográfico: Encastrar la bayoneta dando vuelta hacia la derecha hasta el tope.

Rollei-Grünfilter

Nur für Schwarzweißaufnahmen, nicht für Color!

Aufnahmematerial	Filterwert	
	hellgrün	grün
panchromatisch	— 1	— 1,5
orthochromatisch	— 1,5	— 2

Bei der Schwarzweißphotographie werden die Farben in Grautöne umgewandelt. Durch geeignete Filter („Kontrastfilter") lassen sich bestimmte Farben auf größeren Graukontrast bringen und im Bilde deutlicher voneinander trennen. Dabei wird stets die Eigenfarbe des Filters aufgehellt.

Mit Grünfilter werden die Farben Gelbgrün und Grün heller, Rot und Blau dagegen dunkler wiedergegeben. Das dichtere Filter verstärkt diesen Effekt. Der Vorteil zum Beispiel bei Landschaftsaufnahmen: Aufhellung des Laubgrüns, kräftige bis schwere Wiedergabe der Wolkenstimmung, dunkleres Ziegelrot (Dächer), im Winter reichere Tonabstufung der blauen Schneeschatten. Bei Tageslicht - Porträts: kräftigere Hauttöne, tieferes Lippenrot. — Gleichzeitig volle Wirkung eines UV-Filters. — Bei orthochromatischem Aufnahmematerial kein Einfluß auf die Rotwiedergabe.

Anmerkung: Jeder volle Filterwert erfordert ein Verringern des Belichtungswertes (Lichtwertes) um einen Wert o d e r das Öffnen der Blende um eine Stufe o d e r das Verdoppeln der Belichtungszeit. Halbe Filterwerte werden durch Verringern des Belichtungswertes um einen halben Wert o d e r durch Öffnen der Blende um eine halbe Stufe berücksichtigt.

Befestigen des Filters vor dem Objektiv: Bajonett durch Rechtsdrehen bis zum Anschlag einrasten.

Rollei Filter, Green

For black and white photography only, n o t for color!

Film Material	Filter Compensating Number for	
	light green	green
panchromatic	— 1	— 1.5
orthochromatic	— 1.5	— 2

In black and white photography, natural colors are transformed into a scale of grey tones. The use of suitable filters ("contrast filters") permits increasing the contrast between certain colors and improving the tone separation in the picture. The subject color which is the same as the color of the filter is always rendered brighter.

A green filter renders yellow-green and green brighter, red and blue darker. A deeper filter increases this effect. Chief advantage when taking landscapes: brightens foliage, darkens sky for strong rendition of cloud formations, darkens red roofs. Improves detail of blue snow-shadows. For daylight portraits: deeper skin tones, darker red lips. — At the same time full UV filter effect. — When used with orthochromatic films, the rendition of the red colors will not be influenced.

Please note: To compensate for each full number, it is necessary to either decrease the exposure value (light value) number by one value o r to open the diaphragm by one stop o r to double the exposure time. Half numbers are compensated for by decreasing the exposure value number by one half value o r by opening the diaphragm 1/2 stop.

Attaching the filter to the taking lens: Insert into inner bayonet and turn to right until it clicks into position.

Filtres Rollei verts

Pour la photographie en noir-et-blanc seulement, pas pour la couleur!

Emulsion	Indice de filtre	
	vert-clair	vert
panchromatique	– 1	– 1,5
orthochromatique	– 1,5	– 2

En photographie noir-et-blanc, les couleurs sont rendues par des valeurs de gris. Au moyen de filtres appropriés («filtres de contraste»), il est possible d'obtenir un plus grand contraste de gris entre certaines couleurs déterminées, et une séparation plus nette entre elles dans l'image. Le filtre éclaircit toujours sa couleur propre.

Les filtres verts éclaircissent le jaune-vert et le vert; par contre, le rouge et le bleu deviennent plus foncés. Avec le filtre plus foncé (vert), cet effet est plus fort qu'avec le filtre vert-clair. L'avantage d'un filtre vert pour le paysage: le feuillage devient plus clair, les nuages se détachent mieux sur le ciel, les toits aux tuiles rouges deviennent plus foncés; en hiver, une gradation plus nuancée des ombres bleues sur la neige. Pour le portrait à la lumière du jour: teintes chair plus vigoureuses, lèvres plus foncées. — En même temps, effet complet d'un filtre UV. — Pour film ortho — pas d'influence sur le rendu du rouge.

Remarque: Chaque unité d'indice de filtre nécessite une diminution d'une unité de l'indice de lumination o u l'ouverture du diaphragme d'un point o u un temps de pose double. Une demi-unité d'indice de filtre nécessite la diminution d'une demi-unité de l'indice de lumination o u l'ouverture du diaphragme d'un demi-point.

Fixation du filtre devant l'objectif de prise de vue: enclencher la baïonnette en la faisant tourner à droite jusqu'à l'arrêt.

FRANKE & HEIDECKE · BRAUNSCHWEIG · G&I · Printed in Germany · 0559-GRÜ

Rollei-Orange- und Rotfilter

Nur für Schwarzweißaufnahmen, nicht für Color!

Aufnahmematerial	Filterwert	
	orange	hellrot
panchromatisch	— 1,5 bis — 3	— 2 bis — 3,5

Bei der Schwarzweißfotografie werden die Farben in Grautöne umgewandelt. Durch geeignete Filter („Kontrastfilter") lassen sich bestimmte Farben auf größeren Graukontrast bringen und im Bilde deutlicher voneinander trennen. Dabei wird stets die Eigenfarbe des Filters aufgehellt.

Mit Orange- und Rotfilter werden die Farben Gelbrot und Rot heller, Grün und Blau dagegen dunkler wiedergegeben. Das dichtere Filter verstärkt diesen Effekt. Bei Landschaften: dunkler bis schwarzer Himmel. Nachteffekt. Ein weiterer Vorteil bei Fernsichten: durch Wegfiltern des bläulichen Dunstschleiers kontrastreichere, brillantere Landschaftsdetails. Gleichzeitig volle Wirkung eines UV-Filters. — Nur für panchromatisches Aufnahmematerial bestimmt.

Anmerkung: Jeder volle Filterwert erfordert ein Verringern des Belichtungswertes (Lichtwertes) um einen Wert o d e r das Öffnen der Blende um eine Stufe o d e r das Verdoppeln der Belichtungszeit. Halbe Filterwerte werden durch Verringern des Belichtungswertes um einen halben Wert o d e r durch Öffnen der Blende um eine halbe Stufe berücksichtigt.

Befestigen des Filters vor dem Aufnahmeobjektiv: Bajonett durch Rechtsdrehen bis zum Anschlag einrasten.

Rollei Filters, Orange and Red

For black and white photography only, n o t for color!

Film Material	Filter Compensating Number for	
	orange	light red
panchromatic	— 1.5 to — 3	— 2 to — 3.5

In black and white photography, natural colors are transformed into a scale of grey tones. The use of suitable filters ("contrast filters") permits increasing the contrast between certain colors and improving the tone separation in the picture. The subject color which is the same as the color of the filter is always rendered brighter.

Orange and red filters render yellow-red and red brighter and green and blue darker. A deeper filter enhances this effect. For landscapes: to produce dark to black skies, simulated night effect. Further advantage: absorption of blue distance haze, renders landscape detail with greater brilliance and higher contrast. Full UV filter effect. For use with panchromatic emulsions only.

Please note: To compensate for each full number, it is necessary to either decrease the exposure value (light value) number by one value o r to open the diaphragm by one stop o r to double the exposure time. Half numbers are compensated for by decreasing the exposure value number by one half value o r by opening the diaphragm 1/2 stop.

Attaching the filter to the taking lens: Insert into inner bayonet and turn to right until it clicks into position.

Filtres Rollei orangé et rouge

Pour la photographie en noir-et-blanc seulement, pas pour la couleur!

Emulsion	Indice de filtre	
	orangé	rouge clair
panchromatique	— 1,5 à — 3	— 2 à — 3,5

En photographie noir-et-blanc, les couleurs sont rendues par des valeurs de gris. Au moyen de filtres appropriés («filtres de contraste»), il est possible d'obtenir un plus grand contraste de gris entre certaines couleurs déterminées, et une séparation plus nette entre elles dans l'image. Le filtre éclaircit toujours sa couleur propre.

Les filtres orangé et rouge éclaircissent l'orangé et le rouge; par contre, le vert et le bleu deviennent plus foncés. Avec le filtre plus foncé (rouge), cet effet est plus fort qu'avec le filtre orangé. Paysages: ciel sombre à noir. Effets de nuit. Un autre avantage pour les lointains: en filtrant le voile de brume bleuâtre, détails du paysage plus contrastés, plus brillants. En même temps, effet complet d'un filtre UV. — Destiné uniquement aux émulsions panchromatiques.

Remarque: Chaque unité d'indice de filtre nécessite une diminution d'une unité de l'indice de lumination o u l'ouverture du diaphragme d'un point o u un temps de pose double. Une demi-unité d'indice de filtre nécessite la diminution d'une demi-unité de l'indice de lumination o u l'ouverture du diaphragme d'un demi-point.

Fixation du filtre devant l'objectif de prise de vue: enclencher la baïonnette en la faisant tourner à droite jusqu'à l'arrêt.

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Rollei-Werke Franke & Heidecke Braunschweig

Filtri Rollei arancione e rosso

Solo per pellicole bianconere, mai per colore!

materiale sensibile	numero di correzione per filtro	
	arancione	rosso chiaro
pancromatico	da −1,5 a −3	da −2 a −3,5

Nella fotografia biunconera i colori vengono convertiti in toni grigi. Mediante filtri adatti ("filtri di contrasto") si può ottenere un maggior contrasto fra determinati colori, perchè nella fotografia si stacchino meglio l'uno dall'altro. Impiegando un filtro si schiarisce sempre il colore corrispondente a quello del filtro stesso.

Coi filtri arancione e rosso risulteranno più chiari i colori giallo rosso e rosso e più scuri il verde e il blu. Quanto più il filtro è intenso, tanto più notevole sarà questo effetto. Nelle fotografie di paesaggi il cielo risulterà scuro, persino nero; effetto notturno. Altro vantaggio per le vedute lontane: elimina il velo atmosferico azzurrognolo, rendendo i dettagli del paesaggio meglio contrastati e più brillanti. Allo stesso tempo ha il medesimo effetto di un filtro UV. Destinato esclusivamente a materiale pancromatico.

Attenzione! Per ogni unità del numero di correzione il valore di esposizione va ridotto pure di una unità; o p p u r e va aperto di un numero il diaframma o raddoppiato il tempo di esposizione. Per mezze unità del numero di correzione il valore d'esposizione va ridotto solo di mezza unità, o p p u r e il diaframma va aperto solo di mezzo numero.

Montaggio del filtro sull'obiettivo da presa: introdurlo nell'attacco a baionetta e girarlo verso destra sino all'arresto.

Filtros Rollei côr de laranja e vermelho

A empregar só nas fotografias a preto e branco, mas não a côres!

Material fotográfico	Valor de filtro	
	côr de laranja	vermelho claro
pancromático	— 1,5 até — 3	— 2 até — 3,5

Na fotografia a preto e branco, as côres são transformadas em tonalidades cinzentas. Por meio de filtros adequados ("filtros de contraste") é possível levar certas côres a um maior contraste de cinzento e destacá-las assim mais nitidamente umas das outras. Ao mesmo tempo aclara-se sempre a côr própria do filtro.

Com os filtros côr de laranja e vermelho são reproduzidas mais claras as côres vermelho-amarelado e vermelho, ao passo que ficam mais escuras as côres verde e azul. O filtro mais denso intensifica este efeito. Em paisagens: o céu torna-se escuro, até preto. Efeito nocturno. Mais uma vantagem nas vistas longínquas: pela supressão do véu azulado pelo filtro, obtêm-se detalhes de paisagem de contrastes mais ricos e mais brilhantes. Têm ao mesmo tempo o efeito dum filtro UV. — A empregar só com material fotográfico pancromático.

Observação: Cada valor de filtro inteiro exige uma diminuição do valor de exposição (valor de luminosidade) por um valor, o u a abertura do diafragma por um degrau, o u a duplicação do tempo de exposição. Meios valores de filtro são tomados em consideração por diminuição do valor de exposição por meio degrau, o u pela abertura do diafragma por meio degrau.

Fixação do filtro na objectiva fotográfica: Fazer engatar a baioneta por giração para a direita, até ao embate.

Filtros anaranjado y rojo Rollei

¡Sólo para fotos en blanco y negro, no para color!

Material fotográfico	Valor de compensación del filtro	
	anaranjado	rojo claro
pancromático	— 1,5 a — 3	— 2 a — 3,5

En la fotografía en blanco y negro los colores se traducen por tonos grises. Mediante filtros apropiados ("filtros de contraste") es posible dar mayor contraste de gris a ciertos colores y diferenciarlos en la foto unos de otros de modo más ostensible. El filtro siempre aclara el color que corresponde al suyo propio.

Con los filtros anaranjado y rojo salen más claros los colores rojoamarillo y rojo; el verde y el azul, en cambio, salen más obscuros. Cuanto más denso el filtro, más intenso es este efecto. En los paisajes: cielo obscuro, hasta negro. Efecto nocturno. Otra ventaja en las lejanías: como excluyen el vaho azulado de la neblina, dan una reproducción más brillante y contrastada de los detalles del paisaje. Al mismo tiempo, acción completa de un filtro UV. — Están destinados solamente a las fotos con material pancromático.

Nota: Cada valor de compensación entero exige que se reduzca en un grado el valor de exposición (valor de luminosidad), o b i e n se abra un grado más el diafragma, o b i e n se doble el tiempo de exposición. Los medios grados del valor de compensación se aplican reduciendo el valor de exposición en medio grado o b i e n abriendo el diafragma medio grado más.

Fijación del filtro delante del objetivo fotográfico: Encastrar la bayoneta dando vuelta hacia la derecha hasta el tope.

ROLLEI-PISTOLENGRIFF

Verwendbar für alle Rollei-Modelle mit Nute am Rand der Stativmutter.

Befestigen der Kamera

Sperrklinke **3** im Rolleifix-Klemmhebel **2** eindrücken und den nun entsperrten Hebel nach unten umlegen. Stativmutter der Kamera in die beiden Halteschienen am Rolleifix nach vorn einschieben und die Haltestifte **10** vorn in den Kamerakörper **11** voll eingreifen lassen. Klemmhebel **3** nach oben umlegen.

Einmaliges Einstellen des Drahtauslösers

Stellschraube **1** nach links herausdrehen, bis der Auslösestift **5** mit dem Schraubnippel **4** abschließt. Nippel **4** im Anschlußgewinde der Kamera einschrauben. Bei Bedarf läßt sich der Auslöseweg des Abzughebels **7** durch Rechtsdrehen der Schraube **1** noch verkürzen:

Bei der Rollei-magic: Schraube **1** drehen, bis sich der Gehäuseauslöser aus der Ruhestellung bewegt, jedoch danach Schraube **1** um eine volle Umdrehung wieder zurückstellen.

Bei den übrigen Rollei-Modellen: Bei ungeladener Kamera durch Rechtsdrehen der Schraube **1** den gewünschten Auslösepunkt ermitteln, ohne daß der anschließende Verschlußaufzug (Transportkurbel) gesperrt wird – sonst Schraube **1** entsprechend zurückdrehen.

Vor der Aufnahme: Abzughebel entsichern **8** (roter Punkt wird sichtbar).

Befestigen des Blitzlicht-Haltearms

Mit der Schraube **9** läßt sich bei Aufnahmen mit Elektronenblitz die Halteschiene des Reflektors befestigen.

Handriemen

Die Öse **6** am Ende des Griffes dient zur Befestigung des Handriemens.

ROLLEI PISTOL GRIP

Suitable for all Rollei cameras with a grooved edge on the tripod bush fitting.

Mounting the Camera

Depress the locking catch **3** to unlock the Rolleifix clamping lever **2**. Push down this lever. Slide the grooved tripod bush fitting of the camera into the two retaining guides on the Rolleifix from behind, and push forward until the locating pins **10** engage the corresponding cups **11** on the camera body. Push up the clamping lever **3**.

Setting the Cable Release

This is a once-and-for-all adjustment: Unscrew the setting nut **1** anti-clockwise until the release pin **5** is flush with the threaded nipple **4**. Screw the cable release nipple **4** into the cable release socket of the camera. If necessary, the release travel of the trigger **7** can be reduced by turning the nut **1** clockwise.

For the final setting proceed as follows:

With the Rollei-magic: Turn the nut **1** clockwise until the body release on the camera just starts to move. Then turn the nut **1** back by one full turn.

With other Rollei models: Determine the required release point by turning the nut **1** clockwise – without a film in the camera. Then try working the transport crank; if this is blocked after releasing, turn the nut **1** back anti-clockwise as far as required.

Before taking the picture: Release trigger **8** (the red spot then becomes visible).

Mounting a Flash Gun Bracket

The screw **9** serves for attaching a flash bracket when working with electronic flash.

Using a Wrist Loop

This is fixed in the eyelet **6** at the base of the pistol grip.

POIGNEE-CROSSE ROLLEI

Utilisable avec tous les modèles Rollei comportant une rainure sur le pourtour de l'écrou de pied.

Fixation de l'appareil

Enfoncer la gâchette **3** du levier de verrouillage **2** de la tête Rolleifix et rabattre vers le bas le levier ainsi déverrouillé. Faire glisser vers l'avant l'écrou de pied de l'appareil dans les deux rails de la tête Rolleifix, de façon à faire entrer les pointes de maintien **10** dans les trous **11** prévus à l'avant du corps de l'appareil. Relever le levier de verrouillage **3**.

Ajustage de la course du déclencheur flexible

Dévisser vers la gauche la vis d'ajustage **1** jusqu'à ce que l'extrémité de la tige **5** du déclencheur coïncide avec l'orifice du raccord mâle **4**. Visser ce raccord **4** dans l'écrou de raccordement de l'appareil. En cas de besoin, on pourra raccourcir encore la course de la détente **7** en tournant la vis **1** vers la droite:

Pour le Rollei-magic, tourner la vis **1** jusqu'à ce que le déclencheur du boîtier abandonne sa position de repos et faire ensuite effectuer à la vis **1** un tour complet en sens inverse.

Pour les autres modèles Rollei: l'appareil n'étant pas chargé, tourner la vis **1** vers la droite jusqu'à ce que l'on trouve (par tâtonnement) le moment où l'appareil se laisse déclencher sans que l'armement de l'obturateur (mouvement de la manivelle) soit entravé. S'il l'était, il faudrait desserrer la vis **1** de la quantité nécessaire.

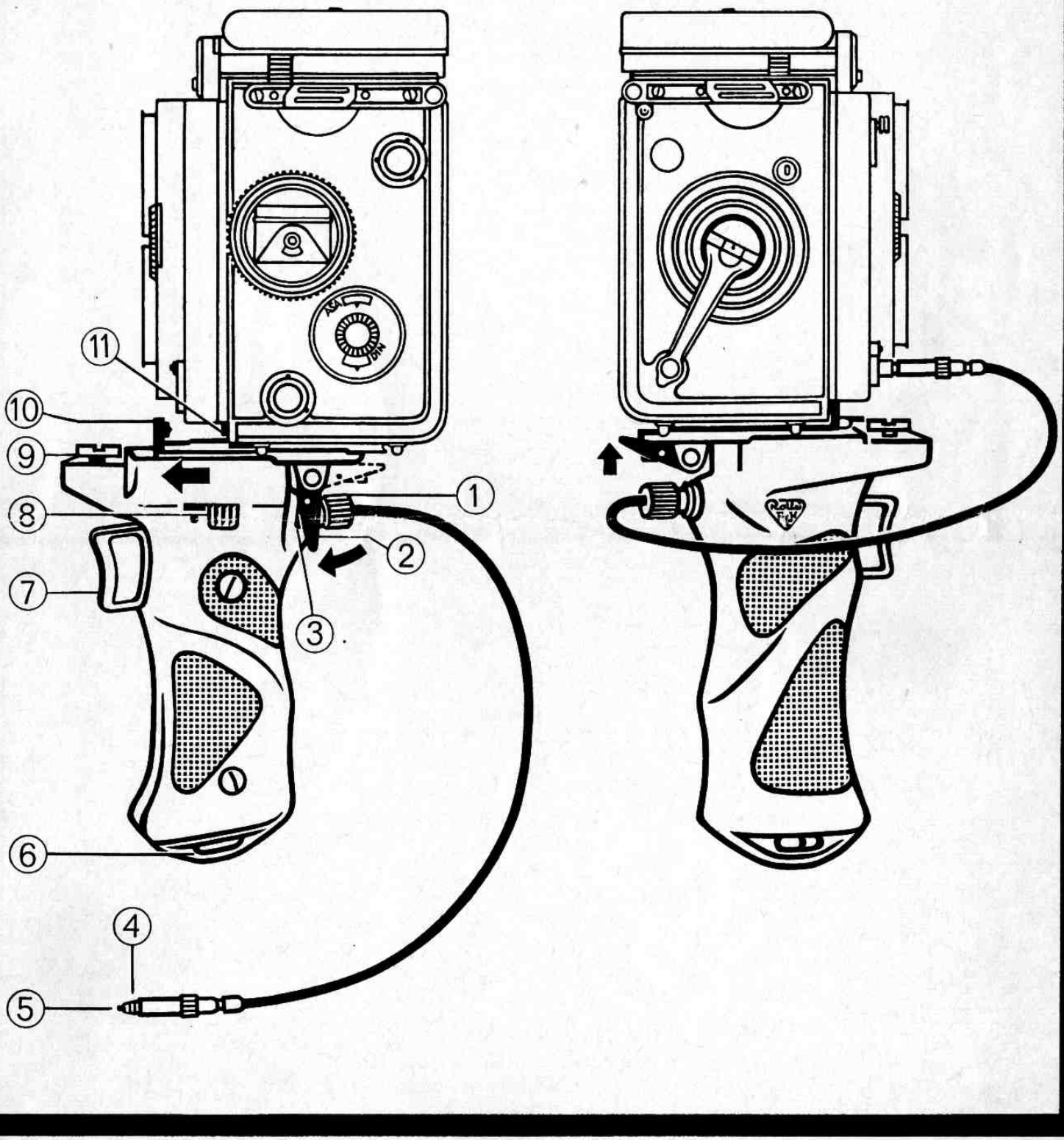
Avant la prise de vue: débloquer la gachette **8** (le point rouge devient visible).

Fixation du bras de support du flash

En cas de prises de vues au flash électronique, la vis de maintien **9** permet de fixer la barrette supportant le réflecteur.

Courroie-bandoulière

L'œilleton **6** à l'extrémité de la poignée-crosse sert à fixer la courroie-bandoulière.



ROLLEI-WERKE FRANKE & HEIDECKE · BRAUNSCHWEIG

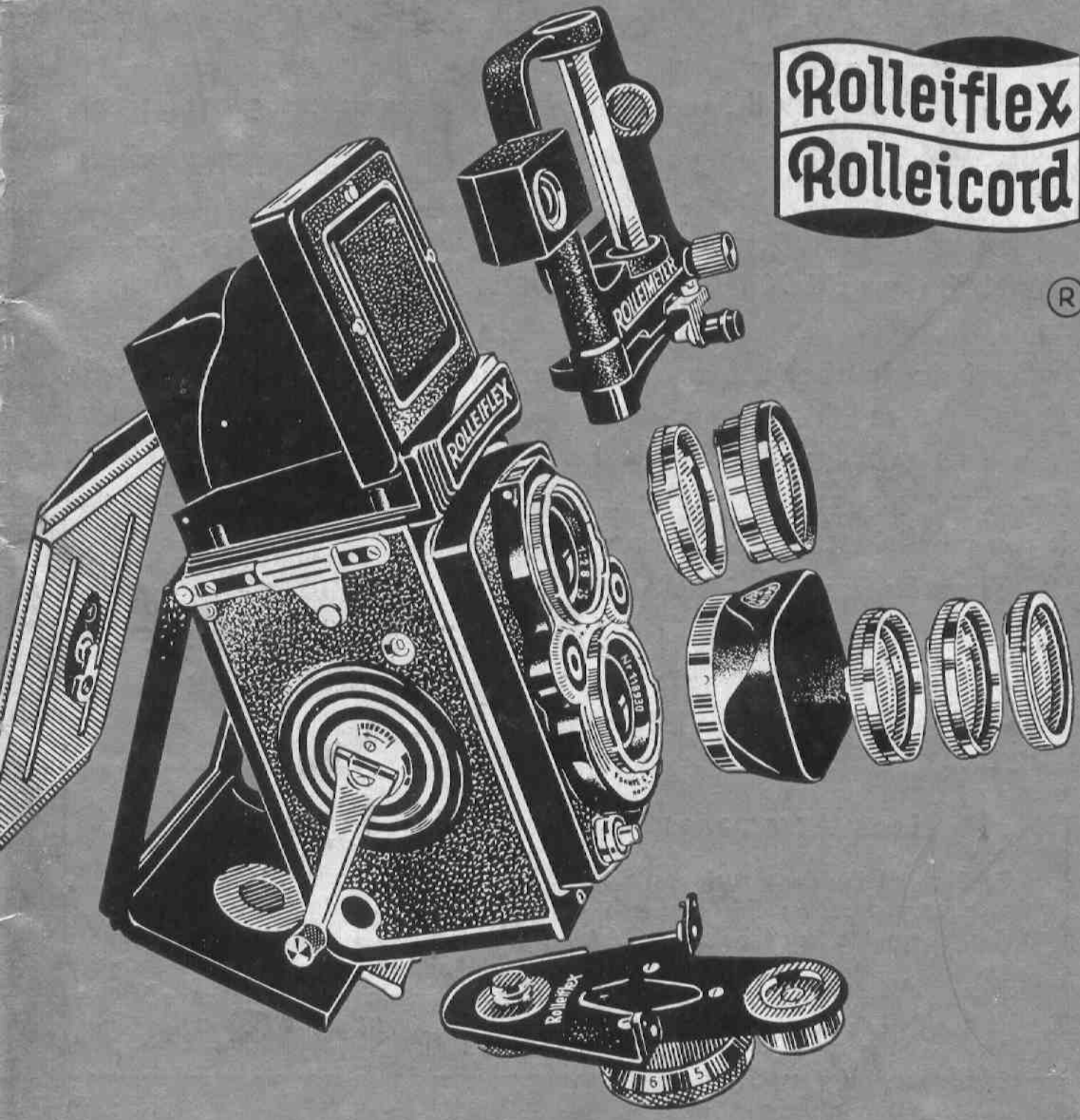
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ROLLEINAR LENSES 1 and 2

Designed for: Close-ups at distances of less than $39^1/_2$ in.

Application: Each set comprises two matched lenses, one each for finder and taking lens: Set 1 covers the range from $39\ ^1/_2$—$17^3/_4$ ($18^1/_2$) in.; set 2 from $19^3/_4$—$12^1/_8$ ($12^1/_2$) in. (see page 3).

Focusing is accomplished as usual on the ground glass screen.

The depth of field being rather limited at close range, considerable stopping down is advisable with Rolleinar lenses. The depth of field table indicates the most advantageous stops for the $2^1/_4 \times 2^1/_4$- and $1 \times 1^1/_2$-inch size.

The advantage of a large reproduction should not mislead to indiscriminate shortening of the camera-to-subject distance with close-ups, as this practice would entail danger of distortion. It is less great with objects having a shallow depth of field. For the same reason portrait heads should, if possible, not be taken at distances closer than 40 in.

Rolleinar Lenses require no increase of exposure.

To Use: Attach one each of the same Rolleinar set in front of both Rollei lenses (Rolleinar 2.8: see page 4): Insert bayonet and turn to the right until it snaps into place.

Lens Accessories with Anti-Reflection Coating

Coating of the lens surfaces materially increases the brilliance of the pictures. To retain this increase in contrast when using lens accessories, these too must be coated. All Rollei optical lens accessories are treated with a hard, abrasion-resistant anti-reflection coating. In addition the coating of each filter is adjusted to enhance the effect of the filter's color and for maximum contrast.

IMPUGNATURA A GRILLETTO ROLLEI

per tutti i modelli di apparecchi Rollei con scanalatura lungo il bordo del passo a vite per treppiede.

Fissaggio all'apparecchio

Sbloccare la leva **2** dell'impugnatura, premendo il fermo **3** di cui è provvista, e ribaltarla in giù. Infilare da dietro in avanti il passo a vite per treppiede dell'apparecchio nelle due guide della testa, spingendo l'apparecchio stesso finché nei due forellini **11** esistenti sul suo frontale si inseriscono i due piolini **10** di cui la testa è munita. Ribaltare ora all'indietro la leva di fissaggio **3**.

Collegamento permanente dello scatto flessibile all'apparecchio

Girare verso sinistra la vite di fissaggio **1** finché l'astina di scatto **5** si ritrae nel raccordo a vite **4**. Avvitare quest'ultimo nell'apposito passo a vite dell'apparecchio. Qualora si desideri ridurre la corsa del grilletto **7** per ottenere lo scatto, si raggiunge ciò avvitando verso destra la vite di fissaggio **1**:

Per Rollei-magic: girare la vite **1** finché la leva di scatto dell'apparecchio si muove abbassandosi dalla posizione di riposo, quindi far fare un giro completo in senso inverso alla vite stessa.

Per gli altri modelli Rollei: ad apparecchio scarico, girando verso destra la vite **1** predisporre il punto della corsa del grilletto in cui si desidera avvenga lo scatto, evitando però di bloccare il meccanismo di caricamento (manovella di trasporto), altrimenti girare in senso inverso la vite **1** in misura corrispondente.

Prima della ripresa: liberare la sicura **8** (rendendo visibile il punto rosso).

Fissaggio di un braccio per lampeggiatore

La vite **9** sulla parte anteriore dell'impugnatura serve a fissare la staffa portante la torcia quando si fotografa col lampo elettronico.

Cinghia di maniglia

L'anello **6** sul fondo dell'impugnatura permette di fissare questa alla cinghia di maniglia.

PUNHO DE PISTOLA ROLLEI

Utilizável em todos os modelos Rollei com ranhura no bordo da rosca para tripé.

Fixação da câmara

Premer a tecla de travão **3** na alavanca de aperto do Rolleifix **2** virando a alavanca, agora destravada, para baixo. Enfiar a porca do tripé da câmara nas duas calhas de retenção no Rolleifix e corrê-la para a frente, deixando engatar completamente as cavilhas de retenção **10** no corpo da câmara **11**. Virar a alavanca de apêrto **3** para cima.

Ajuste de vez do disparador de cabo

Desatarraxa-se o parafuso de condução **1** para a esquerda, até a ponta do cabo do disparador **5** estar na altura do bocal. Atarraxa-se o bocal **4** na respectiva rosca de ligação **4** no corpo da câmara. Em caso de necessidade pode-se encurtar o caminho do disparo do gatilho **7** virando o parafuso de condução **1** para a direita.

Na Rollei-magic: Desenroscar o parafuso de condução **1** do punho até este se mover, enroscar o bocal **4** na máquina, e enroscar de novo o parafuso de condução **1** por uma rotação completa.

Nos restantes modelos Rollei: Encontrar nas câmaras descarregadas o ponto do disparo pela viragem do parafuso de condução **1** para a direita sem que a armação do obturador (manivela do transporte) esteja bloqueada – se isto acontecer, desatarraxar de novo um pouco o parafuso de condução **1**.

Antes do disparo: Destravar **8** o gatilho (o ponto encarnado torna-se visível).

Fixação do braço de suporte para flash

Com o parafuso **9** pode-se fixar a calha do reflector do flash electrónico.

Laço

O olhal **6** no extremo do punho de pistola serve para a fixação do laço.

EMPUÑADURA DE PISTOLA ROLLEI

Utilizable para todos los modelos Rollei con ranura en la periferia de la tuerca de trípode.

Fijación de la cámara

Apretar el seguro **3** de la palanca de bloqueo del Rolleifix **2** y llevar hacia abajo la palanca así desbloqueada.

Encajar la tuerca de trípode de la cámara en los dos carriles de sujeción del Rolleifix, empujando hacia adelante, y hacer que la espiga de retención **10** delantera endente bien en el cuerpo de la cámara **11**. Llevar la palanca de bloqueo **3** hacia arriba.

Puesta a punto del disparador de alambre de una vez para siempre

Desenrósquese el tornillo de graduación **1** a izquierdas hasta que la clavija de disparo **5** enrase con la boquilla roscada **4**. Atorníllese la boquilla **4** a la rosca de unión de la máquina. En caso necesario puede todavía reducirse más la carrera de disparo del gatillo **7** girando el tornillo **1** a derechas, a saber:

En la Rollei-magic: Girando el tornillo **1** hasta que el disparador en la caja de la máquina empiece a apartarse de su posición de reposo y entonces haciendo retroceder el tornillo **1** una vuelta completa.

En los restantes modelos Rollei: Con la máquina descargada determínese por giro a derechas del tornillo **1** el punto de disparo deseado, sin que llegue a quedar bloqueado el montaje del obturador siguiente (manivela de transporte de la película) – en cuyo caso habría que hacer retroceder el tornillo **1** lo necesario girándolo al revés.

Antes de fotografiar: Quítese el seguro **8** del gatillo (aparece el punto rojo).

Fijación del brazo para flash

Con el tornillo **9** que lleva delante la empuñadura de pistola puede sujetarse el carril de soporte del reflector en las fotos con luz relámpago.

Lazo

La asa **6** del final de la empuñadura sirve para sujetar el lazo.

The meanings of the abbreviations for colour films are as follows:

Col T = Colour Daylight
Col K = Colour Artificial Light
} Reversal

Col NT = Colour Negative Daylight
Col NK = Colour Negative Artificial Light

It should here be pointed out that high speed and ultra speed film should not be used for miniature photography if it can be avoided, but only when their employment is quite essential.

OPENING AND LOADING THE CAMERA

OPENING THE BACK OF THE CAMERA

The back of the Ambi Silette is opened by sliding the latch plate by its projecting lip in the direction of the arrow (Fig. 12). The back will then spring up and can be opened by the finger grip provided.

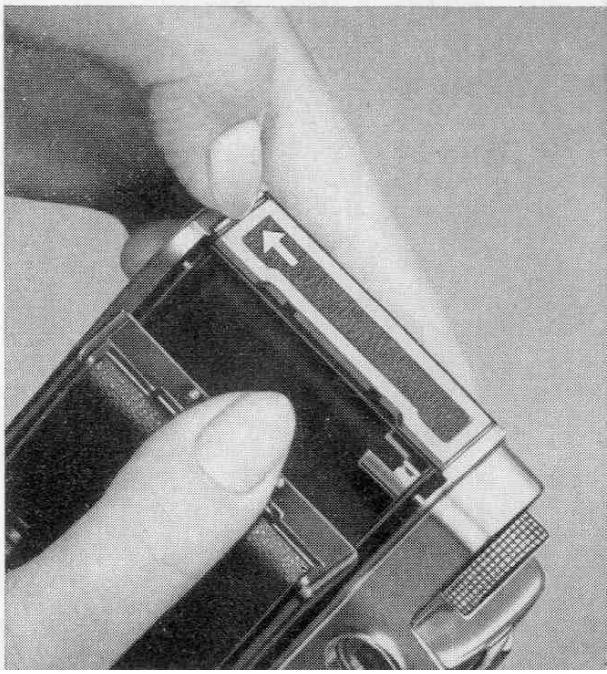


Fig. 12

Focal Length and Focusing-Range with Rolleinar Lenses

Rolleinar Lenses	—	1	2
Focal Length	75 (80)* mm	71 (76)* mm	68 (72)* mm
Focusing-Range (in inches)	∞ — 35 1/2 (∞ — 39 1/2)*	39 1/2 — 17 3/4 (39 1/2 — 18 1/2)*	19 3/4 — 12 1/8 (19 3/4 — 12 1/2)*

Field-Size and Scale of Reproduction

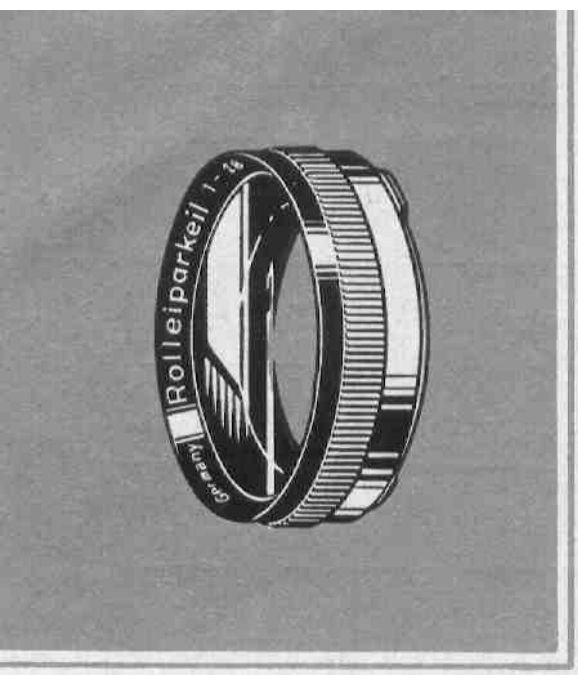
Focused Distance		31 1/2 in.	19 3/4 in.	13 in.
Field-Size (in inches)	2 1/4 x 2 1/4	22 x 22	13 3/4 x 13 3/4	8 3/4 x 8 3/4
	Rolleikin	9 x 12 1/2	5 1/2 x 7 7/8	3 1/2 x 5 1/8
Scale of Reproduction approx.		1 : 10	1 : 6.3	1 : 3.9

Depth of Field with Rolleinar Lenses

Rolleinar	1		2		f / Stop	
Focused Distance (in inches)	31 1/2	23 1/2	19 3/4	15 3/4		
Depth of Field (in inches)	29 1/2 — 33 1/2	22 1/2 — 24 3/4	18 7/8 — 20 1/2		5.6	Rolleikin
	28 3/4 — 34 1/4	22 1/4 — 25 1/4	18 3/4 — 20 7/8	15 1/8 — 16 1/2	8	
	28 — 35 3/4	21 5/8 — 26	18 1/8 — 21 1/4	15 — 16 7/8	11	
	26 3/4 — 38 1/4	20 7/8 — 27 1/4	17 3/4 — 22	14 5/8 — 17 1/4	16	2 1/4 x 2 1/4
	25 1/4 — 41 3/4	20 — 28 3/4	16 7/8 — 23 1/4	14 1/4 — 18 1/8	22	

Distances are measured from lens board to subject. The figures given in the tables are, for all practical purposes, usable with both 75 and 80 mm lenses. Permissible circle of confusion = approx. 1/1000 of the focal length of 75 and 80 mm respectively.

* Figures given in parenthesis apply to a focal length of 80 mm.



ROLLEIPAR LENSES 1 and 2

Designed for: Correction of parallax when using Rolleinar lenses.

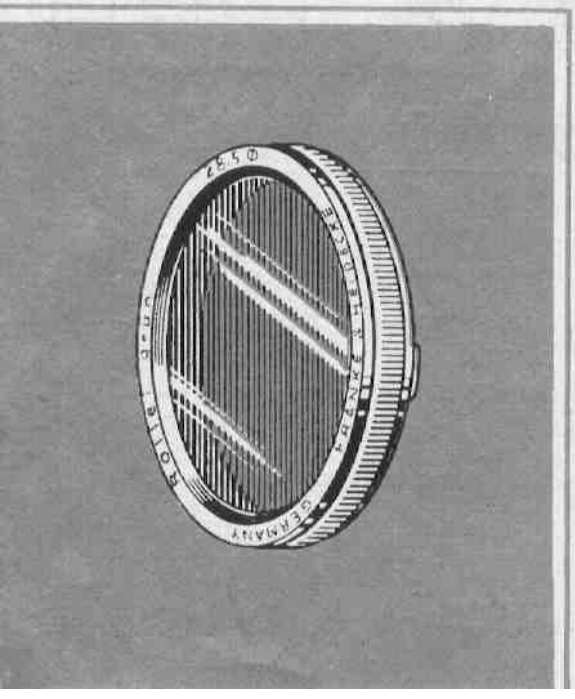
Application: Due to the narrow separation of the lenses, parallax (= the discrepancy between finder image and negative) is very small with Rollei-Cameras and has been fully corrected within the normal focusing range from ∞ — $39^1/_2$ in. For close-ups below $39^1/_2$ in., this will be accomplished by Rolleipar lenses.

The numbers 1 and 2 correspond to Rolleinar Sets 1 and 2.

For Use: Fasten the Rolleipar to the Rolleinar on the viewing lens. The marking (red dot or engraved double-arrow) must be on top.

ROLLEINAR 2.8 C (38 mm diameter)

These larger diameter close-up lenses incorporate the Rolleipar, built into the Heidosmat-Rolleinar. This is the unit for the viewing lens and should be attached last, with the red dot on top.



ROLLEI FILTERS

Designed for: Correction of color rendition (color sensitivity) of the film: Filters render their own color lighter and the one complementary to it darker in the print.

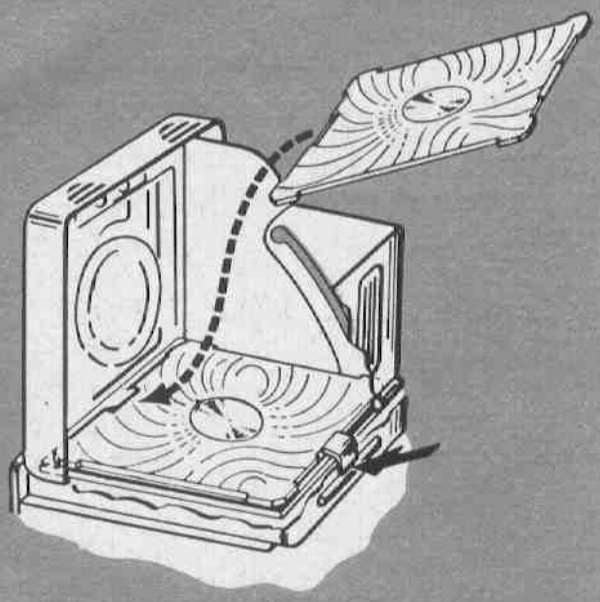
For Use: Fasten filter to inner bayonet of the taking lens. Increase exposure as indicated by filter factor.

Table of Rollei Filters

The filter factors indicate average values which, however, may be changed according to the particular type and make of film used and the light conditions.

Rollei Filter	Use	Filter Factor	
		Ortho	Pan
Light yellow	Landscapes, snow, clouds. Renders yellow and green lighter, blue darker.	3x	2x
Medium yellow		4x	3x
Light green	Landscapes, snow, clouds. Renders green lighter, red (complexion) and blue darker. For pan emulsions.	3x	2x
Green		4x	3x
Orange	Hazy distant views. Renders yellow-red lighter, blue darker, distant objects clearer.		3–7x
Light red	Hazy distant views. Renders red lighter, blue-green darker. Gives stronger effects than Orange Filter.		4–10x
Light blue	Artificial light. Renders red darker. For ultra-pan emulsions.	1.5x	1.5x
UV	High altitudes above 6000 feet. Sea-scapes. Eliminates ultra-violet rays which reduce contrast.	1.5x	1.5x
Infra-Red	Special filter for infra-red emulsions. Transmits dark red above 700 mμ and infra-red.	*)	
H 1	UV-Filter, especially designed for long distance color photography. Absorbs ultra-violet rays, subdues predominance of blue and cuts aerial haze in distance shots.	No increase of exposure	

*) Exposure depends on the type of emulsion used and must be determined by tests.



ROLLEIGRID LENS

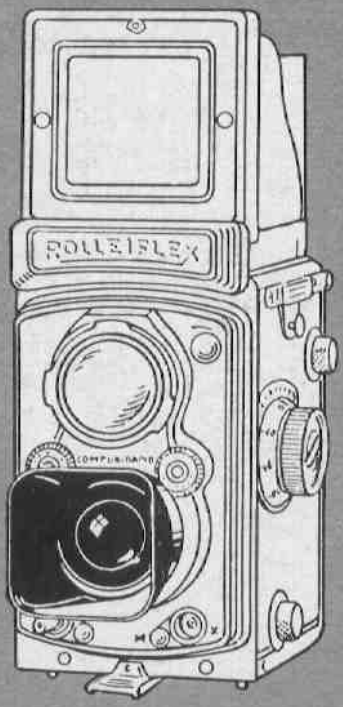
Purpose: To brighten the ground glass screen image at the edges.

To Install: Place the Rolleigrid with the narrow front edge against the ground glass screen, let it slide forward under the retainer tab, then drop the rear end and fasten by means of the push-button at the rear of the focusing hood (see also p. 15, B 5). The condenser must be placed on the ground glass with the grooved side down.



To Remove: Turn the camera over, push the button, letting the Rolleigrid fall out of the hood.

To Clean Rolleigrid: Use a wad of cotton and a mild soap and water solution.



LENS HOOD

Designed for: Protection of the lens from extraneous light and to shield it from rain, snow or spray at watersports events.

For Use: Fasten lens hood to outer bayonet of the taking lens.

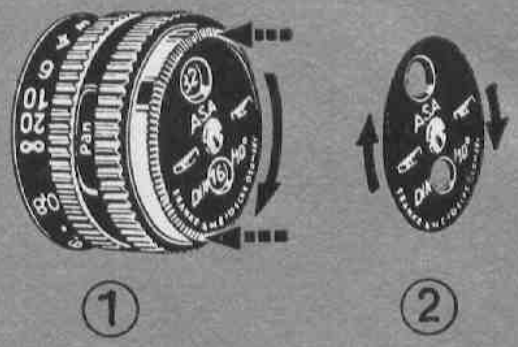
AUXILIARY FOCUSING KNOB with Film Indicator

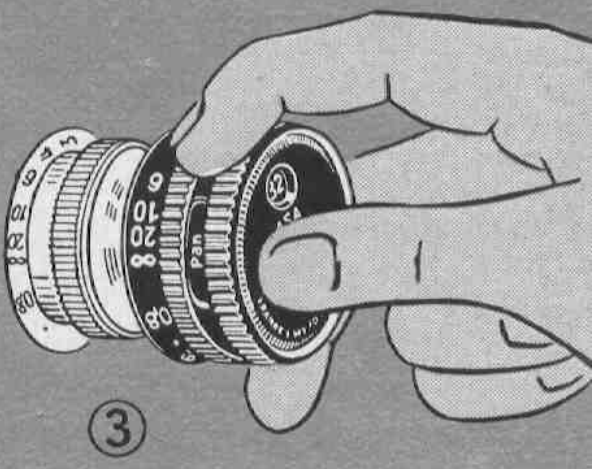
(Not required for Rolleiflex Automats with serial numbers above 1 428 000 and all Rolleiflex 2.8 C.)

Designed for: Facilitating sharp focusing under extreme conditions (e. g. in cold weather or when working with gloved hands). Incorporated in this focusing knob is a mechanical indicator to tell type and speed of film being used.

For Use:

1. Setting for type of film employed: Press down slightly and rotate the front disc inside the milled metal ring.
2. To set for speed of film employed: By turning the grip-bars move the front disc until film speed employed is ascertained.
3. To attach auxiliary focusing knob: Grip the auxiliary focusing knob by the milled rim with two fingers, simultaneously pressing the front disc hard down with the thumb. Attach to the focusing knob of the camera at the correct position of the infinity mark ∞. Remove in the same manner.

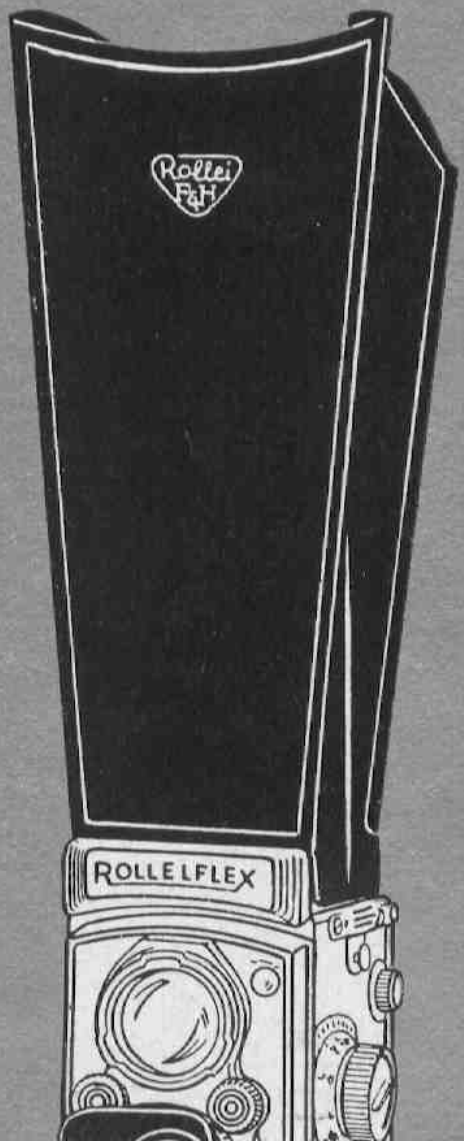


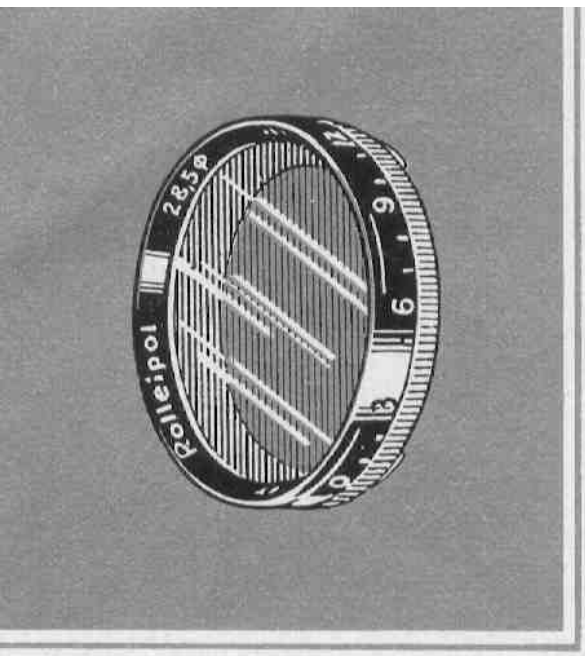


EXTENSION HOOD

Designed for: Extending the focusing hood to the normal viewing level.

For Use: Slip extension hood over the opened focusing hood, rounded edge with „breathguard" toward the operator.





ROLLEIPOL

Purpose: Elimination or subduing of disturbing reflections (glare) from shiny, non-metallic objects or surfaces. Under certain conditions, filtering of the blue sky. Especially useful for regulation of the colors (colored reflections) and control of sky tone in color pictures.

Explanation: If the direction of movement of a light beam is imagined to be the axle of a wheel, then the spokes of the wheel correspond to the various plans of oscillation of the light waves; (i. e., we are looking at the light beam in cross-section). Polarization will reduce the many planes of oscillation to merely one.

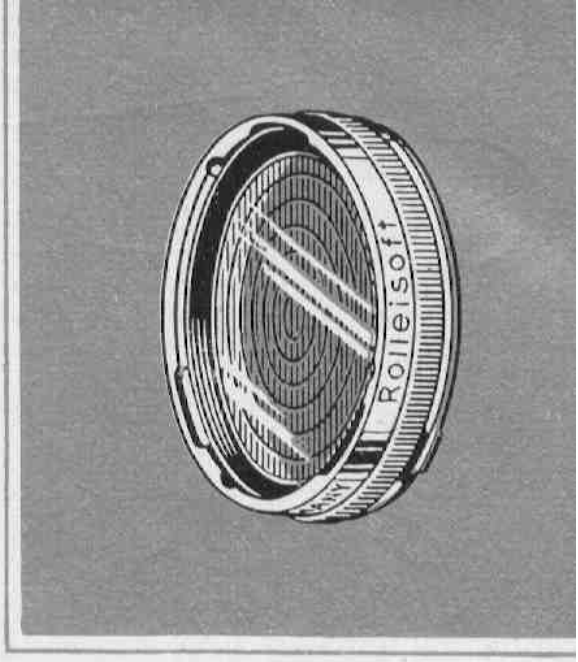
Polarization takes place when light waves, striking at a certain angle, are reflected by shiny bodies (with the exception of metals). This polarized segment of light can be retained in full or in part by placing the Rolleipol filter across the plane of oscillation: the reflections disappear. (The filter itself has a polarizing effect on the light which passes through it.) Further, since there is also polarized light in the blue sky, this can be eliminated: the use of the Rolleipol filter results in subdued (darkened) sky portions.

Not all reflected light is polarized. If reflections are to be eliminated, 1. the filter must be turned (on its optical axis) in the direction of the vibrations as required, and 2. the camera position must be changed to gain the best effect. This is attained when the beam of light striking the reflecting body and the line of camera view form an angle of 60—74°, (varies according to material of the subject).

Application: 1. For eliminating or subduing disturbing reflections when photographing reflecting objects (polish, porcelain, painted and lacquered finishes, etc., — reproduction of textures and material), when photographing glass surfaces and the surface of water (the reflecting surfaces become transparent), 2. for filtering sky when photographing landscapes: the blue sky is darkened by absorption of the polarized light it contains. The effect may be observed in advance by looking through the filter. — Required increase of exposure: approximately 3×.

For Use: Fasten the Rolleipol filter on finder lens (red dot on the top) and rotate the front ring of the Rolleipol until the desired effect is obtained on ground glass. Note the white number marking and transfer to the taking lens in the same position.

ROLLEISOFT LENS 0 and 1



Purpose: Softening of super-critical definition producing striking fluffy halo-effects, especially with back-lighting.

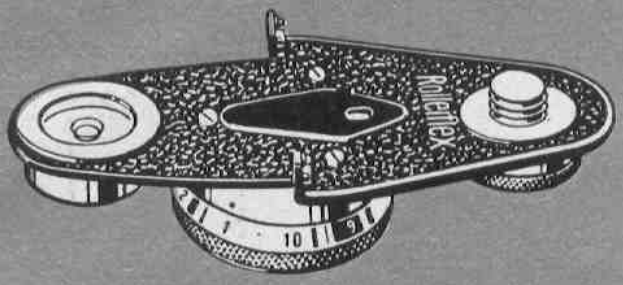
Explanation: The taking lens of the Rollei gives super-critical definition required for the majority of exposures. If, occasionally, softer definition is desired (e. g. for portraits and certain dramatic effects) this is obtained by attaching the Rolleisoft Soft Focus Lens in front of the lens.

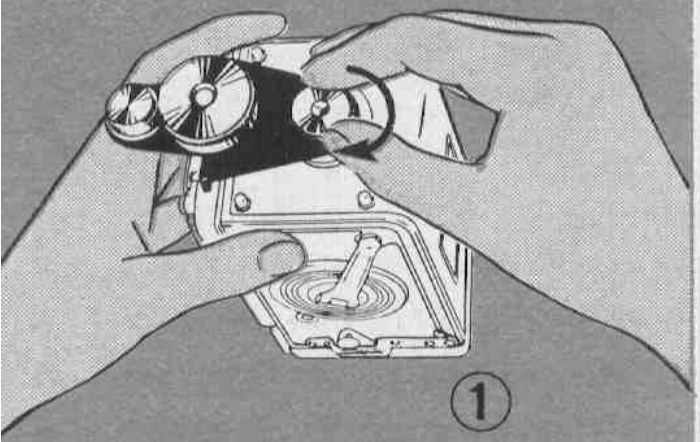
The Rolleisoft lens consists of a plane parallel glass disc with a few concentric ground-in grooves. While otherwise the lens permits only sharpness or softness through adjustment of the focus, the Rolleisoft lens obtains both simultaneously: Between these grooves the rays of light pass unimpeded to the film and produce a sharp impression, i. e., the basis of the image. At the grooves, however, the light rays are diverted with the result that an additional image of slightly softer definition is superimposed. Both together produce the soft focus effect: The exposure shows fluffy softened contours and sunny halo-lights; distracting fine details recede and the total impression of depth definition is improved. By means of the Rolleisoft the Rollei-lens becomes a soft focus lens.

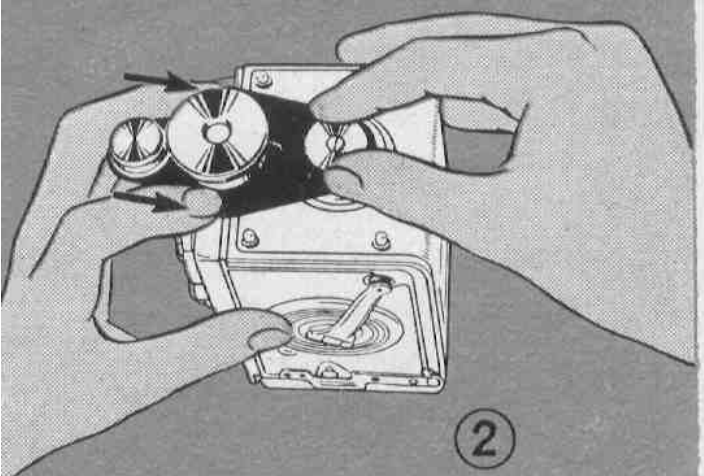
Application: Best results are obtained by using the entire surface of Rolleisoft, i. e., with full aperture. With Rolleisoft 1 (with increased number of grooves) it is permissible to stop down to f 5.6. Smaller apertures tend to decrease the soft focus effect.

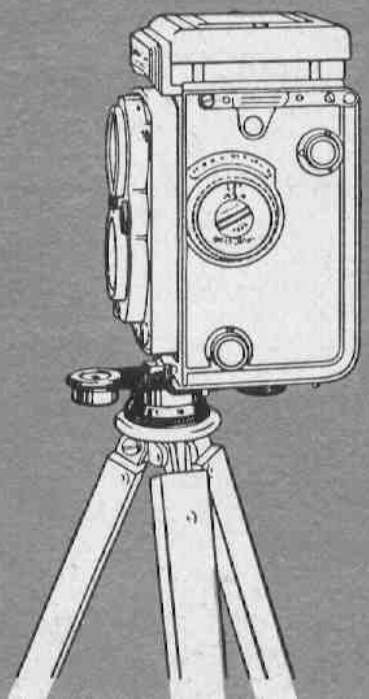
Rolleisoft 0 is used for weak soft focus effect: primarily for strong contrasts of light and glittering objects, i. e., chiefly for backlighted subjects. Rolleisoft 1 is used for greater soft focus effect: for soft lighting. — Chief field of application generally: portraiture. Best suited for: contrasting, highlighted subjects. Rolleisoft increases the plastic, sunny character of backlighted pictures. Speed and focal length remain unchanged. Generous exposures increase the halo-effect. The ground glass screen shows full focused sharpness when using Rolleisoft lenses. The Rolleisoft effect can be judged at any time on the ground glass screen by placing the Rolleisoft in front of the finder lens.

For Use: Fasten Rolleisoft to inner bayonet of the taking lens.









PANORAMA HEAD

Designed for: Taking of panoramic views composed of 10 individual pictures.

For Use:

1. Screw panorama head at first only lightly into tripod socket.
2. Match pins and sockets of panorama head and camera, then press together.
3. Tighten screw firmly.
4. Screw in tripod.
5. Level off horizontally by centering bubble of spirit level.
6. For partial panoramic views start at the left, as the panorama head may be turned clockwise only.
7. For each successive exposure turn camera to the next click-stop number engraved on the base of the panorama head. 10 exposures give a panoramic view of 360^0. Lateral overlapping of pictures ensures perfect joints.

PLATE-ADAPTER

Designed for: Single $2^1/_4 \times 2^1/_4$ inch-exposures on $2^1/_2 \times 3^1/_2$ inch-plates of sheet-film. A desirable facility for the use of special emulsions, immediate or individual processing and such special tasks as studies of portraiture, trick-photography, reproductions, technical tests etc.

The outfit consists of:

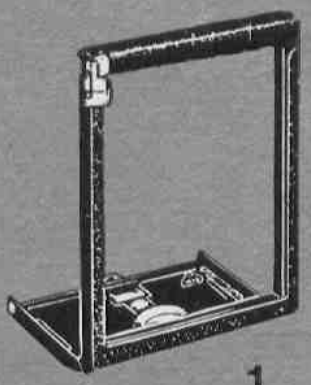
1. Special Adapter Back
2. 3 Plate Holders
3. Focusing-Screen Holder
4. Leather Case for 2 Plate Holders.

   Also available:
5. Cut-Film Sheath.

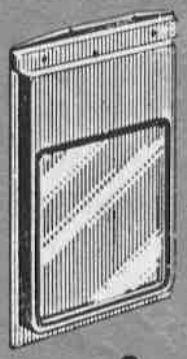
All parts are available separately. Focusing is done as usual on the reflex focusing-screen and only in special cases (f. e. when using two Rolleinars combined, or utilizing the picture area to the fullest extent) on the adapter focusing-screen.

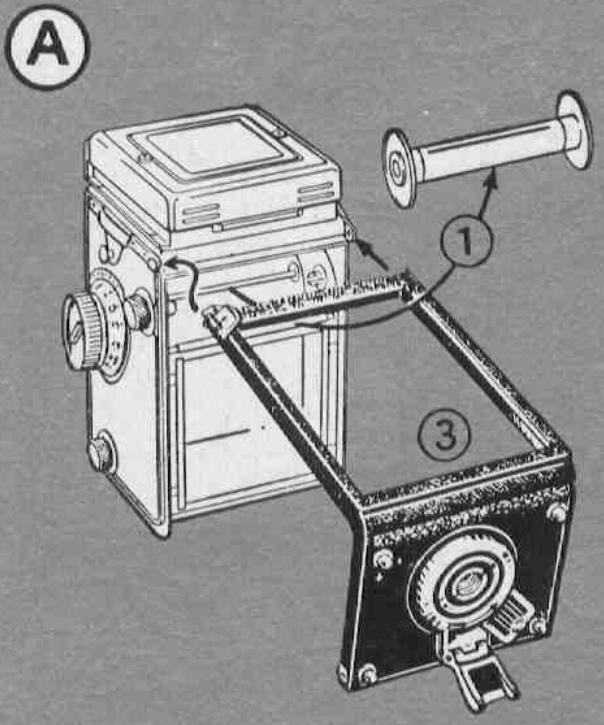
A. Attaching the Adapter Back

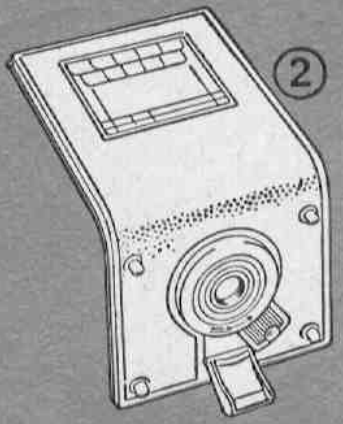
1. **Remove take-up spool from camera.**
2. Take off camera back.
3. Attach adapter back (without plate holder!).











D. Exposure

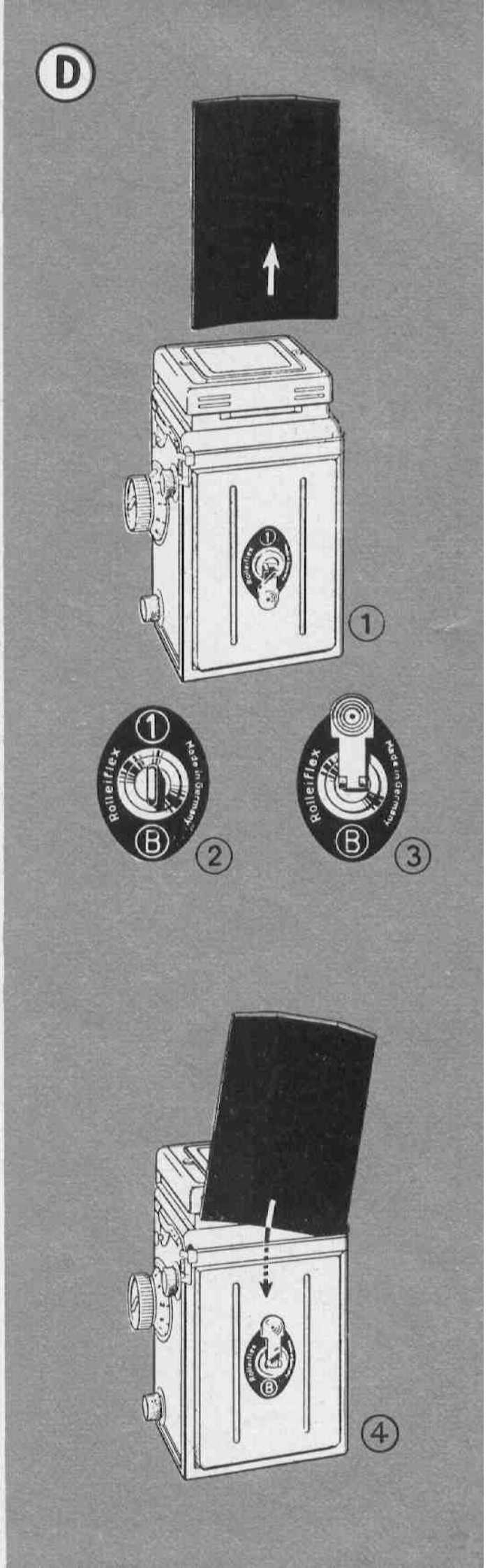
1. Withdraw slide.
2. Lift up lever and let it slip inside after a quarter-turn. The plate moves into the focal plane by spring action.
3. After the exposure, retract lever first, then fold upward after a quarter-turn. The letter "B" indicates that the plate has been exposed.
4. Only now reinsert slide.

E. Focusing-Screen Holder

1. Insert the closed holder.
2. Withdraw slide. Spring action presses focusing screen automatically into the focal plane.
3. Reinsert slide first, and then remove holder.

F. Note

1. Shutter cocking as usual: with Rolleiflex, normal swing of the crank.
2. For use of plate adapter with Rolleicord IV the double exposure device must be disengaged in order to unlock shutter.



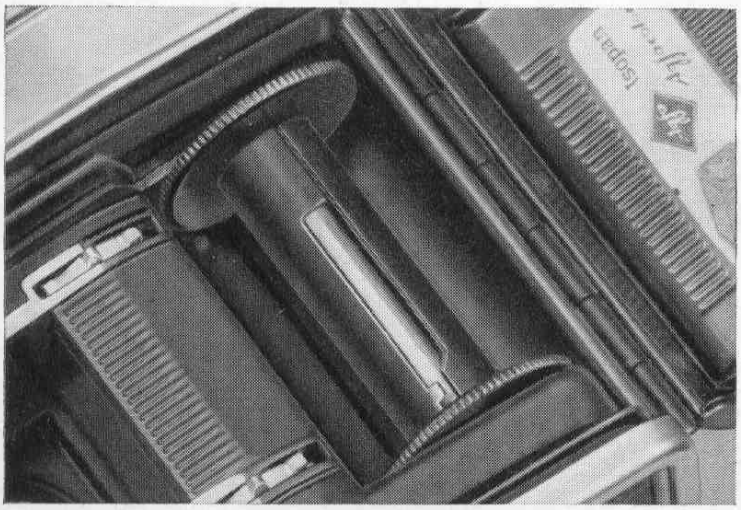


Fig. 13

With the back of the camera open, the two film chambers are visible: on the left the empty chamber to take the 35 mm. cassette and on the right (Fig. 13) the non-removable take-up spool. For loading, the milled disc should be rotated until the slot with its small film retaining tooth is in the position shown in Fig. 13.

INSERTING THE CASSETTE

The new cassette should be unwrapped, and loaded into the camera, if at all possible in subdued light, and at least in the shadow of the body. To insert the cassette, pull out the rewind knob —whilst rotating it—until the spool driving spindle disappears into the camera body (Fig. 14). With the new cassette inserted, the knob is then gently pushed back, rotating it slightly so as to engage it with the spool of the cassette.

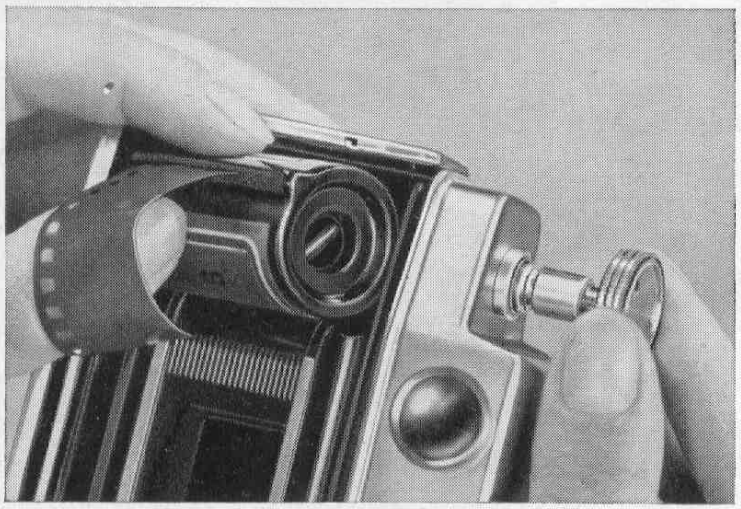
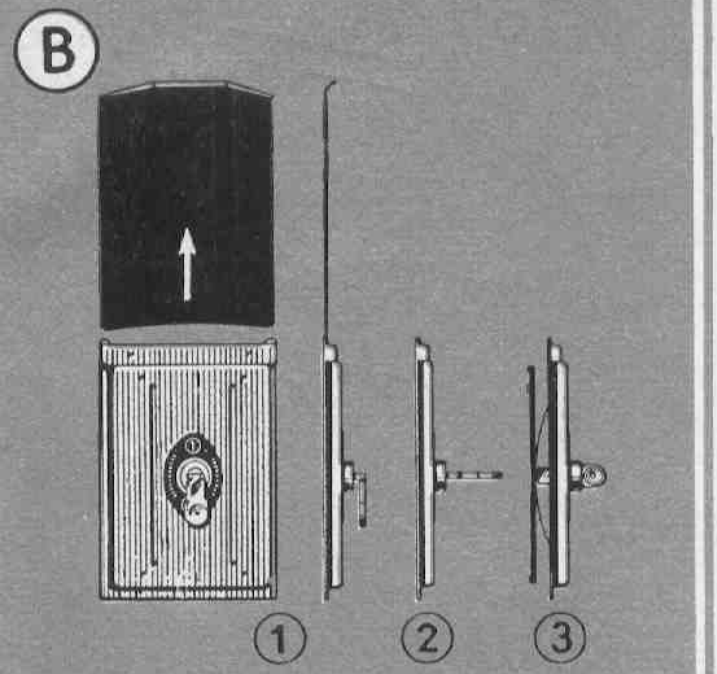
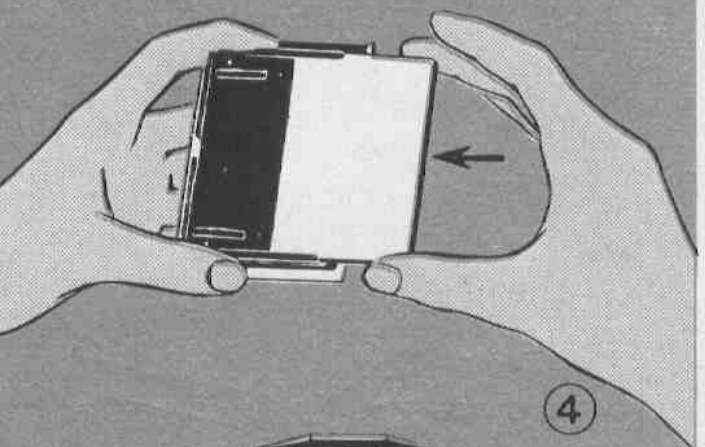
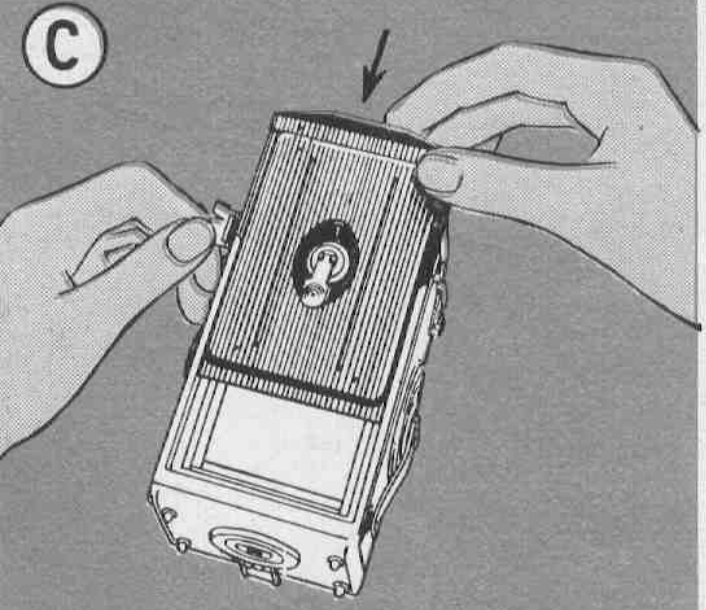


Fig. 14









B. Loading the Plate-Holder

1. Withdraw slide.

2. Lift up locking lever on back of holder and

3. let it slip inside after a quarter-turn. Spring action pushes out plate-carrier.

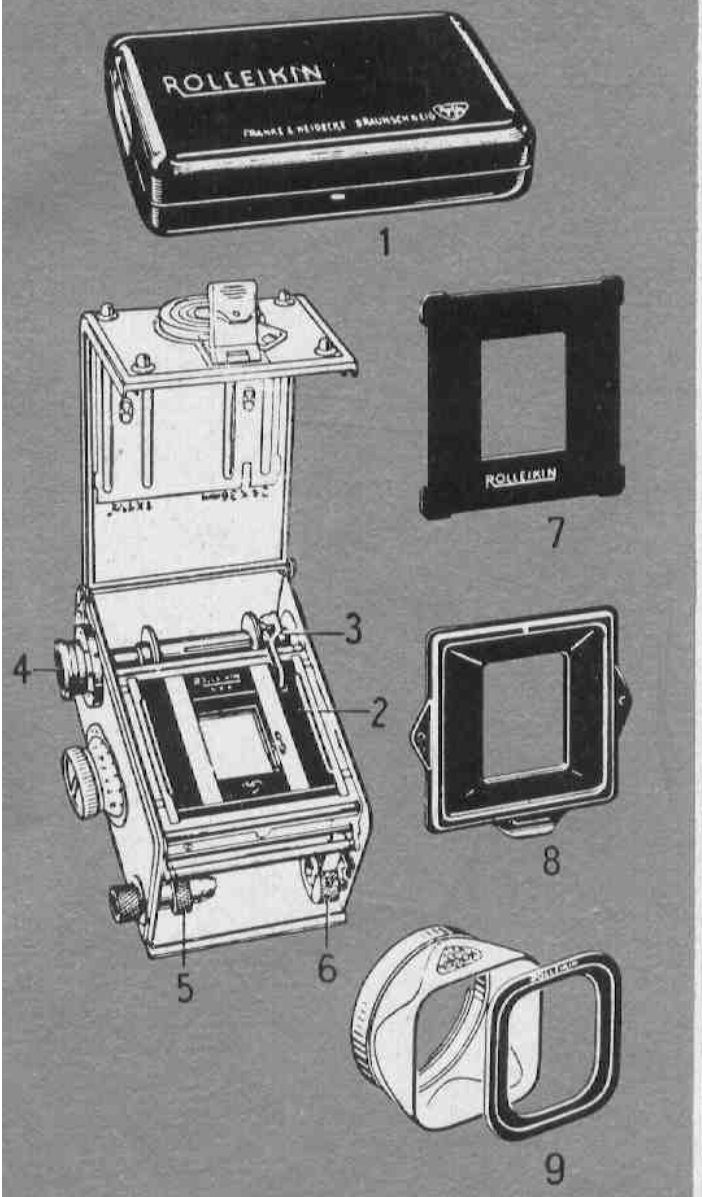
4. Slide plate (or cut-film with cut-film sheath placed underneath) into carrier.

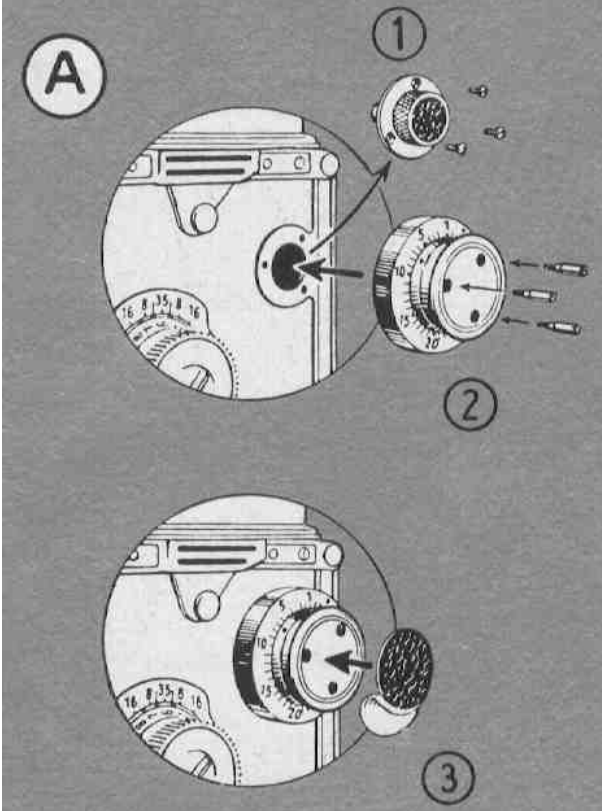
5. Retract lever, lock by a quarter-turn and fold d o w n (the number remaining visible). Close holder by reinserting slide.

N o t e : Conserve plush-strip by always removing slide from empty holders before storing away.

C. Inserting the Plate-Holder

Swing catch out of way and slide holder down the lateral grooves of the adapter back. The catch locks holder against unintentional removal.





ROLLEIKIN 2

Designed for: Taking up to 36 exposures 1 × 1½ in. on 35-mm.-film. Ideal for series of pictures and color photography on miniature film.

The attachment consists of:

1. Case
2. Film Guide Frame
3. Take-up Spool
4. Exposure-Counter-Knob *
5. Extension-Spindle for Rewind-Knob (two types, for previous and new Rollei models)
6. Inner Spool Knob
7. Focusing Screen Mask
8. Direct View Finder Mask
9. Lens Hood Mask.

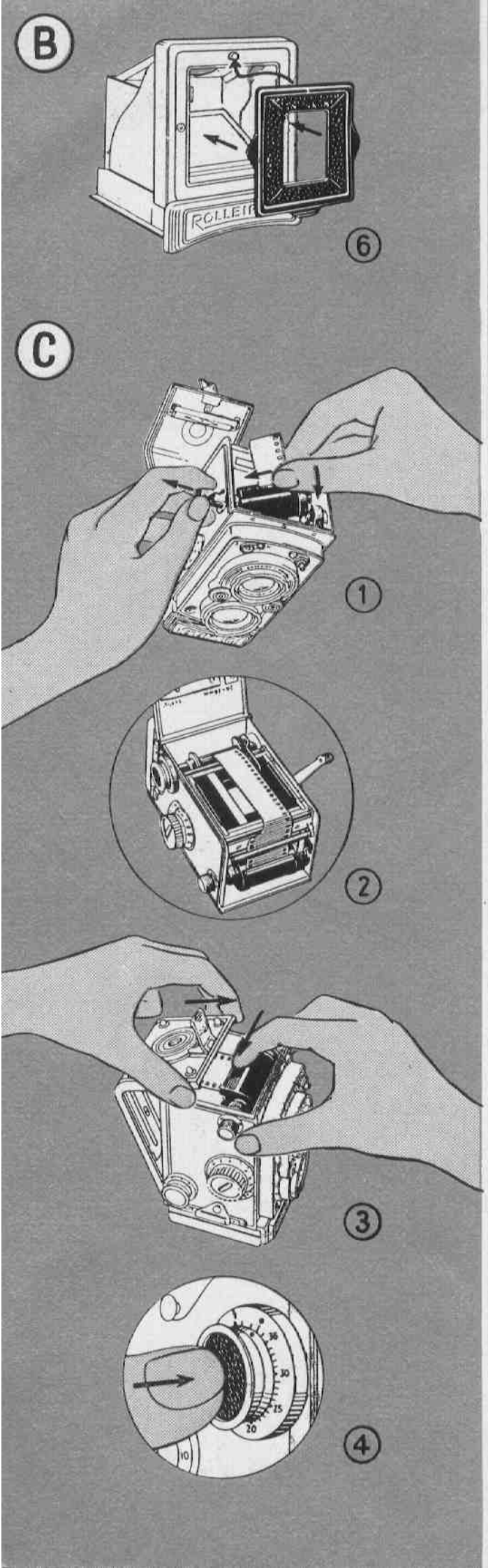
Applicability of Rolleikin 2: Fits Rolleiflex above numbers 1 100 000 and Rolleicord above numbers 1 137 000. (The combination back for two picture sizes was originally not provided with the first camera series, but can be ordered additionally). — Earlier Rollei-models use Rolleikin 1 (with special back).

A. Installing the Counter-Knob *

(The exposure-counter-knob accepts 35 mm and No. 120-(B 2-) film. Your dealer will gladly take care of the fitting for you.)

1. Remove the top film-knob by unscrewing the 3 counter-sunk screws.
2. Fasten counter-knob tightly by means of the three screws supplied.
3. Remove protective lining from gummed insert and paste it on the counter-knob.

* not required with ROLLEIKIN 2 C



6. Insert the frame-finder mask underneath the button above the frame-finder in such a way that the edge (marked with a white dot) is pushed-in first, then press the two lateral fixing buttons into position.

C. Loading

1. Open camera back, pull rewind-knob, fit-in film cartridge on the left and then insert fully.
2. Introduce film-lead (which — in the Automatic Rolleiflex — first passes t h r o u g h the film-feed rollers) into the double slit of the take-up spool, letting it touch on the right. Tighten up by giving spool a short turn.
3. Make sure the mouth of the cartridge points straight ahead in line with the tightened film lead, then close back.
4. Press-and-release counter-knob until the red dots of the Rolleikin counter face each other. (Disregard counter for No. 120-[B 2-] film completely.)
5. To set counter for the first exposure: Advance counter dial to No. 1 by actuating filmtransport three times (see page 17).

B. Assembling the Rolleikin

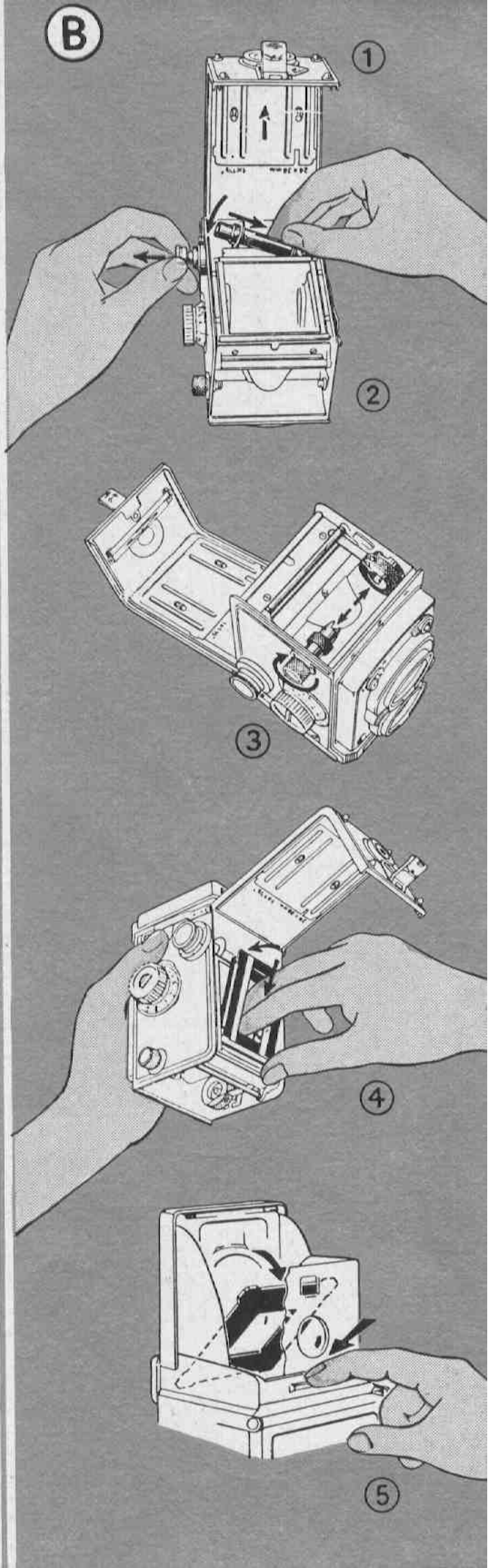
1. Adjust film pressure plate by a sliding movement, pressing down at the same time, thereby bringing the inscription "24 × 36 mm. (1×1½ in)" into view.

2. Pull counter-knob, fit-in take-up spool on the right and insert completely.

3. Rewind-Parts: Screw extension-spindle on rewind-knob by rotating the latter. Snap inner spool-knob over opposite spool bearing pin, (slipping the metal tongue between the rollers of the film-feed when using a Rolleiflex).

4. Inserting the film guide frame: Press spring actuated clamp-bar at an acute angle (as shown) against the bottom of the film gate and insert completely. To remove: Push frame downward (against the clamp-bar) and lift out.

5. First insert forward edge of focusing screen mask under the grip, snap down and secure by pressing the retaining device. Be sure the mask is properly centered inside the ground glass frame.



D. Filmtransport

1. Press-and-release counter-knob before actuating filmtransport. The exposure counter advances automatically to the next number.
2. Advance film as usual to the stop.

E. Rewinding

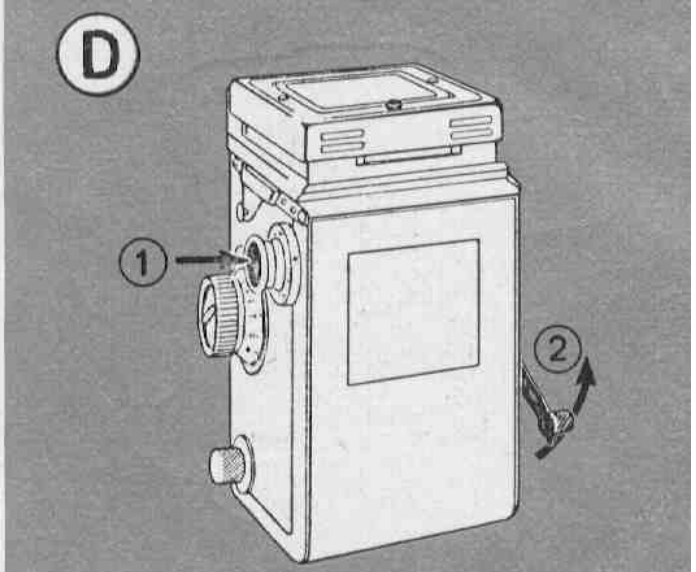
1. After the last exposure has been made, rewind film by keeping counter-knob pressed down,
2. simultaneously rotating rewind-knob clockwise.

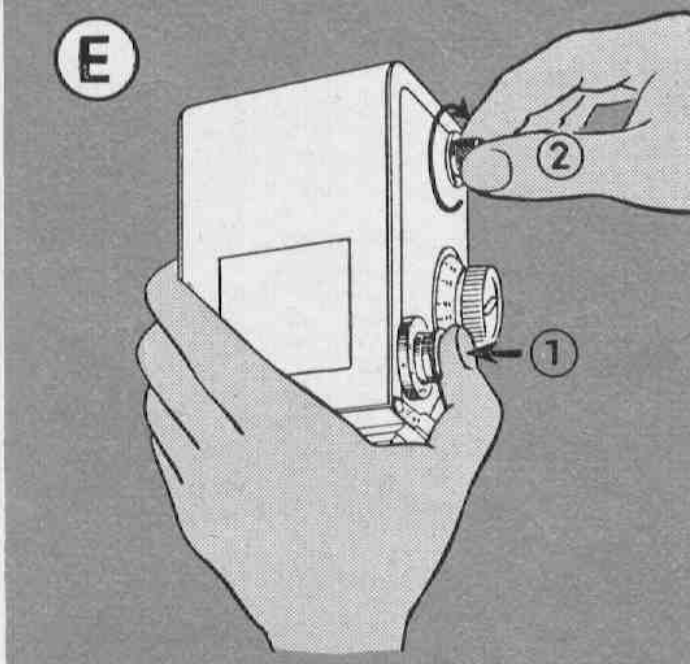
F. Note

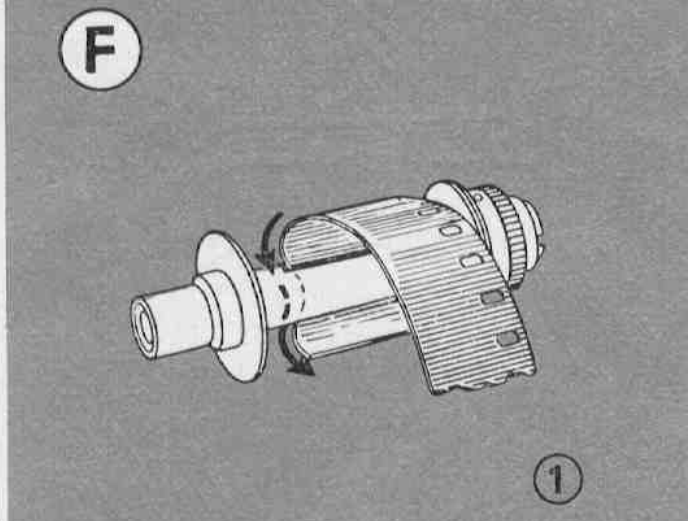
1. The rewind also permits the removal of only partially exposed films. In order to prevent the film lead from slipping into the cartridge when rewinding, be sure to thread the film b a c k w a r d , i. e., against the winding direction into the double-slit of the take-up spool when loading.

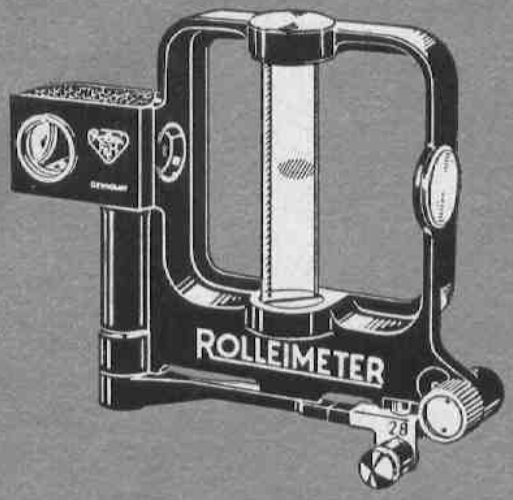
   When reloading a partially exposed cartridge, advance film two frames beyond the last exposure (skipping one frame for safety).

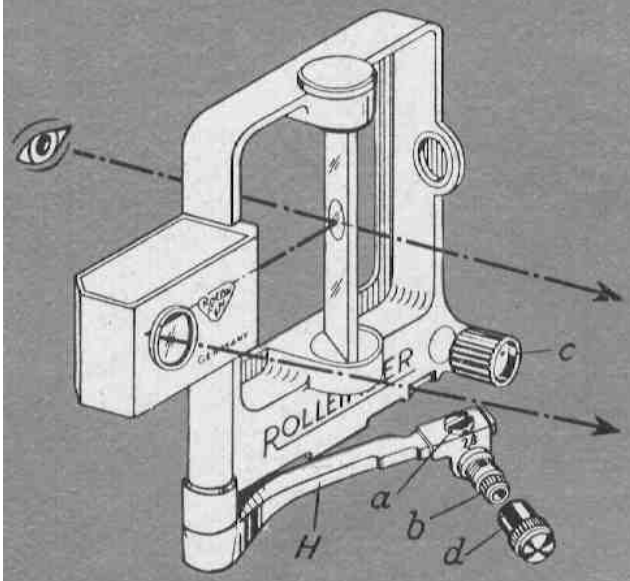
2. Always adjust film pressure plate properly (see B 1)! (A sure sign of incorrect adjustment when using the Rolleikin: Camera back will not close all the way.)
3. When using the Rolleikin it will be convenient to keep the empty roll film spool in the Rolleikin case (next to the insert for the Rolleikin take-up spool) since it will be required the next time roll film is to be used.
4. Shutter cocking as usual: with Rolleiflex, normal swing of the crank.
5. Double exposure device is in operation in the Rolleiflex and c a n n o t be disengaged when using Rolleikin. With Rolleicord IV it m u s t be disengaged in order to unlock shutter.

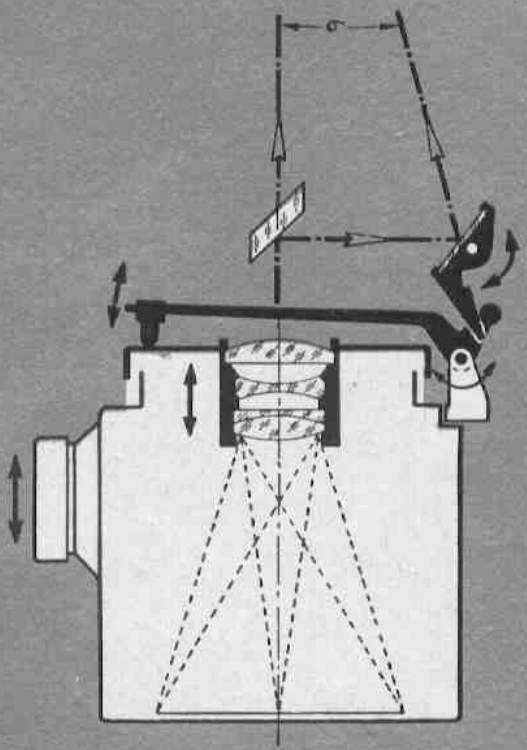












ROLLEIMETER

Purpose: An optical coupled range finder for use with the direct view finder of the Rolleiflex; particularly suitable when shooting sports or flash pictures in poor light.

Description: The Rolleimeter uses the superimposed image principle and is actuated by and coupled to the moving front panel of the camera. It is attached to the nameplate directly in front of the direct view finder. A vertical glass rod with focusing spot for the two images can be seen when looking through the finder. Focusing the camera by superimposing the two images so that the outlines exactly coincide insures sharp focus. Framing and focusing are accomplished while looking through the finder, without moving the eye from one position to another.

Before using the Rolleimeter two simple adjustments are required:

1. A one time adjustment of the actuating lever (screw **a**) to suit the focal length of the lens employed.
2. Adjustment of the lever button (screw **b**) so that the range finder indicates sharp focus at infinity (∞) when the camera is in focus at the same distance. This adjustment should be rechecked from time to time.

A. Adjustment to focal length

(This is done before attachment to the camera and is required so that the Rolleimeter and camera will agree even at close distances, such as three to five feet. See note 2.)

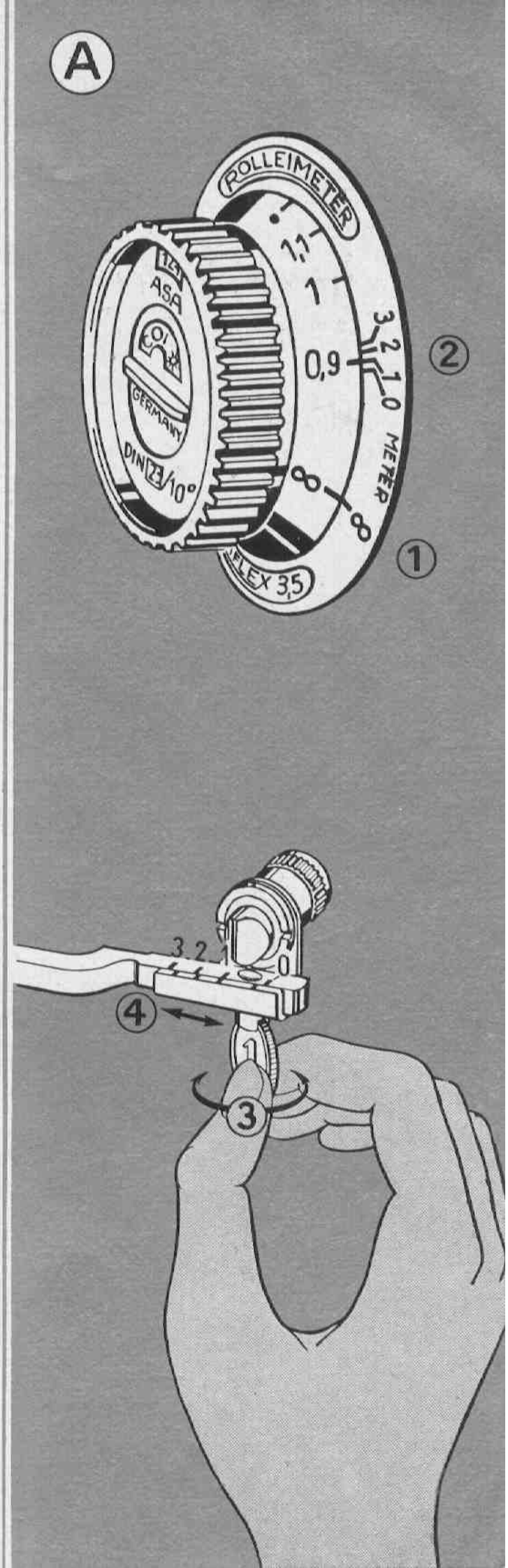
For this adjustment a special plate is provided, suitable for cameras calibrated in either feet or meters. By its use the relationship between infinity and the close distance readings of the focusing knob scale may be observed and the Rolleimeter's actuating arm properly adjusted.

1. Place the adjustment plate over the focusing knob and line up the infinity marks, note whether meters or feet.

2. Note the figure on the adjustment plate which is directly opposite the marker for the closest focusing distance of the knob. Rolleiflex Automats will have 3 feet as this distance.

3. Swing actuating lever **H** outward and loosen the coin-slotted screw **a**.

4. Move the slide to the previously observed adjustment plate figure and tighten screw **a**.



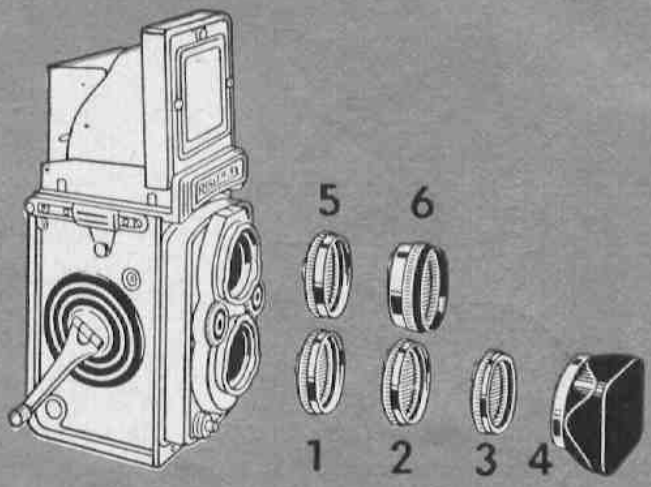
D. To use

Locate the object on the focusing spot of the Rolleimeter's glass rod, as seen through the open direct view finder, and turn the camera's focusing knob until images coincide. The Rolleiflex will be sharply focused to the exact distance of the object selected.

E. Note

1. For use with Rolleiflex 2.8 C (80 mm lens) the Rolleimeter C is supplied together with suitable adjustment plate.
2. Proper adjustment to focal length can be effected easily in the case of earlier Automats (whose knobs are not the right size to permit use of the adjustment plate) by means of the ground glass screen image. Following is the proper method:
   First, make the infinity (∞) adjustment. Then focus the camera accurately on a suitable vertical object at the closest distance. Check the Rolleimeter and if the two images do not coincide, remove it and loosen screw **a**. Relocate the slide at some point in the adjustment range, between 0 and 3, where the images do coincide. Tighten screw **a**. Check the setting again and finally double-check the infinity adjustment. Correct if necessary (see A).

Lens Accessories should be attached in the following order:



Taking Lens

1. Rolleinar
2. Rolleisoft
3. Filter or Rolleipol
4. Lens Hood

Viewing Lens

5. Rolleinar
6. Rolleipar

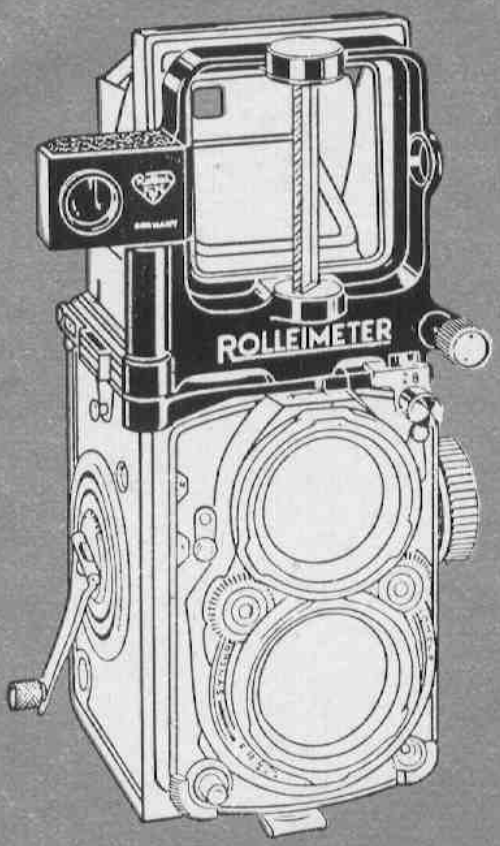
If two or more supplementary lens accessories are to be used, they must be attached in this order. Rule: Rolleinar always first (lens to lens) and filters last.

✶

When ordering, please note!

To insure obtaining correct accessories for use with your Rollei, **please specify camera model, lens and serial number.**

Ⓑ



B. Attaching Rolleimeter to Camera

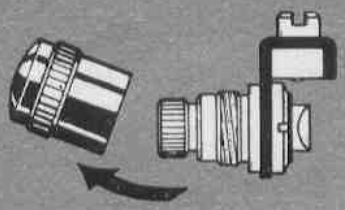
1. Set camera at infinity (∞).
2. Turn mounting screw **c** counter-clockwise until it stops.
3. Hook the Rolleimeter over the left edge of the nameplate and push it back so that the right side fastener can be engaged. Be sure that the actuating lever rests on the camera's movable front panel.
4. Hold Rolleimeter firmly in position with thumb and turn screw **c** clockwise until tight. Removal is effected by complete counter-clockwise turning of mounting screw **c** and lifting off.

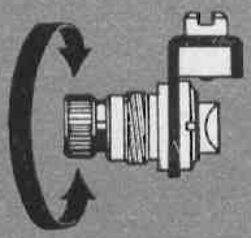
Ⓒ

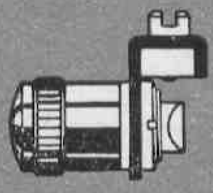
C. Adjustment to Infinity

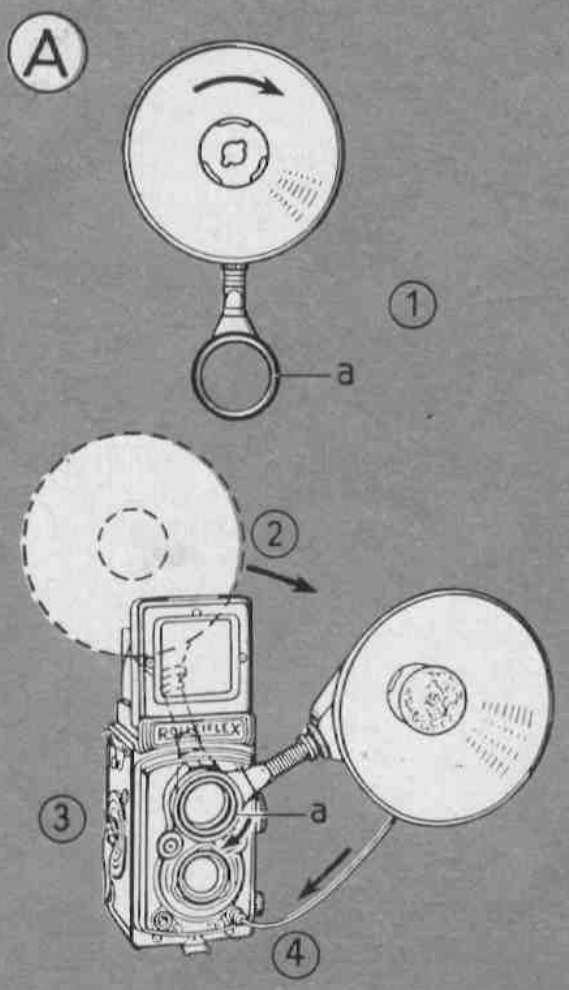
(This is done after mounting Rolleimeter)

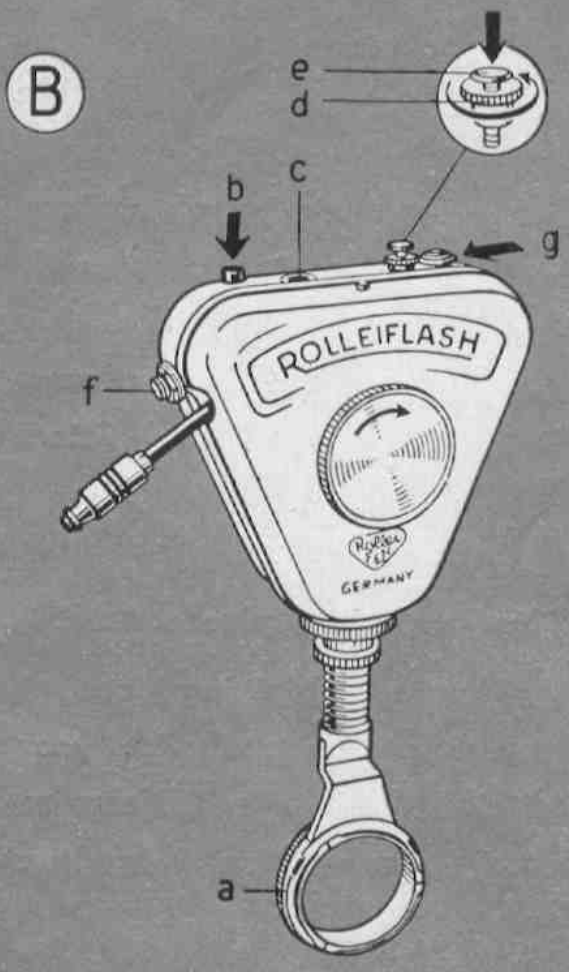
1. Set focusing knob to infinity (∞), open focusing hood and direct view finder.
2. Unscrew protective cap **d** and remove.
3. Select and observe some object (building, tree, lamp post, etc.) at least 600 feet distant. Looking at the focusing spot in the glass rod, turn screw **b** until the outlines of the two images coincide and the images become one.
4. Replace protective cap **d**, tighten, and double-check the coincidence of the two images. This adjustment should occasionally be rechecked.

② 

③ 

④ 





ROLLEIFLASH

Purpose: Synchronized flash exposures with the Rollei.

Applicable Flashbulbs with bayonet base (swan).

B-C principle (Battery-capacitor firing).

A. Mounting Rolleiflash

1. Fasten reflector on case by turning it clockwise in bayonet.
2. Fasten holding arm to bayonet of the viewing lens and
3. Secure by turning lock ring **a** clockwise. — Before removing: first loosen lock ring by turning counter-clockwise.
4. Pull out the cable and plug it into the flash socket on the camera. — To roll up the cord: use turn-knob (on cover of case).

B. Exposure

1. Insert flash lamp as far as necessary to seat in the bayonet socket.
2. Test circuit: Press test key **b** — brief flash of the test lamp **c** indicates positive firing of flash lamp.
3. Synchronized flash-firing: by releasing camera shutter (see directions for using camera).

   Open-flash method (Firing by hand contact in making time exposures): loosen safety screw ring **d**, press hand contact **e**. Always secure hand contact when not in use!

THREADING THE FILM AND PULLING IT TAUT

About 2½ inches (6 cm.) of the narrow end of the film should be pulled out from the cassette: only about ⅓ inch (1 cm.) of the *full* width film should then protrude. The film end is then introduced into the slot of the non-removable take-up spool so that the small tooth visible in Fig. 13 engages in the second perforation. The take-up spool is then turned by means of the milled disc until the film is pulled taut (see Fig. 15).

CLOSING THE CAMERA

Having checked that the film perforations are engaging cleanly with the teeth of the lower drive sprocket the back of the camera may be closed, and locked by pressing with both hands until the catch snaps to.

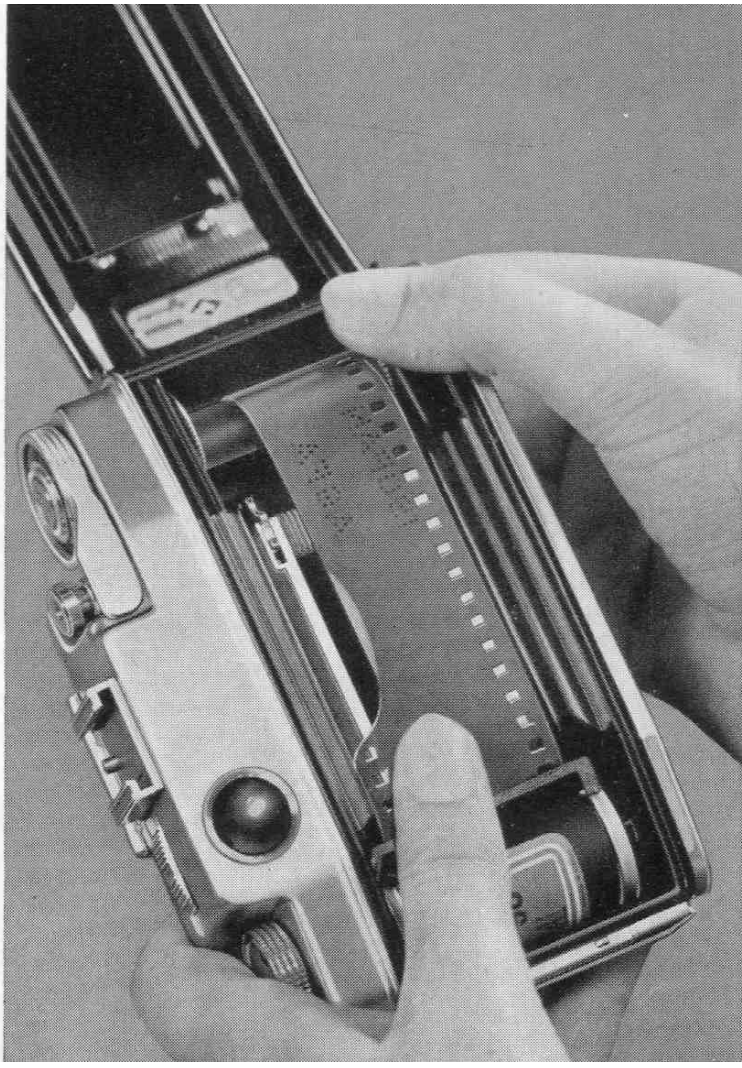


Fig. 15

The connector **f** is for use with the supplementary flash unit Rolleiflash-Comb.

4. Lamp ejection: by pressing ejector button **g** — the lamp is forcefully ejected.

C. Changing Batteries

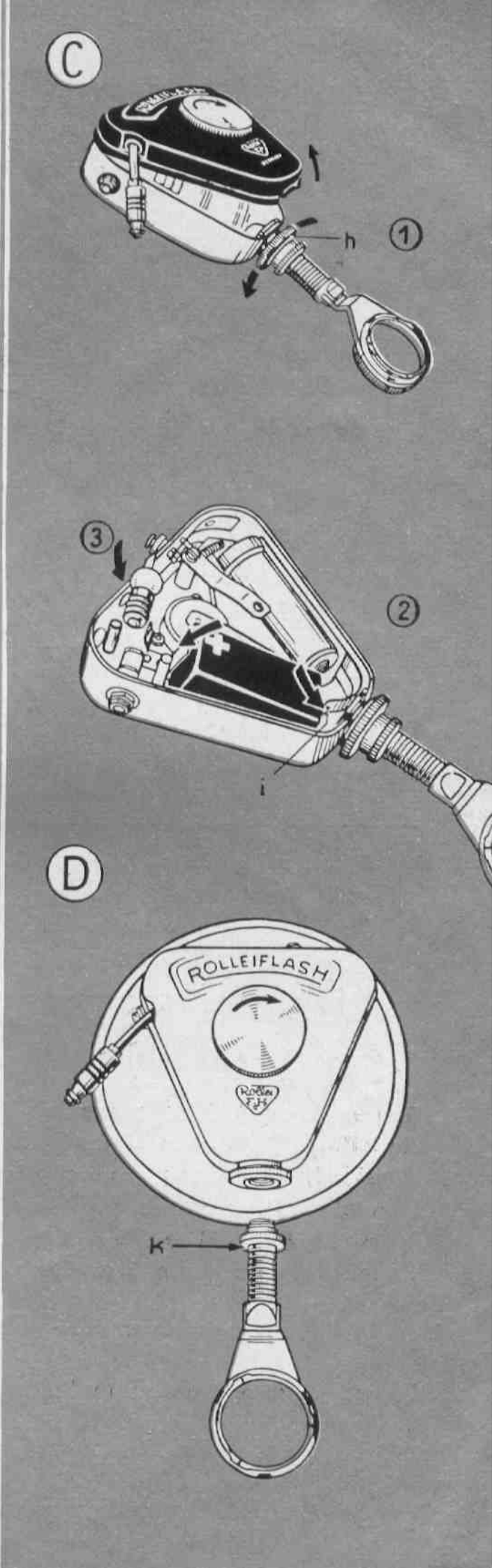
1. Loosen screw ring **h** slightly, open case upwards and remove. — To close the case: First attach cover with retaining pin on case, close tight, tighten screw ring **h**.

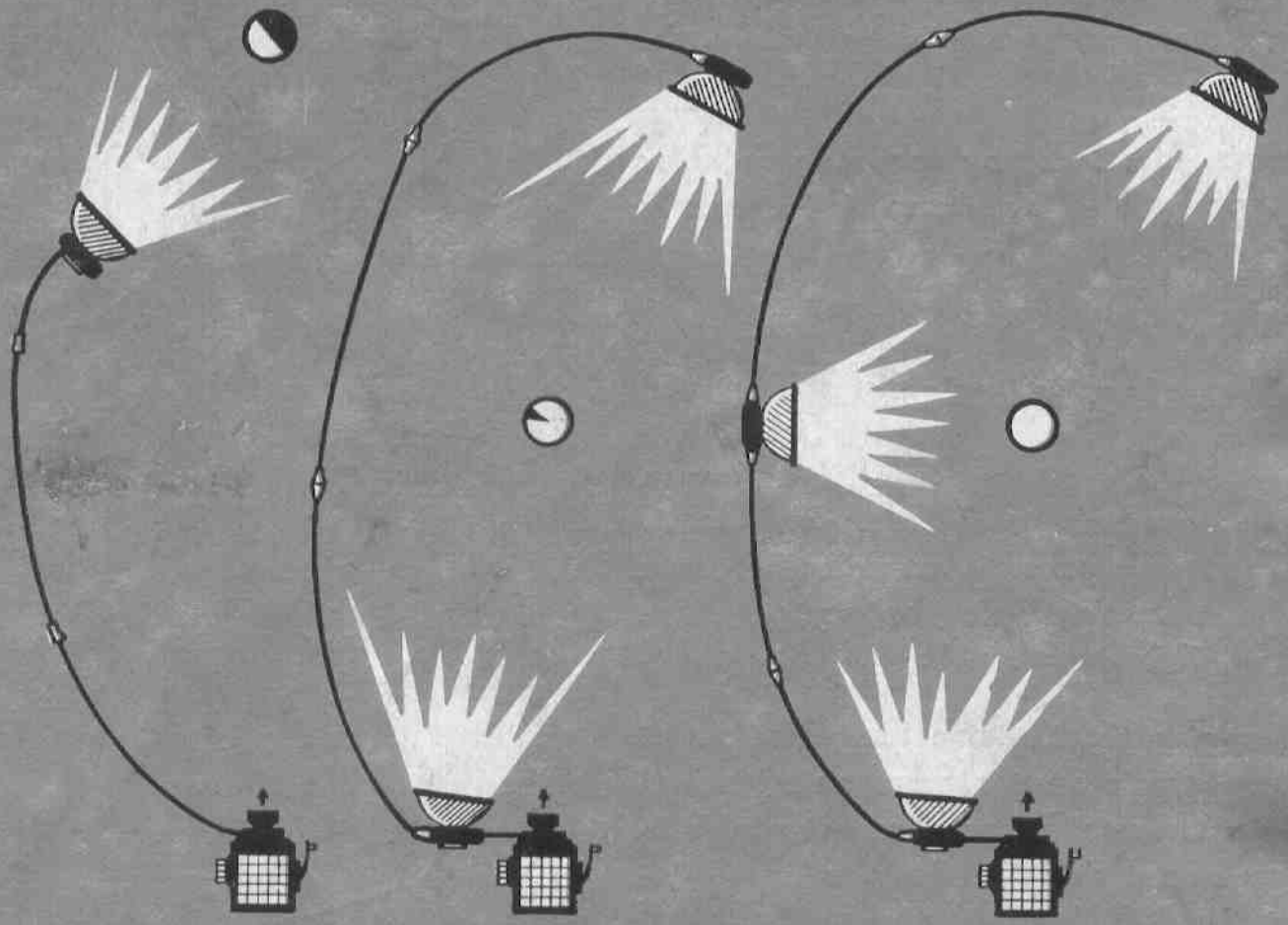
2. Changing the battery: I m p o r t a n t ! **The + pole must always point toward the test lamp!** Wrong insertion of battery would damage the condensor. Insertion of fresh battery (flat cell hearing aid battery 22,5 v.): press back contact spring **i** with the battery, snap battery in.

3. Changing test bulb: As replacement for defective lamps press same-type 6 v. glow lamp (0,05—0,07 ampères) between contact springs.

D. Flexible Arm

The flexible holding arm can be unscrewed from the case when the Rolleiflash attachment is to be fastened directly onto a tripod by the base thread. To replace holding arm: turn back screw ring **k** on holding arm as far as it will go, screw arm into case (up to correct position of bayonet ring) and secure by turning screw ring **k** clockwise.





When using more than one lamp, start with insertion of lamp in main unit at camera.
To avoid unnecessary drain of the battery: Insert flash lamps just before exposure and eject immediately afterwards.

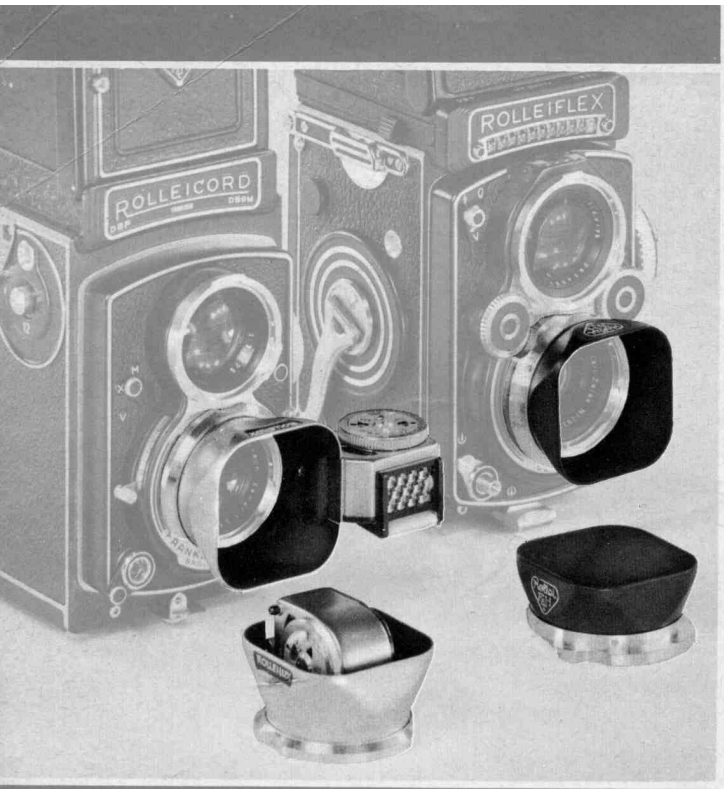
E. Rolleiflash-Comb.

Screw the cable end connectors to the Rolleiflash and Rolleiflash-Comb. The Rolleiflash-Comb. can either be hand-held or fastened to a tripod by the socket provided. The second connector is for an additional Rolleiflash-Comb., if used. A total of three lamps may thus be fired simultaneously. Lamp distance can be extended to 33 feet by means of 10 foot extension cords of two types, for Rolleiflash and Rolleiflash-Comb.

F. To attach Rolleiflash Extension Cords

Unscrew protective cap to limit, insert flash cord plug and tighten cap down over plug.

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Please consult your photographic dealer for the prices of the various Practical Accessories if this folder does not contain a separate price sheet. The numbers following the accessory listings refer to the corresponding numbers in the price sheet. When ordering accessories, it is advisable to specify camera serial number as well as lens type and lens number.

Correct Exposure

Lens Hood

The lens hood (→ 101) is useful and necessary if the lens is subjected to the influence of strong light sources and reflections (beach, water, snow, artificial light) or rain and water splashes. To be on the safe side, use it regularly. It's always worth it – brilliance and color fidelity of the picture will greatly improve.

Rolleilux

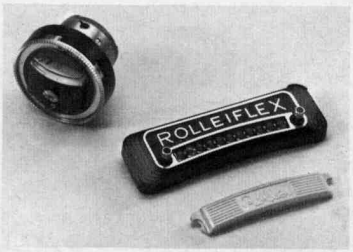
Available in bayonet size I (for Tessar, Xenar, or Triotar f : 3.5)

For most accurate results, an exposure meter should be firmly attached to the camera, with the exposure reading visible from the shooting position. These advantages are combined by the Rolleilux (→ 102) in a very practical way: the hinged exposure meter with the lens hood lets you make combined use of two accessories. Placed right beside the lens, it is conveniently in view at all times. While you are selecting your subject, the follow-up pointer determines exposure value and speed/stop combinations. Incident light measurements with diffusor are also possible. The gray or brown leather container, matching the camera case, is attached to the neck strap and keeps the Rolleilux handy at all times.

Exposure Meter for Installation

for Rolleiflex 2¼x2¼" designed for subsequent fitting.

This item (→ 103) consists of nameplate with photo electric cell, measuring instrument (meter) and incident light diffusor. Installation is easy and simple. You can ask your dealer to do it for you.



Rollei

THE PRACTICAL ACCESSORIES



Taking Close-ups

For Macro Photography: Rolleinars

Rolleinars start you off to a journey leading to a world of new discoveries in macro photography. Rolleinars are supplementary lenses, used in pairs on the Rollei lenses. They permit you to by-pass your normal focusing range and decrease your focusing distance to 45 (17 3/4"), 32 (12 1/8") or 24 cms (9 1/2"), according to the Rolleinar set used. You shoot as usual, with no increase in exposure, observing the properly framed picture on the viewing screen. All Rolleinars are fully parallax corrected, of course. By reducing the taking distance, the reproduction ratio can be increased up to 1/3 of actual subject size: thus only a 3 x enlargement is needed to produce a 1 : 1 macro effect.

Rolleinars are available in three matched sets
Rolleinar 1 for shots within the range 39 1/2–17 3/4" (→ 201)
Rolleinar 2 for shots within the range 19 3/4–12 1/8" (→ 201)
Rolleinar 3 for shots within the range 12 1/2– 9 1/2" (→ 202).

The focusing range of the Tele-Rolleiflex is different from that of the standard Rolleis. Two additional Rolleinar sets in twin mounts are available for this camera. They can be combined with any of the regular Rolleinars to cover the entire focusing range without interruption.

Rolleinar 0.35 (Tele-Rolleiflex) – Range 9'1/2" –4'5" (→ 203)
Rolleinar 0.7 (Tele-Rolleiflex) – Range 4'6 1/2"–3'1/2" (→ 204).



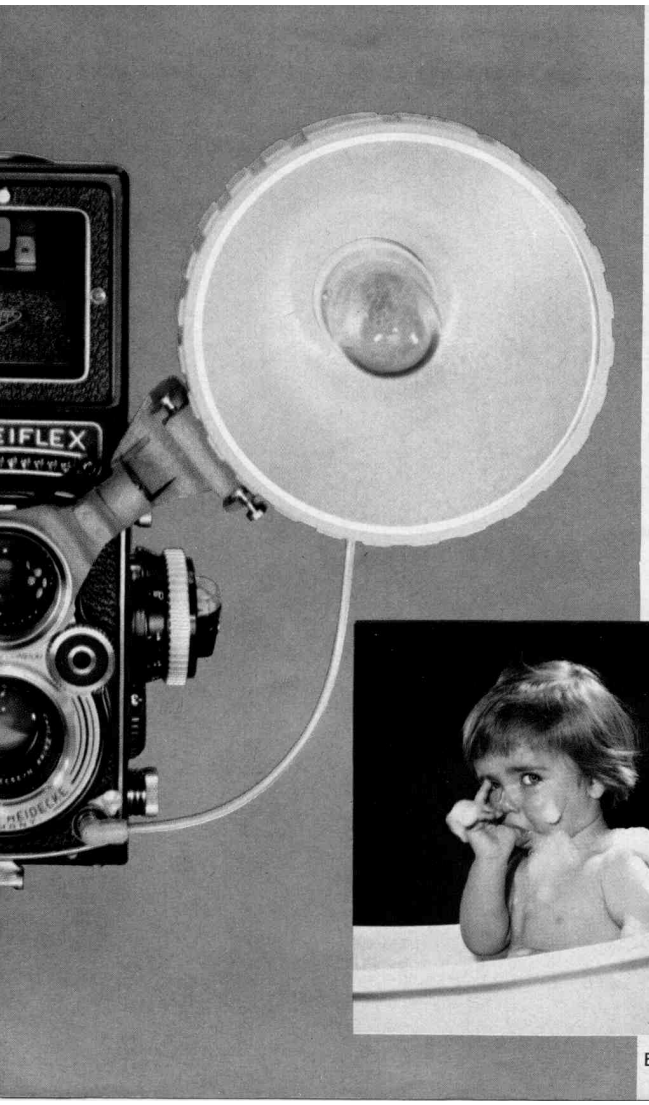
The Lens Accessories
are supplied in three sizes:

I (4 x 4) for Rolleiflex 4 x 4
I (6 x 6) for Rollei 6 x 6
with Tessar, Xenar, Triotar
II for Rolleiflex 6 x 6
with Planar or Xenotar f : 3.5
III for Rolleiflex 6 x 6
with Planar or Xenotar f : 2.8
and Sonnar f : 4.



Rolleinar 2 Heinz Krause

Like the Rollei lenses, all optical accessories have an abrasion-resistant anti-reflection coating. Thus the considerably increased picture brilliance is maintained fully when using the lens accessories. A special double coating, individually adjusted for each filter color, enhances the filter effect for maximum contrast in the individual transmission range.

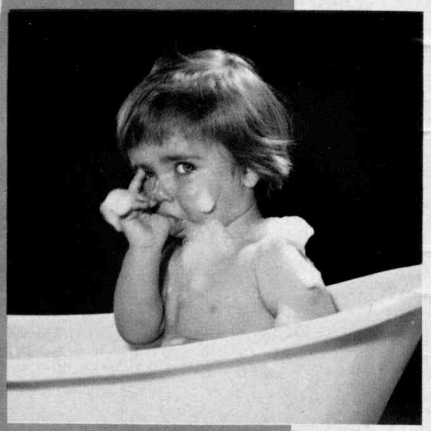


Flash Pictures with the Rollei

Rolleiflash 2 – the Universal Flashgun

Whether you want to shoot at night or fill in some shadows during the day: the Rolleiflash 2 (→ 301) is the ideal flashgun for your Rolleiflex. Bulbs with three different bases (including European type baseless bulbs) can be used, right-size flash bulbs are obtainable anywhere. A variable reflector permits adjustment for wide-angle coverage or concentrated beam for long shots – in accordance with subject distance or picture format used. An adjustable dial indicates the proper f: stop for each distance. Further extension units "Rolleiflash comb 2" (→ 302) can be hooked up to fire 2 or 3 flashes simultaneously – for special effects or for illumination of large areas. Additional features: test lamp, bulb ejector, hand firing button, detachable holding arm.

Other accessories: Carrying case for 1 flashgun (→ 303) · 10′ cord (→ 304) 32″ cord (→ 305) · Coiled cord 1′/3′ (→ 306) · Connector for 2 cords (→ 307).



Elisabeth Hase



Rolleiflash comb 2

Rolleiflash 2, closed





Orange Filter

Rudi Herzog

Filtering

Rollei Filters for Black and White Photography
Rollei filters (→ 501) add atmosphere to your pictures: light (– 1)* and medium yellow (– 1.5)* filters create clouds and snow shadows, light green (– 1)* and green (– 1.5)* produce a better tonal separation of greens and foliage. Orange filters (– 1.5 to – 3)*, and more so red filters (– 2 to – 3.5)* darken the sky to dramatic proportions, if desired and improve visibility on hazy days. The blue filter (– 1.5)*, on the other hand, increases fog and atmospheric haze. Very often filters are needed to separate more clearly colors of identical intensity: contrast is increased, and the film records the filtered colors with more clarity and detail.

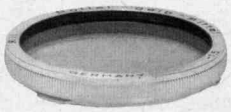
Special Filters for black and white photography:

UV Protection Filter (– 0.5)* – important protection against contrast-decreasing ultra violet rays in high altitudes above 6000 feet and on the sea, if none of the aforementioned filters is being used.

Infrared Filter, made especially for infrared material, transmits dark red above 700 mμ and infrared with ground-in focus compensation. To be used for moonlight effects, to penetrate haze, and many scientific applications.

Neutral Density Filters 2 and 4 (– 2 and – 4)*, to reduce the exposure value (to be able to use a wide range of speed/stop combinations) when working with ultra high speed films (black and white and color).

* Figures given in brackets indicate exposure value corrections.



Color as you desire

Rollei Color Conversion Filters

The color rendition of color films changes with the light falling on the subject. Proper balance is re-established by the use of color conversion filters. These filters enable you to restore natural color rendition or to change the color balance to suit your own taste. 2 sets of 4 each filters are the palette of the color photographer: the reddish-brown R-type filters eliminate excessive blue. The blue B-type filters excessive red. By nesting two filters of one type, the basic strengths 1, 2, 5 and 11 (Decamired numbers) can be varied even further. The most widely used filters in daylight: R 1 and R 2 (with "skylight" filter effect) – B-type filters serve for correcting daylight color film to artificial illumination. The 8 filters are available individually (→ 401) or as a set of 6 in leather container (→ 402).



Leather Case
with 6 color conversion filters

H 1-Filter for Distance Shots

A colorless filter (→ 403) for daylight color film. It reduces the atmospheric haze in distance shots. Recommended for general use in color photography. (Available in bayonet size I only. The Planar, Xenotar and Sonnar lenses have the inherent characteristics of the H 1-filter.)



Hans Gabriel



For Soft Focus



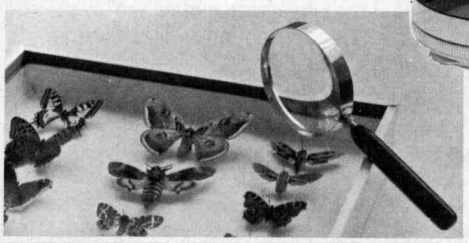


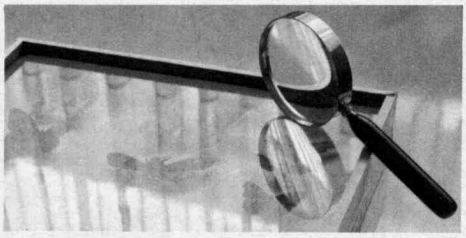
Rolleisoft 1 C. Albrand

Rolleisoft

Rolleisoft (→ 601) transforms the needle-sharp Rollei picture into an image of lesser sharpness (not unsharpness), preferred especially in portraits: the skin is straightened, indiscrete wrinkles disappear the photocosmetic way, without any further retouching. The critical lens now works as a soft focus lens. Rolleisoft is used in strengths 0 and 1 and attached like a filter (no exposure increase). The effect can be observed on the focusing screen, the best results being obtained with back lighting: Rolleisoft makes highlights look like glamorous halos and creates a highly artistic mood – an accessory for the photographic connoisseur.







C. Albrand

Reflection Control

Rolleipol

The polarizing screen (→ 602) is a marvelous tool: just a slight turn of the filter in front of the lens eliminates the unwanted reflections from shiny, non-metallic surfaces. Reflecting windows and glasses become transparent, the surface structure of polished materials appears, the light penetrates through the reflecting surface. Rolleipol helps where other accessories fail. Also very useful for correcting the color rendition of landscapes and scenic views on color films darkening the sky without changing the other colors. Exposure value correction: – 1.5.



4 x 5,5 cm
1⅝ x 2¼″



4 x 4 cm
1⅝ x 1⅝″



28 x 40 mm
1⅛ x 1⅝″



24 x 36 mm
1 x 1½″

Erich Bauer

Rollei *as a Miniature Camera —*

The universal 2¼ x 2¼″ negative format is only one of Rollei's possibilities, as this camera meets special requirements also. If the subject does not cover the entire negative area, or you want to create a tele effect by using a reduced format, or if you wish to avoid changing rolls during a picture series or make more economical use of the film – just a few simple operations and Rollei is transformed into a miniature camera.

Using Rollfilm: 16 Exposures 4 x 5.5 cm (1⅝ x 2¼″) or 4 x 4 cm (1⅝ x 1⅝″) – Rolleiflex T and Rolleicord Va

Accessories needed: For the Rolleiflex T the Mask Set 16 (→ 701). For the Rolleicord Va the 16 Exposure Kit (→ 702), also available with a set of special masks for oscilloscope photography (→ 703). 16 exposures instead of 12 mean a 25 % savings per picture. You can freely choose between the panorama size 1⅝ x 2¼″ and the Super Slide 1⅝ x 1⅝″, the large size of miniature photography – even after the camera is loaded.

Using Rollfilm: 24 Exposures 28 x 40 or 24 x 36 mm – Rolleicord Va

Accessories needed: For the Rolleicord Va the 24 Exposure Kit (→ 702), also available with a special set of masks for oscilloscope photography (→ 703). Choice of the two formats at any time.

Using 35 mm Film: 20 to 36 Exposures 24 x 36 mm – All models except Rolleiflex T and Rolleiflex 4 x 4

Accessories needed: Rolleikin attachment (→ 704), for use with any 2¼ x 2¼″ Rollei with two-format back (adjustable film pressure plate). Separate film counter with double exposure prevention. Film transport as usual by crank rewind mechanism. Provision for changing partly exposed film.

EXPOSURE COUNTER

Having loaded the camera set the exposure counter to zero. With the thumb, press down the inner milled ring of the counter disc which is built into the rapid film wind lever, and turn it counter-clockwise until the green triangle comes opposite the index line, engraved on the edge (see Fig. 16).

When loading a 36-exposure miniature cassette, use the green mark between 36 and 1; for a 20-exposure cassette, the green mark between 25 and 20. The counter runs backwards and indicates always **the number of frames still remaining unexposed.**

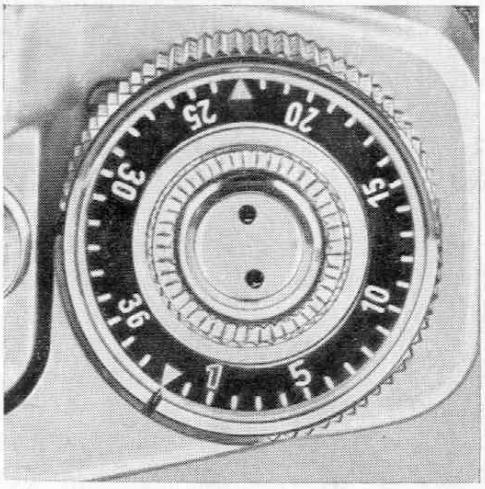


Fig. 16

— *as a Plate Camera*

2¼ x 2¼" Adapter for Cut Film and Plates

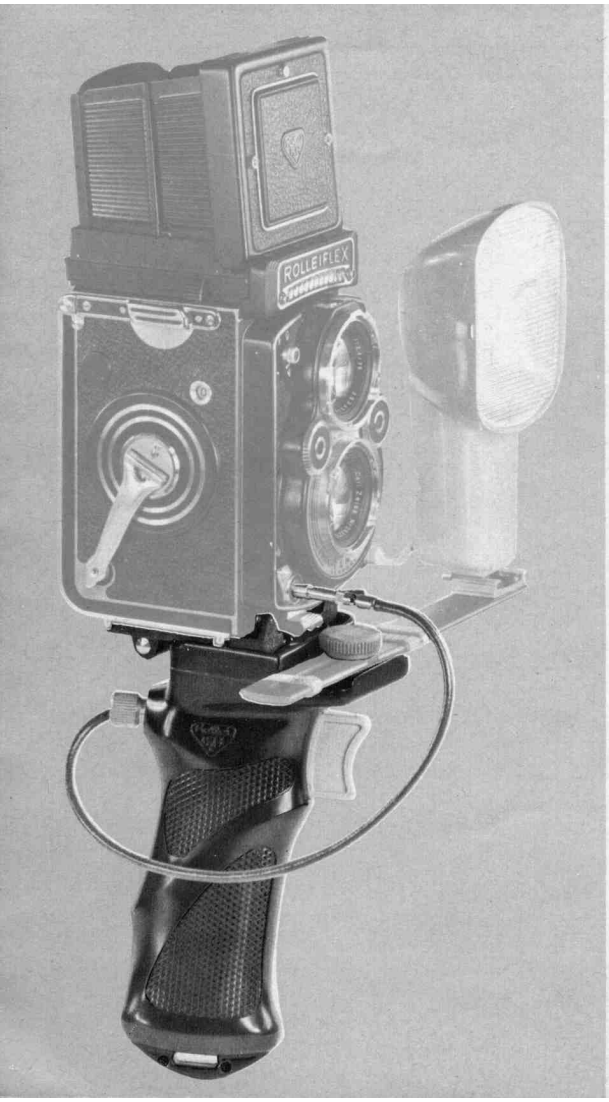
Plates and especially cut film (for color!) have quite a number of advantages: you can take individual exposures when in a hurry, use repro material and special emulsions, adjust processing for any desired effects and obtain a finished picture without delay. Excellent for Micro and Macro Photography. This is the practical value of the Rollei Plate Adapter. It uses 2½ x 3½" plates or cut film for 2¼ x 2¼" pictures. The basic adapter outfit (→ 801) consists of: 1 plate and cut film back to be exchanged for the regular camera back plus 3 plate and cut film holders, with cut film sheaths. Also available, individually, are: Adapter back (→ 802), plate and cut film holders (→ 803), cut film sheath (→ 804), leather case (→ 805) for 2 holders and ground glass rear focusing screen (→ 806), for direct focusing through the taking lens.

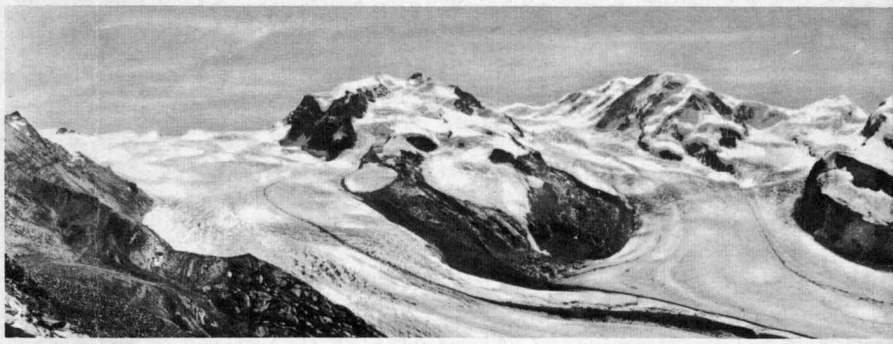
Optically Flat Glass Plate 2¼ x 2¼" for Rollfilm

A further assurance for perfect sharpness, the plane parallel glass plate (→ 807) increases the exactness of Rolleis precisely engineered film channel to the obtainable maximum. The glass keeps the film positively flat like a plate, providing maximum detail and resolution for extremely exacting enlargements. Used with Rolleiflex models 3.5 F (above No. 2 230 000), 2.8 E2 and 2.8 F. Spare glass plates are obtainable individually (→ 808).



Above: Rolleikin · 16 Exposure Kit
Below: Plate Adapter · Plane Parallel Glass Plate



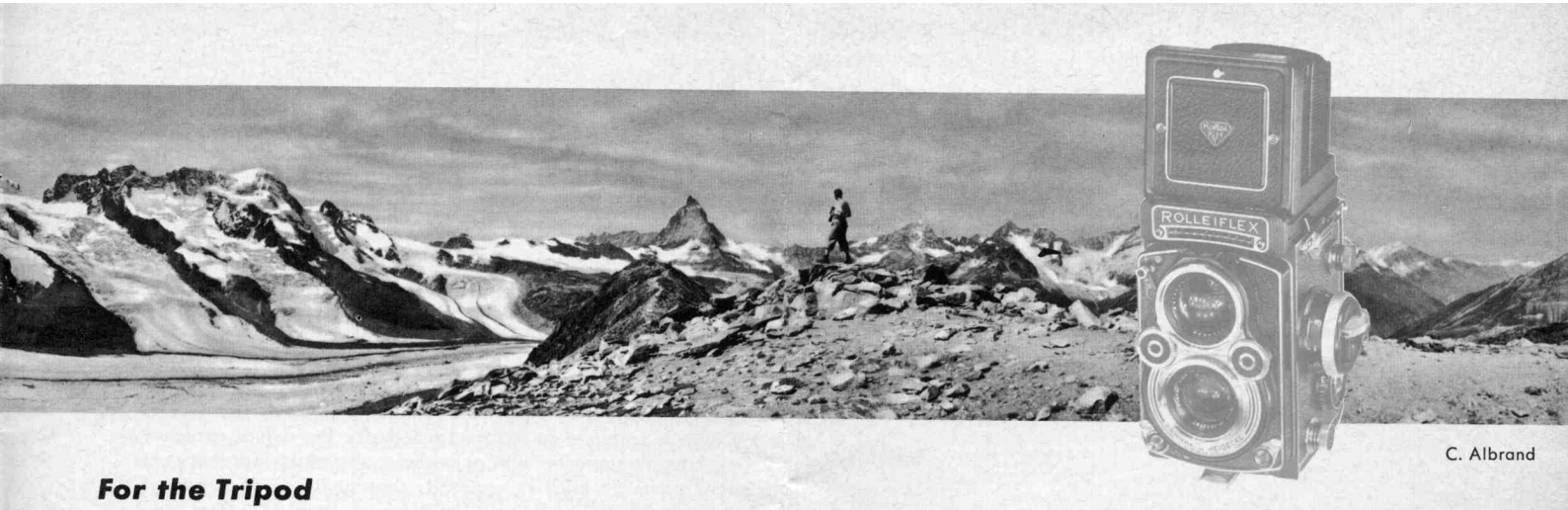


For the Hand

Pistol Grip

As the name implies, a grip handle shaped (→ 901) to fit the hand with trigger and cable release. The left hand remains free for focusing. The pistol grip is a valuable tool for press work and action shots or for convenient eye-level focusing with direct view finder or penta prism. The handle has provision for attaching a flash bracket. The Rolleifix-type quick-fastening clamp (→ 902) facilitates attachment of the camera.

Pistol Grip and Rolleifix can be used with all Rollei models provided with groove on the edge of the tripod socket (see the illustration).



C. Albrand

For the Tripod

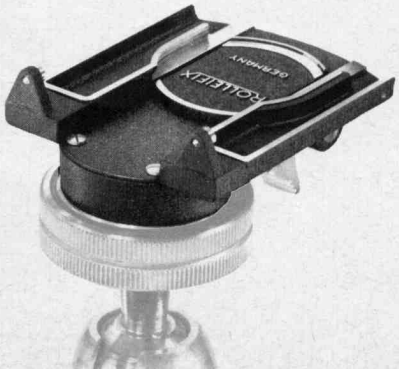
Panorama Head

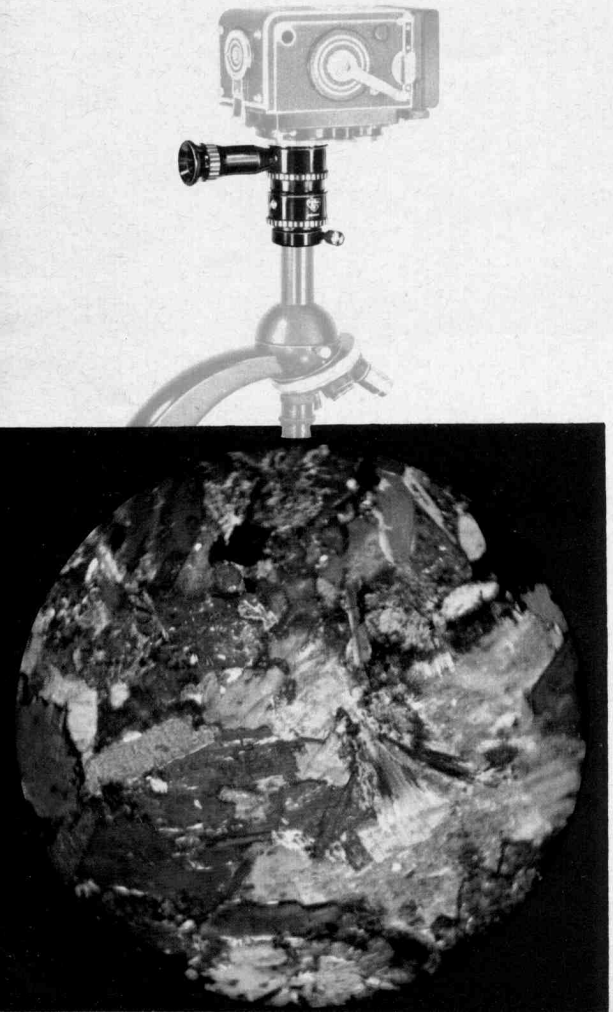
Rollei even lets you take landscapes composed of two or more individual pictures – the panorama head (→ 1001) is the "Super Wide Angle" used in landscape photography with a Rollei. This tripod head delivers a complete 360° panorama with 10 consecutive exposures; a self-locking push button secures the camera in shooting position. After matching the individual exposures, they are mounted to form the panorama. Very often two or three pictures are sufficient to create a wide angle effect with the standard Rollei focal length.



Rolleifix Tripod Head

Rolleifix (→ 1002) eliminates the conventional, time consuming method of screwing the camera onto a tripod: just slide the Rollei forward into the retaining grooves and throw locking lever upward to secure the camera. The tripod attachment remains fixed to the tripod or flash gun bracket. Within seconds, the Rollei is safely and firmly mounted or removed.



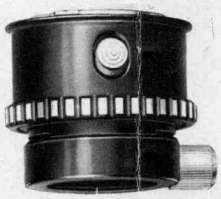


For the Microscope

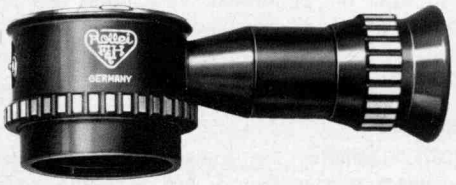
Rollei Micro Attachment

A versatile accessory for all microphotographic applications, combining the precision of both camera and microscope to achieve perfect results: the square negative format makes full use of the circular micro image allowing extreme enlargement factors for maximum detail. Only a 3 x linear enlargement will provide the same magnification as that obtained visually with the microscope. Further magnification to extreme sizes is easily obtained when projecting the micro slides. – The micro tube (→ 1101) alone permits taking photographs of non-moving subjects; after focusing through the viewing lens, the tube is fastened to the taking lens for the actual exposure. For taking moving subjects, with or without oil immersion, the right-angle micro prism (→ 1102) is required. Through its viewing system, the subject may be observed at all times for constant control of focus and field. Interchangeable bayonet rings (→ 1103) in 4 sizes permit attachment of the unit to the bayonet lens mount of all Rollei models.

Micro Tube



Micro Prism



Bayonet Ring

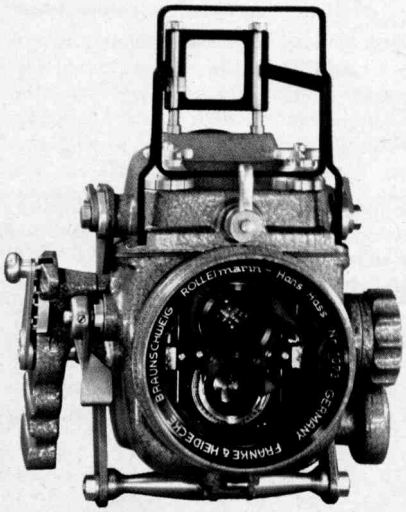


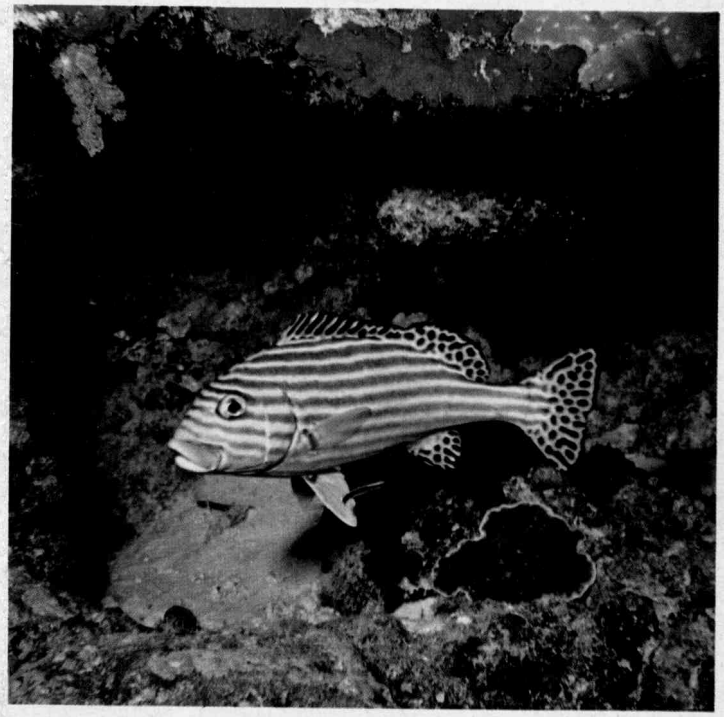
Dr. W. Faasch. Crystal formation by polarized light, approx. 100x

Under Water

Rolleimarin

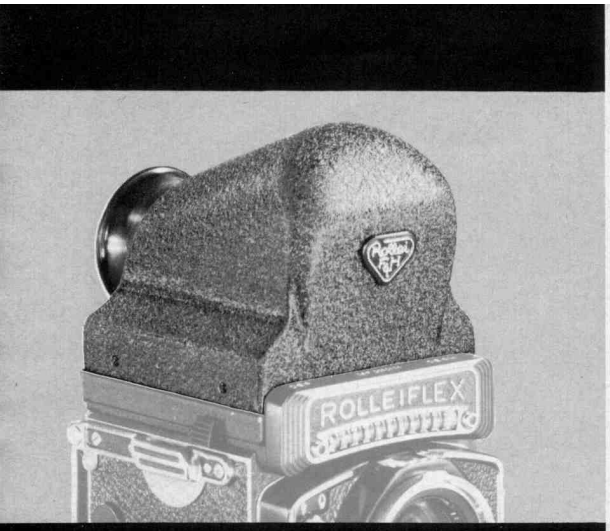
In this pressure proof and seaworthy housing (→ 1201) designed for underwater photography in sports or for scientific and industrial applications, the Rollei can be used in depths up to 330 feet. Large magnifier and prism permit observation of ground glass image in normal swimming position. Diaphragm and shutter speed settings, focusing and film transport can be operated from the outside. Has built-in filter turret, open frame finder with parallax correction, flash connection for all round photographic use. Weight under water: 1.4 kgs. (3.1 lbs). – Special accessories: carrying case (→ 1202), two yellow filters, orange filter (→ 1203), flash attachment (→ 1204) with canvas carrying cases (→ 1205).

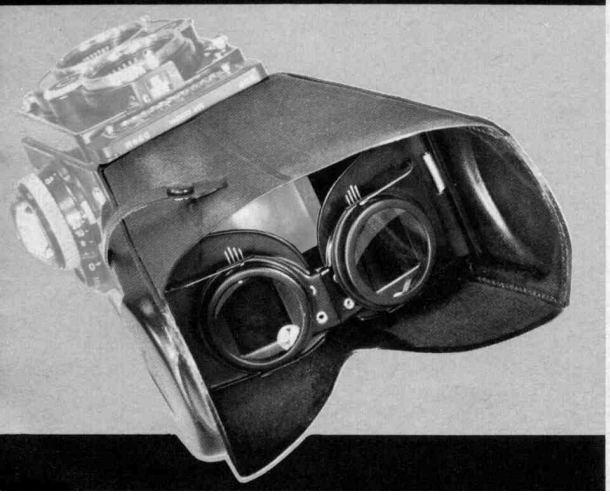




C. B. Sheldon

The housing is available in different models to fit the following $2^1/_4 \times 2^1/_4$" Rolleiflex cameras (specify lens type and camera serial number):
Rolleimarin 1 for Rolleiflex with Tessar or Xenar f : 3.5 (568 516–1 427 999),
Rolleimarin 2 for Rolleiflex with Tessar or Xenar f : 3.5 (1 428 000–1 739 999),
Rolleimarin 3 for Rolleiflex with Planar or Xenotar f : 3.5 (1 740 000–1 870 000).
In preparation: Rolleimarin 4 for Rolleiflex 3.5 F (above No. 2 250 000).





The Large View

Rollei Prism Finder

The Rollei Penta Prism (→ 1301) now combines eye-level perspective with Rollei's wellknown positive focusing. This attachment is preferred for press work, sports and action pictures, flash photography and portraits, especially when used with the pistol grip. The enlarging magnifier covers the entire focusing area, an unreversed, right side up image showing all movements in the right direction. An adjustable rubber eyepiece completely eliminates all reflections, the focusing magnifier can be exchanged to adjust for your eyesight. Turning the camera permits overhead shooting. The Penta Prism can be fitted to all Rolleiflex cameras equipped with a detachable focusing hood.

Binocular Focusing Hood

The leather hood (→ 1302) fitting over the focusing hood fulfills a dual purpose; the binocular magnifiers show the viewing image in 2 x magnification and permit undistracted viewing without any reflections from extraneous light. It is recommended for Rollei models with ground glass screen and non-detachable hood, not permitting the use of the prism finder. It permits observation of the 2 x enlarged image with both eyes. The close fitting hood keeps out all side light and increases considerably the brightness of the viewing picture. Both magnifiers can be adjusted individually to the interocular distance. They snap into position when opening the hood. It closes and folds flat to the size of an eye glass case in one simple operation.

To Protect Your Equipment

Eveready Case

in elegant brown leather (→ 1401), available for all model Rollei cameras, cases for the recent 2¼ x 2¼" Rolleis feature detachable front. Special versions for the Rolleiflex 4 x 4: full-opening gray leather case (→ 1402) and soft leather case (→ 1403) with wrist loop.

Shoulder Pad

rubber (→ 1404), to prevent strap from slipping off shoulder.

Protective Caps for Exposure Meter

leather (→ 1405), for eveready case; or plastic (→ 1406), with loop for neck strap.

Metal Eveready Case

A completely closed aluminium container (→ 1407), airtight and waterproof, as a protection against climatic influences (high altitudes, tropics, water sports, expeditions). Lift-out camera holding bracket with Rolleifix-type quick fastening clamp. Available in two sizes, for Rollei 2¼ x 2¼ (except Tele-Rolleiflex) and for Rolleiflex 4 x 4 cm. With desiccant cartridge (also available individually [→ 1408]) to absorb moisture and humidity.

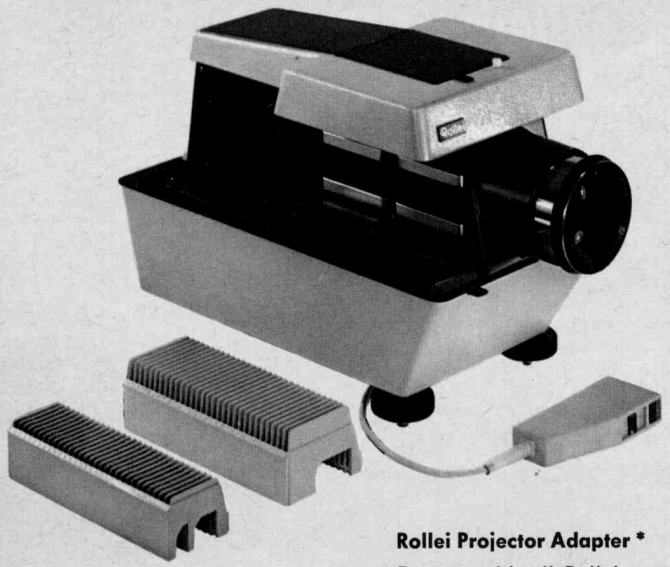
Leather Case

for lens hood, Rolleinar sets 1 and 2, and 5 assorted black and white filters (→ 1409). Supplied with or without contents (→ 1410).

Leather Case

for lens hood and 2 filters (→ 1411). Supplied with or without contents (→ 1412).





For Projection

Rollei Projector 2¼ x 2¼" – Super Slide – Miniature Size

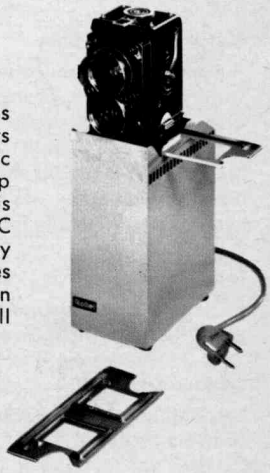
The new concept: a fully automatic universal projector featuring most modern comfort of operation – ideal companion for any camera from 35 mm up to 2¼ x 2¼". Two magazines of different sizes feed the projector, on the left with 2¼ x 2¼ slides, on the right with 35 mm or Super-Slides * in any standard 2 x 2 mount. With both magazines in place selection can be made from either side. Changes and repeats forwards or backwards, in any desired combination, plus remote controlled focusing over entire focusing area – all these controls are easily operated from remote control cable or through push buttons on the projector. Super rapid slide changing. Interchangeable projection lenses in 3 focal lengths: f : 2.8/110 – f : 2.8/150 – f : 3.0/250 mm. Blower cooling. 300 or 500 watt bulb. Adaptable to standard AC voltages. The perfect projector for home and professional use.

* Slide Tray 55, standard magazine (Leitz, Agfa, Zeiss Ikon, Rollei, Braun).

Rollei Projector Adapter *

For use with all Rollei cameras with removable focusing hood. A unique idea has been realized in this self-contained adapter: the Rollei is attached and now projects through the viewing lens and with the usual focusing operation. The economic 6 V. 45 watt auto bulb projects the 2¼ x 2¼ slides up to 45 x 45 cm, with close up lens up to 3½ x 3½ feet. An additional slide carrier is available for 2 x 2 slides. Adaptable to standard AC voltages. The practical attachment combines many advantages: the handy and compact design eliminates bothersome setting-up problems, the easy operation permits convenient close-up picture viewing in small groups.

* Available w. e. f. spring 1961



Your Rollei dealer
will gladly answer your photographic questions

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ROLLEIFLASH 2

A. Batterie einsetzen

Reflektor abnehmen: Reflektor nach vorn drehen, Sperrtaste (1) niederdrücken und Reflektor durch Weiterdrehen abnehmen.

Batterie einsetzen (+Pol beachten!): Zuerst mit dem —Pol schräg einlegen, dann niederdrücken. Verwendbare Type: Flachzellen-Batterie 22,5 Volt. — Zum Wechseln: Batterie hochdrücken und herausnehmen.

Reflektor ansetzen: Bei niedergedrückter Sperrtaste (1) Reflektor auf das Gehäuse setzen — rote Markierungspunkte (2) beachten! — und durch Rechtsdrehung befestigen.

Zur Schonung der Batterie: Blitzlampen nur kurzfristig einsetzen, Kabel zur Rolleiflash comb. bei Nichtgebrauch lösen.

B. Befestigen an der Kamera

Haltearm nach außen schwenken und durch Anschlagen verrasten. — Zum Ausrasten: Haltearm seitwärts verschieben (11) — dabei nicht a u f , sondern n e b e n den Achskopf (12) greifen! — und einklappen.

Klemmring (3) [bei Weitwinkel-Rolleiflex: Klemmschraube am Haltearm] nach links drehen. Haltearm im Sucher-Bajonett der Kamera einsetzen, nach rechts einrasten und durch Rechtsdrehen des Klemmrings sichern. — Vor dem Abnehmen der Rolleiflash: Klemmring durch Linksdrehung lösen.

Kabel anschließen: Knopf (6) drücken, einen der beiden Kabelstecker herausziehen und in den Kontaktnippel der Kamera einstecken.

C. Aufnahme

Blitzlampen einsetzen: Taste (4) drücken, Blitzlampe tief in die Fassung einschieben und Taste (4) wieder freigeben. Bei Glassockel darauf achten, daß die Drähte am Sockel von den Kontaktbacken gefaßt werden. — Verwendbare Lampentypen: mit Metallsockel (Swan, M 2) und mit Glassockel (europäische Sockelart).

Lampenprüfung: Knopf (9) drücken — kurzes Aufleuchten der Prüflampe (10) bedeutet Zündsicherheit der Blitzlampe und ausreichende Zündspannung der Batterie. — Als Ersatz defekter Prüflampen: 6-Volt-Glühbirne 0,05—0,07 Amp. verwenden.

Kontaktwahl X oder M: siehe Gebrauchsanleitungen der benutzten Blitzlampe und der Kamera.

Synchronisierte Blitzzündung: durch Auslösen des Kamera-Verschlusses.

Offenblitz-Methode (Zündung durch Handkontakt (8) bei Zeit-Einstellung des Kamera-Verschlusses): Kabel n i c h t an die Kamera anschließen. Sicherungsschraubring (7) lösen und Blitz durch Druck auf den Handkontakt (8) zünden. Anwendungsbeispiel dieses Verfahrens: Ausleuchtung tiefer Räume durch mehrere, nacheinander gezündete Blitze. — Bei Nichtgebrauch stets den Handkontakt durch Festdrehen des Schraubringes (7) sichern.

Lampenauswurf: durch Druck auf die Taste (4) — die Lampe springt aus der Fassung.

Einstellen des Leuchtwinkels: Der Reflektor läßt sich von Anschlag zu Anschlag auf Breitstrahl- oder Tiefstrahlwirkung einstellen. Innerer Anschlag (Normalfall) = breiter Lichtkegel: zur vollen Ausleuchtung des Bildfeldes. Äußerer Anschlag = schmaler Lichtkegel: zur Konzentration des Lichtes auf das zentrale Bildfeld (z. B. bei Aufnahmen in verringertem Format) und zur vergrößerten Reichweite des Blitzes bei gleicher Blende (vgl. Blendenrechner).

Blendenrechner (5): Leitzahl der Blitzlampe (laut Angabe des Herstellers) im oberen Fenster einstellen — dann kann für jede gewählte Entfernung „Blitz bis Objekt" die erforderliche Blende abgelesen werden. Bei Normalstellung des Reflektors (breiter Lichtkegel) gilt die obere und bei Einstellung auf schmalen Lichtkegel die untere Entfernungsskala. — B e i s p i e l : Leitzahl 20, Blitzabstand 2,5 m, erforderliche Blende 8. Bei Einstellung auf schmalen Lichtkegel und gleichen Blitzabstand genügt dagegen bereits Blende 11, — ein Vorteil für Aufnahmen mit verringertem Format (Rolleikin oder 16- oder 24-Bild-Schaltung).

D. Rolleiflash am Stativ

Nach Abnehmen des Haltearms kann die Rolleiflash mit dem Bodengewinde am Stativ angeschraubt werden: Den halb herausgeklappten Haltearm bei voll eingedrücktem Achsknopf (12) abnehmen. — Ansetzen: in entsprechender Weise.

E. Rolleiflash comb.

Der zweite Kabelanschluß (13) ist für die Rolleiflash comb. vorgesehen. Diese Zusatzleuchte kann gleichfalls mit einer weiteren Rolleiflash comb. verbunden werden. So können insgesamt 3 Blitze gleichzeitig gezündet werden. Durch Kabel von je 3 m und Kupplungsstücke läßt sich der Lampenabstand bis zu einer Gesamtkabellänge von etwa 10 m beliebig verändern. Lösen der Kabelstecker vom Kupplungsstück: bei Druck auf die seitlich vorstehende Metallschiene (14).

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ROLLEIFLASH 2

A. Installing the Battery

First detach reflector: turn reflector to forward position, press spring lock button (1) and remove after a short turn.

Inserting battery (observe correct polarity): slip battery in, negative (—) pole first, press to left and down into position. Use flat cell 22.5 volt hearing aid battery. To change battery: press to left and lift out.

To attach reflector: Place reflector on flash case, matching red dots (2), press button (1) and fasten by turning reflector to the right.

To conserve battery: Insert flash bulbs just before shooting. Disconnect cable to Rolleiflash comb. when not in use.

B. Mounting on Camera

Swing down bracket to stop and snap into locked position. Bracket can be returned to folded position by pressing arm (11) sideways; do not press retaining spindle (12).

Turn **locking ring (3)** [for the Wide-Angle Rolleiflex: locking screw on bracket] to the left. Insert bracket into viewing lens bayonet, turn to right until it clicks into shooting position. Secure by turning locking ring to right. Reverse procedure for removing from camera.

To connect cord: press button lock (6), remove one cord plug and insert flash socket of camera.

C. Taking the Picture

Inserting flash bulb: press button (4), insert bulb all the way into socket and release button (4). When using baseless bulbs, it is important that the wires in the base make good contact with the retaining jaws. The following bulbs may be used: metal base (Swan, M 2) and baseless (European all-glass bulbs).

To test circuit: press test knob (9) — a brief flash of the test lamp (10) indicates proper conditions for firing bulb. For replacement of flash test bulb, use 6 V, 0.05—0.07 ampere bulb.

X or M contact: refer to bulb manufacturer's instructions with reference to particular bulb and camera being used.

Synchronized firing: release camera shutter.

Open-flash method (for hand firing (8) when making time exposures): Do **not** connect flash cord to camera. Loosen safety screw ring (7) and fire flash by pressing contact button (8). This method can be useful in illuminating large indoor areas by firing several flashes one after the other with open shutter. When not doing this, always secure hand contact button by locking with screw ring (7).

Bulb ejection: Press ejector button (4) — bulb will pop out.

Adjusting reflector angle: Normal position — turn reflector to inward stop — for wide-angle even illumination of full picture area. To concentrate light over center of picture — for long shots or when using reduced format sizes — turn reflector to outward stop.

f/stop calculator (5): Adjust so that bulb manufacturer's recommended guide number appears in upper window. Correct f/stops appear opposite distance settings below. With reflector in normal (wide-angle) position, read upper distance scale; for reduced angle shots, use lower scale. E x a m p l e : Guide No. 20, subject distance 2.5 — correct diaphragm setting, f/8. With reduced angle, and same conditions, f/11 is sufficient. This is worth taking advantage of when taking reduced format size pictures (Rolleikin or 16 and 24 exposure mechanism).

D. Rolleiflash on a tripod

Remove bracket by lifting it out slightly and pressing spindle (12) fully. Rolleiflash may then be attached to tripod. Bracket may be reattached by reversing procedure.

E. Rolleiflash comb.

A second cable socket (13) is provided for extension unit, Rolleiflash comb. A second extension unit can be connected to the first. Thus a total of three bulbs may be fired simultaneously. Using 10 feet cords and connectors, the bulb may be fired up to approximately 33 feet from the camera.

To release cords from connectors: press metal side bar (14).

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THE FILM WIND

Two blank exposures must now be made as follows:

Each time the lever is operated it transports the film by one frame and at the same time winds the shutter.

With the thumb of the right hand grip the rapid film wind lever and swing it firmly round as far as it will go (Fig. 17).

If the lever is found to be locked it must be freed by first pressing the shutter release button.

In operating the rapid wind lever do not forget to pull it right to its stop.

Now depress the shutter release button which is beside the counter dial and repeat once again the whole operation of winding on the film and releasing the shutter. The exposure counter is now set on one stroke ahead of 36 or 20 as may be required.

Caution: The rewind knob usually rotates as the film is wound on: it must not therefore be prevented from turning while the lever is operated.

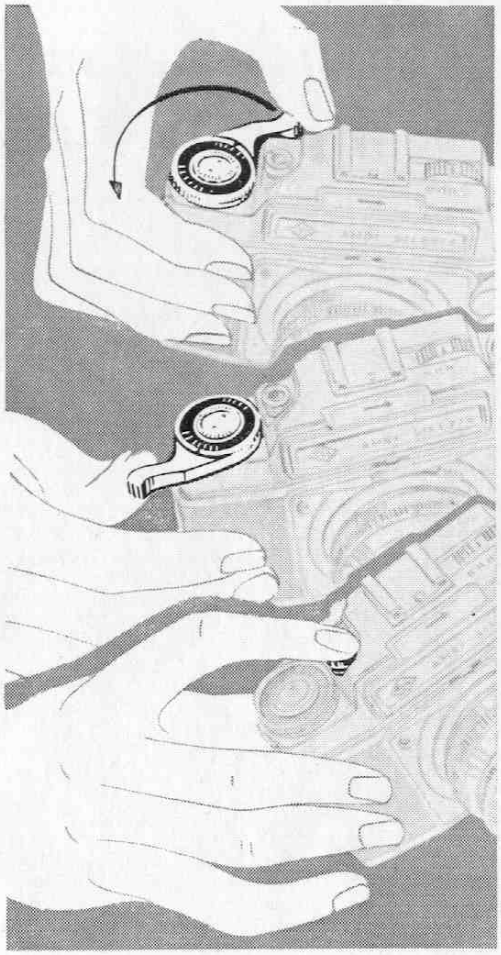


Fig. 17

ROLLEIFLASH 2

A. Mise en place de la pile

Retirer le réflecteur: Faire tourner le réflecteur vers l'avant. Appuyer sur la touche de verrouillage **(1)** et continuer à faire tourner le réflecteur pour le retirer.

Mettre en place la pile (observer le pôle +!): L'engager d'abord avec le pôle négatif de biais, puis l'introduire en appuyant. Types de piles utilisables: pile à éléments plats 22,5 volts. — Pour remplacer la pile: l'appuyer vers le haut pour la retirer.

Remettre en place le réflecteur: La touche de verrouillage **(1)** étant enfoncée, placer le réflecteur sur le boîtier — veiller aux repères rouges **(2)**! — et le fixer par rotation à droite.

Pour augmenter la durée de la pile: N'introduire les ampoules flash qu'immédiatement avant de s'en servir; débrancher le câble de raccordement au Rolleiflash comb., en cas de non-emploi.

B. Fixation à l'appareil

Faire pivoter le **bras-support** vers l'extérieur, et le bloquer par butée. — Pour le dégager: pousser le bras-support vers le côté **(11)** — en l'actionnant non pas par la tête d'axe **(12)**, mais près de cette tête — et rabattre.

Faire tourner à gauche la **bague de serrage (3);** pour le Rolleiflex grand angulaire: Tourner à gauche la vis de serrage au bras-support. Monter le bras-support dans la baïonnette de l'objectif de visée de l'appareil, enclencher à droite, et immobiliser par rotation à droite de la bague de serrage. — Avant d'enlever le Rolleiflash: desserrer la bague de serrage par rotation à gauche.

Raccorder le câble: Appuyer sur le bouton **(6)**, retirer l'une des deux fiches de câble, et l'introduire dans la prise flash de l'appareil de prise de vue.

C. Prise de vue

Introduire **l'ampoule-flash:** Appuyer sur la touche **(4)**, pousser l'ampoule-flash à *fond dans la monture, et* dégager de nouveau la touche **(4)**. Avec des ampoules à culot verre, veiller à ce que les fils sortant du culot soient serrés par les joues de contact. — Types d'ampoules utilisables: à culot métallique (Swan, M 2) et culot verre (type européen).

Vérification de l'ampoule: Appuyer sur le bouton **(9)**; un bref éclair de la lampe de contrôle **(10)** permet de s'assurer que l'ampoule-flash est en parfait état de marche et que la tension d'allumage de la pile est suffisante. — Pour remplacer les lampes de contrôle: lampe à incandescence 6 volts, 0,05—0,07 amp.

Choix du contact X ou M: Voir notices d'emploi de l'ampoule-flash utilisée et de l'appareil.

Allumage synchronisé du flash: par déclenchement de l'obturateur de l'appareil.

Méthode open-flash (allumage par contact à main **(8)** pour appareil réglé à la pose longue): Ne pas raccorder le câble à l'appareil. Desserrer la bague filetée de blocage **(7)** et déclencher l'éclair par pression sur le contact **(8)**. Exemple d'application de l'open-flash: éclairage de locaux sombres par plusieurs flashes successifs. — Au repos, ne pas oublier de bloquer le contact à main en serrant la bague filetée **(7)**.

Ejection des ampoules usées: Par pression sur la touche **(4)** l'ampoule est expulsée de la monture.

Réglage de l'angle du cône lumineux: Le réflecteur peut être réglé sur deux butées pour obtenir un faisceau lumineux large ou étroit. Butée intérieure (cas normal) = cône lumineux large: pour l'utilisation intégrale du champ d'image. Butée extérieure = cône lumineux étroit: pour la concentration de la lumière sur la partie centrale du champ d'image (p. ex. pour prises de vues en format réduit) et pour augmenter la portée (distance utile) de l'éclair à diaphragme égal (cf. calculateur de diaphragme).

Calculateur de diaphragme (5): Régler dans la fenêtre supérieure le nombre-guide de l'ampoule-flash (selon indication du fabricant) et lire le diaphragme requis pour la distance «flash-objet» choisie. Pour la position normale du réflecteur (cône lumineux large), lire l'échelle des distances supérieure, et pour le réglage sur le cône lumineux étroit — l'échelle inférieure. — Exemple: nombre-guide 20, distance flash-objet 2,5 m diaphragme requis 8. Pour le réglage sur le cône lumineux étroit et la même distance, le diaphragme 11 suffirait — un avantage pour prises de vue sur format réduit (Rolleikin ou système 16 ou 24 images).

D. Rolleiflash sur pied

Après enlèvement du bras-support, le Rolleiflash peut être vissé par l'écrou de fond sur un pied photographique. Retirer le bras-support, à demi-écarté, la tête d'axe **(12)** étant enfoncée à fond. — Remise en place du bras — procéder de façon analogue.

E. Rolleiflash comb.

Le second raccord de câble **(13)** est prévu pour le Rolleiflash comb. Cet appareil-flash additionnel peut à son tour être relié à un autre Rolleiflash comb. De cette façon, on peut allumer simultanément 3 flashes. Les câbles de 3 m chacun et les pièces de raccord permettent de faire varier à volonté la distance des ampoules-flash, jusqu'à une longueur totale du câble de 10 m environ. Pour dégager la fiche de câble de la pièce de raccord: appuyer sur le rail métallique latéral en saillie **(14)**.

ROLLEIFLASH 2

A. Introduzione della pila

Per togliere il riflettore: ruottarlo verso sinistra, quindi, premendo il tasto di blocco (1), girarlo di nuovo e toglierlo.

Introdurre la pila: tenendola inclinata inserirla prima dalla parte del polo negativo, quindi premerla nella sua sede. Vanno impiegate pile piatte da 22,5 V. Per sostituire la pila, toglierla spingendola verso l'alto.

Rimontare il riflettore: tenendo abbassato il tasto di blocco (1) appoggiare il riflettore sul corpo del lampeggiatore — fare attenzione ai punti rossi (2) di riferimento — e fissarvelo girandolo verso destra.

Per preservare la pila: montare la lampada lampo solo pochi attimi prima di eseguire la fotografia; staccare il cavetto del Rolleiflash comb. quando non lo si usa.

B. Fissaggio all'apparecchio fotografico

Aprire il braccio del lampeggiatore ribaltandolo finchè rimane bloccato. — Per chiuderlo spostarlo a lato (11), afferrandolo non per la sua estremità, bensì v i c i n o al bottone del suo asse (12).

Girare l'anello di sicurezza (3) [per la Rolleiflex Grandangolare: la vite di bloccaggio posta sull'anello] verso sinistra. Montare il lampeggiatore sull'apparecchio fotografico fissandolo all'attacco a baionetta dell'obiettivo del mirino e assicurarvelo ruotando verso destra l'anello di sicurezza. Prima di togliere il Rolleiflash dall'apparecchio detto anello va di nuovo girato verso sinistra.

Collegamento del cavetto: premere il bottone (6), togliere una delle spine del cavetto e introdurla nell'attacco dell'apparecchio fotografico.

C. Ripresa

Inserire la lampada lampo: premere il tasto (4) e lasciarlo libero dopo aver introdotto a fondo la lampada nella montatura. Se la lampada ha lo zoccolo di vetro fare attenzione che i suoi fili vadano a coincidere con i contatti. — Tipi di lampade usabili: con zoccolo metallico (Swan, M 2) e con zoccolo di vetro (tipo europeo).

Prova della lampada: premere il bottone (9); se la spia (10) si accende per breve tempo significa sicurezza di accensione della lampada lampo e sufficiente tensione della pila. Per la spia dovrà essere usata, in caso di sostituzione, una lampadina ad incandescenza 6 V, 0,05—0,07 A.

Scelta del contatto X o M: vedere le istruzioni per il lampeggiatore e l'apparecchio fotografico impiegati.

Accensione sincronizzata del lampo: avviene azionando l'otturatore dell'apparecchio fotografico.

Metodo con otturatore aperto (accensione col contatto a mano (8) regolando l'otturatore dell'apparecchio fotografico su 'posa'): n o n collegare il cavetto all'apparecchio fotografico. Allentare l'anello di sicurezza (7) e accendere il lampo premendo il bottone (8). A questo metodo si ricorre per illuminare ambienti profondi, facendo scoccare diversi lampi l'uno dopo l'altro. — Quando non si usa il contatto a mano metterlo sempre in sicurezza stringendo l'anello (7).

Espulsione della lampada: premendo il tasto (4) la lampada scatta fuori dal portalampada.

Regolazione dell'angolo d'irradiazione: il riflettore può essere regolato per illuminazione in larghezza o in profondità. Arresto interno (caso normale) = cono di luce largo per una illuminazione totale del campo d'immagine. Arresto esterno = cono di luce più stretto per concentrare l'illuminazione sulla zona centrale del campo d'immagine (ad es. per fotografie in formato ridotto) e per aumentare la portata del lampo con diaframma immutato (vedere tabella per il calcolo del diaframma).

Tabella per il calcolo del diaframma (5): far apparire nella finestrina superiore il numero guida della lampada lampo (rilevandolo dalle istruzioni del fabbricante); leggere il diaframma necessario per la distanza "lampo-soggetto". Con riflettore in posizione normale (cono di luce largo) vale la scala delle distanze superiore, per illuminazione in profondità (cono di luce stretto) quella inferiore. — E s e m p i o: numero guida 20, distanza lampo-soggetto m 2.5, diaframma necessario 8. Per illuminazione in profondità e distanza invariata è già sufficiente il diaframma 11. Ciò torna a vantaggio dei formati ridotti come quelli che si ottengono col Rolleikin o col funzionamento a 16 oppure a 24 fotogrammi.

D. Applicazione del Rolleiflash sul treppiede

Togliendo il braccio, il Rolleiflash può essere avvitato, grazie alla filettatura di cui è provvisto, su un treppiede; il braccio si toglie ripiegandolo un poco e premendo a fondo il bottone dell'asse (12). Per rimontarlo eseguire le medesime operazioni in senso inverso.

E. Rolleiflash comb.

Il secondo attacco (13) è previsto per il Rolleiflash comb. A questa torcia supplementare può anche essere collegato un altro Rolleiflash comb. per cui si accenderanno contemporaneamente tre lampi. Grazie ai cavi di prolungamento, misuranti ognuno 3 m, e ai raccordi, la distanza dei lampi può essere variata secondo la necessità entro un massimo di 10 m. Per liberare le spine dei cavi dal raccordo premere la piccola barra di metallo (14) che si trova su un lato del medesimo.

ROLLEIFLASH 2

A. Colocación de la batería

Para quitar el reflector: Girar el reflector hacia delante. Oprimir la tecla de bloqueo (1) y quitar el reflector continuando a darle vuelta.

Para colocar la batería (¡atención al polo +!): Introducir primeramente el polo — en sentido oblicuo y luego apretar hacia abajo. Tipos empleables: baterías de pilas planas, de 22,5 voltios. — Para el cambio: Apretar hacia arriba la batería y sacarla.

Para aplicar el reflector: Manteniendo apretada la tecla de bloqueo (1), situar el reflector en la caja, cuidando de que coincidan los puntos rojos de posición (2), y asegurarlo con el giro hacia la derecha.

Para conservar la batería: Tener aplicadas las bombillas de flash sólo por breve rato; desconectar el cable del Rolleiflash comb. cuando no se lo emplee.

B. Fijación a la cámara

Girar el **brazo de sostén** hacia afuera y encastrarlo abriéndolo. — Para desencastrarlo: Deslizar el brazo de sostén lateralmente (11) — tomándolo no p o r el botón (12) del eje, sino j u n t o a él — y cerrarlo.

Girar el **anillo de sujeción (3)** [para la Rolleiflex gran angular: el tornillo de sujeción en el brazo de sostén] hacia la izquierda. Aplicar el brazo de sostén en la bayoneta del visor de la cámara, encastrar hacia la derecha y asegurar girando hacia la derecha el anillo de sujeción. — Antes de quitar el Rolleiflash: Soltar el anillo de sujeción dándole vuelta hacia la izquierda.

Conexión del cable: Apretar el botón (6), extraer una de las dos clavijas del cable y fijarla en la tetilla de contacto de la cámara.

C. Impresión de la foto

Para colocar la **bombilla:** Apretar la tecla (4), introducir la bombilla bien hacia dentro del portalámpara y soltar la tecla (4). Si la bombilla tiene casquillo de vidrio, cuidar de que los alambres del casquillo queden prendidos por las mordazas de contacto. — Tipos de bombilla utilizables: con casquillo de metal (Swan, M 2) y con casquillo de vidrio (casquillo de tipo europeo).

Verificación de la bombilla: Oprimir el botón de verificación (9) — un breve destello de la lamparilla de control (10) significa que la bombilla de flash se enciende con seguridad y que la batería tiene tensión suficiente para el encendido. — Para reemplazar las lamparillas de control fundidas: emplear bombillitas de 6 voltios, 0,05 a 0,07 amperios.

Elección del contacto X ó M: Véanse las Instrucciones de Empleo de la lámpara de flash que se emplee y de la cámara.

Ignición sincronizada: Mediante disparo del obturador de la cámara.

Método del flash libre (encendido por medio del contacto de mano (8) con el obturador de la cámara graduado a tiempo de pose): N o conectar el cable a la cámara. Aflojar el anillo roscado de seguridad (7) y encender el flash apretando el contacto de mano (8). Ejemplo de aplicación de este procedimiento: Iluminación de salas profundas por medio de varios destellos encendidos consecutivamente. — Cuando no se use de él, asegurar siempre el contacto de mano apretando bien el anillo roscado (7).

Expulsión de la bombilla: Por presión sobre la tecla (4), la bombilla salta del portalámpara.

Graduación del ángulo de iluminación: El reflector se puede graduar de tope a tope para que ilumine con un haz de rayos amplio o de profundidad. Tope interno (caso normal) = cono de luz amplio: para la iluminación completa del campo de imagen. Tope externo = cono de luz angosto: para concentrar la luz en el campo central de imagen (por ejemplo, para fotos de tamaño reducido) y para aumentar el alcance del flash a igualdad de diafragma (véase "Cuentadiafragmas").

Cuentadiafragmas (5): Fijar en la ventanilla superior el número de guía de la bombilla de flash (según la indicación de la casa fabricante); hecho esto puede leerse el diafragma necesario para cada distancia "flash-objeto" que se escoja. En la posición normal del reflector (cono de luz amplio), rige la escala de distancias superior; con cono de luz angosto, la escala inferior. — E j e m p l o: Número de guía 20, distancia del flash 2,5 m, diafragma necesario 8. Graduando a cono de luz angosto y con la misma distancia de flash, basta diafragma 11 — una ventaja para las fotos con tamaño reducido (Rolleikin o distribución de 16 ó 24 fotos).

D. El Rolleiflash con trípode

Después de quitarle el brazo de sostén, el Rolleiflash puede enroscarse a un trípode por medio de la tuerca que lleva en la base: El brazo de sostén se quita medio abierto mientras se aprieta a fondo el botón (12) del eje. — Colocación: De la misma manera.

E. Rolleiflash comb.

La segunda conexión de cable (13) está destinada al Rolleiflash comb. Este foco supletorio puede unirse a su vez con otro Rolleiflash comb. De esta manera pueden encenderse simultáneamente 3 flashes en total. Mediante cables de prolongación de 3 metros cada uno y empalmadores puede variarse a voluntad la distancia de las lámparas hasta una longitud total de 10 m de cable. Para soltar del empalmador la clavija del cable: apretar la reglita metálica (14) que sobresale al lado del empalmador.

ROLLEIFLASH 2

A. Colocação da bateria

Retirar o reflector: Rodar o reflector para a frente. Baixar a tecla de travão (1) e retirar o reflector por continuar a rodar.

Colocar a bateria (dar atenção ao polo +!): Colocá-la primeiro obliquamente com o polo —, depois baixá-la. Tipo de bateria a utilizar: bateria de pilhas achatadas de 22,5 vóltios. Para a substituição: fazer impelir a bateria para cima retirando-a depois.

Montar o reflector: Com a tecla de travão (1) premida, colocar o reflector sôbre a carcaça — observando os pontos de marcação vermelhos (2)! e fixá-lo por rotação para a direita.

Para preservar a bateria: Fixar as lâmpadas relâmpago só pouco tempo antes. Em caso de não-utilização, desligar o cabo de ligação para o Rolleiflash comb.

B. Fixação na câmara

Braço de suporte: Virar para fora e engatá-lo pelo embate. Para desengatá-lo: Deslocar o braço de suporte para o lado (11) — não pegando neste caso **sôbre** o botão de eixo (12), mas sim **ao lado** do mesmo! — e redobrar.

Rodar o aro de apêrto (3) [para a Rolleiflex de grande angular o parafuzo de segurança no anel de baioneta] para a esquerda. Encaixar o braço de suporte na baioneta da objectiva do visor da camara, engatar por rotação para a direita e segurar por rotação do anel de apêrto para a direita. Antes da desmontagem do Rolleiflash, desligar o aro de apêrto por rotação para e esquerda.

Ligar o cabo: Premer o botão (6), puxar para fora uma das fichas de cabo e metê-la no bocal de contacto da câmara.

C. Fotografar

Colocação da lâmpada relâmpago: Premer a tecla (4), encaixar a lâmpada bem no suporte e soltar depois a tecla (4). Nas lâmpadas com casquilho de vidro: observar que os fios de contacto no casquilho atingem as mandibulas de contacto. Tipos de lâmpada usáveis: Com casquilho metálico (Swan, M 2) e com casquilho de vidro (tipo de casquilho europeu).

Controle da lâmpada: Premer o botão (9) — um curto acender da lâmpada de controle (10) é o indício da segurança de ignição da lâmpada e duma tensão de ignição suficiente da bateria. — Para a substituição de lâmpadas de controle defeituosas: utilizar lâmpadas de 6 vóltios, 0,05—0,07 Amp.

Escolha de contacto X ou M: veja as instruções de uso da lâmpada utilizada e as da câmara.

Ignição sincronizada da lâmpada relâmpago: por disparo do obturador da câmara.

Método de fotografar com luz de relâmpago aberto: (ignição por contacto manual (8) com o obturador da câmara aberto em regime de pose): **Não** ligar o cabo à câmara. Desligar o aro roscado de segurança (7) e fazer inflamar o relâmpago por pressão no contacto manual (8). Exemplos de emprêgo dêste método: iluminação de salas mais profundas por meio de vários relâmpagos inflamados sucessivamente. — Em caso de não-utilização, segurar sempre o contacto manual por apêrto do anel roscado (7).

Expulsão da lâmpada utilizada: Premendo a tecla (4) a lâmpada salta do suporte.

Ajuste do ângulo de iluminação: O reflector pode ser ajustado, de um embate para o outro, para uma radiação na largura ou para uma radiação em profundidade. Embate interior (caso normal) = cone de luz largo: para a plena iluminação do campo de imagem. Embate exterior = cone de luz estreito: para concentrar a luz no campo de imagem central (por ex. nas fotografias em formato reduzido) e para aumentar o alcance do relâmpago sem alterar o diafragma (vêr tabela dos diafragmas).

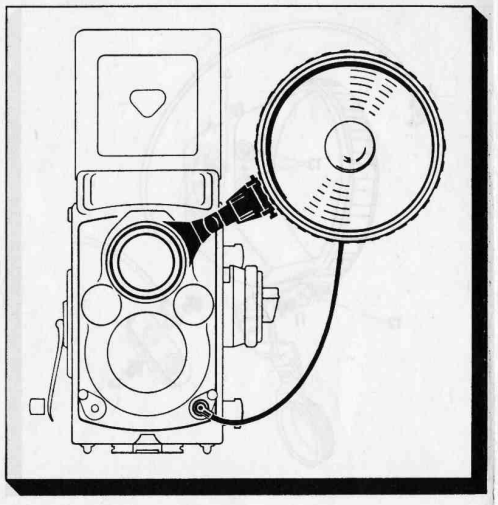
Calculador de diafragma (5): Ajustar o número de guia da lâmpada-relâmpago (conforme indicação do fabricante) na janela superior — depois pode-se lêr o diafragma necessário para cada distância do "objecto até o relâmpago" escolhido. No ajuste normal do reflector (cone de luz largo) vale a escala de distância superior, e no ajuste ao cone de luz estreito a escala de distância inferior. — Exemplo: número de guia 20, distância da luz do relâmpago 2,5 m: diafragma necessário 8. Ajustando o cone de luz para estreito e mantendo a mesma distância, basta já o diafragma 11 — uma vantagem que se proporciona para fotografar com formato reduzido (Rolleikin ou dispositivo de avanço para 16 ou 24 m/m).

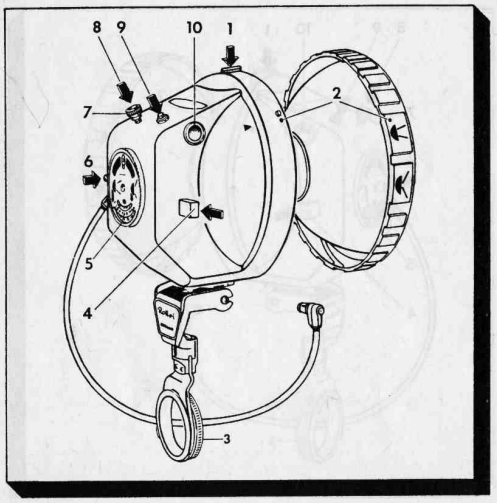
D. Rolleiflash no tripé

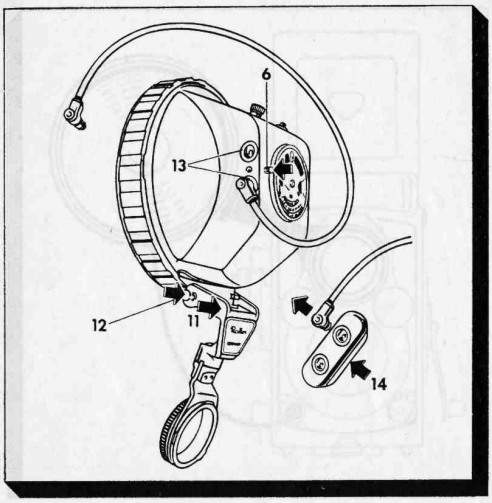
Depois de desmontado o braço de suporte, o Rolleiflash pode ser atarraxado com a sua rôsca de fundo num tripé: o braço de suporte, meio desdobrado, tira-se para fora, premendo ao mesmo tempo bem o botão de eixo (12). Para o montar: de maneira correspondente.

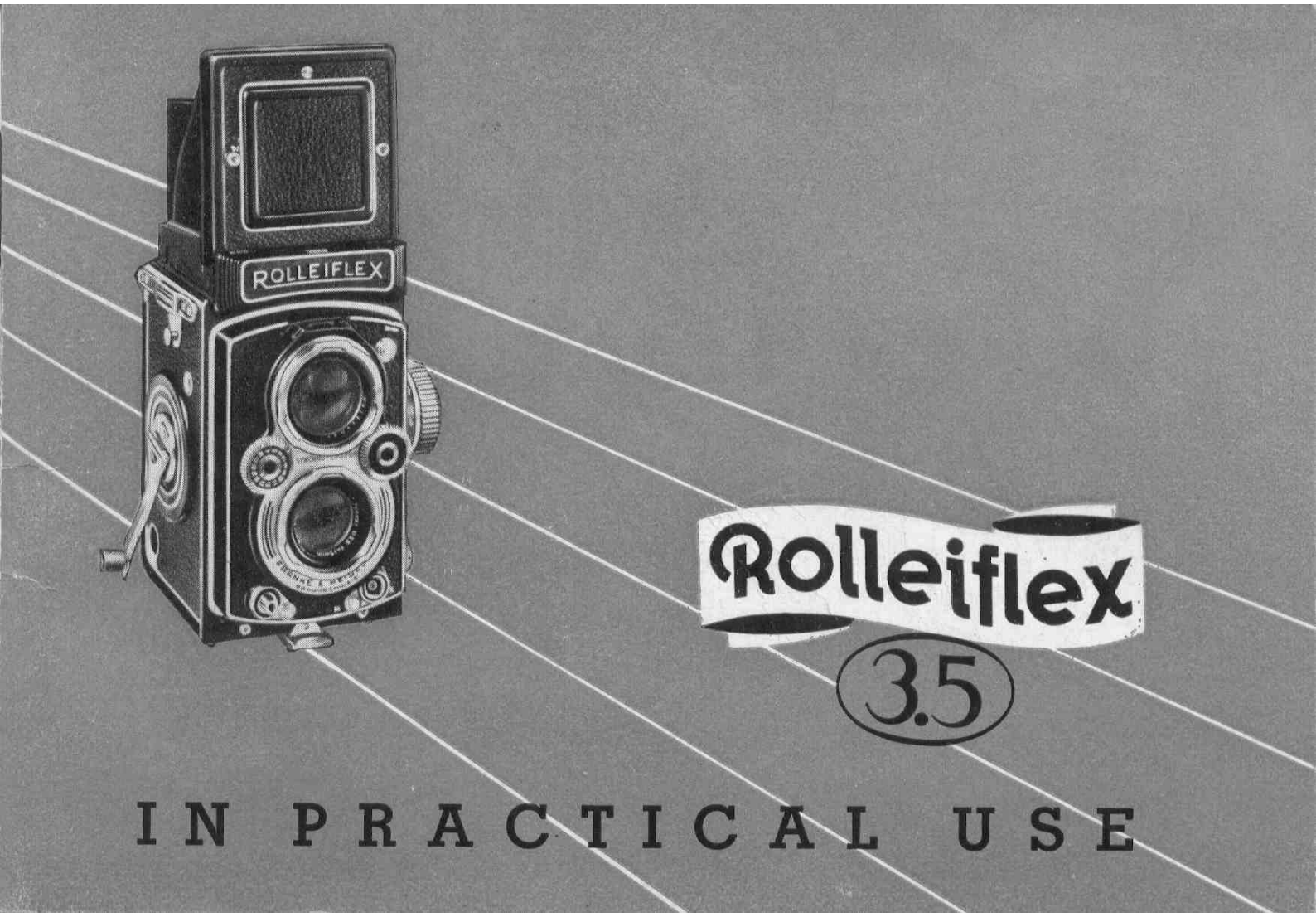
E. Rolleiflash comb.

A segunda ficha de ligação (13) é prevista para a ligação ao Rolleiflash comb. Este flash complementar pode ser ligado, igualmente com mais um Rolleiflash comb., de maneira que se podem inflamar ao mesmo tempo 3 lâmpadas de relâmpago. Por meio de cabos de prolongação de 3 m cada e peças de ligação, é possivel variar à vontade o comprimento total do cabo até cêrca de 10 m. Desligar a ficha de cabo da peça de ligação: premer a barra metálica lateralmente saliente (14).



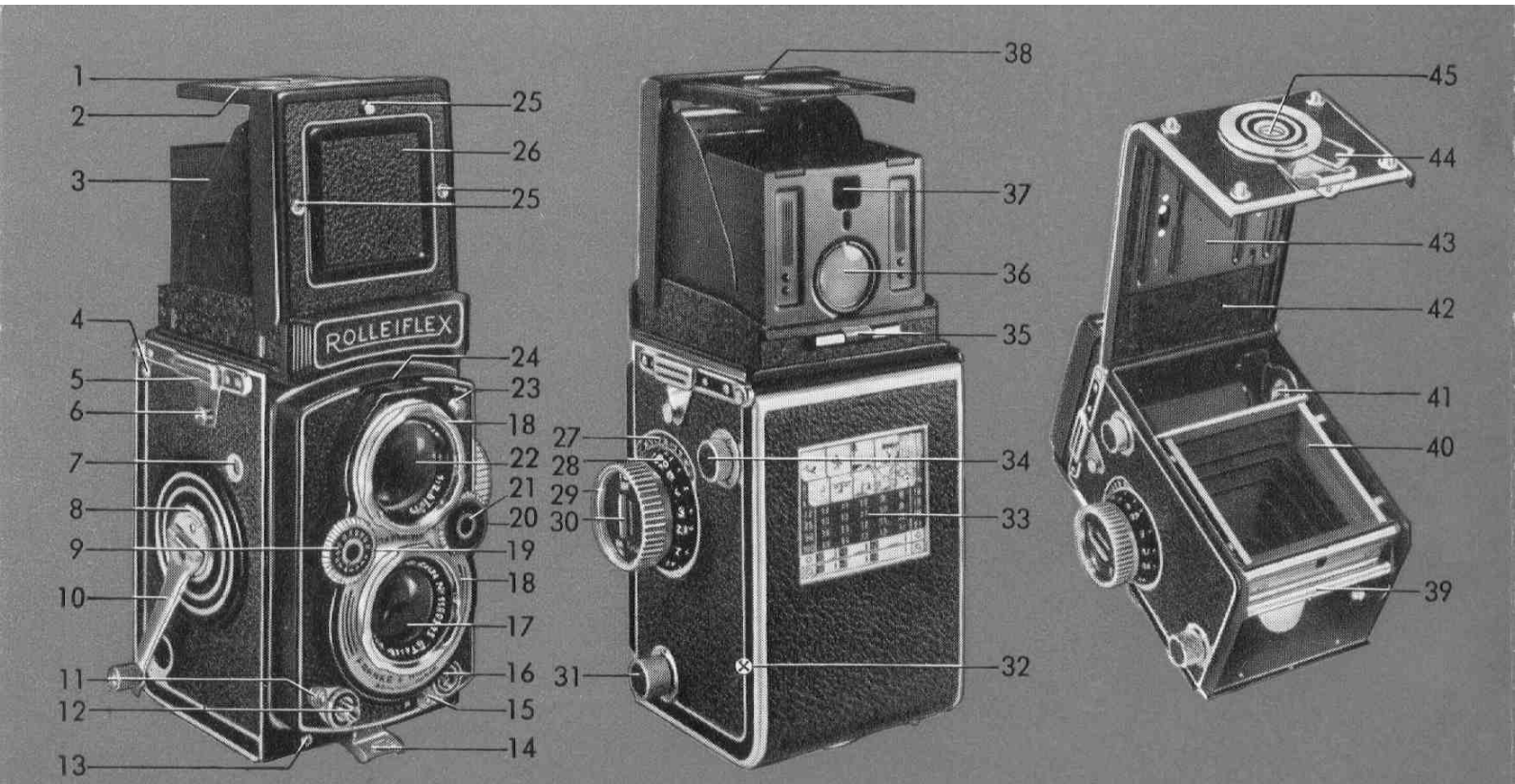

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Rolleiflex 3.5

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

10 Film advance and shutter tensioning crank
11 Shutter release guard
12 Shutter release with cable release socket
13 Locating sockets for panorama head
14 Back lock clip
15 Synchro M-X lever with locking device for flash cord plug
16 Flash cable socket
17 Taking-lens
18 Double bayonet mount for lens accessories and lens hood
19 Shutter speed control
20 Diaphragm control
21 Locking button
22 Viewing-lens
23 Self-timer release
24 Indicator window for shutter and diaphragm 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 Exposure table
34 Take-up spool knob
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

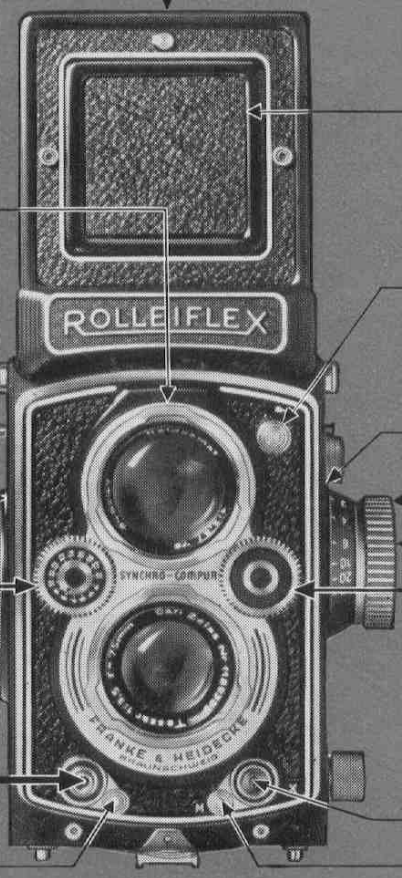
The Automatic Rolleiflex is a precision camera of the most advanced modern design. Equipped with lenses of superior optical quality, Schneider Xenar 3.5 or Zeiss Tessar 3.5, it offers superb performance. Even more astonishing to first-time-users is Rollei's extreme handling ease, due entirely to the many exclusive, automatic features incorporated in its design.

The correct methods of holding and handling the camera should be learned from the very start. The following pages contain a fully detailed description, with illustrations, of the construction and functioning of the camera. Helpful rules and hints, fundamental to the practice of Rollei-photography, are also included.

We hope that this book will help each new Rolleiflex owner to achieve the most complete success with the camera and, of course, in the shortest possible time.

FRANKE & HEIDECKE
BRAUNSCHWEIG

THE QUICK BASIC PRINCIPLE



Check focus and composition

Sports pictures:
use direct view finder

Check diaphragm and
shutter speed

Exposures with the self-timer:
release here

Tension shutter
(with film advance crank)

Check depth of focus

Check film frame number

Focus

Adjust film reminder

Set light value
Select shutter speed-diaphragm opening

(Set diaphragm)

Double exposures:
unlock crank to re-cock shutter

Release shutter

Flash pictures:
connect flash gun,

After the exposure:
safeguard release

adjust M-X lever

TO LOCATE THE MOST IMPORTANT PARAGRAPHS QUICKLY

Page:

6 **I. A Brief Rolleiflex-Anatomy**
10 The Automatic Film Transport Mechanism

12 **II. Rolleiflex in Operation**
12 Ever Ready Case
12 Lens Cap
14 Holding the Camera
16 Focusing Hood
16 Focusing Magnifier
17 Direct View Finder
18 Focusing
18 Diaphragm
19 Depth of Field
24 Shutter Speed
24 Light Value
24 Shutter Tensioning
25 Releasing
26 Self-Timer
26 Exposure and Light Value
29 Film Reminder

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30 **III. Loading and Film Transport**
30 Back
32 Inserting the Film Spool
34 Threading the Film
34 Film Transport

37 **IV. Flashlight Technique**
40 Flash Photography Tips

42 **V. Tips on Picture-Taking**
42 Landscapes
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50 Reflecting Surfaces
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52 Care of Camera
52 In Case of Damage to the Camera

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21 Depth of Field
23 Speed of Moving Objects and Shutter Speeds
28 Exposure
38 Flash-Contact and Shutter Speeds
53 Practical Accessories
54 Rollei Filters
55 Rolleinars

Important: Before attempting to use or handle the camera we urge you to read carefully pages 12, 16, 24 and 30.

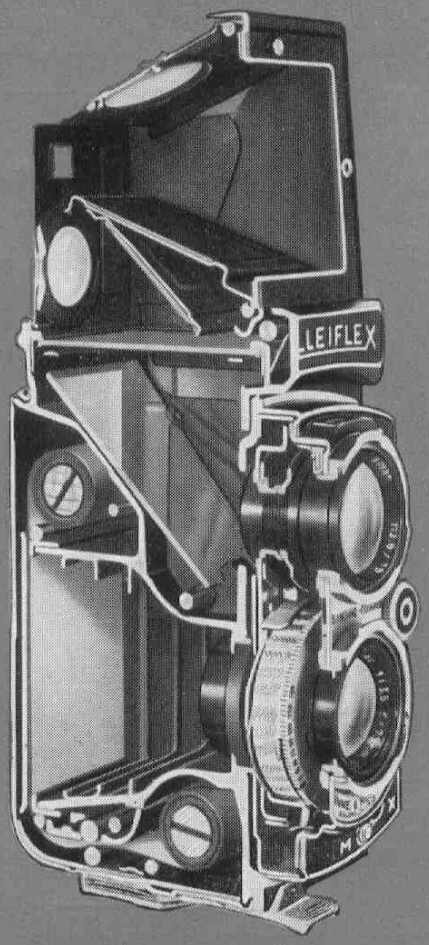
DOUBLE AND BLANK EXPOSURE LOCK

The Ambi Silette has a safeguard against double and blank exposures. That is to say, it is not possible to make two exposures on the same frame, and the film cannot be inadvertently fed forward until an exposure has been made. If therefore it is found that the release button cannot be depressed, this means either that the film has not been wound on after the previous exposure, or that the rapid film wind lever was not brought right round to the stop. If the latter is the case the winding can be completed, by again operating the lever up to the stop, without wasting any film. If there is any doubt, after some time has elapsed since last using the camera, whether or not the film has been wound on, the film wind lever should be tried. If it cannot be operated the camera is ready for exposure.

Before making the first exposure, the film should be moved on one frame by operating the rapid wind lever, so that the exposure counter index now reads 36 or 20.

The handling of the Synchro Compur shutter fitted to the Ambi Silette calls for detailed explanation since the exposure (determined by the shutter speed and the relative aperture) is decisive for obtaining negatives of correct density.

Please read carefully the chapter referring to the shutter of your camera (pp. 18–25).



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.

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

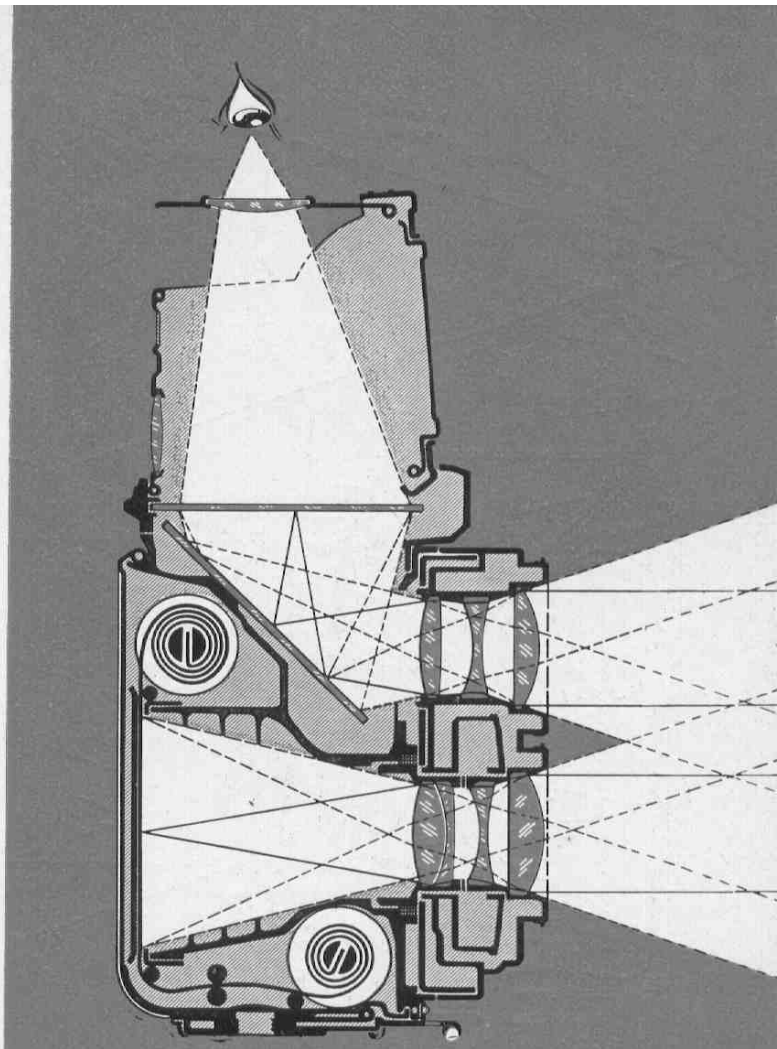
taking-camera, in which the film is exposed, and the upper half is the

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 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.

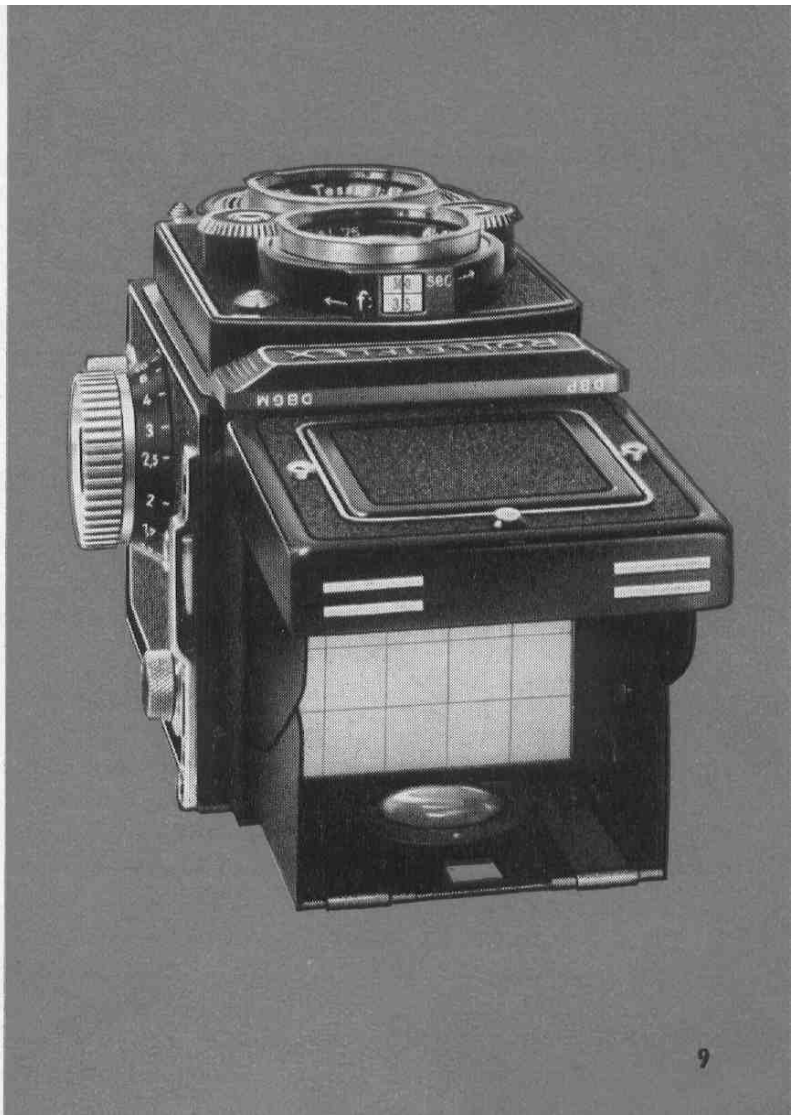


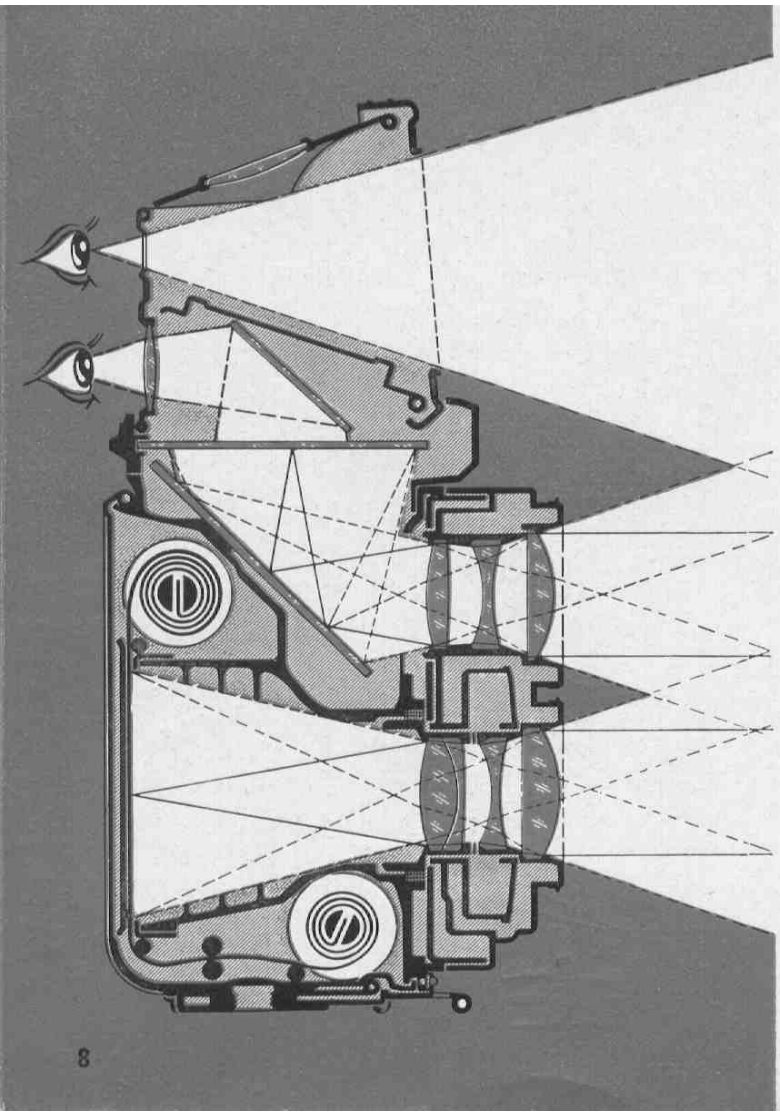
from the focal or film plane to the subject) is accomplished by one full turn of the focusing knob. The special design of the focusing mechanism (a cam-drive based on the principle of the archimedic spiral) insures uniform movement of the lens panel in both directions without play or backlash.

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 can be had even when using supplementary Rolleinar lenses for close-up work merely by adding the Rolleipar.

Shutter speeds and **diaphragm openings** are regulated by the small knurled wheels on the front panel while observing the scales in the single peep window at the top. **Light value scale** and **shutter speed-diaphragm coupling** simplifies correct exposure setting and permits quick changes of speed-diaphragm combination.

Since the two **lenses** are of idential focal length (f = 75 mm, picture angle [across diagonal], 56°) 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 **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 **magnifier** offering approximately 2.5 times magnification for critical focusing.

The rectangular magnifier flap also acts as a shield for the focusing hood and prevents extraneous light from above reaching the viewing image.

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 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.

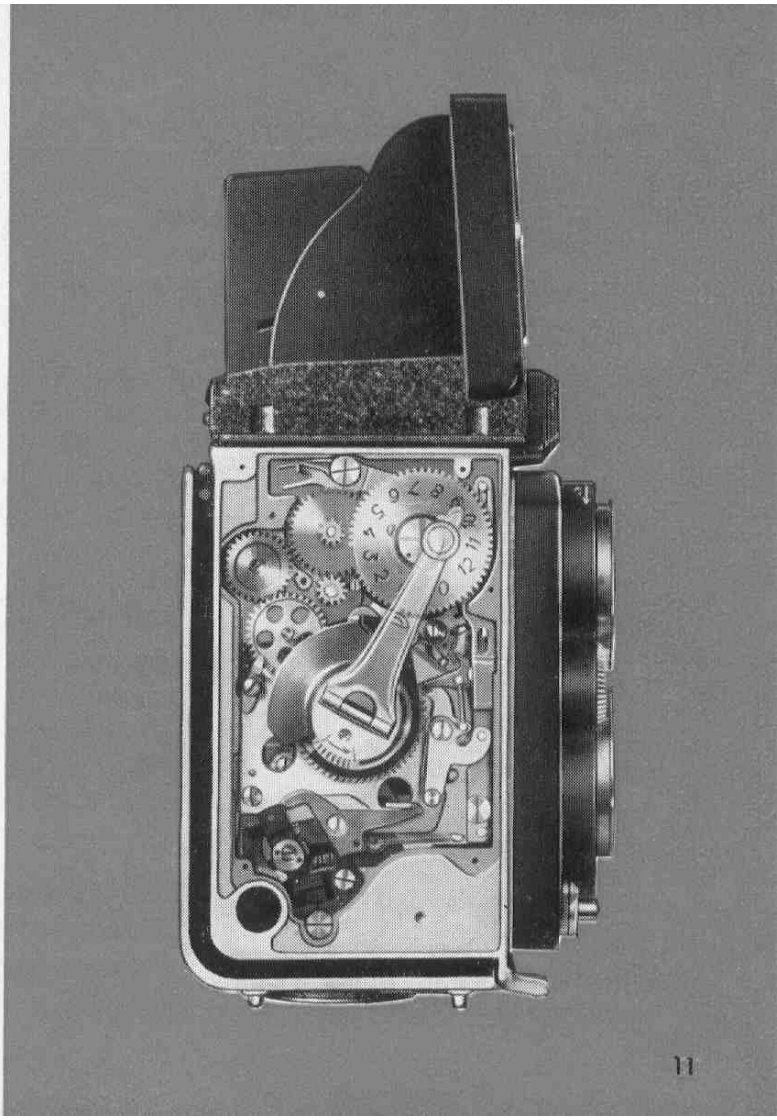
Focusing the front lens panel throughout the range from ∞ (infinity) — 35½ inches (distances measured

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.



The f : 3.5 taking lens is a four glass construction with two cemented elements (modified Taylor-type) and features outstanding correction for black and white and color pictures, while the three-element viewing-lens f : 2.8 meets with the special requirements for best ground glass 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 2¼×2¼", 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 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 s i x important functions with each pendulum swing:

1. Advances film to next frame
2. Advances film frame counter
3. Tensions the shutter
4. Resets the self-timer mechanism
5. Releases shutter lock
6. 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 w i t h o u t 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 ¾ of a turn in the beginning to just under 1/2 turn at the end

II. THE ROLLEIFLEX IN OPERATION

The Ever Ready Case

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

The case may also be used with the Rolleikin 2 attachment merely by removing the leather insert to permit passage of the larger counter knob. In order to assure solid contact when working with a tripod (page 31), do not use the ever ready case.

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.

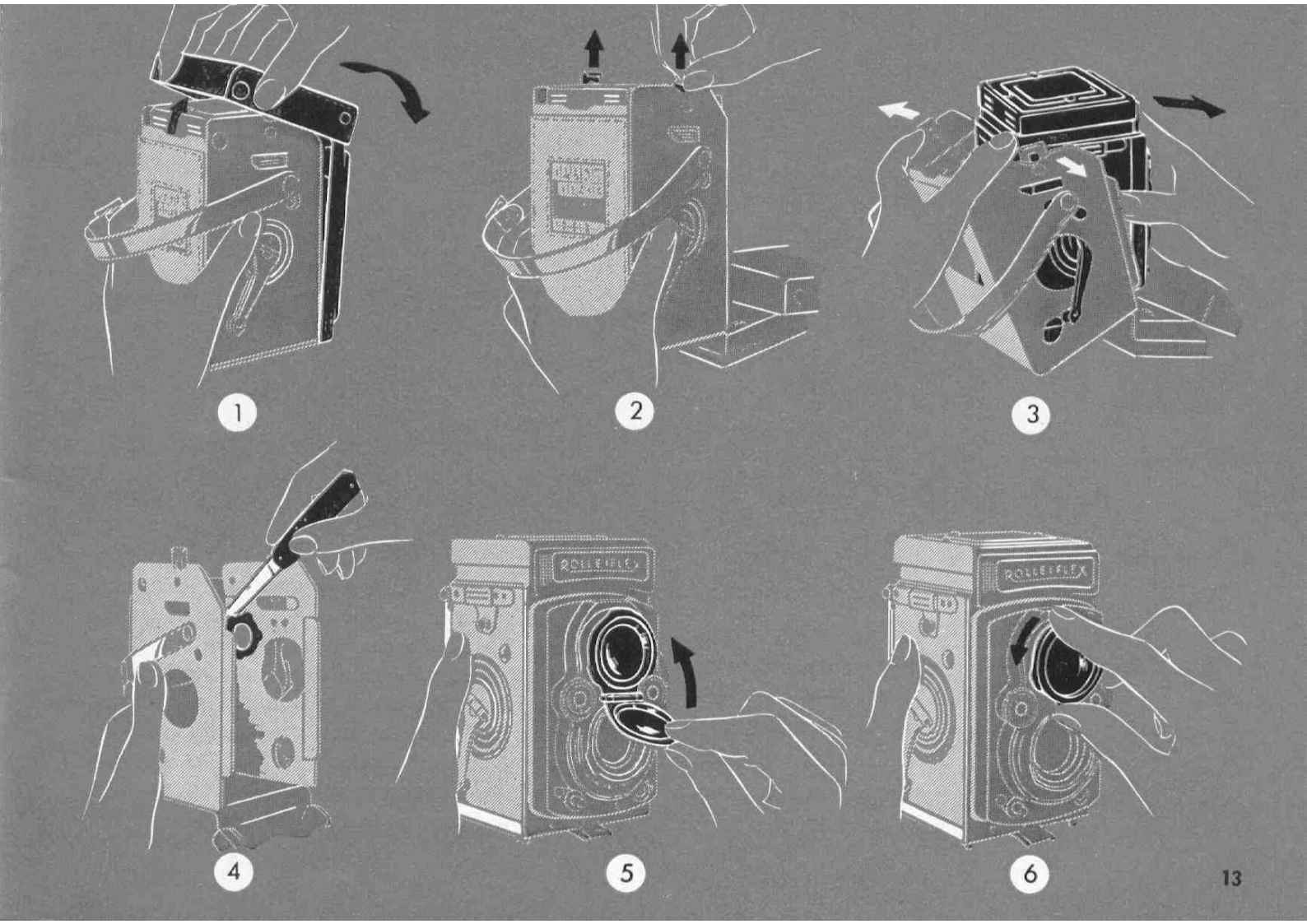
For Cameras with Rolleikin 2: straighten out the five metal tabs of the leather insert on the inside of the case with a knife ④ and then push out the now superfluous disc.

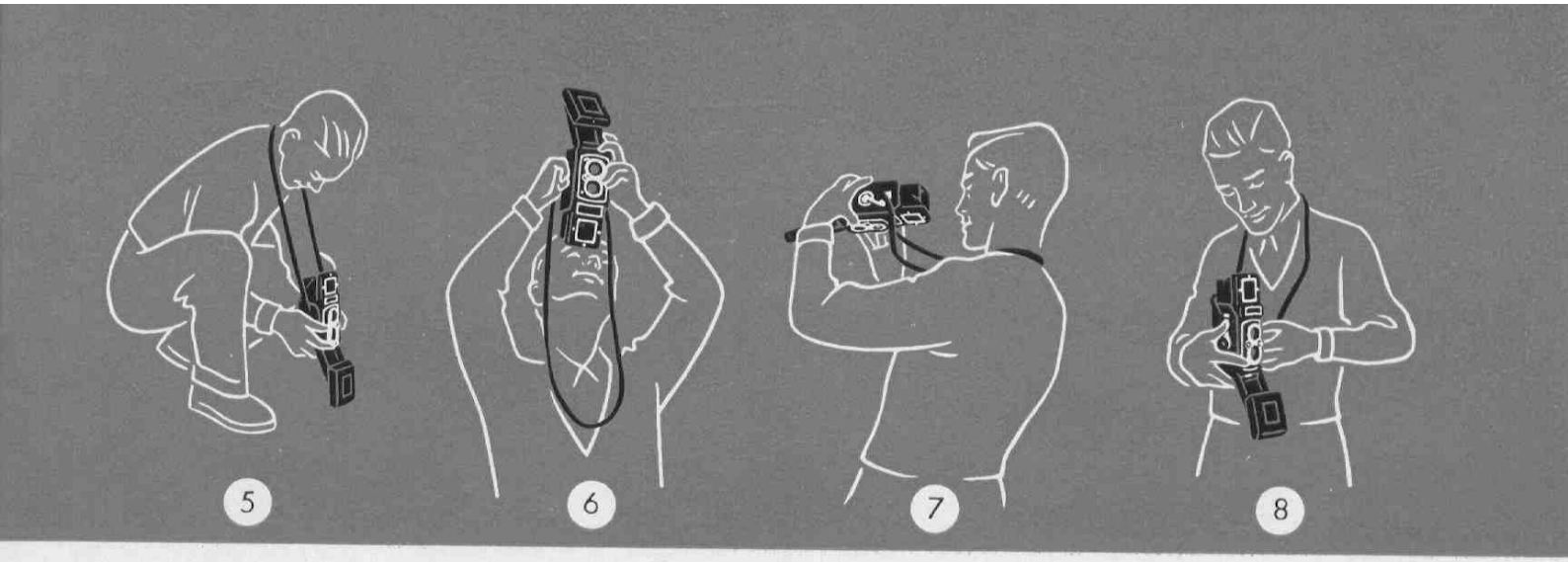
The Lens Cap

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.

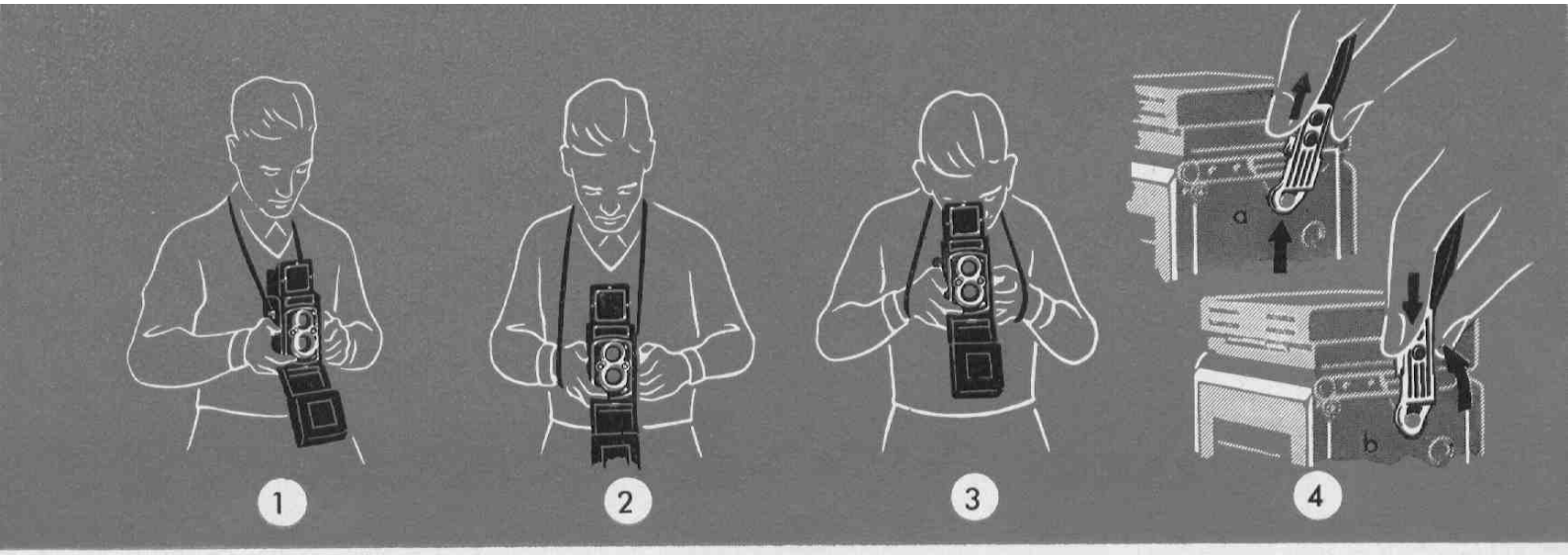

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ROLLEIFLEX
ROLLEIFLEX



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

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).

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 occasionally, surprise snaps "around the corner" (5)-(8). Thus the viewpoint may be altered at will, in order to obtain a variety of picture effects from different angles.



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. 36). 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 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.

continuing rewinding check whether it is still possible to turn the rewind knob even when the rewind release button is released. As soon as this is the case rewinding should be stopped, for it must be remembered that the end of the film must not be allowed to slip into the cassette if you wish to develop the film for yourself.

The back of the camera can now be opened as described on page 11. The rewind knob is pulled right out to the stop so that the cassette can be removed easily. It should be placed as soon as possible in a light-tight wrapping, and for convenience marked "exposed".

STOP — SHUTTER SPEED

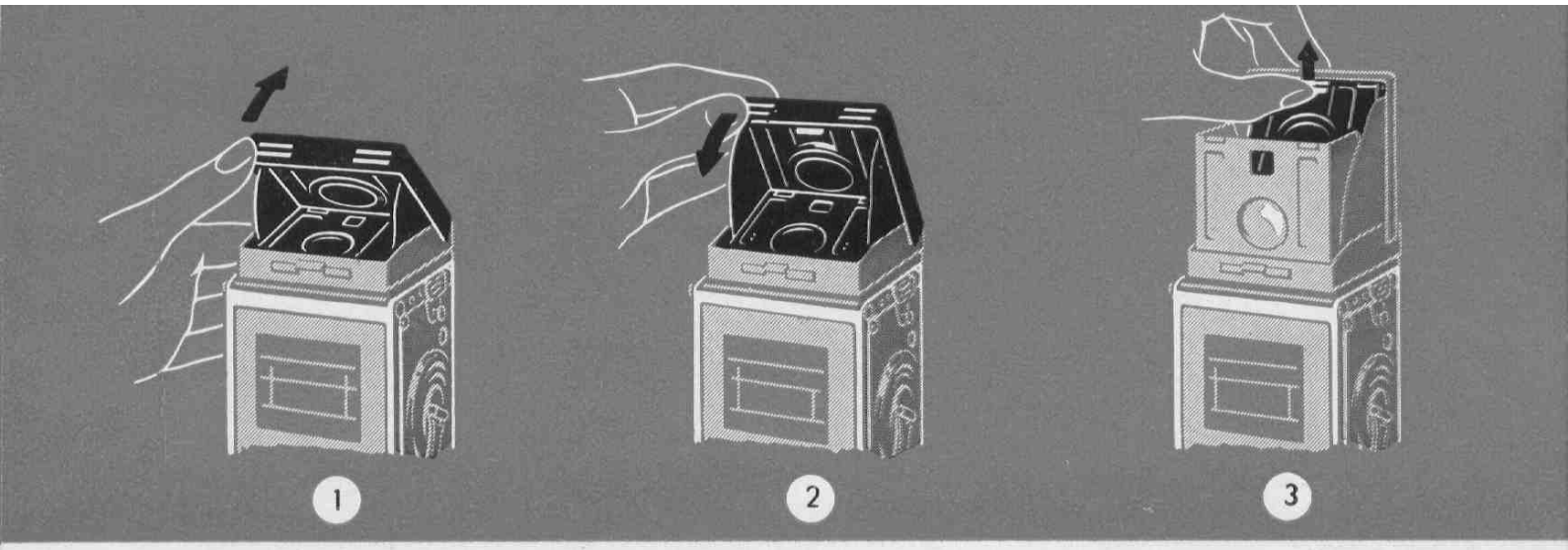
General Rule

If, owing to very good light conditions, you can choose either a very short exposure or a small aperture (stop), it is advisable to prefer a small aperture (higher stop number) because of the wider range of sharp focus (depth of field) that can be attained. Use very short exposure times only when rapidly moving subjects necessitate it.

Stop: The stops engraved on the scale of your Ambi Silette are as follows:

2.8 4 5.6 8 11 16 22

This series is so graded that in passing from any one stop to the next higher number the photographically effective light which passes through the lens is halved. The light coming from the subject has to pass through the stop (diaphragm), which with wide apertures (small numbers) allows a large amount of light, and with small apertures (high numbers)



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.

Note: the focusing hood may be closed only with the magnifier in folded position.

The focusing hood may also be closed with the same hand movement that closes the ever ready case (see page 12). The push-button at the rear of the focusing hood serves to hold the Rolleikin ground glass screen mask or the Rolleigrid lens.

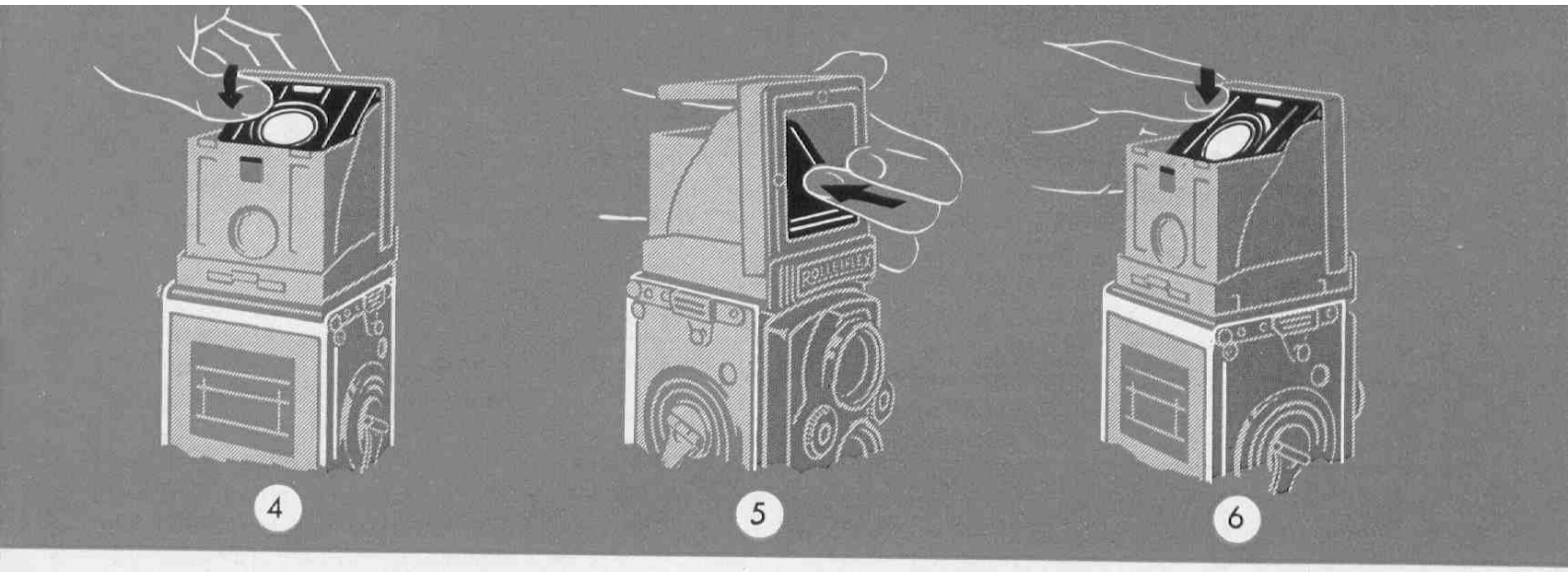
Focusing Magnifier

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 until it snaps into position. Avoid touching the lens itself ④.

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

The magnifier is interchangeable and may be replaced for the convenience of near or far sighted people. Strengths from minus three to plus three diopters are available.



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 (also interchangeable) magnifier.

The two pin sockets and small knob on the front of the hood permit attachment of the Rolleikin direct view finder mask.

Changing Magnifier (if eyesight demands)

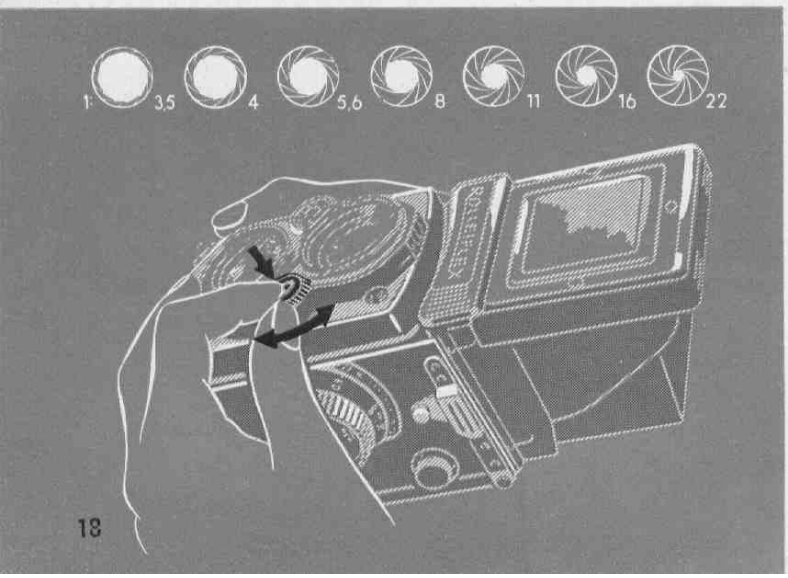
To Remove: pull back ring mount against retaining spring and lift out. To insert: put into position (back first), pull back against spring and snap down.

Rear Magnifier: to remove: push in slightly at top and lift out. To insert: slip magnifier (white dot uppermost) between retaining springs — push down until it snaps into place.

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 time must be increased correspondingly when using a smaller diaphragm opening. This is done automatically in the range between 1/500 th — 1 sec. by means of the speed-diaphragm coupling (see page 26). A recalculation is necessary only when using "B", for time exposures. The table immediately following gives correct relative times for use in this case.

Diaphragm	3.5	4	5.6	8	11	16	22
Exposure	¾	1	2	4	8	16	32

Notice that each succeeding smaller stop requires exactly double the exposure of the preceeding one (p. 27). Only exception — the relation between f : 3.5 and f : 4.

The diaphragm scale itself is easily seen, black figures, in the peep window above the viewing lens. The line next to and above f : 3.5 indicates f : 4.

Adjusting the diaphragm: depress locking button and turn control wheel.

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 long distance:

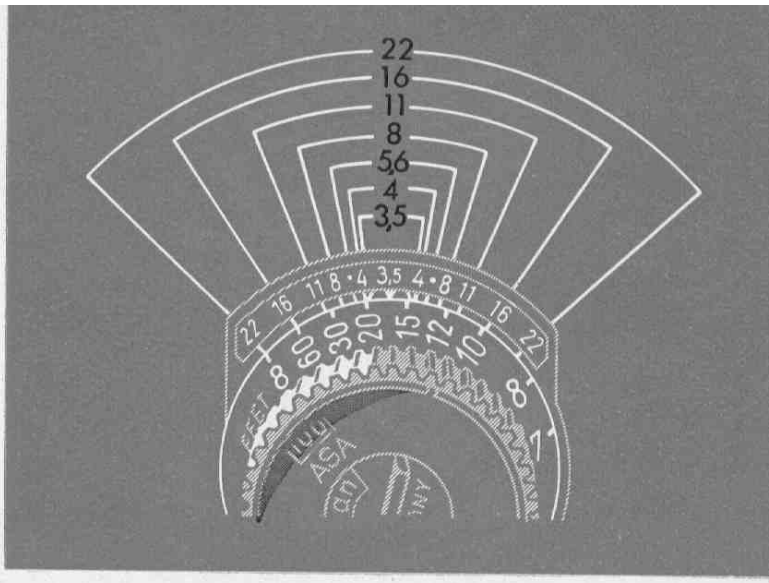
> 1. The depth of field increases with the taking distance.

In any case, however, the sharp zone of the picture may be increased considerably by stopping down 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.

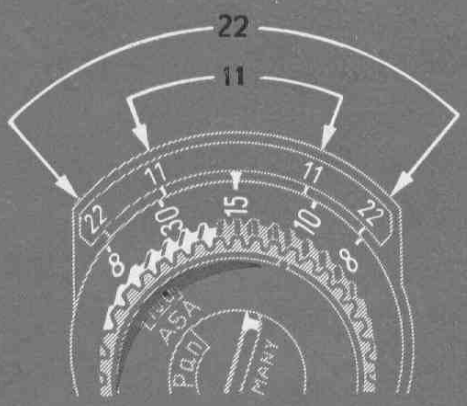
The extent of the depth of field at any distance may be read off on the focusing knob.



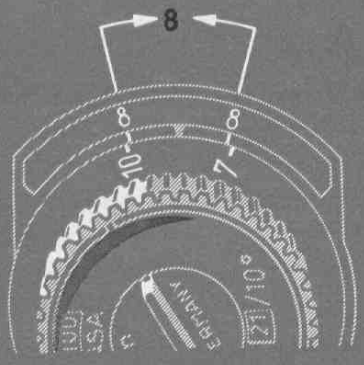
Depth of Field Scale

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.



1



2

In Practice

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

> Sharp focus extends throughout the area bracketed by the marks representing the selected diaphragm opening.

1. Example: focusing to 15 ft with diaphragm opening 11 gives a depth of field 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 ∞. (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 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 : 8.

Depth of Field Table (distances in feet)

Diaphragm			4	5.6	8	11	16	22
Taking distance (in feet)	∞	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′8″ – 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′9½″ – 8′1″	4′5½″ – 9′4″
	5′	4′10⅛″ – 5′2″	4′9″ – 5′3″	4′7⅞″ – 5′5″	4′6⅜″ – 5′7″	4′4½″ – 5′10″	4′1⅝″ – 6′4″	3′10¾″ – 7′1″
	4′	3′10¾″ – 4′1¼″	3′10⅛″ – 4′2″	3′9⅜″ – 4′2⅞″	3′8⅜″ – 4′4¼″	3′7¼″ – 4′6″	3′5⅜″ – 4′9⅜″	3′3⅜″ – 5′2″
	3,5′	3′5⅛″ – 3′6⅞″	3′4⅝″ – 3′7½″	3′4″ – 3′8⅛″	3′3¼″ – 3′9⅛″	3′2⅜″ – 3′10½″	3′1″ – 4′7⅛″	2′11⅜″ – 4′4⅛″
	3′	2′11⅜″ – 3′5⅛″	2′11″ – 3′1″	2′10½″ – 3′1½″	2′10″ – 3′2¼″	2′9⅜″ – 3′3⅛″	2′8¼″ – 3′4¾″	2′7⅛″ – 3′6⅞″
Diaphragm		3.5	5.6	8	11	16	22	

The Depth of Field Table

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.

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 3.3×to 7½×7½". 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.

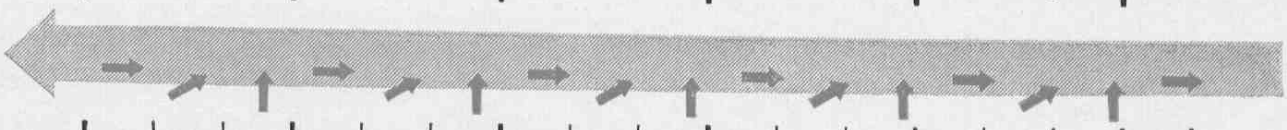
With enlargements from portions of Rollei negatives or from Rolleikin negatives, the requirements with regard to sharpness are more critical. In this case depth of field is calculated using a smaller circle of confusion. In practical use the required depth is obtained through the use of a smaller diaphragm 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		1/30	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 movement.

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

Hand-Held Pictures: Fast Speeds					Tripod Pictures: Slow Speeds					Tripod Pictures: Time Exposure
1/500	1/250	1/125	**1/60**	1/30	1/15	1/8	1/4	1/2	1 sec	B

The Shutter Speed

The Synchro-Compur shutter is a between-the-lens shutter operating at the above designated speeds. In-between speeds are not possible. 1/60 th sec. represents a most commonly used instantaneous shutter speed which minimizes risk of camera movement. Shutter speeds longer than 1/30 th sec. are generally safe only with a tripod. To avoid unsharpness due to subject movement, see table page 23. Shutter speed values appear in the peep window as red figures — read them as denominators of the fraction values, i. e. 30 = 1/30 th sec. Selected scale values will resist accidental displacement through click stops.

Setting the shutter speed: depress locking button on the diaphragm wheel and turn shutter speed wheel (1a).

The light value

is set on the appropriate scale, located on the shutter speed control wheel. See page 26 for information on use of light values.

Setting the light value: depress locking button on the diaphragm wheel and turn shutter speed wheel (1a) or diaphragm wheel (1b).

Shutter speed-diaphragm opening change, while retaining same light value: turn shutter speed wheel only (1a).

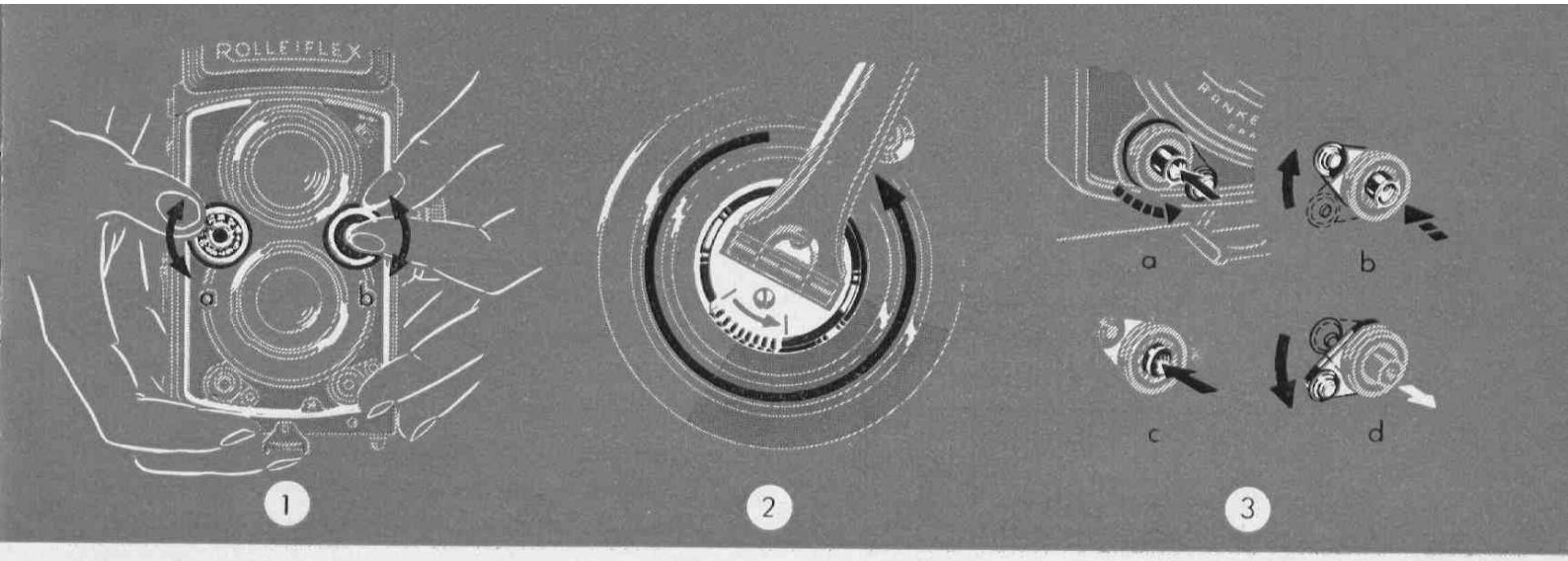
Shutter tensioning

Tensioning together with film advance is automatic through crank action (page 34). Tensioning without film advance — possible only with roll-film loaded camera — for intentional double or multiple exposures:

Move release ring at base of crank in direction of arrow and then turn crank through one complete b a c k w a r d revolution until it stops (2).

Tensioning with Rolleikin: automatic through crank action. Double exposures not possible.

Tensioning with Plate Adapter: swing crank normally, through 180°, and back to stop. Repeated tensioning for multiple exposures possible.



Releasing Shutter

The body shutter release is locked when the safety guard is in the upper position and unlocked when it is swung down (180°) to the lower position. When the release button is pressed, a slight but distinct resistance is felt and then the shutter is immediately actuated. — The depressed release button may also be locked in this position for long time exposures. — **A cable release** may be screwed into the release button and can be operated whether button is locked or not.

Instantaneous exposures: with release guard in lowered position, press release button gently until it stops (3a).

Time exposures: set shutter to "B", unlock release button, press and hold for duration of exposure. To reduce possibility of camera movement, use cable release.

Long Time exposures: set shutter to "B", depress release slightly (not enough to open shutter) and swing guard to lock it in this position (3b). Exposure: press release completely (3c) and terminate by swinging release guard downward (3d).

UNLOADING THE CAMERA

When the exposure counter indicates 1, one more frame remains to be exposed.

If too much film has been pulled out of the cassette when loading the camera, it can happen that the film cannot be fully wound on for the last exposure: the film wind lever sticks half way. In this event, the last exposure has to be sacrificed.

The exposed film must now be wound back into the light-tight cassette. To rewind the film, with the left thumb press the rewind release button on the base of the camera (see Fig. 18) and with the right hand pull out the rewind knob **as far as the first catch** (about $^3/_8$ inch) and wind the film right back by turning the knob in the direction of the arrow. This operation is complete when the film detaches itself from the take-up spool, and this point can be detected by a slight resistance to rewinding. By carefully

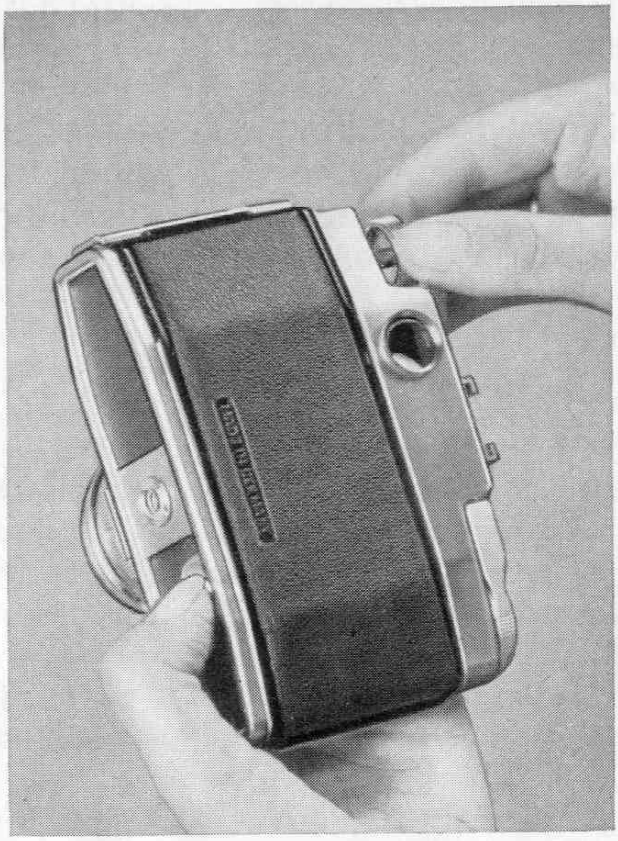


Fig. 18

Self-Timer

If the photographer himself wants to appear in the picture, the self-timer is employed instead of the shutter release button. It is cocked automatically by crank action (and is always ready for use). With the exception of B all shutter speeds from 1 to 1/500 sec. may be used. The action of the self-timer allows the photographer approximately 10 seconds before the shutter opens for the previously selected exposure time.

If the shutter has just been released by hand it is perhaps needless to say that the crank must be wound before either a self-timed or any other kind of picture can be taken.

To Release the Self-Timer: push the self-timer release button in the direction of the arrow.

> 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.

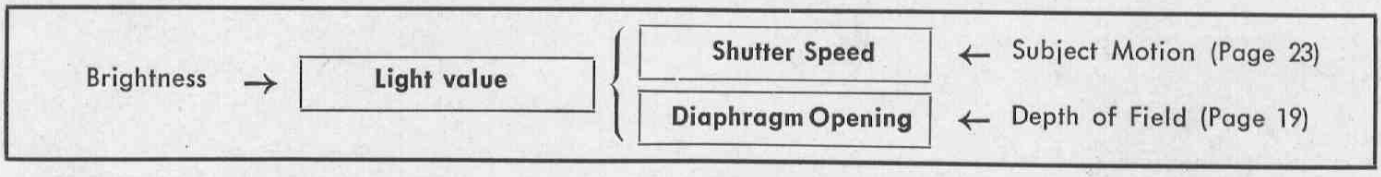
Exposure and Light Value

Correct **exposure** is dependent upon existing illumination (more exactly: subject brightness). The **light value** indicates the correct exposure. A reading is taken from the exposure table or a photo-electric exposure meter set for the proper film speed and then transposed to the light value scale of the camera. The shutter speed and diaphragm opening relationship are thus adjusted at once for the correct exposure.

This correct relationship between the shutter speed and diaphragm opening is automatically maintained by the coupling mechanism even when another speed-diaphragm combination is sought to obtain a certain depth of field (see table). In this case use the shutter **speed** control wheel only. Thus it is possible to quickly choose the most suitable of the possible combinations, without calculations and without changing the basic required exposure.

The light values 13 to 9 permit a choice from six shutter speed and diaphragm opening combinations, ranging from f: 4 to f: 22, for example, light value 13:

Shutter Speeds	1/500	1/250	1/125	1/60	1/30	1/15
Diaphragm Openings	4	5.6	8	11	16	22



If the **"B"** setting appears when choosing the shutter speed-diaphragm combination it will indicate that double the next previous setting is required, or 2 secs. Exposure time is doubled for each smaller diaphragm opening. For example, light value 6:

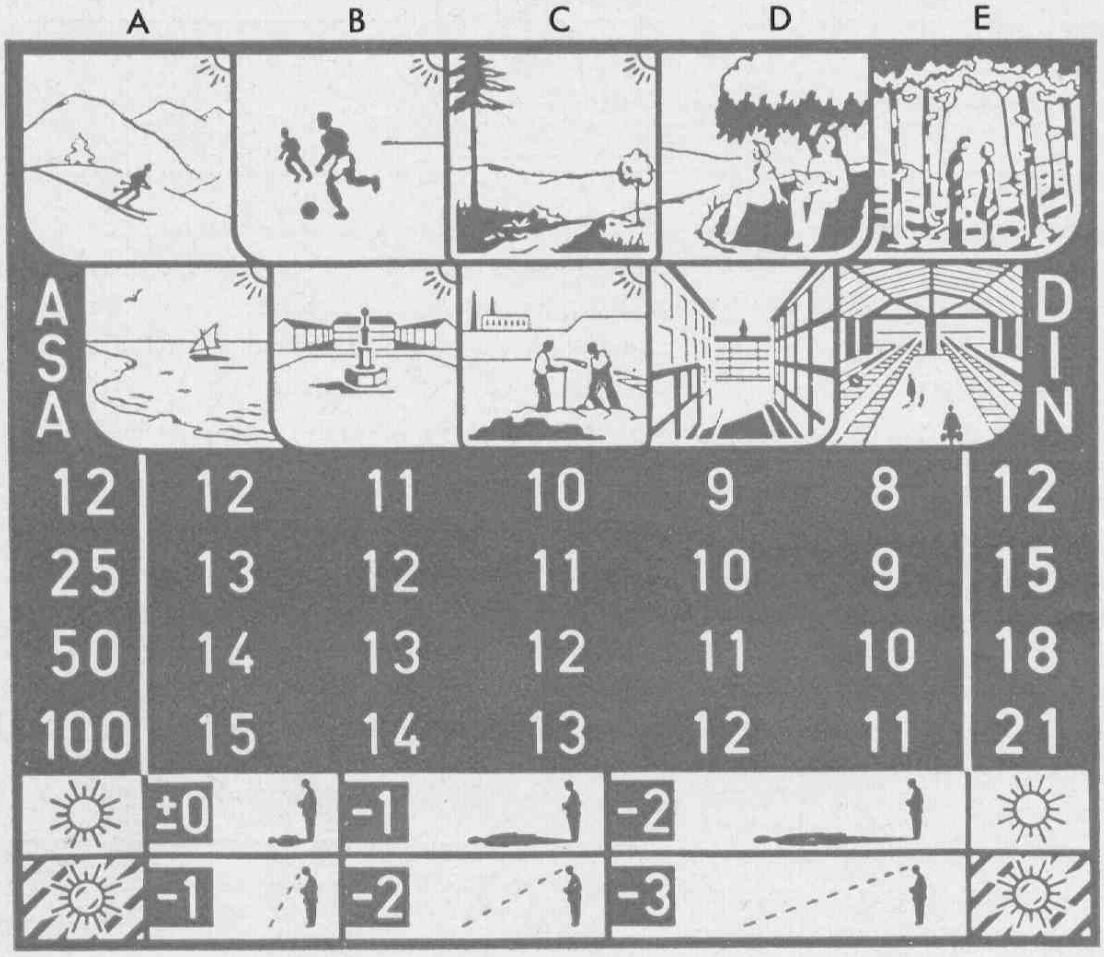
Shutter speed	1/4	1/2	1	(2)	(4)	(8)
Diaphragm opening	4	5.6	8	11	16	22

Intermediate values may be used on the light value scale. In such cases between-figure diaphragm positions will result, although automatic coupling in the proper relationship will still be maintained. f:3.5 is itself an example of an intermediate stop, positioned between f: 2.8 and f: 4 of the international diaphragm scale.

The **exposure table** with its light values has been designed for use with most often met with lighting conditions and serves to prevent serious errors. In difficult cases or for greatest accuracy, it is advisable to make use of a photo-electric exposure meter. If the meter is not calibrated for light values, shutter speed and diaphragm scales are set separately. Thus the correct light value will be indirectly ascertained and changes to other combinations may be easily and quickly made in the previously described manner.

General Exposure Rule: It is not always possible to pair a sufficiently fast shutter speed (to minimize effect of subject motion) with a small diaphragm opening (for greater depth of field). Obviously a compromise is required and it would be well to remember that under-exposure results in hopelessly lost shadow detail, whereas over-exposure may be compensated for to a great extent by proper processing. Therefore: a good general rule for exposure:

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



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 glass-roofed halls

The Exposure Table

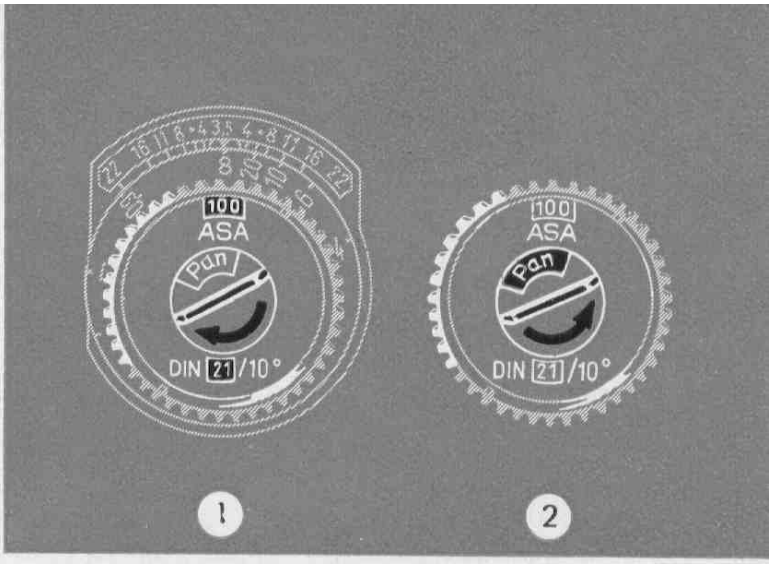
Subject brightness is easily judged and classified by means of the five standard lighting conditions represented by two illustrations each at the top of the table.

Film speed is indicated at the left by ASA figures and at the right by 1/10° DIN values.

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

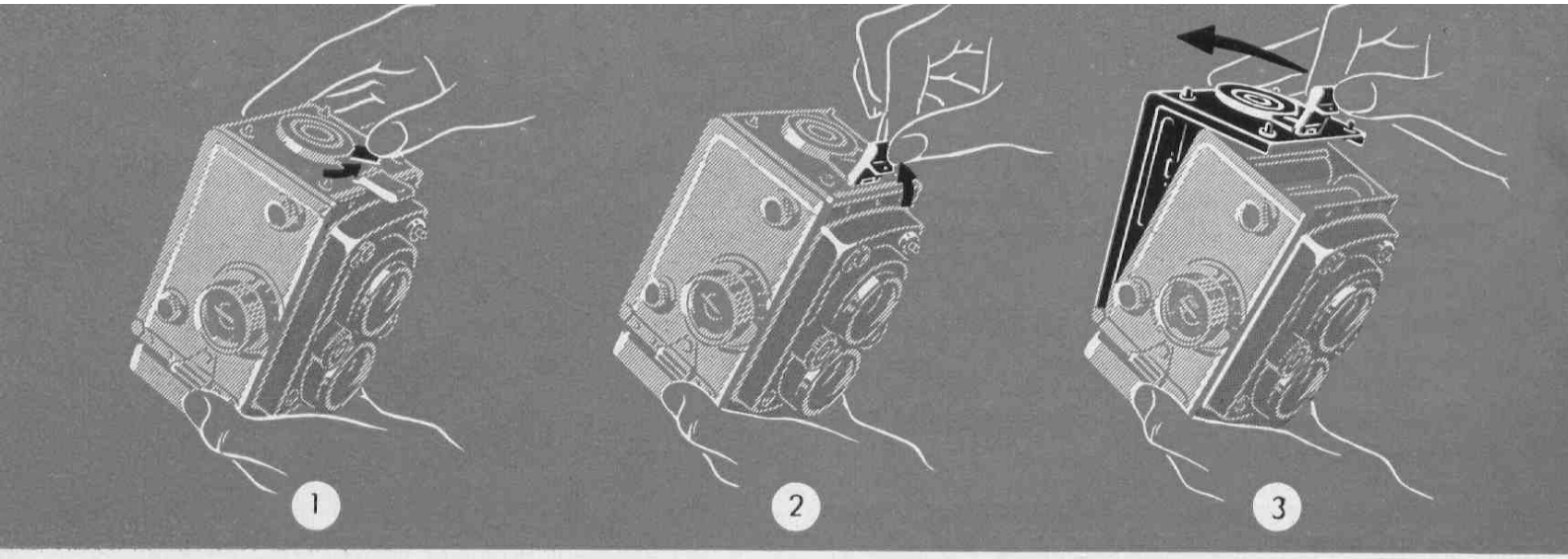
Light value adjustment, due to overcast sky or when sun is lower in the sky, is made by use of lower scale. Upper scale: full sunshine — lower scale: overcast sky. The length and intensity of your own body's shadow will give some idea of light conditions. The ability to estimate and choose the correct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

Example: Color film 25 ASA (15/10° DIN), landscape with foreground, sunny, noontime (shadows short, no light value adjustment): light value 11. Available speed-diaphragm combinations: 1/125—f:4, 1/60—f:5.6, etc. Same subject in the afternoon, longer shadows, would require adjusted value, perhaps 11 — 1 = 10.



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 ☼.



III. LOADING AND FILM TRANSPORT

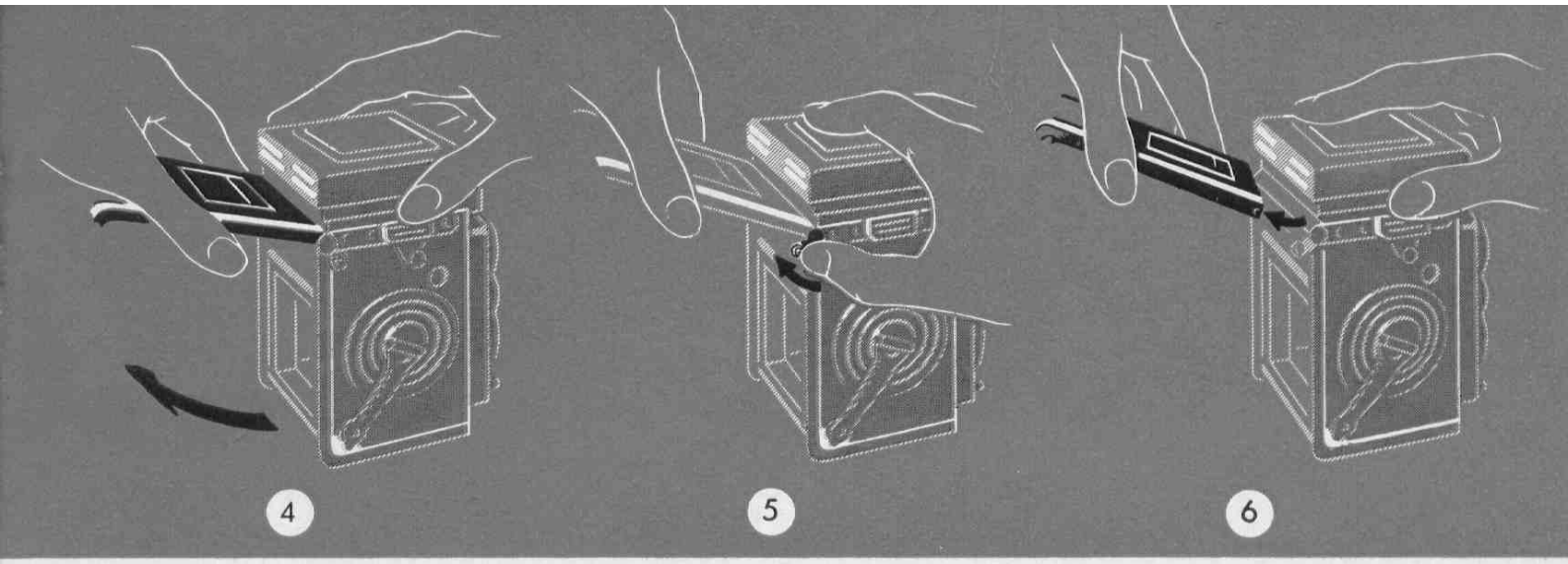
The Rolleiflex is loaded with 2¼ × 3½ roll-film 120 or B II 8 (620 not usable) and delivers 12 exposures 2¼ × 2¼.

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.



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

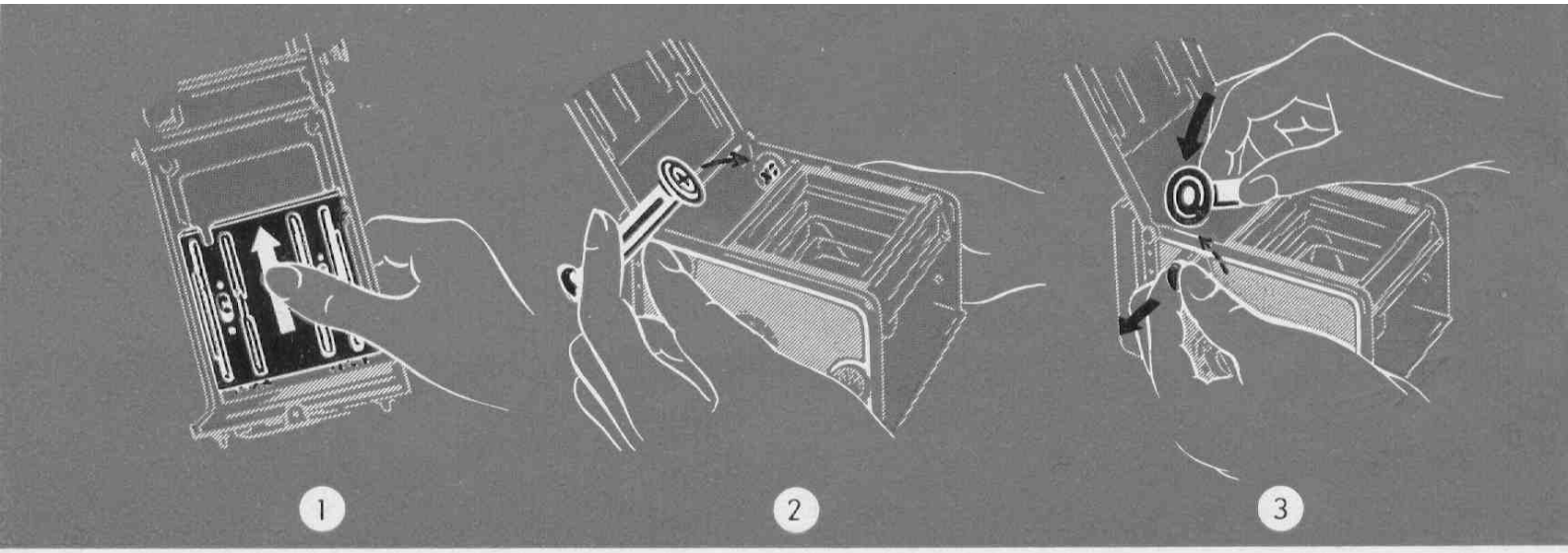
To Remove: open back fully ④ and swing the locking lever on the right side back hinge (crank side) in the same direction until it stops ⑤. Slip back out of the opened hinge ⑥.

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!

The camera may be attached to a **tripod** by means of the threaded socket on the bottom. Caution: 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.



Film Pressure Plate Must be Positioned Correctly!

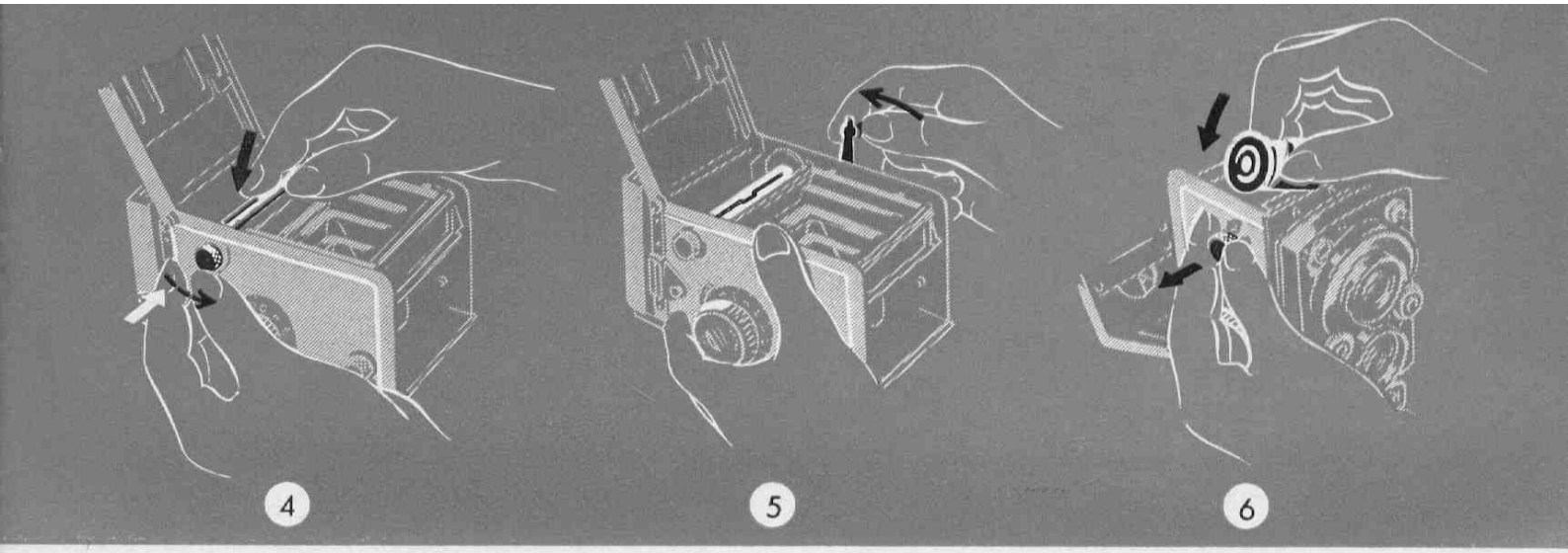
When roll-film is employed, the inscription 2¼×2¼" must be visible below the film pressure plate. When changing from 120 roll film to 35 mm film, or the reverse, an adjustment must be made according to the film type being used.

To adjust the film pressure plate ①: Press the plate against the back and push it up or down until it stops. When released it must spring forward completely into the normal plane!

Inserting the Film Spool

In the factory-new camera the empty spool (take-up spool) is already in position. After removal of the exposed film the just emptied spool becomes a take-up spool, and must be transferred to the upper spool-chamber. The end with the slot goes to the right engaging the winding key of the film transport mechanism ②.

Both spools are held on the left hand side by spool knobs. The bearing pins are withdrawn when changing spools by pulling out the knobs.

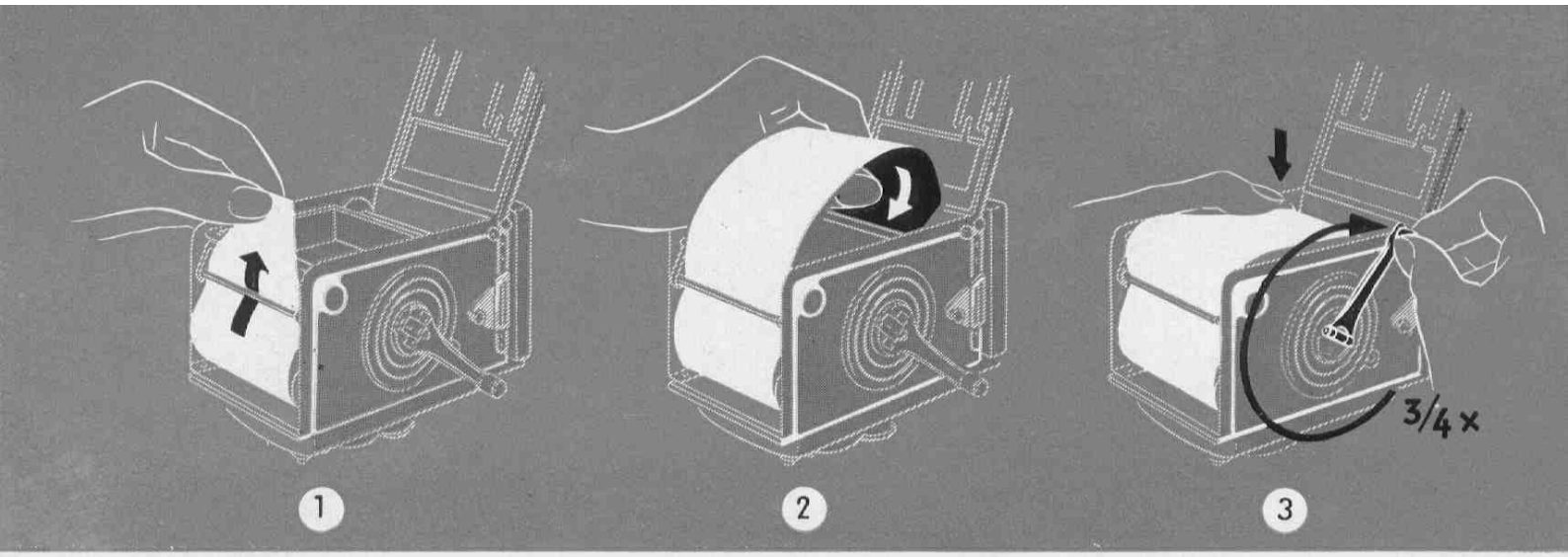


The pulled out upper knob (take-up-spool) may be held in that position by turning it slightly; turning it a little more permits it to snap back by itself.

To Insert the Empty Spool: first fit the spool over the winding key on the right (crank side) and pull out the guide knob ③. Push the spool down on the left applying slight pressure, so that the knob may snap back into place fully ④. It is then necessary to turn the crank until the long slot in the empty spool comes uppermost ⑤.

Note: when using the adapter the empty 120 (or B 2) spool is removed from the camera. However, it must be handily retained especially on trips, since otherwise a new roll-film cannot be loaded into the camera.

To Insert a Full Film Spool: in the same way as applies to the take-up spool ⑥. The pointed end of the backing paper must point in the direction of the take-up-spool chamber, so that the colored side of the backing paper remains on the outside.



Threading the Film (Paper Leader)

After inserting the new film-spool tear the tape seal open and remove it.

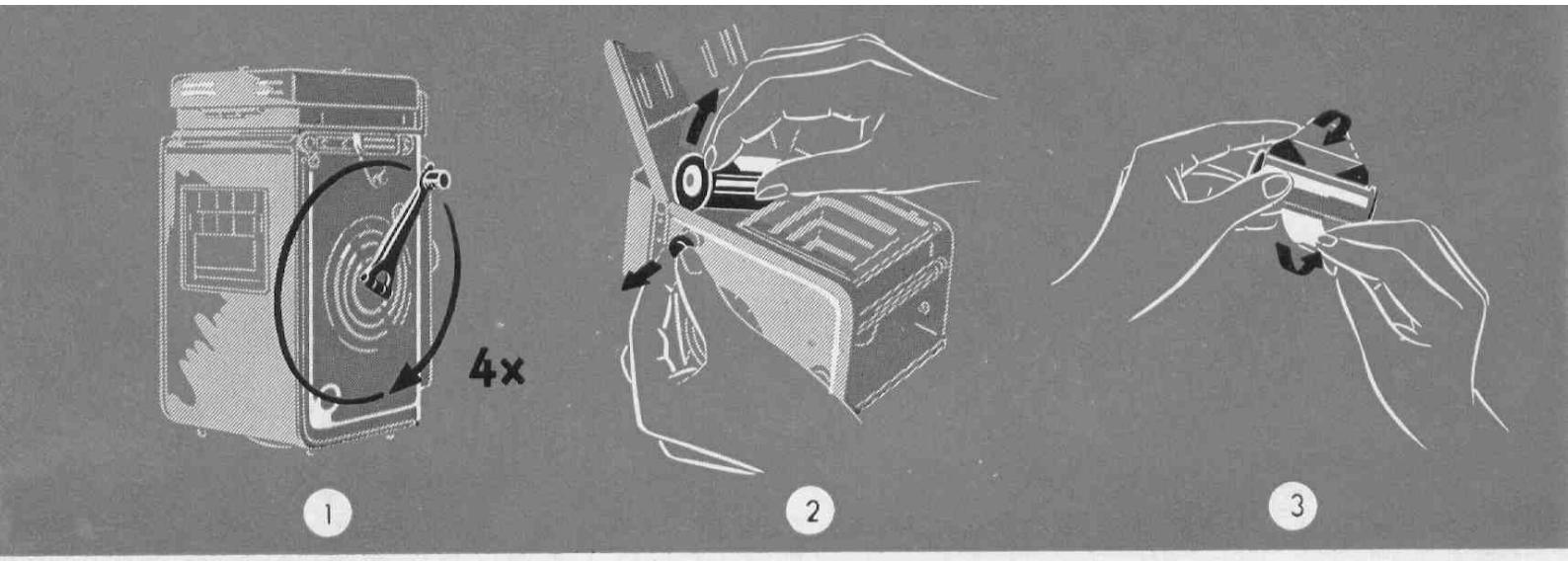
1. Thread the beginning of the backing paper **through the rollers** of the film feeler mechanism (important!) and draw it up to the take-up spool, colored and printed side outwards ①.

2. Push the paper leader through the long slot of the take-up spool as far as it goes ②.

3. Tighten the backing paper by one spool turn (= approximately ¾ crank turn), making sure that the paper is wound up properly on the take-up spool ③. Close back (with the film pressure plate adjusted according to instructions!).

Film Transport

The correct positioning of the film according to the first and following numbers of the exposure counter is accomplished exclusively by the crank. The correct operation of this is governed by stops:



When making exposures in rapid succession it is unnecessary to fold down the crank each time. It remains locked in its starting position, ready for the next film advance, with a slight pressure of the thumb keeping it against its stop.

If longer intervals occur between exposures the question could arise: has the film already been advanced and the shutter cocked? The crank gives the answer immediately:

> Only if locked is it "ready to shoot"!

To Remove the Film

After the 12th and last exposure four complete crank turns are enough to wind off the rest of the backing paper ①.

To Remove: open the back in the shade, pull out upper spool knob and remove the film from the same side ②. Fold under a good portion of the backing paper (for easier opening when developing) and seal ③. Put the exposed film back into the light-proof protective cover of the original package!

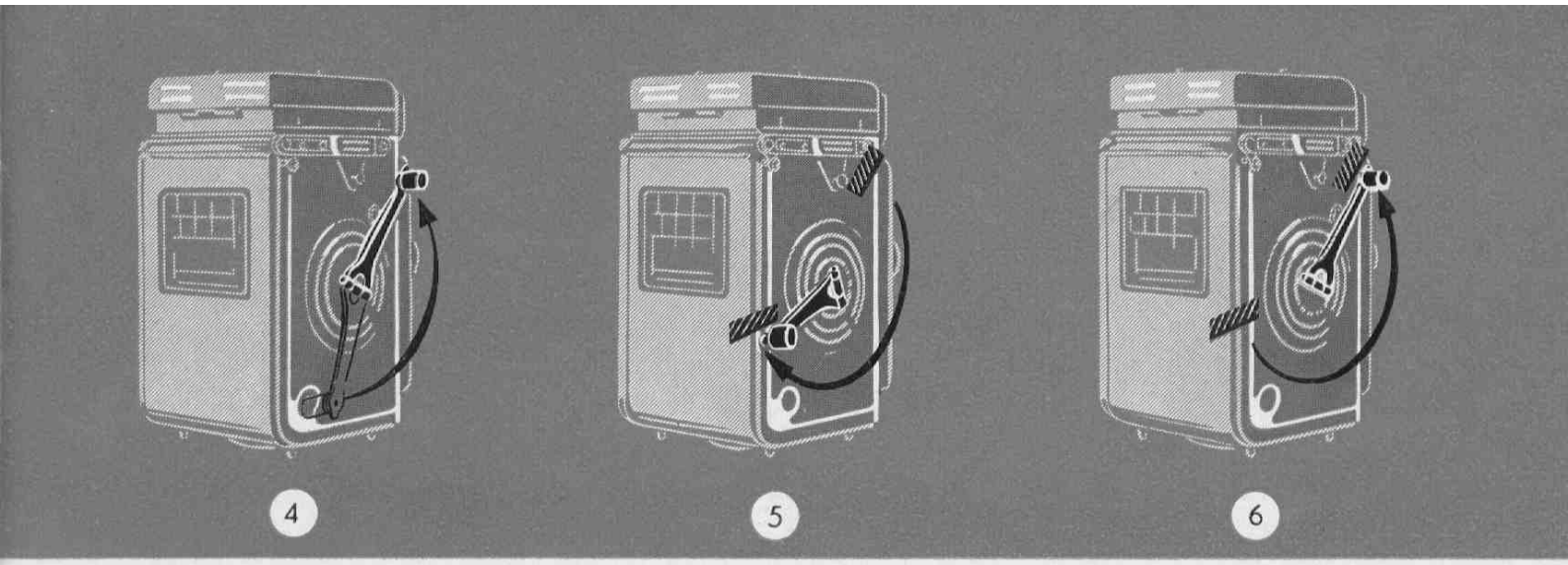
only a small amount of light to reach the film. The diaphragm may also be set to intermediate click-stop positions.

Shutter speed: There is a fixed relationship between the shutter speed (or exposure time) and the size of the stop, and in order to maintain this relationship the following rule must be observed: for any given light value, the higher the stop number, the longer the exposure time; the lower the stop number, the shorter the exposure time. For example, if the exposure table or your exposure meter gives an exposure time of $^1/_{30}$ second at f/8, and it is necessary to use $^1/_{60}$ second in order to avoid camera shake, then this shorter exposure time demands a larger stop so as to let through more light, and the diaphragm scale must therefore be set to 5.6.

DEPTH OF FIELD

The sharp definition given by your camera is not limited to the exact subject distance on which the lens is focused: it extends for some distance in front of and behind that point. This range of sharp focus, which is called the "depth of field" depends upon the choice of stop, and can be controlled within wide limits. The smaller the stop (the higher the stop number) the greater the depth; the depth also increases, however, with increasing distance of the subject from the camera.

The depth of field is thus a function of the stop and the subject distance, and the **exact** values corresponding to a range of subject distances and f/numbers are given in the tables on pages 26–31. It deserves to be emphasized that the values of this table have been



Swing out crank ④,
turn it until it stops with one continuous swing ⑤ and then back again until the next stop ⑥!

It is now locked, until the automatically cocked shutter is released. The simple rule then reads:

I f the crank can be turned, it m u s t be turned — once in each direction until it stops, until it locks!

When advancing the film to exposure No. 1 some 4 to 5 c o m p l e t e crank turns are required. During the last turn a slight resistance of the mechanism must be overcome as the counter moves from 0 to 1. If it should happen that the crank reaches starting position when it stops, reverse direction one full turn, so that it locks!

During continued film transport the amount of crank travel decreases gradually to about a half turn.

IV. FLASHLIGHT TECHNIQUE

In modern flashlight technique the camera shutter takes over the task of firing the bulb electrically at the right moment. In this way instantaneous flash exposures are possible with a hand-held camera.

The Synchro-Compur shutter in the Rolleiflex is, for this purpose, equipped with electrical contact. The contact may be adjusted to the required delay of the flash lamps by means of the Synchro-lever:

The **X-contact** presents the simplest type of contact (zero-delay). It is required for zero-delay electronic flash units (without relay) and a few flash lamps.

The **M-contact** means full synchronization. It works with most flash lamps and the electrically fired flash powder (capsule flash). The most important advantage of the M-contact: with certain flash lamps it may be employed at the shorter shutter speeds even including 1/500th sec. Due to the full synchronization the shutter is always open when the flash emitted by the lamp reaches its peak intensity. Thus all types of instantaneous flash exposures are possible with the Rolleiflex.

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.

Selection of M-X lever position, applicable speed range and exposures can be learned from the instructions of the different flash light products. For the best known makes the table on page 38 contains the necessary information and the permissible shutter speeds.

Connecting Flash Unit: push flash cord plug into the socket on the camera.

To Remove the Flash Cord: Swing the Synchro M-X lever partially to one side and pull out the plug.

When setting contacts X or M:
Swing Synchro-lever a full 180° until it stops!

Flash Contact and Permissible Shutter Speeds

FLASH LIGHT SOURCE			Contact	Shutter Speed: Fastest / **Recommended** / Slowest
	Make	Type		
I. Electronic Flash		Without Relay (1/2000)	X	1/500 **1/250** 1
II. Flash Lamps	General Electric Westinghouse	SM (1/200)	X	 1/60 **1/60** 1
	Sylvania	SF (1/200)		
	West, Japan	SS (1/200)		
	Osram	F0 (1/100) F1, F2 (1/50) XP, X0 (1/200)	X	1/30 **1/30** 1
	West, Japan	12 (1/100)		
	Osram	S2	M	1/500 **1/30** 1
		S0, S1	M	 1/500 **1/60** 1
	Philips (Mazda)	Pf 3 N, PF 14, PF 25, PF 56		
	General Electric Westinghouse	5, 11, 22		
	West, Japan	0, 3, 5, 11, 22		
	Sylvania	Press 25, 40, 0, Bantam 8		
		2	M	1/125 **1/60** 1
	Philips (Mazda)	PF 110	M	 1/60 **1/30** 1
	General Electric Westinghouse	50		
	Sylvania	3		
	General Electric Westinghouse West, Japan	6, 31	M	1/250 **1/30** 1
	Sylvania	FP 26, 2A		
III. Capsule Flash		Average	M	1/125 **1/30** 1

Explanation of the Table

The "Contact" column indicates the correct setting of the M-X lever for each lamp type.

The "Shutter Speed" column shows the permissible speed range:

Center: the recommended shutter speed includes practically the entire light output of the flash lamp. This assures the maximum illumination as well as the smallest diaphragm (for greater depth of field). The following applies as a general rule:

> Use the standard recommended speed together with the correct setting of the M-X lever for the lamp in use.

Left: the fastest speed indicates the limit to which the shutter may be set. For lively action or sports subjects, the faster speeds are employed.

Right: the exposure time may be increased to the slowest speed (1 second or even time exposures), if, in addition to the flash, it is desired to make use of existing light. In such cases the total amount of light from all sources must be considered in choosing the diaphragm opening.

The Effective Exposure Time (as indicated in the table by means of **colored** ink) is not in each case identical to the shutter speed, but depends on the portion of the flash lamp light output utilized:

With X-Contact the duration of the flash itself is actually shorter than any of the permissible shutter speeds. Therefore, the duration of the flash (figure shown in parenthesis) is the effective appropriate exposure time and the diaphragm opening must be the same regardless of the shutter speed selected.

With M-Contact the shutter speeds, from "fastest" to "recommended" fall within the duration of the flash: they, therefore, represent the actual exposure time and if the shutter speed is increased, the diaphragm must be opened accordingly. Only when slower shutter speeds are employed is the fully utilized light output equal to the actual exposure time, and this is the same as the recommended speed.

The illustration should make the utilization of the available flash light still more obvious: the white symbols represent the flash, and their size, the utilized light at the shutter speed employed.

How the Flash Contacts Work

The information given thus far is entirely sufficient for normal purposes and is adequately supplemented by the exposure tables usually furnished by the various flash lamp manufacturers.

The photographer who is familiar with and habitually makes use of flash lamp graphs should know something about the method of operation of both flash contacts.

X-Contact (zero-delay): contact is made shortly before the shutter blades reach full opening. Application: for lamps with short firing time (up to 5 milliseconds) and short flash duration.

M-Contact (full synchronization): contact is made approximately 16.5 milliseconds before the shutter blades are fully opened. Application: for flash lamps with long firing time (average firing delay 16.5 milliseconds) and long light duration.

For safety reasons one pole of the contact is grounded to the camera body (isolation-test: 700 volts). 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.

Tips on Flashlight Photography

1. Use fresh batteries. Condenser or capacitor flashguns are more consistent since lamp ignition is somewhat less dependent on battery power (Rolleiflash).

2. Be sure that the contacts of the battery and lamp sockets are clean. Handle flash cable with care, avoid kinking, otherwise there will be danger of short-circuit and premature flash ignition. — Note: the contact must n o t be connected to house current!

3. To light up long rooms or to achieve special illumination effects, one or two Rolleiflash comb. extension units may be connected to the Rolleiflash. Connecting cords adding up to a total length of 33 feet (66 feet with fresh battery) may be used. Always insert flash lamps in Rolleiflash first, then in extension units, to avoid premature firing. Unnecessary battery drain will be avoided by inserting lamps just before firing and ejecting immediately afterwards.

4. Blue flash lamps, like electronic flash, simulate daylight and are intended for use with daylight color film.

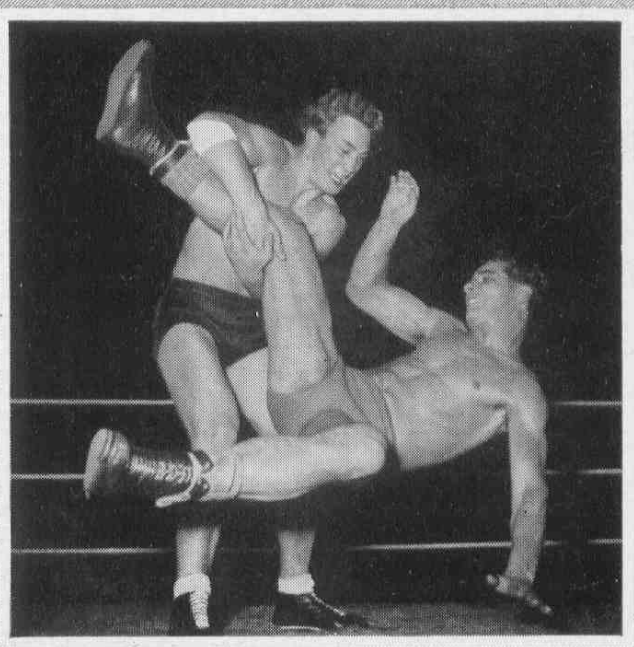
5. The power of flash illumination decreases according to the square of the distance: i. e., an object six feet away receives only one-fourth the light as an object

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.

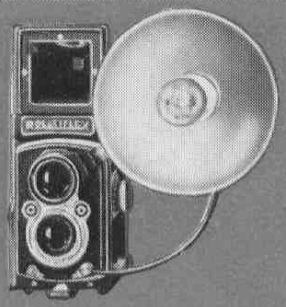
6. Flash as main light source: do not take weak room illumination into account, expose strictly according to flash output.

7. Flash as fill-in light: useful in brightening shadows whether due to insufficient illumination or to the fact that the picture is being taken "against-the-light", in full sunlight. The fill-in light must be kept at a lower intensity level than the main source of illumination, otherwise the strong flash will give an unnatural effect, not at all like daylight. Too strong a flash might even cause an apparent underexposure of the sky or the area not reached by the light. Electronic flash units are particularly well suited for use as fill-in lights when shooting color sports pictures. Use smaller lamps or keep them at greater distance.

8. Fully synchronized flash pictures are possible when using the self-timer through the entire shutter speed range from 1-500 th sec. with M or X contact settings.



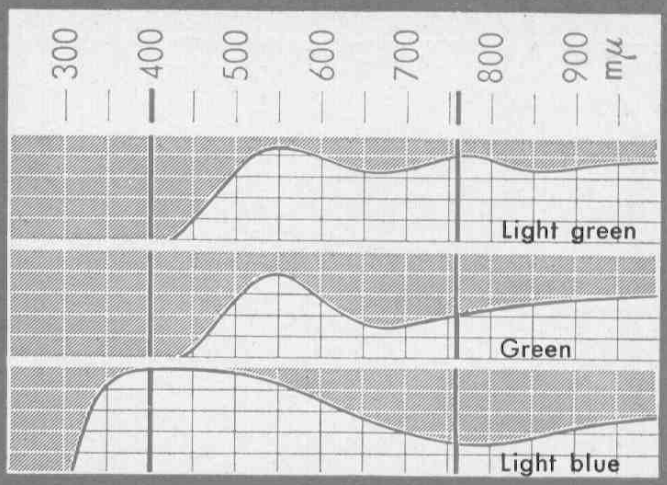
1:5.6 · 1/250
Electronic flash



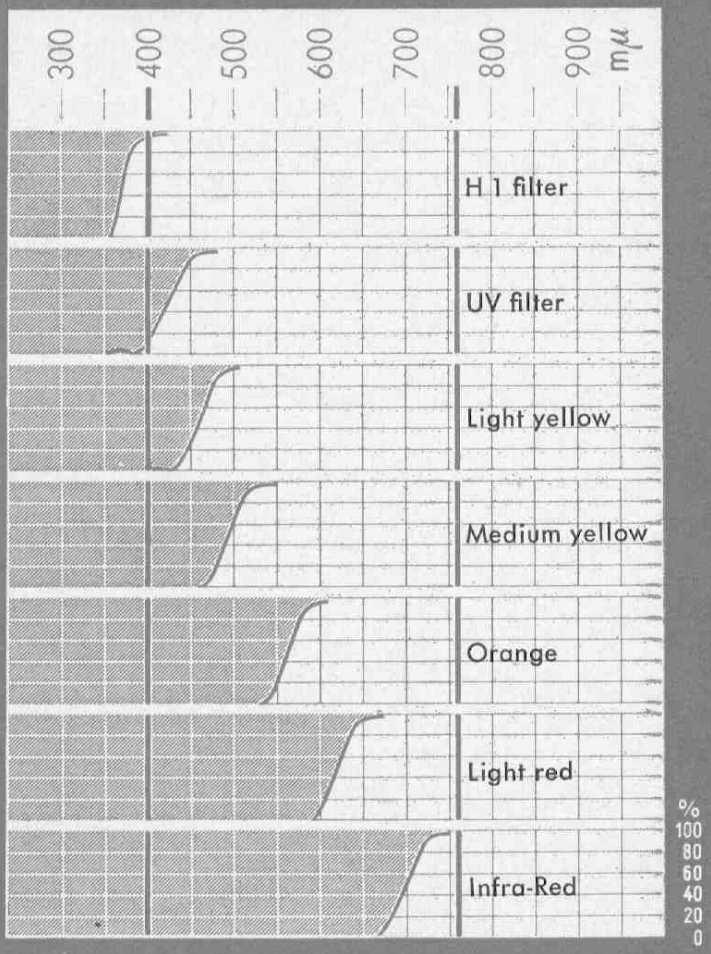
2. Haze and Mist: the blue filter, useful for pictorial effects, increases hazy effect. The orange or red cut through and improve the clarity of distant views. The blue filter reduces contrast, the red or orange increase brilliance. Maximum penetration of light haze is obtained with infra-red film and infra-red filter (700 m μ). Barely visible mountain chains are reproduced clearly. An odd effect with this combination is that green leaves are rendered almost white. Filters are of no use at all in really bad weather when there is a good deal of moisture in the air.

3. Sea, Beach, Mountains: strong ultra-violet rays must be absorbed through use of UV filter. Results will otherwise be dull. The H 1 filter serves the same purpose for daylight-color film. Reduction of the bluish cast is quite marked.

Picture Composition Rules: distant views are generally better if foreground contains (for added depth impression) trees, people, animals, etc. Foliage is often used as a frame for the distant view. Focus should be sufficiently sharp in the foreground. Strong effects are created when deep shadows in the foreground are set against the lighter distance. Side lighting or even back lighting give the most impressive pictures.



The filter curves show the absorption of the various Rollei filters in the spectral ranges ultra-violet, visible spectrum blue to red (appr. 400—760 m μ), and infra-red. This means: darker portion of the spectrogram = absorbed light; lighter portion = useful light. The light-transmission of the filter from the lowest point to the peak point of the curve thus increases from 0 to 100%. While the H 1 filter cuts out the short wave ultra-violet portion of the spectrum, the green filter absorbs a substantial portion of the long wave red and infra-red range.



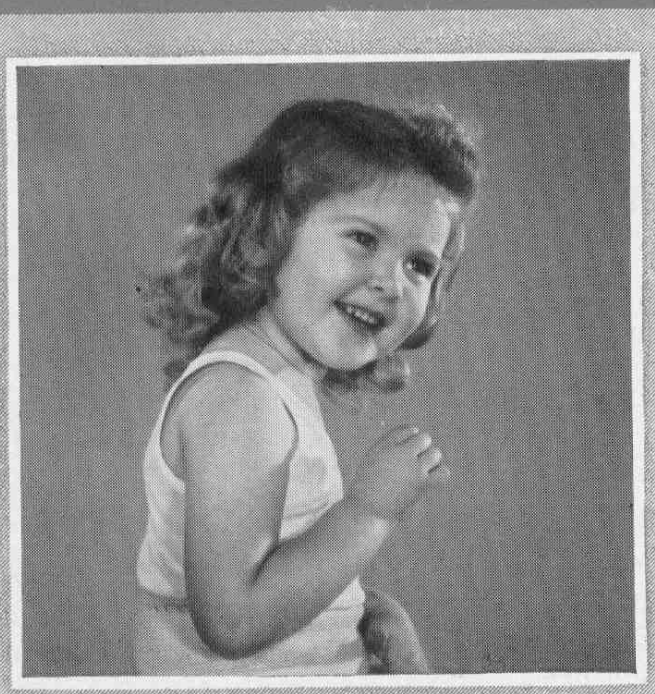
V. TIPS ON PICTURE-TAKING

Landscapes

Focusing for distant views with foreground may be accomplished simply without using ground glass except for viewing: set infinity mark (∞) opposite diaphragm opening used — second corresponding diaphragm mark will indicate nearest point in focus. Example: ∞ at f : 11 — sharp area ∞ to 17 ft (5 meters).

Filters: important for separating tones, which would otherwise be similarly rendered by the black and white film, or for influencing the mood of the picture.

1. Blue Sky with Clouds: yellow filters darken blue skies and thus improve the reproduction of clouds. The deeper the color of the filter, the stronger and more dramatic the effect. Blue snow shadows are also rendered truer to tone. The green filter tones down the sky, brightens foliage and darkens the occasionally too lightly rendered reds (with pan film) such as sun-tanned flesh and red tile roofs. For filtering the sky but not the landscape: the Rolleipol filter darkens the blue sky only by eliminating the polarized light.

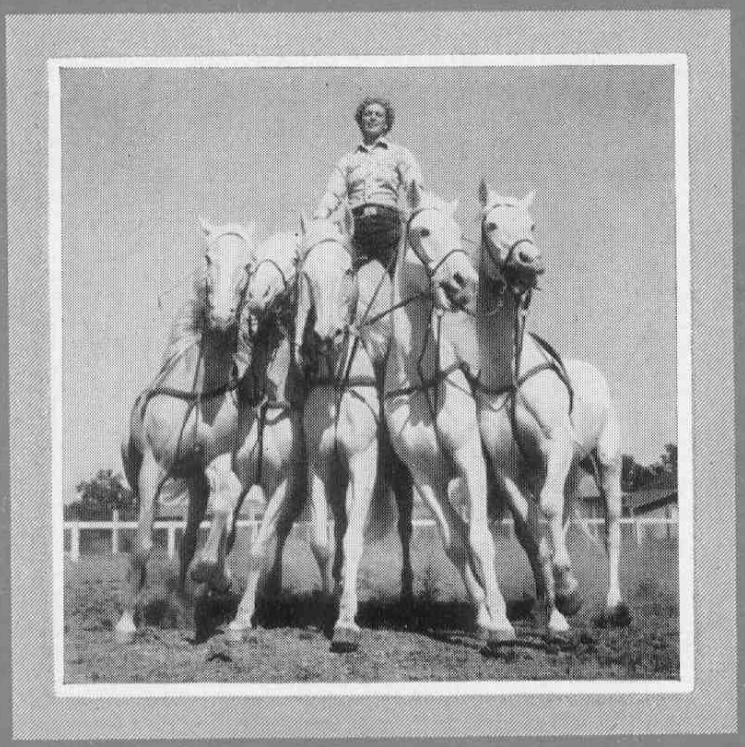


Artificial light 3000 watts
1:5.6 · 1/60



Portraits

Large heads: do not work closer than 40 inches to avoid possible perspective distortion. If necessary, enlarge from a smaller section or use Rolleikin. Focus on the eyes. Use quiet, neutral colored backgrounds and do not stop down too much (f : 5.6) so as to keep backgrounds from intruding. If possible, move subject away from background. Out of doors, try using sky as only background. Open air portraits are best taken early or late in day when light is softer and not too blinding. Favor soft light, avoid deep shadows. In emergencies use reflectors or fill-in flash. Simple, proven artificial light procedure: lamp No. 1 next to camera somewhat above head level, lamp No. 2 on the side to lighten shadows, approximately 1/30th sec. For special effects, lamp No. 3 as overhead or back-light. Important: use lens hood and focusing extension hood for reducing extraneous light. Pan film, no filter. Moisten lips (highlights!). To reduce sharpness and add "glamor": Rolleisoft (soft diffusion disc) 0 or 1 (stronger) over lens. Use larger diaphragm openings and backlight for sunny effects. (See picture page 45.)



1:5,6 · 1/500 · filter yellow

Snapshots

Unexpected picture opportunities or rapidly changing subject distance make a simplified technique, based on depth of field zones, highly desirable. The following three settings have been found very effective:

1/125 sec.	**Diaphragm opening f : 8**	
Short distances approx. 9 to 18 ft	Medium distances approx. 13 to 33 ft	Long distances approx. 18 to 100 ft
12 ft	**20 ft**	**30 ft**

Shutter speeds and diaphragm openings do not often need changing in sunlight. Those suggested cover most contingencies. Thus instead of wasting time focusing when in a hurry, use one of the above settings. This snapshot technique is especially useful with the direct view finder. Variation of the values (see table page 21) makes this technique available for other depth of field zones. Example: diaphragm opening f : 11, focus at 30 ft, depth of field extends from 15 ft to ∞ for snapshots of scenes. Chief uses for this technique: groups in motion, street scenes, playing children, reportage, sports.

calculated for the highest standard of negative definition. A strict observance of them is therefore necessary only in technical photography or if extreme enlargement is desired. As regards the values shown by the depth-of-field scale of the camera they are somewhat ample, but have proved to be sufficient for normal amateur work.

An indication of the depth of field is also given by the depth-of-field scale ③ (Fig. 19) on the focusing ring. For example in Fig. 19 the distance focused on is 15 feet (5 m.). The stop numbers are equally spaced on either side of the central index mark ④. If then the lens is stopped down to f/5.6, the distances on the focusing scale corresponding to the two f/5.6 readings on either side show the range of sharp focus for this stop and subject distance, viz. about 10 to 30 feet (3.30 to 10 m.).

Two-Point Focusing is the simplest and most convenient practical way of dealing with depth of field. The red point (between 8 and 11) on the stop scale is set against the index mark and one of the **red** figures on the focusing scale on the red index mark ④(Fig. 19). The approximate depth of field is then as follows:

For	DIAPHRAGM SETTING	DISTANCE SETTING	DEPTH OF FIELD
Agfa Color-Solinar f/2.8 – 50	red point between 8 and 11	10 feet (near) 30 feet (distant)	7 ft. — 14 ft. 14 ft. — ∞
Agfa Color-Ambion f/4 – 35	red point between 8 and 11	5 feet (near) 15 feet (distant)	4 ft. — 8 ft. 8 ft. — ∞

Children

Never use force, watch for interesting effects and expressions carefully. A clever assistant to divert children's attention from camera is often a valuable aid. Try close-up shots of children's expressions as they listen to favorite or exciting stories. Laughter, astonishment, pity and even an occasional yawn provide wonderful material for good shots or picture series. For close-up shots use same technique as for portraits. For children in motion, use snapshot technique outdoors and flash indoors. Low viewpoints and close-up effects are best.

Animals

Patience, quietness and familiarity with the animal and its peculiarities are great assets. Close-up pictures are most rewarding; use portrait technique. Make use of natural light effects such as backlighting. Action pictures: use snapshot or sport technique (with flash, if needed). Rolleinars are often helpful with small animals. Zoo: animal portraits — avoid bars or netting. Hint: netting often becomes invisible when lens nearly touches wire. — Fish in aquarium: use side and overhead lighting in otherwise darkened room. A good trick is to limit movement of fish within sharp zone by means of vertical glass plate in tank.



1:4 · 1/125 · Rolleisoft 1 filter light green



Sports

Sports pictures are generally most effective when the original rapid motion has been sufficiently "arrested" and the subject remains well defined. The fastest shutter speeds are essential, together with careful focusing. Sometimes pre-focusing on the spot where the action is to take place is possible. Do not overlook the possibilities of training sessions, since greater cooperation can often be had at such times. Snapshot technique is valuable for turf and ice shots and for any case when it would be difficult to guess exactly where to focus. Watch your shutter speeds and viewing angle. Shooting at right angle to the direction of the action requires a much faster speed than when the action is going in other directions (see table page 23). If the action is very fast or takes close to the camera, it is best to pan or follow with the camera. This results in a sharply rendered main object against a blurred background, thus increasing the impression of speed. There is often a fine moment for shooting when the action reaches a peak and stops momentarily, such as when a pole-vaulter "hits the top" before starting to come down again. With insufficient light or indoors use synchro-flash and 1/500th sec. The extremely short duration of electronic flash is highly desirable in some instances. Use the direct view finder; do not overlook the advantages of the Rolleikin with its telephoto effect, maximum use of film area and greater film capacity.



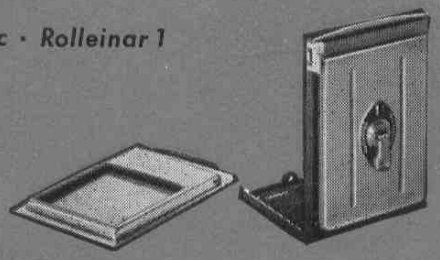
1:5.6 · 1/500

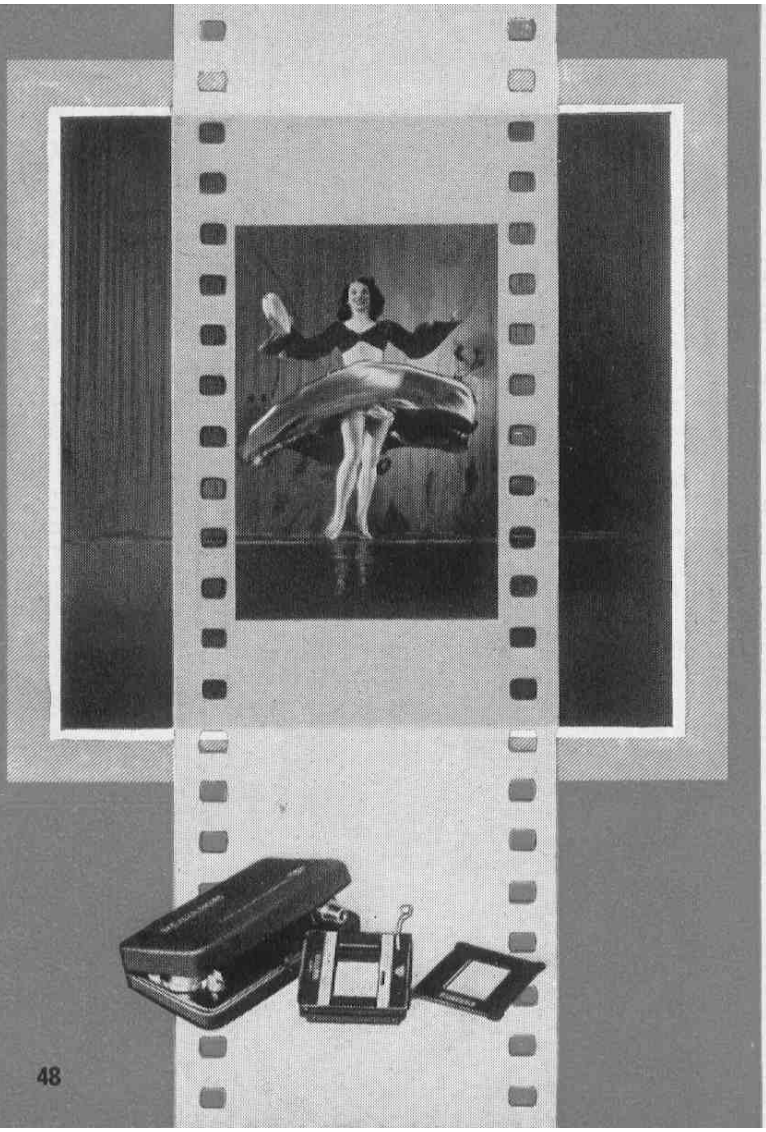
Copying

Smaller originals are best copied with Rolleinars. See table page 55 for reproduction sizes. The camera should be set on a rigid, vibration free stand with the original parallel to the film plane. Use a small stop; f : 11 recommended. Light evenly from both sides but avoid reflections. Glossy surfaces give less trouble if Rolleipol is used. Colored originals may require filter for better tone separation. Use contrasty ortho film (or even positive film with Rolleikin) for black and white originals. Spots on originals can be minimized by using a filter similar in color to spot with pan film. The Rolleikin is especially valuable for series or archive work. Single reproductions are economically taken with the plate back adapter. Reproductions from books are readable with ordinary magnifier directly from 2¼×2¼ contact prints. Small objects (small machine parts, assembly pieces) may be handled similarly to copying. A spotlight can often be an additional aid in this case. Shadowless lighting effects are facilitated by placing object on a suspended glass plate. Reflections from fine glassware or other highly reflective objects can be reduced to a minimum, if the object is photographed by reflected light such as can be had inside an illuminated, white painted box.



1:11 · 30 sec · Rolleinar 1





Theatre and Music-Hall

At longer distances only a section of the film is generally used hence this is a good field for using the Rolleikin. Do not depend on footlights but concentrate on spot-lighted performers or features. Exposures of 1/30th sec. are generally adequate under the strong lights with fast pan film. To take flash pictures without knowledge of or disturbing subjects: use dark flash (colored lamps or reflector with infra-red filter) and infra-red films. After pre-setting focus you can use direct view finder most comfortably.

Night

Include direct light sources as symbols of the night in the picture. Only very strong, close lamps must be hidden behind natural foreground objects (building, tree, persons), otherwise over-exposure will result. Make use of effects: reflections in wet streets, light deflected by snow, early twilight with traces of brightness in the sky. Use fast pan film only. For time exposure: cover up lens when auto headlights cross the picture area, to avoid streaks. Use flash for snapshots at night, not for night shots.



Rolleipol



Shiny Surfaces

Eye-glasses, pictures, water surfaces, window glass and other brilliant reflecting surfaces often give disturbing reflections, not always avoidable by changing angle or illumination. A simple remedy in many cases is to use the polarizing filter Rolleipol. Reflected light is often polarized in one direction and this can be absorbed or reduced by proper orientation of the Rolleipol. This is done by merely turning it for best effect. It may sometimes be necessary to change camera position to obtain best angle. In artificial light a second pola-filter over the light gives full control at any angle. When the reflections are removed objects seen through the shiny glass or water surfaces become clearly evident. Torsion or strain tests of various materials are also possible with the help of the Rolleipol. Reflections from certain metal surfaces when the Rolleipol has little or no effect are best handled by photographing in diffused light or changing direction of illumination. Small, shiny metal parts can be held over burning magnesium to provide a white coat or greased and rubbed with graphite.

Pictures Through the Microscope

When a microscope is focused by someone with normal eyesight, the eye sees the image as if it were at infinity. Consequently, the Rollei, also focused at infinity, can simply take the place of the eye over the microscope in order to record the image on film.

Microscope and camera should be mounted on firm stands, without mechanical connections. Place the camera so that taking lens, focused at ∞, is brought as close as possible to the ocular. Check optical axis carefully; film plane should be parallel to surface being photographed. For full coverage of 2¼×2¼ use wide angle ocular, however, sufficient coverage for Rolleikin negative is to be had in any case. Framing through view finder is unnecessary. Do not stop down since this has no effect on exposure. Factors affecting exposure are illumination and transmission of the objective, to be ascertained through tests. Apochromatic micro-lenses are best, particularly with color film. In shooting black and white with these lenses, use ortho material and green filter. Generally interesting are micro-pictures of crystallized chemicals through Rolleipol filter in conjunction with another pola-filter over microscope condenser.

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. Second safeguard (when not in use while traveling): a rubber bag to guard against water, sand or snow. 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 the tropics arrange to keep the camera, when not in use, in an air-tight container.

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.

The Practical Accessories for the Rolleiflex Automat

Code:	
Berau	Ever Ready Case for Rolleiflex Automat
Baobe	Lens Hood
Baihe	Rollei Yellow Filter, light
Baimi	Rollei Yellow Filter, medium
Balin	Rollei Green Filter, light
Baeen	Rollei Green Filter
Basky	Rollei UV Filter
Baora	Rollei Orange Filter
Baubi	Rollei Red Filter, light
Babla	Rollei Blue Filter, light
Bahaz	Rollei H 1 Filter (UV Filter for Daylight Color Photography)
Bafir	Rollei Infra-Red Filter
Batnu	Rolleisoft 0
Baton	Rolleisoft 1
Batar	Rolleipol
Bapun	Rolleinar Lenses, set 1 (40-18 in.)
Baken	Rolleipar Lens 1
Baodo	Rolleinar Lenses, set 2 (20-12 in.)
Bakdu	Rolleipar Lens 2
Etcom	Leather Case containing: 1 Lens Hood, 2 Sets of Rolleinar Lenses, 2 Rolleipar Lenses and your choice of 5 Filters
Etlee	Leather Case only
Etset	Leather Case containing: 1 Lens Hood and your choice of 2 Filters

Code:	
Etsof	Leather Case only
Focom	Complete Plate Adapter Equipment comprising: 1 Plate Adapter, 3 Slides, 1 Focusing Screen Slide, 1 Leather Case for 2 Slides
Foapt	Plate Adapter
Fosli	Slide
Fopla	Cut-Film Sheath
Focas	Leather Case for 2 Slides
Fofoc	Focusing Screen Slide
Rolki	Rolleikin 2
Foead	Panorama Head
Fohod	Extension Hood
Fogri	Rolleigrid Lens
Basyn	Rolleiflash Attachment
Boxin	Boxin Case for 1 Rolleiflash + 1 Rolleiflash comb.
Cekab	Extension Cord for Flash-Attachment 10 ft.
Flaco	Extension Flashholder Rolleiflash comb. with Connecting Cord 80 in.
Trika	Extension Cord for Rolleiflash comb. 10 ft.
Blika	Flash Connecting Cord 32 in.
Mardu	Rolleimarin Pressure Proof Underwater Housing

To avoid errors when ordering accessories please specify camera-number.

Full information on the use of Rollei accessories in the booklet "The Practical Accessories".

Plants

Flowers, blooms and grass are most effective in close-ups taken against the light. Use Rolleinars with fill-in light or reflectors. Stop down for needed depth of field and shoot in bright light with n o wind. A semi-circular shaped cellophane shield is an effective guard against the ground breezes that destroy definition. Use filters to differentiate between equally bright colors. Keep in mind that a filter renders its own or similar colors lighter, whereas its complimentary color comes out darker.

Color Photography

Color films have little exposure latitude, so avoid strong light contrasts and use exposure meter. In doubtful cases make three exposures, varying diaphragm opening one half stop each side of what is considered normal. Correct color reproduction is possible only with correct matching of proper film types with illumination. Use compensating filters when needed according to manufacturer's instructions. Rolleipol-Filter: reduces glare from reflecting surfaces, also darkens the blue color of the sky (page 42) without affecting the color of the landscape. Select subjects with pleasing large color patches, not just an accumulation of loud colors. Overcast sky often renders pleasing pastel effect.



1:16 · 1/30 · Rolleinar 2
filter yellow



Table of Rollei Filters

Special compensation factors for light values are given when using filters, and these may be varied to suit type of film and lighting conditions.

Rollei Filter	Use	Light value compensation	
		Ortho	Pan
Light yellow	Landscapes, snow, clouds. Renders yellow and green lighter, blue darker.	−1.5	−1
Medium yellow		−2	−1.5
Light green	Landscapes, snow, clouds. Renders green lighter, red (complexion) and blue darker. For pan emulsions.	−1.5	−1
Green		−2	−1.5
Orange	Hazy distant views. Renders yellow-red lighter, blue darker, distant objects clearer.		−1.5 to −3
Light red	Hazy distant views. Renders red lighter, blue-green darker. Gives stronger effects than Orange Filter.		−2 to −3.5
Light blue	Artificial light. Renders red darker. For ultra-pan emulsions.	−0.5	−0.5
UV	High altitudes above 6000 feet. Seascapes. Eliminates ultra-violet rays which reduce contrast.	−0.5	−0.5
Infra-Red	Special filter for infra-red emulsions. Transmits dark red above 700 mμ and infra-red.	*)	
H 1	UV-Filter, especially designed for long distance color photography. Absorbs ultra-violet rays, subdues predominance of blue and cuts aerial haze in distance shots.	No increase of exposure	

*) Exposure depends on the type of emulsion used and must be determined by tests.

Focal Length and Focusing-Range with Rolleinar Lenses

Rolleinar Lenses	–	1	2
Focal Length	75 mm	71 mm	68 mm
Focusing-Range (in inches)	$\infty - 35\frac{1}{2}$	$39\frac{1}{2} - 17\frac{3}{4}$	$19\frac{3}{4} - 12\frac{1}{8}$

Field-Size and Scale of Reproduction

Focused Distance		31 1/2 in.	19 3/4 in.	13 in.
Field-Size (in inches)	$2\frac{1}{4} \times 2\frac{1}{4}$	22 x 22	$13\frac{3}{4} \times 13\frac{3}{4}$	$8\frac{3}{4} \times 8\frac{3}{4}$
	Rollei-kin	$9 \times 12\frac{1}{2}$	$5\frac{1}{2} \times 7\frac{7}{8}$	$3\frac{1}{2} \times 5\frac{1}{8}$
Scale of Reproduction approx.		1 : 10	1 : 6.3	1 : 3.9

Depth of Field with Rolleinar Lenses

Rolleinar		1		2		f / Stop	
Focused Distance (in inches)		$31\frac{1}{2}$	$23\frac{1}{2}$	$19\frac{3}{4}$	$15\frac{3}{4}$		
Depth of Field (in inches)	from	$29\frac{1}{2}$	$22\frac{1}{2}$	$18\frac{7}{8}$		5.6	
	to	$33\frac{1}{2}$	$24\frac{3}{4}$	$20\frac{1}{2}$			
	from	$28\frac{3}{4}$	$22\frac{1}{4}$	$18\frac{3}{4}$	$15\frac{1}{8}$	8	Rolleikin
	to	$34\frac{1}{4}$	$25\frac{1}{4}$	$20\frac{7}{8}$	$16\frac{1}{2}$		
	from	28	$21\frac{5}{8}$	$18\frac{1}{8}$	15	11	
	to	$35\frac{3}{4}$	26	$21\frac{1}{4}$	$16\frac{7}{8}$		
	from	$26\frac{3}{4}$	$20\frac{7}{8}$	$17\frac{3}{4}$	$14\frac{5}{8}$	16	
	to	$38\frac{1}{4}$	$27\frac{1}{4}$	22	$17\frac{1}{4}$		
	from	$25\frac{1}{4}$	20	$16\frac{7}{8}$	$14\frac{1}{4}$	22	$2\frac{1}{4} \times 2\frac{1}{4}$
	to	$41\frac{3}{4}$	$28\frac{3}{4}$	$23\frac{1}{4}$	$18\frac{1}{8}$		

Taking-distance measured from lens panel to object. Permissible circle of confusion in this special case (due to the large image and less need for enlarging) = t/1000. For increased sharpness further stopping down is required.

① Diaphragm ring and index mark

② Fixed milled ring for gripping the lens when changing it

③ Depth-of-field scale

④ Index for focusing scale

⑤ Milled focusing ring and scale: green figures = feet, black figures = metres

⑥ Finger grips for setting shutter speeds (see also Fig. 21)

⑦ Setting index for shutter speeds

⑧ Synchronizing lever X-M; set this lever to "V" for delayed action (selftimer).

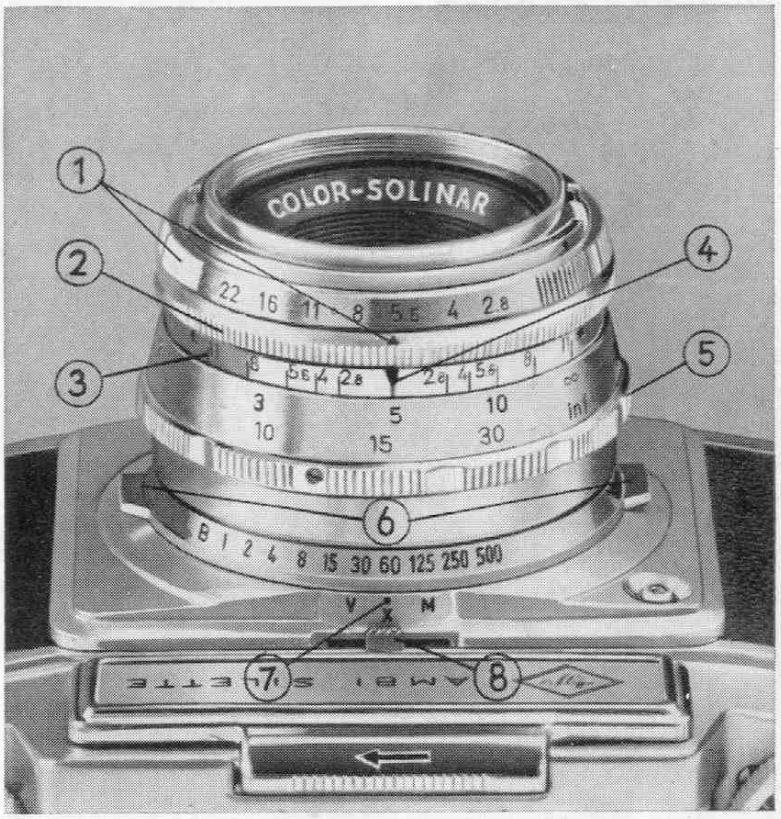


Fig. 19

FRANKE & HEIDECKE

BRAUNSCHWEIG

Rolleiflex Rolleicord

®

D. B. P. u. D. B. G. M. · U.S. pat. 2641 955 / 2645 170 / 2665 618
Brit., Ital., Schweiz., Jap. pat. · Brev. s. g. d. g. · Pat. pend.

Printed in Germany
0155 F. B. E

Rolleiflex

$2\frac{1}{4} \times 2\frac{1}{4}$

Working Instructions

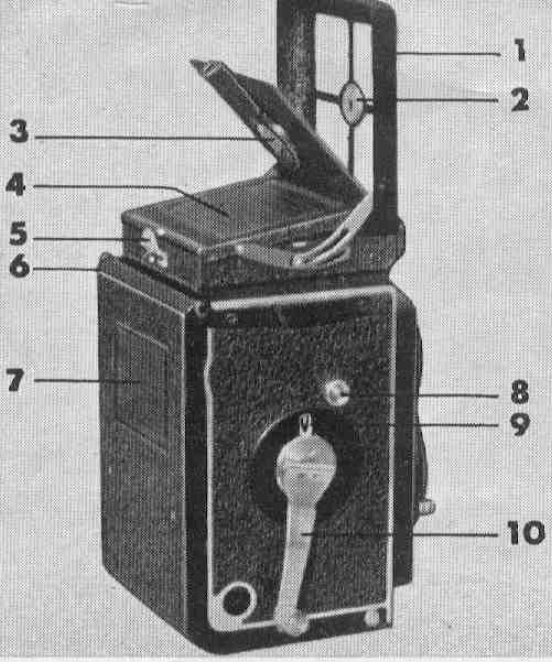


No longer a mere camera, it is a Photo-automat!

FRANKE & HEIDECKE

BRUNSWICK

For Plate-Adapter, Cine Film Attachment, Stereo Fitment, and Panorama Head, please ask for separate Instructions.



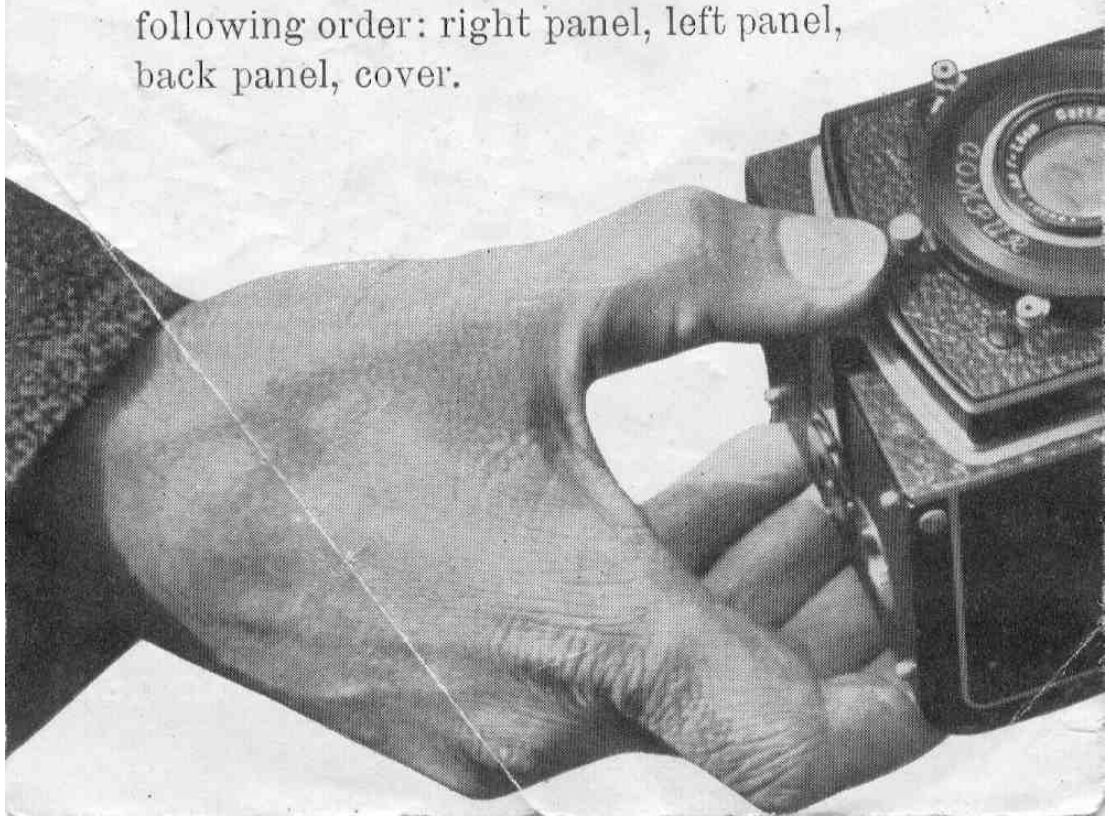
1. Frame Finder
2. Eye Mirror
3. Magnifier
4. Depth of Focus Scale
5. Locking Catch
6. Locking Lever
7. Exposure Table
8. Button for counting mechanism
9. Counting Device
10. Film winding arm

FOCUSING HOOD

To open: Release the catch 5; the focusing-hood then springs up automatically. At the same time the magnifier 3 springs into position for use, and the focusing-screen is open to view.

Fine focusing: Bring your eye close to the magnifier, turn the focusing-knob 17 and watch the focusing-screen. It is not necessary to displace the magnifier in order to observe the picture, but if it disturbs you in any way, simply fold it down.

To close: Press down the magnifier; then fold the side panels with the right and left thumbs in the following order: right panel, left panel, back panel, cover.



Observation at eye-level: The focusing-hood cover 1 serves as a frame view-finder. Press with your index finger on one of the leather-covered spaces and release the catch 5; the frame finder then springs upright. If you get the reflection of your eye in the small concave mirror 2, the diopter will give you the exact outline of the picture. The pupil of your eye must register exactly with the aperture in the mirror.

BACK PANEL

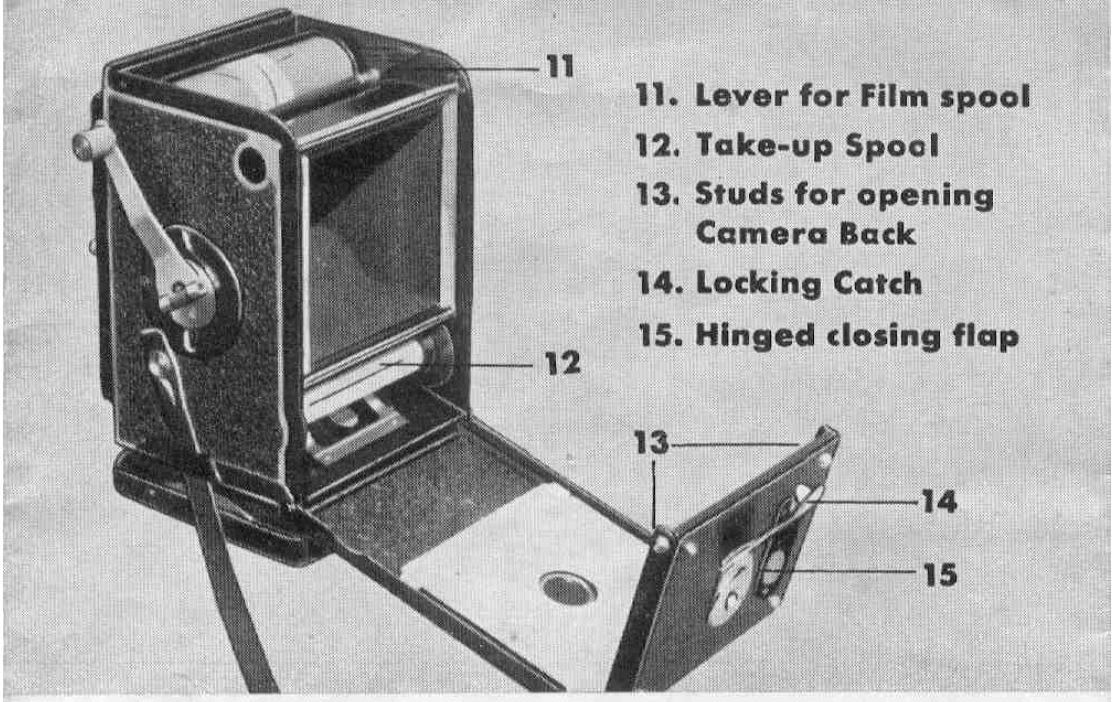
To open: Pull the bolt 14 downwards with the thumb. Then grip the back panel by the two corner nipples 13 and lift slightly. The back panel can now be opened fully.

To close: Press the back panel firmly against the camera body with the thumbs and secure the bolt 14.

To remove the back: The back panel is attached in the manner of a hinge. To allow the Rolleiflex to be used with an enlarging lantern, the panel can be taken off by pressing lightly on the spring flange at the left, after having pulled upward the two locking-levers 6. First open the back to the full extent.



Opening the back panel



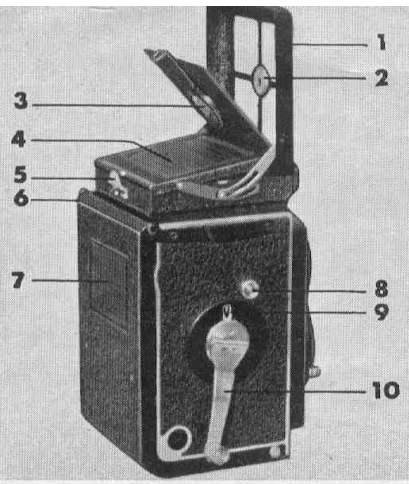
Tripod exposures: At the side of the bolt, the back panel has a bush for use with a tripod.

FILM CHANGING

Loading: Take the film out of its packing. Open the back panel, press the lever 11 firmly down and lay the spool in the groove. The spool clips fast by itself. Tear off the gummed seal. Now draw the pointed end of the cover-paper upwards over the picture window and push it as far as possible into the broad slit of the take-up spool. If necessary adjust the spool by turning the transport handle.

Changing spools: The 6 × 6 Rolleiflex uses 3 1/4 × 2 1/4 B. II, 8-exposure Film. It gives 12 pictures 2 1/4 × 2 1/4. When inserting a new take-up spool, make sure that the boring with a cross-cut comes on the right.

Transport: Bring the transport handle 10 into action by swinging it outwards from the resting position. A few short cranking movements will suffice to tighten the cover-paper on the spool. *Now make sure that the paper band is running straight: if it gets crooked, it will cause trouble!*



1. Frame Finder
2. Eye Mirror
3. Magnifier
4. Depth of Focus Scale
5. Locking Catch
6. Locking Lever
7. Exposure Table
8. Button for counting mechanism
9. Counting Device
10. Film winding arm

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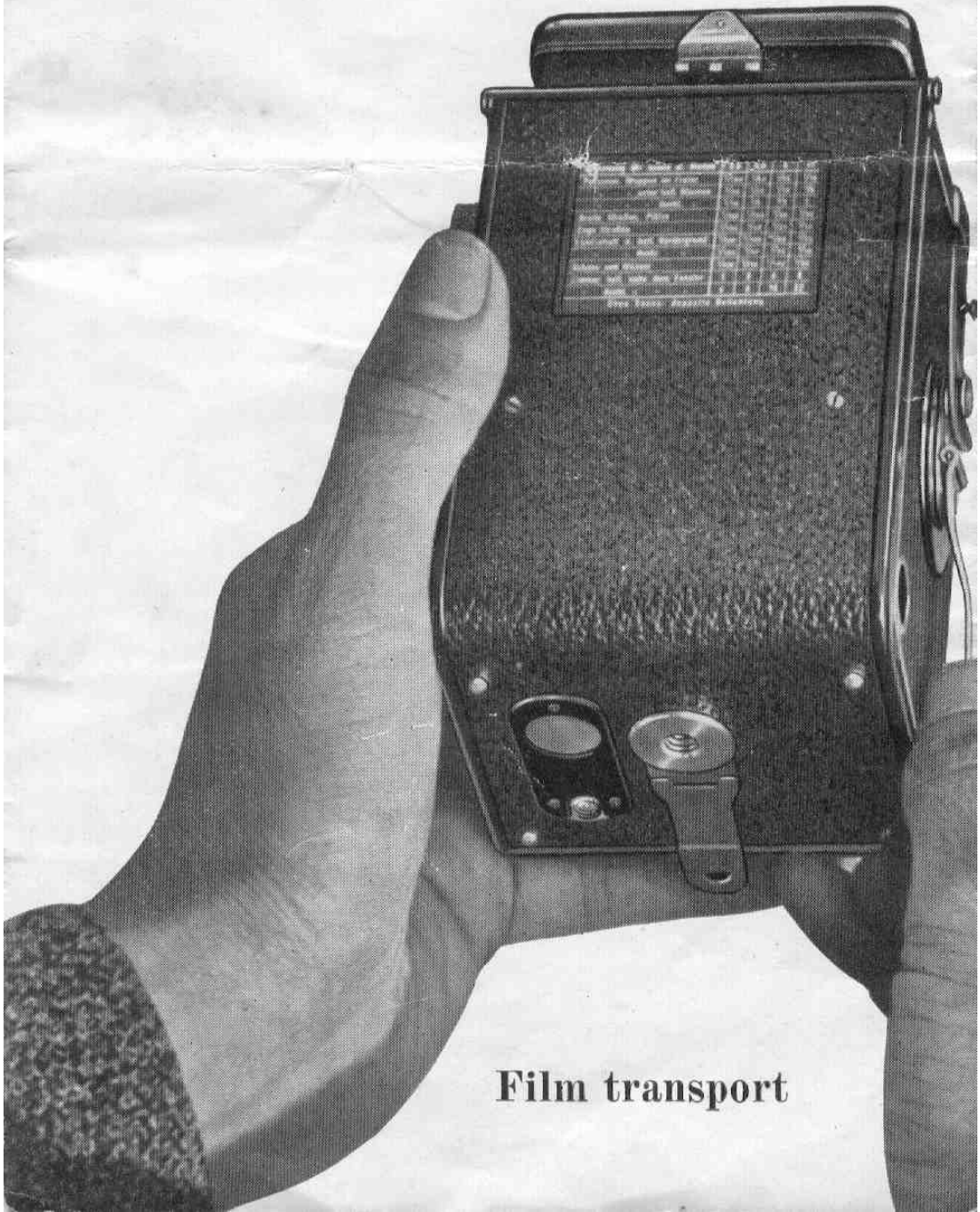


Opening the back panel

Close the back panel. Continue the cranking movement as before, cautiously and until the figure 1 appears in the film-window in the back panel.

The film-window has now served its purpose. It is closed by means of the closing slide 15. Turn the transport handle backwards to the top check and press the button 8. The counter 9 springs to No. 1 and the camera is ready for the first exposure.

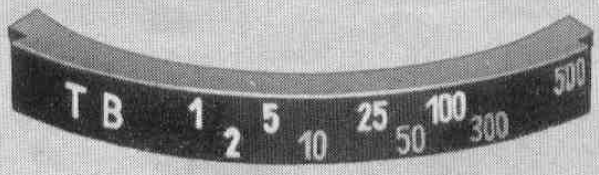
When the exposure is made, turn the handle downwards to the bottom check. The film has then travelled on the length of one picture, the counter shows No. 2 and the Rolleiflex is ready



Film transport



Scale of stops (Tessar f 3.5)



Scale of speeds

for the second picture. The film must be wound on in this manner after each exposure until the last has been made. The Red Dot behind No. 12 shows that the 12th exposure has already been made. When not in use, the transport handle is of course turned over into the resting position. In fact it is advisable to turn it over after each exposure, so as to avoid the film being moved accidentally.

Unloading: After making the last exposure, set the counter again at No. 1 and crank the transport handle until the whole film is completely wound up. Open the back panel. Pull out the knob 16, lift out the film spool and seal it at once.

Never change films in bright sunlight! Place the exposed films in the original light-tight packing.



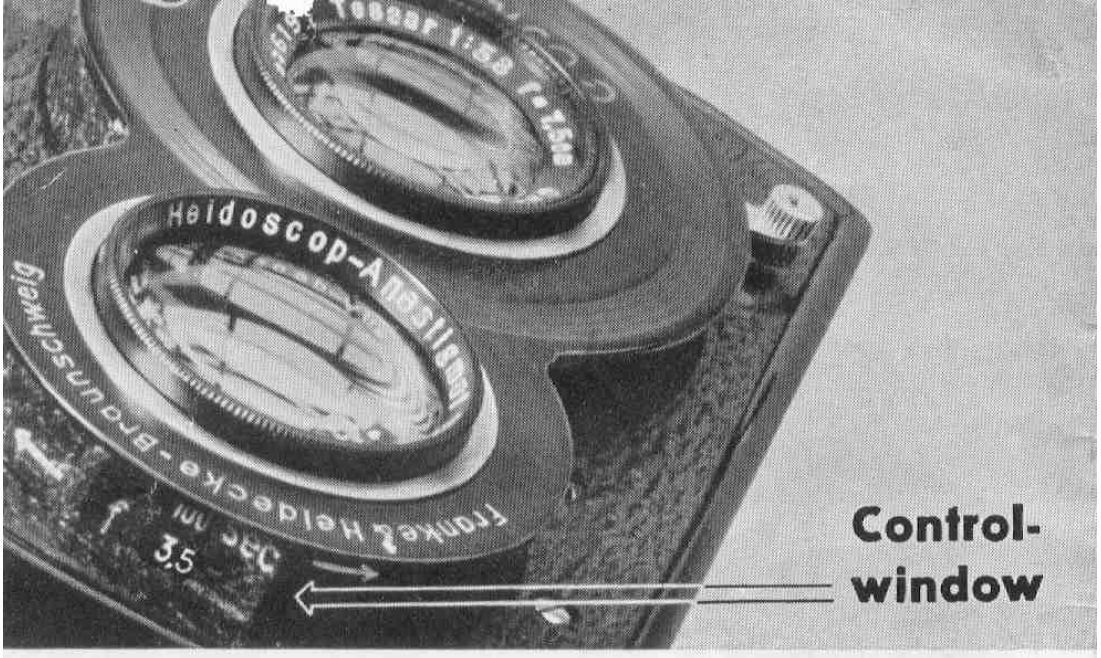
IS IN YOUR OWN INTEREST

COMPLETE THE GUARANTEE

FORM, ISSUED WITH THIS CAMERA

MEDIATELY AFTER PURCHASE.

Printed in Germany 5000. 436. Kr.



THE SHUTTER

The manipulation of the Rolleiflex shutter is very simple and is easily carried out with the camera in working position. The lever 2 on the right hand operates the speeds, the lever 1 on the left the stops, and the lever 3 at the bottom the shutter. If the letters T or B are showing in the peep-window, by no means press the operating lever 3 to the right. The numbers 10, 50 and 300 are coloured red, so that the speeds most in use may be instantly recognised.

Long time exposures: If the letter T is showing in the small window and you press the operating lever of the shutter to the left, the shutter will open. It will not close until you push the lever to the left a second time. These speeds are used for long time exposures from a tripod.

Short time exposures: When the letter B shows at the window the shutter also opens when the lever is pressed to the left, but it closes again immediately the pressure is removed. This setting is used for exposures of from 2 to 5 seconds duration and these exposures should also be made from a tripod.

Instantaneous exposures: The numbers 1 to 500 indicate the fractions of a second, i. e. $^1/_1$ to $^1/_{500}$th second. Set one of these numbers in the window

and lightly press the operating lever to the right. Now, when you release it, an exposure of the length selected is given automatically. Exposures down to 1/25th second may confidently be made from the hand, but longer exposures are much better made with the use of a tripod, to avoid distortion. It is possible to set at speeds in between those indicated in the scale, but not between 1/10 and 1/25 nor between 1/300 and 1/500. Further, in setting at 1/500th second a certain amount of resistance must be overcome, and the



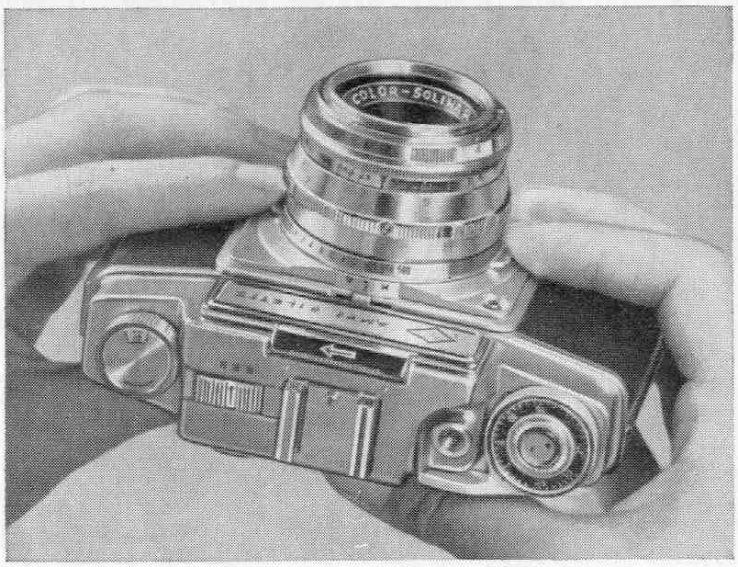
The Rolleiflex 3-point control

(1) Stops (2) Speeds (3) Shutter

SHUTTER SPEEDS

The range of shutter speeds of the Synchro Compur shutter used in the Ambi Silette is as follows: B 1 2 4 8 15 30 60 125 250 500

wherein 1 signifies 1 second and the remaining figures fractions of a second, e. g. 2 = $^1/_2$, 30 = $^1/_{30}$ second, etc.



This scale has been made linear: that is to say, starting with $^1/_{500}$ sec. as the shortest shutter speed, each successive step doubles the exposure time. Shutter speeds are thus brought into step with the diaphragm settings. **It is not possible to set the scale to intermediate values.**

The required shutter speed, as indicated by an exposure meter or estimated, is set, as shown in Fig. 20, either before or after operating the film wind lever.

Use the first or second finger to rotate the setting ring by means of the finger grips until the required shutter speed comes opposite the index mark ⑦ (Fig. 19).

Fig. 20

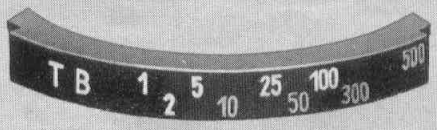
Close the back panel. Continue the cranking movement as before, cautiously and until the figure 1 appears in the film-window in the back panel.

The film-window has now served its purpose. It is closed by means of the closing slide 15. Turn the transport handle backwards to the top check and press the button 8. The counter 9 springs to No. 1 and the camera is ready for the first exposure.

When the exposure is made, turn the handle downwards to the bottom check. The film has then travelled on the length of one picture, the counter shows No. 2 and the Rolleiflex is ready for the second picture. The film must be wound on in this manner after each exposure until the last has been made. The Red Dot behind No. 12 shows that the 12th exposure has already been made. When not in use, the transport handle is of course turned over into the resting position. In fact it is advisable to turn it over after each exposure, so as to avoid the film being moved accidentally.



Scale of stops (Tessar f 3.5)



Scale of speeds



Film transport

Unloading: After making the last exposure, set the counter again at No. 1 and crank the transport handle until the whole film is completely wound up. Open the back panel. Pull out the knob 16, lift out the film spool and seal it at once.

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FORM, ISSUED WITH THIS CAMERA
IMMEDIATELY AFTER PURCHASE.

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16. Film Knob
17. Focussing Knob



The Rolleiflex in use at eye-level

shutter must be set *before* the spring is tensioned. When you set the lever 3, be careful that you move it until it comes to the stop, to avoid a disturbance.

Exposure table: A useful table with approximate data will be found on the back panel of the Rolleiflex.

The calculations are made on the basis of a roll-film with a speed of 18/10° DIN in sunny weather, at midday in Summer. In Winter and in poorer lighting conditions the exposures must be proportionately lengthened. This can equally well be done by the table, by ascertaining the relative values, i. e., larger stop and lower speed.

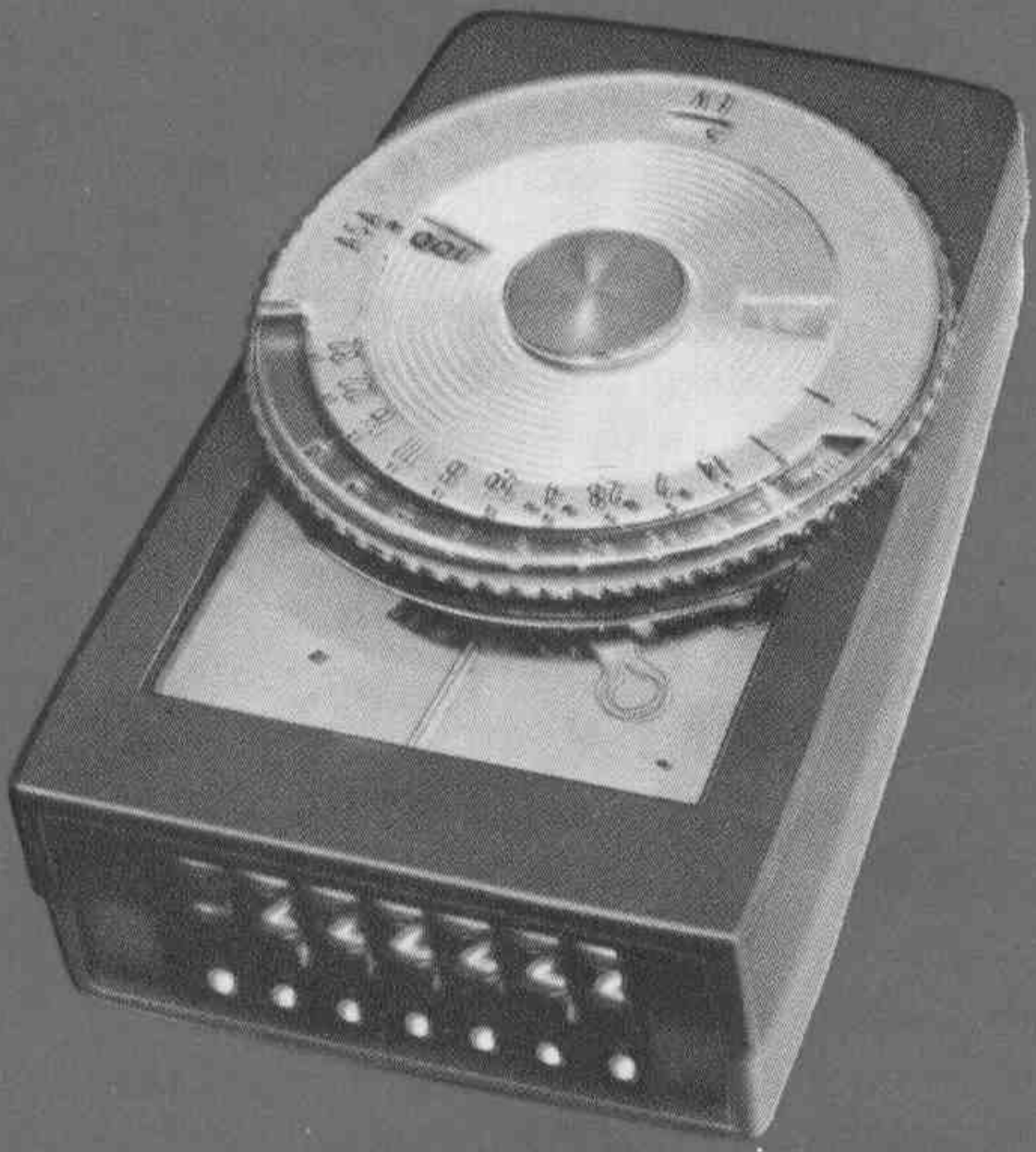
Depth-of-focus table: (No. 4.) The top row of figures in table 4 shows the stops. The two outer columns, right and left, give the distance figures which must be adjusted by the focusing-knob. Where these two rows of figures cross will be found the figures indicating the distances between which all objects will be in sharp focus. The sign ∞ indicates infinity.

Self-portraiture: The Rolleiflex-Compur is supplied only without a built-in self-timer. In its place is given the highest speed of 1/500th second, and for self-portraiture any automatic release can be employed. A cable release is supplied with every camera.

Your Short-Cut
To Fine Photography··

SEKONIC

AUTO-LUMI model L-86
EXPOSURE METER



For Perfect Exposures Every Time!

Distance scale: In focusing from ∞ to 1 meter the focusing-knob makes 2 complete turns, so that great accuracy in focus is assured. The engraved meter scale, however, only covers from ∞ to 1.70 m. on the first revolution. The desired distance is in focus when the appropriate figure is set at the white dot.

The meter scale itself is not of very great importance, as the really needle-sharp focusing can only be obtained with the help of the focusing-screen. This is particularly the case for distances less than1.70m.,and when using theProxar lenses.

Proxars: These auxiliary lenses allow objects to be photographed at a distance of 20 inches and 13 inches respectively. For the Rolleiflex 2 accurately paired Proxars are necessary. Set D 1 is for focusing from 40 to 20 inches and Set D 2 from 20 to 13 inches. No alteration in the length of exposure or special stopping down is necessary. For use the Proxars are simply clipped over the front of the camera lenses. If they do not at first fit, this can be easily remedied by bending the clips.

Plate adapter: This enables plates to be used, which can be developed separately as required. The special slides $2^1/_4 \times 2^1/_4$ are loaded with plates $3^1/_2 \times 2^1/_2$. The picture size remains the same as with the rollfilm. The $1^5/_8 \times 1^5/_8$ slides are loaded with plates $2^1/_4 \times 1^5/_8$ and the picture is $1^5/_8 \times 1^5/_8$.

Carrying-strap: The Rolleiflex is provided with a neat black leather strap, so that the camera can be carried at breast height, ready for immediate use. The two side clips allow the strap to be so adjusted that when hung around the neck, the camera is always perfectly upright.

Accessories: Please ask for special litterature on the cinefilm attachment, filters etc.

SEKONIC

AUTO-LUMI L-86
EXPOSURE METER

Complete with leather case and neck cord. At this tiny price, the L-86 will pay for itself in no time. Once and for all, you'll stop wasting costly film...instead perfectly exposed pictures will be yours everytime!
And the L-86 does it all so easily, so effortlessly, thanks to Sekonic's simplified, yet advanced design, and of course, Sekonic's renown precision and quality.

Just look at these features: Auto-guide indicator for quick, accurate readings... single-range simplicity... versatility, for stills and movies, color and black-and-white...convenient one-hand operation...f/stop f1 to f32... shutter 8 sec. to 1/2,000th...ASA 6 to 12,000 ...exposure value scale (E.V.S.) numbers 2 to 19...DIN numbers 3 to 42...ruggedness... quality components...lightweight and compact ...handsome two-tone case...plus so much more!

HOW TO USE THE SEKONIC

SELECTING ASA SPEED SETTING

First, determine from the instruction sheet enclosed with your film, the correct ASA rating number. Turn the inner dial until the desired ASA number appears in the ASA window.

READING THE METER

Now that your ASA is in place, simply point the meter at your subject (at a distance of 3-6inches) This will activate the red needle when the needle stops moving, rotate the outer dial (shutter speed dial) until the green auto-guide indicator is aligned with the red needle. Upon achieving alignment, release the outer dial and take your reading (the red outer dial indicates shutter speed; the white inner dial indicates f/stop). Any combination will give you a correct reading but select the f/stop shutter speed combination which best suits your subject.

If your camera incorporates an EVS or LVS system of exposure setting, simply read the number which appears in the EV window, after you have aligned the needle and auto-guide indicator. Then set this number on your camera and you're ready to shoot a perfectly exposed picture.

READING INACCESSIBLE SUBJECTS

When your subject is inaccessible, use the palm of your hand as a substitute. Position your hand so that the light strikes the palm at the same angle as it is hitting your subject. Take your reading with the meter about 4" away from your palm.

L-86 EXPOSURE METER

READING UNDER BRIGHT LIGHT

If the sun is very bright behind or near your subject, point the meter slightly down to prevent inaccurate readings because of excessive light from the sky.

READING CLOSE-UP SUBJECTS

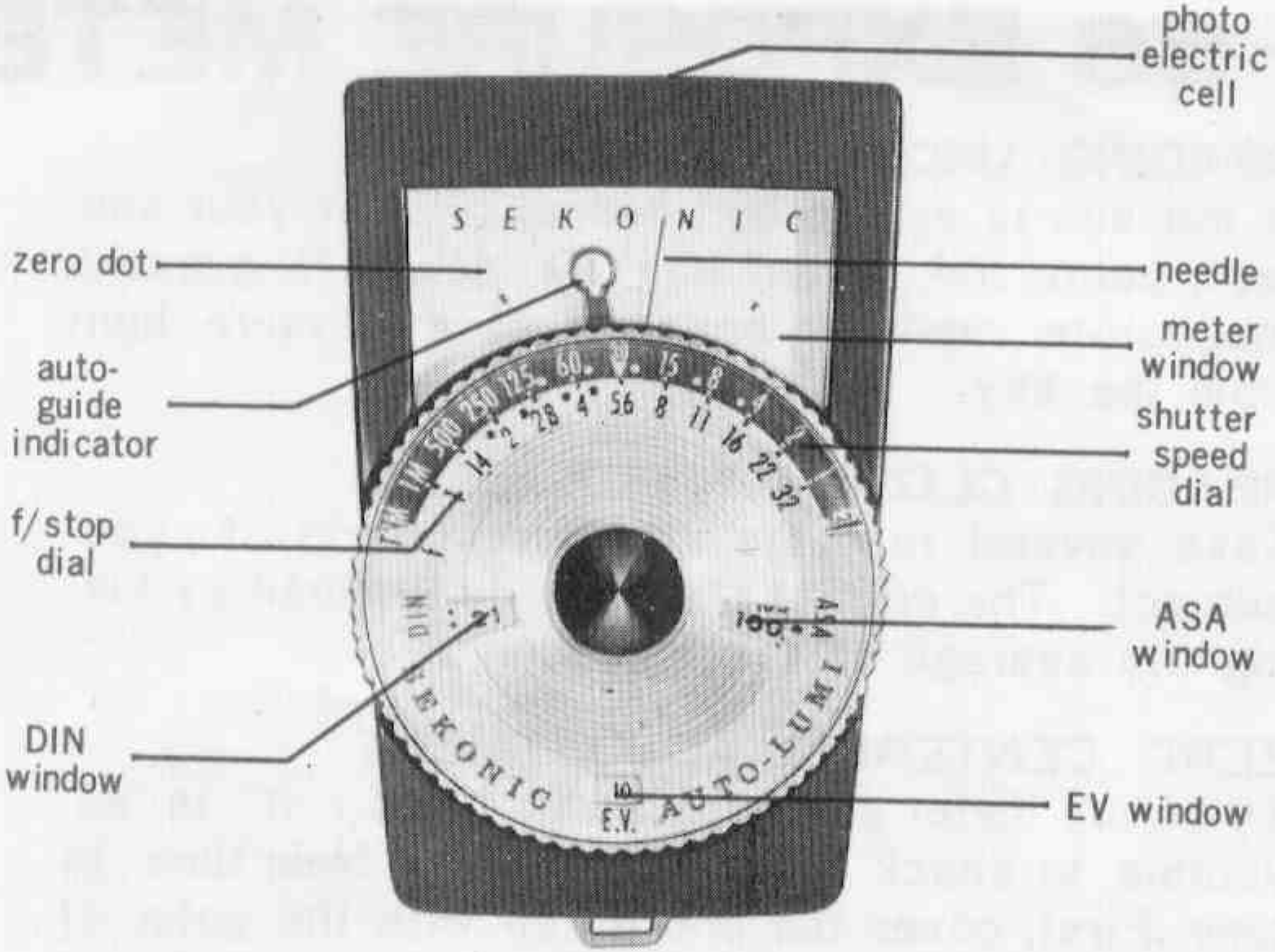
Take several readings at different parts of your subject. The correct f/stop is determined by taking the average of these readings.

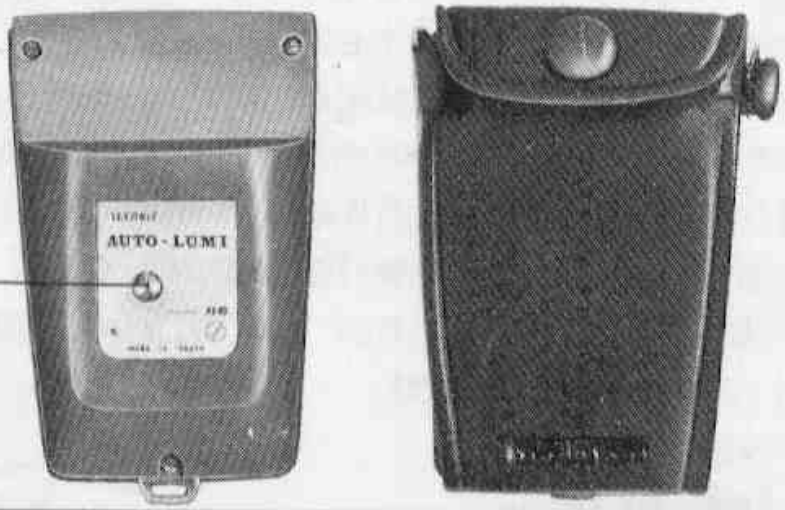
ZERO CENTERING ADJUSTMENT

To insure meter accuracy at all times, it is advisable to check the zero centering from time to time. First, cover the photo cell with the palm of your hand. The red needle should align perfectly with the black dot located near the letter "S" in the light meter window, if alignment does not take place, adjust the zero centering screw at the back of the meter. Hold meter as shown in the illustration, cocovering the photo cell with a dark card. Turn the scre w slightly in either direction until the needle and zero dot align.

Your meter is now zero centered for readings of pin-point accuracy.







with Leather Eveready Case

CAUTIONS

1-Take frequent readings to allow for changes in lighting conditions which occur due to excessive movement of subject.

2-When taking a reading, be sure that the meter's shadow does not reflect into the photo cell.

3-Triangle mark on the shutter dial is for 16f.p.s. movie shooting.



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Manufacturer
SEKONIC CO.,LTD. 558, Oizumigakuen-cho,
Nerima-ku, Tokyo, Japan.

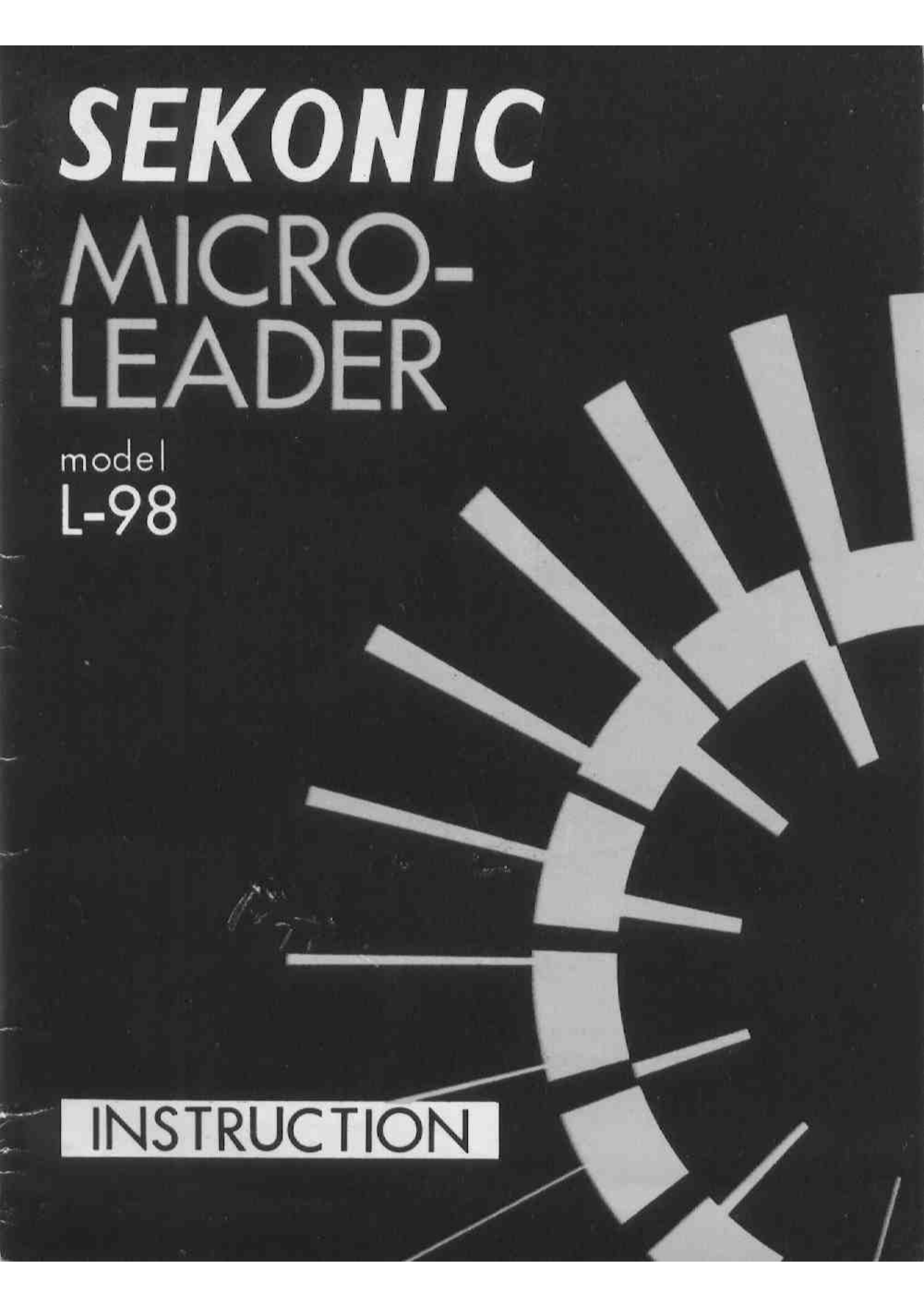
KE74130000 PRINTED IN JAPAN.

SEKONIC

MICRO-LEADER

model

L-98



INSTRUCTION



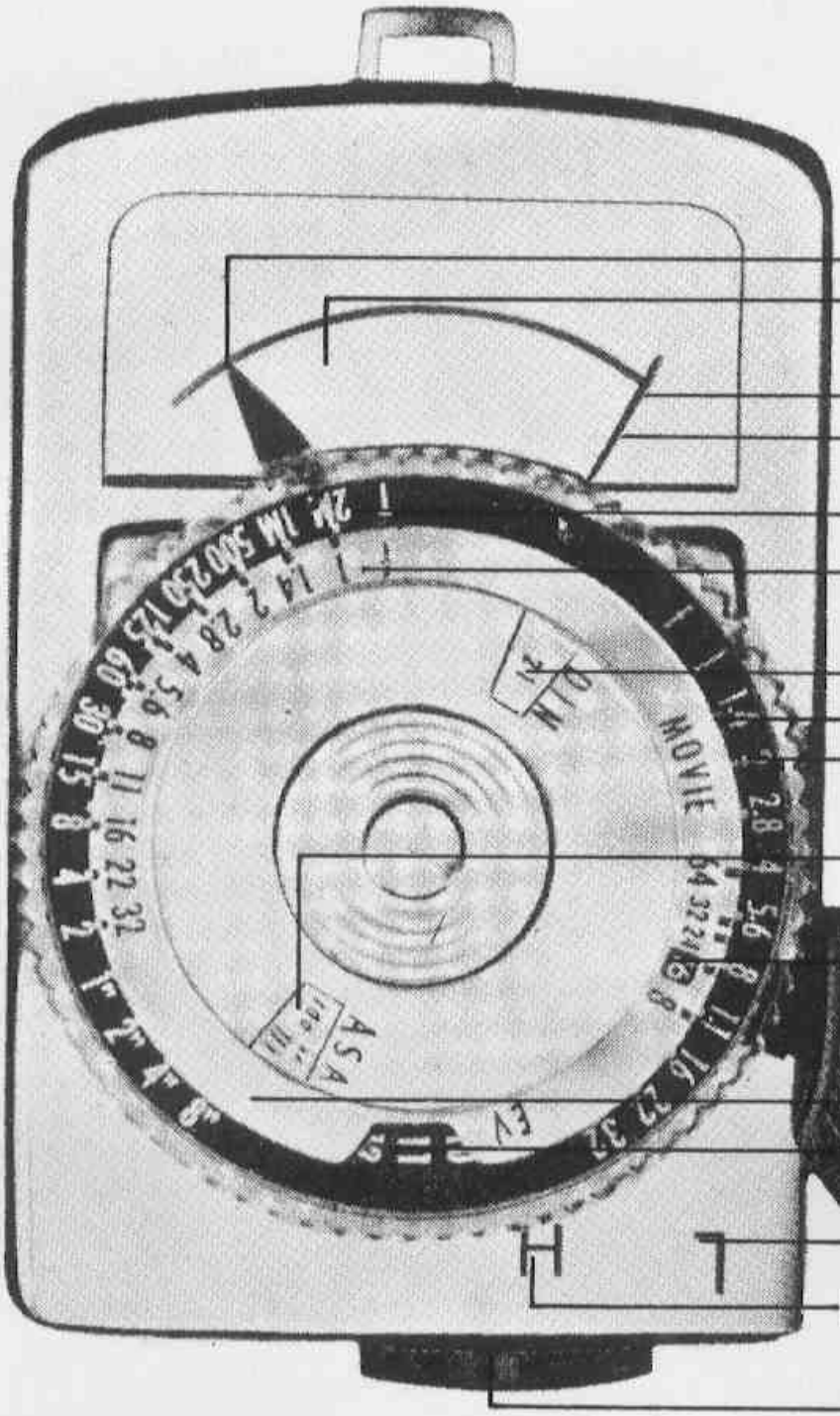
Fig. 22

With *vertical pictures* it is most convenient to operate the release with the thumb or index finger of the right hand, according to the way of holding the camera you prefer (see Fig. 22). The release should if possible be operated only with the tip of the finger (see Fig. 21 and 22). The action of the mechanism is so smooth that photographs can be taken without any sign of shake.

THE DELAYED ACTION

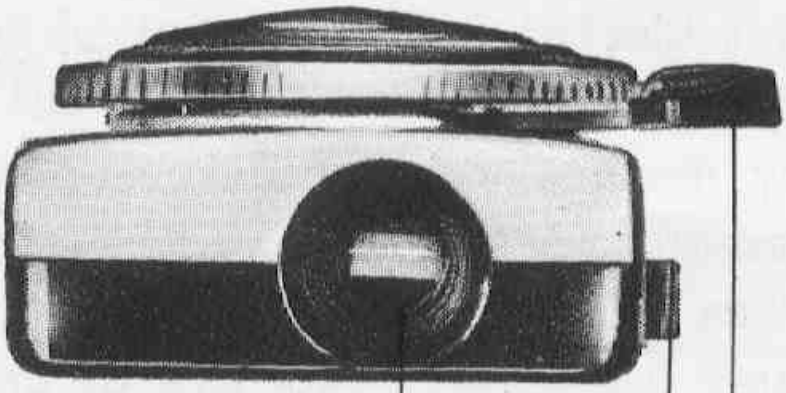
The Synchro Compur shutter is provided with delayed action (selftimer). The synchronizing lever ⑧ (Fig. 19) is set to "V" **which, however, can be done only after the shutter has been wound,** i. e. after the film wind lever has been operated. The time interval between the release being pressed and the operation of the shutter is about 8 seconds. The lever returns then automatically to X. If the lever will not remain on "V" this indicates that the film has not been moved on, i. e. the shutter

Name of Parts



1″=one second

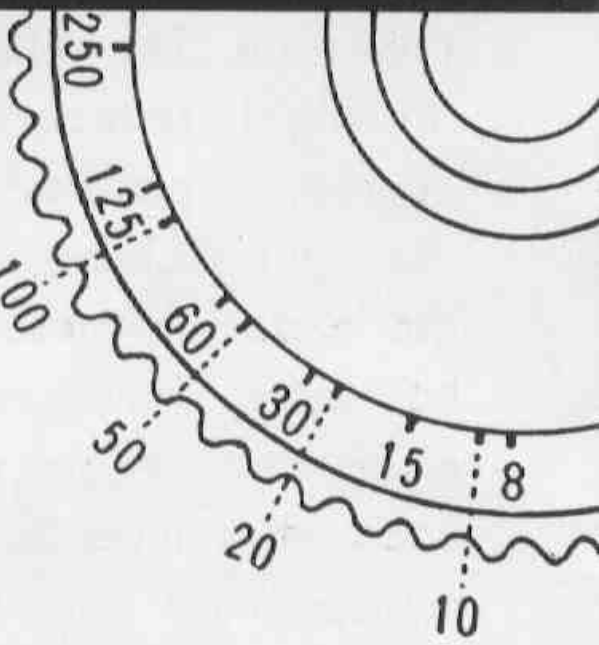
M=1/1000 second

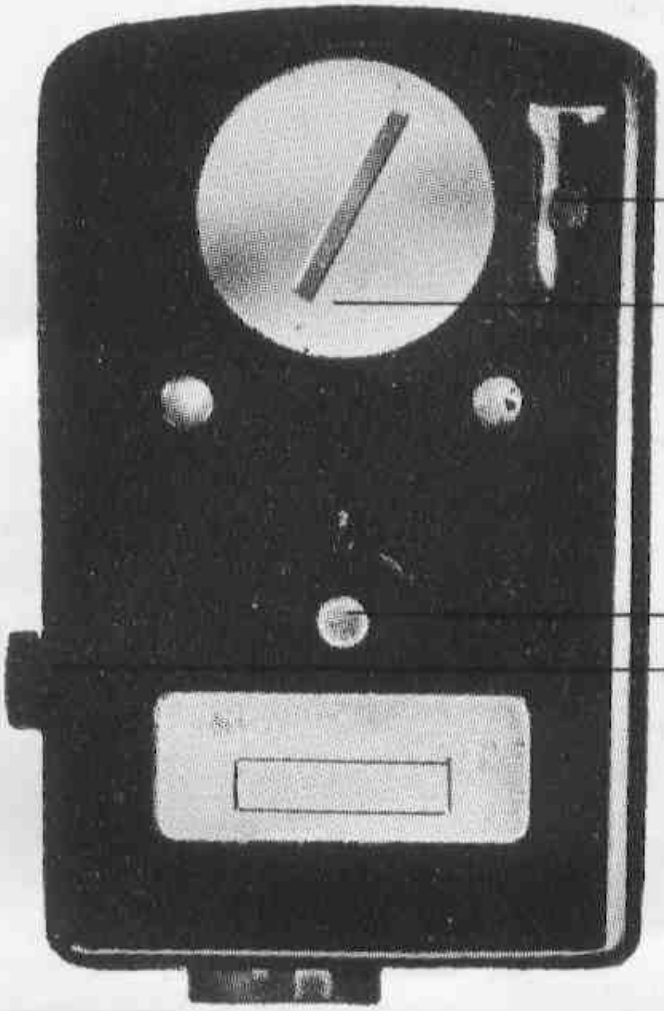


Light window

Switch Button ('Push-button' Type)

High/Low Switch Lever





Battery Check Button ('Push' type)

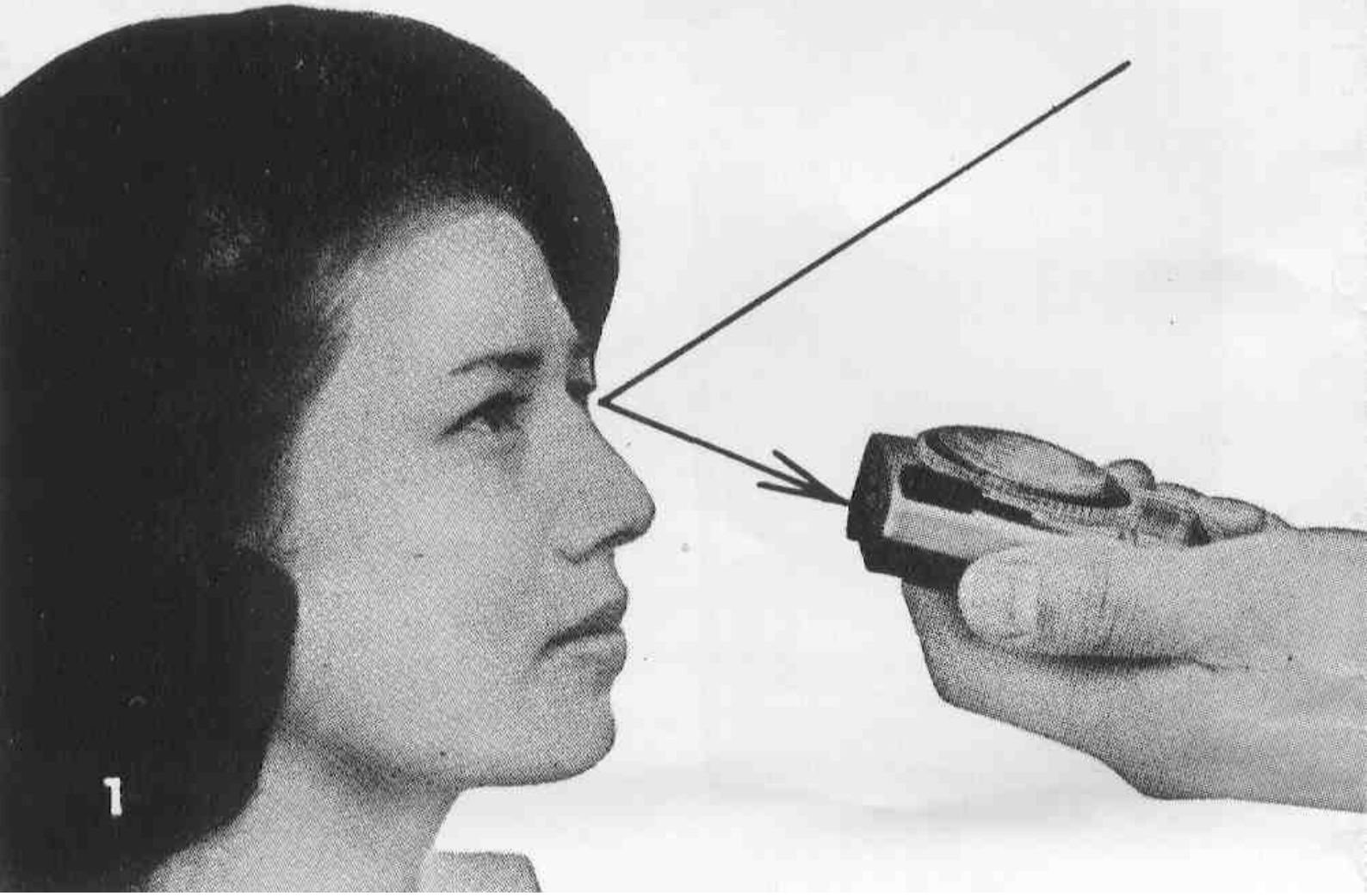
Mercury Battery Chamber

Zero corrector

Switch Button ('Push-button' Type)

● Use the Reflected-Light-Type Meter Properly

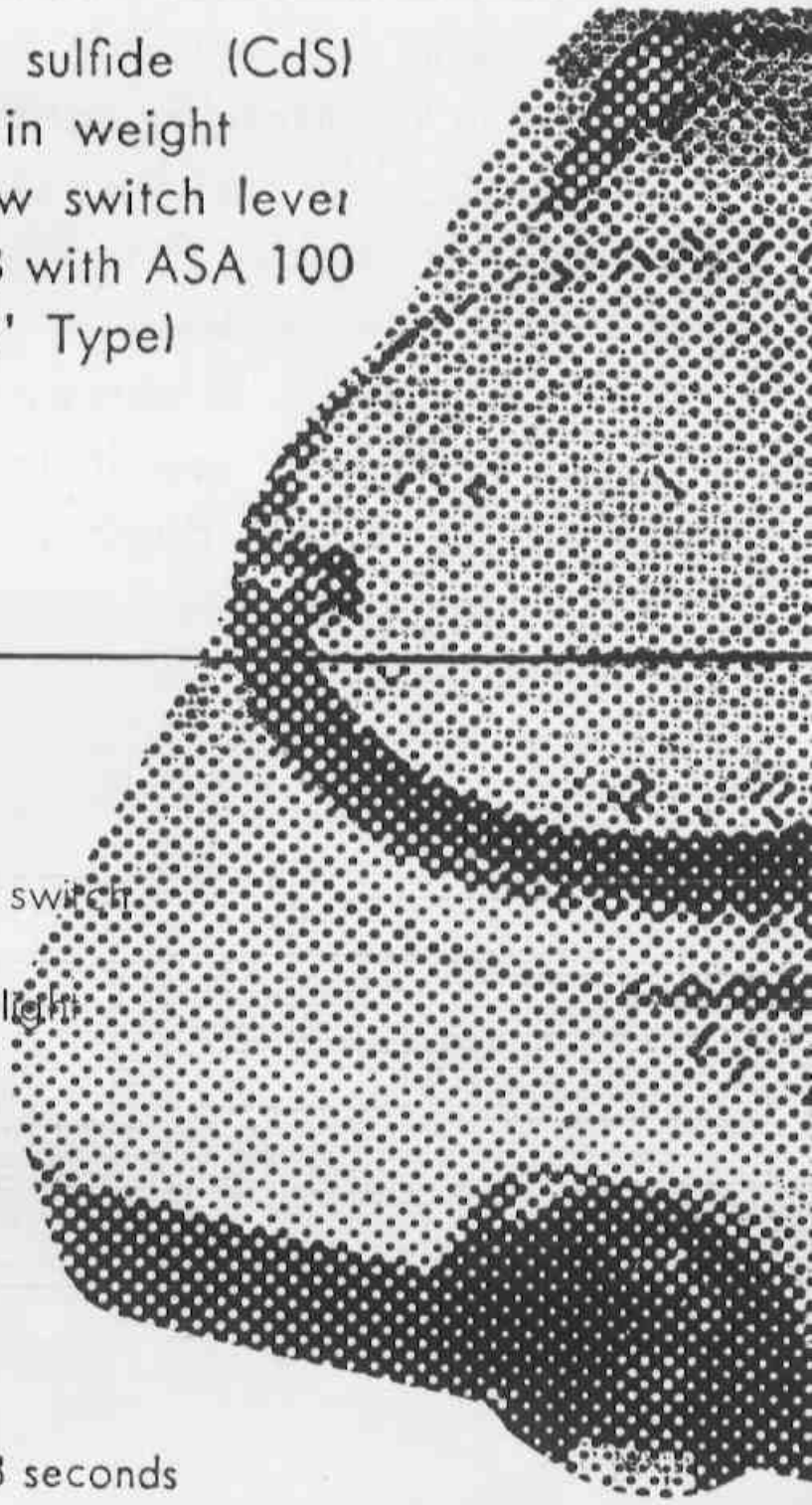
The Sekonic L-98 is an exposure meter of the reflected-light type. The reflected type of exposure meter measures the light reflected from a subject and indicates the correct exposure. Do not use this meter in measuring the light incident on a subject. L-98 is the best of all the exposure meters now available on the market as it has been developed by the engineers of Sekonic Co., after many years of research. Model L-98, which uses cadmium sulfide (CdS), has an extremely wide range of measurement and indicates the correct exposure at any time and place. The meter, quite thin in thickness and light in weight, may be carried in your pocket. It can be manipulated by one hand.



1

●Features:

Highly sensitive cadmium sulfide (CdS)
Thin in thickness and light in weight
Reflected type High/Low switch level
Measuring Range: LV 3～18 with ASA 100
Switch Button ('Push-button' Type)
Battery Checker

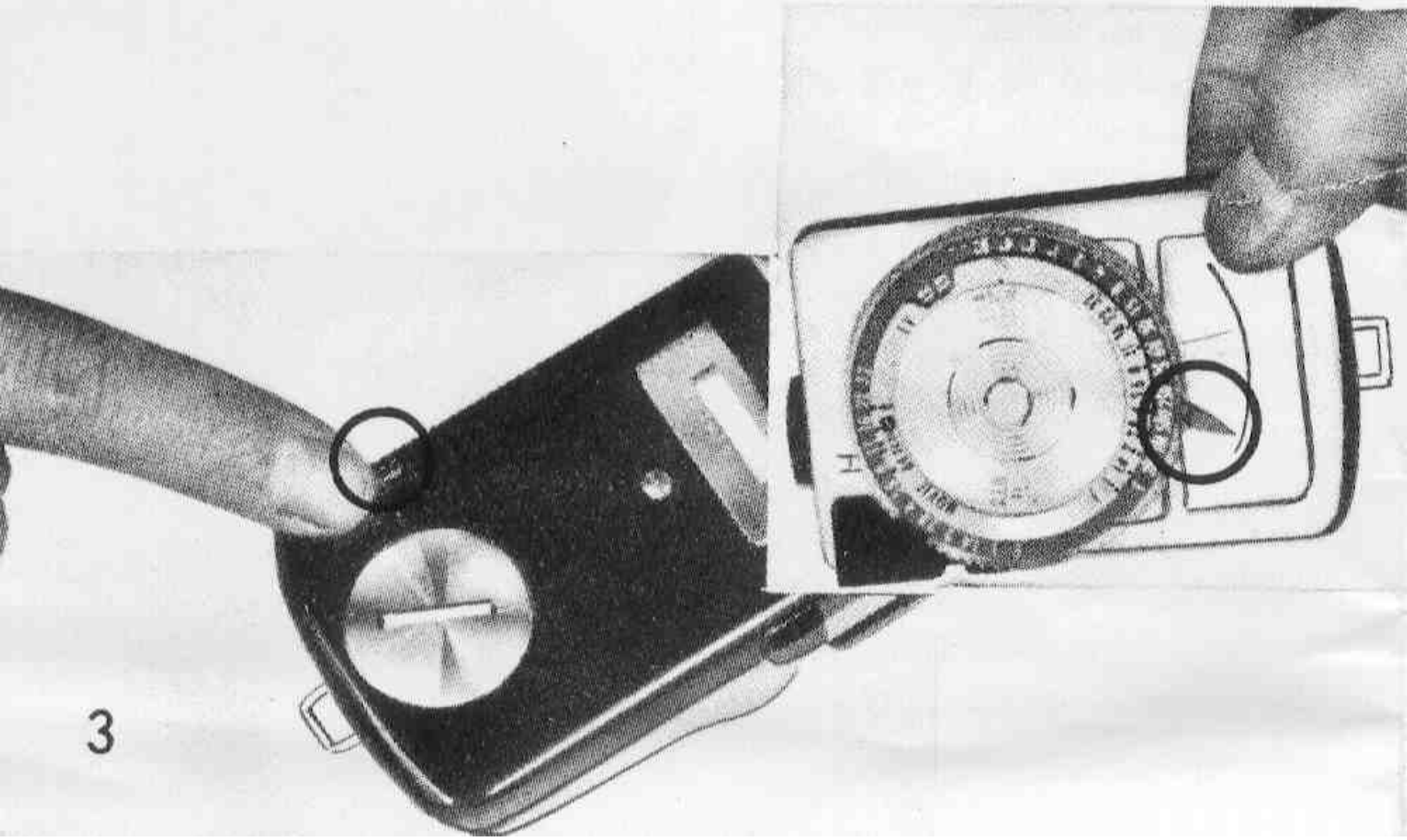


● Specifications

CdS (MPR 63) - one piece
Mercury Battery 1.35V
Reflected Light type
High-and-Low level switch
(coupled to multi-filter)
Measuring Range (ASA 100) & light receiving angle
High-level LV 10～18 40°
Low-level LV 3～11 60°
LV Scale: —2～19
ASA Scale: 6～12,000
DIN Scale: 9～42
f/stops Scale: F/1～32
Shutter Speed Scale: 1/2000～8 seconds
Cine Scale:
(Aperture) F/1～32
(Film Speed) 8～64 f.p.s.
Measurements: 50.6×77.2×28.3 mm
Dial Diameter — 48.5 mm
Weight: 120 grams

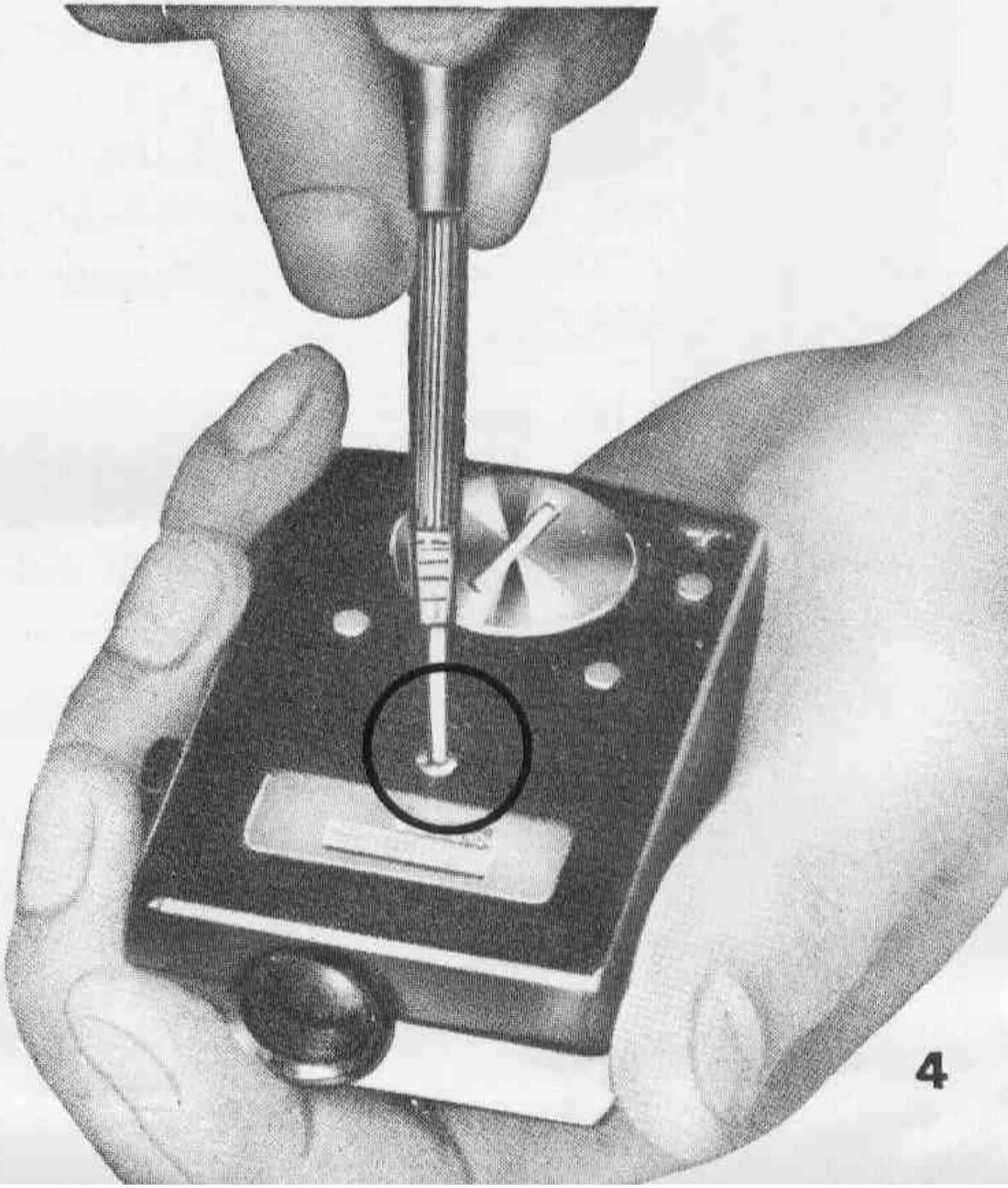
Equip a Battery to the Meter

When using the meter for the first time, put a mercury battery in the Mercury Battery Chamber. Set the battery into position so that that side of the battery bearing the mark "M-D" comes in contact with the Battery Chamber Lid. When the battery is placed in the chamber, make sure that the lid is screwed tight. Depress the Battery Check Knob and see if the Pointer stops in line with the Battery Check Point. If the Pointer does not swing and stop at the check point, the Meter is not working properly and if this is the case, you must change the battery with a new one. The Mercury Battery of 1.35V is used with the meter.



●Align the Pointer with the Zero Point

After the battery has been placed in the chamber, check and see if the Pointer stops in line with the Zero Point when the Switch Button is not depressed. If the Pointer does not stop in line with the Zero Point although the Switch Button is not depressed, turn with a screwdriver the Zero corrector placed on upper back side of the Meter so that the Pointer comes in contact with the Zero Point.



● Use the Reflected Light-Type Meter Properly

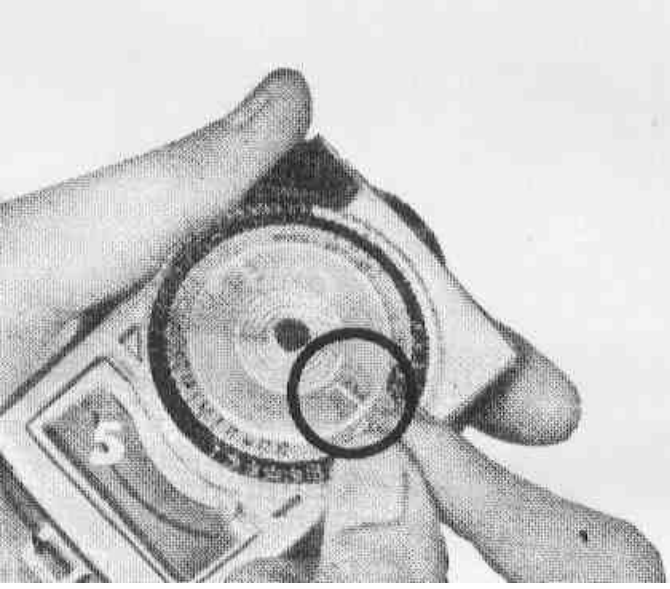
After the battery has been placed in the chamber, the battery checked and the Pointer brought in line with the Zero Point, L-98 is ready to measure the light and indicate the correct exposure with very seldom necessity for readjustment afterwards. The only remaining question lies in how you use the reflected light-type exposure meter as instructed.

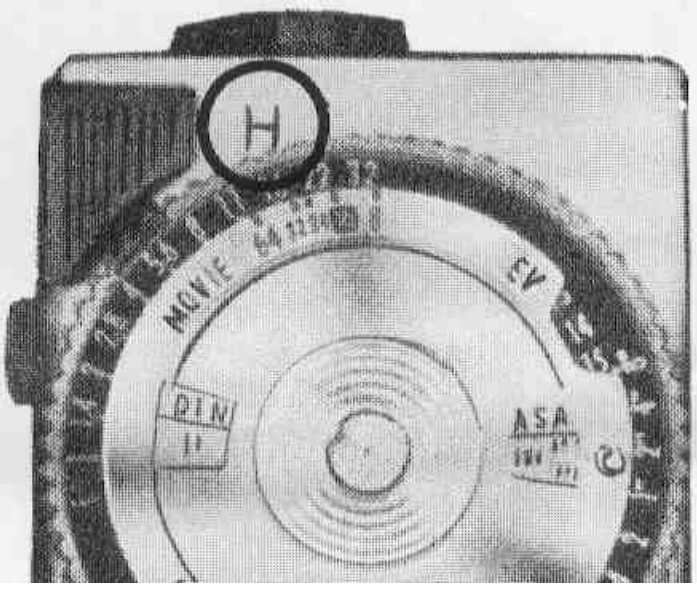
Set the Proper Film Speed

Check the instructions sheet of your film and you will find the sensitivity figure of the film you are using. If the figure is, say, ASA 100, hold the High/Low Switch Lever tight and turn the ASA Switch Knob so that the ASA reading "100" appears in the small slit underneath the word "ASA."

Set the ASA° film speed

Turn the ASA film speed switch knob so that the ASA° reading of your film appears in the slit under the word "ASA°"





Point the Meter at the Subject

To measure the light, point the Meter toward the subject right from the camera position.



A. From the Camera Position «Landscapes»

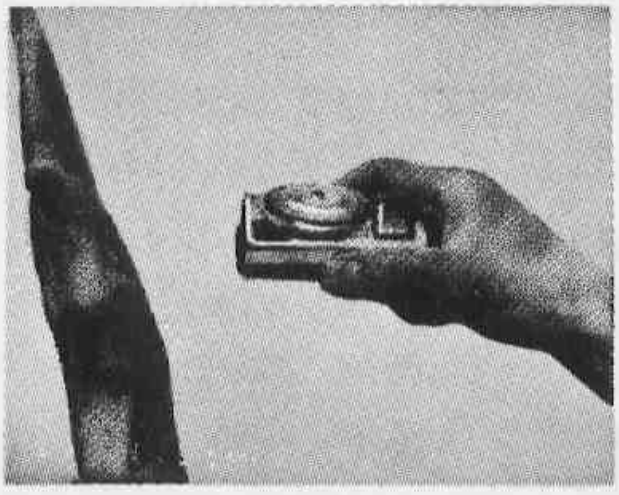
When you use this method, make sure that the Meter is tilted down so that it points midway between your feet and the part of the subject on which you desire to put special emphasis. Make sure that the sky has no part in the meter reading. Otherwise, your pictures will be under-exposed. When you take photographs of a vast landscape or mountains in the distance, reduce by half the reading which you have taken from the Meter.

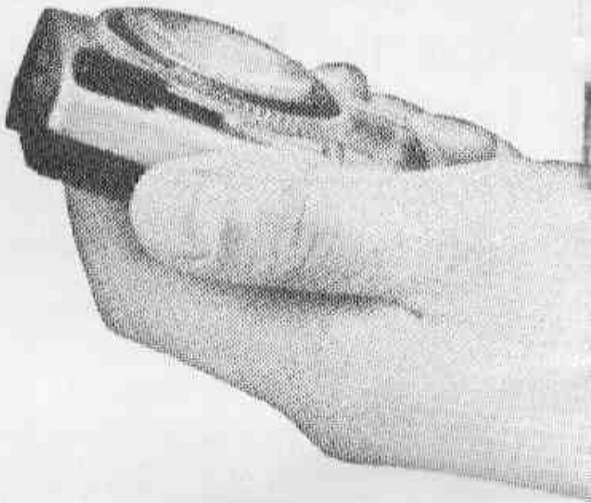
Let us assume that one of the meter readings you have taken is, say, 1/250 second at f/22, 1/250 second multiplied by 1/2 equals 1/500 second. In other words, the correct exposure is 1/500 second at f/22.

B. Measurement for Close-ups. «Portrait»

When this method is used, place the Meter about 10 centimeters (about 3 inches) from the subject for measurement. In portraiture, the most important part of the subject is the face. Place the meter as close to the face as possible to have the meter measure the light reflected from the face. When it is impossible to come near the subject, use your palm or a standard reflector in the light condition matched to the important part of the subject. In either case, make sure that your palm or the reflector must not be shadowed by the meter.

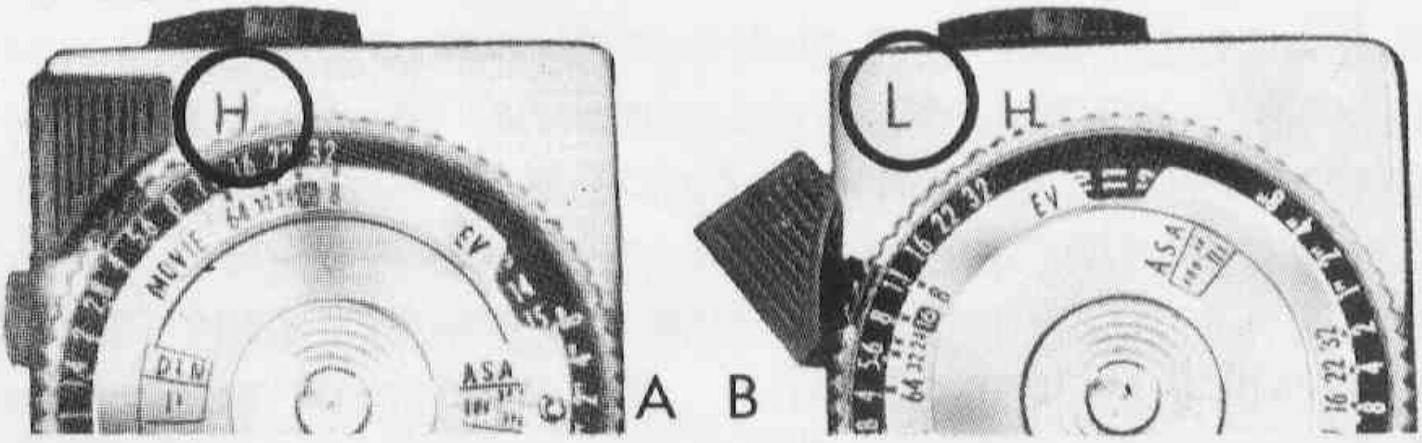






Depress the Switch Button

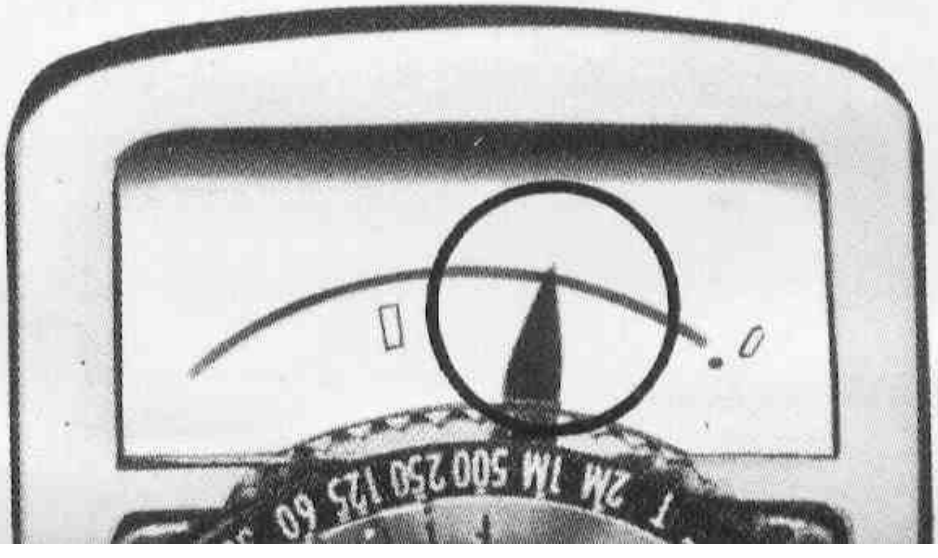
With the Meter pointed toward the subject in the manner mentioned earlier, depress the Switch Button. If the Pointer does not swing with the High/Low Switch Lever set for highlight measurement (Picture A), move the lever fully in the opposite direction for low light measurement and then depress the Switch Button again. (Picture B)



A B

Turn the Guide Mark Dial to Align the Guide Mark with the Pointer

When the Switch Button is depressed, the Pointer swings and stops at a certain point within one second. Turn the Guide Mark Dial (outer dial) to align the Guide Mark (green-colored follow-pointer) with the Pointer.



The setting "B" is used for time exposures: so long as the release is kept depressed the shutter remains open. Time exposures call for the use of a tripod; at the very least the camera must be rested on a firm support. The same applies in fact to all exposures longer than $1/30$ second. Furthermore, it is also highly advisable to employ a cable release, which can be screwed into the release button. Cable releases provided with a clamping device to hold the shutter open are preferable for this purpose.

By pulling out the small slide ⑮ (Fig. 1) from the base board the camera can be prevented from tilting forward.

THE RELEASE

Pressure on the release button opens the shutter, and quite irrespective of the length of time the button remains pressed down, the shutter will close again after the lapse of the time interval for which it has been set (1–$1/500$ sec.). In taking a photograph it is important to adopt a firm stance, and by bending the arm close to the body and resting the camera against the face to hold the Ambi Silette perfectly still facing the subject.

When taking *horizontal pictures,* it is best to hold the camera with both hands, as shown, pressing the release button steadily and firmly right down with the index or middle finger of the right hand.



Fig. 21

When the Pointer and the Guide Mark are brought into line with each other, the scales of shutter speeds and lens apertures are now in their correct relation to each other to give a complete range of related shutter speeds and lens apertures, any one of which will give the correct exposure. If one of the correct combinations of shutter speeds and lens apertures is 1/30 second at f/5.6, any intermediate combination, such as 1/250 second at f/2 or 1/60 second at f/4, may also be used.

In other words, whatever cambination you choose depends upon the subject conditions and your photographing motive. For example, a rapidly moving subject needs a fast shutter speed and therefore a large aperture, which in turn covers a narrow zone of sharpness. A subject of great depth needs a small aperture and therefore a slow speed. Choice of best settings may need a compromise.

Set your camera according to a set of related shutter speed and lens aperture readings. If your camera is of the light-value system, then take a reading from the EV (LV) Scale.

1. Balancing for Tone Range

The following method is recommended when pictures are to be taken in the condition that there is a sharp contrast in the tone range of the subject.

Place the Meter about 10 centimeters (about 3 inches) from the subject to measure the light reflected from the highlight and shadow of the subject. Choose the intermediate value from both scale readings. When portraits are to be taken in this method, it is advisable to use auxiliary lights or reflectors so that the tone range will be of the order of 4:1 or less. (The tone range is the ratio of highlight to shadow brightness.) In color photography, make sure that the tone range is of the order of 4:1 or less.

2. Measurement in an Extremely Dark Place

In the extremely dark place where the light is so poor that the Pointer does not swing at all even if the High/Low Lever Switch is set for low light measurement, point the Meter toward the light source (for example, the moon). Whatever scale reading you may obtain must be multiplied by 10. If one of the correct combinations of shutter speeds and lens apertures is 1/15 second at f/1.4, 1/15 second must be multiplied by 10. The answer for the correct exposure is about one second at f/1.4.

3. When the Camera Is Against the Light...

A. To make Silhoettes

Point the Meter toward the sky or the white background. Take photographs exactly as the Meter indicates. Since the exposure is set for the bright background, the subject is under-exposed and shown as a black shape on the white background.

B. To Delineate the Subject in Rear Lighting

To measure the light, place the Meter near the shadow of the subject. In this case, make sure that the light coming from the back of the subject has no part in the meter reading.

C. To Delineate the Subject and Background In Rear Lighting

Measure the light reflected from the shadow of the subject first and then measure the light reflected from the bright background. For the measurement of the background, refer to the method taken from the camera position on Page 6. Then choose the intermediate value from both readings. This method, however, does not fit for use when the ratio of subject to background is of the order of 1:16 or more.



4. When a Filter Is Used . . .

The Sekonic Meter L-98 is not provided with a scale of filter factors. The aperture value obtained from the meter must be increased according to the factor of the filter you are using on your camera. Example: If your filter has a factor of 2× and one of the combinations of lens apertures and shutter speeds is the order of 1/250 second at f/8, the correct exposure will, therefore, be of the order of 1/125 second at f/8.

5. Extreme Close-ups

The true lens aperture value for a close-up is given by the equation:

$$T = \frac{M \times D}{F}$$

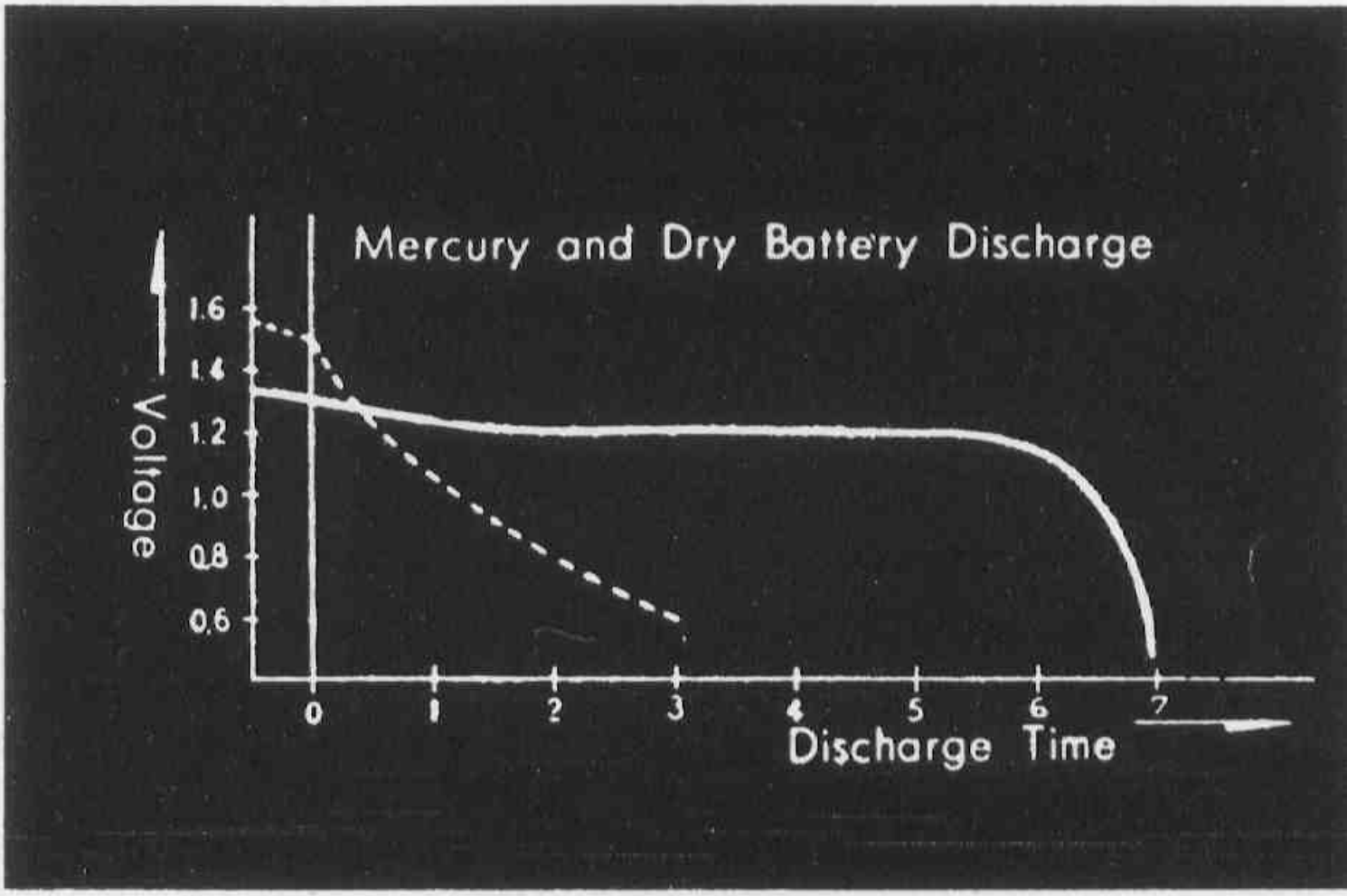
where T - True aperture value F - Focal length of lens
D - Distance between lens and film surface

Example: When the focal length of the lens is 50 millimeters, the distance between the lens and the film surface is 100 millimeters and one of the correct combinations of apertures and shutter speeds is the order of 1/4 second at f/4, the true aperture value is:

$$\frac{4 \times 100}{50} = 8$$

This means that even if the lens is stopped at f/4, the aperture in this instance is the same as for f/8. Therefore the aperture must be increased by four times. The correct exposure is the order of 4 seconds at f/8 or one second at f/4.

●To Safeguard the Meter



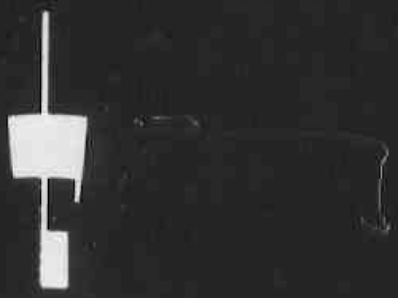
1. Do not leave the meter in a humid place for a long time.
2. Do not place the meter in a place with a temperature of more than 60°
3. Do not drop or jar the meter.
4. The meter, when not in use for a long time, must be taken out of the leather case and kept with a damp-proofing agent in a paulownia or other box. Do not keep it in a safe or any other metallic container.
5. Also, the same method as above 4 must be applied to safeguard the mercury battery.

● Cine Photography

As far as the measurement is concerned, there is no difference between cine cameras and still cameras. In contrast to the 35mm still camera, the cine camera has a shutter speed scale calibrated in frames per second, such as 8, 16, 32 and 64 f.p.s. Take a film speed reading from the "Movie" scale provided on the inner dial of the Meter.

In ordinary 8mm cine photography, the standard film speed is 16 f.p.s. (1/30 second). A scale of related film speeds and lens apertures may be easily computed according to the formula that the film speed of 16 f.p.s. corresponds to the shutter speed of 1/30 second.





Printed in JAPAN 77 113000 M

●GUARANTEE

Your Sekonic Micro-Leader Exposure Meter is guaranteed against faulty workmanship and materials for a period of one year from the date of sale. It should be handled with the care which fine, precision mechanism deserves.

Should it become inoperative within the guarantee period, return it for repair. Re-pack it in its original container, packing with at least an inch of cushioning to prevent further damage. If original container has been disposed of, use a sturdy corrugated cardboard box. Address it to any Sekonic Service Department listed below whichever convenient with you to send.

Sole Export Agent :

COPAL COMANY LIMITED

Shimura 2-16-20, Itabashi-ku, Tokyo, Japan

Telephone : Tokyo 965-1111 Telex : J24521 COPALSUN

COPAL CORPORATION OF AMERICA

58-25 Queens Blvd., Woodside, New York 11377, U.S.A.

Telephone : 212/672-9100

Telex : 422226 HAGO UI, 146342 HAGO NYK

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Alfred-Escherstr. 27, 8002 Zurich, Switzerland

Telephone : 01/2017991 Telex : 57137 COPAL CH

COPAL (HONG KONG) LIMITED

Room 1119, Tung ying Building, 100 Nathan Road

Kowloon, Hong Kong

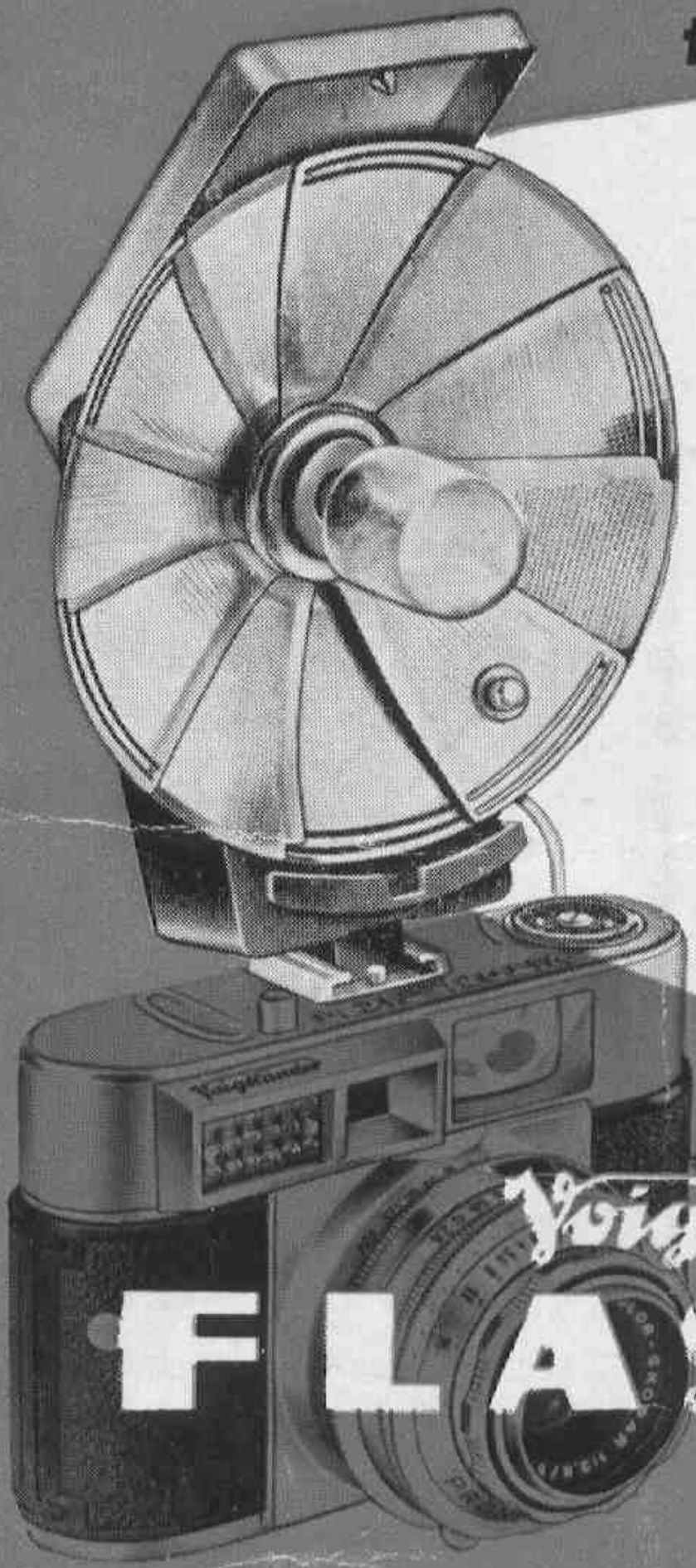
Telephone : K-676225 Telex : 84048 COPAL HX

Manufacturer :

SEKONIC CO., LTD.

558, Oizumigakuen-cho, Nerima-ku, Tokyo, Japan

Always ready with the



Voigtländer

FLASH

With this small, handy, and really reliable Voigtländer Flash Gun you are completely independent of available light conditions. You can take marvellously live and well-lit shots at home in the evening or at parties – you can equally add brilliant sunshine effects to outdoor portraits on dull days – you can light up deep shadows when shooting against the sun – and you can use the fastest shutter speeds

So the small

Voigtländer «FLASH GUN»

not only extends your scope, but also brings better detail into your pictures – and above all is really easy to use.

DEPTH OF FIELD TABLE FOR AGFA COLOR-SOLINAR f/2.8 — 50 mm.

Circle of confusion of diameter 0.03 mm.

Distance focused upon	with diaphragm set at			
	f/2.8	f/4	f/5.6	f/8
	range of sharp focus			
feet				
3½	3′ 4¾″ — 3′ 7¼″	3′ 4¼″ — 3′ 8″	3′ 3½″ — 3′ 8¾″	3′ 2¾″ — 3′ 10″
4	3′ 10¼″ — 4′ 1¾″	3′ 9¾″ — 4′ 2½″	3′ 8¾″ — 4′ 3¾″	3′ 7½″ — 4′ 5½″
5	4′ 9½″ — 5′ 2¾″	4′ 8¼″ — 5′ 4¼″	4′ 7″ — 5′ 6″	4′ 5″ — 5′ 9″
7	6′ 6¾″ — 7′ 6″	6′ 4¾″ — 7′ 8¾″	6′ 2¼″ — 8′ ¾″	5′ 10¾″ — 8′ 7½″
10	9′ 1½″ — 11′ ¾″	8′ 9½″ — 11′ 7″	8′ 4¾″ — 12′ 4½″	7′ 10¼″ — 13′ 9½″
15	13′ 1″ — 17′ 7″	12′ 5″ — 18′ 11¾″	11′ 7¼″ — 21′ 2¾″	10′ 7¼″ — 25′ ¼″
30	23′ 2″ — 43′	21′ 1″ — 52′	18′ 10″ — 74′	16′ 3″ — 205′
∞	100′ — ∞	70′ — ∞	50′ — ∞	35′ — ∞

The subject distance should be measured from the focal plane (the rear edge of the accessory shoe). The depth-of-field scale on the camera which is used as a practical guide is based upon a rather less exacting circle of confusion of 0.05 mm. For extreme accuracy the above table should always be referred to.

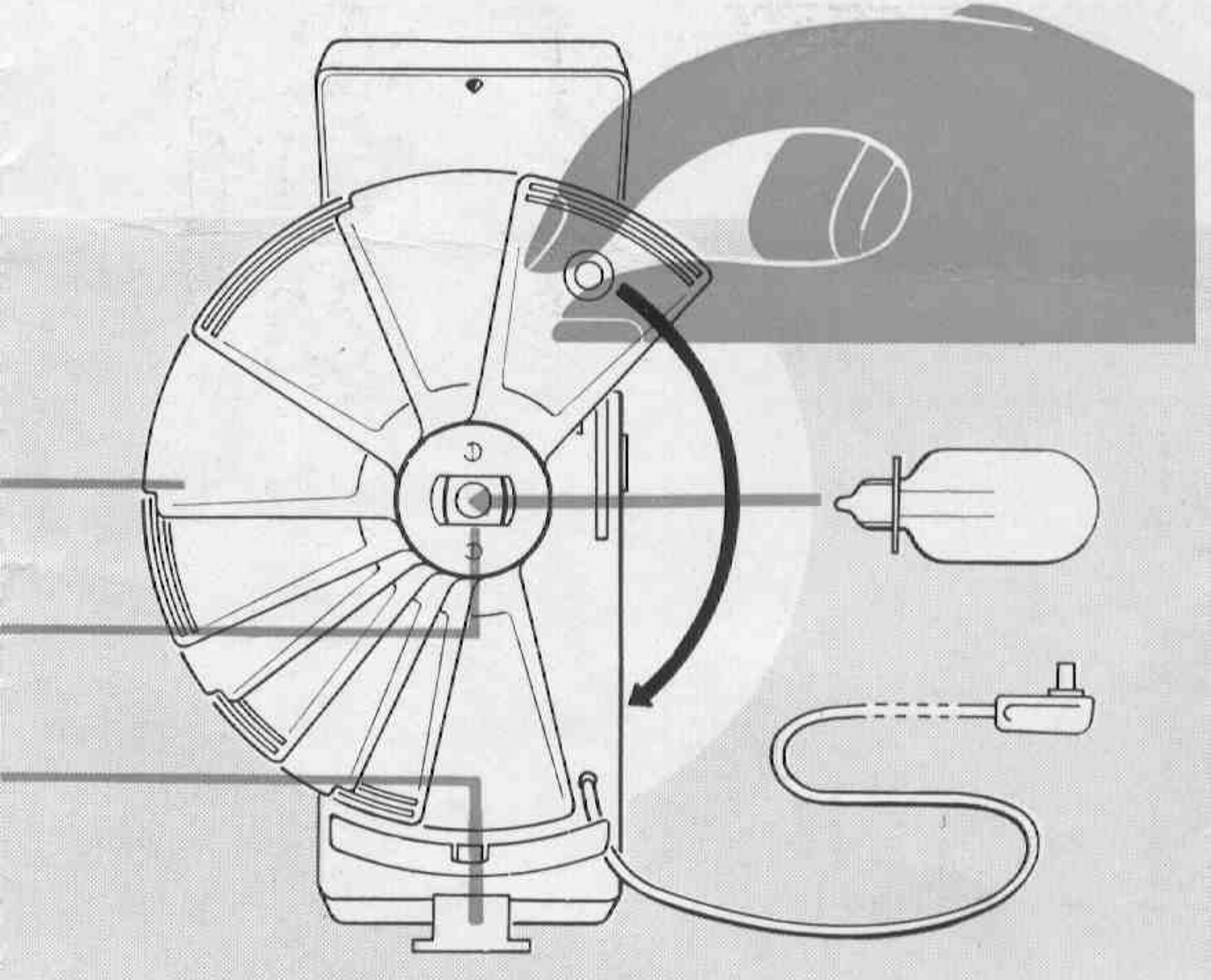
Voigtländer

FLASH



Opening the reflector: Swing up the front cover (1), unroll the cable (2), and rotate the reflector blades round by the handle (3) to open up fan-wise (4). To close the reflector after shooting proceed in the reverse order, then wind the cable round the holder.

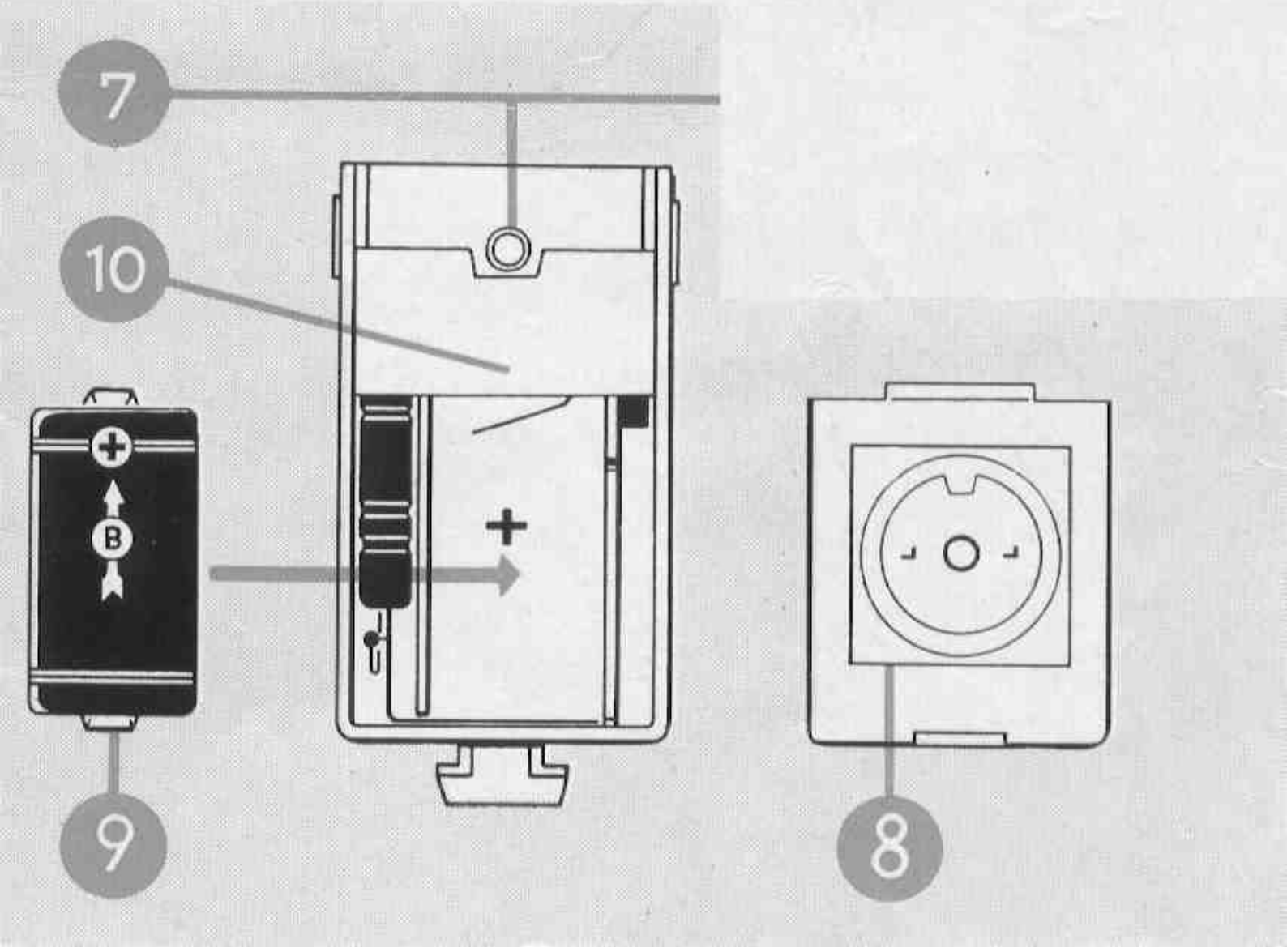
Mounting on the camera: Push the foot (6) into the accessory shoe of the camera and plug the flash cable into the flash socket on the camera shutter.



Inserting (and ejecting) the flash bulb: The flash gun is available in two models: for capless bulbs, and for bulbs with S.C.C. (BA 15 s) or miniature pinless (American type M 2 and M 5) metal caps.

Push the fresh bulb into the socket (5) until it engages. After firing eject the spent bulb by pressing the button (7).

Inserting the battery: Swing up the rear cover (8) and lift off. Place the battery (9) under the top contact strip (10) so that the positive terminal is **on top.** Hook in the cover at the top and press at the bottom until it clicks into place.



The Electric Circuit

of the Voigtländer Flash Gun uses the reliable battery-capacitor system which ensures certain synchronization of the camera and the flash bulb.

The current supply is a standard 22.5 volt miniature anode battery, available all over the world, with an average life of about one year. The charging time of the electrolytic capacitor is one to four seconds, according to the age of the battery. Note: correct orientation of the battery is important – inserting it the wrong way round ruins he capacitor!

The Aperature Dial

on the back of the Voigtländer Flash Gun shows you quickly the correct aperture setting for all shots and at any distance.

The outer ring of the aperture dial carries subject distances in feet (red figures) and in metres (black figures). The rotating centre disc carries the aperture numbers. As you turn the centre disc, the window at the top shows white figures on a black background; these are the guide numbers for the most common types of flash bulbs. You will find the guide number for your particular flash on the packing of the bulbs.

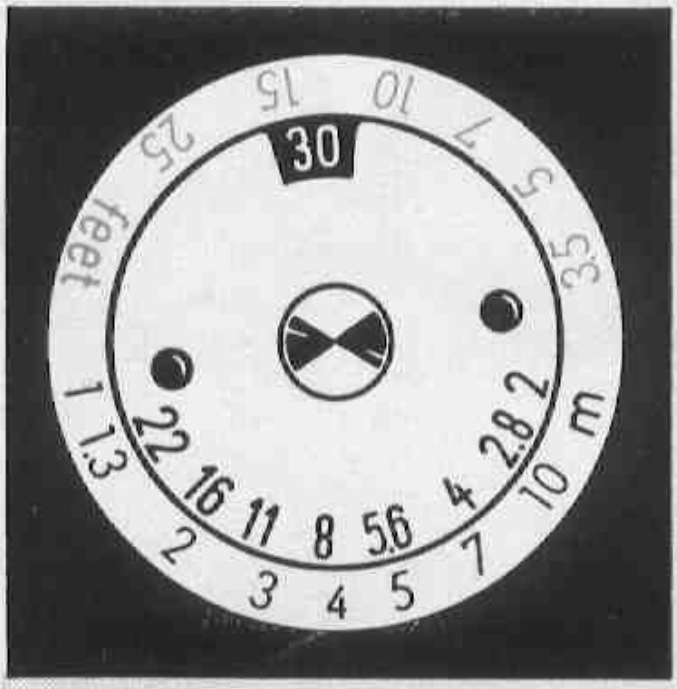
Setting and reading off the aperture dial: Move the aperture figures opposite the distance scale with which you are working (feet or metres). Turn the centre disc until the guide number of the flash bulb appears in the window on top. Then read off the required aperture figure opposite the distance corresponding to your flash-to-subject distance. Set that aperture on the camera.

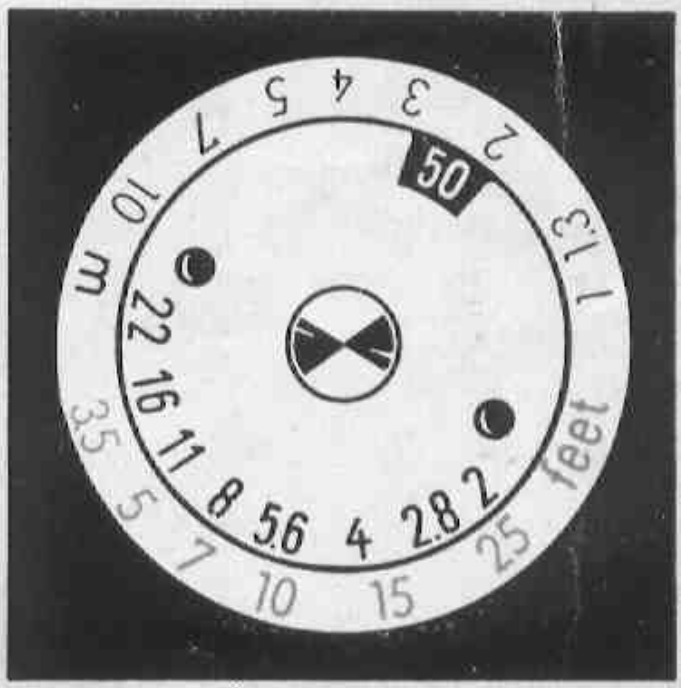
Right-hand example: guide No. 50

Aperture f/	16	11	8	5.6	4—2.8	2
Distance	3½	5	7	10	15	25 feet

Left-hand example: metric guide No. 30

Aperture f/	22	16	11—8	8—5.6	5.6	4
Distance	1.3	2	3	4	5	7 metres







	Order No.
● For capless Flash bulbs ..	92/043
● For bulbs with S.C.C. (BA 15 s) and miniature pinless cap	92/053
● Plastic case with zip fastener	90/139

Voigtländer

400 09 — 53 B/1160 ACO

Subject to modification
Printed in Germany

voigtländer

VF101



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Film einlegen
nicht in direktem Sonnenlicht!

Rückwandriegel hochklappen, Fig. 1.
Rückwandriegel um 90 ° verdrehen, Fig. 2
(nach jeder Seite möglich).
Rückwand abziehen, Fig. 3.

Load the camera
not in direct sunlight!

Flip up locking lever of camera back, fig. 1.
Turn locking lever 90 °, fig. 2
(to either side).
Remove camera back, fig. 3.

Charger l'appareil
protéger le film du rayonnement solaire!

Relever le verrou de la paroi dorsale, fig. 1.
Faire pivoter le verrou de la paroi dorsale de 90 °, fig. 2
(possible dans les deux sens).
Retirer la paroi dorsale, fig. 3.

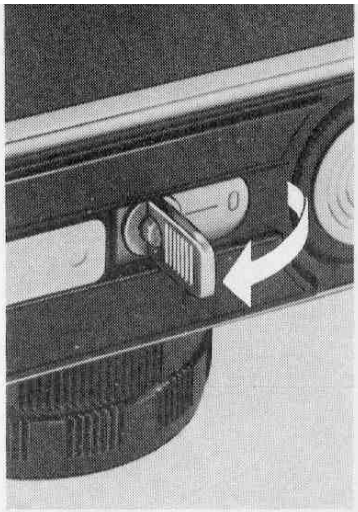


Fig. 1

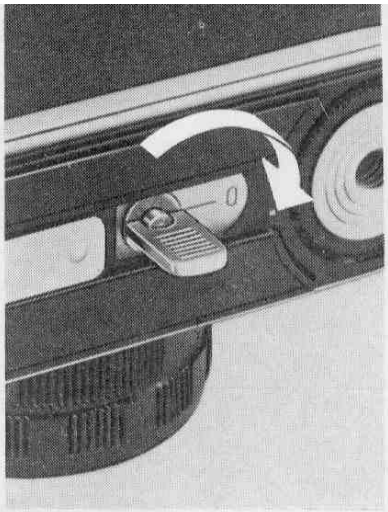


Fig. 2

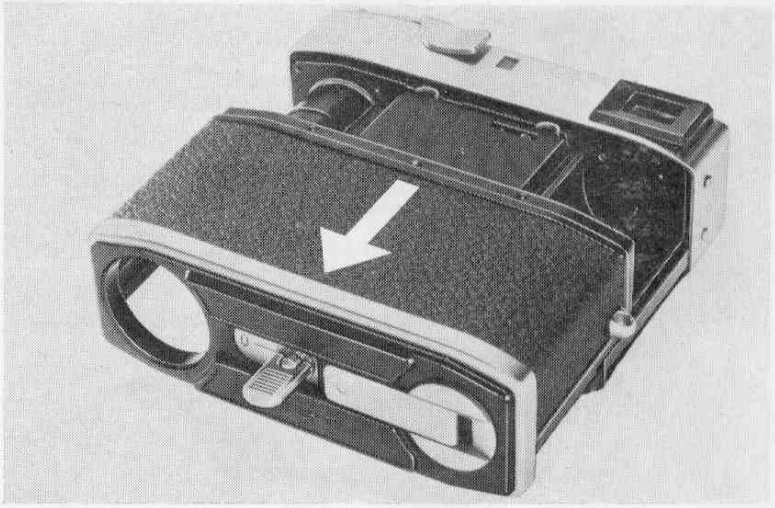


Fig. 3

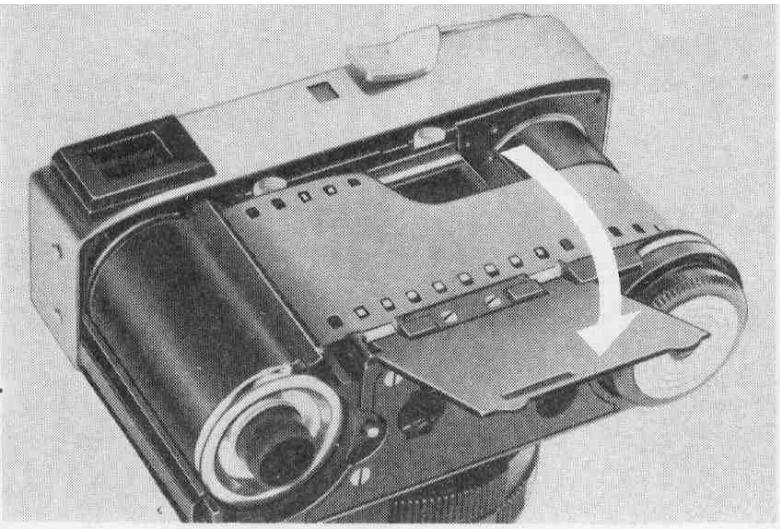


Fig. 4

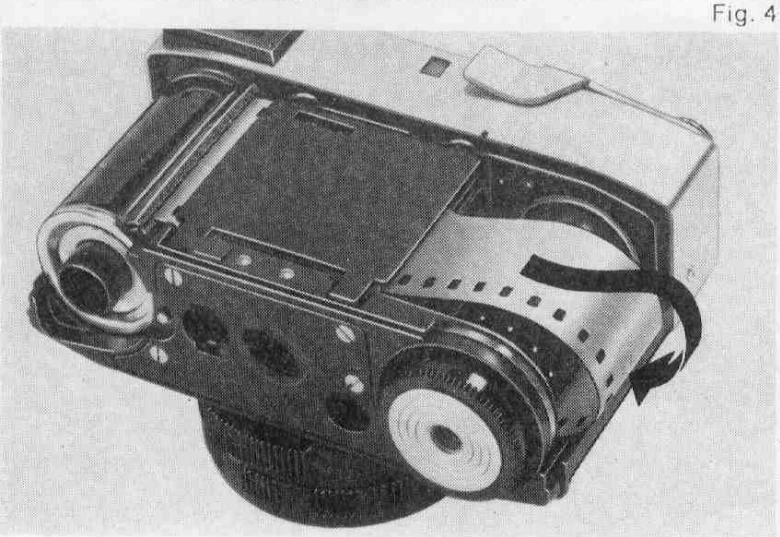


Fig. 5

Filmandruckplatte aufklappen, Filmpatrone einlegen.
Filmanfang so weit herausziehen, bis obere Perforation in die Zähne des roten Rädchens eingreift, Fig. 4.
Filmanfang tief genug (etwa 3 cm) zwischen Gehäuse und Aufwickeltrommel schieben. Filmandruckplatte zuklappen, Fig. 5.

Flip up film pressure plate, insert film cartridge.
Pull out sufficient leader so that the upper perforations engage in the sprockets of the red wheel, fig. 4.
Push approximately 1 inch of film leader between camera housing and take-up drum. Flip down film pressure plate, fig. 5.

Soulever la plaquette de pression du film, mettre la cartouche de pellicule en place.
Tirer l'amorce du film jusqu'à ce que la perforation supérieur de la pellicule s'engrène sur les dents de la couronne rouge, fig. 4.
Insérer l'amorce du film sur une longueur suffisante (3 cm environ) entre le boîtier et le tambour récepteur. Rabattre la plaquette de pression, fig. 5.

has not been wound. *Should the lever have been unintentionally set to "V" it cannot be moved back,* and the next picture must be taken with delayed action.

The delayed action may be used **with flash,** but only with X-synchronization, i. e. with $^1/_{30}$ sec. as described below.

FLASH TECHNIQUE

Most of the commercial flash bulbs can be used for two types of synchronization, i. e. the firing delay (time interval between making contact and firing of flash) can be altered by the shutter. It is thus possible to vary the shutter speeds as follows: With synchronizing lever ⑧ (Fig. 19) set

to "X": the shutter speed is preset to $^1/_{30}$ sec.;

to "M": a firing delay allows the use of shutter speeds between $^1/_{60}$ and $^1/_{500}$ sec., to catch quick movement in a well lit room.

The instructions given on the flashbulb cartons should be strictly adhered to. They give all details about synchronization, and the stop to choose. If these instructions are not available we recommend to use, when in doubt, the X-synchronization: the preset shutter speed of $^1/_{30}$ sec. gives perfectly exposed flash pictures.

Electronic flash units can be used with **X-synchronization** only, but this allows—in this special case—the use of the fastest shutter speeds for photographing rapid action.

The Ambi Silette has an accessory shoe on which a flashgun can be securely mounted. The plug of the flashgun is inserted in the flash socket on the camera front (16, Fig. 1).

Schnellspannhebel schwenken, bis der Film von der Aufwickelspule mitgenommen wird und straff liegt.
Rückwand auflegen, bis zum Anschlag hochschieben und verriegeln, Fig. 6.

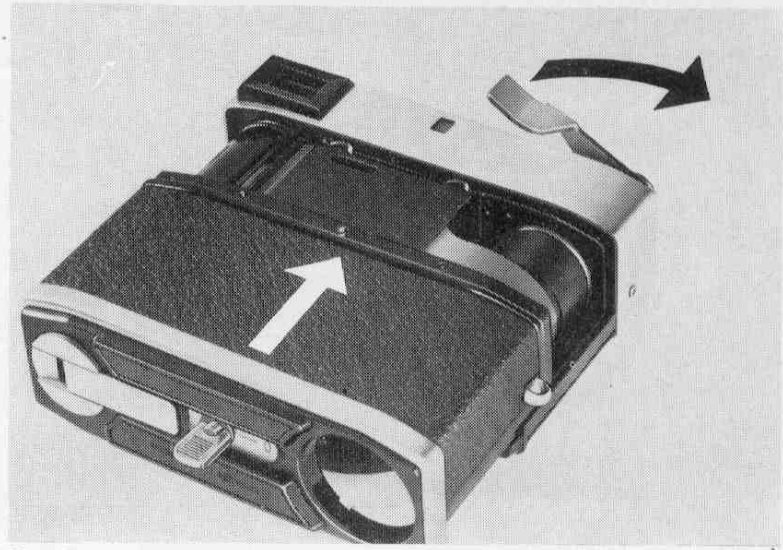


Fig. 6

Rotate rapid advance lever until film is advanced by take-up drum and is tightly stretched.
Replace camera back, push it upward as far as possible and lock, fig. 6.

Actionner le levier d'armement rapide jusqu'au moment où le film est entraîné par la bobine réceptrice et qu'il est soumis à tension.
Remettre la paroi dorsale en place, la faire coulisser jusqu'à butée et la verrouiller en position de fermeture, fig. 6.

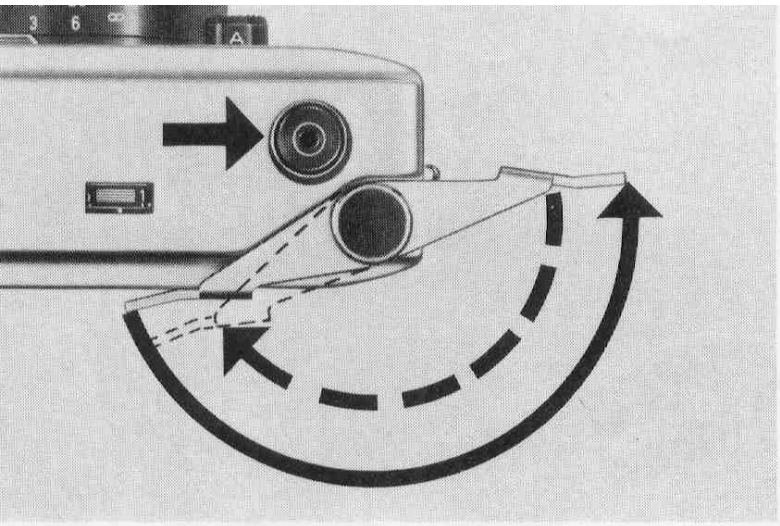


Fig. 7

Abwechselnd transportieren und auslösen, bis im Zählwerk die Zahl „1" über der Markierung steht, Fig. 7.
Bereitschaftslage: Schnellspannhebel bleibt nach dem Rücklauf griffgerecht stehen. Zum Schließen des Tragbeutels Schnellspannhebel in Ruhelage drücken.

Release shutter and advance film as many times as necessary to bring number "1" in the frame counter over the index mark, fig. 7.
Ready position: The rapid advance lever stays in the ready position after film has been advanced to "1". Before closing the carrying case, push the rapid advance lever in the "rest" position (flush against camera body).

Actionner alternativement le levier d'armement et le déclencheur jusqu'au moment où le chiffre «1» s'inscrit au compteur en regard du repère, fig. 7.
Position **prêt à déclencher:** en revenant en arrière, le levier reste dans une position légèrement écartée, ce qui permet de le manier aisément. Pour fermer le sac contenant l'appareil, presser le levier en position de repos.

Filmempfindlichkeit einstellen

Wert ist auf der Filmpackung in DIN oder ASA angegeben.

DIN 15 . 17 . 19 . 21 . 23 . 25 . 27
(16) (18) (20) (22) (24) (26)

ASA 25 . 40 . 64 . 100 . 160 . 250 . 400
(32) (50) (80) (125) (200) (320)

Die Punkte auf der Kameraskala entsprechen den in Klammern gesetzten DIN- bzw. ASA-Werten.

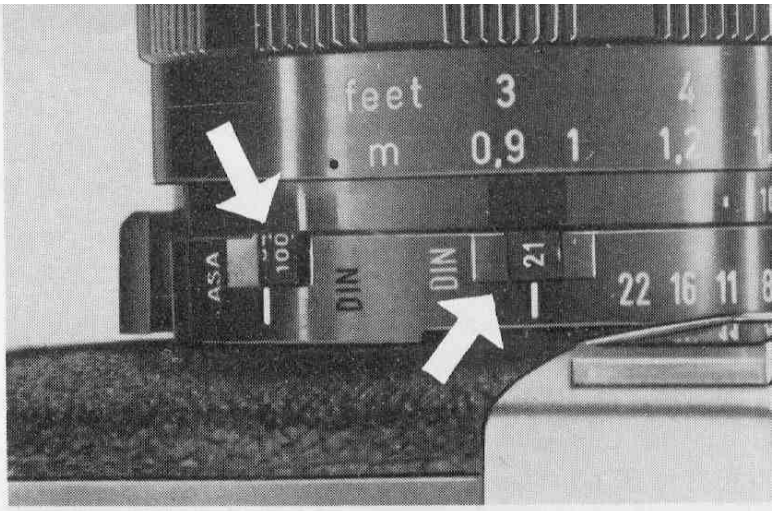


Fig. 8

Set film speed

as indicated in DIN and ASA on the film box.

DIN 15 . 17 . 19 . 21 . 23 . 25 . 27
(16) (18) (20) (22) (24) (26)

ASA 25 . 40 . 64 . 100 . 160 . 250 . 400
(32) (50) (80) (125) (200) (320)

Dots on camera scale correspond to DIN or ASA figures in brackets.

Réglage de sensibilité du film

Cet indice figure sur l'emballage du film; indiqué en valeurs DIN ou ASA.

DIN 15 . 17 . 19 . 21 . 23 . 25 . 27
(16) (18) (20) (22) (24) (26)

ASA 25 . 40 . 64 . 100 . 160 . 250 . 400
(32) (50) (80) (125) (200) (320)

Les points sur l'échelle de l'appareil correspondent aux valeurs DIN ou ASA entre parenthèses.

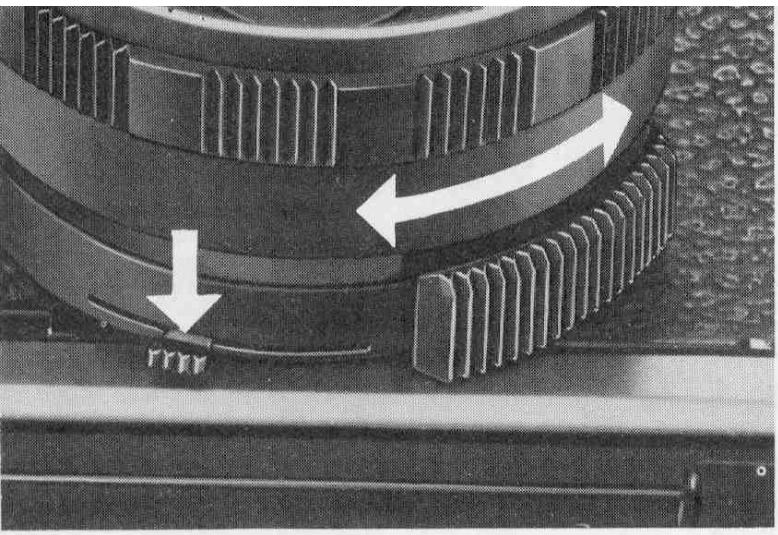


Fig. 9

Gegenlichtblende herausziehen
→ Fig. 13, Seite 10.
Einstellhebel tief eindrücken und Blendenring verdrehen, bis Filmempfindlichkeit im DIN- bzw. ASA-Fenster sichtbar ist (DIN-Werte in weiß, ASA-Werte in grün). Einstellhebel einrasten lassen, Fig. 9.

Pull out the lens hood → fig. 13, page 10.
Depress setting lever and turn the diaphragm ring until film speed is visible in the DIN or ASA window (ASA values in green, DIN values in white). Release setting lever and engage, fig. 9.

Tirer le parasoleil → fig. 13, page 10.
Enfoncer le levier de réglage et tourner la bague des diaphragmes jusqu'au moment où le sensibilité de la pellicule s'inscrit dans le voyant ASA ou DIN (valeurs ASA en vert, valeurs DIN en blanc).
Relâcher le levier de réglage à la position d'encliquetage, fig. 9.

Belichtungselektronik

Die Belichtungszeit wird von der Kamera zur vorgewählten Blende selbsttätig gebildet und ist abhängig von den Lichtverhältnissen und der eingestellten Filmempfindlichkeit.

Die Belichtungselectronic arbeitet nur, wenn „A" (Automatic) auf Umschaltknopf von oben lesbar ist (auf Anschlag achten, Fig. 10), und die Batterien richtig eingelegt sind (Seite 19). Ohne Batterien liefert der Verschluß immer die kürzeste Zeit; Belichtung in diesem Fall mit geschätzter Blende regeln.

Electronic exposure

The camera automatically chooses the correct shutter speed for the pre-selected diaphragm opening. The shutter speed is dependent on the lighting conditions and the film speed set on the camera.

The electronic exposure works only when "A" (Automatic) on setting knob is visible from above (watch stop position, fig. 10), and batteries are properly inserted (page 19). Without batteries, the shutter is always set for the shortest shutter speed, in this case exposure may be controlled with a guessed aperture.

Dispositif électronique d'exposition

Le temps de exposition est formé automatiquement par l'appareil en fonction du diaphragme présélectionné. Ce temps est lui-même fonction des conditions d'éclairage et de la sensibilité de la pellicule préréglée.

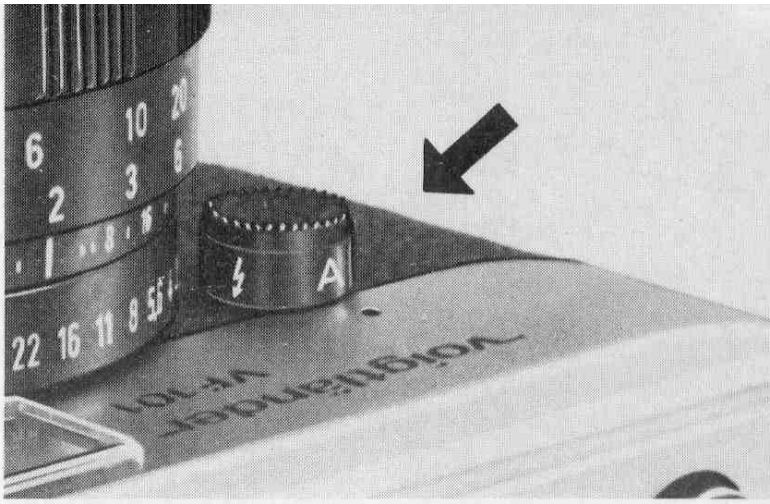


Fig. 10

Le dispositif électronique fonctionne uniquement lorsque «A» (Automatic) est lisible d'en haut sur le bouton de commutation (tourné à fond, fig. 10), et que les piles sont correctement disposées (page 19). En l'absence de piles, l'obturateur fonctionne systématiquement au temps le plus court; dans ce cas, régler l'exposition avec une ouverture approximative.

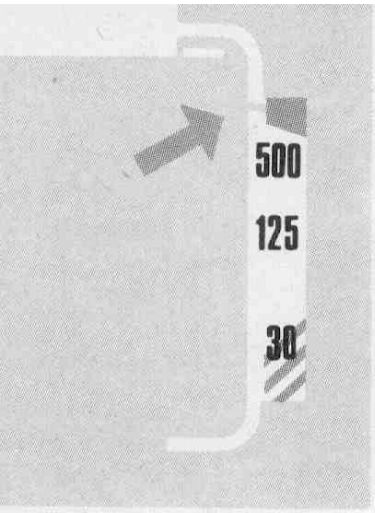


Fig. 11

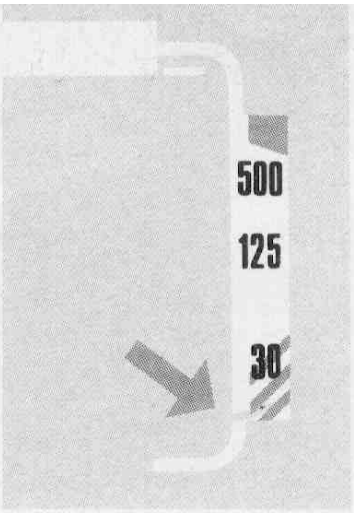


Fig. 12

Anzeige der Belichtungszeit
(speziell auf diese Kamera abgestimmt, nicht übertragbar).

Zeiger im oberen roten Warnfeld, Fig. 11:
Überbelichtungsgefahr!
Zeiger im unteren roten Warnfeld, Fig. 12:
Verwacklungsgefahr!

Bei Zeigerstand im oberen oder unteren Warnfeld:
Blendenring so verdrehen, daß der Zeiger das Warnfeld verläßt.

Bleibt der Zeiger auch mit Blende 2,8 im unteren Warnfeld stehen (schwaches Aufnahmelicht und/oder niedrigempfindlicher Film), dann liegt die Belichtungszeit zwischen 1/30 sec und 4 sec:
Stativ oder feste Unterlage und Drahtauslöser verwenden! Zur Schonung der Batterien schaltet die Kamera nach ca. 40 sec ab.

Bleibt der Zeiger auch mit Blende 22 im oberen Warnfeld stehen (extreme Helligkeit und/oder höchstempfindlicher Film), dann ist der Automatikbereich überschritten:
Graufilter einschrauben oder niedrigerempfindlichen Film verwenden.
Zeitvorwahl für Sportaufnahmen → Tip ④.

Shutter speed indication
(specially computed for this camera, not to be transferred to other cameras).

Indicator in upper red warning are, fig. 11:
Danger of overexposure!
Indicator in lower red warning area, fig. 12:
Danger of movement blur!

With indicator in the upper or lower warning area:

Rotate diaphragm ring so that indicator is leaving the warning area.

If the indicator remains in the lower area even with f/2.8 (very poor light and/or slow film), the exposure time will be between 1/30 sec and 4 sec: use cable release and tripod or solid support! To save battery power, the shutter closes after approx. 40 seconds.

If the indicator remains in the upper area even with f/22 (extreme brightness and/or high-speed film), then the automatic range is exceeded: insert a neutral density filter or load a slower film.
Pre-selection of shutter speed → hint ④.

Affichage du temps d'exposition

(spécialement accordé à cet appareil, n'est pas transférable).

L'aiguille dans le secteur supérieur rouge de mise en garde, fig. 11: **Risque de surexposition!**
L'aiguille dans le secteur inférieur rouge de mise en garde, fig. 12: **Risque de flou!**
Avec l'aiguille restant dans le secteur inférieur ou supérieur, tourner la bague de diaphragme de telle sorte que l'aiguille quitte le secteur.

Si l'aiguille reste dans le secteur inférieur même avec le diaphragme réglé à 2,8 (lumière très faible et/ou film peu sensible), le temps de pose est entre 1/30 sec et 4 sec: utiliser un déclencheur souple et un pied ou une assise ferme de l'appareil! Dans le but de préserver les piles, l'appareil est mis hors circuit au-de-là de 40 sec environ.

Si l'aiguille reste dans le secteur supérieur même avec le diaphragme réglé à 22 (lumière intense et/ou film de haute sensibilité), c'est que l'automatisme est dépassé: utiliser un filtre gris-neutre ou un film moins rapide.
Présélection de la vitesse d'obturation → conseil ④.

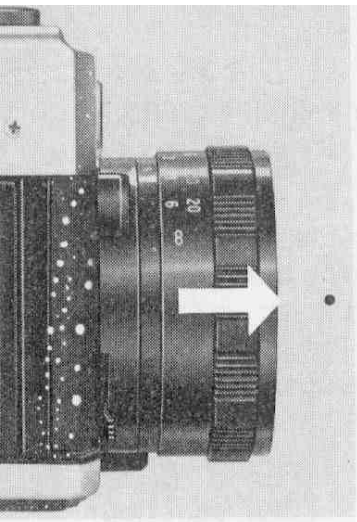


Fig. 13

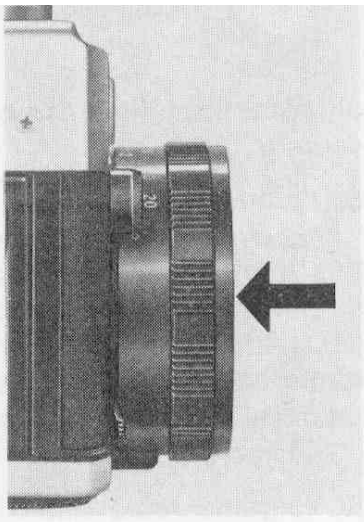


Fig. 14

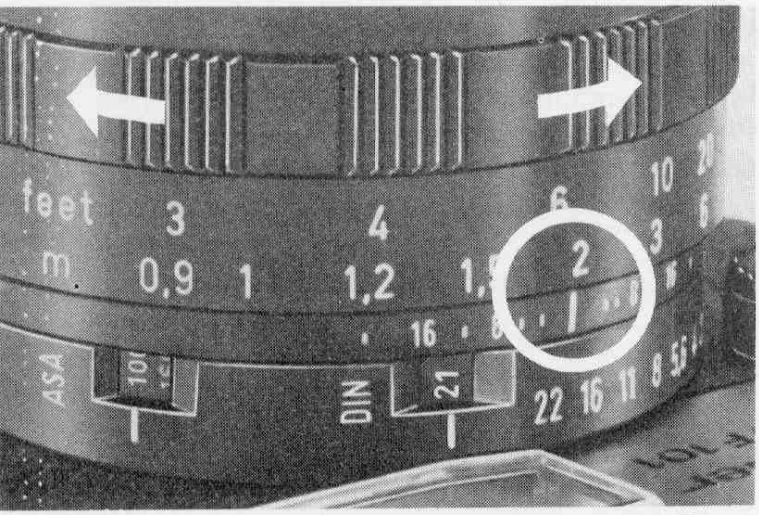


Fig. 15

Einstellungen

Gegenlichtblende

Arbeitsstellung: Bis zum Anschlag herausziehen, Fig. 13. Ruhestellung: Bis zum Anschlag zurückschieben, Fig. 14.

Entfernungseinstellung mit Entfernungsmesser

Gegenlichtblende drehen, bis sich die in Suchermitte verschobenen Bilder decken. Der Leuchtrahmen gibt den Bildausschnitt an, Fig. 16 und 17.

Entfernungseinstellung nach Skala

Gegenlichtblende drehen, bis Aufnahmeentfernung am Einstellindex steht, Fig. 15.
Beiderseits vom Index die Marken der benutzten Blende aufsuchen: darüberstehende Werte auf Entfernungsskala umfassen den scharf abgebildeten Bereich.

Camera settings

Lens hood

Shooting position: Pull out to fullest extent, fig. 13. Rest position: Push back to fullest extent, fig. 14.

Distance setting with rangefinder

Turn lens hood until the displaced images in the center of the viewfinder coincide. The

bright-line frame shows the picture area, fig. 16 and 17.

Distance setting according to scale

Turn lens hood until subject distance is opposite the index point, fig. 15.

Find the markings of the aperture used on either side of index point: opposite values on distance scale include the zone sharply defined.

Réglages

Parasoleil

Position de travail: le tirer jusqu'à butée, fig. 13. Position de repos: le repousser jusqu'à butée, fig. 14.

Mise au point à l'aide de télémètre

Tourner le parasoleil jusqu'au moment où les images décalées au centre du viseur se superposent. Le cadre lumineux délimite la mise en page, fig. 16 et 17.

Mise au point avec l'échelle de distance

Tourner le parasoleil, jusqu'à ce que la distance du sujet coïncide avec le repère, fig. 15. Chercher les marques du diagraphme utilisé des deux côtes du repère: les valeurs coïncidant en l'échelle de distance délimitent la profondeur de champ.



Fig. 16



Fig. 17



Fig. 18

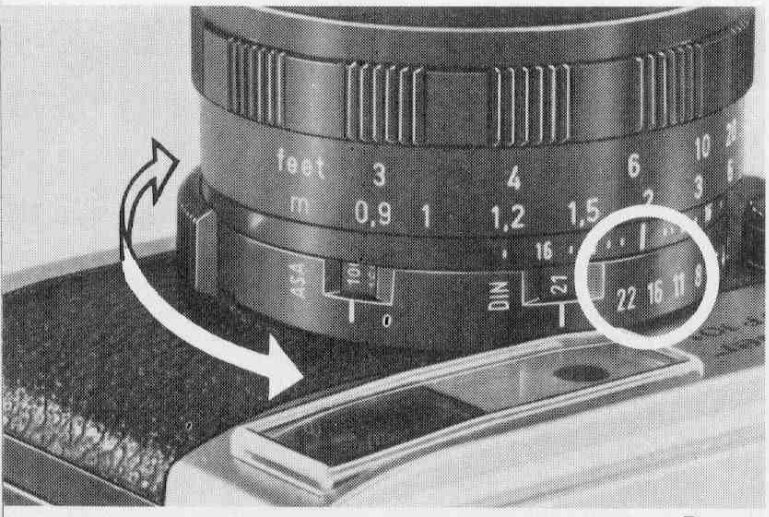


Fig. 19

Parallaxausgleich
Nur erforderlich bei Aufnahmen im Nahbereich um 1 m, Fig. 18: Motivoberkante (von Querformat-Aufnahmen) an die Markierungen stellen.

Blendeneinstellung über Außenskala
Blendenring am Griffstück drehen. Gewünschte Blende über Einstellindex stellen, Fig. 19.

Parallax compensation
Only necessary for close-ups around 1 m/3 ft, fig. 18: Line up top edge of subject (for horizontal shots) with the marks provided.

Diaphragm setting on exterior scale
Turn diaphragm ring with finger grip. Set required aperture number opposite index point, fig. 19.

Correction de la parallaxe
N'est indispensable que dans le domaine des faibles distances (1 m environ), fig. 18: Limiter la hauteur du motif (pour cadrage horizontal) aux deux traits-repères.

Réglage du diaphragme sur l'échelle extérieure
Tourner la bague du diaphragme par la prise striée. Amener le diaphragme requis en regard du repère, fig. 19.

DEPTH OF FIELD TABLE FOR AGFA COLOR-SOLINAR f/2.8 — 50 mm.

Circle of confusion of diameter 0.03 mm.

Distance focused upon	with diaphragm set at		
	f/11	f/16	f/22
	range of sharp focus		
feet			
3½	3′ 1½″ — 3′ 11¼″	2′ 11¾″ — 4′ 3″	2′ 10″ — 4′ 7½″
4	3′ 6¼″ — 4′ 10½″	3′ 4″ — 5′ ¼″	3′ 1¾″ — 5′ 6¾″
5	4′ 3″ — 6′ 4¾″	3′ 11¾″ — 6′ 9¼″	3′ 8¼″ — 7′ 10″
7	5′ 6¾″ — 9′ 5½″	5′ 1¼″ — 11′ 3¼″	4′ 7¾″ — 14′ 7¾″
10	7′ 5¾″ — 17′ 2¼″	6′ 5¾″ — 22′ 4¼″	5′ 8¾″ — 42′ 1¾″
15	9′ 6½″ — 39′ 2¾″	8′ 2½″ — 95′ 9½″	7′ ¼″ — ∞
30	13′ 10½″ — ∞	11′ 2¼″ — ∞	9′ ¾″ — ∞
∞	25′ 3″ — ∞	17′ 8¼″ — ∞	12′ 11½″ — ∞

The subject distance should be measured from the focal plane (the rear edge of the accessory shoe). The depth-of-field scale on the camera which is used as a practical guide is based upon a rather less exacting circle of confusion of 0.05 mm. For extreme accuracy the above table should always be referred to.

Blendeneinstellung über Sucherskala
Rote Marke ist mit Drehung des Blendenrings gekuppelt, Fig. 20. Bei Änderung der Blende stellt sich automatisch die passende Belichtungszeit ein, → auch Tip ④, Seite 22.

Diaphragm setting on scale in viewfinder
Red mark moves when rotating diaphragm ring, fig. 20. When aperture is changed, the appropriate shutter speed is set automatically; → also hint ④, page 23.

Réglage du diaphragme sur l'échelle du viseur
Le repère rouge est couplé à la rotation de la bague du diaphragme, fig. 20. Lorsqu'on modifie le réglage du diaphragme, le temps d'exposition s'ajuste automatiquement, → aussi conseil ④, page 24.

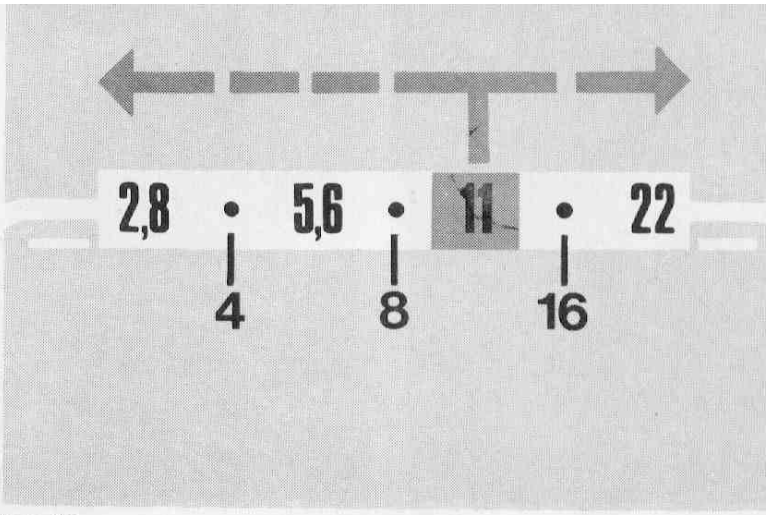
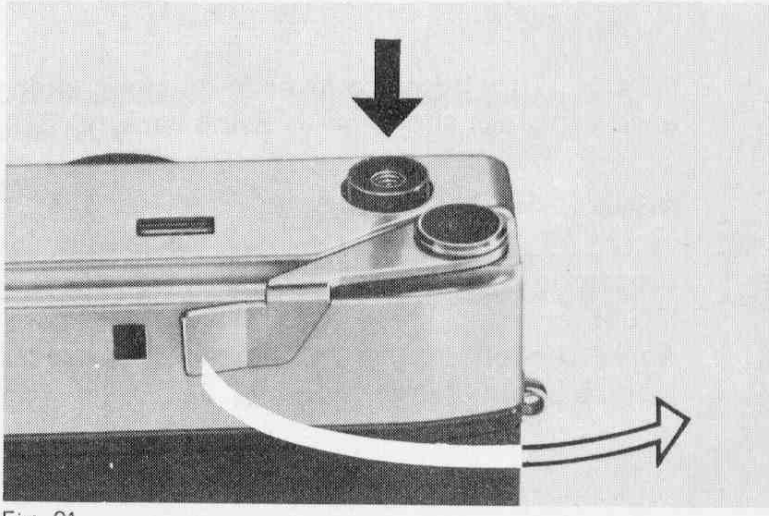


Fig. 20

Aufnahme
Auslöser bis zum Anschlag durchdrücken und freigeben. Nach jeder Aufnahme Schnellspannhebel bis zum Anschlag schwenken und zurückfedern lassen, Fig. 21.

Taking the picture
Depress shutter release as far as it goes and


Fig. 21

tached with a flash bracket to the tripod socket. Connect flash cable by means of a standard synchro-adaptor.
Fill-in flash in daylight → hint ⑤.

Prise de vue au flash
Prendre le diaphragme et la distance dans la mode d'emploi du flash.
Amener le symbole de l'éclair ↯ du bouton de commutation en haut jusqu'à butèe, fig. 22. Lorsque les piles sont en place, le temps d'exposition est 1/30 sec. L'obturateur est doté de la synchronisation «X». Les torches-éclair bénéficiant d'un contact central sont directement insérées dans la griffe de l'appareil. Les torches-éclair à câble sont soit insérées dans la griffe, soit montées sur un bras-support visé dans l'écrou de pied. Le câble est branché à l'aide d'un adapateur synchro vendu dans le commerce.
Technique du flash en lumière du jour → conseil ⑤.

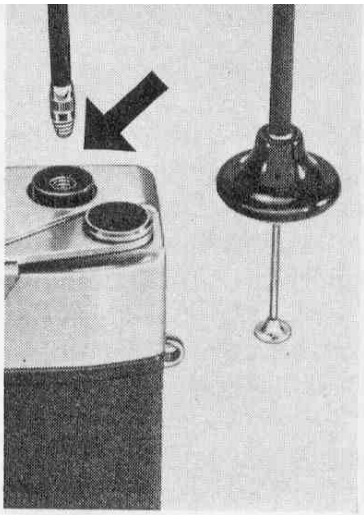


Fig. 24

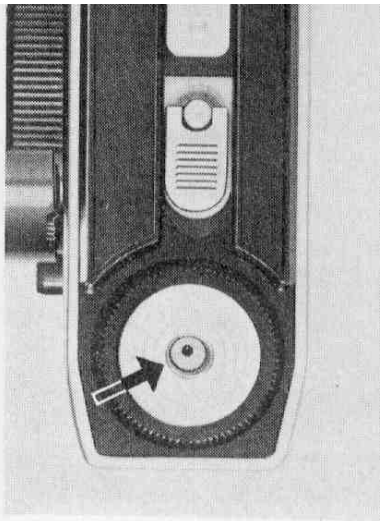


Fig. 25

Drahtauslöseranschluß

Cable release socket

Raccordement du déclencheur souple

Stativgewinde 1/4″

Tripod socket 1/4″

Filetage 1/4″ pour le trépied

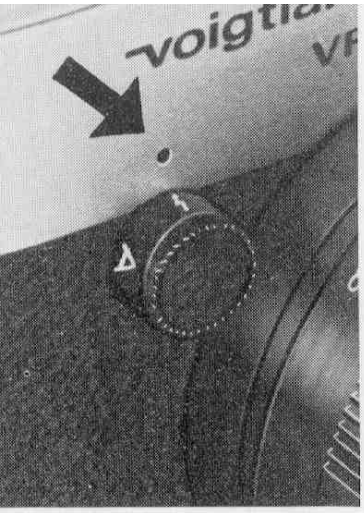


Fig. 22



Fig. 23

let it go. Turn advance lever to its stops after each exposure and allow to swing back, fig. 21.

Prise de vue

Presser le déclencheur jusqu'à butée et le relâcher.
Après chaque exposition, actionner le levier jusqu'à butée et le relâcher, fig. 21.

Aufnahmen mit Blitzlicht

Blende und Entfernung aus Gebrauchsanleitung zum Blitzgerät entnehmen!
Blitzzeichen ϟ auf Indexpunkt stellen, Fig. 22 (Belichtungszeit bei eingelegten Batterien 1/30 sec). Der Verschluß ist X-synchronisiert. Blitzgeräte mit Mittenkontakt direkt auf Steckschuh schieben.
Blitzgeräte ohne Mittenkontakt in Steckschuh schieben oder mit Halteschiene am Stativgewinde befestigen. Blitzgerätkabel über einen handelsüblichen Synchron-Adapter anschließen.
Blitzaufnahmen bei Tageslicht → Tip ⑤.

Flash pictures

Take aperture and distance from instruction book of flash unit.
Turn setting knob to its stop so that the flash symbol ϟ points on index, fig. 22. Shutter speed with batteries inserted is 1/30 sec. The shutter is X-synchronized. Flash units with center contact are mounted directly on hot shoe of camera.
Flash units without center contact are at-

Aufnahmen mit Filter

Filter in ausgezogene Gegenlichtblende einschrauben. Der Filter-Verlängerungsfaktor wird automatisch berücksichtigt. Bei dichteren Farbfiltern für Schwarzweiß-Film ist zu empfehlen, die Filmempfindlichkeitseinstellung entsprechend Filterfaktor 2 x, um 3 DIN-Werte zu vermindern, bzw. den ASA-Wert zu halbieren (nach Abnehmen des Filters Rückstellung nicht vergessen). Filter stets mit ausgezogener Gegenlichtblende verwenden.

Use of filters

Screw filter into lens hood pulled out. The filter factor is automatically taken into account by the exposure meter. When using dense colour filters for black-and-white film is it advisable to halve the ASA-film speed setting corresponding to the filter factor 2 x (reset film speed scale when removing filter). Always use filters with lens hood pulled out.

Prise de vue avec filtres

Visser le filtre dans le filetage du parasoleil. Le facteur de prolongation du filtre est pris automatiquement en considération. Uniquement avec des filtres colorés de forte densité, pour photographier en noir et blanc, il est recommandé de diminuer le réglage de sensibilité ASA de 50%, ce qui correspond à un facteur de filtre 2 x (ne pas oublier de revenir à la position initiale lorsqu'on cesse de faire usage du filtre). User des filtres uniquement avec le parasoleil tiré.

Rückspulen

Nach der letzten Aufnahme Kamera **nicht** mehr spannen (Filmzählwerk steht dann auf 20 bzw. 36). Werden trotzdem weitere Aufnahmen gemacht, kann der Schnellspannhebel am Filmende auf halbem Wege stehen bleiben. **Keine Gewalt anwenden!** Nur den Auslöser drücken (Spannhebel geht in Bereitschaftsstellung zurück) und dann rückspulen. Eine Belichtung erfolgt nicht.

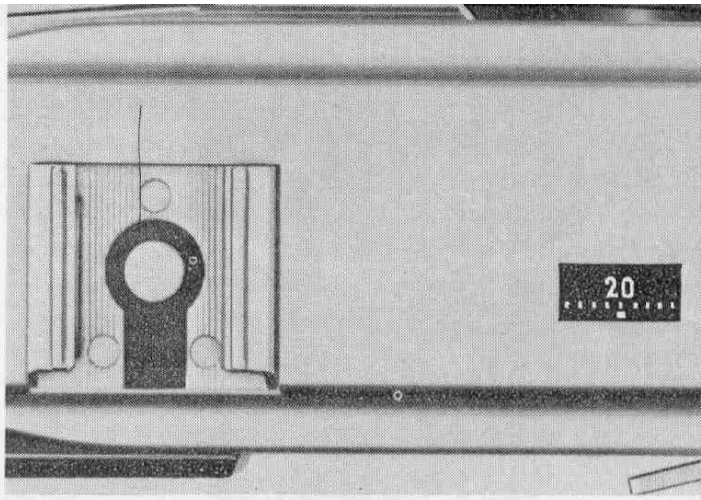


Fig. 26

Rewinding

Do **not** actuate advance lever any more after the last exposure (film counter indicates 20 or 36 exposures). If further pictures are taken, the lever may stop halfway. **Do not use force!** Simply press shutter release (lever then returns to ready position) and rewind the film thereafter. There will be no exposure made.

Rebobinage

Après la dernière exposition, ne plus armer l'appareil (compteur de vues indique alors 20 ou 36). Si, par mégarde, le film a été entraîné plus loin, on peut laisser le levier d'armement rapide écarté à mi-course. **Ne pas forcer!** Presser simplement le déclencheur (le levier regagne sa position de départ) et procéder au rebobinage. Cela n'entraîne pas de nouvelle exposition.

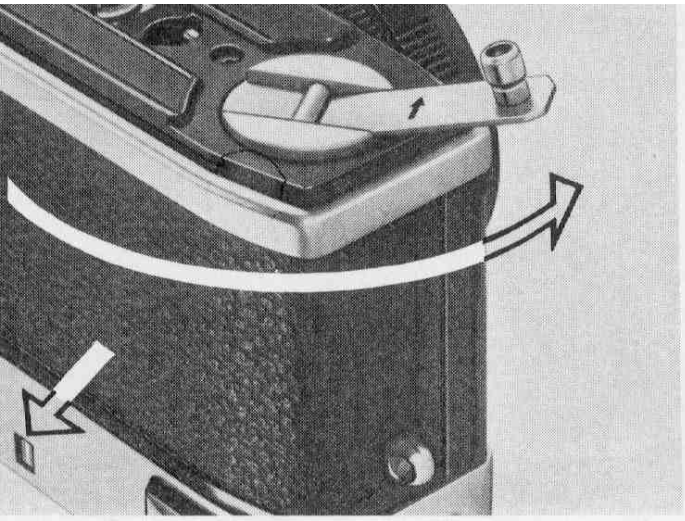


Fig. 27

Press release before rewinding film
This disengages the rewind lock.
Flip up rewind crank and turn it in direction of arrow until the red line index stands still, or the "clicking" stops, fig. 27. Fold crank back and remove camera back.
Now the frame counter automatically resets to zero (black and white lined marks become visible: camera is not loaded).

Vor dem Rückspulen Auslöser drücken
Rückspulsperre wird dadurch aufgèhoben. Rückspulkurbel ausklappen und so lange in Pfeilrichtung drehen, bis die rote Strichmarke stillsteht oder das Klickgeräusch aussetzt, Fig. 27. Kurbel einklappen und Rückwand abnehmen.
Zählwerk springt jetzt automatisch auf 0-Stellung. Schwarzweiße Strichmarken werden sichtbar: Kamera ist nicht geladen.

Actionner le déclencheur avant rebobinage
Le verrou de rebobinage est ainsi libéré.
Déployer la manivelle de rebobinage et la tourner dans le sens de la flèche, jusqu'au moment où l'indice rouge s'arrête ou qu'un déclic se fait entendre, fig. 27. Rabattre la manivelle et enlever la paroi dorsale.
Le compteur de vues revient alors automatiquent à 0 (les traits blanc et noirs sont alors visibles: l'appareil n'est pas chargé).

Energieversorgung

Zum Einlegen oder Auswechseln der Batterien den Batteriestab herausschrauben, Fig. 28 (auch bei eingelegtem Film möglich). 4 Batterien sind beigefügt.
Entladene Batterien mit einem schmalen Geldstück oder Gegenstand herausdrücken.
Ersatzbatterien:
4 Stück à 1,5 V, z. B. Varta-Pertrix 246 oder Mallory Mn 625 G, erhältlich im Foto-Fachhandel.
Wichtig: Batterien immer satzweise auswechsein!

Power supply

To insert or replace the batteries, unscrew battery holder, fig. 28 (also possible with film inserted). 4 individual batteries are included.
Use thin coin or similar object to push out used batteries.
Replacement batteries: 4 batteries 1,5 V e. g. Mallory Mn 625 G or Varta-Pertrix 246 available in camera stores.
Caution: Batteries should be exchanged as complete set of four only!

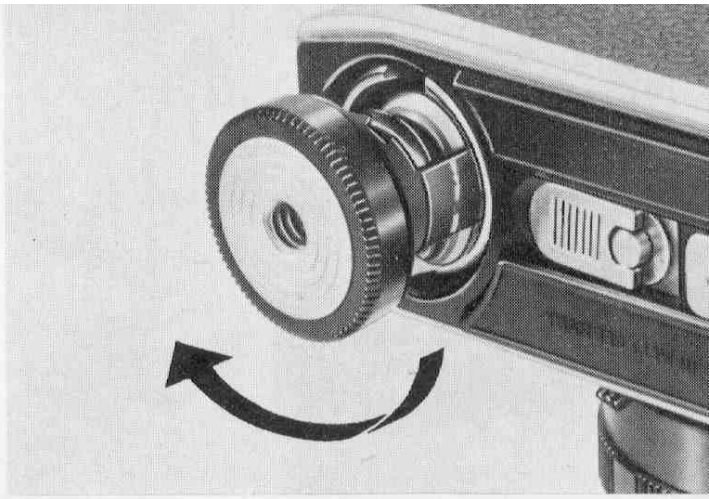


Fig. 28

Alimentation en courant

Pour mettre les piles en place ou pour les remplacer, dévisser le conteneur à piles, fig. 28 (est aussi possible avec l'appareil chargé). 4 piles sont comprises.
Extraire les piles épuisées avec une pièce de monnaie ou un objet étroit.
Piles de rechange: 4 piles de 1,5 V, p. ex. Varta-Pertrix 246 ou Mallory-Mn 625 G (en vente dans les magasins photographiques).
Important: Remplacer toujours les quatre piles!

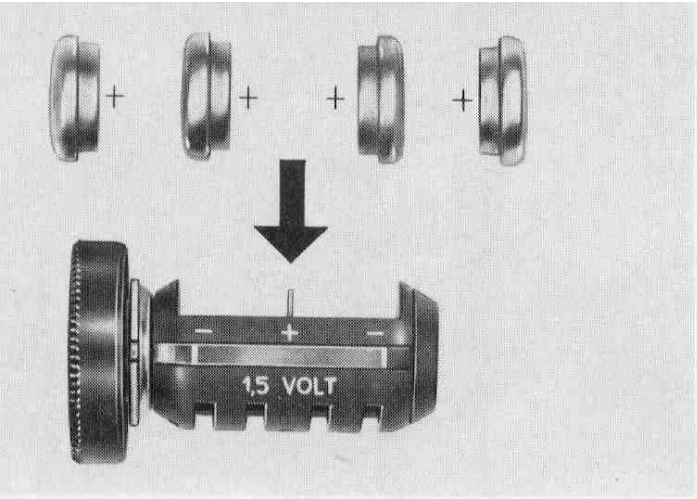


Fig. 29

Bei den Batterien auf saubere Kontaktflächen und richtige Polung achten. Die + Pole aller Batterien müssen auf das mittlere Kontaktblech des Batteriestabes zeigen, Fig. 29. Vorübergehend genügt auch ein Batteriepaar im oberen oder unteren Fach des Batteriestabes.

Make certain the contact surfaces are clean and watch for correct polarity. The + poles must face the contact plate in the middle of the battery holder, fig. 29. For temporary use, 2 batteries placed together in either the upper or lower compartment will be sufficient.

Veiller à la propreté des faces de contact des piles et au respect de la polarité. Les pôles + doit être orientés vers la paroi médiane de contact du conteneur à piles, fig. 29.
Mentionnons, au surplus, qu'une seule paire de piles, disposée dans le compartiment supérieur ou inférieur du conteneur, peut suffire.

Batterien prüfen: Umschaltknopf auf „A" stellen und gleichmäßig beleuchtete Fläche anvisieren. Blendenring drehen, bis Meßzeiger die 125 **oben** berührt, Fig. 30. Auslöser leicht eindrücken: absinkender Zeiger soll die 125 zumindest noch **unten** berühren und innerhalb 5 sec nicht weiter nach unten „kriechen". Auslöser freigeben: Zeiger soll **sofort** in Ausgangslage zurückkehren, nicht „kriechen". Ist diese Prüfung negativ, sind alle 4 Batterien auszuwechseln.

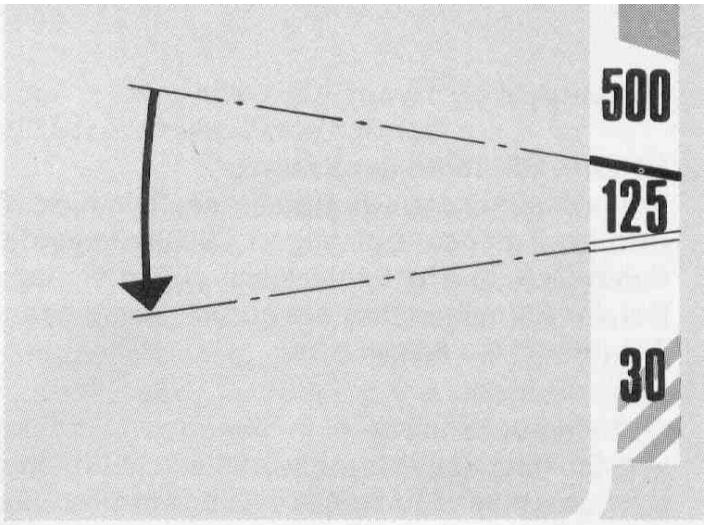


Fig. 30

Checking batteries: Move setting knob to "A" and view on an uniformly illuminated surface. Turn diaphragm ring until indicator needle is touching the 125 from **above,** fig. 30. Slightly depress the release: downgoing needle should at least touch the 125 from **below** and should not "creep" further down within 5 sec. On letting go the release: needle should **immediately** return into prior position without "creeping".
Exchange all of the four batteries in case of poor checking result.

Contrôle des piles: régler le bouton de commutation sur «A» et viser une surface éclairée uniformément. Tourner la bague du diaphragme jusqu'à ce que l'aiguille touche le **dessus** du nombre 125, fig. 30. Presser légèrement sur le déclencheur: l'aiguille descend mais doit encore toucher au moins le **dessous** du nombre 125 et, pendant 5 sec, ne doit pas descendre plus bas. Relâcher le déclencheur: l'aiguille doit **aussitôt** revenir à sa position de départ, rapidement. Si le test est négatif, les quatre piles sont à changer.

Praxistips

① Zum Mitführen der Kamera
Tragschlaufe je nach Bedarf an linker oder rechter Tragöse befestigen. Schlaufenende durch Öse im Tragbeutel nach außen ziehen. Bei der Aufnahme gibt der zurückgeschobene Tragbeutel die Kamera frei.

② Filmladekontrolle
In 0-Stellung des Bildzählwerks erscheint eine schwarzweiße Strichmarke als Anzeige für nicht eingelegten Film und bleibt auch nach Auslösen und Spannen sichtbar → auch Seite 18.

③ Filmtransport und Rückspulen
werden durch eine rote Strichmarke angezeigt → Fig. 27.
Transportkontrolle: Rotmarke (beim Durchziehen mit Schnellschalthebel) in Bewegung = Film wird transportiert. Rotmarke bleibt stehen = Film ist nicht transportiert, weil entweder nicht von Aufwickelspule gefaßt oder ganz abgewickelt oder aus Patrone herausgerissen → Seite 28.
Rückspulkontrolle: Rotmarke in Bewegung = Film wird zurückgespult. Rotmarke bleibt stehen = Film ist zurückgespult, Filmanfang noch griffbereit außerhalb Patrone.

④ Blende oder Zeit vorwählen?
Normalerweise wählt man die Blende vor und belichtet die Aufnahme mit der automatisch eingesteuerten Zeit → Seite 8. Bei Schnappschüssen, Sportaufnahmen usw. ist jedoch eine möglichst kurze Belichtungszeit erforderlich: der Meßzeiger wird durch Drehen am Blendenring auf mindesten 125 = $^1/_{125}$ sec, besser auf 500 = $^1/_{500}$ sec eingestellt, um verwacklungsfrei zu belichten. Voraussetzung hierfür: helles Aufnahmelicht bzw. hochempfindlicher Film.

⑤ Aufhellblitz bei Tageslicht
ergibt brillantere Farben und bessere Durchzeichnung der Schattenpartien. Umschaltknopf hierbei auf „A" stellen (**nicht** auf ϟ, da sonst Überbelichtung durch die dann wirksame $^1/_{30}$ sec). Belichtung wie üblich mit Zeigerregelung durch Blendenwahl vornehmen. Größere Blenden (2,8 bis 8) ergeben stärkere Aufhellung, bei kleineren Blenden (11 bis 22) nimmt die Aufhellung ab.

DEPTH OF FIELD TABLE FOR AGFA COLOR-AMBION f/4 — 35 mm.

Circle of confusion of diameter 0.03 mm.

Distance focused upon	with diaphragm set at		
	f/4	f/5.6	f/8
	range of sharp focus		
feet			
3½	3′ 2¾″ — 3′ 9¾″	3′ 1¾″ — 3′ 11½″	3′ — 4′ 2½″
4	3′ 7¾″ — 4′ 5¼″	3′ 6¼″ — 4′ 7½″	3′ 4¼″ — 4′ 11½″
5	4′ 5½″ — 5′ 8½″	4′ 3¼″ — 6′ ½″	4′ ¼″ — 6′ 7¾″
7	5′ 11½″ — 8′ 6″	5′ 7½″ — 9′ 3½″	5′ 2¼″ — 10′ 9¾″
10	7′ 11¾″ — 13′ 5¼″	7′ 4½″ — 15′ 7″	6′ 7¾″ — 20′ 6″
15	10′ 11″ — 24′ 6″	9′ 9″ — 32′ 11″	8′ 5¾″ — 68′
30	16′ 10¼″ — 140′	14′ 4″ — ∞	11′ 8¾″ — ∞
∞	38′ — ∞	27′ 3″ — ∞	19′ 2″ — ∞

The subject distance should be measured from the focal plane (the rear edge of the accessory shoe). The depth-of-field scale on the camera which is used as a practical guide is based upon a rather less exacting circle of confusion of 0.05 mm. For extreme accuracy the above table should always be referred to.

Practical hints

① For carrying the camera
fit the carrying strap to the left or right eyelet. Pull the strap end out through the hole in the carrying case. When shooting the case is pushed back to expose the camera.

② Film loading indicator
With the frame counter in zero position, black and white lined marks appear to indicate that no film is loaded. These marks remain visible even after releasing and tensioning → page 18 also.

③ Film advance and rewinding
are indicated by a red line index → fig. 27.
Film advance indication: Red line index vibrating (when rapid advance lever is being tensioned) = correct film advance. Red line index stopping = no film advance because film is not engaged into take-up drum, or entirely wound off, or even torn out of cartridge → page 29 also.
Film rewind indication: Red line index vibrating = film is being rewound. Red line index stops = film has been rewound, film leader still accessible outside cartridge.

④ Preselecting aperture or shutter speed
Normally the f-stop will be preselected and the shot exposed with the automatic shutter speed control → page 8. Snapshots, action pictures etc. require, however, a maximum shutter speed: by rotating the aperture ring, set indicator needle at least to 125 = $^1/_{125}$ sec; better still, to 500 = $^1/_{500}$ sec to avoid movement blur. High-speed film or bright subjects are necessary when preselecting these fast shutter speeds.

⑤ Fill in flash in daylight
produces more brilliant colours and better modelling in the shadows. Turn setting knob to position „A" (**not** to ϟ, to avoid overexposure by the $^1/_{30}$ sec then being effective). Expose as usual by rotating aperture ring to center the indicator needle. Larger f-stops (2.8 to 8) give noticeable fill-in, while smaller apertures (11 to 22) reduce the effect.

Conseils pour la pratique

① Pour porter l'appareil
Fixer la dragonne sur l'anneau droit ou gauche, au choix. Faire passer la dragonne à travers l'ouverture du sac-bourse, de l'intérieur vers l'extérieur. Pour prendre une photo, il suffit de faire glisser le sac-bourse pour libérer l'appareil.

② Contrôle de chargement de film
Quand le compteur d'images est à zéro, un repère blanc et noir apparaît pour indiquer qu'il n'y a pas de film dans l'appareil. Ce repère subsiste même après déclenchement et armement → également page 18.

③ Entraînement du film et rebobinage
Ils sont indiqués par un repère rouge → fig. 27.
Contrôle d'entraînement: Le repère rouge (quand on actionne le levier d'armement) est en mouvement = le film est entraîné. Ce repère reste immobile = le film n'est pas entraîné, soit parce qu'il ne s'est pas accroché à la bobine d'enroulement, soit parce qu'il a été arraché du noyau de la cartouche → page 31.
Contrôle de rebobinage: Repère en mouvement = le film se rebobine. Repère rouge reste immobile = le film est rebobiné, l'amorce sort encore un peu de la cartouche.

④ Choix préalable du diaphragme ou du temps de pose?
Normalement, c'est le diaphragme que l'on choisit, est le temps de pose est déterminé par l'automatisme d'exposition → page 8. Mais pour les instantanés sur le vif et les photos de sport, il faut un temps de pose aussi court que possible: tourner la bague de diaphragme pour que le temps de pose affiché soit au moins 125 = $^1/_{125}$ de sec., et mieux 500 = $^1/_{500}$ de sec., pour éviter le bougé. Mais il faut que l'éclairage soit assez intense ou employer un film très rapide.

⑤ Flash en lumière du jour
Un flash employé pour une photo en lumière du jour éclaire les ombres et avive les couleurs. Régler le bouton de commutation sur „A" (et **non** sur ϟ, sinon il y aurait surexposition, à $^1/_{30}$ de seconde). Régler le diaphragme comme d'habitude (réglage de 2,8 à 8, éclaircissement important, réglage de 11 à 22, éclaircissement faible).

Daten und Zahlen

Typ: Kompakt-Sucherkamera 24 x 36 mm mit Entfernungsmesser-Kupplung und elektronischer Verschlußzeit-Automatik.

Ausstattung: Film-Schnelladesystem, selbstrückstellendes Bildzählwerk mit Filmladeanzeige, Schnellaufzug mit Bereitschaftsstellung, Sperre gegen Doppelbelichtung und Leerschaltung, Rückspulkontrolle, eingebaute Gegenlichtblende; Leuchtrahmensucher 0,48 x mit Parallaxmarken, Zeit/Blendenanzeige und Warnfeldern gegen Verwacklung oder Überbelichtung; gekuppelter Mischbildentfernungsmesser mit seitlichem Parallaxausgleich; Zentralverschluß, X-synchronisiert bei allen Verschlußzeiten für Tageslichtaufnahmen mit Blitz, Steckschuh mit Mittenkontakt; Drahtauslöseranschluß, Stativgewinde 1/4", Tragösen.

Belichtungsautomatik: elektronische Verschlußzeitsteuerung, ca. 1/500 bis 4 sec nach Blendenvorwahl, umschaltbar auf 1/30 sec für Blitzaufnahmen ohne Tageslicht; einstellbare Filmempfindlichkeiten 15-27 DIN/25-400 ASA; CdS-Zelle in Objektivnähe, auch bei Filtergebrauch wirksam; Meßbereich 0,25-33000 cd/m² bzw. Belichtungswert 1-18 bei 21 DIN/100 ASA; Energieversorgung durch 4 Knopfzellen 1,5 V, Batteriekontrolle über Zeitanzeige, Batteriefach auch bei eingelegtem Film zugänglich.

Objektiv: Voigtländer Color-Skopar 1:2,8/40 mm, 4 Linsen, 3 Glieder, Blendenbereich 2,8-22; Entfernungseinstellung ab 0,9 m/3 ft, Schärfentiefenskala, Filtergewinde E 49 x 0,75.

Maße: ca. 102 x 73 x 35 mm.

Gewicht: ca. 490 g.

Zubehör: Filter Gelb-mittel, Grün, Orange, Hellrot, UV, R 1,5; Tragbeutel, Tragschlaufe.

Facts and figures

Type: 24 x 36 mm compact viewfinder camera, with coupled rangefinder and electronical shutter speed automation.

Specification: Film quick-loading system, self-zeroing exposure counter with filmloading indication, rapid winding with ready position, double exposure and blank frame lock; rewind indication, built-in lenshood; bright-line frame in viewfinder 0.48 x with parallax marks, shutter speed/aperture indicators and areas warning of overexposure or movement blur; superimposed coupled rangefinder with lateral parallax compensation; lens shutter X-synchronized at all shutter speeds for daylight exposures with flash, hot shoe; cable release socket, 1/4" tripod bush, carrying strap eyelets.

Exposure automation: electronic shutter speed control, approx. 1/500 to 4 sec upon pre-set aperture, with switch to change over to 1/30 sec for flash exposures without daylight; film speed range 25-400 ASA/15-27 DIN; Cds cell near lens mount, also effective when using filters; measuring range 0.25-33,000 cd/m², 0.28 to 40,000 cd/sq. yd. or exposure value 1 to 18 with 100 ASA/21 DIN; powered by 4 button cells 1.5 V, battery check by shutter speed indicator, battery compartment also accessible when film is inserted.

Lens: Voigtländer Color-Skopar 40 mm f/2.8, 4 elements, 3 components, aperture range f/2.8-f/22; focusing to 0,9m/3 ft, depth of field scale, filter thread E 49 x 0.75.

Dimensions: approx. 102 x 73 x 35 mm/ 4 x 2 7/8 x 1 3/8 in.

Weight: approx. 490 g/17 1/4 oz.

Accessories: Filters medium yellow, green, orange, light red, UV, R 1.5; carrying bag, carrying strap.

Caractéristiques et particularités

Type: Appareil compact 24 x 36 mm, avec télémètre couplé et système électronique d'obturation.

Equipement: Système de mise en place rapide du film, compteur d'images à retour automatique, avec indication de mise en place du film, armement rapide avec position de prêt à l'emploi, blocage contre la double exposition ou le double armement, contrôle du rebobinage, parasoleil incorporé; viseur à cadre lumineux 0,48 x avec repères de parallaxe, indication vitesse/diaphragme et signalisation contre le bougé ou la surexposition; télémètre couplé à coincidence avec correction latérale de la parallaxe; obturateur central, avec synchronisation-X sur toutes les vitesses d'obturation pour les prises de vue avec flash en lumière du jour, griffe porte-accessoire à contact central; raccord pour déclencheur souple, filetage pour pied 1/4 ", anneaux pour la courroie.

Automatique d'exposition: commande électronique de la vitesse d'obturation, 4-1/500 sec environ après présélection du diaphragme, réglable sur 1/30 sec. pour prises de vues au flash sans lumière du jour; réglage de la sensibilité du film 15-27 DIN/25-400 ASA; cellule CdS près de l'objectif, agissant également de façon efficace en présence d'un filtre; étendue de mesure 0,25-33000 cd/m² ou indice de lumination 1-18 pour 21 DIN/100 ASA; alimentation par 4 piles-boutons de 1,5 V, contrôle des piles au-dessus de l'indication de la vitesse, logement des piles accessible, même avec film mis en place.

Objectif: Voigtländer Color-Skopar 1:2,8/40 mm, 4 lentilles, éléments, ouvertures de 2,8 à 22; réglage de la distance à partir de 0,9 m/3 ft, échelle de la profondeur de netteté, filetage pour filtre E 49 x 0,75.

Dimensions: 102 x 73 x 35 mm environ.

Poids: 490 g environ.

Accessoires: Filtres jaune moyen, vert, orange, rouge clair, UV, R 1,5; sacoche, dragonne.

Guter Rat und schnelle Hilfe

Merkmal	mögliche Ursache	Abhilfe	Bemerkung
Verschluß löst nicht aus	Schnellschalthebel nur teilweise gespannt	Hebel bis zum Anschlag durchziehen	siehe Seite 13
Meßzeiger reagiert nicht	Batterie-Kontaktfehler	Batterien blankreiben	siehe Seite 20
	Batterien entladen oder nicht (bzw. falsch) eingelegt	Batterien erneuern oder (richtig) einsetzen; falls Ersatzbatterien nicht greifbar, Belichtung mit geschätzter Blende regeln, Verschlußzeit hierbei stets kürzester Wert	
starker Widerstand beim Filmtransport, Schnellschalthebel bleibt vor Endanschlag stehen	Filmlänge zu sehr ausgenutzt, Film völlig abgewickelt	Film nicht gewaltsam transportieren, Auslöser drücken, Film rückspulen; falls Film aus Patrone herausgerissen: Kamera nur in völliger Dunkelheit öffnen, Film von Hand aufspulen und lichtdicht verpacken	
Bildzählwerk zeigt nicht an	Film falsch eingelegt	Film richtig einspulen	siehe Seite 2
	Film gerissen	abgerissenes Filmstück (falls belichtet, in völliger Dunkelheit) entfernen, Film neu anschneiden und richtig einspulen	
Film über- oder unterbelichtet	Filmempfindlichkeit falsch eingestellt	Filmempfindlichkeit richtig einstellen	siehe Seite 5
Bild verwackelt	Zeiger im unteren roten Warnfeld nicht beachtet	größere Blende einstellen oder Blitz verwenden	siehe Seite 8 und 14
Bild überbelichtet	Zeiger im oberen roten Warnfeld nicht beachtet	kleinere Blende einstellen	siehe Seite 8
	Bei Aufnahme ohne Blitz Umschalter in Stellung ϟ	Umschalter auf A stellen	siehe Seite 7
Blitzaufnahme teilweise oder völlig unscharf	Umschalter in Stellung A	Umschalter auf ϟ einstellen	siehe Seite 14
Bild teilweise oder völlig unscharf	Entfernungseinstellung vergessen, insbesondere im Nahbereich 0,9-2,5 m	Entfernung genau einstellen	siehe Seite 10
	Aufnahmen schnell bewegter Objekte in schwachem Licht	diese Aufnahmen bei hellerem Licht machen oder höherempfindlichen Film verwenden	

Merkmal	mögliche Ursache	Abhilfe	Bemerkung
oberer Bildrand abgeschnitten	Parallaxe nicht berücksichtigt	Parallaxmarken im Sucher beachten	siehe Seite 12
helle Bildteile überstrahlt und fast ohne Farbe, dunkle Bildteile fast schwarz und ohne erkennbare Details	Lichtkontrast für Farbfilm zu hoch: besonders bei Gegenlichtaufnahmen, Markt- und Straßenszenen mit hohem Sonnenstand, sowie Strand- und Hochgebirgsaufnahmen in der Mittagszeit	anderen Bildausschnitt wählen, sehr helle und sehr dunkle Motive getrennt aufnehmen, Aufnahmestandpunkt oder -richtung ändern, fotografisch günstigere Vor- oder Nachmittagssonne bevorzugen	

Handling faults and remedies

Fault	Possible cause	Remedy	Notes
Shutter does not release	Rapid winding lever only partly tensioned	Fully tension rapid lever to the stop	see page 13
Indicator needle does not respond	Oxide deposit on battery poles	Wipe oxide off batteries	see page 20
	Batteries exhausted, not inserted or wrongly inserted	Exchange or insert batteries (correctly); if spare batteries are not available, set exposure with a guessed aperture, shutter speed will remain on shortest value	
Heavy resistance against film advance, lever stops halfway	Excessive exploitation of film length, film entirely wound off	Avoid any force, press down release knob, then rewind film; if film is torn out of cartridge: open camera in total darkness only, rewind film by hand and wrap up light-proof	
Frame counter does not indicate	Film wrongly loaded	Load film correctly	see page 2
	Film torn	Remove torn piece (in total darkness, when exposed), trim new leader and re-load film correctly	
Whole film under- or overexposed	Film speed set wrongly	Set film speed correctly	see page 5
Picture underexposed	Disregard of indicator in upper red warning area	Open aperture or use flash	see page 8 and 14

Fault	Possible cause	Remedy	Notes
Picture overexposed	Disregard of indicator in lower red warning area	Stop down	see page 8
	Setting knob in position ϟ, when shooting without flash	Turn setting knob into position A	see page 7
Flash picture partly or entirely unsharp	Setting knob in position A	Turn setting knob into position ϟ	see page 14
Picture partly or completely unsharp	Focusing forgotten, particularly in close-up range 0,9 — 2,5 m/3 to 8 ft	Focus more accurately	see page 10
	Pictures of fast moving subjects in dim light	Take these pictures in brighter light, or use faster film	
Upper part of picture missing	Disregard of parallax	Note parallax marks	see page 12
Bright picture areas washed-out and almost colourless, dark picture areas almost black and without discernable detail	Light contrast too excessive for colour film: particularly with against-the-light shots, market and street scenes under high sun, beach and mountain scenes at midday	Select different picture area, photograph very bright and very dark subjects separately, change viewpoint or direction; give preference to morning or afternoon sun which is more suitable for photographing	

Défaut	Cause possible	Remède	Remarques
Prise de vue avec flash: manque total ou partiel de netteté	Commutation sur A	Commuter sur la position ϟ	Voir page 14
Manque total ou partiel de netteté	Oubli du réglage de la distance, principalement pour l'étendue 0,9—2,5 m	Régler la distance avec précision	Voir page 10
	Prise de vue de sujets très mobiles avec éclairage trop faible	Effectuer ce genre de prise de vue avec un meilleur éclairage ou employer un film plus sensible	
Bord supérieur de l'image coupé	Non-observation de la parallaxe	Tenir compte des repères de parallaxe dans le viseur	Voir page 12
Parties claires de l'image trop éclairées et presque sans couleur, parties sombres presque noires sans distinction des détails	Contraste lumineux trop fort pour film-couleur: surtout pour contre-jour, scènes de marché et de rues avec soleil à son apogée, vues prises à midi au bord de la mer et en montagne	Choisir un autre cadrage, photographier séparément motifs sombres et motifs clairs, modifier la direction de prise de vue, préférer l'éclairage photographiquement meilleur du soleil du matin ou de l'après-midi	

Défauts et remèdes

Défaut	Cause possible	Remède	Remarques
L'obturateur ne se déclenche pas	Le levier d'armement a été tourné à moitié	Tourner le levier à fond	Voir page 14
L'aiguille indicatrice ne réagit pas	Contact défectueux des piles	Polir les piles	Voir page 20
	Piles déchargées ou mal mises en place	Renouveler les piles ou les mettre bien en place; si l'on ne dispose plus de piles, régler approximativement le diaphragme, la vitesse d'obturation étant toujours la plus courte	
Forte résistance dans l'avancement du film, le levier d'armement ne va pas à fond	Trop grande utilisation de la longueur du film, film complètement déroulé	Ne pas forcer, appuyer le déclencheur, rebobiner le film; si le film est déchiré du chargeur, ouvrir l'appareil dans la complète obscurité, bobiner manuellement et envelopper le film de façon étanche à la lumière	
Le compteur d'images ne fonctionne pas	Film mal mis en place	Bobiner le film correctement	Voir page 2
	Film déchiré	Oter le morceau de film déchiré (dans la complète obscurité si le film est déjà exposé), recouper le film et le bobiner correctement	
Film sur- ou sousexposé	Mauvais réglage de la sensibilité	Régler correctement la sensibilité	Voir page 5
Image présente du flou de bougé	Non-observation de l'aiguille dans la zone rouge inférieure	Prendre une plus grande ouverture ou utiliser un flash	Voir pages 9 et 15
Image surexposée	Non-observation de l'aiguille dans la zone rouge supérieure	Prendre une plus petite ouverture	Voir page 9
	Dans les prises de vue sans flash, commutation sur ϟ	Commuter sur la position A	Voir page 7

DEPTH OF FIELD TABLE FOR AGFA COLOR-AMBION f/4 — 35 mm.

Circle of confusion of diameter 0.03 mm.

Distance focused upon	with diaphragm set at		
	f/11	f/16	f/22
	range of sharp focus		
feet			
3½	2′ 10¼″ — 4′ 6½″	2′ 7½″ — 5′ 3¼″	2′ 5″ — 6′ 6½″
4	3′ 2″ — 5′ 5½″	2′ 10¾″ — 6′ 6¾″	2′ 7½″ — 8′ 8″
5	3′ 9″ — 7′ 7″	3′ 4½″ — 9′ 11¼″	3′ — 15′ 11″
7	4′ 8¾″ — 13′ 7½″	4′ 1½″ — 24′ 2″	3′ 7″ — ∞
10	5′ 10¾″ — 34′ 1″	4′ 11¾″ — ∞	4′ 2½″ — ∞
15	7′ 3½″ — ∞	5′ 11¼″ — ∞	4′ 10¼″ — ∞
30	9′ 6¾″ — ∞	7′ 4″ — ∞	5′ 8¾″ — ∞
∞	14′ — ∞	9′ 8½″ — ∞	7′ 1½″ — ∞

The subject distance should be measured from the focal plane (the rear edge of the accessory shoe). The depth-of-field scale on the camera which is used as a practical guide is based upon a rather less exacting circle of confusion of 0.05 mm. For extreme accuracy the above table should always be referred to.

Technische Änderungen vorbehalten

Subject to technical modification without notice

Sous réserve de modifications techniques

Voigtländer
Vertriebsgesellschaft mbH i. Gr.

33 Braunschweig West Germany
Postfach 5306

D 13-0115/17-1174/00-200
E
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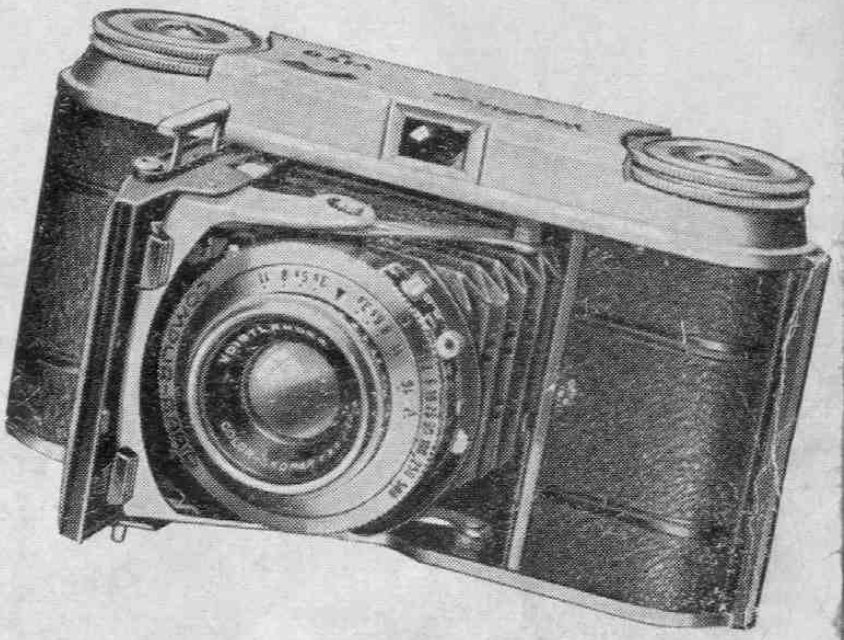
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Voigtländer

VITO II



INSTRUCTIONS FOR USE

The most important point

of the whole instruction booklet is on this page. It consists of the request to read the instructions carefully to make yourself fully conversant with its handling before you start to take photographs or investigate the construction of the instrument.

Keep in mind, the Vito II is a finemechanical precision instrument, it wants to be handled with understanding and care and it will repay careful treatment with an endless range of good and wonderfully sharp pictures.

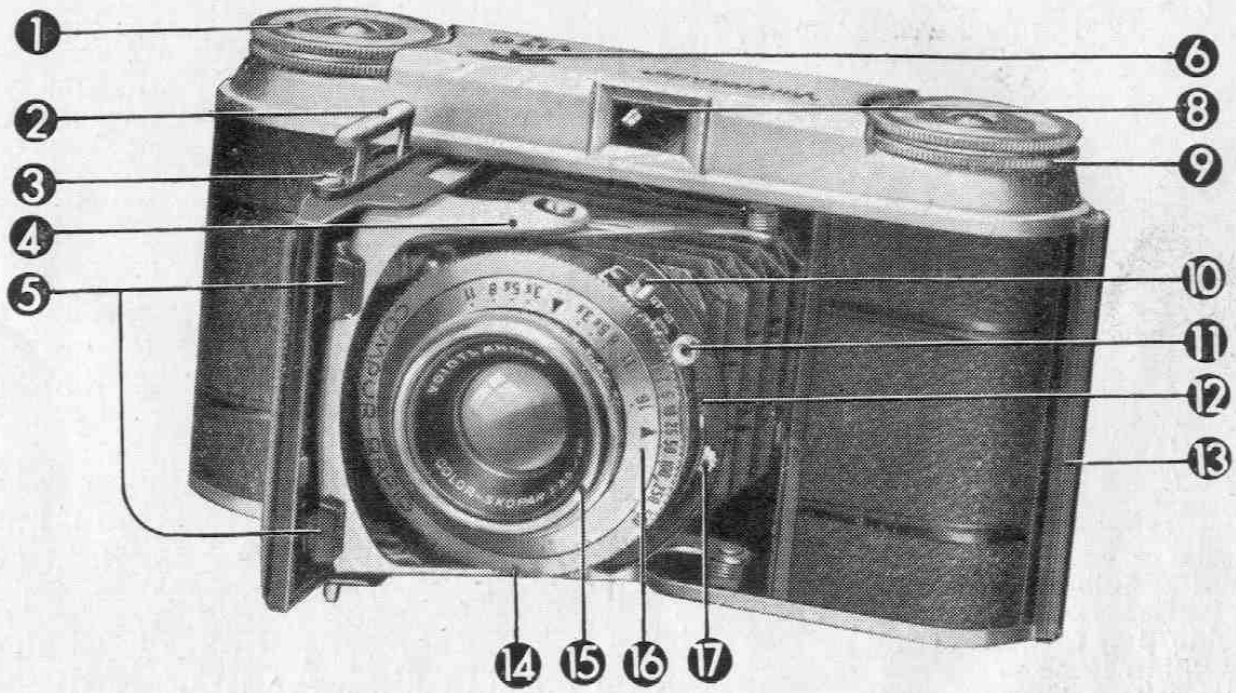
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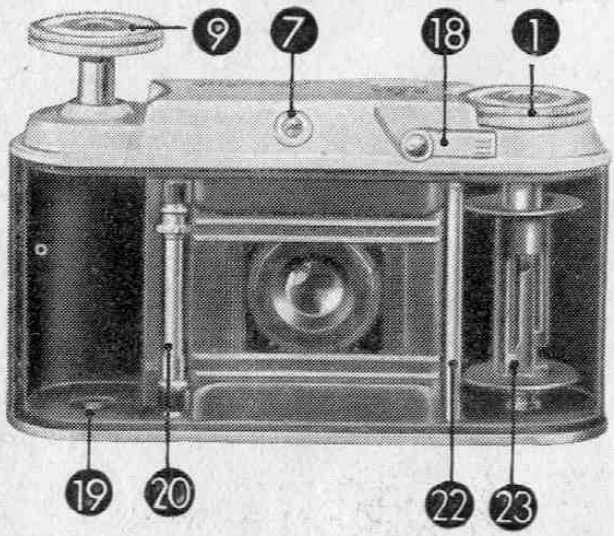
You will find **on page**

The main camera parts 4
Loading the camera with film 7
Setting the film counter 9
Opening and closing of camera front 10
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Setting the aperture 12
Depth of focus 12
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1. Film winder
2. Release key
3. Cable release thread
4. Struts
5. Locking key for closing of the camera front
6. Exposure-counter window
8. Finder
9. Rewind knob
10. Flash contact
11. Shutter setting lever
12. Aperture and shutter speed scales
13. Locking ledge for the camera back
14. Exposure setting ring
15. Lens mount with distance scale
16. Front plate with depth of focus scale
17. Aperture setting lever

Explanations
to illustration opposite


1
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17



1. Film transport knob
7. Finder window
9. Rewind knob
18. Rel-ase lever for filmlock
19. Guide peg for film cartridge
20. Counting shaft
22. Film roller
23. Hook to engage beginning of film

ATTENTION: The double lock.

The Vito II is fitted with an automatical double lock (for film transport and for shutter release). In the practice it means that the release key can only be depressed after first having turned the A-knob to a definite stop.

The film can only be wound after releasing the shutter. This way a double exposure and also passing over a part of the film are made impossible.

If you like to release the shutter while there is no film in the camera you have to turn the counting shaft to the right (20) until it produces an audible click. The lock of the A-knob can be put out of action at will on pushing the lever 18 upwards to a definite stop.

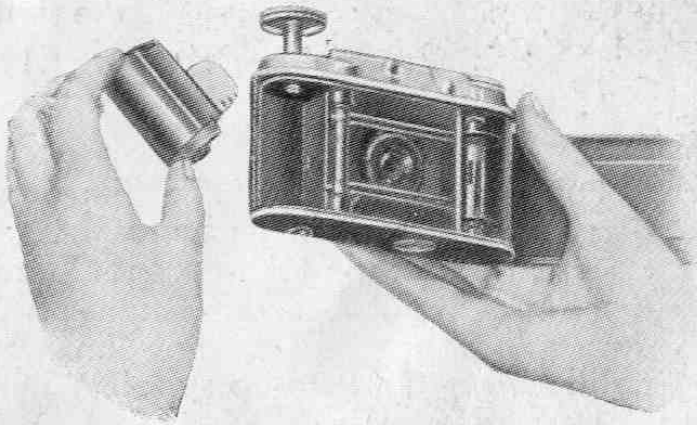


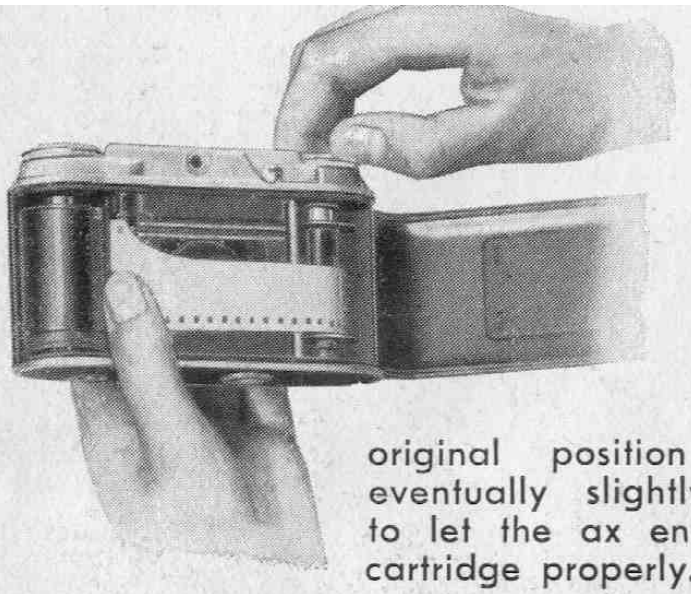
Loading the camera with film.

Loading and changing of film should best be done in the shade — the shadow of your body will do — to prevent fogging of the first exposures.

1. Open the camera back by lifting up the locking ledge (see ill.)

2. The empty take-up spool should be in the right hand side chamber, failing this it can be changed from left to right by pulling up the rewind R-knob and the film transport A-knob. To ensure that the A-knob engages the take-up spool properly the knob may be





turned to and fro, after having pushed the lever 18 upwards.

3. The left spool chamber will accept the new film cartridge. To insert film cartridge pull up the R-knob completely and push the projecting centre of the cartridge on to the peg 19. Now push R-knob back into its original position by turning eventually slightly either way to let the ax engage the film cartridge properly.



4. Pull the beginning of the film across counting shaft 20 and film aperture, insert it into the wide slot of the take-up spool and engage it there. Give A-knob one full turn to ensure that the beginning of the film winds itself tightly on to the take-up spool. When A-knob

DEPTH OF FIELD TABLE FOR AGFA COLOR-TELINEAR f/4 — 90 mm.

Circle of confusion of diameter 0.03 mm.

Distance focused upon	with diaphragm set at			
	f/4	f/5.6	f/8	f/11
	range of sharp focus			
feet				
6	5′ 10¼″ — 6′ 1¾″	5′ 9½″ — 6′ 2½″	5′ 8¾″ — 6′ 3½″	5′ 7¾″ — 6′ 5″
6½	6′ 4″ — 6′ 8″	6′ 3¼″ — 6′ 9″	6′ 2¼″ — 6′ 10¼″	6′ ¾″ — 7′
7½	7′ 3¼″ — 7′ 8¾″	7′ 2¼″ — 7′ 10″	7′ 1″ — 7′ 11¾″	6′ 11¼″ — 8′ 2″
8½	8′ 2½″ — 8′ 9¾″	8′ 1¼″ — 8′ 11¼″	7′ 11½″ — 9′ 1½″	7′ 9¼″ — 9′ 4¾″
10	9′ 7¼″ — 10′ 5¼″	9′ 5½″ — 10′ 7½″	9′ 2¾″ — 10′ 10¾″	8′ 11¾″ — 11′ 3½″
12	11′ 5″ — 12′ 7¾″	11′ 2½″ — 12′ 11″	10′ 10¾″ — 13′ 4¼″	10′ 6½″ — 13′ 11¼″
15	14′ 1¼″ — 16′ ¼″	13′ 9¼″ — 16′ 5¾″	13′ 3½″ — 17′ 2½″	12′ 9″ — 18′ 2¾″
20	18′ 4¾″ — 21′ 10¾″	17′ 10″ — 22′ 9¼″	17′ ½″ — 24′ 2½″	16′ 1¾″ — 26′ 3½″
30	26′ 6″ — 34′ 7″	25′ 4″ — 36′ 10″	23′ 9″ — 41′	22′ ¼″ — 47′
60	47′ — 82′	44′ — 96′	39′ — 130′	34′ 7″ — 231′
∞	221′ — ∞	158′ — ∞	111′ — ∞	81′ — ∞

The subject distance should be measured from the focal plane (the rear edge of the accessory shoe). The depth-of-field scale on the camera which is used as a practical guide is based upon a rather less exacting circle of confusion of 0.05 mm. For extreme accuracy the above table should always be referred to.

stops turning, push lever 18 upwards and release it again. Check that the sprockets of the counting shatt engage in the film perforations and that they take it with them. The film must run exactly along the slide way (see ill. page 8 above).

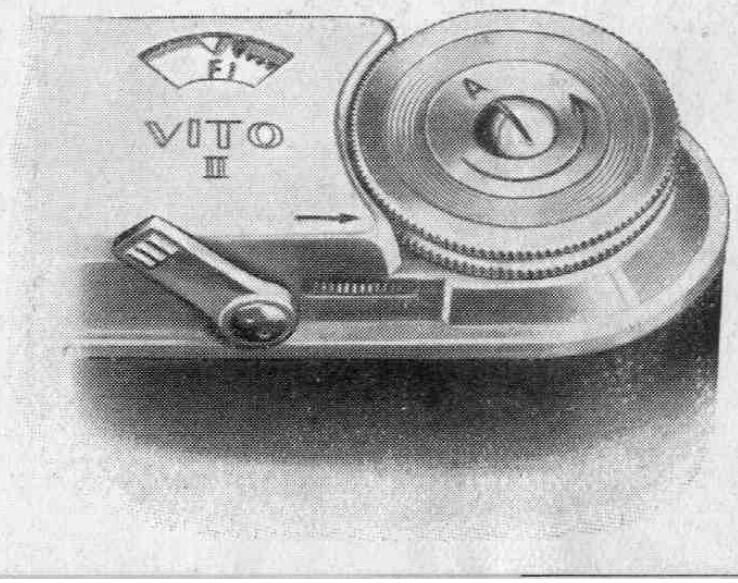
5. Close camera back and let locking ledge engage by applying some pressure with your thumb.

Setting the film counter.

If the film transport knob is not yet locked after having inserted the film it must be given a turn to right as far as it will go before setting the film counter.

When this position is reached:

Push the lever 18 upwards and hold it fast — the thus freed wheel (wich is visible now) is turned in the direction of the



arrow until the index in the film counter window comes to be exactly opposite "F" — let lever 18 fall back.

Now give A-knob a turn to the right until it stops, then push blocking lever 18 upwards and release it. Give A-knob another turn until a stop. The film counter is now showing No. 1. The film is ready for the first exposure.



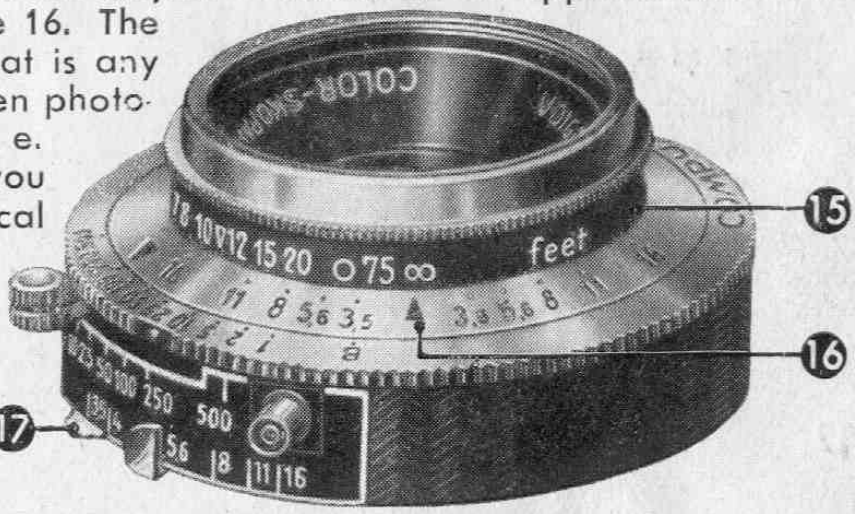
Opening and closing of camera front

The camera front is opened by pressing the knob on the right hand side of the camera body. Grip front on either side and pull downwards until the two struts 4 engage, but do not press on the release key. To close the camera depress both locking keys 5 simultaneously and push camera front upwards.

To get the camera ready for action

The setting of distance — aperture — exposure time is particularly simple in the VITO II as all scales are arranged on the lens mount and shutter housing and may be read off in one direction from above — together with the depth of focus scale which is on the front plate.

Distance setting. Turn lens mount 15 until the distance figure (in feet) — according to the distance to the object — comes to lie opposite the arrowhead on the front plate 16. The sign ∞ represents "infinity" that is any distance further than 75 ft. When photographing moving objects i. e. playing children, sports etc. you apply best the very practical **zone focussing** instead of individual focus setting by making use of the engraving: △ (near) or O (far). (See illustration.) These settings cover a distance range: △ from 8 ft



(2.5 m.) to 15 ft (5 m.), O from 15 ft (5 m.) to ∞. Condition however being that an aperture of f 5.6 or smaller is used.

Aperture setting.

The aperture (also called "stop") regulates the amount of light falling on the film and further influences the depth of focus (see next paragraph). It is set by the lever 17 on the aperture scale, the indicator having to point to the right of the aperture figure. Apertures from f 4 to f 16 require doubling the exposure for each following f. number. The difference between f 3.5 and f 4 is negligible as far as "Black and White" film is concerned, but when employing colour film it is advisable to work strictly according to the exposure meter.

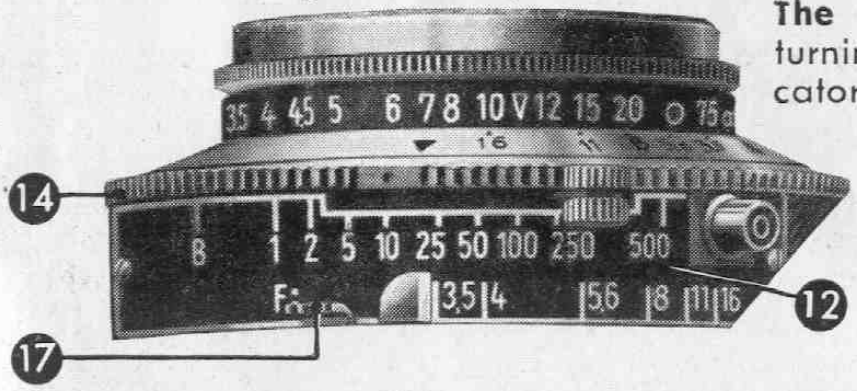
Remember well:

Small aperture numbers (i. e. f 3.5) = fast aperture = short exposure time.
Large aperture numbers (i. e. f 11, f 16) = slow aperture = long exposure time.

The Depth of focus

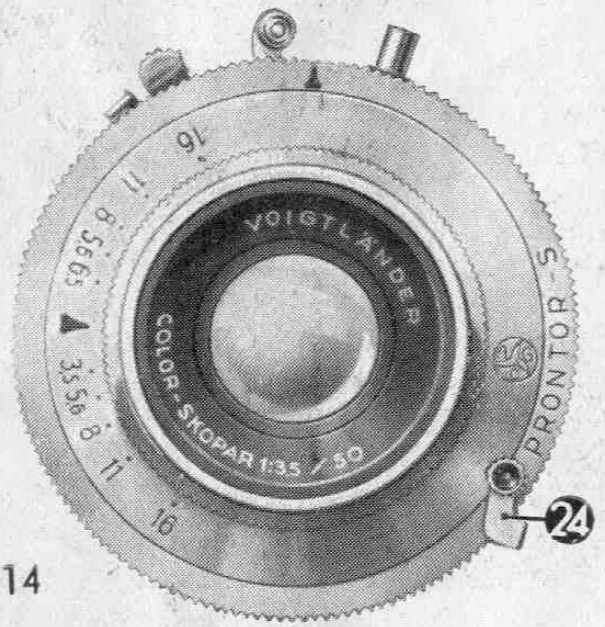
covers the part of the depth of the picture to the foreground and background which will be rendered fully sharp. This is however, no constant value, but depends on the focussing distance and the aperture one has set.

The shorter the distance to the object, and the bigger the aperture, the less depth of focus is obtainable.
The bigger the distance and the smaller the aperture the greater will be the depth of focus.
Outside the depth of focus, the definition gets less both towards the camera, and the background. As soon as the depth of focus reaches ∞ (infinity), everything into the farthest distance will be sharp.
The depth of focus scale is engraved on the front plate of the shutter to the right and left of the distance indicator (see illustration on page 11). For example, on focussing to "near" ▽ you can read off that with aperture f 5.6 the depth starts at 8 ft (2.5 m.) and ends at 15 ft (5 m.). At aperture f 8 it begins at 7 ft (2.25 m.) and extends to 20 ft (7 m.).



The exposure time is set by turning the ring 14 until the indicator dot faces the required exposure time. On setting to $^1/_{300}$ sec or $^1/_{500}$ sec a slight resistance has to be overcome which is caused by automatically setting an additional tensioning

spring. The numbers on the shutter speed scale indicate fractions of seconds, except 1 (= 1 second). Before taking a photograph the shutter has so be set by pulling the setting lever 11 to the left as far as it will go. **To take an exposure with the fastest shutter speed the time has to be set before pulling the shutter setting lever. For all other speeds the shutter may be set any time, either before or after having pulled the setting lever.**



To take time exposures the shutter has to be set "B" and the setting lever to be pulled up. On depressing the release the shutter will remain open as long as the release remains pressed down. For long time exposure the use of a cable release with fixing screw is recommended. This has to be screwed into the thread 3.

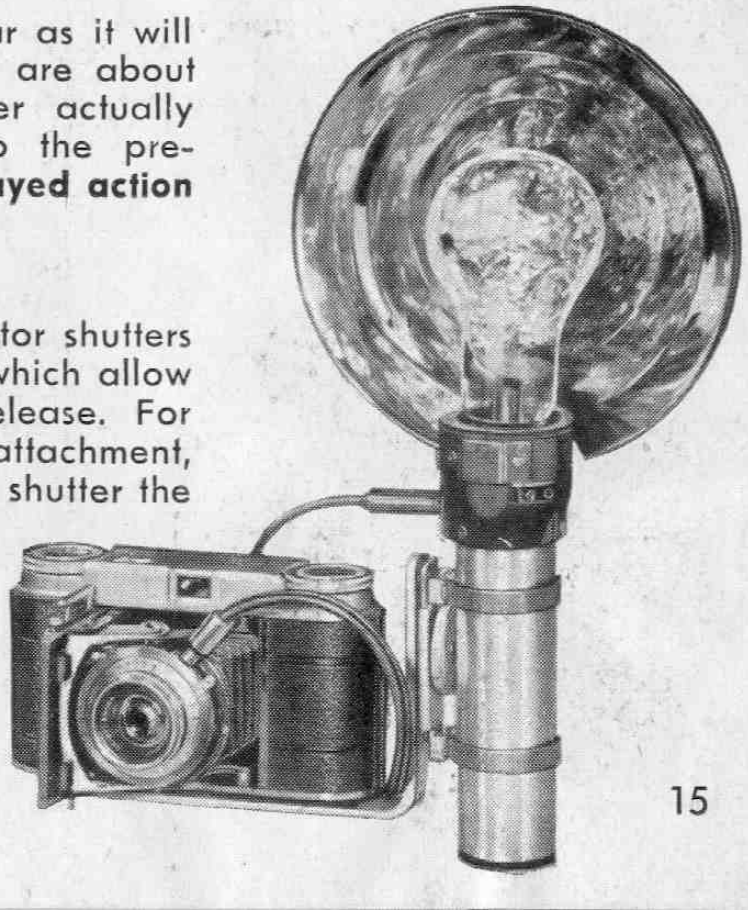
Delayed action release.

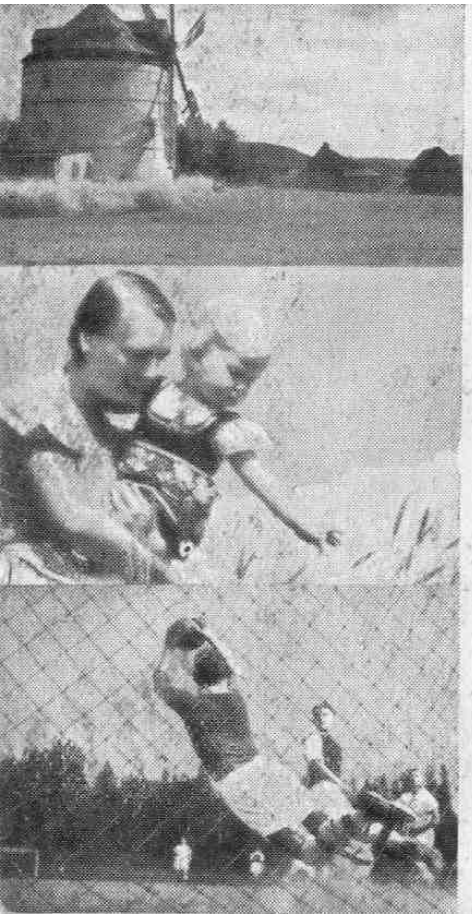
The Vito II with Prontor shutter has a built-in delayed action release. If you want to appear in the photograph yourself you have to place the camera on a solid support (table or tripod), the shutter is set as usual and in addition the lever with red

marking 24 is pushed to the left as far as it will go. On depressing the release there are about 10 seconds delay before the shutter actually releases, giving you time to go to the pre-arranged spot in the picture. **The delayed action release will not work on "B".**

Use of Flash:

Both, the Compur Rapid and the Prontor shutters are fitted with internal flash contacts which allow synchronisation of shutter and flash release. For use, connect the shutter with the flash attachment, by means of a cable, on releasing the shutter the flash will go off, while the shutter is fully open. The most useful shutter speed with flash is $^1/_{25}$ second and $^1/_{10}$ second. The speed must not be less than $^1/_{50}$ second. The choice of the aperture depends from the distance between the flash and the subject and depends also from the





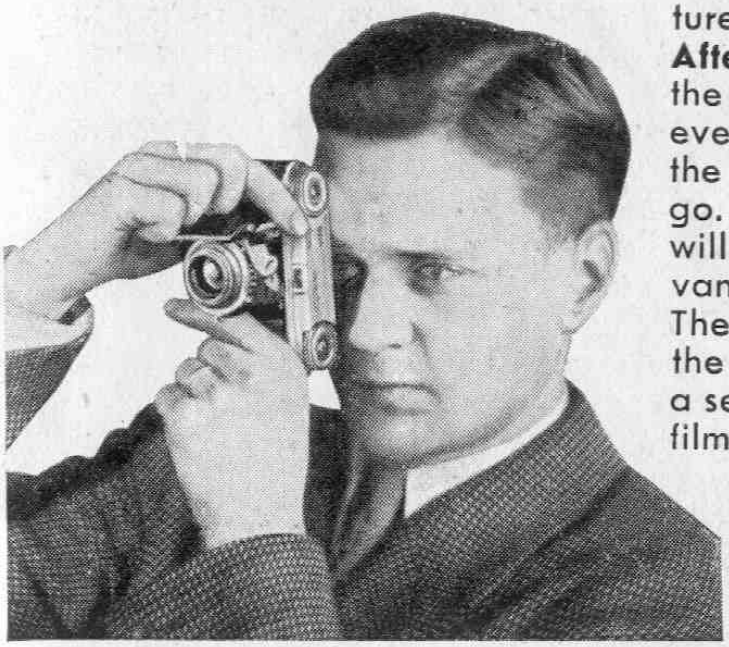
flash-type. For more explanation we advise you to consult the instructions issued with the flash-bulb.

Taking the Picture.

Before taking the picture it is advisable, to check up all settings, and to see that the shutter is set too. When taking horizontal photographs, the camera is held steadily with both hands, and in addition, is pressed against forehead and nose. For upright pictures, the camera is best held, so that the lens protecting flap shows upwards (see illustration). Use a tripod, when taking time exposures.

The finder shows the picture field. The eye is brought close to the finder-window, so that all four corners of the view finder become clearly visible. It is important to look through the middle of the finder, as only then, the true image of the section you will get on your film, is visible.

While releasing the shutter, hold your breath for a moment, and release the key evenly, and gently. On no account should the release key be depressed with a jerk, this would result in "moved" pictures.



After taking the picture, the A-knob is wound on evenly in the direction of the arrow, as far it will go. The exposure counter will automatically advance to the next number. The double lock prevents the shutter to be released a second time, before the film has been wound on, and the film can only be wound on when the previous one has been exposed.



Unloading the camera

After all 36 exposures have been taken, the film has to be rewound into its cartridge. The procedure to be adopted is:

1. Lift up lever 18 as far as it will go, and keep in this position.
2. Gently turn R-knob in the direction indicated by its arrow, until the A-knob stops running.

The camera back may now be opened, and the cartridge removed from its spool chamber, on pulling up the R-knob.



Voigtländer-Filters

For outdoor pictures, and in particular, outdoor portraits, the use of a good yellow filter is recommended. This will also bring out clouds, and produce a considerably better graduation. A filter is irreplaceable for snowscapes.

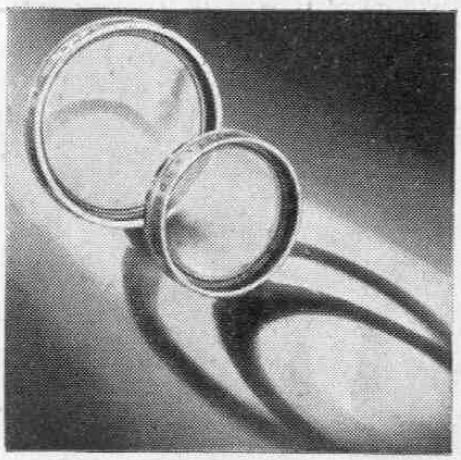
DEPTH OF FIELD TABLE FOR AGFA COLOR-TELINEAR f/4 — 90 mm.

Circle of confusion of diameter 0.03 mm.

Distance focused upon	with diaphragm set at		
	f/16	f/22	f/32
	range of sharp focus		
feet			
6	5′ 5¾″ — 6′ 7½″	5′ 3¾″ — 6′ 10¾″	5′ ¾″ — 7′ 4¾″
6½	5′ 10¾″ — 7′ 3″	5′ 8½″ — 7′ 7″	5′ 4¾″ — 8′ 2¼″
7½	6′ 8¼″ — 8′ 6½″	6′ 5¼″ — 9′	6′ ¾″ — 9′ 11″
8½	7′ 5½″ — 9′ 10½″	7′ 1¾″ — 10′ 6¼″	6′ 8″ — 11′ 9¾″
10	8′ 7″ — 12′	8′ 1¾″ — 12′ 11¾″	7′ 6¼″ — 15′ ½″
12	10′ — 15′ ¾″	9′ 4¾″ — 16′ 8″	8′ 6¾″ — 20′ 3½″
15	11′ 11½″ — 20′ 2½″	11′ 1¼″ — 23′ 3¼″	9′ 11½″ — 31′ 1¾″
20	14′ 10½″ — 30′ 8½″	13′ 6¾″ — 38′ 6¼″	11′ 10¼″ — 67′
30	19′ 8″ — 64′	17′ 5″ — 112′	14′ 8″ — ∞
60	29′ — ∞	24′ 4″ — ∞	19′ 2½″ — ∞
∞	56′ — ∞	41′ — ∞	28′ 1½″ — ∞

The subject distance should be measured from the focal plane (the rear edge of the accessory shoe). The depth-of-field scale on the camera which is used as a practical guide is based upon a rather less exacting circle of confusion of 0.05 mm. For extreme accuracy the above table should always be referred to.

Voigtländer Yellow filters are optically worked, plane-parallel and spectroscopically tested. The definition of the valuable Color-Skopar is not affected by these filters. For use they are simply pushed on the lens mount,



Good panchromatic film calls for the light yellow filter G 1, for more dramatic effects and snowscapes one generally uses the stronger G 2 filter.

The filter increases the exposure time as follows:

Filter G 1 1½—2 times,
Filter G 2 3—4 times.

The Voigtländer Focar Lenses

open up the interesting field of "Close-up" photography. They allow relatively large reproduction of flowers, small animals, postage stamps, etc. Further, book pages or small pictures may be copied with their help. For use, they are pushed on to the lens mount, similar to the

filters. Focar lens 1 allows to focus as close as 18″ (44½ cm.) and Focar lens 2 even down to 12″ (31 cm.).

For focussing you have to use the tables opposite exactly, and the distance between object and front of Focar lens has to be measured accurately. You will find further notes in the instructions, issued with the Focar lenses.

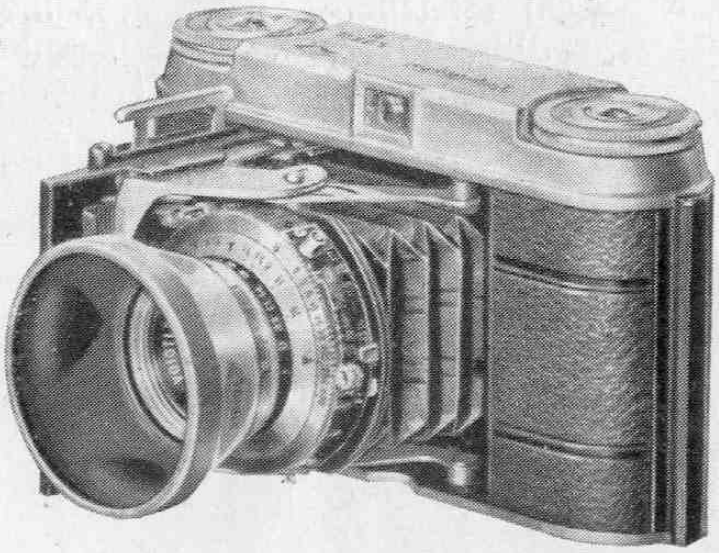
Lens hood.

The use of the Voigtländer Lens hood is recommended. It protects against stray light in photographs. Further it will protect the "Color-Skopar" from rain and snow.

When focussing on	Sharp definition with	
	Focar 1	Focar 2
∞	2' 7½"	1' 5½"
60'	2' 6¼"	1' 5"
○	2' 5¼"	1' 4¾"
20'	2' 3¾"	1' 4¼"
15'	2' 2¾"	1' 4"
12'	2' 1¾"	1' 3½"
▽	2' 1½"	1' 3½"
10'	2' 1"	1' 3¼"
8'	1' 11¾"	1' 2¾"
7'	1' 11"	1' 2½"
6'	1' 10"	1' 2"
5'	1' 8¾"	1' 1½"
4,5'	1' 8"	1' 1¼"
4'	1' 7"	1' ¾"
3,5'	1' 6"	1' ½"

Everready case.

Messrs. Voigtländer have produced for their Vito II Camera a leather everready case, which allows the camera to work, without removing it from the case. This will enhance the quick readiness for action of the Vito II. A retaining screw on the base protects the camera from falling out of the case.



Care of the lens.

The "Color-Skopar" shows a bluish violet reflection. This is a sign that the lens has been "coated", meaning it has been covered with an:

Anti-reflection Film.

On looking through the lens, the glasses appear completely clear and colourless. These AR-films which cover all air to glass surfaces, prevent

light reflections in "against the light-photography" or reduce them considerably. At the same time the brilliancy of the picture, and the light transmission of the glass is increased.

While uncoated lenses should be carefully treated, those covered with AR-film call for even greater care in cleaning. The film covering is very hard, but are of the unimaginable thinness of $^{1}/_{10000}$ mm. The lens is best cleaned with a fine hair-brush, or a soft clean chamois. Grease or oil stains can be removed after careful dabbing with pure alcohol or ether.

*

12309 – 13 A/1250

Printed in Germany

Short Lesson

1. Open camera-back.
2. Insert cartridge with film into left-hand-side spool chamber.
3. Fix beginning of film to take-up spool.
4. Close camera-back.
5. Set exposure counter.
6. Open camera-front.
7. Set Distance, Aperture, and Exposure Time.
8. Set shutter.
9. Determine subject in viewfinder and release.
10. Wind film transport knob evenly as far as it will go and close camera-front.

After having taken the 36th. exposure.

11. Lift up exposure-counter locking lever as far as it will go.
12. Rewind film by means of the R-knob.
13. Open camera-back and remove film.

INSTRUCTION BOOK

for the Model S141/735

WESTON MASTER II EXPOSURE METER

INTRODUCTION TO METERED PHOTOGRAPHY

Brightness

Your exposure meter is designed to measure reflected light or brightness and not incident light. It is the reflected light which strikes the film in your camera and thus affects the exposure of the film. Both the incident light (i.e. the light falling on the subject) and the reflected light (or brightness) vary from scene to scene.

You can guess at exposures and get passable results and even good results on occasions. This is because some average subjects come within the margin of error from the correct exposure which modern films allow. But the eye is not a light measuring device which produces infallible judgement of correct exposures. Consider the brightness of your subject with the eye by all means, but use your exposure meter to measure that brightness with scientific accuracy to obtain real quality in your photographs.

Exposure

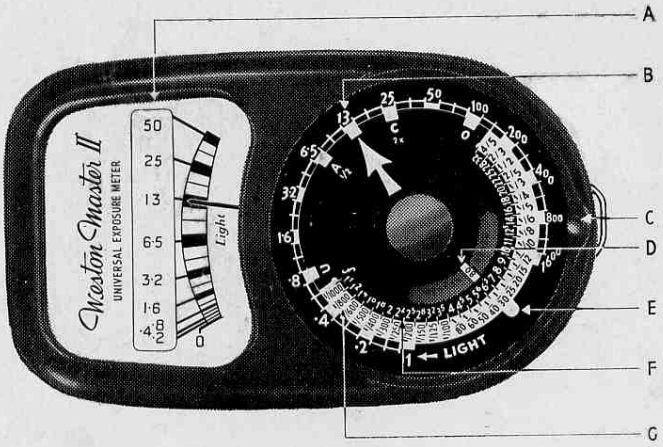
Exposure is the product of the length of time the light from the scene acts on the film, multiplied by the amount of light striking it. At all times this product should be approximately the same for the same film. If the amount of light is small, the time would be long; if the amount of light is large, the time would be short.

EXPOSURE

= *Light* × *Time*

Controls of Exposure

Since the light reflected from the scene is the light which will fall on the film, camera adjustments are necessary to compensate for changing scene light. The controls of exposure are the f/stop and shutter speed. The f/stop controls the amount of light and the shutter speed the length of time light acts on the film. The lower the f/stop number, the larger the aperture. On most cameras where the lens is mounted in the shutter, shutter speeds written as 2, 5, 10 are fractions of seconds, 2 being $\frac{1}{2}$ etc.



A. Light scale recording light value of scene.

B. Figures on exposure dial corresponding to above.

C. Button to release dial for film speed settings.

D. Window indicating film speed setting.

E. Tab to rotate dial for film speeds.

F. Figures indicating f/stops (lens apertures).

G. Figures indicating shutter speeds (time).

HOW TO USE YOUR

Film Speeds

Your "Master" meter is a photo-electric instrument which measures the reflected light of the subject with scientific accuracy. The exposure dial converts the light readings into the correct exposure combinations. Since emulsion speeds differ from one type of film or plate to another and for different kinds of illumination, make sure that you use the correct number on the list of "Weston Film Speed Values" supplied with the Meter.

1. Set for Film Speed

Depress Button "C" then turn tab "E" until the Weston speed number of your film appears in window "D."

2. Take a Light Reading

Aim the meter at the scene and note reading on light scale "A." Turn the exposure dial until its Arrow points to the same figures as the light reading. See example at "B."

3. Make Camera Settings

The correct settings for your camera now lie directly opposite each other—the f/stop (lens opening) settings are on row "F" and the shutter speeds (time) are on row "G." Any suitable combination of these figures may be selected, providing they are directly opposite each other, and will result in a correct exposure (see Selecting the f/stop on Page 6).

WESTON MASTER METER

4. Unnumbered Divisions

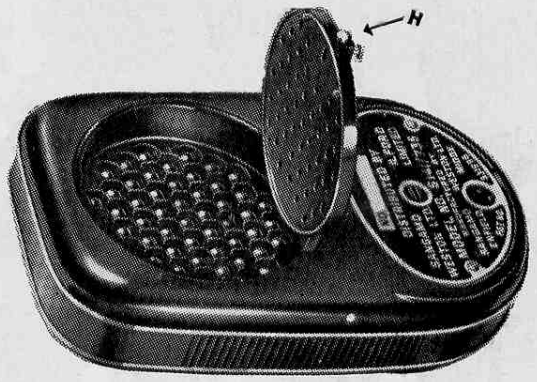
When the pointer of the light scale lies on an unnumbered division or block, set the Arrow of the exposure dial in just the same way to the corresponding unnumbered division or block on the exposure dial.

5. High Light Scale

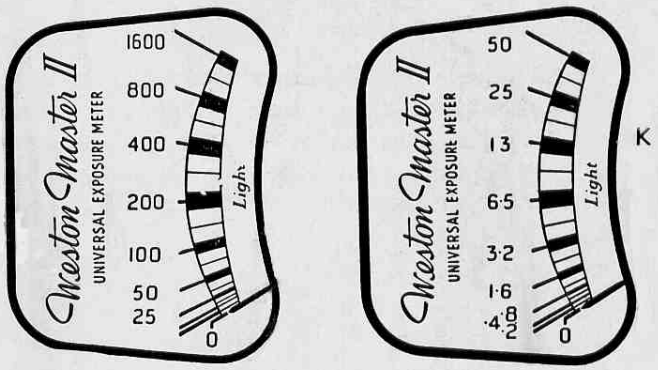
On the rear of the meter a hinged baffle will be found. The light sensitive photo cell is directly beneath the baffle. When the baffle is closed, the High light scale is in use. This scale measures from 0 to 1600 candles per square foot and is for use for all average and brightly lighted objects. Keep the baffle closed if the light reading is 50 or higher.

6. Low Light Scale

When the light reading is less than 50, open the baffle by releasing latch "H" and turn it back against the case so that the latch engages holding it wide open. The Low Light scale automatically appears measuring from 0 to 50 candles per square foot. The first division .2, or 1/5th candle per square foot, is a very low order of illumination even for indoor scenes.



H. The baffle half open and the release latch "H."



J. High Light Scale 0-1600 candles per square foot. Low Light Scale 0-50 candles per square foot.

ACCESSORIES FOR AGFA AMBI SILETTE

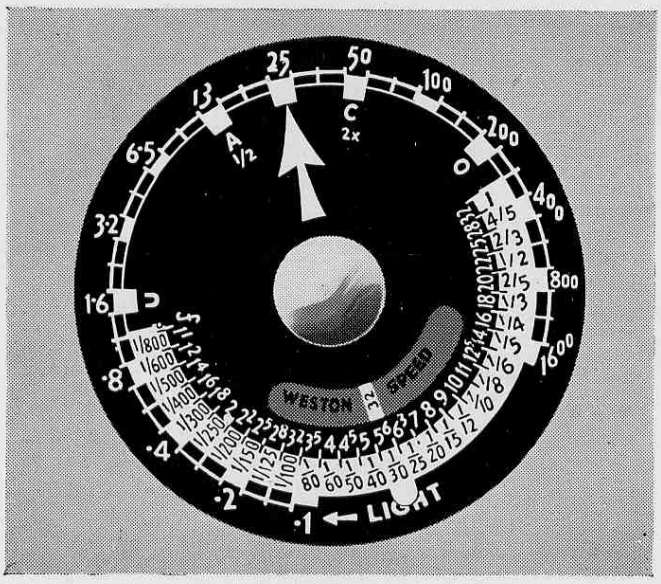
For your Agfa Ambi Silette with the 4-element standard Agfa Color-Solinar 50 mm. f/2.8 lens two other lenses are available, i. e.

Order No.	Description
4401	35 mm. f/4 Agfa Color-Ambion 4-element wide angle lens
4402	90 mm. f/4 Agfa Color-Telinear 6-element telephoto lens

As already mentioned at the beginning, the outside diameter of the front cell of all three lenses of the Ambi Silette is 37 mm. so that one set of filters and one lens hood suffice for all.

The following are available:

Order No.	Description	Order No.	Description
9130	Yellow Filter No. 1	9320	Orange-Red Filter
9131	Yellow Filter No. 2	9060	UV Filter (ultra-violet)
9230	Yellow-Green Filter	6309	Lens Hood
9580	Viewfinder slip-on correction lens mount for defective vision (–1.5 to –4 diopters, graduated in terms of diopters of 0.5)		
6017	Ever-ready case for Ambi Silette with standard lens		
6018	Ever-ready case for Ambi Silette with telephoto lens and with exposure meter attached		



Direct Reading Feature

A useful feature of the Master Meter is that with the baffle closed and at the following Film Speed and f/stop values, the light reading is a direct indication of the shutter speed required e.g. when the pointer indicates 100, the shutter speed required is 1/100th sec., etc.

Film Speed	*f/stop*
24	f:5.6
32	f:6.3
50	f:8
100	f:11
200	f:16

SELECTING THE F/STOP

For each picture you take you have the choice of a number of different exposure combinations of f/stop and shutter speed. As the exposure dial is set on this page you might select an f/stop of f:6.3 at 1/25th sec. or an f/stop of f:22 at $\frac{1}{2}$ sec. Any one of the combinations shown on the dial would result in a correct exposure (providing the figures taken were directly opposite each other) but the selection of the correct combination depends upon the requirements of the subject.

If the scene is an action one, select a fast shutter speed and use the f/stop directly opposite. If maximum depth is needed, then you can select a slower shutter speed with its corresponding smaller stop opening. Remember that the smaller the aperture the higher the f/stop number . . also that more of the objects will be in sharp focus when smaller stops are used.

In close ups or very near subjects, bear in mind that the depth of field covered by the lens is considerably reduced and that in order to obtain sharp definition over the parts of the subject nearest and most distant from the camera, the smallest possible f/stop should be used.

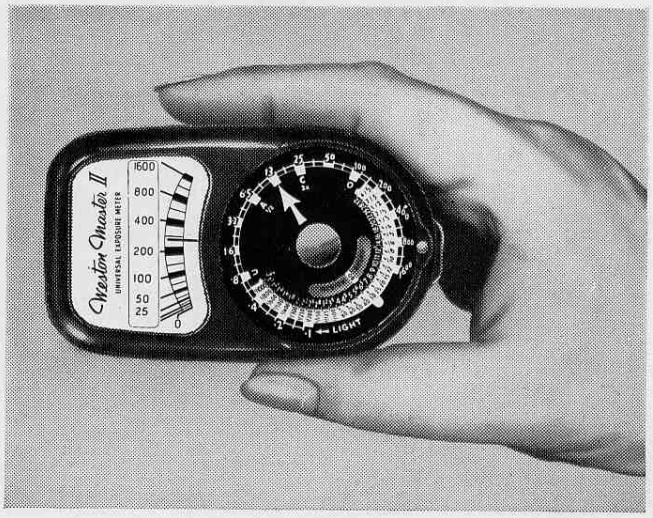
CLASSIFICATION OF SCENES

It will simplify the classification of scenes to remember that the exposure meter measures the average value of light or brightness coming from the entire scene. Thus for normal exposures the Arrow position on the exposure dial is used. For scenes requiring less than normal exposure an "A" position is provided; for those requiring more, a "C" position is provided.

Flat scenes lacking in contrast, such as distant views and landscapes on dull days, generally require less than normal exposure and more than normal development for best reproduction. Set the "A" position on the exposure dial opposite the light value measured for such scenes.

The contrast scene such as a sunlit street with dark shadows for best reproduction requires more than normal exposure and less than normal development. Set the "C" position on the exposure dial opposite the light value measured for these scenes.

Remember, however, that about eighty per cent. of all scenes require a normal exposure and when in doubt about any scene, use the Arrow position on the exposure dial.

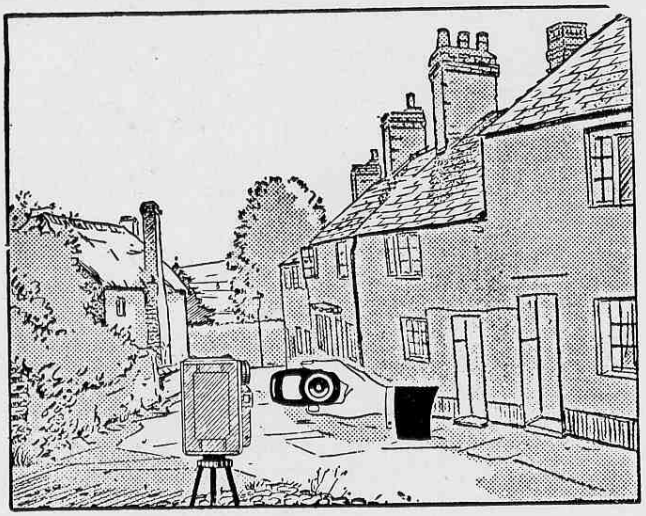


Aiming the Meter

Aim the meter as shown above, looking across the top of the case at the subject. Tilt the meter slightly downwards to avoid measuring the sky, which, being very much brighter than the rest of the subject will "inflate" the reading, resulting in under exposure. See that the photo-cell is not obstructed by your fingers or the neck cord.

When making close up readings, make sure that you do not cast a shadow with the meter or with your hand on the object being measured.





CAMERA POSITION METHOD

The normal method of use of the meter is at the camera position i.e. close to the camera. It is a simple method and the one used most frequently by photographers. This method gives a correct exposure for the overall scene and does not isolate any particular object from an exposure point of view.

Make a light reading (avoiding sky areas) and set the exposure dial as already described. Choose a combination of f/stop and shutter speed consistent with the scene to be photographed. A fast shutter speed is required if there is action, or a small aperture (high f/stop number) if maximum depth of field is needed.

Generally, the Arrow position on the exposure dial should be used. For flat scenes, or for scenes with extreme contrast of highlights and shadows, use the "A" or "C" position as described on Page 7.

The camera position method should not normally be used for back-lighted snow, sand or water, since specular reflections can result in under exposure of the shadowed areas. (See Brightness Range Method). But for landscapes, general views and other photographs where a quick reading is wanted the camera position method is quite satisfactory.

THE CLOSE-UP METHOD

In the close-up method the meter is held close to the object being photographed. In this way the film is exposed particularly for the one object of interest and the background is subjugated accordingly.

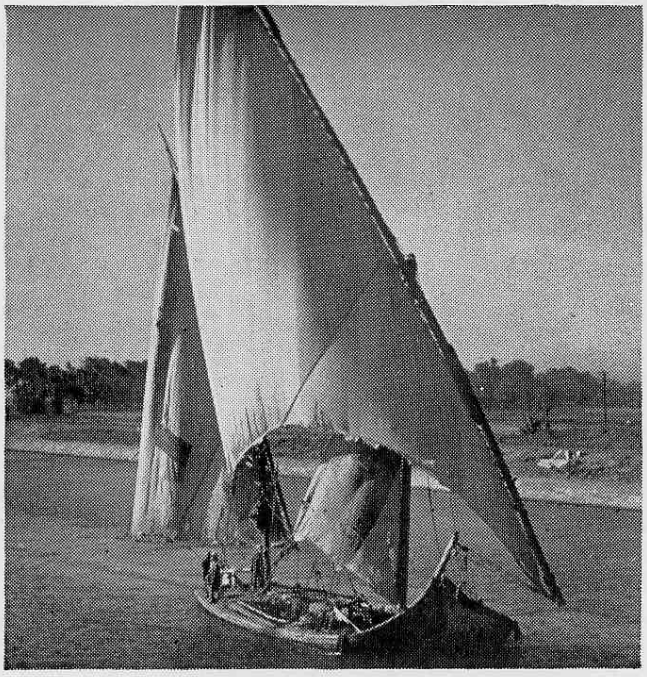
Hold the meter close to the principal object, about as far away as the object's smallest dimension. The meter can be held closer than this distance, but no farther away. If the object is the face 6 inches is sufficient. The distance can be increased to say 5 feet if it is desired to isolate a small group of people from the background, or even to 10 feet in the case of larger surfaces. Make quite certain, however, that no light reaches the cell from unimportant objects.

When making a reading, make sure that you do not cast a shadow on the subject with the meter or with your hand. Also do not let your body interfere with the natural illumination of the subject. To avoid casting shadows, the meter may have to be held at an angle to the direct light on the subject, i.e. you can measure the reflected brightness by standing slightly to one side.

Having taken a close-up light reading, set the exposure dial to the Arrow position and make your camera settings.







Substituted Readings

It is not always possible or convenient to take close-up readings. In such cases, substituted readings of nearby similar objects can be made. In the above example, a close-up reading of the hand would be a substitute for the sails of the barge and a close-up reading of the river bank close by would suffice for the darkest object. Similarly, a white handkerchief can often be substituted for a white wall or a lady's blouse. But ensure that the lighting is the same and that the objects are similar.

BRIGHTNESS RANGE METHOD

The Brightness Range Method consists of measuring the light values of the lightest and darkest objects of the subject and thereby balancing the exposure midway between the two extremes. It is the most accurate method known for the determination of correct exposure and is recommended for the best possible negative from an exposure viewpoint.

In an average scene, various objects reflect different amounts of light—the dark objects little light, the bright objects much light. In a fine photograph, all objects should be correctly exposed and thus the above extremes should be measured.

Make a close-up reading of the darkest object (for example, a dark hedge) in the scene and note the light value. Then make a close-up reading of the brightest object (for example, a white wall) again noting the light reading. If you are not sure which are the darkest and lightest objects measure several that appear so, and take the lowest and highest readings respectively.

Set the Arrow on the exposure dial midway between the darkest and brightest object light values, i.e. the Arrow should be the same number of divisions or blocks from the darkest light value, as it is from the brightest. You can then read off the correct combinations of f/stop and shutter speed for the scene.

Most films can record a long range of brightness in any one subject, but there are limits to the range of deep shadows and bright highlights which can be

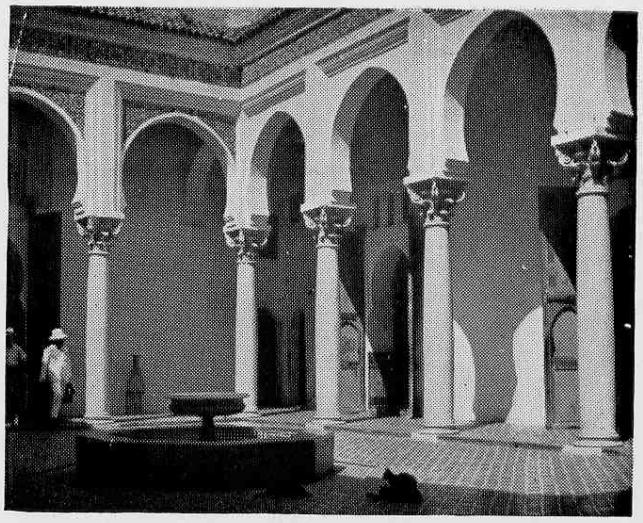
THE "U" AND "O" POSITIONS

recorded with reasonable truth in a single negative. A knowledge of these limits can prevent unnecessary loss of detail in extreme shadows or highlights when long range subjects are encountered.

The "U" and "O" positions on the exposure dial show the limits of subject brightness which the average film can record on a single negative, the ratio of these being about 128:1. For a given setting of the dial all objects whose light values fall on or between these two limits will be correctly exposed. Any object having a light value below the "U" position will be under-exposed and any object with a light value above the "O" position will be over-exposed.

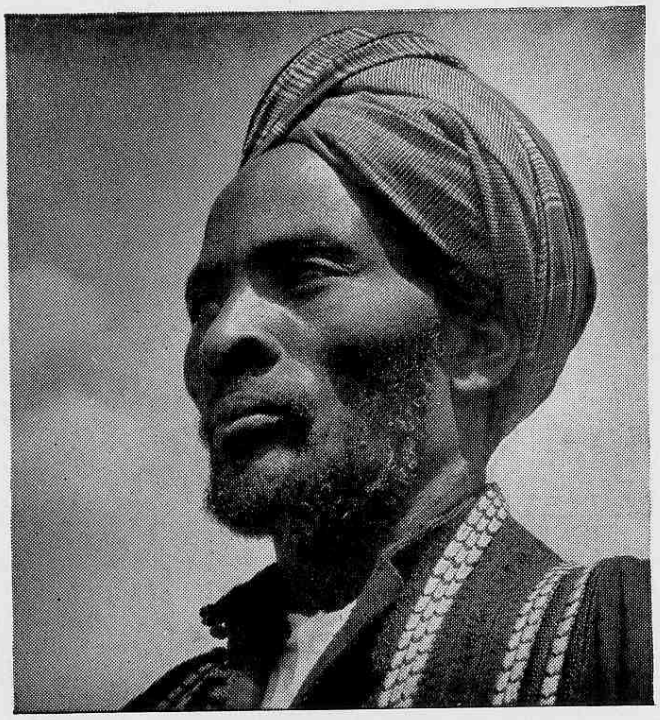
By setting the "U" position opposite the darkest object light value, the minimum correct exposure will result. If the "O" position is set opposite the brightest object value, the maximum correct exposure will be obtained. The Arrow position gives the normal exposure.

When movement in a scene dictates a minimum exposure, you can use the "U" position and although the densities on the negative will be as thin as is permissible, the exposure will still be correct. On the other hand, in a dark hall or cave, it might be impossible to obtain a reading from anything but the brightest object. By using the "O" position, the maximum range of the negative will be used and correct exposure obtained but the density will be increased.



Highlights and Shadows

In a scene such as the above, the brightness range greatly exceeds the film range i.e. the patches of sunlight may measure 500 candles per sq. ft. and the deep shadows 1 candle per sq. ft. The average film range is thus not wide enough to give details in both the highlights and shadows, although good average exposure can be obtained by using your meter as already described. According to the effect you require, however, you can choose to expose for details in the shadows by using the "U" position or, alternatively, for detail in the highlights by using the "O" position.



Colour Film Range

The range of colour film is far more restricted than that of monochrome film. The permissible range of light values is approximately 4 to 1 and this range is covered by the "A" and "C" positions on the exposure dial. The "A" position represents the lower limit and the "C" position the upper limit. Thus after setting the dial for any scene, all objects whose light values fall between these positions will

COLOUR PHOTOGRAPHY

be correctly exposed. If any objects have a light value below the "A" position, they will be under-exposed and if any have a light value above the "C" position they will be over-exposed. This knowledge enables you to select the best exposure for the colours in which you are most interested.

Brilliance in colour photography is obtained through colour contrast and not from highlights and shadows as in black and white photography. The method recommended for best exposures is the Brightness Range Method described on page 10.

In colour work, black and white should not be considered as colours and must not be measured. First, make a close-up reading of the darkest colour in the scene. Then take a close-up reading of the brightest colour. Set the Arrow position on the exposure dial midway between the light values of the darkest and brightest objects and make your camera setting.

The above method centres the exposure in the middle of the film range and is ideal for the average colour photograph where the colour contrast is low and flatly illuminated. If, however, the dark colours are of principal interest, set the "A" position on the Exposure dial opposite the darkest colour light value. Alternatively, if the brightest colours are of principal interest, set the "C" position opposite the brightest colour light value. These positions match the lower and upper limits of the film range respectively.

Usually the most pleasing colour pictures result from exposure for the brightest colours and remember that slight over-exposure gives better colour rendition than under-exposure. Avoid shadows and extreme contrast in lighting wherever possible.

CINE PHOTOGRAPHY

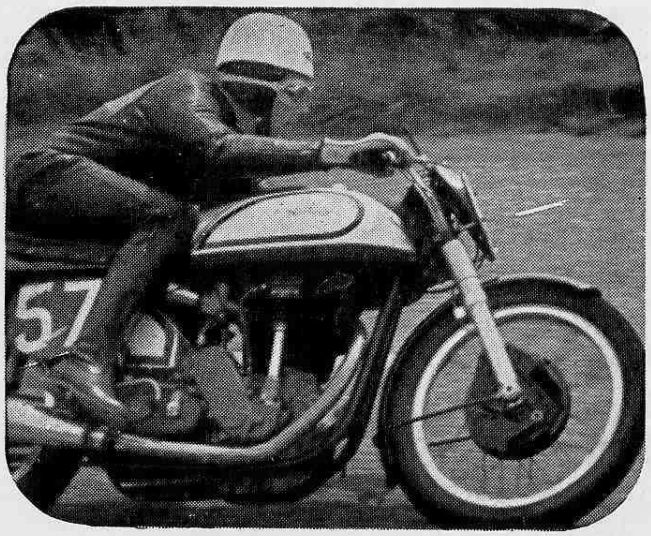
A cine camera is essentially the same as a still camera but it exposes a series of pictures in a given interval at a fixed shutter speed. For the best exposure results, the Brightness Range Method described on Page 10 is recommended.

Make close-up readings of the darkest and brightest objects in the scene and set the Arrow position mid-way between the light values obtained. The correct f/stop to use will then be found opposite the particular shutter speed of your cine camera. In panning the camera, watch the contrast in lighting and, if possible, first determine the correct exposure settings for each part of the scene, altering the f/stop when the camera moves from light to dark areas, etc.

The standard number of frames exposed by the average amateur cine camera is 16 per second at a shutter speed of 1/30th of a second. For other frames per second than 16, the shutter speed is proportional as shown in the following table:—

8	frames	per	second	1/15th
16	,,	,,	,,	1/30th
24	,,	,,	,,	1/45th (use 1/40th)
32	,,	,,	,,	1/60th
48	,,	,,	,,	1/90th (use 1/100th)
64	,,	,,	,,	1/120th (use 1/130th)

Some cameras may have a different shutter speed at 16 frames per second, such as 1/40th or 1/50th, and the f/stop for these should be read off against this shutter speed on the exposure dial. If the shutter speed of your camera is unknown, ascertain it from the camera manufacturer.



Colour Cine Film

Follow the accompanying instructions and those given for still colour film photographs. Avoid extreme lighting conditions and allow the colour to provide all the necessary contrast. For outdoor shots, expose between 10 a.m. and 3 p.m. if possible as the quality of the light is normally best during that period. If the sun in shining it should be directly behind the camera. Watch the reflection values of the surroundings, i.e. a white dress can be turned pink by a red reflection. Avoid shadows and subjects in shadow. These are illuminated by skylight which is bluer than sunlight for which the film is balanced. In an ideal scene, the colour contrast is low, flatly illuminated and it is taken on a clear sunny day.

CARE OF YOUR EXPOSURE METER

1. Your "Master" Meter is rugged and well made but like a fine watch, which it resembles in many ways, it should be treated with all reasonable care.
2. If the pointer of your meter does not register zero when no light strikes the cell, it requires a slight adjustment. Cover the cell with your hand or a card and with a small screwdriver rotate the small screw on the back of the meter below the cell until the pointer rests on zero. Tilt the meter at an angle of about 45° when making the adjustment. Zero adjustment, however, is only very occasionally necessary and should be made with great care.
3. Do not leave the photo-cell exposed to strong sunlight for long periods. This treatment is harmful. Keep the meter in its case or box when not in use.
4. Do not drop the meter, otherwise its jewelled bearings may suffer.
5. Do not overheat the meter by leaving it on a hot radiator, etc. Normal temperature or even abnormal summer temperatures will not harm the meter.
6. Your "Master" meter is moisture proof but not waterproof, so do not drop it in the lake.

If your meter is in need of repair, take it to your regular photographic dealer.

If this is not possible, pack the meter very carefully and return it with details of fault to :—

Repair Department
SANGAMO WESTON LTD.
Great Cambridge Road, Enfield, Middlesex, England



Back Lighted Subjects

If the meter is aimed directly at a back-lighted subject, i.e. one where the main lighting comes from behind, it is obvious that the light value reading can be inflated resulting in under-exposure. To overcome this, turn around and make the reading on a similar object with your back to the lighting. For example,

ADDITIONAL NOTES

in the above picture a close-up reading could be made of your hand for the girl's face or a handkerchief for her dress. This applies to all beach scenes where sand is back-lighted, or sparkling snow scenes. Take the light reading on the snow or sand with the sun over your shoulder. Direct reflections from sparkling water should be avoided when taking light readings.

These instructions obviously do not refer to the position of the camera.

Filters

Filters have a multiplying factor in relation to the film with which they are used and the exposure required must be increased accordingly. The easiest method of making this increase is to divide the filter factor into the Weston speed of the film and set the exposure dial on the meter with the resultant value. For example the filter factor using a certain film, may be 2 and the film speed 100. Dividing 100 by 2, the result, 50, is used to set the film speed on the exposure dial.

Equipment Errors

Photographic equipment is sometimes subject to small errors, e.g., in shutter speeds and f/stops. Usually these errors cancel each other, but it is possible for them to be additive, resulting in consistently over- or under-exposed films. These errors can be compensated for by adjusting the listed film speeds, lowering them if results are consistently under-exposed and raising them if over-exposed.

Weston Film Speeds

Different developers have an influence on the effective emulsion speed value of a film. A note is made of this in the Weston Film Speed List.

Order No.	Description
6019	Combi case for Ambi Silette with accessories
6059	Leather case for one lens
6049	Leather case for 2 lenses, 2 filters and lens hood
6308	Leather case with lens hood and compartments for 2 filters
6088	Leather case without lens hood

An additional accessory which is available for the Ambi Silette is an optical supplementary attachment, the Agfa Proximeter; this enables the built-in rangefinder to be used, free from parallax, with both the standard lens and the telephoto lens.

The Agfa Proximeter is supplied in two models:

Order No.	Description	
6747	Proximeter I, focusing range 40–20" (100–50 cm.) in leather case	Focusing ranges for standard 50 mm. lens
6748	Proximeter II, focusing range 20–13" (50–33 cm.) in leather case	
	Nos I and II used in combination, focusing range 13–10" (33–25 cm.)	

By using the Proximeter on the telephoto lens the subject is by virtue of the longer focal length reproduced on twice the scale.

INTRODUCTION A LA PHOTOGRAPHIE MESURÉE

Votre posemètre est conçu pour mesurer la lumière réfléchie ou luminosité avec une précision scientifique vous permettant d'obtenir des photographies de réelle qualité.

L'exposition est le produit du temps pendant lequel la lumière réfléchie par le sujet agit sur le film, multiplié par l'intensité de la lumière qui frappe ce film.

Les moyens de réglage de l'exposition sont l'ouverture du diaphragme et la vitesse de l'obturateur; la première règle l'intensité de la lumière, et la seconde le temps pendant lequel la lumière agit sur le film.

Mode d'emploi du Posemètre Weston Master

La légende suivante devra être lue en s'aidant de l'illustration à la page 2.

A. Echelle de luminosité indiquant la luminosité du sujet.
B. Chiffres sur le cadran du calculateur correspondants à l'échelle ci-dessus.
C. Bouton de déblocage du cadran pour le réglage de la rapidité de l'émulsion
D. Ouverture indiquant le réglage de la rapidité d'émulsion.
E. Onglet de rotation du cadran pour réglage de rapidité.
F. Chiffres indiquant les ouvertures du diaphragme.
G. Chiffres indiquant les vitesses d'obturateur (temps de pose).

INTRODUCCIÓN A LA FOTOGRAFÍA CON EXPOSICIÓN MEDIDA

El medidor de exposiciones se destina a medir la luz reflejada o brillantez con exactitud científica, haciendo segura una calidad real en las fotografías.

La exposición es el producto de la duración del tiempo que la luz que viene de la vista actúa sobre la película, multiplicada por la cantidad de luz que cae sobre dicha película.

Los controles de la exposición son la abertura de la lente y la velocidad del obturador; la primera controla la cantidad de luz y la segunda la duración del tiempo con que la luz actúa sobre la película.

Manera de Usar el Medidor de Exposiciones Weston Master

La clave siguiente debe ser leída en conjunción con la ilustración de la página 2.

A. Escala de la luz que registra el valor de la luz de la vista.
B. Cifras en el cuadrante del calculador que corresponden a los valores del párrafo anterior.
C. Botón para soltar el cuadrante para poner en su punto la velocidad de la película.
D. Ventana que indica la puesta en su punto de la velocidad de la película.
E. Orejeta para girar el cuadrante para las velocidades de las películas.
F. Cifras que indican los números focales (aberturas de la lente).
G. Cifras que indican las velocidades del obturador (tiempo).

Cadran du Calculateur

Le cadran du calculateur transforme les lectures de luminosité en combinaisons correctes d'exposition. Pour obtenir ces combinaisons, pressez d'abord le bouton "C", ensuite tournez l'onglet "E" jusqu'à ce que le chiffre de rapidité d'émulsion Weston apparaisse dans la fenêtre "D". Présentez alors le posemètre vers le sujet, en le penchant légèrement vers le bas, afin d'éviter de mesurer le ciel, et notez la lecture sur l'échelle des luminosités "A". Tournez le cadran du calculateur jusqu'à ce que son index vienne en face des chiffres correspondant à la lecture de luminosité, voir "B". Les réglages corrects de votre appareil sont maintenant face à face—les ouvertures de diaphragme sur l'échelle "F" et les temps de pose sur l'échelle "G".

Echelles des Grandes et Faibles Luminosités

Le posemètre est pourvu d'une échelle à grande luminosité et d'une échelle à faible luminosité (voir illustrations "J" et "K", page 3), permettant de mesurer des luminosités de 0 à 1600 bougies par pied carré. On se sert de l'échelle de grande luminosité pour tous les sujets de luminosité moyenne ou brillante. Lorsque la lecture de luminosité est au-dessous de 50, on doit se servir de l'échelle de faible luminosité. Celle-ci est mise en opération en dégageant le loquet "H", maintenant le cache à charnière placé sur la face arrière du posemètre (voir l'illustration à la partie supérieure droite de la page 5), et en retournant le cache contre le boîtier jusqu'à l'enclenchement du loquet qui le maintiendra grand ouvert.

Classification des Sujets

Le posemètre mesure la valeur moyenne de la lumière ou luminosité provenant de l'ensemble de la scène. Ainsi pour les expositions normales, c'est la flèche du

Cuadrante del Calculador

El cuadrante del calculador convierte las lecturas de la luz en las combinaciones correctas de exposición. Para obtener estas combinaciones, primero, se oprime el botón "C", y después se hace girar la orejeta "E" hasta que aparece en la ventana "D" el número Weston de velocidad. A continuación se coloca el medidor apuntando a la vista, inclinándolo ligeramente hacia abajo para evitar la medición del cielo, y se toma nota de la lectura en la escala de la luz "A"; se gira el cuadrante del calculador hasta que la flecha apunta a las mismas cifras que la lectura de la luz, véase "B". Las puestas a punto correctas para la cámara están ahora la una enfrente de la otra directamente—los números focales están en la fila "F" y las velocidades del obturador en la fila "G".

Escalas para Luz Intensa y Luz Débil

El medidor está provisto de una escala para luz intensa y otra escala para luz débil (véanse las ilustraciones "J" y "K" en la página 3) que cubren un campo de 0 a 1600 bujías por pie cuadrado. La escala de luz intensa es para uso con todos los objetos iluminados con luz media y luz brillante. Cuando la lectura de la luz es de menos de 50 bujías por pie cuadrado, se debe usar la escala de luz débil. Esta escala se pone en operación soltando el pestillo "H" que sujeta un disco deflector en la trasera del medidor (véase la ilustración de la parte superior derecha de la página 5), y haciendo girar el disco deflector hacia atrás contra la caja, de modo que se enganche el pestillo y mantenga el disco abierto.

Clasificación de las Vistas

El medidor de exposiciones mide el valor medio de la luz o brillantez que viene de la vista entera. Por tanto, para exposiciones normales se usa la posición de la

cadran du calculateur qu'il faut utiliser. Pour les scènes qui demandent un temps de pose inférieur à la normale, c'est-à-dire les scènes manquant de contrastes, on a prévu le repère "A". Pour celles qui demandent plus d'exposition que la normale, c'est-à-dire pour les scènes présentant des contrastes, on a prévu le repère "C".

Méthode de la Gamme des Luminosités

Cette méthode est recommandée pour obtenir de bonnes photographies lorsqu'il est indispensable que tous les objets d'une scène soient correctement exposés. Elle consiste à mesurer la luminosité de l'objet le plus brillant et celle de l'objet le plus sombre du sujet.

Pour cela, prenez une lecture de premier plan de l'objet le plus sombre et une lecture de premier plan de l'objet le plus brillant, placez ensuite la flèche du cadran du calculateur au milieu de l'intervalle compris entre la luminosité de l'objet le plus sombre et celle de l'objet le plus brillant. Vous pouvez alors choisir les combinaisons correctes de diaphragme et d'obturateur pour la scène en question.

S'il n'est pas possible de prendre une lecture de premier plan, on peut faire des lectures sur des objets de même nature, mais alors il faut s'assurer que les conditions de luminosité sont bien les mêmes et que les objets sont semblables.

Les Repères "U" et "O"

Les repères "U" et "O" du cadran du calculateur donnent les limites de la gamme de luminosité que la plupart des pellicules peuvent enregistrer sur un seul négatif. Pour un réglage donné du cadran, tous les objets dont la luminosité tombe sur ou entre ces limites seront correctement exposés.

Dans un sujet où la gamme de luminosité dépasse de

flecha del cuadrante del calculador. Para vistas que necesiten una exposición menor que la normal, es decir, vistas que carezcan de contraste, el aparato está provisto de una posición "A"; y para aquellas vistas que necesiten una exposición mayor que la normal, es decir, vistas con contrastes, el aparato lleva una posición "C".

Método de los Límites de Brillantez

El método de los límites de brillantez se recomienda para buenas fotografías en las que es esencial que todos los objetos de la vista tengan una exposición correcta, y consiste en medir los valores de la luz de los objetos más brillantes y de los objetos menos brillantes de la vista.

Esto se consigue tomando una lectura desde muy cerca del objeto más obscuro y haciendo otra lectura de una manera semejante del objeto más brillante. A continuación se coloca la flecha del cuadrante del calculador en el punto medio entre los valores de la luz del objeto más obscuro y del objeto más brillante. Entonces se pueden leer las combinaciones correctas de número focal y velocidad del obturador para la vista.

Si no fuera posible tomar una lectura muy de cerca, se pueden tomar lecturas substitutas pero hay que asegurarse de que las condiciones de iluminación son las mismas y de que los objetos son semejantes

Las Posiciones "U" y "O"

Las posiciones "U" y "O" en el cuadrante del calculador muestran los límites de la brillantez del objeto que la película media puede registrar en una sola negativa. Para una preparación dada del cuadrante, todos los objetos cuyo valor de luz caiga en esos límites o entre ellos, tendrán una exposición correcta.

En una vista en la que el campo de brillanteces exceda

que vous voulez mettre en relief, placez le repère "C" en face de la luminosité de la couleur la plus claire.

Cinématographie

Les appareils de prise de vues de cinéma exposent une série d'images à un intervalle de temps déterminé et à une vitesse d'obturateur constante. Les ouvertures de diaphragme servent à compenser les variations de l'intensité lumineuse et, de ce fait, l'exposition du film particulier avec lequel votre appareil est chargé.

Pour obtenir les meilleurs résultats du point de vue de l'exposition, il est recommandé d'employer la méthode de la gamme des luminosités qui a été décrite précédemment. En vous servant de cette méthode pour la cinématographie, vous trouverez l'ouverture correcte de diaphragme à utiliser juste en face de la vitesse d'obturateur propre à votre caméra sur le cadran du calculateur.

Le nombre d'images par seconde est proportionnel à la vitesse d'obturateur, comme il est montré sur la table se trouvant à la page 11.

Films Ciné en Couleurs

Suivez les instructions qui précèdent et celles qui sont données pour les photographies en couleurs.

A NOTER ÉGALEMENT

Sujets a Contre-Jour

Si vous dirigez le posemètre directement sur un sujet éclairé à contre-jour, la lecture de luminosité sera

si los colores brillantes fueran los de interés principal, entonces, póngase la posición "C" enfrente del valor de la luz del color más brillante.

Fotografía Cinematográfica

Las cámaras cinematográficas hacen la exposición de una serie de fotografías en un intervalo dado a una velocidad de obturador fijada. El número focal controla las variaciones en la intensidad de la luz y, por tanto, la exposición de la película particular con que está cargada la cámara.

Para obtener los mejores resultados de la exposición se recomienda el método de los límites de brillantez, que se ha descrito anteriormente. Empleando este método para la fotografía cinematográfica, se necesita emplear el número focal que está directamente enfrente de la velocidad de obturador particular de la cámara de toma, en el cuadrante del calculador.

El número de fotografías tomadas por segundo es proporcional a la velocidad del obturador como se muestra en la tabla de la página 11.

Películas Cinematográficas en Colores

Síganse las instrucciones citadas y las que se han dado para la fotografía en colores de imágenes fijas.

NOTAS ADICIONALES

Fotografía a Contraluz

Si el medidor está dirigido directamente a un objeto iluminado a contraluz, la lectura del valor de la luz se inflará y dará como resultado una exposición

beaucoup la sensibilité de la pellicule, le détail dans les parties les plus ombrées comme dans les parties les plus ensoleillées devra évidemment être sacrifié. En plaçant le repère "U" en face de la lecture de luminosité de l'objet le plus sombre, on obtiendra le temps minimum de pose correct, mais si c'est le repère "O" que l'on place en face de la lecture de luminosité de l'objet le plus brillant, on obtiendra le temps maximum de pose correct. On peut aussi obtenir un temps de pose moyen en se servant du posemètre comme il a été décrit précédemment.

Photographie en Couleurs

La sensibilité des pellicules en couleurs est celle indiquée par les repères "A" et "C" du cadran du calculateur. Tous les objets dont la luminosité tombe entre ces repères seront correctement exposés. Les objets ayant une luminosité inférieure à celle de "A" seront sous-exposés, tandis que ceux dont la luminosité sera supérieure à celle de "C" seront sur-exposés.

La luminosité dans la photographie en couleurs est obtenue par le contraste des couleurs, et la méthode recommandée pour obtenir le meilleur temps de pose est la méthode de la gamme des luminosités. Il y a lieu de se rappeler que le blanc et le noir ne doivent pas être considérés comme des couleurs et qu'ils ne doivent pas être mesurés. Faites une lecture de premier plan sur la couleur la plus vive et sur la couleur la plus sombre, et placez la flèche du cadran d'exposition au milieu de l'espace compris entre ces deux lectures de luminosité.

La méthode de la gamme des luminosités centre l'exposition au milieu de l'intervalle de sensibilité de la pellicule, elle est idéale pour la plupart des photographies en couleurs. Si cependant les couleurs sombres sont le principal intérêt, placez le repère "A" du cadran du calculateur en face de la luminosité de la couleur la plus sombre. Si, au contraire, ce sont les couleurs claires

con mucho del campo de la película, como es natural, habrá que sacrificar detalles del objeto más obscuro y/o del objeto más brillante. Poniendo la posición "U" de modo que esté enfrente del valor de la luz del objeto más obscuro, se obtendrá la exposición correcta mínima, pero si se pone la posición "O" enfrente de la luz del objeto más brillante, se obtendrá la exposición correcta máxima. Alternativamente, se puede obtener una exposición media empleando el medidor como ya se ha descrito.

Fotografía en Colores

El campo de películas para fotografía en colores está cubierto por las posiciones "A" y "C" en el cuadrante del calculador. Todos los objetos cuyo valor de luz caiga entre esas posiciones tendrán una exposición correcta. Los objetos que tengan un valor de luz por debajo de la posición "A" estarán con poca exposición y todos los objetos que tengan un valor de luz por encima de la posición "C" estarán con una exposición excesiva.

La brillantez en la fotografía en colores se obtiene por medio del contraste entre los colores y el método que se recomienda para obtener la exposición mejor es el método de los límites de brillantez. Se debe recordar que el negro y el blanco no se consideran como colores y no se deben medir. Se debe tomar una lectura muy de cerca de los colores más brillantes y otra de los colores más obscuros y la flecha del cuadrante de exposiciones se debe colocar en el punto medio entre los dos valores de luz obtenidos.

El método de los límites de brillantez centra la exposición en el medio del campo de la película y es ideal para los trabajos medios en color. Sin embargo, si los colores obscuros fueran los de interés principal, póngase la posición "A" en el cuadrante del calculador enfrente del valor de luz del color más obscuro; y alternativamente

exagérée et il en résultera une sous-exposition. Pour éviter cela, tournez le dos au sujet et prenez une lecture sur un objet semblable avec la lumière derrière vous.

Filtres

Les filtres ont un facteur de multiplication s'appliquant à la pellicule avec laquelle ils sont utilisés, et l'exposition doit être augmentée en conséquence. La méthode la plus simple pour faire cette correction est de diviser le chiffre de rapidité d'émulsion Weston par le facteur de correction du filtre et de régler le cadran du calculateur du posemètre à la valeur ainsi trouvée.

insuficiente. Para vencer esta dificultad, la persona que maneja el medidor debe dar la vuelta y tomar una lectura con un objeto semejante dando la espalda a la luz.

Filtros

Los filtros tienen un factor de multiplicación con relación a la película con la que se usan y la lectura del medidor de exposiciones se debe aumentar de acuerdo. El método más fácil de hacer este aumento es dividir la velocidad Weston de la película por el factor del filtro y poner el cuadrante del calculador en el medidor con el valor resultante.

SANGAMO WESTON LIMITED

Head Office and Works : **Enfield, Middlesex, England**

Scottish Factory : **Port Glasgow, Renfrewshire**

Branches : Glasgow, Manchester, Newcastle-on-Tyne, Leeds, Liverpool, Wolverhampton, Nottingham, Bristol, Southampton, Brighton

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INSTRUCTION BOOK

for the Model S141/736

WESTON MASTER II CINÉ EXPOSURE METER

THE WESTON *Master* II

UNIVERSAL EXPOSURE METER

MODEL S141/735

SANGAMO WESTON LTD.
ENFIELD MIDDLESEX

INSTRUCTIONS

for

WESTON

MASTER II CINÉ

EXPOSURE METER

MODEL S141/736

We reserve the right to make structural alterations of the Agfa Ambi Silette as a result of further development of the camera.

AGFA AKTIENGESELLSCHAFT
CAMERA-WERK MUENCHEN

1234 engl. - 1258

Warranty

Your Weston Exposure Meter is an entirely British product and is made by the recognised leaders in fine instrument construction.

It is warranted against faulty workmanship and defective materials for a period of one year from date of manufacture.

Handle your meter with the care and respect to which a fine mechanism is entitled and it will give you faithful service adding considerably to your photographic pleasure.

An accident may happen, however, and in such a case you should consult your dealer or our Service Department regarding its return to this factory for repair and adjustment.



SANGAMO WESTON LIMITED
ENFIELD, MIDDLESEX, ENGLAND.

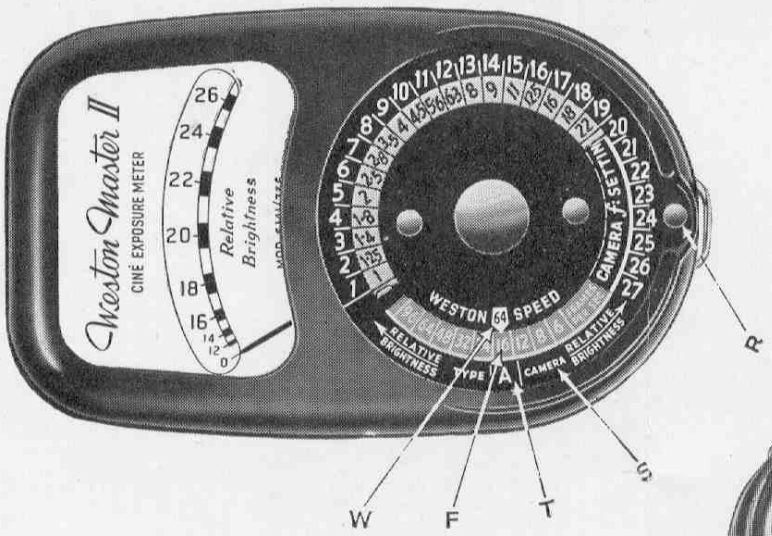
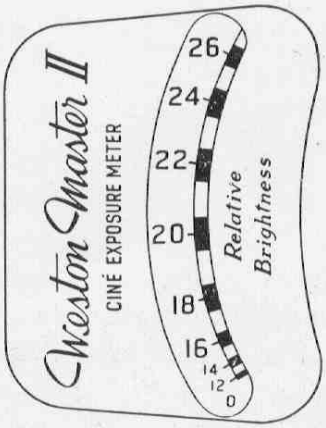

Weston Master II
CINÉ EXPOSURE METER
Relative Brightness
WESTON 64 SPEED
CAMERA f: SETTING
RELATIVE BRIGHTNESS
TYPE A
CAMERA RELATIVE BRIGHTNESS
W
F
T
C
α

Fig. 1



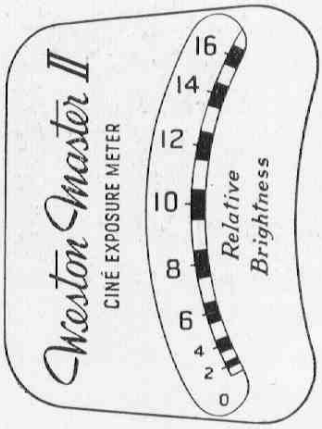
Fig. 2



HIGH LIGHT SCALE

On the rear of the meter a hinged baffle will be found. The light sensitive PHOTRONIC* cell is beneath the baffle. When the baffle is closed, the scale range is 0-26. Keep the baffle closed if the light is 16 or higher.

**Registered Trade-mark*



LOW LIGHT SCALE

When the light is reading less than 16, open the baffle, the scale will then read in brightness units of 0-16. To open the baffle, simply slide the latch, and swing the baffle open against the case until the latch engages in the socket.

HOW TO USE YOUR WESTON CINÉ EXPOSURE METER

ADJUST FOR TYPE OF CAMERA

For purpose of simplification all ciné cameras have been divided into two groups, Types "A" and "B"—according to the angle of the shutter opening.

Cameras having an angle within the range 90° to 149° are classed as Type "B", whilst those having an angle between 150° and 230° are Type "A".

If the exposure time corresponding to a particular number of frames per second is known, the type can be decided by reference to the table on page 10.

When the angle of the shutter opening is not given in the manufacturer's handbook the meter should be set to group "A". If the resultant prints appear consistently under-exposed it is probable that your camera has a smaller angle of shutter opening and better results will be obtained using group "B".

To set the Exposure Meter to the desired group, press the dial release "R" (fig. 1) and move segment "S" until the correct type of your camera "A" or "B" appears in the opening "T".

SET FOR FILM SPEED

Determine the Weston Film Rating of the film with which your camera is loaded, from the Weston Film Rating Book packed with your meter. Hold the middle dial stationary and rotate the top dial until this value appears in the window "W".

SET FOR CAMERA SPEED

Rotate both the top and middle dials as one, until the index "F" directly below the window "W" is opposite the figure representing the frames per second at which your camera is to be operated.

HOW TO USE YOUR WESTON CINÉ EXPOSURE METER

When the above settings have been made, you are ready to measure the scene to be photographed.

YOU DO NOT HAVE TO CHANGE ANY OF THESE SETTINGS UNTIL YOU USE A DIFFERENT TYPE CAMERA, A DIFFERENT TYPE OF FILM OR A DIFFERENT CAMERA SPEED.

AIM THE METER

Hold the meter any way natural to you, but be sure you do not obstruct the cell opening with your hand, or with the neck cord, as this will result in incorrect brightness readings.

When measuring the relative brightness of the scene to be photographed, an overall reading taken from the Camera Position will usually be satisfactory. DIRECT THE METER AT THE SCENE OR SUBJECT, and sight across the top of the case. Do not measure sky, as this will result in an inflated reading.

Close-up and Brightness Range Methods are discussed on pages 6 and 7.

READ THE SCALE

Note the pointer deflection on the scale. If it is below 16 with the baffle closed, open the baffle, which will move the low-range scale into position and enable low light intensities to be measured.

SET YOUR CAMERA

Having obtained the relative brightness as indicated by the pointer find the corresponding number on the outer scale of the exposure control dial. The figure immediately opposite this, is the f/stop value to be used. For example: Assuming a film rating of 32—Brightness reading 15—the f/stop at 16 frames per second would be f/8 with an "A" Camera, or f/6·3 with a "B".

TAKE THE PICTURE

THE CLOSE-UP METHOD

The Close-up Method is so named because the meter is held close to the object of principal interest in the scene to be photographed. With this method only one object is measured, therefore the film will be exposed particularly for this object. It is used where there is but one object of principal interest, the rest of the scene being background, and of no importance.

TAKE CLOSE-UP READING

Take a close-up reading of the object of principal interest. Hold the meter close to the object—about as far away as the object's smallest dimension. The meter may be held closer than this distance but not farther away.

DO NOT CAST A SHADOW

Do not cast a shadow of the meter or your hand on the object being measured. To do so would cause an erroneous reading. If necessary, hold the meter at an angle to the direction from which the light is coming.

SET YOUR CAMERA

Note the light reading obtained. Locate this figure on the outside row of numbers on the exposure control dial . . . directly opposite you will find the correct f/stop setting.

THE BRIGHTNESS RANGE METHOD

The brightness Range Method is so named because the brightness or light values are determined by measuring the lightest and darkest objects, and using the average of the two readings. Exposure is then balanced between the two extremes. This method is the most accurate known for either black-and-white or colour photography.

CONSIDER THE SCENE

Let us consider an average scene. There are various objects in it reflecting different amounts of light. The dark objects reflect little light . . . the bright objects much light.

MAKE A CLOSE-UP READING

Make a close-up reading of the darkest object in the scene, *i.e.*, that object which yields the smallest light reading.

MAKE A CLOSE-UP READING

Make a close-up reading of the brightest object in the scene, *i.e.*, that object which yields the greatest light reading.

SET YOUR CAMERA

Take the average value of the brightest and darkest close-up readings. For example: Assuming a film rating of 32; if the darkest object reading is 4, brightest object 22, add 4 to 22=26, divide 26 by 2=13. Against 13 on the outer scale will be found the correct stop, f/5·6.

COLOUR PHOTOGRAPHY

Due to the fact that colour film has far less latitude than black-and-white film, it is necessary that greater care be exercised in making measurements for colour photography. For this reason the Brightness Range Method is recommended. REMEMBER IN COLOUR PHOTOGRAPHY, BLACK-AND-WHITE ARE NOT CONSIDERED COLOURS.

MAKE A CLOSE-UP READING

Make a close-up reading of the darkest colour in the scene. Hold the meter at least as close to the object as its smallest dimension.

MAKE A CLOSE-UP READING

Disregarding the white, make a close-up reading of the brightest colour.

DO NOT CAST A SHADOW

Be careful that neither the meter nor your body casts a shadow on the subject.

SET YOUR CAMERA

Take the average of the darkest and brightest colour readings, and use the f/stop directly opposite this figure.

HINTS ON COLOUR PHOTOGRAPHY

TIME OF DAY

If pictures are taken before 10 a.m. or after 3 p.m. a colour correction filter should be used and the exposure corrected accordingly.

LIGHTING

Do not use a lighting set-up of extreme contrast when photographing in colour. Colour itself will provide ample contrast in the picture. Too great a lighting contrast results in a scene beyond the range of the film, making correct exposure for all objects impossible. Flat lighting is best for colour.

SUBJECTS IN SHADE

Do not photograph shaded subjects in colour. The shaded portions of the scene are lighted by reflected skylight, rather than sunlight. Skylight is bluer than sunlight for which the film was balanced. Flesh tones and light clothing in a portrait may be falsified by reflected light from coloured walls, materials or foliage in close proximity.

FACE TONES

In close-ups or portraits, usually the brightest colour is the face. Since that is usually the most important colour anyway, an excellent way of exposing close-ups or portraits in colour is to measure the highlight on the face.

SUBSTITUTE THE HAND

The palm of the hand makes an excellent substitute for a person's face. Orient the palm of the hand so it is in the same plane as the face, take a reading, and set your camera to the f/stop opposite this reading.

GENERAL INFORMATION

PANORAMING

Panoraming over areas where there is a wide variation of brightness, requires considerable care. For best results it is advisable to take separate readings of the bright and dark areas. Then when actually taking the pictures, change the camera f/stop as indicated by the meter for each set of different conditions.

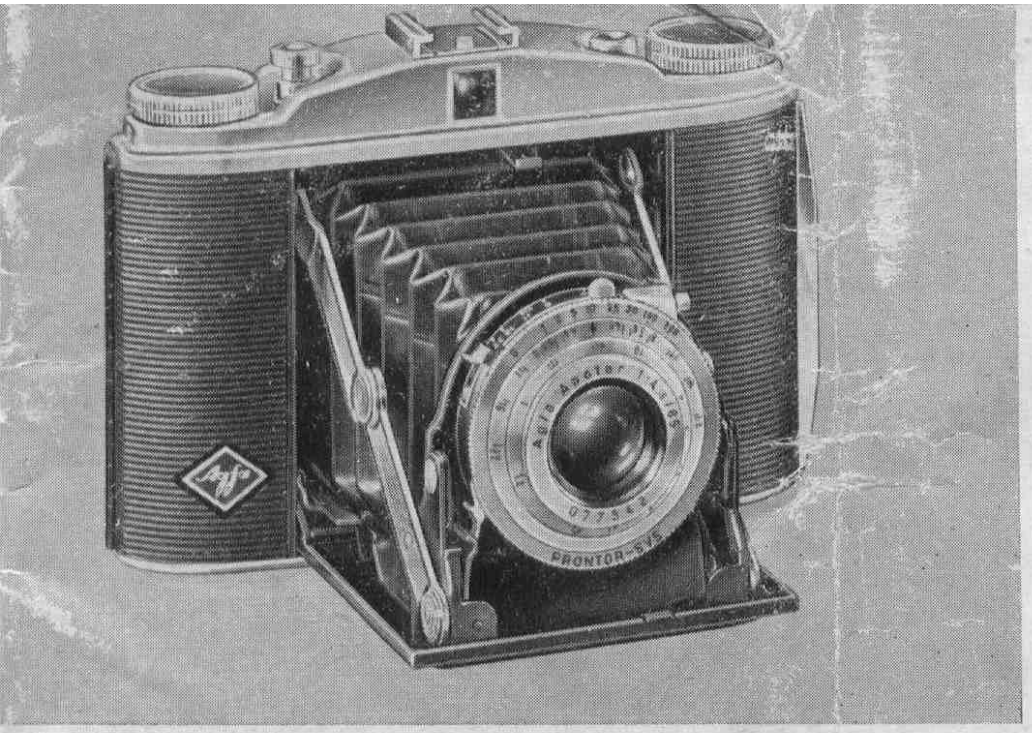
FOR STILL CAMERAS

A ciné camera is essentially a still camera which takes a number of still pictures in rapid succession with a definite exposure for each frame.

The ciné meter can therefore be used with still cameras as well as ciné types.

1. Set the Film Speed Rating.
2. Set the meter to type "A" or "B" depending upon the shutter speed desired.
3. Consider the following relationships:

TYPE "A"		TYPE "B"	
Frames Per Second	Effective Shutter Speed	Frames Per Second	Effective Shutter Speed
6	1/10	6	1/20
8	1/15	8	1/25
12	1/25	12	1/40
16	1/30	16	1/50
24	1/50	24	1/75
32	1/60	32	1/100
48	1/100	48	1/150
64	1/120	64	1/200
96	1/200	96	1/300



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DIRECTIONS FOR USE

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4. Choose the shutter speed desired from the table on the previous page and set the index to the corresponding value for frames per second.

5. Opposite the light value obtained from the scene will be found the correct f/stop for the chosen speed.

For example: If a shutter speed of 1/300th of a second is to be used, the meter is set for type "B" camera and the index set to 96 frames per second. If a speed of 1/120th of a second is desired, set the meter for type "A" camera and the index to 64 frames per second.

CARE OF THE EXPOSURE METER

Your new exposure meter is rugged and well made. But like a fine watch, which it resembles in many ways, normal care should be given.

DO NOT OVERHEAT METER

Normal or even abnormal summer temperatures will not harm the meter. But do not store in a hot place such as on a radiator or in the glove compartment of a car.

DO NOT DROP METER

Like a watch, the jewelled bearings and exactly shaped pivots may be damaged by a fall.

DO NOT CARRY METER WITHOUT CASE

Do not carry the meter loose in the pocket or camera case with other objects. Keep it in its own case when not in use.

GENERAL INFORMATION

ZERO CORRECTOR

When no light reaches the PHOTRONIC* cell, the instrument pointer should rest directly over the zero position on the scale.

If the pointer does not rest over the zero position, place a card over the cell to exclude all light. Hold the meter at an angle of about 45°, and with a small screwdriver rotate the small screw on the back of the meter below the cell, until the pointer rests on zero.

USE OF FILTERS

Exposure must be increased when a Filter is used. A simple way to compensate for this: Divide the Film Speed Rating of the film in use, by the Filter Factor. Set the resultant Film Speed number on the Exposure Guide Dial. For example: If Film Speed Rating is 100, Filter Factor 2, then Film Speed to use would be 50 (100÷2=50).

**Registered Trade-mark*

MODE D'EMPLOI DE VOTRE POSEMÈTRE DE CINÉ WESTON

RÉGLAGE SUIVANT LE TYPE DE CAMÉRA

Pour simplifier, nous avons divisé toutes les ciné-caméras en deux groupes: le Type "A" et le Type "B" —selon l'angle d'ouverture de l'obturateur.

Les caméras ayant un angle d'ouverture compris entre les limites de 90° et 149° sont classées sous le Type "B", tandis que celles dont l'angle d'ouverture est situé entre 150° et 230° sont classées sous le Type "A".

Pour régler le posemètre au type désiré, pressez le bouton "R" de déblocage du cadran (Fig. 1) et déplacez le segment "S" jusqu'à ce que le type "A" ou "B" correspondant à votre caméra apparaisse dans l'ouverture "T".

RÉGLAGE POUR LA RAPIDITÉ D'ÉMULSION

Déterminez le chiffre de rapidité d'émulsion Weston pour le film qui est chargé dans votre caméra, en vous servant de la brochure Weston qui traite de la rapidité des films et qui est fournie avec votre posemètre. Tenez le cadran du milieu de façon à ce qu'il ne bouge pas et faites tourner le cadran supérieur jusqu'à ce que la valeur apparaisse dans le fenêtre "W".

RÉGLAGE DE LA VITESSE DE LA CAMÉRA

Faites tourner ensemble le cadran supérieur et celui du milieu comme s'ils n'en formaient qu'un seul, jusqu'à ce que l'indicateur "F", placé immédiatement au-dessous de la fenêtre "W", se trouve en face du chiffre représentant le nombre d'images que votre caméra tourne par seconde.

Après avoir fait les réglages ci-dessus, tout est prêt pour mesurer la scène à filmer.

VOUS N'AVEZ PAS BESOIN DE MODIFIER AUCUN DE CES RÉGLAGES À MOINS QUE VOUS N'EMPLOYIEZ UN TYPE DE CAMÉRA OU DE FILM DIFFÉRENT OU ENCORE UNE VITESSE D'OBTURATION DIFFÉRENTE.

CÓMO HA DE EMPLEARSE SU MEDIDOR DE EXPOSICIONES CINEMATOGRÁFICO WESTON

AJUSTE SEGÚN EL TIPO DE CÁMARA

Para los fines de la simplificación todas las cámaras cinematográficas han quedado divididas en dos grupos, tipos "A" y "B"—según el ángulo de abertura del obturador.

Las cámaras que tienen un ángulo de abertura comprendido dentro de los límites de 90° a 149° están clasificadas como del Tipo "B," mientras que las que poseen un ángulo entre 150° y 230° son del Tipo "A".

Para poner en punto el Medidor de Exposiciones a fin de que corresponda al grupo deseado, se oprime el botón "R" (fig. 1) de suelta del cuadrante y se mueve el segmento "S" hasta que el tipo correcto de su cámara "A" o "B" aparezca en la abertura "T".

PUESTA EN PUNTO PARA LA VELOCIDAD DE LA PELÍCULA

Debe determinarse la velocidad Weston de la película con la cual se halla cargada le cámara de Vd., sirviéndose al efecto del Libro Weston de Velocidades de Películas, el cual se expide a Vd. con su medidor. Ahora se mantiene fijo el cuadrante del centro y se hace girar al cuadrante de arriba hasta que este valor aparezca en la ventanilla "W".

PUESTA EN PUNTO PARA LA VELOCIDAD DE LA CÁMARA

Se hace girar a los dos cuadrantes, superior y central, como uno sólo, hasta que el índice "F" previsto directamente bajo la ventanilla "W" se halle frente a la cifra que representa el número de fotografías por segundo de acuerdo con el cual ha de operarse la cámara de Vd.

Una vez efectuadas las puestas en punto arriba descritas, está Vd. en condiciones de medir la escena que ha de fotografiarse.

NO TIENE VD. NECESIDAD DE MODIFICAR NINGUNA DE ESTAS PUESTAS EN PUNTO HASTA QUE UTILICE VD. UN TIPO DISTINTO DE CÁMARA O DE PELÍCULA O UNA VELOCIDAD DISTINTA DE CÁMARA.

POINTEZ LE POSEMÈTRE

Tenez le posemètre d'une façon qui vous soit naturelle, mais assurez-vous que vous n'obstruez pas l'ouverture de la cellule avec votre main ou avec le cordonnet de suspension, car cela fausserait les lectures de luminosité.

Quand on mesure la luminosité relative de la scène à filmer, une lecture d'ensemble, prise de l'emplacement de la caméra, est généralement suffisante. POINTEZ LE POSEMÈTRE VERS LA SCÈNE OU VERS LE SUJET, et regardez l'objet par-dessus le boîtier. Ne mesurez pas le ciel, car il en résulterait une lecture exagérée.

Les méthodes de premier plan et de la gamme de luminosités sont décrites aux pages 8 et 9.

PRENEZ LA LECTURE SUR L'ÉCHELLE

Notez la déviation de l'aiguille sur l'échelle. Si cette lecture est au-dessous de 16 quand le cache est fermé, on doit ouvrir celui-ci, ce qui mettra en place l'échelle de faible luminosité et permettra de mesurer les faibles intensités de lumière.

RÉGLEZ VOTRE CAMÉRA

Après avoir obtenu la luminosité relative indiquée par l'aiguille, cherchez le nombre correspondant sur l'échelle extérieure du cadran du calculateur. Le chiffre qui se trouvera immédiatement en face sera celui de l'ouverture du diaphragme qu'il y aura lieu d'utiliser. Par exemple, si nous prenons un film dont la rapidité d'émulsion Weston est de 32—lecture de luminosité 15—l'ouverture à 16 images par seconde sera de 8 avec une caméra du type "A" et de 6,3 avec une caméra du type "B".

FILMEZ

MÉTHODE DE PREMIER PLAN

La méthode de premier plan est ainsi dénommée parce que l'on tient le posemètre tout près de l'objet présentant l'intérêt principal dans la scène à filmer. Avec cette méthode, on ne mesure qu'un objet; en conséquence,

DIRIGIR EL MEDIDOR HACIA LA ESCENA

Se debe sostener el medidor en una forma cualquiera natural con respecto a Vd. mismo, pero es preciso cerciorarse de que uno no obstruye la abertura de la célula con la mano, ni con la cuerda del cuello, pues esto dará por resultado lecturas incorrectas de brillantez.

Cuando se esté midiendo la brillantez relativa de la escena que ha de fotografiarse, por lo general bastará con tomar una lectura general desde la posición de la cámara. DIRÍJASE EL MEDIDOR HACIA LA ESCENA O EL OBJETO, y tómese la puntería a través de lo alto de la caja. No hay que medir el cielo, pues esto dará lugar a lecturas exageradas.

Los Métodos de los Límites de brillantez y de proximidad son discutidos en las páginas 8 y 9.

LECTURA DE LA ESCALA

Obsérvese la desviación de la aguja sobre la escala. Si se halla a menos de la cifra 16 con el disco deflector cerrado, debe abrirse éste, y así se desplazará la escala de los límites hasta su posición y permitirá medir las intensidades de luz débil.

PUESTA EN PUNTO DE SU CÁMARA

Una vez obtenida la brillantez relativa tal como lo indica la aguja, hay que hallar el número correspondiente sobre la escala externa del cuadrante del calculador. La cifra inmediatamente enfrente de ésta, es el número focal que ha de adoptarse. Por ejemplo: Suponiendo una velocidad de película de 32—lectura de brillantez 15—el número focal a razón de 16 fotografías por segundo sería de 8 con una Cámara "A", o de 6,3 con una del tipo "B".

TOME LA FOTOGRAFÍA

EL MÉTODO DE PROXIMIDAD

El Método de Proximidad recibe esta denominación por virtud de que el medidor se mantiene a proximidad del objeto que presenta el mayor interés en la escena que ha de fotografiarse. Con este método sólo se mide un objeto; por lo tanto, la película será expuesta

le film sera exposé spécialement avec cet objet en vue. On ne se sert de cette méthode que lorsqu'il n'y a qu'un objet d'intérêt principal, et que le reste de la scène constitue l'arrière-plan et n'a aucune importance.

POUR PRENDRE DES LECTURES DE PREMIER PLAN

Prenez une lecture de premier plan de l'objet présentant l'intérêt principal. Tenez le posemètre tout près de l'objet—à une distance à peu près égale à la plus petite dimension de l'objet. On peut tenir le posemètre plus près de l'objet, mais pas plus loin.

NE PROJETEZ PAS D'OMBRE

Ne projetez pas l'ombre de votre main ou du posemètre sur l'objet que vous êtes en train de mesurer, car autrement le lecture serait faussée. Si cela est nécessaire, tenez le posemètre de façon à former un angle avec la ligne de direction d'où vient la lumière.

RÉGLEZ VOTRE CAMÉRA

Prenez note de la lecture de luminosité obtenue. Cherchez ce chiffre sur la rangée extérieure des chiffres du cadran du calculateur . . . juste en face, vous trouverez l'ouverture correcte de diaphragme.

MÉTHODE DE LA GAMME DES LUMINOSITÉS

La méthode de la gamme des luminosités est ainsi dénommée parce que les valeurs de luminosité ou de lumière sont déterminées en mesurant la luminosité de l'objet le plus brillant et celle de l'objet le plus sombre et en utilisant la moyenne des deux lectures. L'exposition se trouve ainsi équilibrée entre ces deux valeurs extrêmes. Cette méthode est la plus précise que l'on connaisse tant pour le photographie en blanc et noir que pour celle en couleurs.

ÉTUDIEZ LA SCÈNE

Étudions une scène ordinaire. Dans cette scène se trouvent différents objets, reflétant des valeurs différentes de lumière. Les objets sombres reflètent peu de lumière . . . les objets brillants en reflètent beaucoup.

de modo particular para dicho objeto. Se utiliza en los casos en que hay únicamente un objeto de interés primordial, sirviendo de fondo el resto de la escena, sin ofrecer importancia alguna.

TÓMESE UNA LECTURA DE PROXIMIDAD

Es preciso se tome une lectura de proximidad del objeto de interés primordial. Téngase el medidor próximo al objeto—a una distancia casi igual a la dimensión más pequeña del objeto. El medidor podrá tenerse a mayor proximidad que ésta, pero no a una distancia más grande.

NO PROYECTE SOMBRA ALGUNA

No se debe proyectar sombra alguna del medidor ni de la mano sobre el objeto que se trata de medir. Hacer tal vendría a ocasionar una lectura equívoca. Si es preciso, manténgase el medidor a un ángulo determinado respecto a la dirección de la cual viene la luz.

PUESTA EN PUNTO DE LA CÁMARA

Obsérvese la lectura obtenida de la luz. Encuéntrese esta cifra sobre la fila externa de números prevista sobre el cuadrante del calculador . . . y directamente enfrente de ella encontrará Vd. la puesta en punto exacta del número focal.

EL MÉTODO DE LOS LÍMITES DE BRILLANTEZ

El Mêtodo de los Límites de Brillantez ha sido denominado así porque los valores de brillantez o de luz se determinan mediante la medida de los objetos más claros y más obscuros, y adoptando el término medio de las dos lecturas. Así, pues, la exposición queda equilibrada entre los dos extremos. Este método es el más exacto que se conozca, tanto para la fotografía en blanco y negro como para la en colores.

EXAMEN DE LA ESCENA

Examinemos una escena corriente. En ella existen varios objetos que reflejan distintas cantidades de luz. Los objetos obscuros reflejan poca luz . . . los objetos brillantes mucha luz.

PRENEZ UNE LECTURE DE PREMIER PLAN
Prenez une lecture de premier plan l'objet le plus sombre de la scène, c'est-à-dire de l'objet donnant la lecture de luminosité la plus basse.

PRENEZ UNE LECTURE DE PREMIER PLAN
Prenez une lecture de premier plan de l'objet le plus brillant de la scène, c'est-à-dire de l'objet donnant la lecture de luminosité la plus élevée.

RÉGLEZ VOTRE CAMÉRA
Prenez la moyenne des lectures de la plus faible luminosité et de la luminosité la plus élevée. Prenons un exemple: supposons qu'un film dont la rapidité d'émulsion correspond à 32 soit dans la caméra. Si la lecture de l'objet le plus sombre est de 4, et que celle de l'objet le plus brillant soit de 22, ajoutez 4 à 22, soit 26. Divisez 26 par 2, soit 13. Sur l'échelle extérieure on trouvera en face de 13, l'ouverture correcte de diaphragme, soit 5,6.

PHOTOGRAPHIE EN COULEURS
Du fait que le film en couleurs offre des possibilitiés beaucoup plus restreintes que celles du film ordinaire blanc et noir, on doit apporter un soin encore plus grand à la prise des mesures pour les vues en couleurs. Pour cette raison, il est recommandé d'utiliser la méthode de la gamme des luminosités. RAPPELEZ-VOUS QUE DANS LA PHOTOGRAPHIE DES COULEURS, LE BLANC ET LE NOIR NE DOIVENT PAS ÊTRE CONSIDÉRÉS COMME DES COULEURS.

PRENEZ UNE LECTURE DE PREMIER PLAN
Prenez une lecture de premier plan de la couleur la plus sombre de la scène. Tenez le posemètre à une distance aussi rapprochée de l'objet que la plus petite dimension de cet objet.

PRENEZ UNE LECTURE DE PREMIER PLAN
Ne tenant pas compte des blancs, prenez une lecture de premier plan de la couleur la plus brillante.

TÓMESE UNA LECTURA DE PROXIMIDAD
Tómese una lectura de proximidad del objeto más obscuro en dicha escena, esto es, del objeto que registra la lectura de menor luz.

TÓMESE UNA LECTURA DE PROXIMIDAD
Tómese una lectura de proximidad del objeto más brillante en dicha escena, esto es, del objeto que registra la lectura de mayor luz.

PUESTA EN PUNTO DE SU CÁMARA
Tómese el valor promedio de las lecturas de proximidad de los objetos de mayor y de menor brillantez. Por ejemplo: Suponiendo una velocidad de película de 32, si la lectura del objeto más obscuro es 4, la del objeto más brillante 22, se agrega 4 a 22=26, se divide 26 por 2=13. Enfrente de la cifra 13 sobre la escala externa se hallará el número focal correcto, 5,6.

FOTOGRAFÍA EN COLORES
Debido al hecho de que las películas en colores ofrecen una latitud infinitamente menor que las películas en blanco y negro, es preciso consagrar un mayor cuidado a la toma de las medidas para la fotografía en colores. Por tal razón se recomienda el Método de los Límites de Brillantez. TÉNGASE BIEN PRESENTE QUE EN LA FOTOGRAFÍA EN COLORES, EL BLANCO Y EL NEGRO NO ESTÁN CONSIDERADOS COMO COLORES.

TÓMESE UNA LECTURA DE PROXIMIDAD
Tómese una lectura de proximidad del color más obscuro que haya en la escena. Téngase el medidor por lo menos tan próximo al objeto como la menor dimensión de éste.

TÓMESE UNA LECTURA DE PROXIMIDAD
Prescindiendo del blanco, tómese una lectura de proximidad del color más brillante.

NE PROJETEZ PAS D'OMBRE

Faites attention de ne pas projeter d'ombre sur le sujet, pas plus avec le posemètre qu'avec votre corps.

RÉGLEZ VOTRE CAMÉRA

Prenez la moyenne entre les lectures de la couleur la plus sombre et de la couleur la plus brillante, et utilisez l'ouverture de diaphragme indiquée directement en face de ce chiffre.

QUELQUES CONSEILS CONCERNANT LA PHOTOGRAPHIE EN COULEURS
HEURES DU JOUR

Si les photographies sont prises le matin avant 10 heures ou l'après-midi après 15 heures, il y aura lieu de se servir d'un filtre correcteur des couleurs et le temps de pose devra être modifié en conséquence.

ÉCLAIRAGE

Pour les photographies en couleurs, on ne doit pas se servir d'un éclairage donnant des contrasts extrêmes. Les couleurs elles-mêmes donneront un contraste largement suffisant à l'image. Quand le contraste d'éclairage sera trop poussé, il en résultera une scène hors de la portée du film, ce qui rendra impossible l'exposition correcte de tous les objets. La lumière sans éclat convient le mieux à la photographie en couleurs.

SUJETS DANS L'OMBRE

On ne doit pas prendre en couleurs les objets ombragés. Les parties ombragées de la scène sont éclairées par la lumière du jour réfléchie plutôt que par la lumière solaire. La lumière du jour est plus bleue que la lumière solaire pour laquelle le film a été établi. Dans un portrait, les tons de la peau et des vêtements clairs peuvent être faussés par la lumière que réfléchissent les murs de couleurs, les étoffes ou le feuillage qui se trouvent à proximité.

NO PROYECTE SOMBRA ALGUNA

Téngase cuidado de que ni el medidor ni el cuerpo de Vd. proyecte sombra alguna sobre el objeto.

PUESTA EN PUNTO DE LA CÁMARA DE VD.

Tómese el término medio de las lecturas del color más obscuro y del más brillante, y adóptese el número focal que se halle directamente enfrente de esta cifra.

RECOMENDACIONES PARA LA FOTOGRAFÍA EN COLORES
HORA DEL DÍA

Si se toman vistas antes de las 10 de la mañana o después de las 3 de la tarde deberá emplearse un filtro corrector de los matices, y corregirse la exposición según sea preciso.

ALUMBRADO

No hay que emplear una disposición de alumbrado que presente un contraste extremo cuando se fotografíe en colores. El color mismo habrá de ofrecer amplio contraste en la foto. Un contraste demasiado grande en el alumbrado da lugar a producer una escena fuera del alcance de la película, haciendo que sea imposible una exposición correcta para todos los objetos. El alumbrado mate es el mejor para los colores.

OBJETOS EN LA SOMBRA

No deben fotografiarse los objectos sombreados en colores. Las partes sombreadas de la escena reciben su luz mediante el reflejo que proviene del cielo, más bien que del sol. La luz del cielo es más azul que la luz solar, para la cual fué compensada la película. Los tonos de la carne y de la ropa clara en un retrato podrán quedar falseados por la luz que reflejan las paredes de colores, los materiales o bien el follaje a estrecha proximidad.

LES TONS DU VISAGE

Dans les prises de vues de premier plan ou les portraits, la couleur la plus brillante est généralement celle du visage. Comme c'est aussi la couleur qui, en principe, est la plus importante, c'est une excellente idée d'exposer les premiers plans ou les portraits en couleur en prenant la mesure sur la partie la plus lumineuse du visage.

SUBSTITUEZ LA MAIN

La paume de la main est un substitut excellent pour le visage d'une personne. Orientez donc la paume de la main pour qu'elle se trouve dans le même plan que le visage à photographier, prenez une lecture et réglez votre caméra l'ouverture du diaphragme située en face de ce chiffre.

RENSEIGNEMENTS GÉNÉRAUX VUES PANORAMIQUES

Les prises de vues panoramiques de scènes présentant toute une gamme de luminosités demandent un soin particulier. Pour obtenir les meilleurs résultats, il est recommandé de prendre des lectures séparées des régions éclairées et des régions sombres. Quand par la suite on prendra les vues, il faudra changer l'ouverture du diaphragme de la caméra comme le posemètre l'aura indiqué pour chaque région différente.

POUR LES APPAREILS PHOTOGRAPHIQUES ORDINAIRES

Un appareil de prise de vue cinématographique est essentiellement un appareil photographique prenant un certain nombre de photographies ordinaires en succession rapide, avec un temps d'exposition déterminé pour chaque image.

On peut donc se servir du posemètre de ciné pour les appareils photographiques ordinaires aussi bien que pour les cinécaméras. Pour cela, on doit:—

TONOS DEL ROSTRO

En las fotos tomadas muy de cerca o en los retratos, el rostro es, por lo general, el color más vivo. Como éste es, de costumbre, el color más importante en todo caso, un modo excelente de exponer las fotografías a tomar muy de cera o bien los retratos en colores es medir la parte más luminosa de la cara.

LA MANO COMO SUBSTITUTO

La palma de la mano constituye un substituto excelente del rostro de una persona. Oriéntese la palma de la mano de tal modo que se halle en el mismo plano que la cara, tómese una lectura, y colóquese la cámara al número focal que se encuentre frente a esta lectura.

INFORMES GENERALES VISTAS PANORÁMICAS

La toma de vistas panorámicas donde existe una gran diversidad de brillantez exige un cuidado considerable. Para obtener los mejores resultados se recomienda tomar lecturas separadas de los sectores claros y de los obscuros. Entonces, cuando se está tomando las fotos, cámbiese el número focal de la cámara tal como lo indica el medidor para cada serie de condiciones distintas.

PARA CÁMARAS ORDINARIAS

La cámara cinematográfica es esencialmente una cámara ordinaria que toma un cierto número de vistas en sucesión rápida con un tiempo de exposición definitivo para cada fotografía.

Por lo tanto, el medidor cinematográfico puede ser empleado tanto con las cámaras ordinarias como con las cámaras cinematográficas.

1. Régler au chiffre correspondant à la rapidité d'émulsion du film.
2. Régler le posemètre à type "A" ou à type "B," suivant la vitesse d'obturation requise.
3. Tenir compte des rapports suivants:—

Images par seconde	Vitesse effective de l'obturateur	
	TYPE "A"	**TYPE "B"**
6	1/10	1/20
8	1/15	1/25
12	1/25	1/40
16	1/30	1/50
24	1/50	1/75
32	1/60	1/100
48	1/100	1/150
64	1/120	1/200
96	1/200	1/300

4. Choisir le vitesse d'obturateur désirée en utilisant la table précédente et placer l'onglet à la valeur correspondant au nombre d'images par seconde.
5. En face de la valeur de luminosité que l'on aura obtenue pour la scène, on trouvera l'ouverture exacte de diaphragme pour le vitesse choisie.

Par exemple: si on doit se servir d'une vitesse d'obturation de 1/300 de seconde, on règle le posemètre pour la caméra Type "B" et l'onglet sur 96 images par seconde. Si c'est une vitesse de 1/120 de seconde que l'on désire, on règle le posemètre pour la caméra Type "A" et l'onglet à 64 images par seconde.

SOIN DU POSEMÈTRE

Votre posemètre est d'une construction robuste et soignée mais, comme une bonne montre à laquelle il ressemble en bien des points, il faut en avoir soin.

1. Ponga en punto el número correspondiente a la velocidad de la película.
2. Regule el medidor de acuerdo con el tipo "A" o el tipo "B," según lo exija la velocidad deseada del obturador.
3. Deben tenerse presentes las relaciones siguientes:—

Número de Fotografías por segundo	Velocidad Efectiva del Obturador	
	TIPO "A"	**TIPO "B"**
6	1/10	1/20
8	1/15	1/25
12	1/25	1/40
16	1/30	1/50
24	1/50	1/75
32	1/60	1/100
48	1/100	1/150
64	1/120	1/200
96	1/200	1/300

4. La velocidad deseada del obturador debe ser seleccionada del cuadro que aparece en la página anterior y el índice ha de colocarse al valor correspondiente para el número de fotografías por segundo.
5. Frente al valor de luz que se obtiene de la escena se hallará el número focal correcto para la velocidad seleccionada.

Por ejemplo: Si ha de adoptarse una velocidad de obturador de 1/300 de segundo, la puesta en punto para el medidor es la relativa a la cámara tipo "B" y el índice se sitúa para 96 fotografías por segundo. Si se desea una velocidad de 1/120 de segundo, hay que regular el medidor para el tipo "A" de cámara y colocar el índice para 64 fotografías por segundo.

CUIDADOS CON EL MEDIDOR DE EXPOSCICIONES

Su nuevo medidor de exposiciones es de construcción robusta y buena mano de obra. Pero lo mismo que un reloj fino de bolsillo, al cual se parece en muchos respectos, debe ser objeto de cuidados normales.

ÉVITEZ QUE LE POSEMÈTRE NE CHAUFFE

Les températures estivales normales, et mêmes anormales, ne risquent pas d'abîmer le posemètre. Cependant, il ne faut pas le ranger à un endroit chaud comme, par exemple, sur un radiateur ou dans le compartiment à gants d'une voiture.

NE LAISSEZ PAS TOMBER LE POSEMÈTRE

De même que pour une montre, les rubis et les pivots de précision peuvent se trouver endommagés si on laisse tomber le posemètre.

NE PORTEZ PAS LE POSEMÈTRE SANS SON ÉTUI

Ne portez pas le posemètre sans son étui dans la poche ou dans l'étui de la caméra avec d'autres objets. Gardez-le dans son étui quand vous ne vous en servez pas.

RENSEIGNEMENTS GÉNÉRAUX

Correcteur du zéro

Lorsque la cellule PHOTRONIC* n'est pas atteinte par la lumière, l'aiguille de l'instrument doit demeurer exactement sur le repère zéro de l'échelle.

Si l'aiguille ne reste pas sur le repère zéro de l'échelle, placez une carte sur la cellule, de façon à exclure toute lumière. Maintenez l'instrument à un angle de 45° et, à l'aide d'un petit tournevis, faites tourner la petite vis qui est à l'arrière du posemètre, au-dessous de la cellule, jusqu'à ce que l'aiguille reste sur le zéro.

EMPLOI DE FILTRES

Quand on utilise un filtre, il faut augmenter le temps d'exposition. Il y a une méthode simple pour effectuer cette correction: divisez le chiffre de rapidité d'émulsion du film employé par le facteur de multiplication du filtre. Réglez sur le chiffre de rapidité d'émulsion qui en résulte sur le cadran du calculateur. Par exemple: si le chiffre de rapidité d'émulsion est de 100, le facteur de multiplication du filtre 2, le chiffre de rapidité à employer pour le film sera de 50 (soit $100 \div 2 = 50$).

*Marque déposée

NO DEBE RECALENTARSE EL MEDIDOR

Las temperaturas de verano normales o aun siendo anormales no han de perjudicar al medidor. Pero no hay que depositarlo en un sitio caliente, tal como sobre un radiador o en el compartimiento para guantes de un automóvil.

NO HAY QUE DEJAR CAER EL MEDIDOR

Lo mismo que en un reloj de bolsillo, los cojinetes de joya y los pivotes de precisión podrían averiarse con una caída.

NO LLEVE VD. EL MEDIDOR SIN SU ESTUCHE

No lleve Vd. el medidor suelto en el bolsillo o en el estuche de la cámara con otros objetos. Guárdelo en su propio estuche cuando no lo esté utilizando.

INFORMES GENERALES

CORRECTOR A CERO

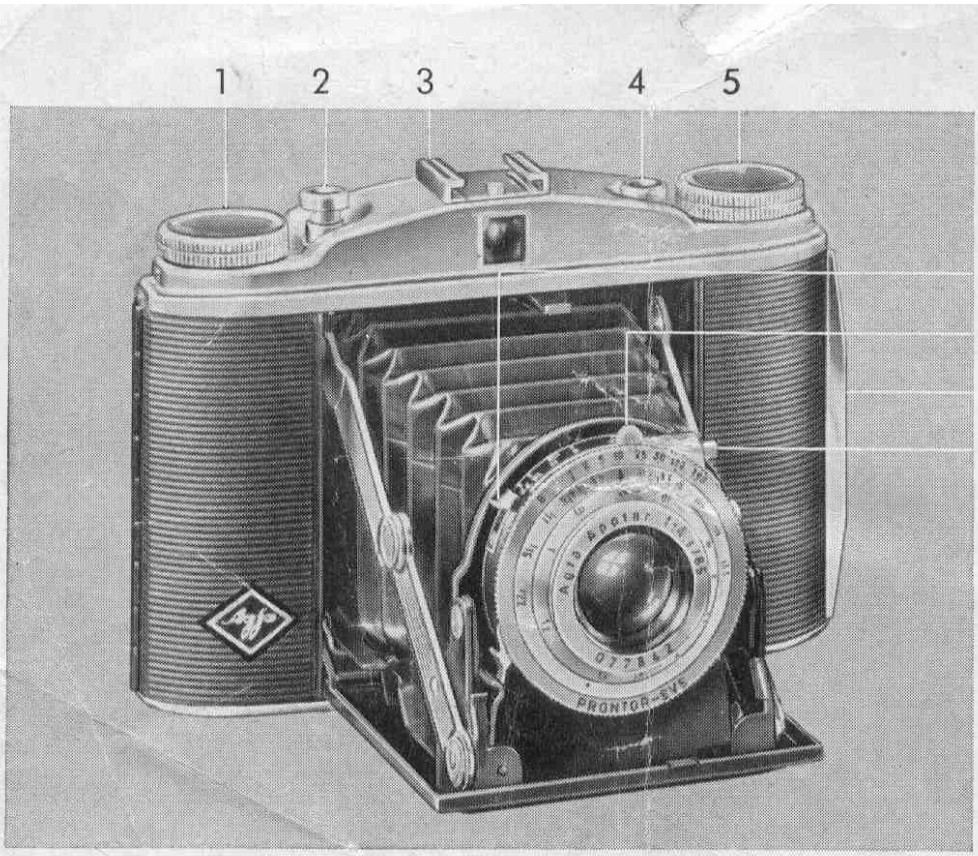
Cuando no haya luz alguna que llegue hasta la célula PHOTRONIC*, la aguja del instrumento deberá quedar situada directamente sobre la posición cero de la escala.

Si dicha aguja no viene a colocarse sobre la posición cero, póngase una tarjeta sobre la célula con el fin de excluir toda luz. Manténgase el medidor a un ángulo de unos 45°, y con un pequeño destornillador hágase girar al tornillo pequeño situado en el respaldo del medidor debajo de la célula, hasta que la aguja se sitúe sobre cero.

EMPLEO DE FILTROS

Cuando se emplea un filtro es preciso aumentar el tiempo de exposición. He aquí una manera sencilla de compensarlo: Divídase el número de velocidad de la película que se utilice por el factor de multiplicación del Filtro. Márquese el número resultante de la velocidad de la película sobre el cuadrante del calculador. Por ejemplo: Si el número de velocidad de la película es 100, el factor de multiplicación del Filtro 2, entonces la velocidad de la película que ha de adoptarse será de 50 ($100 \div 2 = 50$).

*Marca Registrada


1
2
3
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9

SANGAMO WESTON LIMITED

Head Office and Works: **Enfield, Middlesex, England**

Telephone: Enfield 3434 (6 *lines*) 1242 (6 *lines*)

Scottish Factory: **Port Glasgow, Renfrewshire**

Branches: London, Glasgow, Manchester, Newcastle-on-Tyne, Leeds, Liverpool, Wolverhampton, Nottingham, Bristol, Southampton, Brighton

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ADDITIONAL COPIES OF THIS INSTRUCTION BOOK

ONE SHILLING EACH

D. W. 6 55. 3m.

THE WESTON *Master* II

CINÉ EXPOSURE METER

MODEL S141/736

SANGAMO WESTON LTD.
ENFIELD MIDDLESEX

The WESTON Master III

UNIVERSAL EXPOSURE METER

SANGAMO WESTON

SANGAMO WESTON LIMITED · ENFIELD · MIDDLESEX

MODEL S.141 FORM 3

SANGAMO

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LIMITED

Enfield, Middlesex,
England

SANGAMO WESTON

Warranty

Your Weston Exposure Meter is an entirely British product and is made by the recognised leaders in fine instrument construction.

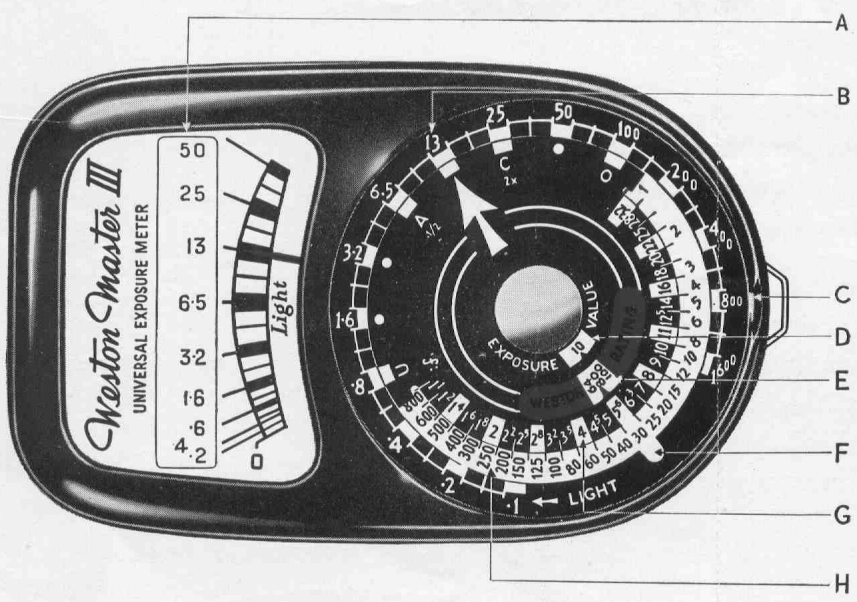
It is warranted against faulty workmanship and defective materials for a period of one year from date of manufacture.

Handle your meter with the care and respect to which a fine mechanism is entitled and it will give you faithful service adding considerably to your photographic pleasure.

An accident may happen, however, and in such a case you should consult your dealer or our Service Department regarding its return to this factory for repair and adjustment.

Use of a leather ever-ready case is strongly recommended. Cases of approved design are obtainable from any photographic dealer. When fitting the instrument into the leather case, the neck cord should be passed through the slot provided in the case.

This Instruction Book must of necessity be fairly concise and it will be appreciated that the use of the Exposure Meter for some subjects is often a matter of individual preference and technique. Several excellent books on the subject of Exposure have been published and of these we would mention: *Exposure Meters and Practical Exposure Control* by J. F. DUNN, M.I.E.E., A.M.I.MECH.E., F.R.P.S.



A Light scale recording light value of scene.

B Figures on exposure dial corresponding to above.

C Tab to release dial for Weston Ratings.

D Window indicating exposure value.

E Window indicating Weston Rating.

F Tab to rotate dial for Weston Ratings.

G Figures indicating f/stops (lens apertures).

H Figures indicating shutter speeds (time).

HOW TO USE YOUR *Master III*

On the top calculator dial will be found the following markings: the "normal" arrow, "A" and "C" markings, "U" and "O" markings and dots at the intermediate "whole stop" positions. Thus there is a complete series of markings at "whole stop" intervals between the "U" and "O" markings.

Emulsion Speeds

Your "Master" meter is a photo-electric instrument which measures reflected light. The calculator dial converts the light readings into the correct exposure combinations. Since emulsion speeds differ from one type of film or plate to another and for different kinds of illumination, make sure that you use the correct number from the list of "Weston Ratings" supplied with the meter.

Set for Weston Rating

Depress tab "C" then turn tab "F" until the Weston Rating number of your film appears in window "E".

Take a Light Reading

Aim the meter at the scene and note reading on light scale "A". Turn the exposure dial until its arrow points to the same figures as the light reading.

Make Camera Settings

The correct settings for your camera now lie directly opposite each other—the f/stop (lens aperture) settings are on scale "G" and the shutter speeds (time) are on scale "H". Any pair of figures for f/stop and shutter speed lying opposite each other will result in correct exposure (see Selecting the f/stop on page 6).

It should be noted that on scale "H" the numbers in black represent fractions of a second (i.e. $2=\frac{1}{2}$; $3=\frac{1}{3}$; $4=\frac{1}{4}$ etc.), whereas the red numbers indicate whole seconds.

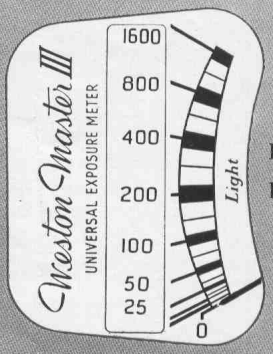
Exposure Values

An additional scale is provided for use with those cameras having shutters calibrated in exposure values.

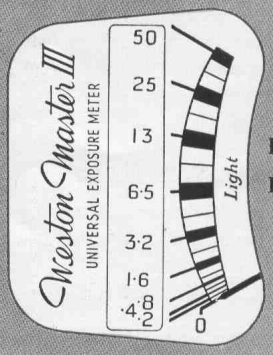
The exposure value for any scene is obtained from the meter after presetting the Weston Rating, taking a light reading and setting the exposure dial in the manner previously described. The appropriate exposure value is then to be found in window "D".



The baffle half open and the release latch "J"



HIGH RANGE
LIGHT SCALE



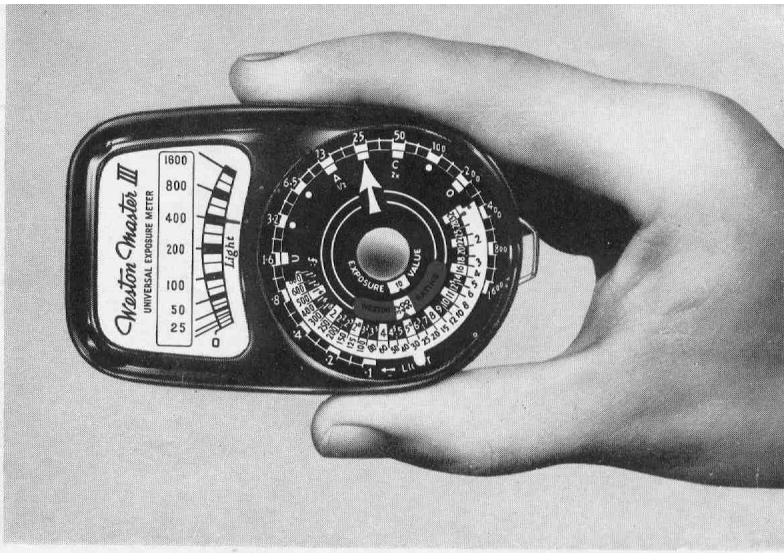
LOW RANGE
LIGHT SCALE

High Range Light Scale

On the rear of the meter a hinged baffle will be found. The light sensitive photo-electric cell is directly beneath the baffle. When the baffle is closed, the high range light scale is in use. This scale measures relative brightness units from 0 to 1600 and is for use for all average and brightly lighted objects. Keep the baffle closed if the light reading is 50 or higher.

Low Range Light Scale

When the light reading is less than 50, open the baffle by releasing latch "J" and turn it back against the case so that the latch engages holding it wide open. The low range light scale automatically appears measuring relative brightness units from 0 to 50. The first division, ·2, indicates a very low order of subject brightness, even for indoor scenes.



Aiming the Meter

Aim the meter, as shown here, looking across the top of the case at the subject. Tilt the meter slightly downwards to avoid measuring the sky, which, being very much brighter than the rest of the subject would "inflate" the reading, resulting in under exposure. See that the photo-electric cell is not obstructed by your fingers, the neck cord, or the ever-ready case.

When making close-up readings, make sure that you do not cast a shadow with the meter or with your hand on the object being measured.

that, in order to obtain sharp definition over the parts of the subject nearest and most distant from the camera, the smallest possible f/stop should be used.

Direct Reading Feature

A useful feature of the "Master" meter is that with the following Weston Rating and f/stop values, the light reading is a direct indication of the shutter speed required, e.g. when the pointer indicates 100, the shutter speed required is 1/100th second, etc.

Weston Rating	*f/stop*
8	f:2·8
12	f:3·5
16	f:4
20	f:4·5
32	f:5·6
40	f:6·3
64	f:8
125	f:11
250	f:16
500	f:22

Classification of Scenes

It will simplify the classification of scenes to remember that the exposure meter measures the average value of light or brightness coming from the entire scene. Thus for normal exposures the arrow position on the calculator dial is used. For those scenes, however, requiring less or more than the normal exposure the "A" and "C" positions may be employed, where ½ or double normal exposure is required.

The following recommendations apply primarily when black and white negative film is being used.

Flat scenes lacking in contrast, such as distant views and landscapes on dull days, generally require less than normal exposure and more than normal development for best reproduction. Set the "A" position on the calculator dial opposite the light value measured for such scenes.

The contrasty scene such as a sunlit street with dark shadows for best reproduction requires more than normal exposure and less than normal development. Set the "C" position on the calculator dial opposite the light value measured for these scenes.

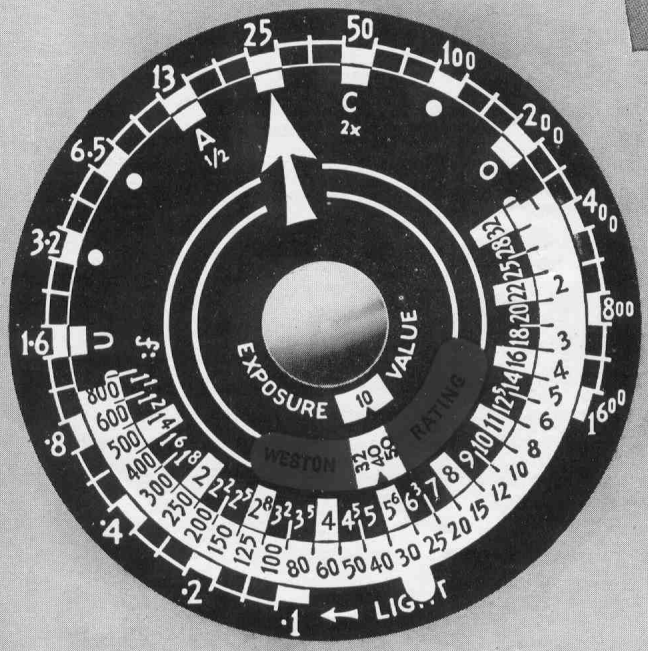
Remember, however, that about eighty per cent. of all scenes require a normal exposure and when in doubt about any scene, use the arrow position on the calculator dial.

AGFA ISOLETTE II is available in the following models:

Order No.:
1334/335 with Agfa Solinar f/3.5 – 75 mm. with Prontor-SVS Shutter
1335/335 with Agfa Apotar f/4.5 – 85 mm. with Prontor-SVS Shutter
1335/39 with Agfa Agnar f/4.5 – 85 mm. with Pronto Shutter
All lenses with anti-reflex coating.

The Agfa Isolette II takes the usual 6 x 9 film B 2 (120) giving twelve 2¼ x 2¼ in. (6 x 6 cm.) exposures.

		Page			Page
1	Film Winding Knob	6/8	5	Film Indicator Disc	4
2	Release Knob with thread for Cable Release, and Indicator Window of Double Exposure Lock	8/15	6	Diaphragm Lever and Scale .	15/16
			7	Shutter Tensioning Lever . .	12/14
			8	Lock for Camera Back . . .	4/7
3	Accessory Shoe	21	9	Synchronized Flash Contact 3 mm. diameter	12/14
4	Locking Knob for opening Camera Baseboard	7			



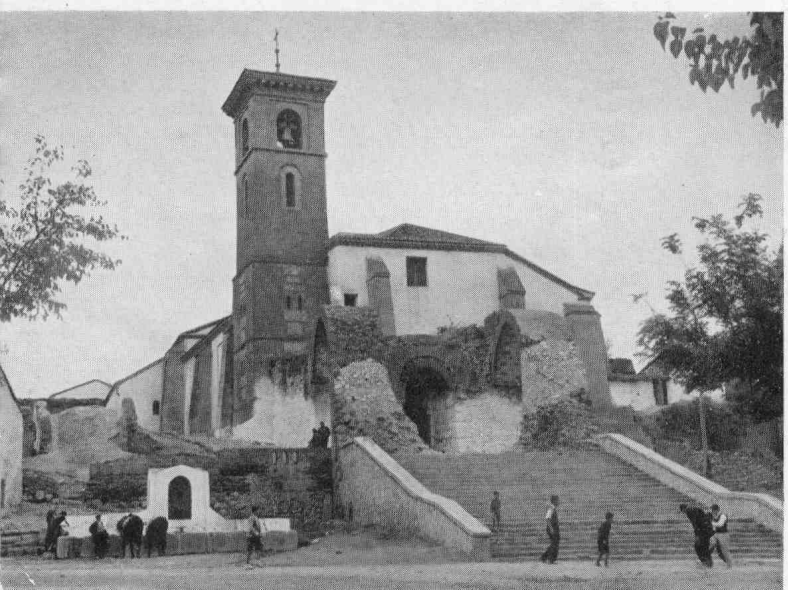
SELECTING THE F/STOP

For each picture taken there is a choice of a number of different exposure combinations of f/stop and shutter speed. With the exposure dial set as illustrated on this page you might select an f/stop of f:6·3 at 1/25th second or an f/stop of f:22 at ½ second. Any one of the combinations shown on the dial would result in a correct exposure (provided the figures taken were directly opposite each other) but the selection of the correct combination depends upon the requirements of the subject.

If the scene is an action one, select a fast shutter speed. If maximum depth of focus is needed, then you can select a slower shutter speed with its corresponding smaller stop opening. Remember . . . . the smaller the aperture the higher the f/stop number.

In close ups or very near subjects, bear in mind that the depth of field covered by the lens is considerably reduced and

CAMERA POSITION METHOD



The normal method of use of the meter is at the camera position, i.e. close to the camera. It is a simple method and the one most frequently used. This method gives a correct exposure for the overall scene and does not isolate any particular object from an exposure point of view.

Make a light reading (avoiding sky areas) and set the calculator dial as already described. Choose a combination of f/stop and shutter speed consistent with the subject to be photographed.

Generally, the arrow position on the calculator dial should be used. For flat scenes, or for scenes with extreme contrast of highlights and shadows, use the "A" or "C" position as described on page 7.

The camera position method should not normally be used for back-lighted snow, sand or water, since specular reflections can result in under exposure of the shadowed areas. (See page 15). But for landscapes, general views and other photographs where a quick reading is wanted the camera position method is quite satisfactory.

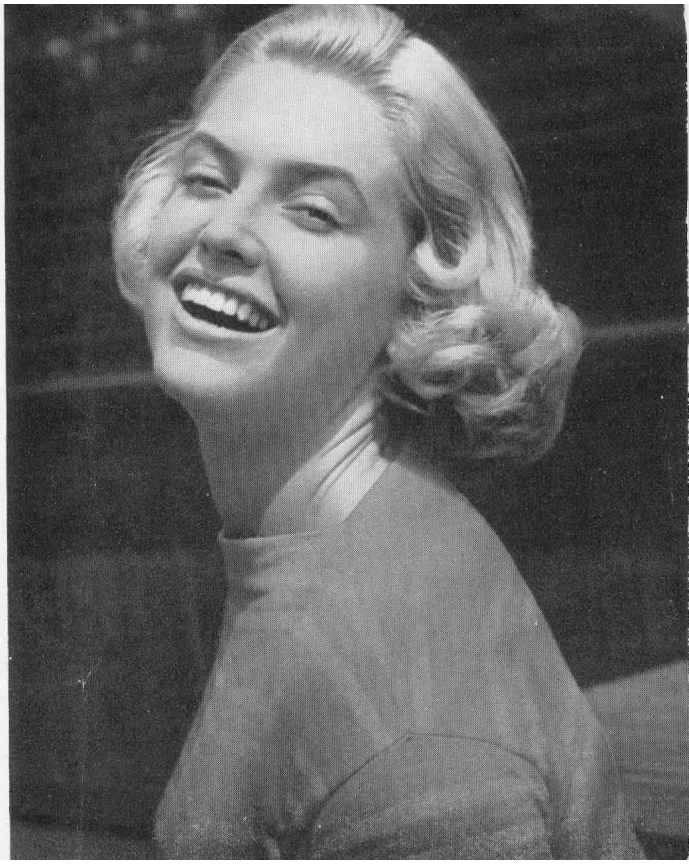
THE CLOSE-UP METHOD

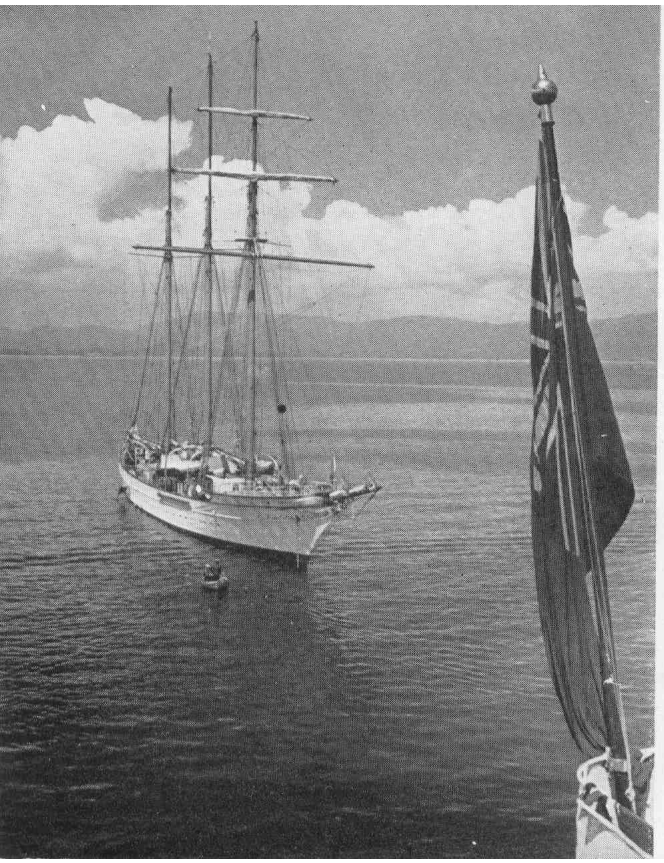
In the close-up method the meter is held close to the subject being photographed. In this way the film is exposed particularly for the one centre of interest and the background is subjugated accordingly.

Hold the meter close to the principal object, about as far away as the object's smallest dimension. The meter can be held closer than this distance, but no farther away. If the object is the face, six inches is sufficient. The distances can be increased to say five feet if it is desired to isolate a small group of people from the background, or even to ten feet in the case of larger surfaces. Make quite certain, however, that no light reaches the cell from unimportant objects.

When making a reading, make sure that you do not cast a shadow on the subject with the meter or with your hand. Also do not let your body interfere with the natural illumination of the subject. To avoid casting shadows, the meter may have to be held at an angle to the direct light on the subject, i.e. you can measure the reflected brightness by standing slightly to one side.

Having taken a close-up light reading, set the calculator dial to the arrow position and make your camera settings.





SUBSTITUTED READINGS

It is not always possible or convenient to take close-up readings. In such cases, substituted readings of nearby similar objects can be made. In the adjacent example, a close-up reading of a white handkerchief would be a substitute for the hull of the yacht and a close-up reading of the shore close by would suffice for the darkest object. Similarly a white handkerchief can often be substituted for a white wall or a lady's blouse. But ensure that the lighting is the same and that the objects are similar.

BRIGHTNESS RANGE METHOD

The Brightness Range Method consists of measuring the light values of the lightest and darkest objects of the subject and thereby balancing the exposure midway between the two extremes. It is the most accurate method known for the determination of correct exposure and is recommended for the best possible negative from an exposure viewpoint.

In an average scene, various objects reflect different amounts of light—the dark objects little light, the bright objects much light. In a fine photograph, all objects should be correctly exposed and thus the above extremes should be measured.

Make a close-up reading of the darkest object (for example, a dark hedge) in the scene and note the light value. Then make a close-up reading of the brightest object (for example, a white wall) again noting the light reading. If you are not sure which are the darkest and lightest objects measure several that appear so, and take the lowest and highest readings respectively.

Set the arrow on the calculator dial midway between the darkest and brightest object light values, i.e. the arrow should be the same number of divisions or blocks from the darkest light value, as it is from the brightest. You can then read off a suitable combination of f/stop and shutter speed for the scene, or alternatively, the exposure value.

Most black and white negative emulsion can record a long range of brightness in any one subject but there are limits to the range of deep shadows and bright highlights which can be recorded with reasonable truth in a single negative. A knowledge of these limits can prevent unnecessary loss of detail in extreme shadows or highlights when long range subjects are encountered.

THE "U" AND "O" POSITIONS

The "U" and "O" positions on the calculator dial show the limits of subject brightness which the average black and white film can record on a single negative, the ratio of these being about 128 : 1. For a given setting of the dial, all objects whose light values fall on or between these two limits will be correctly exposed. Any object having a light value below the "U" position will be under exposed and any object with a light value above the "O" position may be over exposed or be difficult to reproduce.

By setting the "U" position opposite the darkest object light value, the indicated exposure will be just sufficient correctly to reproduce that part of the scene.

Where the overall brightness is of a low order, such as in a dark hall or cave, it might be impossible to obtain a reading from anything but the brightest object. If the "O" position is set opposite this brightest object light value the indicated exposure will just avoid over exposing the highlights.

Where the brightness range of the scene exceeds a ratio of 128 : 1 use of the "U" position involves some sacrifice of detail in the extreme highlights. Conversely, use of the "O" position may cause loss of shadow detail.

COLOUR PHOTOGRAPHY

COLOUR FILM RANGE

The range of scene brightness which can be recorded on colour film is far more restricted than that of monochrome material, the ratio being in the order of 30 to 1. Therefore the brightness ratio in general should not exceed this figure.

For best colour rendering it will generally be found that the light value range of the extreme colours will lie between the dot positioned one whole stop above the "C" position and the dot positioned one whole stop below the "A". Objects whose light values lie outside this range may suffer in colour rendering.

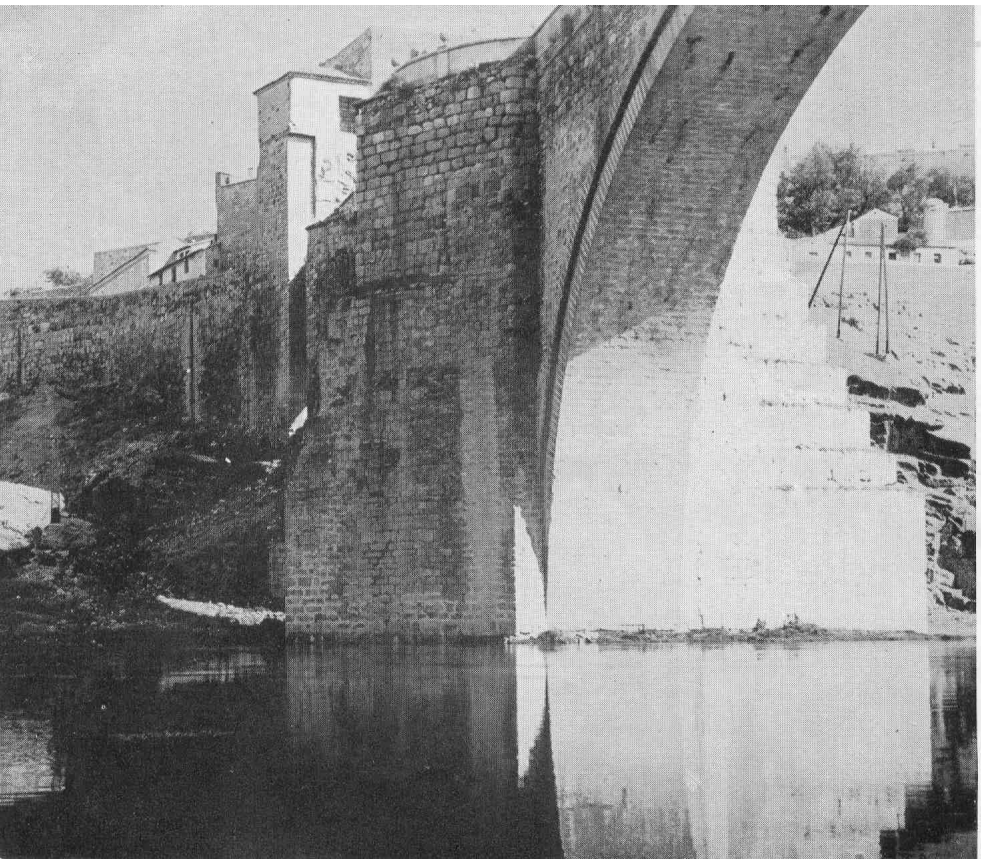
Brilliance in colour photography is obtained through colour contrast and not from highlights and shadows as in black and white photography. The method recommended is the Brightness Range Method described on page 10.

First, make a close-up reading of the darkest colour in the scene. Then take a close-up reading of the brightest colour. Set the arrow position on the calculator dial midway between the light values of the darkest and brightest objects and make your camera setting.

The above method centres the exposure in the middle of the film range and is ideal for the average subject where the colour contrast is low and the illumination flat. If, however, the darker colours are of principal interest a longer exposure is required. Alternatively, for the best reproduction of the brighter colours, a shorter exposure will be necessary.

It must be appreciated that varying the exposure to suit one end of the colour range may affect true rendering at the other. A useful suggestion is to use the "C" position when exposing for the darker colours and the "A" position for the brighter colours.

Usually the most pleasing colour transparencies result from exposure for the brightest colours. Correct exposure will, of course, give the best results but if in doubt remember that slight under exposure gives better colour rendering than over exposure. With negative/positive colour processes, however, the opposite is the case and slight over exposure is preferable to under exposure. In both forms of colour photography it is important to avoid shadows and extreme contrast in lighting wherever possible.



HIGHLIGHTS AND SHADOWS

In a scene such as that shown here, the brightness range greatly exceeds the film range, i.e. the patches of sunlight may give a light reading of 500 and the deep shadows a reading of 1·6. The average film range is thus not wide enough to give printable details in both the highlights and shadows, although a good average exposure can be obtained by using your meter as already described. According to the effect you require, however, you can choose to expose for details in the shadows by using the "U" position or, alternatively, for detail in the highlights by using the "O" position.

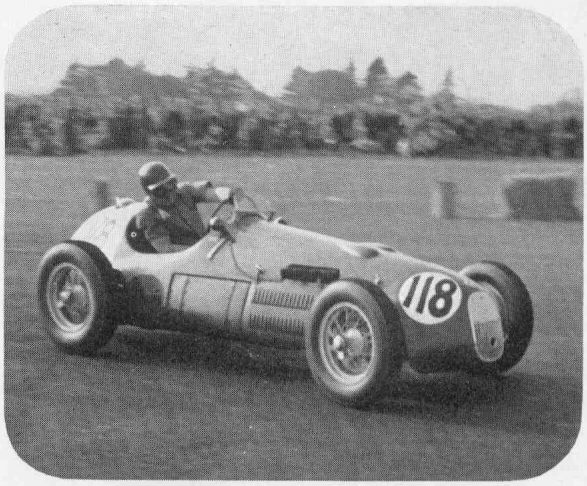
CINÉ PHOTOGRAPHY

A ciné camera is essentially the same as a still camera but it exposes a series of pictures in a given interval at a fixed shutter speed. For best exposure results, the Brightness Range Method described on page 10 is recommended.

Make close-up readings of the darkest and brightest objects in the scene and set the arrow position midway between the light values obtained. The correct f/stop to use will then be found opposite the particular shutter speed of your ciné camera.

The standard number of frames exposed by the average amateur ciné camera is 16 per second at a shutter speed of 1/30th of a second. For other frames per second than 16, the shutter speed is proportional, use the settings shown in the following table:

8	frames	per	second	1/15th
16	,,	,,	,,	1/30th
24	,,	,,	,,	1/50th
32	,,	,,	,,	1/60th
48	,,	,,	,,	1/100th
64	,,	,,	,,	1/125th



Some cameras may have a different shutter speed at 16 frames per second, such as 1/40th or 1/50th and the f/stop for these should be read off against this shutter speed on the exposure dial. If the shutter speed of your camera is unknown, ascertain it from the camera manufacturer.

Colour Ciné Film

Follow the accompanying instructions and those given for still colour film photographs. Until experience has been gained avoid extreme lighting conditions and allow the colour to provide all the necessary contrast. For outdoor shots, expose between 10 a.m. and 3 p.m. if possible as the quality of the light is normally best during that period. If the sun is shining it should be directly behind the camera. Watch the reflection values of the surroundings, i.e. a white dress can be turned pink by a red reflection. Avoid shadows and subjects in shadow. These are illuminated by skylight which is more blue than sunlight for which the film is balanced. An ideal scene is one having low contrast and even illumination. Best results are obtained on a clear sunny day.

ADDITIONAL NOTES – STILL & CINÉ

Backlighted Subjects

If the meter is aimed directly at a back-lighted subject, i.e. one where the main lighting comes from behind, it is obvious that the light value reading can be inflated resulting in under exposure.

To overcome this, turn around and make the reading on a similar object with your back to the lighting so that your body casts a shadow on the substitute object.

For example, in the adjacent picture a close-up reading could be made of your hand for the sails or a handkerchief for the hull of the boat ensuring that the substitute object is in shadow.

For all beach scenes where sand is back lighted, or sparkling snow scenes, light readings should be taken with the sun over your shoulder. Direct reflections from sparkling water should be avoided when taking light readings.



Copy Work

When copying subjects which are in black and white or colour the following procedure is recommended as a guide and is subject to variation to suit materials and processing methods used. First divide the Weston Rating by five and set this value in the Weston Rating window. Then take a reading from a white card placed over the subject. Finally set the arrow position on the calculator dial at the light reading obtained and select the camera settings in the usual manner.

Filters

Filters have a multiplying factor in relation to the emulsion with which they are used and the exposure required must be increased accordingly. The easiest method of making this increase is to divide the filter factor into the Weston Rating of the emulsion and set the calculator dial on the meter with the resultant value. For example the filter factor using a certain film may be 2 and the Weston Rating 100. Dividing 100 by 2, the result, 50, is used to set the Weston Rating on the calculator dial.

The markings showing "whole stop" positions between the "normal" arrow and the "O" can also be used to correct for filters. By setting to "C" allowance is automatically made for a filter with a factor of 2. If the dot between "C" and "O" is used, allowance is made for a factor of 4 and if the "O" is used, a factor of 8.

High Altitudes

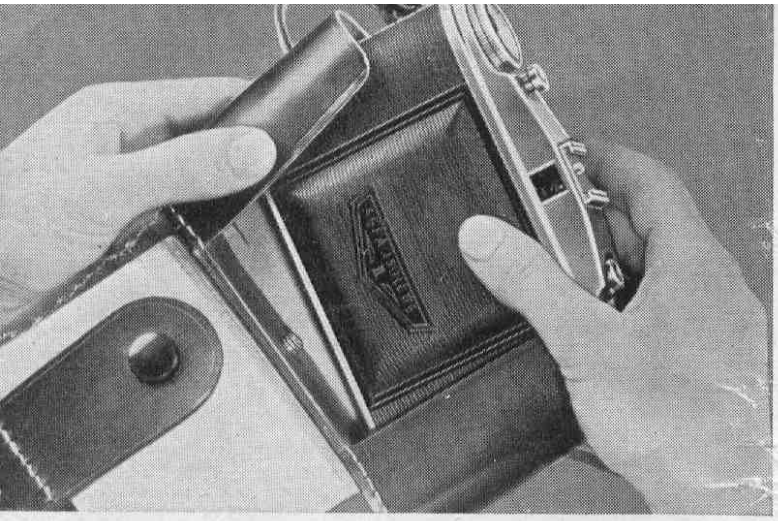
At high altitudes there is considerable ultra-violet radiation present to which emulsions are sensitive. To eliminate this effect it is always good practice to use a haze filter. No exposure correction is necessary so use the meter in the normal manner.

Equipment Errors

Photographic equipment is sometimes subject to small errors, e.g. in shutter speeds and f/stops. Usually these errors cancel each other but it is possible for them to be additive, resulting in consistent over or under exposure. These errors can be compensated for by adjusting the listed Weston Ratings, lowering them if results are consistently under exposed and raising them if over exposed.

Weston Ratings

Different developers have an influence on the effective speed value of an emulsion. A note of this is made in the list of Weston Ratings.



To insert film, unscrew tripod screw of ever-ready case, take out camera.

To open camera back,
push locking device in direction of arrow,
open camera back.

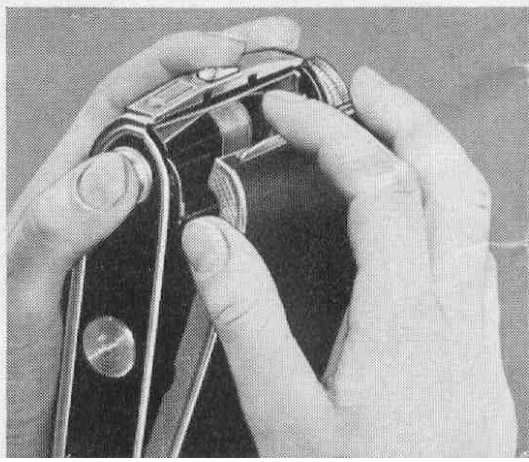
It is advisable to set the film indicator disc 5 (see illustration p. 2) before inserting the film.

Operation: Lift disc, turn it until it engages into the click-stop of the required mark.

Settings:

40 ASA	100 ASA	160 ASA	NT Col	ND Col	RT Col	RD Col

D = Daylight T = Tungsten (artificial light)
N = Negative film R = Reversal film



The Invercone

INCIDENT LIGHT ATTACHMENT

For those who prefer the incident light method of exposure determination, i.e. measuring the light falling on the subject, the Weston Master III can readily be converted into an incident light meter by fitting the Invercone Attachment.

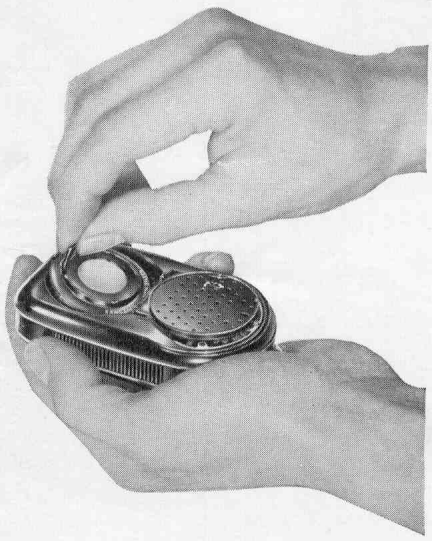
The Invercone attachment, consisting of two parts —an integrating cone and auxiliary multiplier, is easily fitted to the meter in the manner shown overleaf.



FITTING THE INVERCONE



1. Where illumination is relatively low, open the meter's baffle and slip the Invercone into place. The Auxiliary Multiplier is not used.



2. When illumination level requires use of the high light scale, open the baffle and insert the Auxiliary Multiplier.



3. Snap the Invercone into place over the Multiplier.

USING THE INVERCONE

The way in which the Incident Light Method is applied in a scene will depend on prevailing conditions as well as personal preference. Some photographers prefer the Incident Light Method when using reversal materials. Some recommended ways of using the Weston Master and Invercone for incident light measurements are given below.

Front or Flatly Lighted Scenes

In scenes such as these in which there are no dark or extensive shadow areas and where the lighting is from behind the camera at a low angle of elevation, direct the meter at the camera from the subject position. Note the meter reading and proceed as though a reflected light reading had been taken.

Side or Back Lighted Scenes

In any side or back lighted scene, or where the lighting is frontal and at a high angle of elevation, two incident light readings from the subject position are recommended; one with the meter pointed at the main light source and the other towards the camera. Having taken these two readings, the arrow position on the calculator dial is set midway between the two light values, thus giving a balanced exposure between the extremes.

Substitute Readings

For outdoor scenes where it is impracticable to reach the subject, a substitute reading can be taken from the camera position so long as the conditions of illumination are the same as on the subject.

Lighting Contrast Control

A very useful check in the studio against too much lighting contrast, particularly for colour work, is to take two light readings, both being taken with the Invercone fitted and from the subject position. First take a maximum light source reading and then a camera direction reading. Set the arrow position on the exposure dial midway between the two light values obtained. For colour and most monochrome work these two readings should not be outside the limits indicated by the A and C positions (i.e. the illumination range should not normally exceed 4 to 1.)

ADDITIONAL COPIES OF THIS INSTRUCTION BOOK
ONE SHILLING EACH

Printed in England. D.W.25M. 2.58

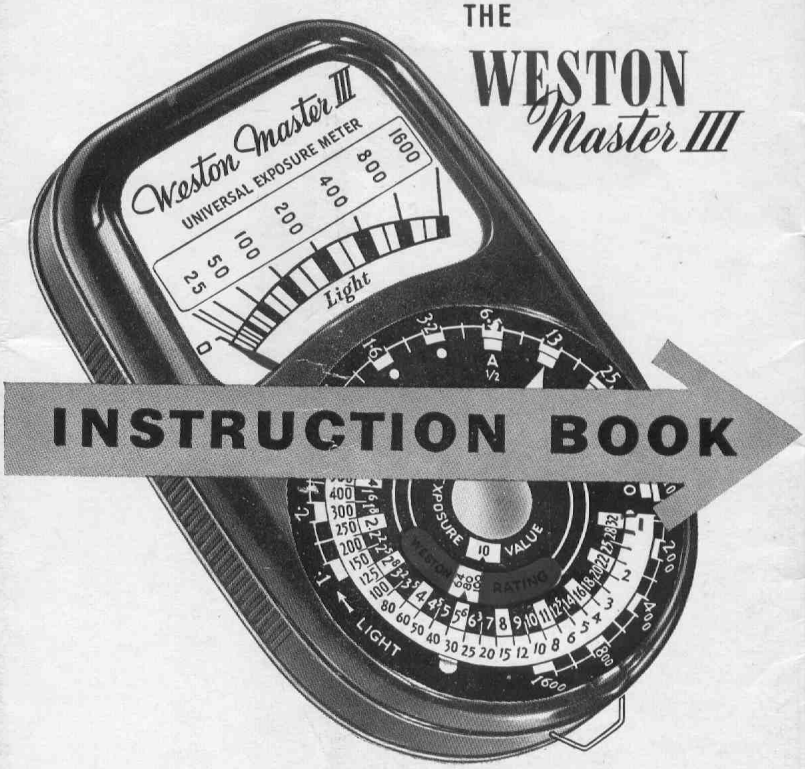
CARE OF YOUR EXPOSURE METER

1. Your "Master" meter is rugged and well made but like a fine watch, which it resembles in many ways, it should be treated with all reasonable care.
2. If the pointer of your meter does not register zero when no light strikes the cell, it requires a slight adjustment. Cover the cell with your hand or a card and with a small screwdriver rotate the small screw on the back of the meter below the cell until the pointer rests on zero. Tilt the meter at an angle of about 45° when making the adjustment. Zero adjustment, however, is only very occasionally necessary and should be made with great care.
3. Do not leave the photo-cell exposed to strong sunlight for long periods. This treatment is harmful. Keep the meter in its case or box when not in use.
4. Do not drop the meter, otherwise its jewelled bearings may suffer.
5. Do not overheat the meter by leaving it on a hot radiator, etc. Normal temperature or even abnormal summer temperatures will not harm the meter.
6. Your "Master" meter is moisture proof but not waterproof, so do not immerse it in water.

SANGAMO
WESTON

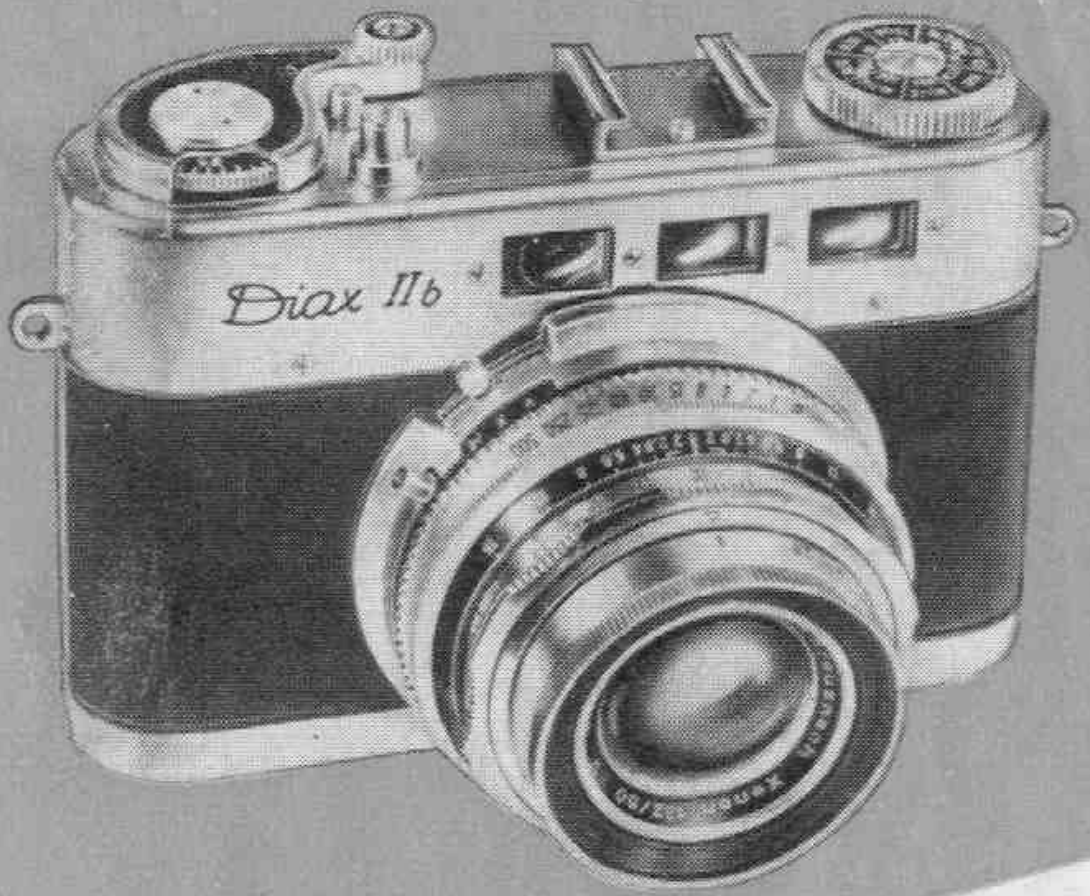
THE

WESTON *Master III*



INSTRUCTION BOOK

Diax Ib / IIb



- - - Gebrauchsanleitung - - -

- - Instruction Booklet - - -

- - - - - Mode d'emploi - - -

DIAX-KAMERA-WERK · ULM-DONAU

Germany

W. VOSS
ULM/D.

Allemagne

Diax

Die DIAX Ib/IIb vereinigen Präzision mit Leistungsfähigkeit. Alle Voraussetzungen für technisch einwandfreie Photos sind damit erfüllt.
Das Gelingen guter Aufnahmen hängt davon ab, daß Sie sich mit der richtigen Handhabung Ihrer DIAX vertraut machen!

- Gebrauchsanleitung aufmerksam lesen.
- Die beschriebenen Handgriffe zunächst erst ohne Film üben.
- Film erst einlegen, wenn alle Bedienungsgriffe beherrscht werden.
- Kamera sorgfältig behandeln – stets in einer Schutztasche tragen.
- Objektiv regelmäßig mit einem Haarpinsel abstauben. Nicht mit den Fingern berühren, nicht anhauchen. Objektivdeckel benützen.
- Bei Störungen wenden Sie sich, bitte, nur an einen Fachmann oder den DIAX-KUNDENDIENST.

The DIAX Ib-IIb combine utmost precision with maximum efficiency. It is an exceptionally low priced camera which fulfills all conditions for taking good pictures. But it is indispensable that you know exactly how to use your DIAX-Camera!

- *Read the Instruktions for Use carefully.*
- *First do all the manipulations without film.*
- *Insert film only after you are fully familiar with all manipulations.*
- *Take utmost care of your DIAX-always keep camera in carrying case.*
- *Clean your lens with a camel's hair brush or lens tissue paper only. Do not touch the lens, do not breath on lens, protect your lens with a lens cap.*
- *In case of any defects or necessary repairs, contact only authorized repair stations or the official DIAX-SERVICE.*

Les appareils DIAX I b/II b sont des appareils de haute précision. Ils possèdent toutes les capacités requises pour obtenir des photos techniquement impeccables. La réussite d'une bonne photo dépend du bon maniement de l'appareil DIAX.

- Lire attentivement le mode d'emploi.
- Se familiariser d'abord avec les manoeuvres, sans charger l'appareil.
- Traiter l'appareil avec soin. Porter-le toujours dans le sac »Tout-Prêt«.
- Nettoyer régulièrement l'objectif avec un pinceau fin. Ne jamais le toucher avec les doigts, ni souffler dessus. Protéger toujours l'objectif par un bouchon.
- En cas d'ennuis accidentels, s'adresser exclusivement à un spécialiste ou au SERVICE DIAX de votre pays.

DIAX-KAMERA-WERK · WALTER VOSS · ULM-DONAU

Deutschland - Germany - Allemagne

W. VOSS ULM/D.

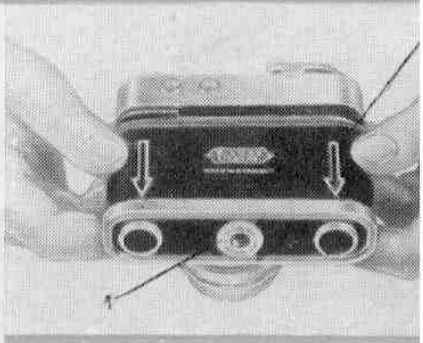
Einlegen des Films
How to load your DIAX
Chargement du DIAX

Diax Ib / IIb

Verriegelungsscheibe (1) bis zum Anschlag »A« drehen.
Turn locking disc (1) at bottom of camera to »A«.
Tourner le bouton de fermeture (1) sur »A«.

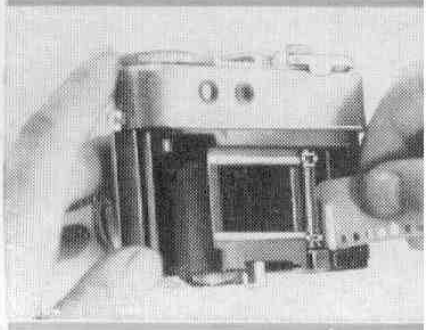
Rückwand (2) mit beiden Daumen nach unten abschieben.
Remove back (2) by pulling it down with both thumbs.
Faire glisser avec vos deux pouces le dos de l'appareil (2) vers le bas.

Handelsübliche Kassetten mit 35 mm Kinofilm verwenden und möglichst bei gedämpftem Licht einlegen.
Use any standard 35 mm cartridge. It is recommended to load camera in subdued daylight.
Utiliser les chargeurs habituels avec films de 35 mm. Charger toujours à la lumière tamisée.

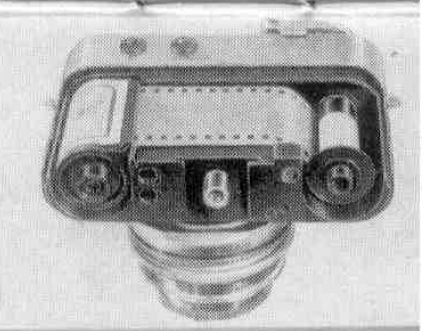


Filmanfang unter Feder der Aufwickelspule (4) einklemmen. (Aufwickelspule kann herausgenommen werden.)
Insert tapered end of film under clip of take-up spool (4). (This spool can be removed, if desired.)
Insérer l'extrémité du film dans le ressort de la bobine réceptrice (4). (La bobine peut s'enlever entièrement.)

Filmpatrone (5) in die linke Gehäusekammer einsetzen. Auf guten Kassettensitz achten. Eingriff der Filmzahnrolle (6) in die Perforation des Films und Sitz der Filmzunge unter Klemmfeder kontrollieren.
Put cartridge (5) in the left chamber of the camera. Watch correct fit of cartridge, of film perforation with regard to the sprockets (6) and of tapered end of film under clip of spool.
Introduire le chargeur (5) dans le logement gauche du boîtier. Veiller à ce que la perforation du film se trouve bien engagée dans la roue dentée (6) du système du transport du film.



Rückwand (2) einsetzen und Verriegelungsscheibe (1) zum Anschlag »Z« drehen.
Replace back (2) and turn locking disc (1) to »Z«.
Remettre le dos du boîtier (2) et tourner le bouton de fermeture (1) sur »Z«.

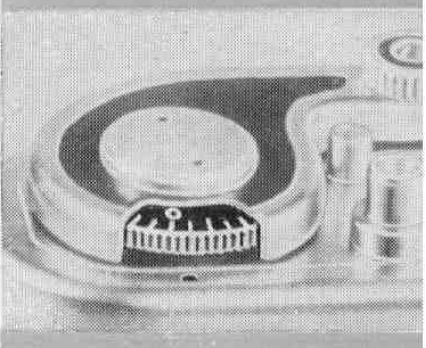


Schnellaufzughebel (7) bis zum Anschlag führen (springt von selbst zurück) und blind auslösen. Auf Drehbewegung des Rückwickelknopfes (8) achten!
Turn rapid winding lever (7) to automatic stop. (It swings back automatically.) Press shutter release. Make sure that the rewinding knob (8) turns when you operate the lever! This is your proof that the film in the camera is advanced.
Tourner le levier de l'armement rapide (7) jusqu'au blocage et déclencher. Le levier revient automatiquement. Vérifier toujours si le bouton de rebobinage (8) tourne bien pendant le transport du film.

Durch Wiederholung der vorigen Funktion unbrauchbaren Filmanfang transportieren. Kamera ist aufnahmebereit!
Turn rapid winding lever once more. DIAX is now ready for taking pictures.
Répéter la même opération pour faire disparaître le commencement inutilisable du film. L'appareil est maintenant prêt pour la première prise de vue.

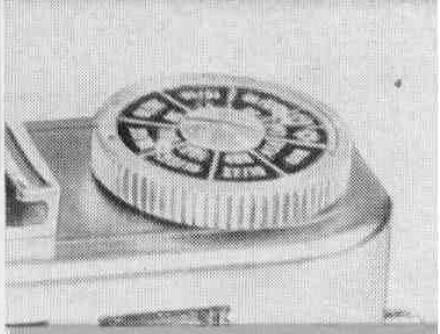
Diax Ib / IIb

Automatisches Bildzählwerk
Automatic Exposure Counter
Compteur d'images Automatique



Bildzählscheibe (9) nach rechts (Uhrzeigerrichtung) auf »O« stellen.
Set exposure counter to the right (9) to zero (»0«)
Régler le disque du compteur d'images (9) à droit sur »O«.

Filmmerkscheibe
Film-Speed Indicator
Disque Aide-Memoire pour la Sensibilité du Film

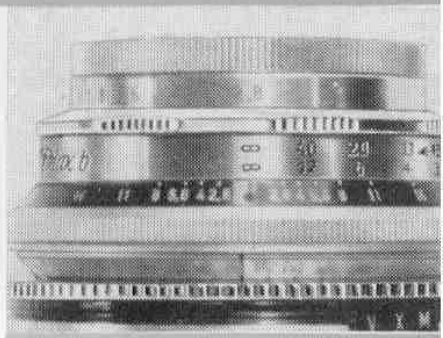


Filmmerkscheibe (10) auf eingelegten Film einstellen.

Set film-speed indicator (10) according to the speed of the film used (ASA).

Régler ce disque (10) suivant la sensibilité du film utilisé.

Einstellung der Entfernung
How to Focus
Mise au Point de la Distance



Die Entfernung der Kamera vom Aufnahmegegenstand wird geschätzt oder gemessen. Der ermittelte Wert wird am Entfernungs-Einstellring (11) des Objektivs eingestellt (schwarze Zahlen = m – grüne Zahlen = feet – ∞ = unendlich).

The distance camera - subject may be either estimated or measured. It is then set on the focusing ring (11) of the lens mount (black numbers = calibrations in meters; green numbers = calibrations in feet; ∞ = infinity).

La distance entre l'appareil et le sujet peut être évaluée ou mesurée. Cette valeur doit être lue sur la bague de distance (11) de l'objectif (chiffres noirs = graduation en mètres, chiffres verts = graduation en pieds, ∞ = infini).

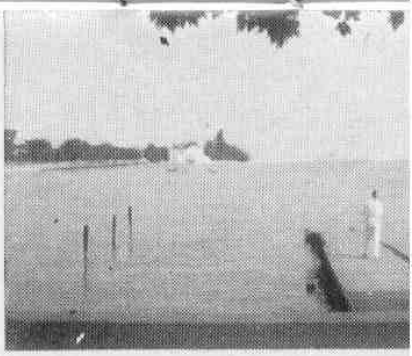
Drei eingebaute Sucher
Three Built-in Viewfinders
Trois Viseurs Incorporés

Beim Anvisieren des Aufnahmegegenstandes durch die Mitte des Suchereinblickes ist die Okularlinse des jeweiligen Suchers dicht an das Auge zu bringen. Je nach dem eingesetzten Objektiv wird der Sucher für 35, 50 oder 85/90 mm Brennweite benutzt (siehe Bildbeispiel). Beim Gebrauch des 85/90 mm Suchers Parallaxe berücksichtigen.

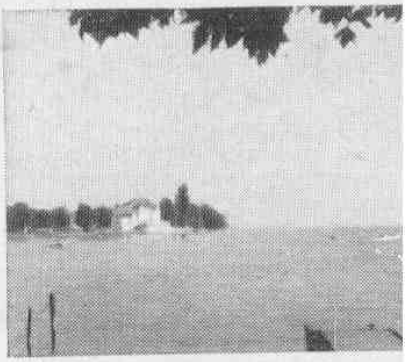
Bring your eye as close as possible to the view-finder. There are 3 separate finders marked 35 mm, 50 mm and 85/90 mm which are used with the corresponding lenses (see picture). Watch for parallax correction when using the built-in 85/90 mm view-finder.

En déterminant l'image par le viseur approprié à l'objectif de 35, 50 ou 85/90 mm, il convient de placer l'oeil tout près du centre du viseur (voir figure).

○ 35 mm
blau
blue
bleu



○ 50 mm
weiß
white
blanche



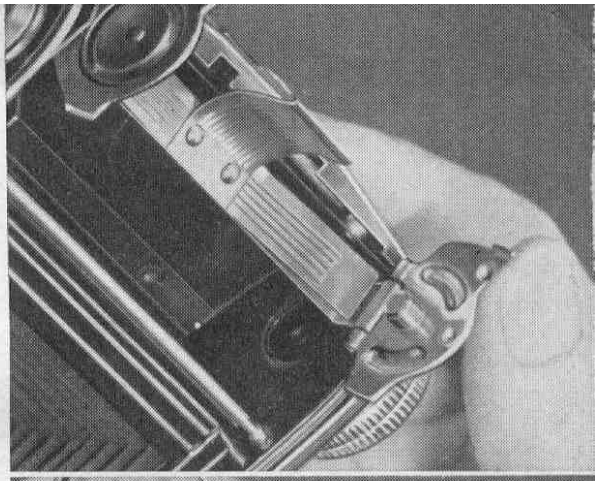
○ 85 - 90 mm
gelb
yellow
jaune



Turn out spool holder, and pull hinged spool carrier outward.

The empty spool should be in the opposite spool chamber. The film should be inserted in subdued light only.

Please note the number of your camera and of its lens (camera number on the outside of spool flange).



To insert film spool:
Slip one spool end over fixed carrier peg, return hinged carrier to engage second peg, return spool carrier to its initial position.

Attention—the position of the spool should be as shown in the illustration, the narrow end of the backing paper pointing towards the empty spool.



Automatische Scharfeinstellung
Automatic Rangefinder Coupling
Télémètre Couplé

Diax IIb



Im Einblickfenster (13) des Meßsuchers, der automatisch mit allen Objektiven gekuppelt ist, sieht man den Bildausschnitt und darin eingespiegelt das Meßfeld (siehe Bildbeispiel 1). Durch Drehen des Objektiv-Entfernungs-Einstellringes (11) werden die beiden Bilder im Meßsucher zum Decken gebracht (siehe Bildbeispiel 2). Damit ist automatisch die Scharfeinstellung erfolgt.

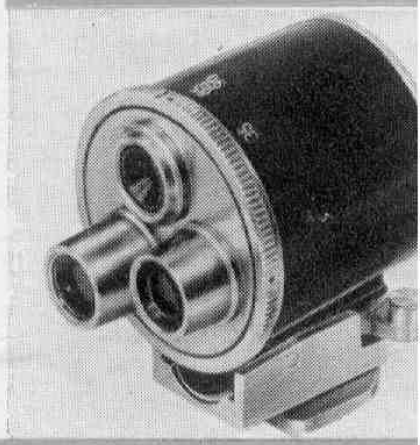
The viewfinder window (13) for the 50 mm lenses is combined with the rangefinder window. It shows both the picture to be taken as well as the two superimposed images of the rangefinder (see picture 1). By turning the distance setting ring (11) of the lens the two images can be matched (see picture 2). This automatically brings the picture into needlesharp focus.

Le télémètre est couplé à tous les objectifs. Dans la fenêtre du télémètre, on apercoit l'image et s'y reflétant, dans un cercle plus lumineux, l'image reproduite par le télémètre (voir figure). Pour obtenir la distance exacte, tourner le bouton de distance (11) jusqu'au moment où les deux images se confondent (voir figure).



Der Meßsucher der DIAX II b (Bildausschnitt für Objektive mit 50 mm Brennweite) ist mit allen DIAX-Wechsel-Objektiven automatisch gekuppelt und mißt unbestechlich die Entfernung. Für den Bildausschnitt der jeweiligen Objektiv-Brennweite sind der zusätzlich eingebaute Sucher für 85/90 mm (12) und der DIAX-Universalsucher für die Brennweiten 35, 85/90 und 135 mm mit Parallaxausgleich vorgesehen.

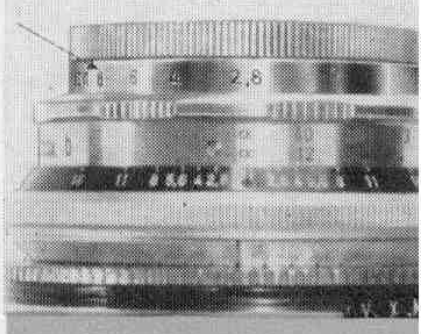
The rangefinder of the DIAX II b is coupled with all DIAX lenses. The viewfinder combined with it gives the frame for the 50 mm lenses. For the 85 mm and 90 mm telephoto lenses there is an additional viewfinder (12) built in. A prism finder with parallax correction for the 35 mm, 85/90 mm and 135 mm lenses is available as accessory.



Le télémètre du DIAX II b (fenêtre du viseur pour objectif 50 mm) est couplé automatiquement à tous les objectifs DIAX. L'appareil possède un deuxième viseur incorporé (12) pour l'objectif 85/90 mm. On peut également utiliser le viseur universel avec correction de parallaxe pour les objectifs 35, 85/90 et 135 mm.

Einstellen der Blende
Setting of Diaphragm
Réglage du Diaphragme

Diax Ib / IIb



Die Blendeneinstellung erfolgt mittels des Blendeneinstellringes (14), auf dem die Blendenwerte graviert sind.

Turn the setting ring (14) to the desired clickstop of the diaphragm.

On règle le diaphragme en maniant la bague de diaphragmes (14).

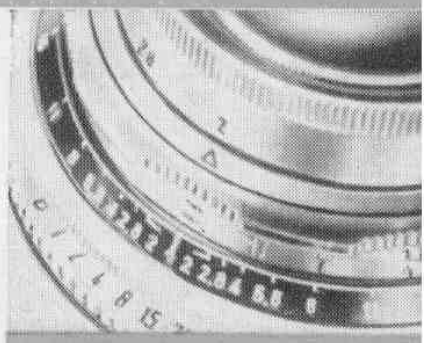
Tiefenschärfe
Depth of Field
Profondeur de Champ

Auf dem Tiefenschärfenring (15) befinden sich beiderseits der Einstellmarke die Blendenzahlen. Sie ermöglichen bei jeder Entfernung das Ablesen des zu der jeweils eingestellten Blende gehörigen Tiefenschärfenbereichs.
Beispiel: (DIAX-Schneider-XENON 1:2/50 mm). Eingestellte Entfernung = 3 m. Gewählte Blende = 8. Die Zahl 8 steht links der Einstellmarke auf ungefähr 5.60 m und rechts auf ungefähr 2.10 m; d. h. also, innerhalb dieses Bereichs wird alles scharf abgebildet.

F-stop numbers shown on the scale (15) on either side of the distance mark allow determination of the exact depth of field range, for any lens aperture.

Example: *DIAX-Schneider-XENON 50 mm f/z. Distance set = 9 feet, Diaphragm = f/8. The figure 8 to the left of the distance mark indicates about 17 feet, to the right about 6½ feet. Within this depth of field range all details will be sharp.*

La bague du profondeur de champ (15) comporte, des deux côtés du point de repère, les numéros de diaphragme, permettant de déterminer pour chaque diaphragme les distances entre lesquelles l'image sera nette.
Exemple: (Pour l'objectif DIAX-Schneider-XENON 1:2/50 mm). Distance déterminée = 3 m. Diaphragme choisi = 8. On retrouve deux fois ce chiffre 8 sur la bague de profondeur de champ; à gauche du point de repère il correspond à une distance limite d'environ 5,6 m et à droite du point de repère il correspond à une distance limite d'environ 2,10 m. C'est donc entre 5,60 m et 2,10 m que l'image ressortira avec la netteté optima.



Tiefenschärfen-Tabelle für 35, 50, 85/90 und 135 mm Brennweite siehe letzte Seit

See depth of field scales for 35 mm, 50 mm, 85/90mm and 135 mm lenses on the last pag

Tableau de profondeur de champ pour les objectifs d 35, 50, 85/90 et 135 mm (voir dernière page).

Einstellen der Belichtungszeit
How to Set Shutter Speeds
Réglage du Temps de Pose



Die Wahl der Belichtungszeit ist allgemein von vier Faktoren abhängig: **Lichtverhältnisse – Objektbewegung – Blendeneinstellung** (gewünschte Tiefenschärfe) – **Filmmaterial** (siehe Hilfstabelle)).

The shutter speed to be used depends upon the following factors: **Light value – Movement of object – Aperture** *(Depth of field!) –* **Film speed** *(see indicator).*

Le réglage du temps de pose est en fonction des conditions d'éclairage du sujet (mobile ou fixe), du diaphragme choisi (profondeur de champ désirée) et de la sensibilité du film utilisé (voir tableau spécial).

Der SYNCHRO-COMPUR-Verschluß (16) regelt exakt die Verschlußgeschwindigkeiten, die durch Drehen am Zeiteinstellring (17) mit »B«, 1–1/500 sec. eingestellt werden.

The SYNCHRO-COMPUR shutter (16) has speeds from 1 second to 1/500 and B. The exposure indicator is set by turning the dial (17) to the desired speed mark.

L'obturateur SYNCHRO-COMPUR (16) règle toutes les vitesses, »B«-pose et toutes les valeurs entre 1 seconde et 1/500 sec.

ACHTUNG! Bei längeren Zeiten und »B« **vollen** Verschlußablauf abwarten und nicht früher aufziehen, da Verschluß sonst blockiert.

ATTENTION: *At longer exposures (B – 1 – ½ - ¼ second) be sure that the shutter operation is completely finished before winding the camera again, otherwise the shutter may be blocked.*

ATTENTION! En utilisant »B«-pose et les vitesses lentes, attendre la fin de l'exposition avant d'armer à nouveau pour éviter le blocage de l'obturateur.

Belichtungszeit *shutter speed* temps de pose		Blende *focus* diaphrag
Motiv		
	1/500 sec.	1:4
	1/250 sec.	1:5,6
	1/60 sec.	1:11
	1/500 sec.	1:2,8
	1/125 sec.	1:5,6
	1/30 sec.	1·11
	1/250 sec	1:2,8
	1/60 sec	1:5,6
	1/15 sec.	1:11
	1/125 sec.	1:2,8
	1/30 sec.	1·5,6
	1/8 sec.	1:11

Film = 18/10° DIN = 50 ASA

Aufnahme
How to take Pictures
Prise de Vue

Diax Ib / IIb



Die Kamera soll bequem in den Händen liegen und so gehalten werden, daß die Okularlinse des Suchers dicht vor dem Auge liegt, wobei man zweckmäßig das andere Auge schließt (siehe Bild 1). Gehäuseauslöser (18) gleichmäßig langsam nach unten drücken, bis der Verschluß auslöst. Nicht verwackeln! Nach Bedarf in den Auslöserknopf (18) einen Drahtauslöser einschrauben.

The camera should be held comfortably. Take the view-finder window as near as possible to your eye and close the other eye (see picture 1). Press the body release (18) downward with an even slow motion, until the shutter releases. Do not shake the camera. The release button (18) is tapped inside, so that a cable release may also be used.

Tenir l'appareil avec les deux mains, l'oculaire du viseur près de l'oeil qui observe (voir figure 1). Appuyer doucement et sans secousses sur le déclencheur (18). Ne pas bouger! Au besoin, visser un déclencheur flexible ou automatique sur le bouton de déclenchement (18).



In »Schnellschuß«-Haltung betätigt der Zeigefinger der rechten Hand den Auslöserknopf (18) und der Daumen den Schnellaufzughebel (7), ohne dabei die Kamera vom Auge zu nehmen (siehe Bild 2).

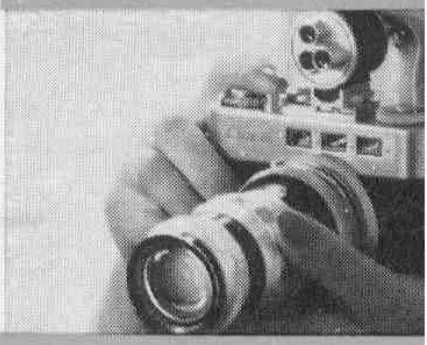
In snap-shot position the forefinger of the right hand depresses the release knob (18) with an even slow motion until the shutter is released. The thumb remains on the rapid winding lever (7) for winding the camera again without taking it from the eye (see picture 2).

Pour les instantanés, l'index de la main droite repose sur le déclencheur (18). Le pouce actionne le levier de l'armement rapide (7) (voir figure 2).

Die Kamera mit Tele-Objektiv und Universalsucher wird beim Halten durch die linke Hand am Objektiv so abgestützt, daß der wechselseitige Durchblick bequem erfolgen kann (siehe Bild 3).

When using the camera with telephoto lens and universal finder, it is recommended to support the lens with the left hand, so that both range-finder and corresponding viewfinder may be used alternately (see picture 3)

L'appareil équipé d'un objectif télé et du viseur universel se tient avec la main gauche, de façon à pouvoir regarder facilement aussi bien par la fenêtre du télémètre que par la fenêtre du viseur universel (voir figure 3).



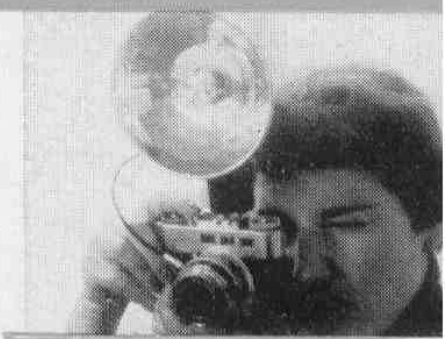
Für Aufnahmen mit den Belichtungszeiten »B«, 1–1/25 sec. ist die Verwendung eines Stativs erforderlich, um Verwacklungen zu vermeiden.

When taking pictures with shutter speeds B or 1 to 1/25 second, a tripod ought to be used for avoiding blurred pictures.

Utiliser un pied pour les poses »B« et les vitesses lentes (1 à 1/25 sec.).

Blitzlicht-Aufnahme
How to take Pictures with Flash
Prises de Vues avec Lampes Flashes ou Flashes Electroniques

Diax Ib / IIb



Mit dem vollsynchronisierten SYNCHRO-COMPUR-Verschluß sind Blitzlicht-Aufnahmen mit allen Blitzlichtlampen und -Geräten bis zu 1/500 sec. möglich, wodurch auch am Tage mit Blitzlicht photographiert werden kann. (Schattenaufhellung).

The SYNCHRO-COMPUR shutter has settings for all flash light types and flash bulbs up to 1/500 second (full M and X synchronization). This allows the use of flash lights even in daylight (for instance, to brighten shadows).

L'obturateur SYNCHRO-COMPUR M X permet la synchronisation du DIAX avec les lampes flashes et les appareils électroniques jusqu'à 1/500 sec. Grâce à cette synchronisation, il est possible de réaliser des photos en plein jour avec flash.

Der SYNCHRO-COMPUR-Verschluß der DIAX I b/II b ermöglicht die Einstellung von zwei Zündmomenten. Bei Stellung des Stellhebels (19) auf X wird der Kontakt für verzögerungsfreie Blitzröhrengeräte im Moment der vollen Verschlußöffnung geschlossen. Bei M-Stellung erfolgt eine der Zündverzögerung der Blitzlampen entsprechende Vorzündung. Bei Verwendung des Vorlaufwerkes (Selbstauslöser) sind nur die bei X-Stellung des Stellhebels aufgeführten Verschlußzeiten möglich.

The DIAX Ib-IIb is equipped with the SYNCHRO-COMPUR shutter which has settings for both electronic (X) and for flash synchronization (M). If the S-lever (19) is switched to X, the shutter opens without delay. If the lever is switched to M, the shutter opens only after a short delay. When using the selftimer only the shutter spreds available for the X-position will be synchronized.

Les modèles DIAX Ib/IIb sont munis d'un SYNCHRO-COMPUR M X. Le contact X permet la synchronisation sans retard (pour flashes électroniques); le contact M permet la synchronisation avec un léger retard correspondant au délai nécessaire pour le départ de l'éclair des lampes flashes (levier (19) sur »X« ou »M«). Les temps d'exposition et l'emploi des contacts X et M sont expliqués dans la notice concernant l'utilisation de l'obturateur SYNCHRO-COMPUR. En utilisant le retardement (levier sur »V«), la synchronisation se fait avec le contact X. Il faut donc utiliser pour le retardement, les vitesses prévues dans le tableau pour le contact X.

Die Blitzlichtkontakt-Buchse (20) dient zum Einstecken des Blitzlichtkabels, das mit dem für den SYNCHRO-COMPUR-Verschluß gelieferten Stecker versehen sein muß.

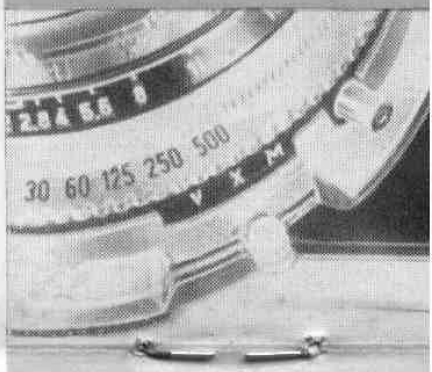
The SYNCHRO-COMPUR shutter has a standard outlet (20) for synchronization cords.

La prise (20) sur l'obturateur donnant le contact pour le synchro-câble de l'appareil flash est de 3 mm ⌀.

Tabelle für Belichtungszeite und Blitzlampen-Typen X ur M siehe letzte Seite.

See chart for exposure tim and the use of flash bulbs or X on the last page.

Tableau pour les temps d'exposition et l'emploi des contacts X et M (voir dernière page).



Der SYNCHRO-COMPUR-Verschluß hat **eingebauten Selbstauslöser,** der für die Zeiten 1–1/500 sec. benutzt werden kann. Nach Spannen des Verschlusses Stellhebel (19) auf »V« stellen. Nach Betätigung der Gehäuseauslösung läuft das Vorlaufwerk ab und löst in ca. 10 sec. den Verschluß aus. Stellhebel springt nach Ablauf von selbst zurück.

The SYNCHRO-COMPUR shutter has a **built-in selftimer** *for all shutter speeds from 1 to 1/500 second. First turn rapid winding lever in the usual manner. Then switch the self-timer (19) to »V«. When the release knob is depressed, the selftimer begins to run and will release the shutter automatically after about 10 seconds. The lever of the selftimer swings back after release.*

L'obturateur SYNCHRO-COMPUR est **muni d'un retardateur** pour les vitesses de 1 seconde à 1/500 sec. Pour l'utilisation, armer d'abord l'obturateur. Mettre ensuite le levier (19) sur »V«. Déclencher comme d'habitude: l'exposition s'effectuera après un retard de 10 secondes. Le levier se replace automatiquement.

Achtung!
Löst nach ca. 10 cec. aus.

Attention:
Releases after about 10 second

Attention:
Déclenchement avec un retard de 10 secondes.

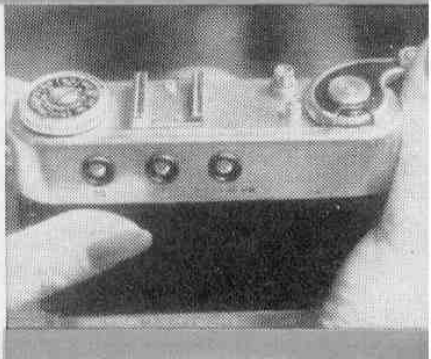
Filmtransport
Film Transport
Transport du Film

Diax Ib / IIb

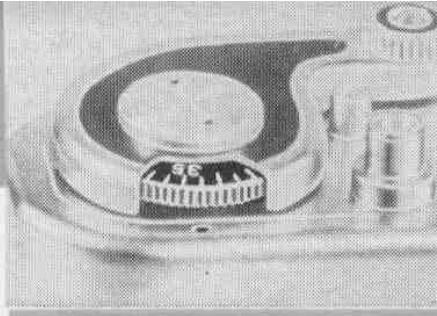
Der Schnellaufzughebel (7) wird zügig bis zum Anschlag geführt und löst mit einer Bewegung folgende Funktionen aus:
Filmtransport – Verschlußspannung – Bildzählwerk.

The rapid winding lever (7) has to be operated fast and with one motion to the very end. It winds the film, cocks the shutter and counts the exposures.

Déplacer le levier de l'armement rapide (7) jusqu'au blocage. Cette seule manoeuvre coordonne:
le transport du film – l'armement de l'obturateur – l'avancement du compteur d'images.



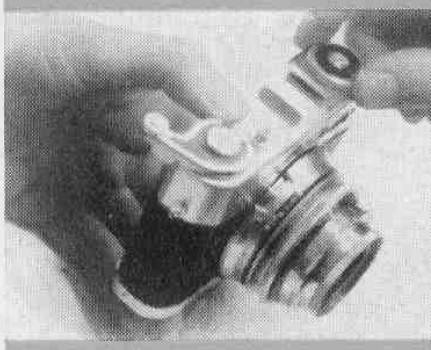
Filmwechsel — Entladen der Kamera
Removing and Changing of Film
Rebobinage et Changement du Film



Die Rückspulung des Films geht dem Filmwechsel voraus.

Before removing the film it is necessary to rewind it into its cartridge.

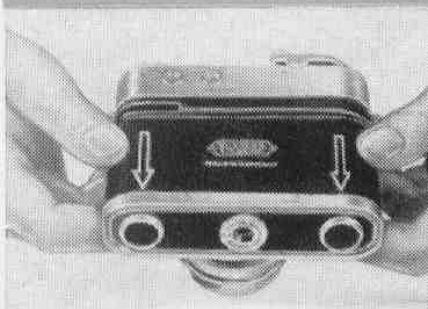
Rebobiner le film dans sa cartouche d'origine avant de le sortier de l'appareil.



Knopf »R« (21) niederdrücken und Rückwickelknopf (8) in Pfeilrichtung solange drehen, bis der Film von der Aufwickelspule (4) hörbar abspringt.

Depress knob »R« (21) while turning the rewinding knob (8) in direction indicated by arrow until the film comes off the take-up spool (4) audibly.

En appuyant sur le bouton »R« (21), tourner le bouton de rebobinage (8) dans le sens de la flèche jusqu'au moment ou l'on sent le film se détacher de la bobine réceptrice (4).



Verriegelungsscheibe (1) bis zum Anschlag »A« drehen. Rückwand (2) nach unten abschieben. Filmpatrone herausnehmen.

Turn locking disc (1) at bottom of camera to »A«. Remove back (2) by pulling it down with both thumbs. Take out film cartridge

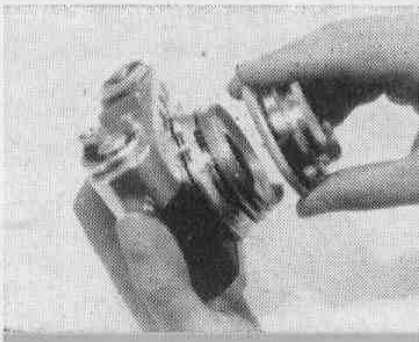
Tourner le bouton de fermeture (1) sur »A«. Faire glisser le dos de l'appareil (2) vers le bas. Sortier la cartouche avec le film. Recharger votre appareil.

Auswechseln der Objektive
Interchanging of DIAX Lenses
Les Objectifs Interchangeables

Diax Ib / IIb

Die Objektive der DIAX Ib/IIb sind voll auswechselbar, so daß für alle Anforderungen geeignete Objektive verwendet werden können. (Siehe folgende Seite).
DIAX lenses are fully interchangeable. There are various focal lengths available for all purposes (see following page).

Les objectifs des DIAX Ib/IIb sont interchangeables. Quels que soient vos besoins vous pouvez choisir dans la gamme très étendue des objectifs DIAX les objectifs convenant le mieux à votre travail du moment.



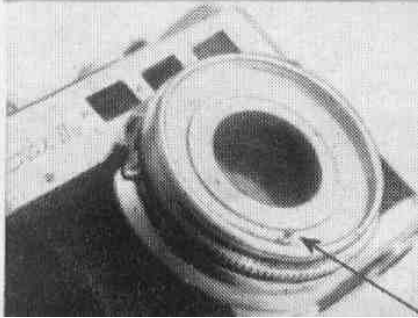
Der Objektiv-Anschraubring (22) wird gelöst und das Objektiv nach vorn abgenommen. Das Einsetzen eines anderen DIAX-Objektivs erfolgt in umgekehrter Folge.
For changing the lens the threaded ring (22) is loosened by turning it counter-clockwise. Now the lens can be easily removed by pulling it forward. Another DIAX lens is inserted and fastened by turning its ring clockwise.

Desserrer l'anneau de fixation (22) de l'objectif et enlever l'objectif. La mise en place d'un autre objectif se fait dans l'ordre inverse. Cette opération est extrêmement facile, sure et rapide.

Diax IIb

ACHTUNG – DIAX IIb! Beim Objektiv-Wechsel darauf achten, daß der Abtaststift des Entfernungsmessers nicht beschädigt wird! (s. Abb.)
ATTENTION – DIAX IIb: *When changing the lenses, make sure that the rangefinder pin is properly inserted into the corresponding hole of the lensmount (see picture).*

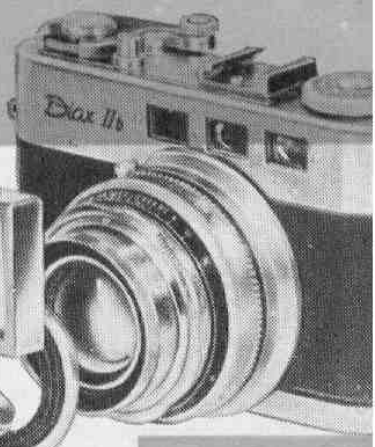
ATTENTION – DIAX IIb: En changeant l'objectif, prendre soin à ne pas endommager la pointe du système télémètrique (voir figure).

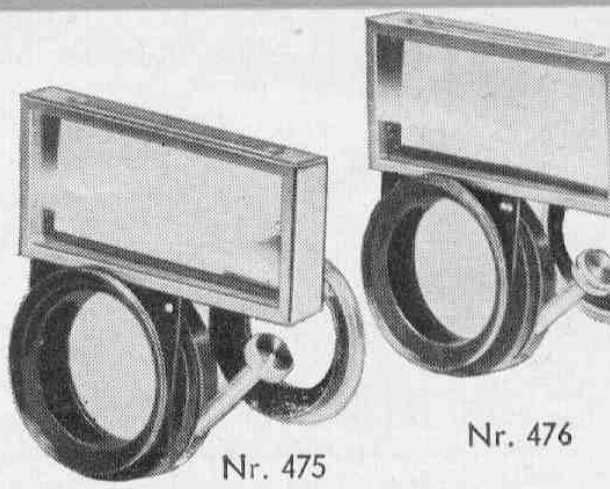


DIAX-System und PROXIMETER-Prinzip

DIAX-PROXIMETER

La Macrophotographie avec DIAX et le PROXIMETER





Nr. 475 Nr. 476

Die Kombination zwischen DIAX-SYSTEM und PROXIMETER-PRINZIP erschließt der DIAX II b den **meßbaren** Nahbereich bis zu 25 cm Objektweite.

The DIAX PROXIMETER allows continuous close-up photography with the rangefinder of the DIAX II b, i. e. from 3¼ feet down to 10 inch.

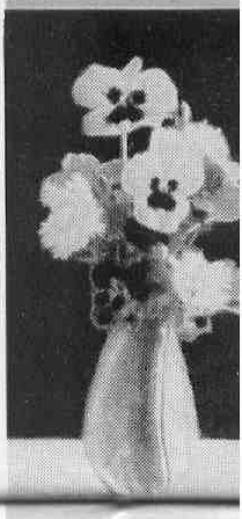
Le DIAX II b complété de l'accessoire PROXIMETER permet le contrôle des distances jusqu'à 25 cm.

Vorteile der DIAX-PROXIMETER-Naheinstellgeräte I und II:

- Kupplung von Entfernungsmesser und Objektiv im Nahbereich
- Wegfall der Nahparallaxe
- Nahaufnahmen bewegter Motive
- Keine Leistungseinschränkung der Objektive

Advantages of the DIAX PROXIMETER close-up attachments I and II:

- *Rangefinder remains coupled in the close-up range from 3¼ feet to 10 inch*
- *Automatic parallax compensation*
- *Close-up pictures of moving objects*
- *Optical performance of the lenses is not impaired*



Advantages des deux dispositifs de macrophotographie:

- Couplage exact du système télémétrique et des objectifs interchangeables pour la macrophotographie.
- Suppression des défauts de parallaxe pour les courtes distances.
- Possibilité de réussir les sujets en mouvement à courtes distances.
- Aucune restriction dans la qualité des objectifs.

Mit der Verwendung der DIAX-Vorsatzlinsen am DIAX-Standard-Objektiv (50 mm Brennweite) wird der Nahaufnahmebereich unter 1 m gewonnen.

By using the DIAX close- up lenses with a DIAX standard lens the focusing range is extended below 3 feet.

Les lentilles additionelles sont des accessoires permettants la mise au point exacte d'une distance inférieure à 1 mètre.



EINSTELLBEREICHE:

DIAX-Vorsatzlinse 1 = 1 m – 0,5 m
DIAX-Vorsatzlinse 2 = 0,5 m – 0,33 m
1 und 2 kombiniert = 0,33 m – 0,25 m
Einstelltabelle wird mit Vorsatzlinsen geliefert.

CLOSE-UP DISTANCES:

DIAX Close-up lens 1 = 40" – 20"
DIAX Close-up lens 2 = 20" – 14"
1 and 2 combined = 14" – 10"
An index of close-up distances is supplied with each close-up lens.

DISTANCES PERMISES:

DIAX-lentille additionelle No 1 = 1 m – 0,5 m
DIAX-lentille additionelle No 2 = 0,5 m – 0,33 m
1 et 2 combinées = 0,33 m – 0,25 m
Voir tableau supplémentaire pour l'utilisation des lentilles additionelles.

Die Objektive des DIAX-Systems
The DIAX Lenses
Les Objectifs Interchangeables DIAX

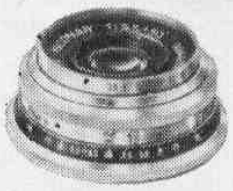


513

DIAX-Schneider-XENAGON 1:3,5/35 mm Nr. 513
Weitwinkel-Objektiv für Innenaufnahmen, Landschaft, Architektur. Durch die günstige Tiefenschärfe auch für »Schnappschüsse« besonders geeignet.
Wide-angle lens for indoor pictures, landscapes and architecture. Because of the great depth of field, it is also recommended for snapshots.
Objectif grand angle pour photos d'intérieur, de paysage et d'architecture. Grâce à sa grande profondeur de champ, cet objectif se prête particulièrement aux instantanés.



515



516

DIAX-Schneider-XENON 1:2/50 mm Nr. 512
Hoch-lichtstarkes Universal Objektiv für höchste Ansprüche. Geeignet für alle Gebiete der Amateurphotographie, besonders bei ungünstigen Lichtverhältnissen.
Excellent, very fast lens of highest optical performance. Used for all purposes of amateur photography, especially useful for unfavourable light conditions.
Objectif d'une grande luminosité satisfaisant les plus hautes exigences. Se prête à tous les travaux d'amateurs, surtout en cas de mauvaises conditions d'éclairage. A recommander pour les photos en couleur.



511

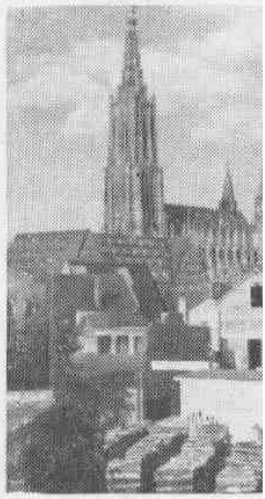


512

DIAX-Schneider-XENAR 1:2,8/50 mm Nr. 511,
DIAX-Isco-ISCONAR 1:3,5/50 mm Nr. 516,
DIAX-Isco-WESTAR 1:3,5/50 mm Nr. 515 (nur für DIAX Ib).
Leistungsstarke Universal-Objektive für alle Aufnahmegebiete der Amateurphotographie.
High quality fast lenses for universal use of the photographer.



f = 35 mm ≙ 62



f = 50 mm ≙ 48

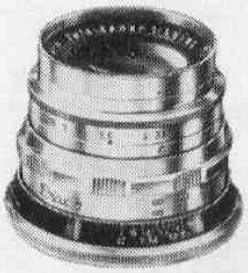
Objectifs universels très lumineux pour tous les travaux d'amateurs.



517

DIAX-Isco-ISCONAR 1:4,5/85 mm Nr. 517
Preisgünstiges Fernobjektiv (Dreilinser) für alle Zwecke der Fernphotographie, wie Landschaft, Porträts, Tieraufnahmen.
Low priced telephoto lens for distant views, portraits, pictures of animals, etc.

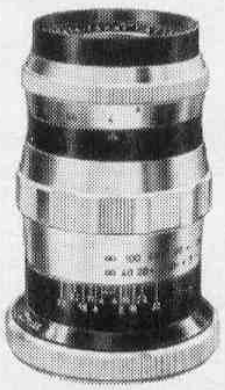
Télé-objectif (3 lentilles) d'un prix intéressant, répondant à tous les besoins de la téléphotographie, tels que paysage, portrait, photos d'animaux.



514

DIAX-Schneider-TELE-XENAR 1:3,5/90 mm Nr. 514
Lichtstarkes Fernobjektiv (Vierlinser) für Sport-, Kunst-, Reporter-, Kriminal- und Landschaftsaufnahmen, für Wissenschaft, Porträt und Architektur. Das meistgebräuchliche Tele-Objektiv.
High speed telephoto lens (for sporting pictures, reporter landscape, science, portraits, architecture and all purposes The most useful telephoto lens.

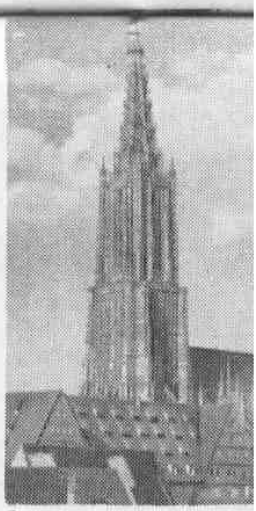
Télé-objectif très lumineux (4 lentilles) pour sport – paysage – portrait – architecture – reportage – criminalogie – sciences.



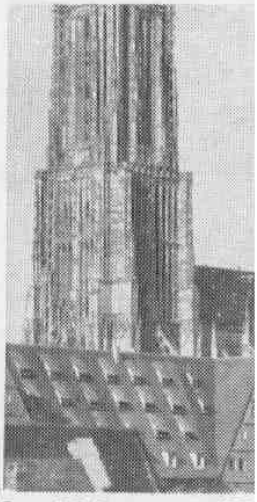
518

DIAX-Schneider-TELE-XENAR 1:4/135 mm Nr. 518
Hochleistungs-Fernobjektiv für weit entfernte Objekte. Geeignet für Landschaft, Porträts und alle Zwecke der Fernphotographie.
High-class telephoto lens for distant objects, especially landscapes, portraits, architecture (details), birds, etc.

Télé-objectif de très haute qualité. Même application que le Télé-objectif TELE-XENAR 1:3,5/90 mm.



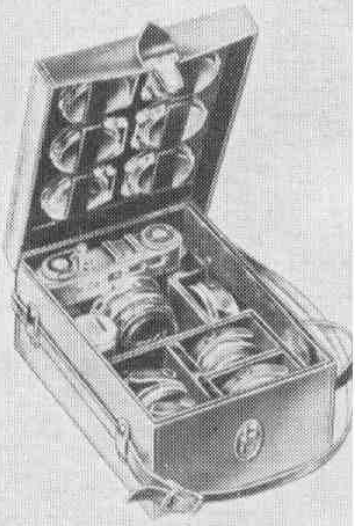
f = 90 mm ≙ 27



f = 135 mm ≙ 18

DIAX-Zubehör
DIAX Accessories
Accessoires DIAX

Nr. 423 Leder-Zubehörkoffer
samtgefüttert, für Kamera, 3 Objektive, 7 Filter, Belichtungsmesser usw.
No. 423 Gadget Case
cow hide, velvet lined, for camera, 3 lenses, 7 filters, exposure meter etc.
No. 423 Coffret à accessoires
doublé velours, pour caméra, 3 objectifs, 7 filtres, photomètre etc.



Nr. 423

Nr. 422 DIAX-Objektivdeckel
42 mm ⌀, als Ersatz
No. 422 DIAX Lens Cap
42 mm ⌀
No. 422 DIAX-bouchon d'objectif
42 mm ⌀

Nr. 450 DIAX-Zwischenring für Vergrößerer, um DIAX-Objektive in einen Vergrößerer mit Leica-Gewinde einzusetzen.
No. 450 DIAX Adaptor Ring for enlargers, for fitting DIAX lenses to the lens mount of enlargers with LEICA thread.
No. 450 Anneau intermédiaire DIAX pour agrandisseur, pour placer des objectifs DIAX dans un agrandisseur à filet Leica.



Nr. 450

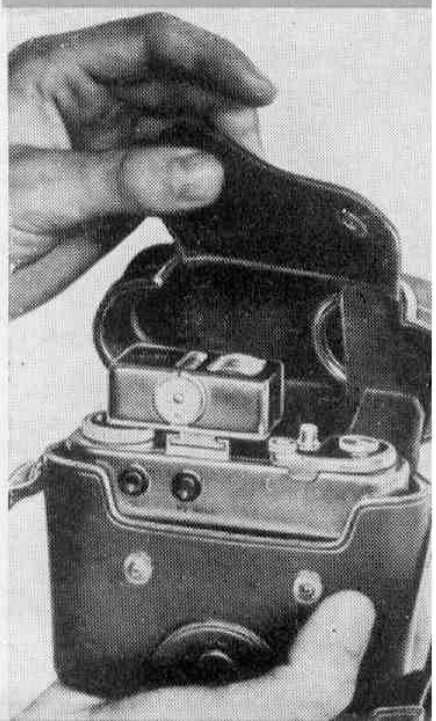
Nr. 230 DIAX-Drahtauslöser
Metallumhüllung, flexibel, verchromt
No. 230 DIAX Cable Release
strong metal cover, flexible, chromium plated
No. 230 Fil déclencheur DIAX
revêtement métallique, flexible, chromé

Nr. 525 Spezial-Lederbereitschaftstasche
in Sonderausführung für aufgesteckten Belichtungsmesser und 1 Filter
No. 525 Ever-Ready Leather Case
special type for camera with exposure meter attached and 1 filter
No. 525 Sac en cuir spéciale qualité
pour appareil avec photomètre posé et 1 filtre

Nr. 424 Leder-Umhängetasche
samtgefüttert, für 2 Objektive (35 und 85/90 mm) und 1 Filter
No. 424 Shoulder Bag
cow hide, velvet lined, for 2 lenses and 1 filter
No. 424 Sac doublé
velours pour 2 objectifs et 1 filtre

Nr. 525

Nr. 425 Lederbereitschaftstasche
samtgefüttert
No. 425 Ever-Ready Leather Case
cow hide, velvet lined
No. 425 Sac en cuir
doublé velours



Nr. 445 DIAX-Sonnenblende
in Einschraubfassung, für alle Objektive (außer XENAGON), in Lederetui
No. 445 DIAX Lens Hood
screw-in mount, for all DIAX lenses (except XENAGON) with leathercase
No. 445 Parasoleil DIAX
à visser, pour tous objectifs (sauf XENAGON), étui en cuir compris

Nr. 421 a Lederköcher
für TELE-Objektive 85/90 mm

No. 421 a Leather Case
for Tele-lenses 85/90 mm

No. 421 a Etui en cuir
pour Télé-objectifs 85/90 mm

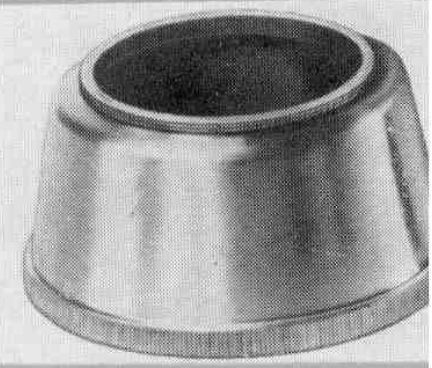


Nr. 425

Nr. 421 b Lederköcher
für TELE-XENAR 135 mm

No. 421 b Leather Case
for TELE-XENAR 135 mm

No. 421 b Etui en cuir
pour TELE-XENAR 135 mm



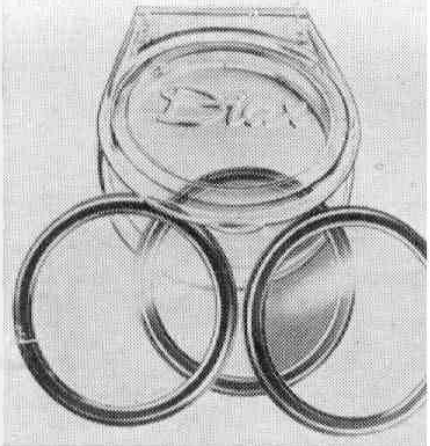
Nr. 445

DIAX-Farbfilter
verchromt, in Einschaubfassung, mit Kunststoffbehälter

DIAX Filters
chromium plated, in screw-in mount, including plastic cases

DIAX filtres colorés
chromés, à visser, étui en matière plastique compris

No.	Farbe	*Colour*	Couleur	Verlängerungs-Faktor *Filter factor* Facteur de prolongat
430	UV	*Ultra-violet*	UV	1 ×
431	hellgelb	*light yellow*	jaune clair	2 ×
432	mittelgelb	*medium yellow*	jaune moyen	3 ×
433	gelbgrün	*yellow-green*	jaune-vert	2 ×
434	orange	*orange*	orange	4 ×
435	rot	*red*	rouge	5 ×
436	blau	*blue*	bleu	3 ×



Nr. 438 DIAX-Polarisationsfilter
in Aufsteckfassung, 42 mm ⌀, mit Kunststoffbehälter

No. 438 DIAX Polarising Filter
in slip-on mount, 42 mm ⌀, in plastic case

No. 438 Filtre de polarisation DIAX
à baïonnette, 42 mm ⌀, étui en matière plastique compris

Nr. 440 DIAX-Vorsatzlinse Nr. 1
Nr. 441 DIAX-Vorsatzlinse Nr. 2

No. 440 DIAX Close-up lens No. 1
No. 441 DIAX Close up lens No. 2

No. 440 DIAX-lentille additionnelle No. 1
No. 441 DIAX-lentille additionnelle No. 2



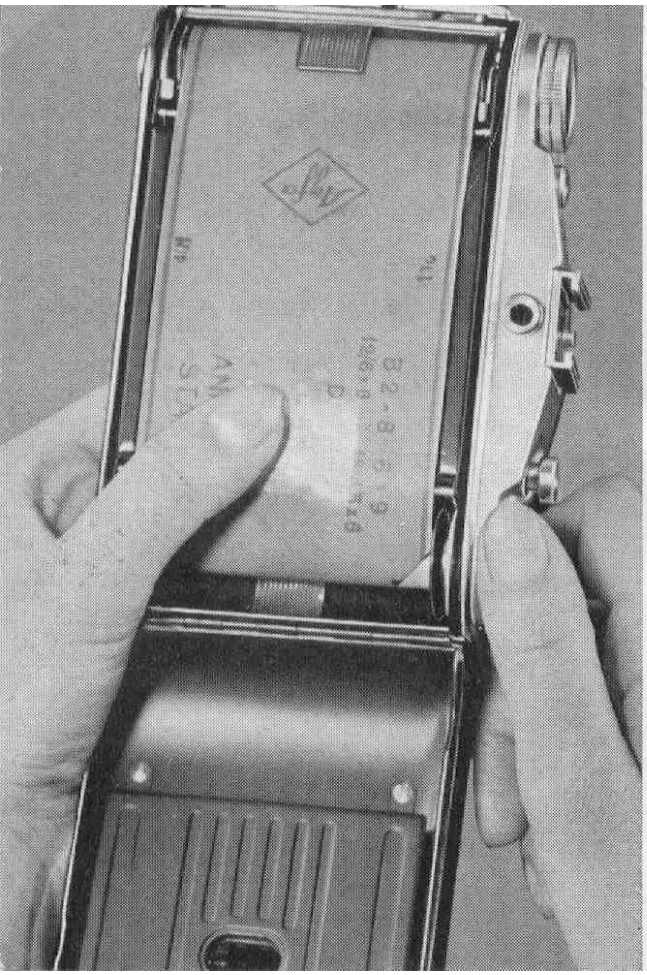
Nr. 446 DIAX-Universalsucher
für die Brennweiten 35, 85/90 und 135 mm, mit Parallaxenausgleich

No. 446 DIAX Universal Finder
for 35, 85/90 and 135 mm with parallax correction

No. 446 Viseur universel prismatique DIAX
pour f=35, 85/90 et 135 mm, avec compensation des parallaxes

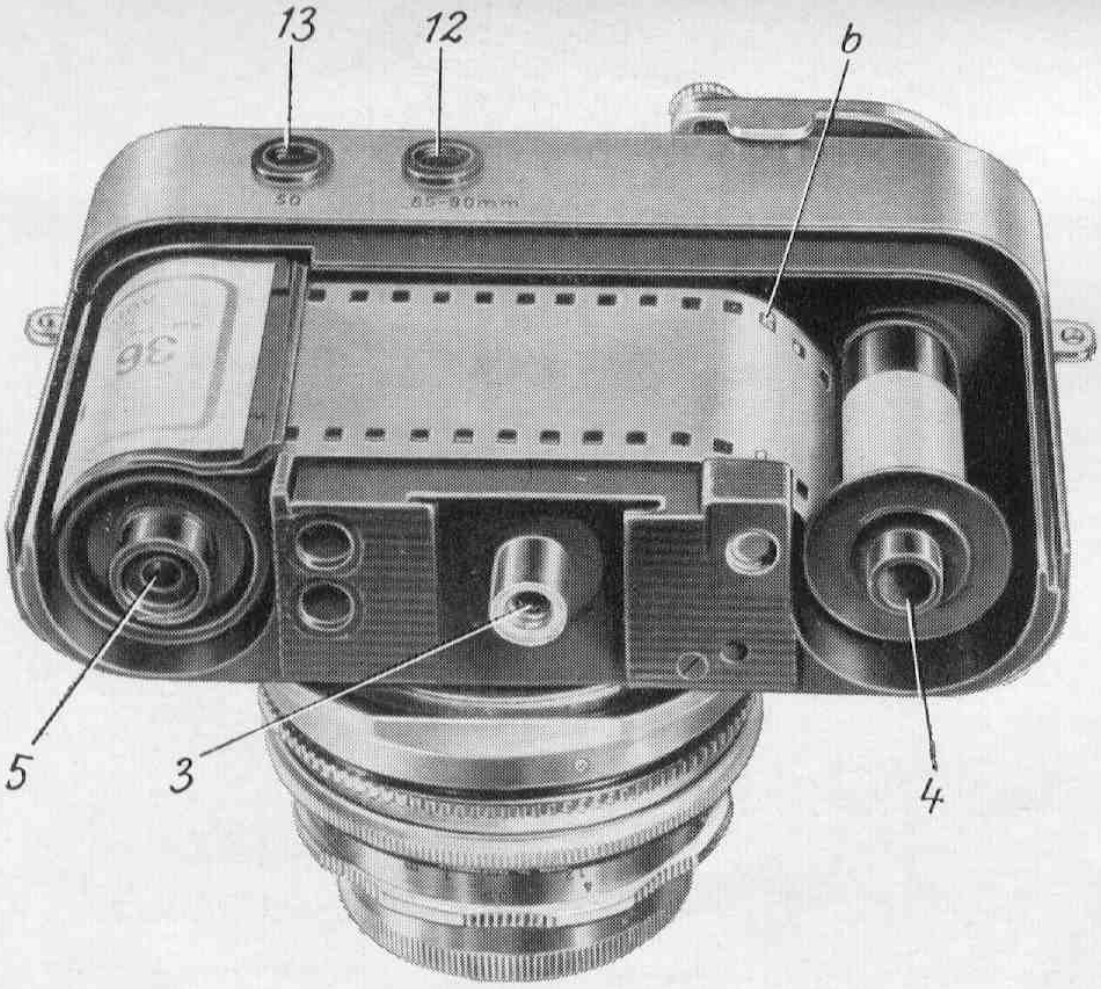
Index

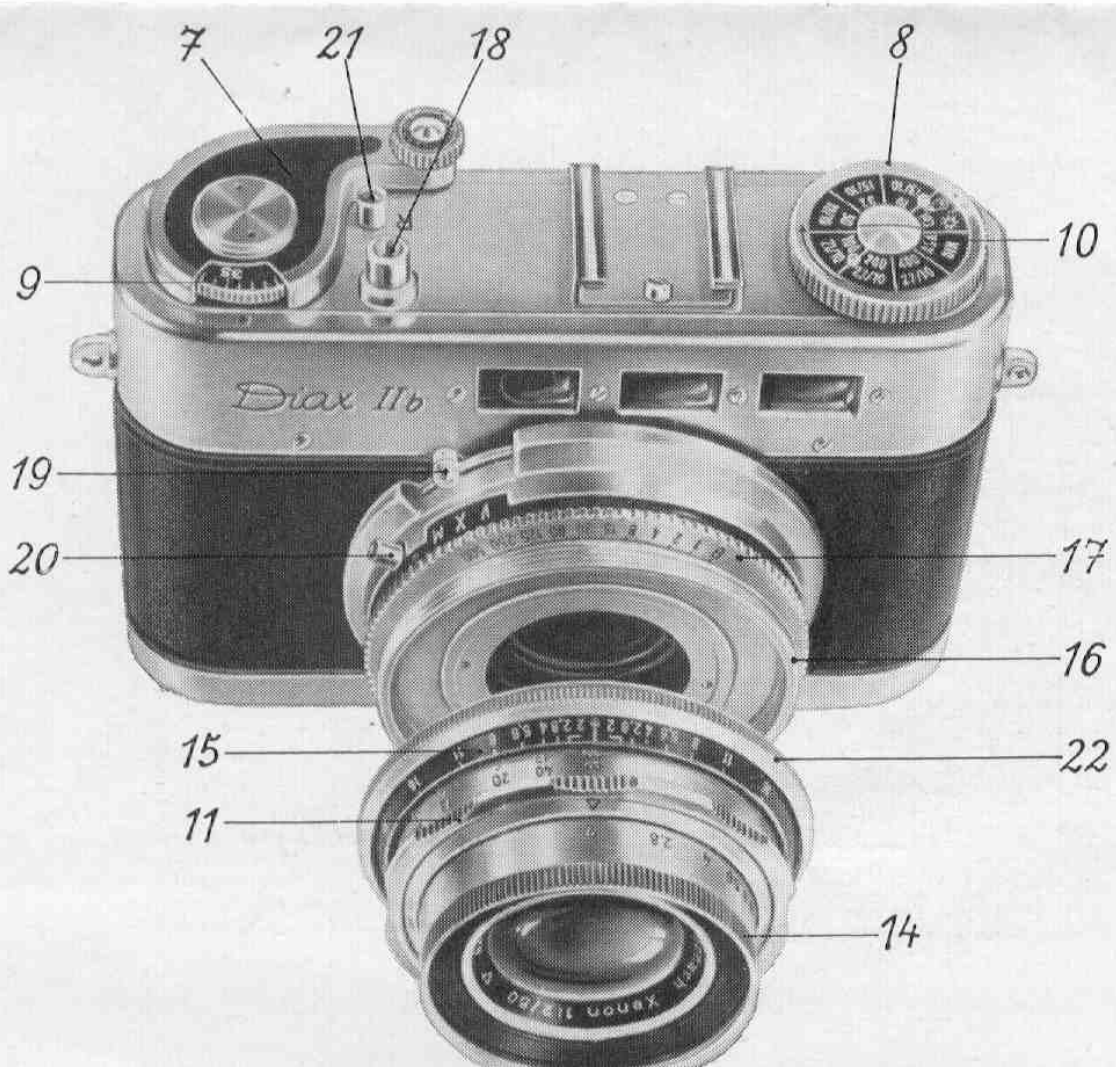
1	Verriegelungsscheibe	*Locking disk*	Disque de fermeture
2	Rückwand	*Camera back*	Dos de l'appareil
3	Stativschraube	*Tripod adaptor*	Ecrou de pied
4	Filmspule	*Filmspool*	Bobine réceptrice
5	Filmpatrone	*Film cartridge*	Chargeur du film
6	Filmzahnrolle	*Film sprocket wheel*	Roue dentée
7	Schnellaufzughebel	*Rapid-winding lever*	Levier de l'armement rapide
8	Rückwickelknopf	*Rewinding knob*	Bouton de rebobinage
9	Bildzählscheibe	*Exposure counter*	Disque du compteur d'images
10	Filmmerkscheibe	*Film-speed indicator*	Disque du film
11	Entfernungs-Einstellring	*Distance setting ring*	Bouton de distance
12	Sucher-Einblick 85/90 mm	*Viewfinder window 85/90 mm*	Fenêtre du viseur 85/90 mm
13	Meßsucher-Einblick 50 mm	*Rangefinder window 50 mm*	Fenêtre du télémètre 50 mm
14	Blenden-Einstellring	*Aperture setting ring*	Baque de diaphragme
15	Tiefenschärfenring	*Depth-of-focus scale*	Baque du profondeur de champ
16	Verschluß	*Shutter*	Opturateur
17	Zeit-Einstellring	*Shutter-speed setting ring*	Anneau de réglage de la vitesse d'opturateur
18	Auslöserknopf	*Release button*	Bouton de déclenchement
19	MXV-Stellhebel	*MXV-Adjusting lever*	Levier de réglage MXV
20	Blitzkontakt-Buchse	*Socket for flash cables*	Prise pour synchro-câbles
21	Knopf »R«	*Knob »R«*	Bouton »R«
22	Objektiv-Anschraubring	*Lens flange*	Anneau de fixation



Tear adhesive tape and remove it carefully. Pull out backing paper, and insert it in the longer slot of the spool.

Adjust the backing paper along the camera edges carefully, and tighten with a few turns of the film winder in the direction of the arrow. Make sure that it is wound straight between the spool flanges, thus giving protection from stray light.


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Diax IIb
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Diax

SYNCHRO-COMPUR-BELICHTUNGSZEITEN
SHUTTER SPEEDS OF THE SYNCHRO-COMPUR
TEMPS DE POSE DU SYNCHRO-COMPUR

für Blitzlampen Flash Lamps pour lampes-éclairs			Stellung des Stellhebels Adjusting lever position Position du levier de réglage	
Klasse Class Classe	Fabrikat Make Marque	Type Type Type	**X** Verschlußzeit länger als Blitzdauer Exposure time longer than flash Temps d'exposition plus long que la durée de l'éclair	**M** Verschlußzeit kürzer als Blitzdauer Exposure time shorter than flash Temps d'exposition plus court que la durée de l'éclair
X	Osram	XP XO	1 — 1/60 1 — 1/30	nicht für M-Stellung bestimmt Not intended for "M" shots Ne pas utiliser sur la position "M"
M	Osram	S 2	1 — 1/15	1/30 — 1/500
		SO	1 — 1/30	1/60 — 1/500
		XM 1	1 — 1/30	1/60 — 1/250
	Philipps	PF 1		
		PF 3	1 — 1/30	1/60 — 1/125
		PF 14 PF 25 PF 60	1 — 1/30	1/60 — 1/500
S	Philipps	PF 100	1 — 1/15	1/15 — 1/60
X	Blitzröhren mit verzögerungsfreier Zündung Elektronic Flash Tubes for Zero delay action pour lampes électroniques pour action retardée Zero		1 — 1/500	—

Leitzahlen deutscher Blitzlampen (für 17/10 DIN-Film)
Guide Numbers of German Flash bulbs
Nombres-guide des lampes-éclair d'allemande

Stellung des Stellhebels und Verschlußzeit Adjusting lever position and shutter speed Position du levier de réglage et vitesse d opturateur		X bis 1/30 sec up to à	M			
			1/60	1/125	1/250	1/500
Osram	XP XO	20 — 1/60 30	nicht für M-Stellung bestimmt Not intended for "M" shots Ne pas utiliser la position "M"			
	SO	40	40	30	20	15
	S 2	85 — 1/15	70	50	35	25
	XM 1	25	20	18	12	—
Philips	PF 1	25	20	18	12	—
	PF 3	20	20	15	—	—
	PF 14	30	30	20	15	10
	PF 25	40	40	30	20	15
	PF 60	60	60	40	30	20

Bei Verwendung des Vorlaufwerkes (Selbstauslöser) sind nur die bei »X«-Stellung des Stellhebels aufgeführten Ver schlußzeiten möglich.
When the selftimer is used, it is possible to use only those shutter speeds which are given for the »X« position of the adjusting lever.
Avec le retardement on ne peut faire partir l'éclair que sur la position »X« du levier de réglage

W. VOSS ULM/D.

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DEPTH OF FOCUS SCALE • TIEFENSCHÄRFE-TABELLE • TABLEAU DE PROFONDEUR DE CHAMP

Objektiv f = 35 mm

Einstell-Entfernung m	Blende 2 von m	Blende 2 bis m	Blende 2,8 von m	Blende 2,8 bis m	Blende 3,5 von m	Blende 3,5 bis m	Blende 4 von m	Blende 4 bis m	Blende 5,6 von m	Blende 5,6 bis m	Blende 8 von m	Blende 8 bis m	Blende 11 von m	Blende 11 bis m	Blende 16 von m	Blende 16 bis m	Blende 22 von m	Blende 22 bis m	Blende 32 von m	Blende 32 bis m
∞					8,1	∞	7,1	∞	5,1	∞	3,55	∞	2,59	∞	1,78	∞				
12					4,85	∞	4,45	∞	3,57	∞	2,74	∞	2,13	∞	1,55	∞				
6					3,45	23	3,25	39	2,75	∞	2,23	∞	1,81	∞	1,37	∞				
4					2,68	7,8	2,55	9,1	2,23	19	1,88	∞	1,57	∞	1,23	∞				
3					2,19	4,75	2,11	5,2	1,89	7,4	1,63	19	1,39	∞	1,12	∞				
2,5					1,91	3,61	1,85	3,86	1,68	4,95	1,47	8,4	1,27	7,5	1,04	∞				
2					1,61	2,65	1,56	2,78	1,43	3,30	1,28	4,55	1,13	8,8	0,94	∞				
1,5					1,27	1,84	1,24	1,90	1,16	2,13	1,06	2,60	0,95	3,57	0,81	9,6				
1,2					1,05	1,41	1,03	1,44	0,97	1,57	0,90	1,81	0,82	2,24	0,72	3,70				
1					0,89	1,14	0,88	1,16	0,84	1,24	0,78	1,39	0,72	1,63	0,64	2,29				

Objektiv f = 50 mm

∞	29	∞	20,8	∞			14,5	∞	10,3	∞	7,2	∞	5,3	∞	3,63	∞				
12	8,5	20,5	7,6	29			6,6	70	5,55	∞	4,52	∞	3,67	∞	2,79	∞				
6	4,98	7,6	4,66	8,4			4,26	10,2	3,80	14,2	3,28	35	2,81	∞	2,26	∞				
4	3,50	4,65	3,35	4,95			3,13	5,50	2,88	6,5	2,57	8,9	2,27	16,3	1,90	∞				
3	2,72	3,35	2,62	3,50			2,49	3,78	2,33	4,24	2,12	5,11	1,91	6,9	1,64	17,1				
2,5	2,30	2,74	2,23	2,85			2,13	3,02	2,01	3,30	1,86	3,82	1,70	4,55	1,48	8,0				
2	1,87	2,15	1,82	2,21			1,76	2,32	1,68	2,48	1,57	2,76	1,45	3,21	1,29	4,45				
1,5	1,43	1,58	1,40	1,62			1,36	1,67	1,31	1,75	1,24	1,89	1,17	2,09	1,06	2,26				
1,2	1,15	1,25	1,13	1,27			1,11	1,31	1,08	1,36	1,03	1,44	0,98	1,55	0,90	1,79				
1	0,97	1,04	0,95	1,05			0,94	1,07	0,91	1,11	0,88	1,16	0,84	1,23	0,78	1,38				

Objektiv f = 85/90 mm

∞					50	∞	48	∞	35	∞	24	∞	17	∞	12	∞	8,5	∞		
12					9,7	15,5	9,6	16	8,9	19	8,0	24	7,1	40	6,0	∞	5,0	∞		
10					8,4	12,5	8,3	13	7,7	14	7,1	17	6,3	24	5,4	70	4,6	∞		
6					5,4	6,8	5,3	6,9	5,1	7,3	4,8	8,0	4,5	9,2	4,0	12	3,5	20		
5					4,5	5,5	4,5	5,6	4,4	5,9	4,1	6,3	3,9	7,0	3,5	8,7	3,2	12		
4					3,7	4,3	3,7	4,4	3,6	4,5	3,4	4,8	3,2	5,2	2,98	6,0	2,72	5,7		
3					2,83	3,2	2,82	3,2	2,75	3,3	2,66	3,4	2,55	3,6	2,39	4,0	2,22	4,6		
2,5					2,39	2,62	2,38	2,63	2,34	2,68	2,28	2,77	2,20	2,90	2,10	3,1	1,97	3,4		
2					1,92	2,08	1,92	2,09	1,89	2,13	1,84	2,18	1,79	2,27	1,71	2,41	1,62	2,61		
1,5					1,46	1,54	1,46	1,55	1,44	1,57	1,41	1,60	1,38	1,65	1,33	1,72	1,28	1,82		
1,2					1,17	1,23	1,17	1,23	1,16	1,24	1,14	1,26	1,12	1,29	1,09	1,34	1,05	1,40		
1					0,98	1,02	0,98	1,02	0,97	1,03	0,96	1,04	0,94	1,06	0,92	1,09	0,90	1,13		

Objektiv f = 135 mm

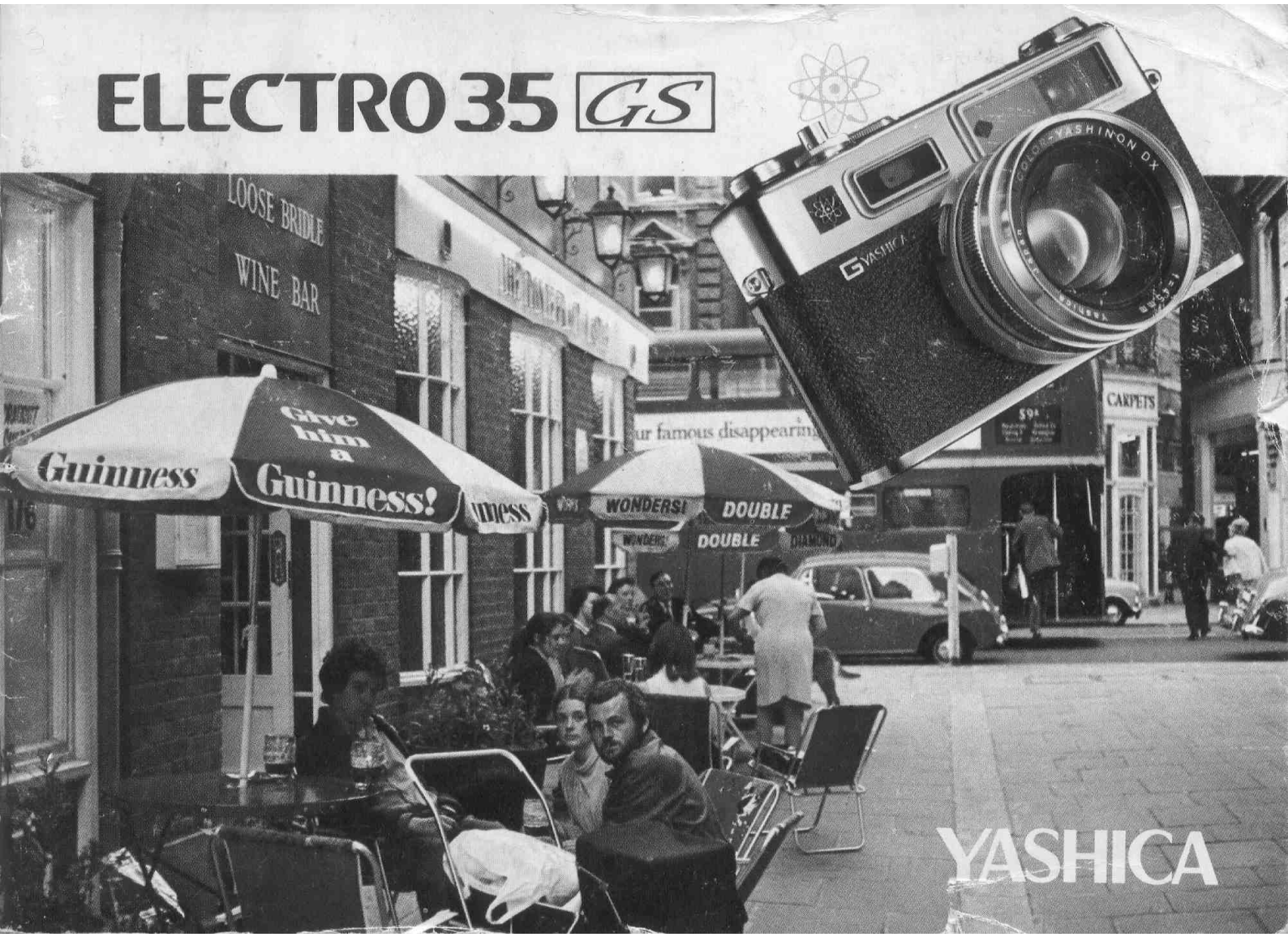
∞							110	∞	75	∞	54	∞	38	∞	26,5	∞	19	∞	13,5	∞
40							29	65	26	85	23	170	19,5	∞	16	∞	13	∞	10	∞
20							16,9	25	16	28	14,5	32	13	44	11,5	80	9,7	∞	8,0	∞
15							13,3	18	12,5	19	11,7	21	10,8	25	9,6	35	8,4	75	7,1	∞
10							9,1	11,1	8,8	11,5	8,4	12,4	7,9	13,8	7,2	16,1	6,5	21,5	5,7	40
9							8,3	9,9	8,0	10,3	7,7	10,8	7,3	11,9	6,7	13,7	6,1	17	5,35	27
8							7,4	8,7	7,2	8,9	6,9	9,4	6,6	10,2	6,1	11,5	5,6	14	5,0	20
7							6,6	7,5	6,4	7,7	6,2	8,1	5,9	8,6	5,55	9,5	5,1	11,1	4,6	14,7
6							5,7	6,4	5,56	6,5	5,4	6,8	5,2	7,2	4,9	7,8	4,57	8,8	4,15	11
5							4,78	5,26	4,69	5,36	4,57	5,53	4,4	5,8	4,2	6,2	3,95	6,8	3,62	8
4,5							4,31	4,71	4,25	4,80	4,15	4,93	4,0	5,12	3,85	5,43	3,63	5,9	3,35	6,8
4							3,86	4,18	3,8	4,25	3,72	4,34	3,62	4,5	3,48	4,74	3,30	5,1	3,07	5,73
3,75							3,63	3,90	3,58	3,95	3,5	4,05	3,41	4,19	3,29	4,38	3,13	4,7	2,93	5,23
3,5							3,39	3,62	3,35	3,67	3,28	3,75	3,2	3,87	3,09	4,05	2,95	4,3	2,77	4,75
3,25							3,15	3,36	3,10	3,40	3,06	3,46	3,0	3,56	2,89	3,7	2,77	3,94	2,61	4,3
3							2,92	3,09	2,88	3,12	2,84	3,18	2,78	3,26	2,69	3,39	2,59	3,56	2,45	3,87
2,75							2,68	2,83	2,65	2,86	2,61	2,9	2,56	2,97	2,49	3,07	2,4	3,21	2,28	3,46
2,5							2,44	2,56	2,42	2,59	2,39	2,63	2,34	2,68	2,28	2,76	2,21	2,88	2,11	3,07

DESCRIPTION (See also Page 50)



1. Film Rewind Knob (with rewind crank-handle and back cover release)
2. Viewfinder
3. Accessory Shoe
4. Red and Yellow Warning Arrows
5. ASA Film Speed Setting Ring
6. Film Advance Lever
7. Film Exposure Counter (with battery checker)
8. Shutter Release Lock
9. Shutter Release Button
10. CdS Cell Window
11. Focusing Ring
12. Self-Timer
13. Exposure Control Ring
14. Aperture Ring
15. Taking Lens

ELECTRO 35 GS



YASHICA

BESCHREIBUNG
(Siehe auch Seite 50)

1. Film-Rückspulknopf (mit Rückspul-Handkurbel und Rückwandverriegelung)
2. Sucher
3. Zubehör-Aufsteckschuh
4. Roter und gelber Warnpfeil
5. ASA Einstellring für Filmempfindlichkeit
6. Filmaufzughebel
7. Filmzählwerk
8. Verriegelung für Auslöseknopf
9. Auslöseknopf
10. Fenster mit CdS Zelle
11. Scharfeinstellring
12. Selbstauslöser
13. Kontrollring für Belichtung
14. Blendenring
15. Aufnahmeobjektiv

DESCRIPTION
(Voir également P. 50)

1. Bouton de rebobinage du film (avec manivelle) et de d'everrouillage du dos)
2. Viseur
3. Griffe à accessoires
4. Flêches indicatrices Rouge et Jaune
5. Bague de réglage de la sensibilité du film.
6. Levier d'avancement du film.
7. Compteur de vues (avec vérificateur de pile)
8. Verrouillage du déclencheur
9. Déclencheur
10. Fenêtre de la cellule CdS.
11. Bague de mise au point
12. Retardateur
13. Bague de réglage d'exposition
14. Bague du diaphragme
15. Objectif de prise de vue

DESCRIPCION
(Véase también la página 50)

1. Perilla de Rebobinado de Película (con manija de rebobinado y Disparador de la Tapa Trasera)
2. Visor
3. Portaaccesorio
4. Flechas de Aviso Roja y Amarilla
5. Mando de Regulación de Sensibilidad de la Película ASA
6. Palanquita de Avance de la Película
7. Contador de Exposición de la Película (con comprobador de estado de la pila)
8. Cierre del Disparador
9. Disparador
10. Ventanilla de CdS
11. Mando de Enfoque
12. Auto-disparador
13. Mando de Control de Exposición
14. Mando de Abertura
15. Objetivo de Toma

KEY STEPS FOR AUTOMATIC PHOTOGRAPHY
GRUNDSCHRITTE FÜR AUTOMATISCHES FOTOGRAPHIEREN

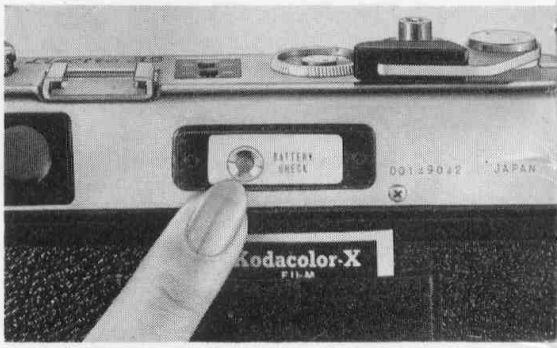
1

Load and Check Battery

Batterie laden und kontrollieren.

Mettre la pile en place et la vérifier

Carga e inspección de la pila



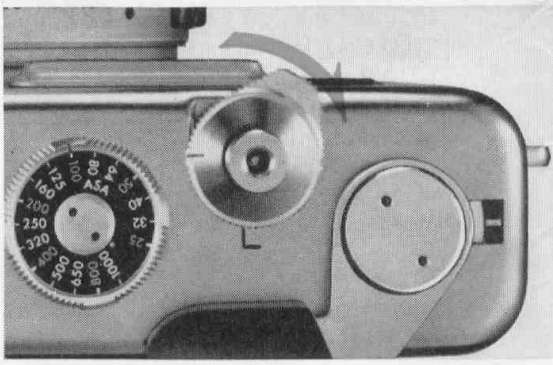
2

Unlock Shutter Release Button

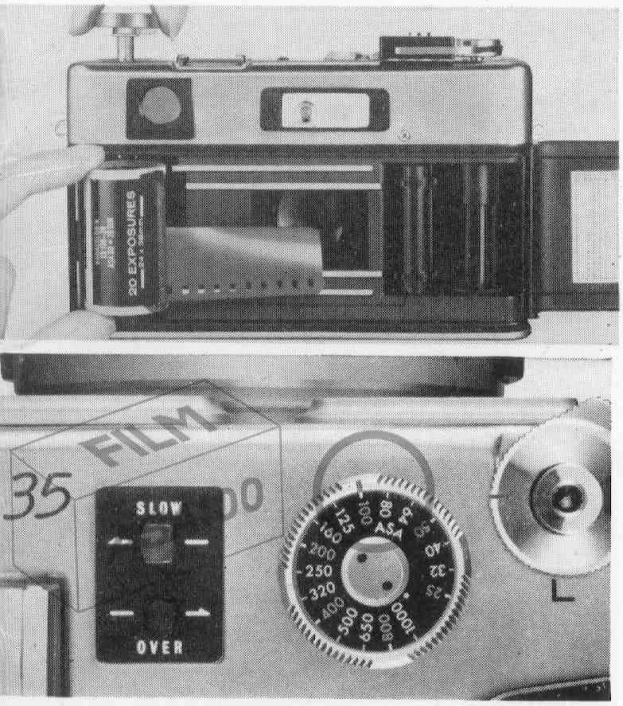
Auslöseknopf-Verriegelung lösen

Déverrouiller le déclencheur

Quitado de la sujeción del disparador



MARCHE A SUIVRE POUR LA PHOTO EN "AUTOMATIQUE"
PROCEDIMIENTOS BASICOS PARA LA TOMA AUTOMATICA



3 Load Film

Film einspannen

Charger le film

Carga de la película

4 Set ASA Film Speed

ASA Filmempfindlichkeit einstellen

Régler selon la sensibilité de l'émulsion (ASA)

Regulación de sensibilidad de la película ASA

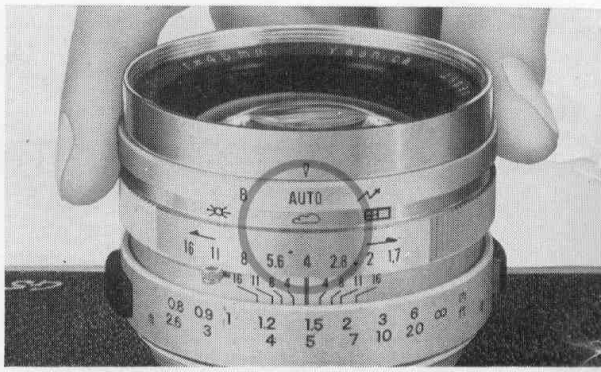
5

Set Camera for Automatic Operation

Kamera für automatischen Betrieb einstellen.

Régler l'appareil pour le fonctionnement automatique

Regulación de la cámara para la operación automática



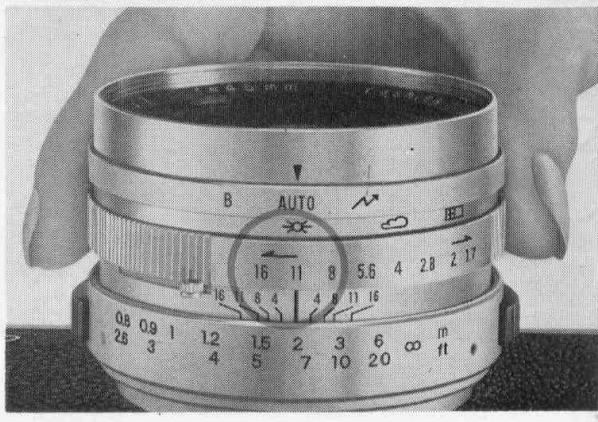
6

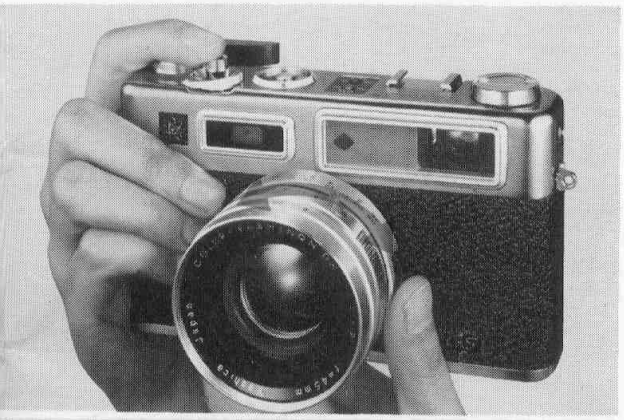
Select Appropriate Exposure Symbol

Angemessenes Belichtungssymbol wählen

Sélectionner le symbole approprié d'exposition.

Selección del símbolo de exposición apropiado.



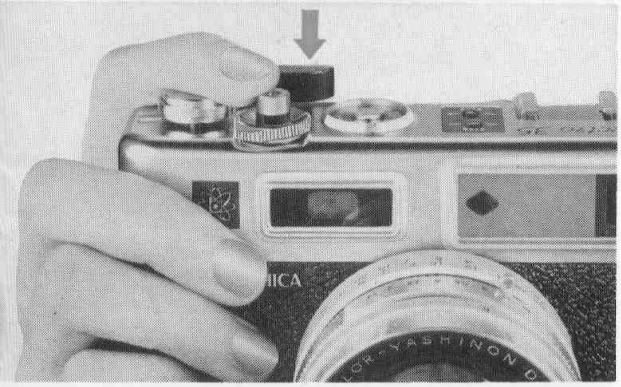


7 Focus

Scharf einstellen

Mettre au point

Enfoque

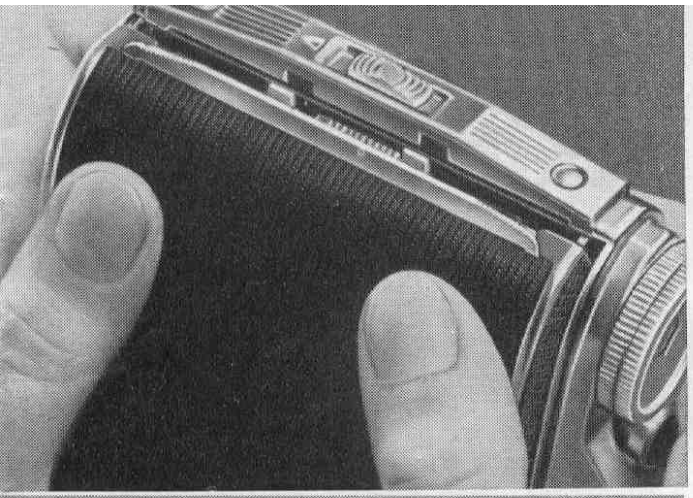


8 Control Exposure – SHOOT!

Belichtung kontrollieren...Abdrücken!

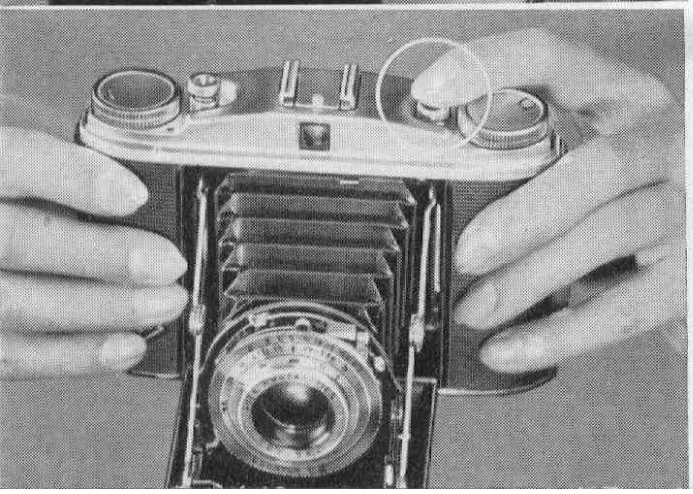
Régler le diaphragme et Declencher!

Control de exposición – DISPARO!



To close camera back:
Press firmly on back with both hands, until you hear the lock engage.

On turning the film-winder, the warning marks (dots, hands, or arrows) will appear in the window. Stop at Number "1", when the film is ready for the first exposure.



To open the camera:
Pressure on the release button causes the lens carrier to slide forward, and the camera is ready for action. If necessary, assist the baseboard to snap into position.

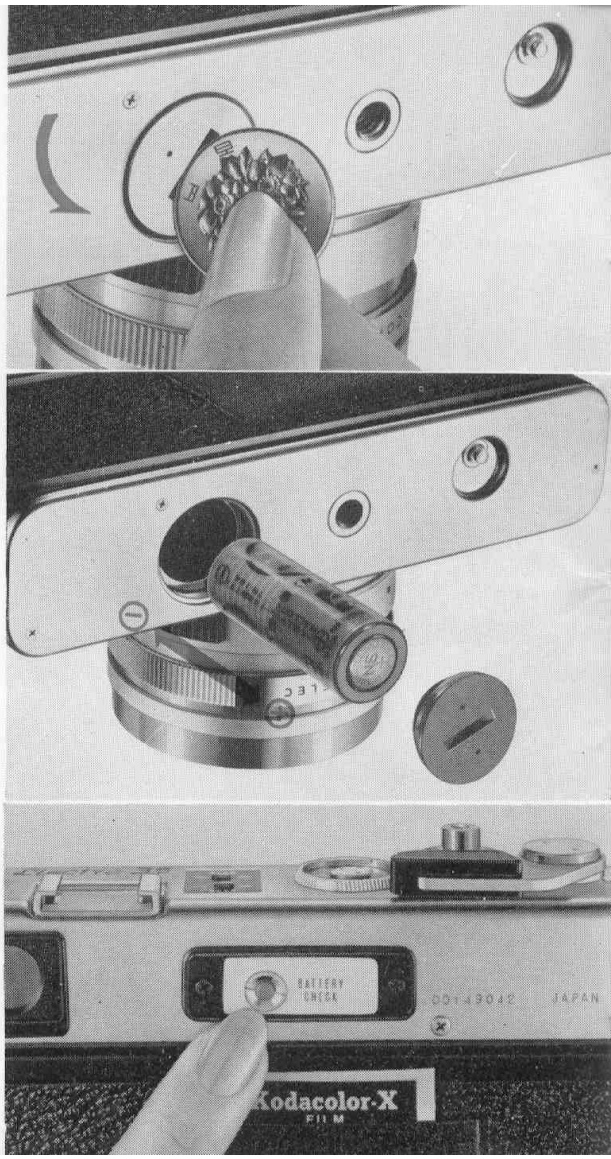
The advantage of the spring-brace design of the Isolette consists in its instant readiness for action, as well as in the particular rigidity of the lens carrier.

BATTERY LOADING AND CHECKING

1. Unscrew the Battery Compartment Cover with the edge of a coin.

2. Insert a 5.6V mercury battery, "—" (minus) end in first, and replace Cover. Always carry a spare battery (Mallory TR164, Eveready E164 or equivalent). When camera is not in use for a long period of time, remove battery and store in a cool, dry place.

3. Check battery before picture-taking. Press Battery Check Button. If the green light comes on brightly in the Film Exposure Counter, the battery power is sufficient. If not, the battery should be replaced.



LADEN UND KONTROLLIEREN DER BATTERIE

1. Den Batteriefach-Verschluss mit einer Münze abschrauben.

2. Eine 5,6V Mercury-Batterie, "—" (Minus) Ende zuerst, einsetzen und den Verschluss wieder einschrauben. Immer eine Ersatz-Batterie mitnehmen (Mallory TR164, Eveready E164 oder entsprechend).
Wenn die Kamera für eine längere Zeit nicht gebraucht wird, die Batterie entfernen und kühl und trocken lagern.

3. Vor dem Fotographieren Batterie überprüfen. Batterie-Kontrollknopf drücken. Wenn das grüne Licht im Filmzählwerk hell aufleuchtet, ist die Batterie noch stark genug. Wenn nicht, sollte die Batterie ersetzt werden.

MISE EN PLACE ET VÉRIFICATION DE LA PILE

1. Dévisser le couvercle du compartiment à pile à l'aide d'une pièce de monnaie.

2. Mettre en place une pile à mercure de 5,6V en engageant d'abord l'extrémité correspondant au pôle "—" (Moins), puis revisser le couvercle.
Toujours être muni d'une pile de rechange (Mallory TR164, Eveready E164 ou type équivalent). Si on n'utilise pas l'appareil pendant une période prolongée, enlever la pile et la conserver dans un endroit frais et sec.

3. Vérification de la pile avant de photographier. Appuyer sur le bouton de contrôle. Si une lumière verte brillante apparaît dans le compteur de vues, la charge de la pile est suffisante. Dans le cas contraire, la remplacer.

CARGA E INSPECCION DE LA PILA

1. Destornille la Tapa del Compartimiento para la pila con una moneda.

2. Inserte una pila de mercurio 5,6V, por el extremo "—" (menos), y vuelva a colocar la tapa. Se recomienda llevar una pila de repuesto (Mallory TR164, Eveready E164 o su equivalente). Cuando la cámara no va a usarse por largo tiempo, quite la pila y guárdela en un lugar frío y seco.

3. Inspeccione la pila antes de usar la cámara. Apriete el Botón de Inspección de la Pila. Si la luz verde se enciende en el Contador de Tomas, significa que la pila está suficientemente cargada. En caso contrario, debe efectuarse el reemplazo de la citada pila.

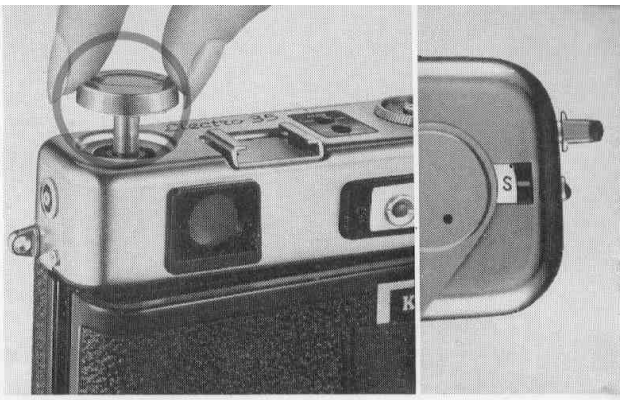
FILM LOADING

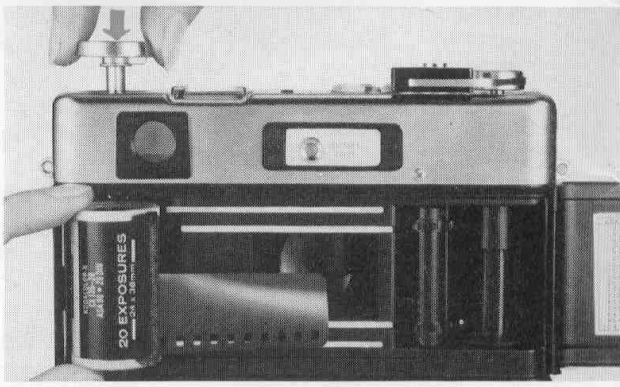
(Always load in subdued light.)

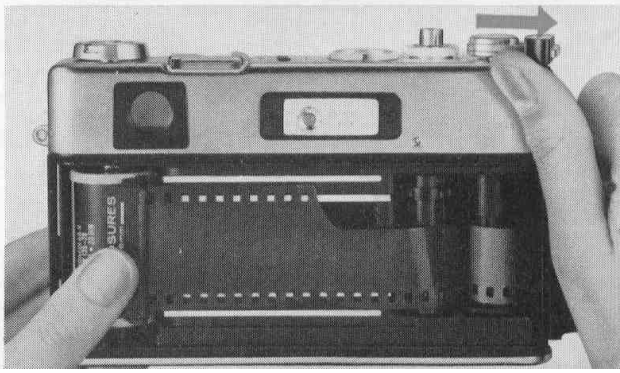
1. Pull out Film Rewind Knob, and Back Cover will pop open. The Film Exposure Counter is automatically set at "S" (Start).

2. Place a 35mm film cassette into film chamber and push down the Film Rewind Knob.

3. Insert film leader into Take-up Spool and advance film with the Film Advance Lever, making sure the perforations properly engage the sprocket teeth. Close Back Cover.







LADEN DES FILMES
(Immer im Dunkeln laden.)

1. Film-Rückspulknopf ausziehen, und der Rückdeckel springt auf. Das Filmzählwerk ist automatisch auf "S" (Start) gestellt.

2. Eine 35mm Filmkassette einsetzen und den Film-Rückspulknopf niederdrücken.

3. Den Film in die Aufnahme–Spule einschieben und mit dem Aufzughebel vorspulen, wobei auf das Einpassen der Filmperforation auf die Führungszähne Acht zu geben ist. Rückdeckel schliessen.

CHARGEMENT DU FILM
(jamais en pleine lumière)

1. Tirer vers le haut le bouton de rebobinage et le dos s'ouvre alors tout seul. Le compteur de vues revient automatiquement en position de départ (marquée "S").

2. Placer une cartouche de film 35mm dans le compartiment à pellicule et repousser vers le bas le bouton de rebobinage.

3. Engager l'amorce du film dans la bobine réceptrice et transporter le film en actionnant le levier d'avancement, tout en s'assurant que les perforations s'engagent bien sur les dents du débiteur. Refermer ensuite le dos.

CARGA DE LA PELICULA
(La carga de la película se efectua en un lugar con luz sumisa)

1. Tirando de la Perilla de Reenrollado de la Película, la Tapa Trasera se abrirá automáticamente. El Contador de Tomas se regula automáticamente a "S" (Iniciación).

2. Coloque un cassette de película de 35mm dentro de su alojamiento de y presione la Perilla de Reenrollado de la Película.

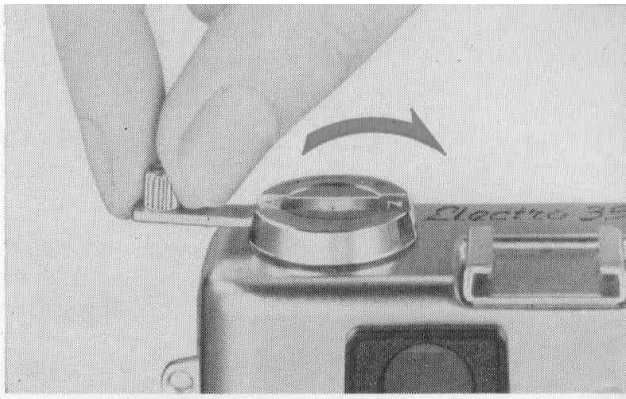
3. Inserte la punta de la película en la Bobina Tensora y haga avanzar la película con la Palanquita Avanzadora de la Película, asegurándose de que las perforaciones se encajan correctamente con los dientes de la rueda dentada. Cierre la Tapa Trasera.

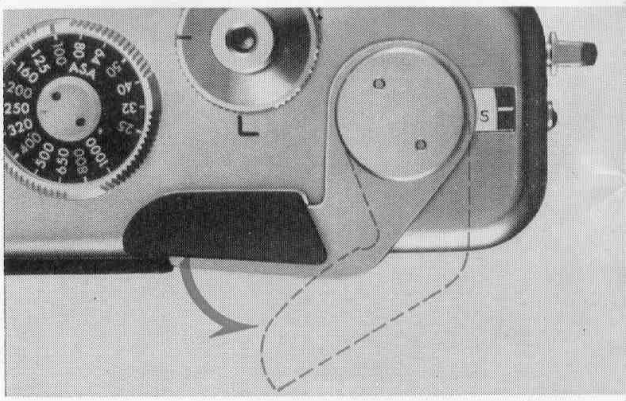
FILM LOADING (continued)

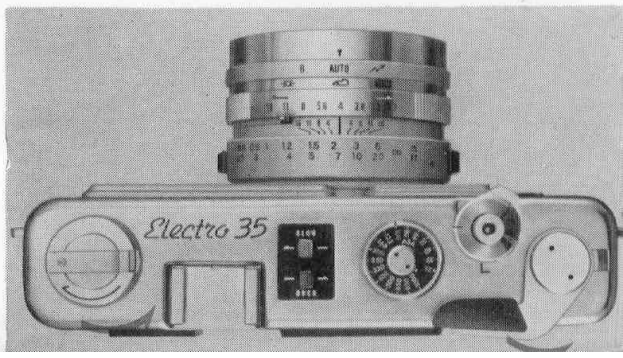
4. Gently wind the film rewind crank-handle on Film Rewind Knob, clockwise, until a slight resistance is felt.

5. Advance film, then press shutter Release Button, and repeat until the figure "1" appears in the Film Exposure Counter.

6. Make sure the film is properly loaded. As you advance the film, the Film Rewind Knob should rotate counter-clockwise, as illustrated.







LADEN DES FILMS

4. Durch sachtes winden der Rückspul-Handkurbel auf dem Film-Rückspulknopf im Uhrzeigersinn den Film spannen bis ein leichter Widerstand gespürt wird.

5. Den Film vorspulen und den Auslöseknopf drücken. Dies wiederholen bis die Nummer "1" im Filmzählwerk erscheint.

6. Sich versichern, dass der Film richtig geladen ist. Wenn der Film vorgespult wird, sollte sich der Film-Rückspulknopf im Gegen-Uhrzeigersinn drehen; wie abgebildet.

CHARGEMENT DU FILM (SUITE)

4. Tourner doucement dans le sens des aiguilles d'une montre la manivelle placée sur le bouton de rebobinage jusqu'à ce que l'on perçoive une légère résistance.

5. Actionner le levier d'avancement du film, puis le déclencheur, à plusieurs reprises, jusqu'à ce que le chiffre "1" apparaisse au compteur de vues.

6. S'assurer que le film avance normalement:
Lorsqu'on actionne le levier d'avancement, le bouton de rebobinage doit tourner dans le sens opposé à celui des aiguilles d'une montre, comme indiqué sur la figure.

CARGADELA PELICULA

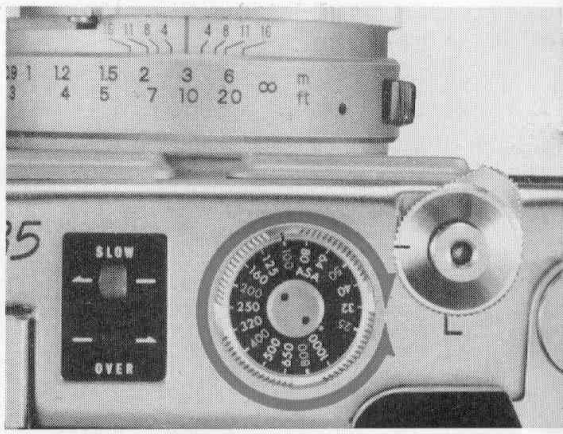
4. Enrolle suavemente la manija de reenrollado de la película ubicada en la Perilla de Enrollado a la derecha hasta que se sienta una pequeña resistencia.

5. Haga avanzar la película, y vaya presionando el disparador hasta que la cifra "1" aparezca en el Contador de Tomas.

6. Cerciórese de que la película está correctamente cargada.
Al hacer avanzar la película, la Perilla de Reenrollado debe girar en sentido mostrado en la Figura.

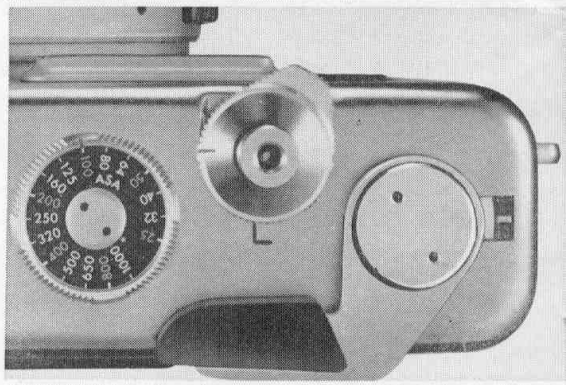
ASA FILM SPEED SETTING

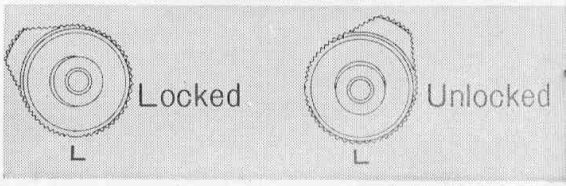
Align the mark on the ASA Film Speed Setting Ring with the ASA rating of the film in use. The film rating is shown on the box or the instructions which comes with the film. (DIN conversion table is given inside the camera.)



SHUTTER RELEASE BUTTON

To lock the Shutter Release Button, align the mark on the Shutter Release Lock with the letter "L". To unlock, give Lock 1/4 turn clockwise. When camera is not in use, the shutter should not be left cocked, and the Shutter Release Lock should be in the locked position.





EINSTELLUNG DER ASA–FILM EMPFINDLICHKEIT

1. Den ASA–Film Einstellring auf die im verwendeten Film angegebene Lichtempfindlichkeit einstellen. Diese Film-Bewertung ist auf der Schachtel oder in den beigelegten Instruktionen angegeben. (Eine DIN–Umrechnungstabelle ist auf der Kamera-Innenseite angebracht.)

REGLAGE DE LA SENSIBILITE DU FILM

Aligner le repère de la bague de réglage de sensibilité (ASA) sur le nombre correspondant au type d'émulsion (ASA) du film utilisé. L'indice de sensibilité est indiqué sur l'emballage du film ou dans les instructions fournies par le fabricant. (L'appareil comporte à l'intérieur une table de conversion ASA: DIN)

REGULACION DE SENSIBILIDAD DE LA PELICULA ASA

1. Alinee la marca ubicada en el Mando de Regulación de Sensibilidad de la Película ASA con la relación ASA de la película en uso. La relación de la película se muestra en la cajita o en la hoja de instrucciones que viene con la película. (La Tabla de conversión DIN se encuentra en el interior de la cámara.)

AUSLÖSEKNOPF

Um den Auslöseknopf zu sichern, das Zeichen am Auslöserverriegelung mit "L" abgleichen. Um ihn zu lösen, Die Verriegelung um 1/4 nach rechts drehen.
Wenn die Kamera nicht gebraucht wird, sollte der Auslöser nicht gespannt gelassen werden, und das Auslöserverriegelung sollte geschlossen sein.

DECLENCHEUR

Pour verrouiller le déclencheur, aligner le repère de la molette sur la marque "L". Pour déverrouiller, faire tourner cette même molette d'un quart de tour vers la droite.
Si l'appareil reste inutilisé pendant un certain temps, éviter de laisser l'obturateur armé et verrouiller le déclencheur.

DISPARADOR

Para dejar trabado el Disparador, alinee la marca ubicada en el Cierre del Disparador con la letra "L". Para dejarlo libre, dele 1/4 de giro a la derecha. Cuando la cámara no está en uso, debe dejarse el obturador montado, y el Cierre del Disparador en la posición trabada.

AUTOMATISCHE BEDIENUNG

Für automatischen Betrieb, den Kontrollring für Belichtung auf "AUTO" setzen.
(Beim GT–Modell, wird bei Gebrauch der exklusiven Blende der Kontrollring für Belichtung auf der Position "AUTO" gesichert.)

FONCTIONNEMENT AUTOMATIQUE

Pour le fonctionnement automatique, amener la bague de réglage d'exposition en position "AUTO". (Sur le modèle GT, l'utilisation du parasoleil spécial bloque cette bague de réglage en position "AUTO").

OPERACION AUTOMATICA

Para la operación automática, regule el Mando de Control de Exposición a la posición AUTO. (Con el modelo GT, el uso de la Pantalla del Objetivo sujetará el Mando de Control de Exposición en la posición AUTO.)

BELICHTUNGS–SYMBOLE

Das entsprechende Belichtungs-Symbol wählen, und dieses durch Drehen des Blendenringes gegenüber des Zeichens setzen.
SONNE oder WOLKEN Symbol – für Fotographieren im Freien, FENSTER Symbol – für Fotographieren im Haus oder bei Nacht.

SYMBOLES D'EXPOSITION

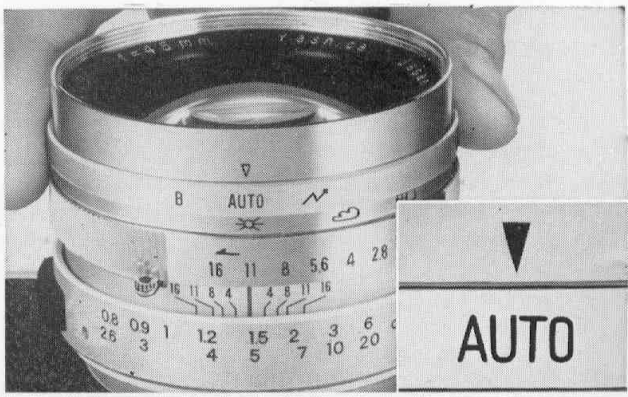
Choisir le symbole d'exposition approprié et l'amener en face du repère en tournant la bague du diaphragme.
Symbole "Soleil" ou "Nuage" pour la photo à l'extérieur.
Symbole "Fenêtre" pour la photo à l'intérieur ou de nuit.

SIMBOLOS DE EXPOSICION

Elija el apropiado Símbolo de Exposición y regúlelo opuesto a la marca V girando el Mando de Abertura.
Símbolo de SOLO NUBE – para fotografiar al aire libre. Símbolo de VENTANA – para fotografiar en el interior o por la noche.

AUTOMATIC OPERATION

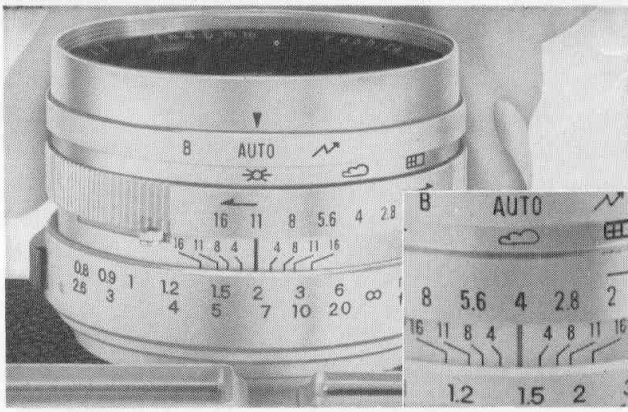
For automatic operation, set the Exposure Control Ring to AUTO position. (With the GT model, use of the exclusive Lens Shade will lock the Exposure Control Ring at the AUTO position.)



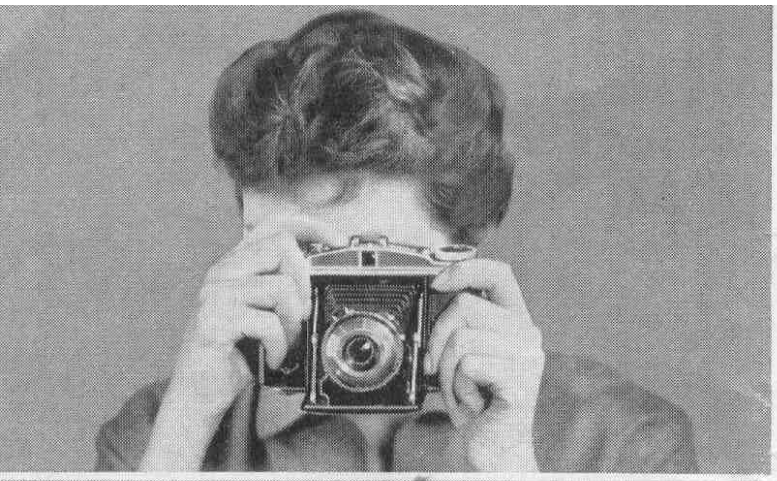
EXPOSURE SYMBOLS

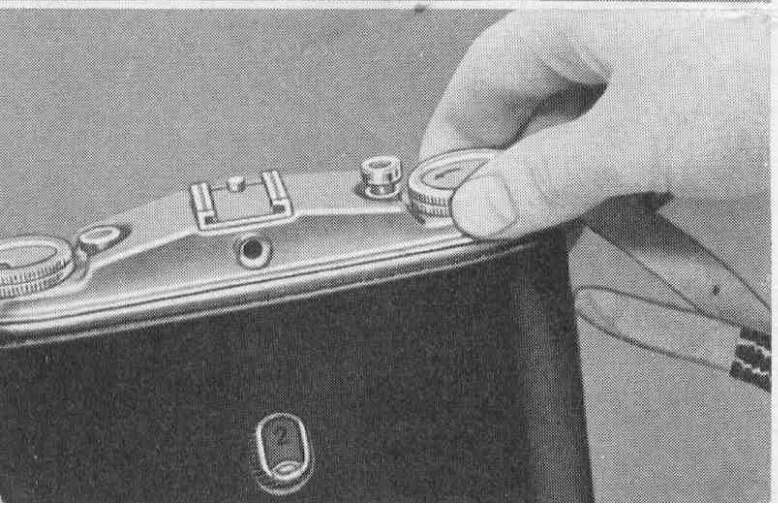
1. Select the appropriate Exposure Symbol and set it opposite the mark by turning the Aperture Ring.

SUN or CLOUD symbol — for outdoor photography.
WINDOW symbol — for indoor and night photography.



Symbols	Conditions	Apertures
☼	Bright Sun	16/11/8
☁	Heavy Overcast or Open Shade	5.6/4/2.8
⊞	Indoors	2/1.7





The exposure:

Hold the viewfinder so close to your eye, that the field of view can be surveyed right up to its corners. Hold the camera securely and steadily with both hands. Slowly depress shutter release with your index finger until you feel resistance.

At $^1/_{25}$ sec. camera-shake can be avoided almost completely, but it is recommended to stand fast and to keep the upper arms pressed firmly to the body.

Always keep the camera in a horizontal position, never give it a lateral tilt.

Before the next exposure:

Turn film winder until you see the next number in the window. Close film window.

If the film is not wound on until immediately before the next exposure, the device to prevent double exposure offers the best protection against unintentional exposure (viz. p. 22).

SCHARFEINSTELLUNG

1. Durch den Sucher schauen und den Scharfeinstellring drehen bis die zwei unklaren Bilder im Zentrum des Suchers ein Einziges klares bilden.

2. Das Bild in den leuchtenden Rahmen einpassen, welcher sich während der Einstellung, speziell auf kurze Distanzen, diagonal bewegt für automatische Parallax-Korrektur.

MISE AU POINT

1. Tout en regardant par le viseur, tourner la bague de mise au point jusqu'à ce que les deux images apparaissant dans la zone centrale du viseur se superposent exactement.

2. Cadrer de façon que l'image ne dépasse pas les limites du cadre lumineux. A noter que ce cadre lumineux se déplace en diagonale pendant la mise au point, surtout à courte distance, pour assurer la correction automatique de la parallaxe.

ENFOQUE

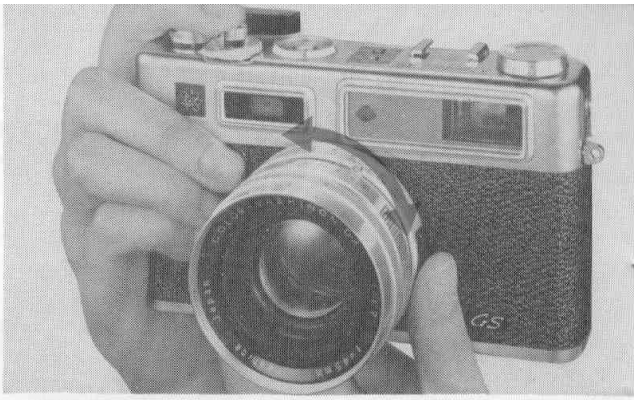
1. Mire a través del Visor y gire el Mando de Enfoque hasta que las dos imagenes que aparecen en la parte central de enfoque formen una imagen nítida.

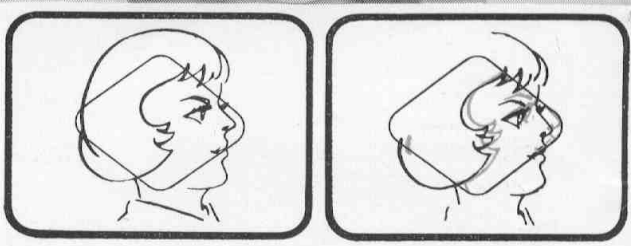
2. Componga la imagen dentro del cuadro brillante que, durante el enfoque, especialmente a corta distancia, se mueve diagonalmente para la corrección automática de paralaje.

FOCUSING

1. Sight through the Viewfinder and turn the Focusing Ring until the two images in the center focusing area form one clear image.

2. Compose picture within the bright frame which, during focusing, in particular at short distances, moves diagonally for automatic parallax correction.



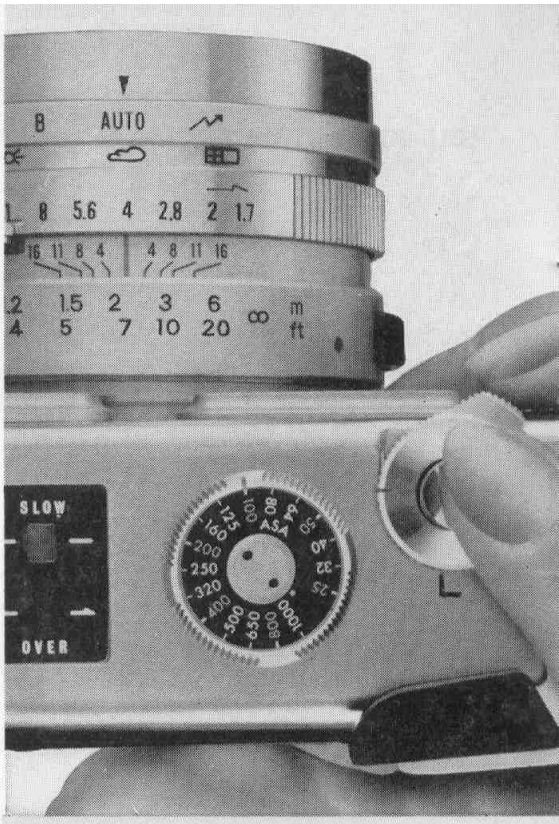


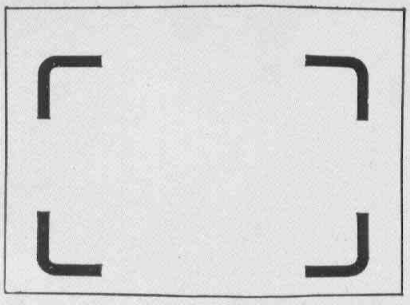


EXPOSURE CONTROL

1. The RED and YELLOW warning arrows in the Viewfinder and on the camera top are actuated when the Film Advance Lever is wound and the Shutter Release Button is half-pressed.

2. The absence of both arrows signifies hand-held photography is possible. All you need do for a perfect picture is FOCUS and PRESS the Shutter Release Button down all the way.





BELICHTUNGSKONTROLLE

1. Der ROTE und GELBE Warnpfeil im Sucher und auf der Kamera-Oberseite, werden ausgelöst, wenn der Filmaufzughebel gedreht und der Auslöseknopf halb gedrückt ist.

2. Wenn keiner der beiden Pfeile erscheint, heisst das, dass Fotographieren ohne Stativ möglich ist. Alles was dann für ein perfektes Bild gebraucht wird, ist Scharfeinstellung und ganz niederdrücken des Auslöseknopfes.

REGLAGE DE L'EXPOSITION

1. Les flêches rouge et jaune apparaissant dans le viseur et sur le dessus du boîtier sont commandées lorsqu'on appuie sur le déclencheur jusqu'à mi-course après avoir actionné le levier d'avancement du film.

2. L'absence de toute flêche signifie que l'on peut prendre la photo sans pied. Il ne reste plus alors qu'à mettre au point et appuyer à fond sur le déclencheur pour obtenir un cliché impeccable.

CONTROL DE EXPOSICION

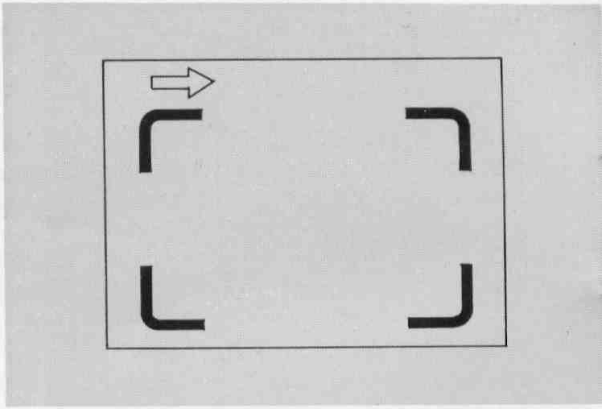
1. Las flechas de aviso ROJA y AMARILLA que aparecen en el Visor y sobre la parte superior de la cámara actuan cuando se enrolla la Palanquita de Avance de la Película y se presiona a media el Disparador.

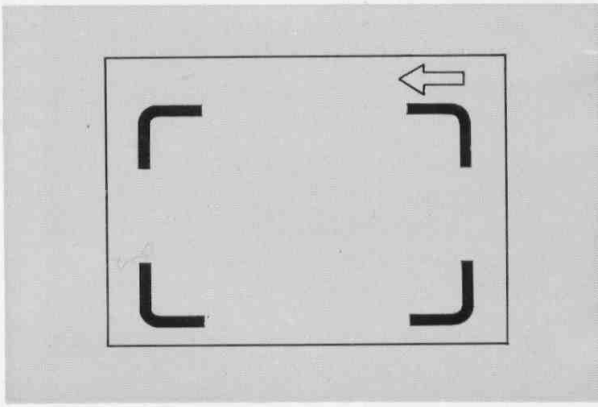
2. La ausencia de ambas flechas significa que es posible fotografiar con la cámara sostenida con la mano. Lo único que Ud. debe hacer para tomar excelentes fotos es ENFOCAR y PRESIONAR a fondo el Disparador.

EXPOSURE CONTROL (continued)

3. The appearance of the RED arrow (when the Shutter Release Button is half-pressed) signifies too much light. Turn the Aperture Ring in the direction of the arrow until it disappears. If it fails to disappear, a neutral density filter should be used and the ASA Film Speed Setting Ring reset accordingly. If the original setting was ASA 100, reset to ASA 25 when an ND4 filter is used.

4. The appearance of the YELLOW arrow signifies too little light for hand-held photography, since the exposure speed will be slower than 1/30 second. Turn the Aperture Ring in the direction of the arrow until it disappears. If it fails to disappear, use a tripod (Yashica Grip/Tripod ST-7). Whether the YELLOW arrow disappears or not, the precise exposure speed will be determined and set automatically.





BELICHTUNGS KONTROLLE

3. Das Erscheinen des ROTEN Pfeiles (wenn der Auslöseknopf halb gedrückt ist) bedeutet zu viel Licht. Den Blendenring in der Richtung des Pfeiles drehen bis dieser nicht mehr zu sehen ist. Falls dies nicht geschieht, sollte ein neutrales Dichtefilter gebraucht werden und der ASA Film Einstellungsring für Lichtempfindlichkeit entsprechend gesetzt werden. Wenn die ursprüngliche Einstellung auf ASA 100 gesetzt war, muss diese nun auf ASA 25 eingestellt werden, wenn ein ND4-Filter gebraucht wird.

4. Das Erscheinen des GELBEN Pfeiles bedeutet zu wenig Licht für Fotographieren ohne Stativ, da die Belichtungszeit weniger als 1/30 Sek. sein wird. Den Blendenring in Richtung des Pfeiles drehen, bis dieser nicht mehr zu sehen ist. Sollte dies nicht geschehen, ein Stativ verwenden. (Yashica Griff/ Tripod ST-7)
Die genaue Belichtungszeit wird automatisch erfasst und gesetzt, ob nun der GELBE Pfeil verschwindet oder nicht.

REGLAGE DE L'EXPOSITION (SUITE)

3. Si la flêche rouge apparaît (pendant que l'on maintient le déclencheur enfoncé à mi-course) cela signifie qu'il y a trop de lumière. Tourner alors la bague du diaphragme dans la direction indiquée par la flêche jusqu'à ce que celle-ci s'éteigne. Si elle ne s'éteint pas lorsqu'on procède ainsi, il convient d'utiliser un filtre neutre et de corriger en conséquence le réglage de sensibilité du film. Si par exemple le réglage initial était de 100 ASA et que l'on utilise un filtre ND4, ramener le réglage de sensibilité à ASA 25.

4. Si c'est la flêche jaune qui s'allume, c'est que la lumière est insuffisante pour une photo réalisée sans pied, du fait que dans ce cas la vitesse est inferieure à 1/30e de seconde. Tourner alors la bague du diaphragme dans le sens indiqué par la flêche jusqu'à ce que cette dernière s'éteigne. Si elle ne s'éteint pas, mettre l'appareil sur pied (Poignée-pied Yashica ST-7).
La vitesse exacte d'exposition sera en tout cas déterminée et réglée automatiquement, que la flêche jaune s' éteigne ou non.

CONTROL DE EXPOSICION

3. La aparición de la flecha ROJA (cuando se aprieta a media el Disparador) significa luz excesiva. Gire el Mando de Abertura en sentido de la flecha hasta que ésta desaparezca. En caso que aún no desaparezca, use el filtro de densidad neutra y regule también el Mando de Regulación de Sensibilidad de la Película ASA. Si la posición original ha sido ASA 100, regule a ASA 25 cuando se usa un filtro ND4.

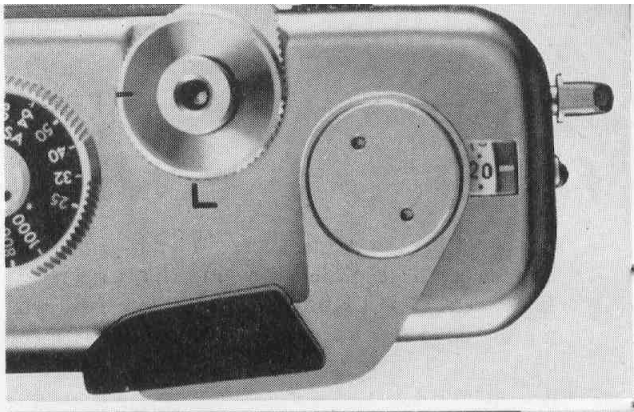
4. La aparición de la flecha AMARILLA significa muy poca luz para la toma con la cámara sostenida con la mano, ya que la velocidad de exposición será inferior a 1/30 segundo, Gire el Mando Abertura en sentido de la flecha hasta que ésta desaparezca. En caso que no desaparezca, use un trípode (Mango/Trípode Yashica ST-7). Desaparezca o no la flecha AMARILLA, se determina y se regula automáticamente la velocidad de exposición precisa.

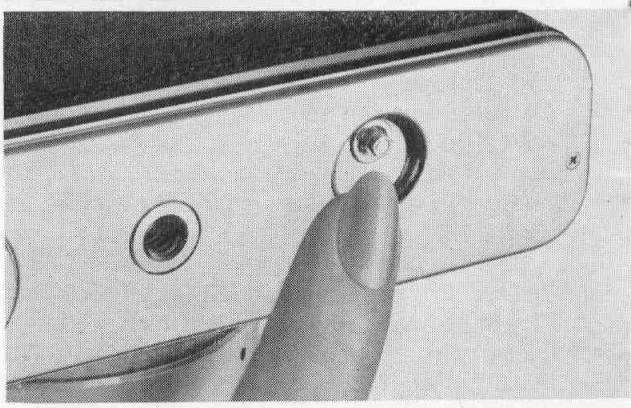
FILM UNLOADING
(Always unload in subdued light.)

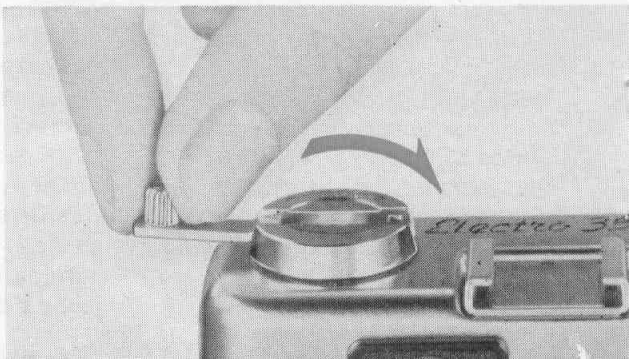
1. After the last exposure, DO NOT try to advance the film further as it may tear or come loose, making it impossible to rewind the film into the cassette.

2. Before removing it from the camera, the film should be rewound into its cassette. Press the Film Rewind Release Button.

3. Unfold the crank-handle on the Film Rewind Knob and turn it in the direction of the arrow until a slight resistance is felt. Continue winding until you feel it turning freely. Open the Back Cover, remove the cassette and send for processing.







FILMWECHSELN

(Film immer im Dunkeln wechseln.)

1. Nach der letzten Aufnahme NICHT versuchen, den Fillm weiter vorzuspulen, da dieser reissen oder aus der Spule ausreissen könnte, was ein Rückspulen in diese unmöglich machen würde.

2. Vor dem Herausnehmen des Filmes aus der Kamera, sollte dieser ganz auf die Spule umgerollt werden. Den Film-Rückspul-auslöseknopf drücken.

3. Die Handkurbel auf dem Film-rückspulknopf ausfahren und in Richtung des Pfeiles drehen, bis ein leichter Widerstand gefühlt wird. Das Rückspulen fortsetzen bis leer gedreht wird. Den Rückdeckel öffnen, den Film entfernen und zum Entwickeln einsenden.

DECHARGEMENT DU FILM

(jamais en pleine lumière)

1. Une fois la dernière vue prise, ne pas tenter de faire avancer le film en forçant sur le levier, ce qui risquerait d'arracher ou de déchirer le film et de rendre impossible son rebobinage dans la cartouche.

2. Avant d'enlever le film de l'appareil, il doit être rebobiné à l'intérieur de la cartouche. Pour ce faire, appuyer sur le bouton de débrayage.

3. Extraire la manivelle du bouton de rebobinage et la tourner dans le sens de la flêche jusqu'à ce que l'on perçoive une légère résistance. Continuer à rebobiner jusqu'à ce que la manivelle tourne librement. Ouvrir ensuit le dos, extraire la cartouche de son logement et l'envoyer au développement.

DESCARGA DE LA PELICULA

(La descarga de la película se efectua siempre en la luz sumisa)

1. Después de la última exposición NO trate de hacer avanzar aún más la película ya que se podría romper o aflojar, haciendo imposible reenrollar la película en el cassette.

2. Antes de sacar la película de la cámara, enróllela en su cassette. Apriete el Botón de Enrollado de la Película.

3. Despliegue la manivela ubicada en la Perilla de Reenrollado de la Película y gírela en sentido de la flecha hasta que se sienta una leve resistencia. Continue enrollando hasta que la manivela gire libremente. Abra la Tapa Trasera y quite el cassette.

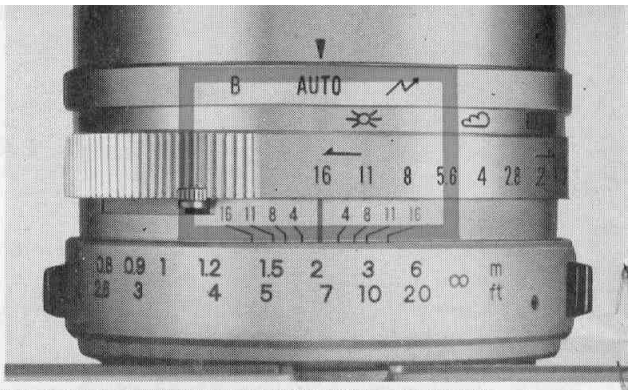
DEPTH OF FIELD

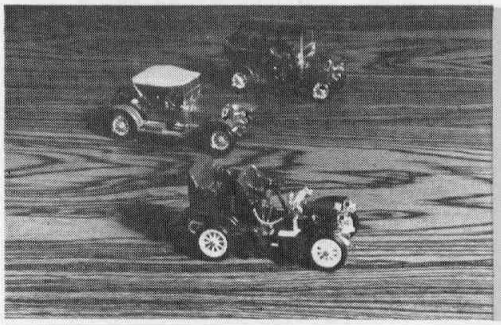
(See table on Page 48)

1. Depth of field is the area in front and behind the subject on which the camera is focused, within which all objects also appear acceptably sharp in the picture. It varies with the aperture and is more extensive:

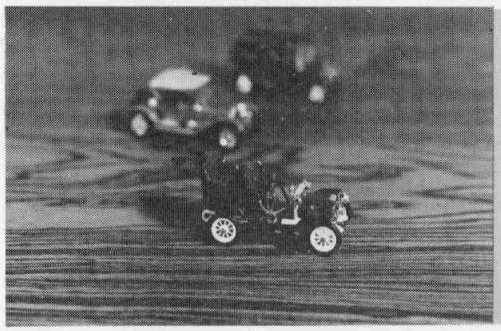
a. when the lens is stopped down
b. when the camera is focused on a distant subject
c. in the background rather than the foreground.

2. The depth of field can be determined by reference to the depth-of-field scale on the lens barrel. With the camera focused on 2 meters and an aperture of f/16, the depth of field will be from 1.4 to 3.8 meters, i.e. the range enclosed by the number 16 on both sides of the red index mark.





F 16



F 1.7

TIEFENSCHÄRFE

(Siehe Tabelle auf Seite 48)

1. Tiefenschärfe ist der Raum vor und hinter dem Objekt worauf die Kamera eingestellt ist, und innerhalb dessen alle Objekte annehmbar klar im Bild erscheinen. Sie varriert mit verschiedener Blendeneinstellung und ist ausgeprägter:

a. wenn das Objektiv abgeblendet ist.
b. wenn die Kamera auf ein fernes Objekt eingestellt ist.
c. mehr im Hintergrund als im Vordergrund.

2. Die Tiefenschärfe kann auf Grund der Tiefenschärfen-Skala auf der Objektiv-Fassung bestimmt werden. Wenn die Kamera auf 2 Meter und die Blene auf f/16 eingestellt ist, ist die Tiefenschärfe 1,4 bis 3,8 Meter, z.B. den von der Nummer 16 eingeschlossene Bereich beidseitig des roten Zeigers.

PROFONDEUR DE CHAMP

(Voir tableau en page 48)

1. La profondeur de champ est la zone s'étendant en avant et en arrière du plan de mise au point dans laquelle tous les objets apparaîtront avec une netteté acceptable sur l'image. Cette zone, qui varie en fonction de l'ouverture, est plus étendue:

a) lorsqu'on réduit l'ouverture du diaphragme
b) lorsque la mise au point est faite sur un sujet éloigné
c) à l'arrière qu'à l'avant du plan de mise au point.

2. La profondeur de champ peut se déterminer en consultant l'échelle gravée sur le barillet de l'objectif. Pour une mise au point à 2 mètres et un diaphragme de f:16, la profondeur de champ ira de 1,4 à 3,8m., c'est-à-dire qu'elle sera limitée aux distances en mètres figurant en regard du nombre 16 de part et d'autre du repère central rouge.

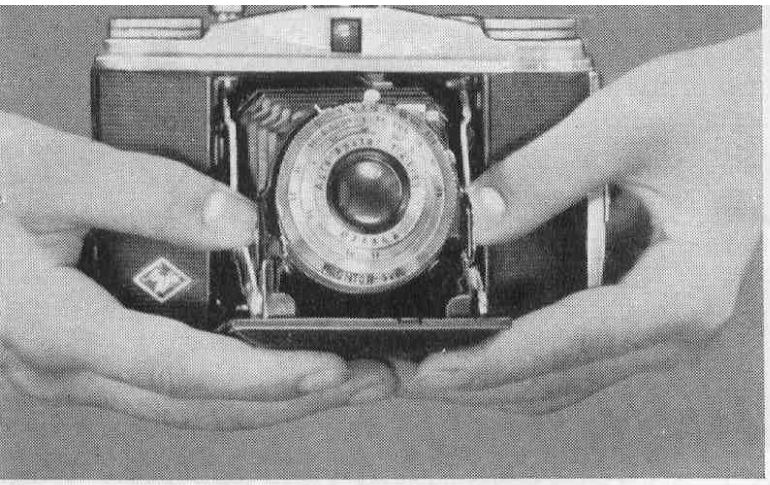
PROFUNDIDAD DEL CAMPO

(Véase la tabla de la página 48)

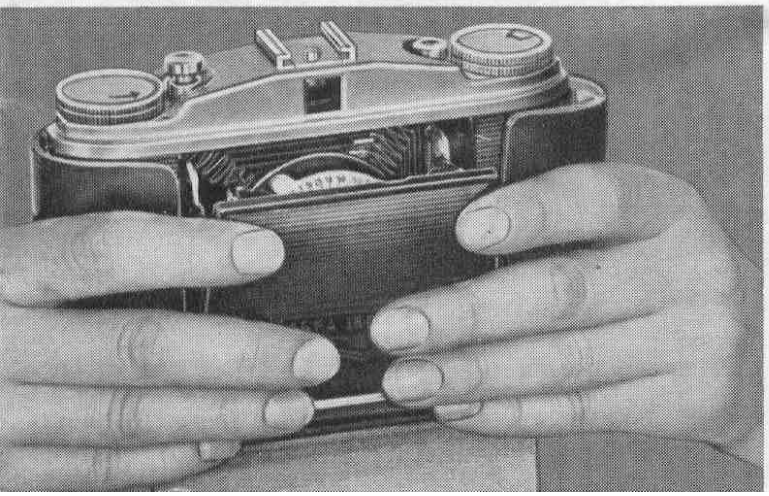
1. La profundidad del campo es la distancia de la delantera y la trasera del sujeto en el cual está enfocada la cámara, dentro de la cual todos los objetos aparecen aceptablemente claros en la foto. Esta distancia varía según la abertura y su variación es más notable:

a. cuando el objetivo es diafragmado hasta f/16
b. cuando la cámara es enfocada en un sujeto distante
c. en la distancia delantera más que la trasera.

2. La profundidad del campo puede determinarse refiriéndose a la escala de profundidad del campo que se encuentra en el tubo del objetivo. Con la cámara enfocada en 2 metros y una abertura de f/16, la profundidad del campo será desde 1,4 a 3,8 metros, es decir, el alcance limitado por el número 16 en ambos lados de la marca indicadora.



To close the camera:
Slight pressure of the two index fingers on the joints of the braces causes the baseboard to fold up into the camera body.

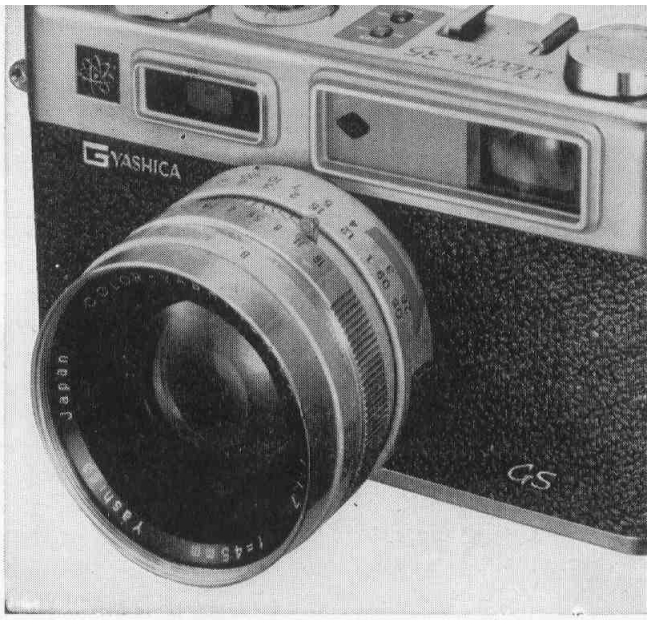


Firm pressure on the hinged baseboard will lock the camera after an audible click.

After the last, 12th exposure wind the film on until the end of the backing paper has passed the film window.

SELF-TIMER

1. If you want to include yourself in the picture, use the Self-Timer and proceed as follows:
a. Advance the film
b. Move Self-Timer Lever down all the way in the direction of the arrow
c. Press Shutter Release Button and the shutter will click about 8 seconds later.



SELBSTAUSLÖSER

1. Wenn Sie sich selbst aufnehmen wollen, müssen Sie den Selbsauslöser gebrauchen und wie folgt vorgehen:

a. Den Film aufziehen.
b. Den Selbsauslöserhebel in der Richtung des Pfeiles ganz nach unten drücken.
c. Den Auslöseknopf drücken und der Verschluss wird 8 Sekunden später ausgelöst.

RETARDATEUR

1. Lorsqu'on tient à figurer soi-même sur la photo, utiliser le retardateur et procéder comme suit:

a. Transporter le film.
b. Appuyer à fond sur le levier de retardement dans le sens de la flêche (vers le bas).
c. Appuyer sur le déclencheur qui actionnera l'obturateur environ 8 secondes plus tard.

AUTO-DISPARADOR

1. Si desea tomarse una foto, use el Auto-disparador y proceda como sigue:

a. Haga avanzar la película
b. Mueva la Palanquita del Auto-disparador en sentido de la flecha.
c. Presione el Disparador y el obturador accionará aproximadamente 8 segundos después.

B–EINSTELLUNG

Da der Verschluss auch für lange Belichtungszeit automatisch arbeitet, wird die B–Einstellung nur gelegentlich gebraucht; hauptsächlich für spezielle Effekte.

1. Das B–Symbol auf dem Blendenring auf das rote Dreieck einstellen.

2. Der Gebrauch eines Stativs und eines Kabelaus löseres . ist notwendig.

Bei B–Einstellung bleibt der Verschluss so lange offen, wie der Auslöseknopf nieder gedrückt wird.

POSE B

Etant donné que l'obturateur fonctionne déjà automatiquement pour les poses longues, la pose B ne s'utilise que rarement, principalement pour des effets spéciaux.

1. Aligner le symbole B gravé sur la bague de réglage d'exposition, sur le repère triangulaire rouge.

2. Il est indispensable dans ce cas d'utiliser un pied et un déclencheur souple.

En pose B, l'obturateur reste ouvert tant que l'on appuie sur le déclencheur.

POSICION B

Como el obturador acciona automáticamente para exposiciones de largo tiempo, la posición B se usa muy pocas veces. Esta posición se usa principalmente para dar efectos especiales a la foto.

1. Alinee el símbolo B ubicado en el Mando de Control de Exposición con la marca triangular roja.

2. El uso del trípode y el disparador de cable es indispensable.

En la posición B, el obturador permanecerá abierto todo el tiempo en que el Disparador esté presionado.

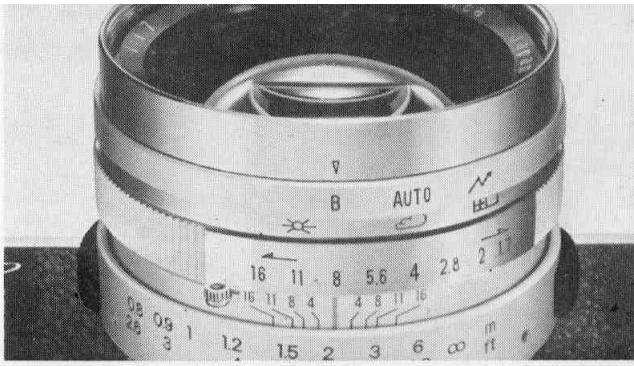
'B' SETTING

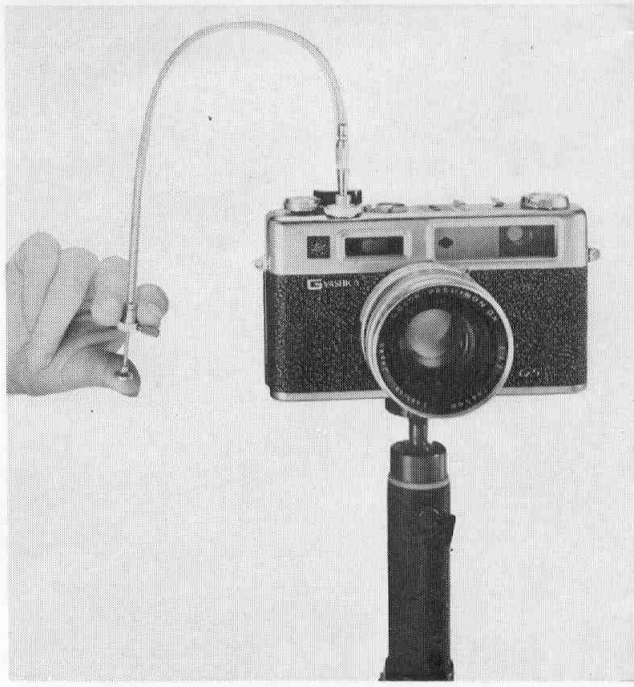
Since the shutter will operate automatically for long time exposures, 'B' setting is used only very occasionally, mainly for special effects.

1. Align the 'B' symbol on the Exposure Control Ring with the red triangular mark.

2. The use of a tripod and cable release is essential.

At 'B' setting the shutter will remain open for as long as the Shutter Release Button is kept depressed.





FLASH EXPOSURE

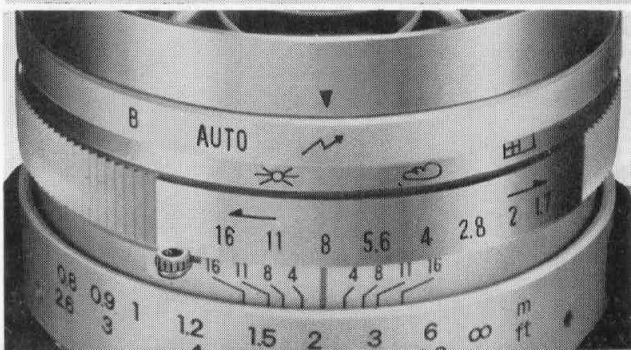
To stop movement in dim light, use flash.

1. Mount a Yashica Flash Gun in the Accessory Shoe and connect the synchro cord to the Flash Sync. Terminal. Either electronic flash or flash bulbs can be used.

2. Align the Flash (⚡) symbol on the Exposure Control Ring with the red triangular mark. The shutter speed is automatically set at 1/30 sec. Focus the camera and divide the guide number of the electronic flash or flash bulb by the flash-to-subject distance. The figure thus obtained should be set by turning the Aperture Ring.
Example: ASA 100 film — guide number 84 — divide by distance (15 ft) equals f/5.6 aperture.

NOTE: The guide number is different with different film speeds.





BLITZLICHT–BELICHTUNG

Um bei düsterem Licht Bewegung zu vermeiden, Blitzlicht gebrauchen.

1. Eine Yashica "Flash Gun" in die Halteschiene schieben und das Synchro-Kabel in den Blitzlicht-Sychro-Anschluss stecken. Es können entweder elektronisches Blitzlicht oder Blitzlichtlampen verwendet werden.

2. Das Blitzlicht–Symbol ( ) auf dem Blendenring auf das rote Dreieck einstellen. Die Belichtungszeit ist automatisch auf 1/30 sec. eingestellt. Die Kamera scharf einstellen und die Nummer des elektronischen Blitzlichtes oder der Blitzlichtlampe durch die Blitz–zu–Objekt Distanz dividieren. Die daraus erfasste Zahl durch Drehen des Blendenrings einstellen.

Beispiel: ASA 100 Film – Nummer 84 – durch die Distanz dividieren (15 ft) ergibt f/5.6

Anmerkung: Die Nummer ist mit verschiedenen Film-Empfindlichkeiten verschieden.

PHOTOGRAPHIE AU FLASH

Pour éliminer tout "bougé" avec un éclairement faible, utiliser un flash.

1. Monter le flash Yashica sur la griffe à accessoires et brancher le cordon sur la prise synchro. On peut utiliser soit un flash électronique, soit un flash magnésique.

2. Aligner le symbole "flash" ( ) de la bague de réglage d'exposition sur le repère triangulaire rouge. La vitesse d'obturation est ainsi fixée à 1/30e de seconde. Après avoir fait la mise au point, diviser le nombre guide correspondant au flash électronique ou à l'ampoule utilisés par la distance séparant le flash du sujet. Le résultat ainsi obtenu correspond à l'ouverture à adopter pour le réglage de la bague du diaphragme.

Exemple: Film ASA 100 – Nombre guide: 84 – divisé par la distance (15 pieds) – égale ouverture f: 5,6.

NOTE: Le nombre guide diffère selon la sensibilité de l'émulsion utilisée.

EXPOSICION CON FLASH

Para parar el movimiento a la luz media, use flash.

1. Monte el Flash Yashica en el Portaaccesorio y conecte el cordón de sincronización al Terminal Sinc. del Flash. Use el flash electrónico o bombillas de flash.

2. Alinee el símbolo ( ) del Flash ubicado en el Mando de Control de Exposición con la marca triangular roja. La velocidad del obturador se regula automáticamente a 1/30 seg. Enfoque la cámara y divida el número de referencia del flash electrónico o bombilla de flash por la distancia del flash al sujeto. La cifra obtenida debe regularse girando el Mando de Abertura.

Ejemplo: Película ASA 100 – número de referencia 84 – divida por la distancia (15 pies) igual a abertura de f/5,6.

NOTA: El número de referencia varía según velocidades de la película.

FOR BETTER PICTURES

- For better color pictures, shoot in soft, diffused light.
- When the YELLOW arrow is ON, use a tripod (also with B and Self-Timer).
- When the main subject is the point of interest, use the largest aperture suited for the prevailing light. If a greater depth of field is required, stop down the aperture as necessary.
- When it is necessary to stop action in outdoor photography, turn the Aperture Ring to where the RED arrow just disappears. At this point, the shutter is about 1/500 sec.
- When photographing spot-lighted subjects or against light, reset the ASA Film Speed Setting Ring.
  Example with ASA 100 film:
  (a) Strong spot-lighted subject – reset to ASA 200-400.
  (b) Against light – reset to ASA 50 or 25.
- The use of an ND filter when shooting in blazing sunlight, snow or beach scenes is recommended. Reset the ASA Film Speed Setting Ring according to filter factor.
- For night photography, WITHOUT FLASH, set the Exposure Control Ring at the AUTO position and the Aperture Ring at the INDOORS (window) symbol. In all cases, the shutter speed will be determined and set AUTOMATICALLY. However, when shooting with the YELLOW arrow ON, use a tripod.

POUR OBTENIR DE MEILLEURES PHOTOS

- Pour obtenir de meilleurs résultats en couleur, photographier sous une lumière douce et diffuse.
- Si la flêche jaune s'allume, utiliser un pied (de même qu'en pose B ou avec retardateur).
- Lorsque le sujet principal constitue le centre d'intérêt de la photo, adopter la plus grande ouverture possible, compte tenu de l'éclairement disponible. Si au contraire, on désire une plus grande profondeur de champ, réduire l'ouverture du diaphragme en conséquence. Pour une photo prise sur le vif, en extérieur, tourner la bague du diaphragme jusqu'au point précédant tout juste l'allumage de la flêche rouge. Ce point correspond à une vitesse d'obturation de 1/500e de seconde environ.
- Pour la photographie de sujets soit très lumineux, soit à contrejour, corriger le réglage de sensibilité ASA. Exemple avec film 100 ASA:

  a) Sujet très en relief et très lumineux, régler la sensibilité à 200/400 ASA.

  b) Contre-jour: régler la sensibilité à 50 ou 25 ASA.

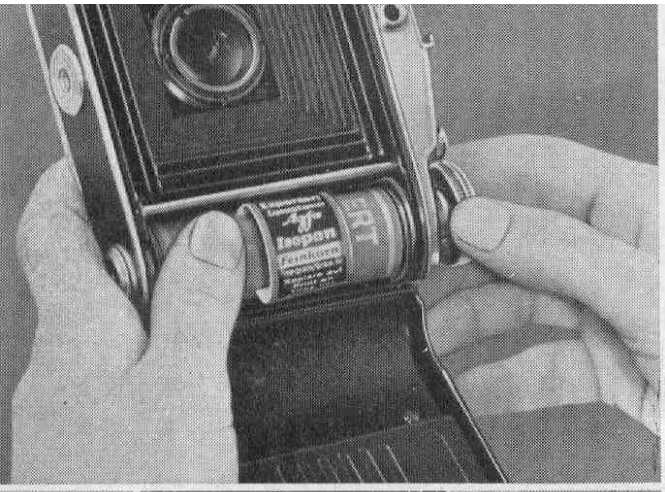
  L'adoption d'un filtre neutre ND est recommandée pour les prises de vues sous un soleil très violent, pour les scènes de neige ou sur la plage. Modifier alors le réglage de la bague de sensibilité ASA selon le coefficient de pose du filtre utilisé.
- Pour la photo de nuit, SANS FLASH, amener la bague de réglage d'exposition en position "AUTO" et la bague de diaphragme sur le symbole "Intérieur" (fenêtre). Dans tous les cas, la vitesse d'obturation sera déterminée et réglée AUTOMATIQUEMENT. Ne pas oublier cependant que, si la flêche jaune s'allume, on devra mettre l'appareil sur pied.

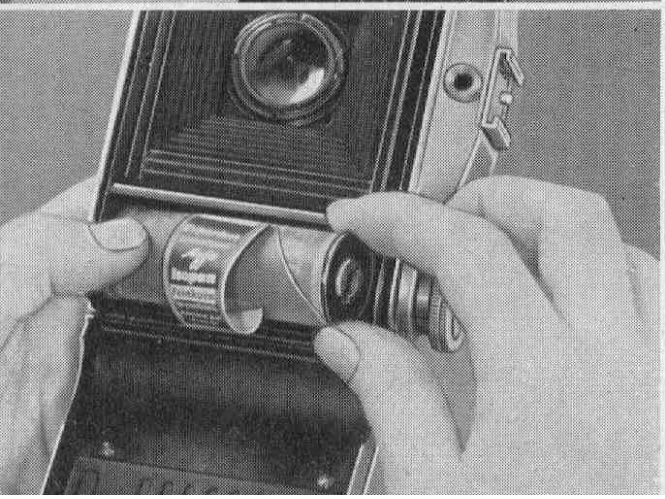
BESSERE AUFNAHMEN

- Für bessere Farbaufnahmen in weichem, zerstreutem Licht fotographieren.
- Wenn den GELBE Pfeil erscheint, ein Stativ verwenden (auch mit B–Einstellung und Selbstauslöser).
- Wenn nur das Hauptobjekt wichtig ist, die grösstmögliche Blendeneinstellung für das vorhandene Licht einstellen. Sollte eine grössere Tiefenschärfe benötigt werden, die Blende entsprechend schliessen.
- Wenn Bewegungen im Freien aufgenommen werden, den Blendenring dorthin drehen, wo der ROTE Pfeil gerade verschwindet. In dieser Stellung ist der Verschluss auf etwa 1/500 Sek. eingestellt.
- Wenn Objekte im Scheinwerfer– oder Gegenlicht aufgenommen werden, den Einstellring für die ASA–Film Empfindlichtkeit neu einstellen.
  Beispiel mit ASA 100 Film: a) Objekt in starkem Scheinwerferlicht – auf ASA 200–400 einstellen. b) Gegenlicht – auf ASA 50 oder 25 einstellen
- Der Gebrauch eines ND–Filters, wenn in grellem Sonnenlicht, im Schnee oder am Strand aufgenommen wird, ist empfehlenswert. Den Einstellring für die ASA–Filmempfindlichkeit gemäss dem Filter-Faktor einstellen.
- Für Nachtaufnahmen OHNE BLITZLICHT, den Belichtung-Kontrollring auf AUTO und den Blendenring auf IM HAUS (Fenster) einstellen. In allen Fällen wird die Belichtungszeit automatisch erfasst und eingestellt. Wenn jedoch Aufnahmen gemacht werden und der GELBE Pfeil erscheint, sollte ein Stativ gebraucht werden.

PARA OBTENER MEJORES FOTOS

- Para lograr mejores fotos en colores, use la cámara a la luz apacible y difusa.
- Cuando la flecha AMARILLA SE ENCIENDE, use un trípode (con B y Auto-disparador).
- Cuando el sujeto principal está en el punto de interés, use la abertura más grande adecuada para la luz predominante. Si se requiere mayor profundidad del campo, regule la abertura adecuadamente.
- Cuando es necesario parar la acción en la toma al aire libre, gire el Mando de Abertura adonde la flecha ROJA desaparezca. En este punto, el obturador debe regularse a 1/500 seg.
- Al fotografiar sujetos iluminados o contraluz, regule el Mando de Regulación de Sensibilidad de la Película ASA.
  Ejemplo con película ASA 100: (a) Sujeto potentemente iluminado con proyector — regule a ASA 200-400. (b) Contraluz — regule a ASA 50 ó 25.
- Se recomienda usar un filtro ND al fotografiar a la luz del sol brillante, en la nieve o en la playa. Regule el Mando de Regulación de Sensibilidad de la Película según el factor del filtro.
- Para fotografiar de noche, SIN FLASH, regule el Mando de Control de Exposición a la posición AUTO y el Mando de Abertura al símbolo AL AIRE LIBRE (ventana). En cualquier caso, la velocidad del obturador se determinará y regulará AUTOMATICAMENTE. Sin embargo, al fotografiar con la flecha AMARILLA ENCENDIDA, use un trípode.





To take out the film spool:
Open the back of the camera (viz. p. 4), pull out film-winder while turning it anti-clockwise.

Hold the spool with the thumb of your left hand, to prevent the backing paper from slipping.

The film-spool is slightly lifted by a spring, and can therefore easily be removed.

Be sure that the backing paper does not unwind during removal. Fold in flap of backing paper and secure with the attached adhesive tape. Wrap the spool immediately to exclude stray light.

ACCESSORIES



Lens Shade

The lens shade serves to ward off extraneous light. Its use is recommended for better results.



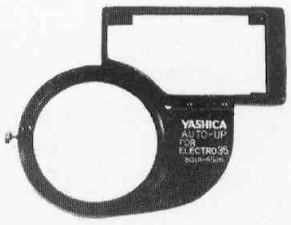
Filters

Filters are invaluable for special photographic effects. Many kinds of 55mm screw-in type filters are available for color and B&W film.



Auto-Up Lens

This Auto-Up Lens is designed for the Yashica ELECTRO 35GS and GT. With it, it is possible to photograph subjects between the distance of 80cm (32 inches) and 45cm (18 inches).



ZUBEHÖR

Gegenlichtblende
Die Gegenlichtblende wird verwendet um störendes Licht abzuschirmen, und wird für bessere Aufnahmequalität empfohlen.

Filter
Für spezielle fotographische Effekte sind Filter eine Bedingung. Viele Arten von 55mm Einschraubfilter sind für Farb- und Schwarz-Weiss-Film erhältlich.

"Auto-Up" Objektiv
Dieses "Auto-Up" – Objektiv wurde für die Yashica ELECTRO 35GS und GT entworfen. Mit ihm ist es möglich, Objekte innerhalb einer Distanz von 80cm (32 Zoll) und 45cm (18 Zoll) zu fotographieren.

ACCESSOIRES

Parasoleil
Sert à abriter l'objectif des reflets parasitaires. Il est recommandé de l'utiliser pour améliorer les résultats obtenus.

Filtres
Indispensables pour réaliser les effets photographiques spéciaux. De nombreux types de filtres sont disponibles avec monture vissante 55mm, tant pour les émulsions couleur que noir et blanc.

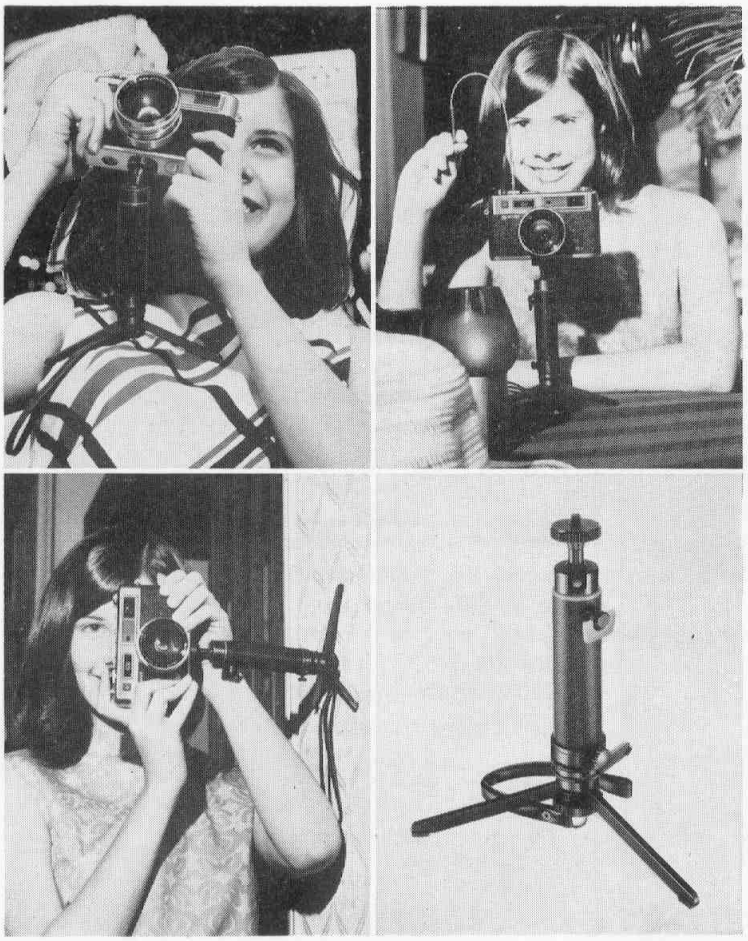
Bonnette "Auto-up"
Cette bonnette est conçue pour les Yashica ELECTRO 35 GS et GT. Elle permet de photographier les sujets très rapprochés, entre 80 et 45cm.

ACCESORIOS

Parasol del Objetivo
El parasor del objetivo sirve para evitar la entrada de luz extraña. Su uso es recomendable para obtener mejores resultados.

Filtros
Los filtros cumplen un papel importante para lograr efectos fotográficos especiales. Están a su disposición varios tipos de filtros enchufables de 55mm para la película de colores y de blanco-y-negro.

Objetivo para la Toma Cercana
Este objetivo es el señalado para la Yashica ELECTRO 35 GS y GT. Con este objetivo es posible fotografiar sujetos entre la distancia de 80cm (32 pulgadas) y 45cm (18 pulgadas)



Grip/Tripod ST-7

A "must" for sharper, clearer pictures under any condition. It is essential for night photography, time exposure, self-portraits, etc. to prevent camera shake.

Griff/Tripod ST-7

Ein "muss" in jeder Hinsicht für schärfere und klarere Bilder. Es ist grundsätzlich nötig für Nachtaufnahmen, lange Belichtungszeiten, Selbstporträts usw. um ein Bewegen der Kamera zu verhindern.

Poignée-pied ST-7

Indispensable pour obtenir des clichés plus piqués et plus nets, quelles que soient les conditions d'exposition. Particulièrement utile pour la photographie de nuit, les poses longues, l'auto-portrait, etc., afin d'éviter tout "bougé" de l'appareil.

Empuñadura/Trípode ST-7

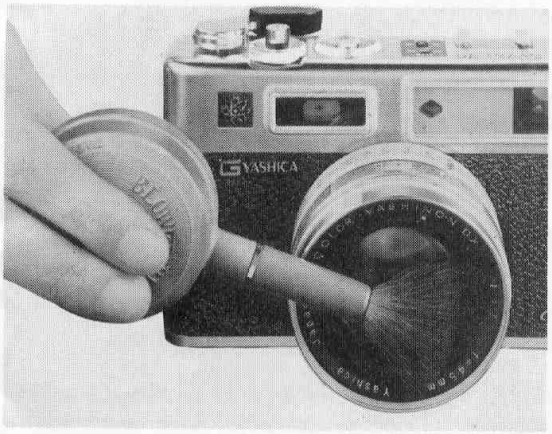
Es indispensable para obtener fotos con excelente claridad en cualquier condición. Es necesario para la toma de noche, exposición de tiempo, etc, ya que sujeta firmemente la cámara, impidiendo el movimiento perjudicial.

Note: To facilitate the removal of the Grip/Tripod ST-7 from the camera, the new locking knob on the camera case is large and has two slots.
Unscrew the legs and insert one of them into one of the slots on the knob. Hold it securely, as illustrated, and unscrew the Grip/Tripod ST-7 from the camera.

Anmerkung: Um das Griff/Tripod ST-7 leichter von der Kamera entfernen zu können, ist die neue Verschluss-Schraube am Kamera-Gehäuse grösser und hat zwei Schlitze.
Die lösen und eine davon in einen der beiden Schlitze in der Schraube einführen. Wie abgebildet sicher halten, und das Griff/Tripod ST-7 von der Kamera schrauben.

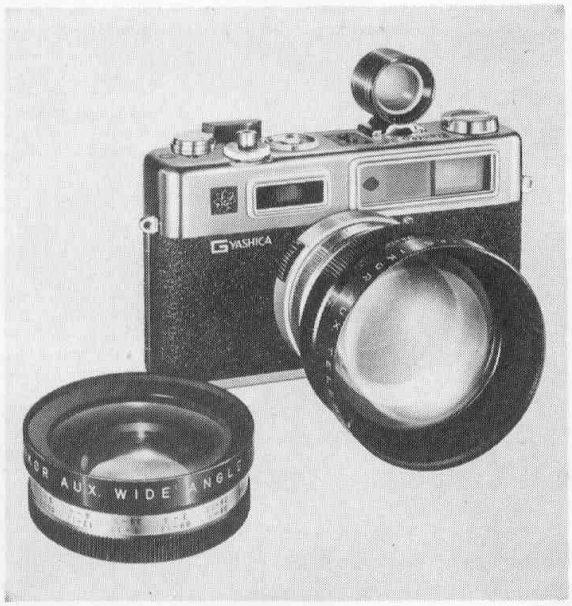
Note: Pour faciliter le dévissage de la poignée-pied ST-7 de l'appareil, la nouvelle molette de blocage vissant dans le boîtier est surdimensionnée et pourvue de deux fentes. Dévisser les branches et engager l'une d'elles dans l'une des fentes de la molette. Celle-ci étant ainsi fermement maintenue, comme indiqué sur la figure, dévisser la poignée-pied ST-7 de l'appareil.

Nota: Para facilitar el quitado de la Empuñadura/Tripode ST-7, se dispone de una nueva perilla de fijación grande y con dos ranuras en el estuche de la cámara. Destornille las patas e inserte una de ellas en una de las ranuras de la perilla. Sosténgala firmemente, como se ilustra, y destornille la Empuñadura/Trípode ST-7 de la cámara.



CARE OF YOUR CAMERA

- Keep both the inside and outside of your camera clean. Use a soft, clean cloth.
- To clean the lens, first blow away any dust or grit, then clean with a lens brush or soft, clean lintless cloth.
- Avoid storing the camera with the shutter charged.
- Do not leave the camera in the glove compartment or trunk of a car, or in direct sunlight, as heat may affect the film, battery, etc.
- When the camera is not in use for a long period of time, remove the battery and store it in a cool, dry place. It is advisable to carry a spare battery.
- Do not dismantle the camera or the lens for cleaning.



Auxiliary Lens Set



The Auxiliary Lens Set consists of an auxiliary telephoto lens which extends the focal length of the camera lens to 58.4mm and an auxiliary wide-angle lens which reduces the focal length of the camera lens to 37.7mm. To make picture composition easier and more accurate, an exclusive viewfinder is supplied to serve both lenses.

Converter Satz

Der Converter Satz besteht aus einem Zusatz Teleobjektiv, welches die Brennpunktlänge des Kamera-objektivs auf 58,4mm verlängert und einem Weitwinkelobjektiv welches die Brennpunktlänge des Kameraobjektivs auf 37,7mm reduziert. Für einfachere und genauere Bild-Komposition ist ein Spezialsucher für beide diese Objektive lieferbar.

Lentilles de conversion

Cette optique complémentaire se compose d'une lentile "Télé" qui porte la distance focale de l'objectif à 58,4mm et de la lentile "grand angle" qui remène cette distance focale à 37,7mm. Pour faciliter le cadrage et le rendre plus précis, un viseur spécial est livré avec ce complément optique.

Juego de Objetivos Auxiliares

El juego de objetivos auxiliares contiene un teleobjetivo auxiliar, que extiende la longitud focal del objetivo a 58,4mm, y un objetivo granangular auxiliar, que reduce la longitud focal del objetivo a 37,7mm.
Para hacer más fácil y exacta la composición de vista, se suministra un exclusivo visor que se usa para ambos objetivos.

UNTERHALT IHRER KAMERA

- Die Aussen—wie auch die Innenseite Ihrer Kamere immer sauber halten. Dafür ein sauberes, weiches Tuch verwenden.
- Um die Linse zu säubern, zuerst den Staub oder Sand wegblasen und dann mit einem Linsenpinsel oder einem sauberen, weichen Tuch säubern.
- Ein Aufbewahren der Kamera mit gespantem Verschluss vermeiden.
- Die Kamera nicht im Handschuhfach des Wagens oder in grellem Sonnenlicht liegen lassen, da die Hitze den Film, die Batterie usw. beschädigen könnte.
- Wenn die Kamera für längere Zeit nicht gebraucht wird, die Batterie entfernen und kühl und trocken lagern. Es ist ratsam immer eine Ersatz-Batterie mitzunehmen.
- Die Kamera oder das Objektiv nicht zerlegen, wenn diese gesäubert werden.

ENTRETIEN DE APPAREIL

- Maintenir l'appareil très propre, intérieurement comme extérieurement. Utiliser pour le nettoyage un chiffon doux et propre.
- Pour nettoyer l'objectif, éliminer d'abord toute trace de poussière ou de particules abrasives puis nettoyer la lentille frontale à l'aide d'un pinceau spécial ou d'un chiffon doux et non pelucheux.
- Si l'appareil reste longtemps inutilisé, éviter de laisser l'obturateur armé.
- Ne pas laisser l'appareil dans la boîte à gants ou la malle d'une voiture ou encore en plein soleil, la chaleur pouvant endommager le film, la pile, etc.
- Si l'appareil reste inutilisé pendant une longue période, enlever la pile et la conserver dans un endroit frais et sec. Il est conseillé de toujours en avoir une de rechange.
- Ne pas démonter l'appareil ni l'objectif pour le nettoyer.

MANTENIMIENTO DE LA CAMARA

- Conserve siempre limpios el interior y exterior de la cámara. Use una tela suave y limpia.
- Para limpiar el objetiveo, quite el polvo soplando, y luego límpielo con cepillo para objetivo o tela suave y limpia.
- Nunca guarde la cámara con el obturador cargado.
- No debe dejarse la cámara en el compartimiento para guantes o compartimiento para equipaje de un automóvil, ni debe exponerse a la luz directa del sol, ya que el calor afecta la película, pila, etc.
- Cuando la cámara no va a usarse por largo tiempo, quite la pila y guárdela en un lugar fresco y seco. Es preferible llevar una pila de repuesto.
- No desarme la cámara ni el objetivo en la limpieza.

SPECIFICATIONS

Lens: COLOR–YASHINON DX f/1.7 45mm; 6 elements in 4 groups; stops down to f/16.
Shutter: Electronic shutter with an infinite range of speeds from 1/500 sec. to 30 seconds; B setting; built-in self-timer; X sync.; shutter release lock; automatic setting.
Focusing: Coupled range/viewfinder focusing; 0.8 meter (2'6") to infinity; bright frame with automatic parallax compensation.
Exposure Control: Solid-state 'Electronic Brain' controls the electronic shutter according to light intensity measured by the CdS sensor; precise shutter speed for correct exposure in any light is determined and set AUTOMATICALLY; exposure symbols for easy selection of aperture; arrows warn against over-exposure and signal slow shutter speed and advisability of using a tripod; ASA range from 25 to 1000 (DIN 15-31); power source – Mallory TR164, Eveready E164 or equivalent.
Other Features: Single-stiyoke film advance lever charges shutter, sets electronic exposure control to standby condition, registers count of exposed frames and prevents double exposure; automatic resetting exposure counter; fold-away crank-handle for rapid film rewind; multi-slot take-up spool for easy film loading; battery checker incorporated in the exposure counter window.
Lens Shade: 57mm slip-on type.
Filters: 55mm screw-in type.
Dimensions: 180 x 84 x 73.5mm (4.08 x 3.3 x 2.89 in.)
Weight: 750 grams (1.65 lbs)

TECHNISCHE DATEN

Objektiv: COLOR–YASHINON DX f/1.7 45mm; 6 Elemente in 4 Gruppen; Einstellung bis f/16

Verschluss: elektronischer Verschluss mit einem Geschwindikeitsbereich von 1/500 Sek. bis 1/30 Sek.; B–Einstellung; eingebauter Selbstauslöser; X-Synchro.; Auslöse-Sicherung; automatische Einstellung

Scharf-Einstellung: Gekoppelte Bereich/Sucher Scharf-Einstellung; 0.8 Meter (2'6") bis unendlich; heller Rahmen mit automatischer Parallax-Kompensation.

Belichtungszeit-Kontrolle: Ein Festkörper "Elektronisches Gehirn" kontrolliert den elektronischen Verschluss gemäss der vom CdS-Sensor gemessenen Lichtstärke; genaue Belichtungszeit für korrekte Belichtung in jedem Licht wird erfasst und automatisch eingestellt; Belichtungs-Symbole für leichte Wahl der Blende; Pfeile zeigen Ueberbelichtung, zu kurze Belichtungszeit und den ratsamen Gebrauch eines Stativs an; ASA-Bereich von 25 bis 1000 (DIN 15-31); Leistungsquelle–Mallory TR164, Eveready E164 oder entsprechend.

Andere Eigenschaften: Ein-Zug Filmaufzughebel spannt den Verschluss, stellt die elektronische Belichtungskontrolle auf "Standby"–Betrieb, registriert die belichteten Bilder und verhindert Doppel-Belichtung; automatisch zurückstellendes Film-zählwerk; ausschwekbare Handkurbel für schnelle Film-Rückspulung; Multi-Schlitz Aufnahmespule für einfache Filmeinführung; Batterie-Kontrolle eingebaut im Filmzählwerk-Fenster.

Gegenlichtblende: 57mm aufsteckbar

Filters: 55mm einschraubbar

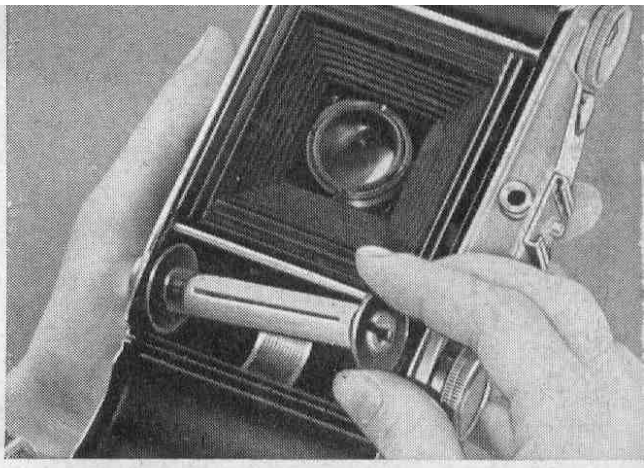
Abmessungen: 180 x 84 x 73,5mm (4.08 x 3.3 x 2.89 in.)

Gewicht: 750 Gramm (1.65 lbs)

CARACTERISTIQUES

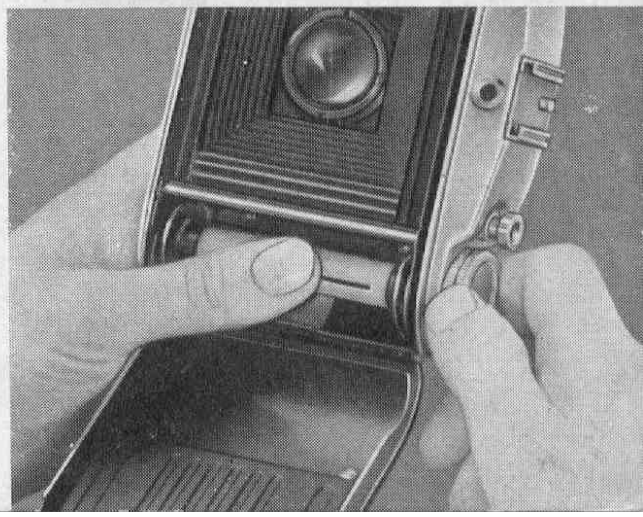
Objectif: Color-Yashinon DX 45mm f:1,7 — 6 lentilles en 4 groupes, fermant jusqu'à f:16.
Obturateur: Obturateur électronique à gamme infinie de vitesses allant de 1/500e à 30 secondes, plus pose B. Retardateur incorporé, prise synchro X, verrouillage du déclencheur, réglage automatique.
Mise au point: Par viseur à télémètre couplé, de 0,8m à l'infini. Cadre lumineux à correction automatique de parallaxe.
Réglage d'exposition: Un "cerveau électronique" à semiconducteurs commande l'obturateur électronique en fonction de l'intensité de la lumière mesurée par le capteur CdS. La vitesse d'obturation exacte assurant une exposition correcte, quelles que soient les conditions d'éclairement, est déterminée et réglée AUTOMATIQUEMENT. Symboles d'exposition facilitant le choix de l'ouverture à adopter. Flêches indicatrices éliminant toute surexposition et avertissant des vitesses lentes et de la nécessité d'utiliser un pied. Sensibilité de 25 à 1000 ASA (soit DIN 15 à 31).
Alimentation: Pile Mallory TR164, Eveready E164 ou équivalente.
Autres avantages: Une seule manoeuvre du levier d'avancement du film arme l'obturateur, met sous tension la commande électronique d'exposition, entrane le compteur de vues et libère le verrouillage empêchant la double exposition; compteur de vues à entranement automatique, manivelle escamotable permettant le rebobinage rapide du film; bobine réceptrice à fentes multiples facilitant le chargement du film, vérificateur de pile incorporé visible par la fenêtre du compte-vues.
Parasoleil: Type à emboîtement 57mm
Filtres: Type vissant 55mm.
Encombrement: 180 x 84 x 73,5mm.
Poids: 750 grammes.

Transfer the empty spool to the opposite chamber. Turn out spool carrier, remove the spool—the action is the reverse to that described on p. 5—and insert it into the other chamber. Place the round hole onto the fixed peg.



Push the empty spool into the chamber, and slightly depress film winder, turning it anti-clockwise, until the winder key has engaged the slotted spool end.

After insertion of a new spool or replacing of the spool carrier close the camera back.



ESPECIFICACIONES

Objetivo: COLOR-YASHINON DX f/1,7 45mm; 6 elementos en 4 grupos; diafragma hasta f/16.
Obturador: Obturador electrónico con alcance infinito de velocidades de 1/500 a 30 segundos; posición B; auto-disparador integrado; sinc. X; cierre del obturador; regulación automática.
Enfoque: Enfoque de telémetro/visor acoplado; 0,8 metro (2'6") a infinito; cuadro brillante con compensación de paralaje.
Control de Exposición: El Cerebro Electrónico de estado sólido controla el obturador electrónico según intensidad de luz medida por el sensor CdS; la velocidad precisa del obturador para la exposición correcta en cualquier luz se determina y regula AUTOMATICAMENTE; símbolos de exposición para facilitar la selección de abertura; flechas indicadoras de sobre-exposición y velocidad lenta del obturador para cuyo caso se hace necesario usar un trípode; gama ASA de 25 a 1000 (DIN 15-31); fuente de energía – Mallory TR164, Eveready E164 o su equivalente.
Otras Características: La palanquita de avance de la película de un recorrido, carga el obturador, regula el control de exposición electrónico, registra el número de cuadros expuestos y elimina la exposición doble; contador de toma de reposición automática; Manivela plegadiza para reenrollado rápido de la película; bobina tensora de ranura múltiple para facilitar la carga de la película; comprobador del estado de la pila incorporado en la ventanilla del contador de tomas.
Parasol del Objetivo: tipo póstizo 57mm
Filtros: Tipo atornillable 55mm.
Dimensiones: 180 x 84 x 73,5mm (4,08 x 3,3 x2,89 pulgadas)
Peso: 750 gramos (1,65 lbs)

DEPTH-OF-FIELD TABLE
TIEFENSCHÄRFENTABELLE
TABLE DE PROFONDEUR DE CHAMP
PROFUNDIDAD DEL CAMPO

Meter

Distance		1.7	2	2.8	4	5.6	8	11	16
∞	from	37.7	32.1	22.9	16.1	11.5	8.07	5.89	4.08
	to	∞	∞	∞	∞	∞	∞	∞	∞
7	from	5.93	5.77	5.39	4.91	4.39	3.79	3.24	2.61
	to	8.56	8.91	10.0	12.3	17.6	51.6	∞	∞
2	from	1.91	1.89	1.85	1.79	1.72	1.63	1.52	1.38
	to	2.10	2.12	2.18	2.26	2.39	2.61	2.94	3.77
1	from	0.98	0.97	0.95	0.95	0.3	0.91	0.88	0.83
	to	1.02	1.03	1.04	1.06	1.08	1.12	1.17	1.27
0.8	from	0.79	0.78	0.77	0.76	0.75	0.74	0.72	0.70
	to	0.81	0.82	0.82	0.83	0.85	0.87	0.90	0.96

Feet

Distance		1.7	2	2.8	4	5.6	8	11	16
∞	from	124'	105'	75'	53'	38'	27'	19'	13'
	to	∞	∞	∞	∞	∞	∞	∞	∞
20	from	17'3"	16'11"	15'11"	14'7"	13'2"	11'6"	9'11"	8'1.7"
	to	23'9.1"	24'6.9"	27'0.7"	31'10.9"	41'11.6"	80'0.2"	∞	∞
7	from	6'7.8"	6'7.1"	6'5.3"	6'2.8"	5'11.7	5'7.5"	5'2.9"	4'8.6"
	to	7'4.7"	7'5.5"	7'8.0"	7'11"	8'5.7"	9'3.9"	10'8.1"	14'1.2"
3.5	from	3'5.0"	3'4.8"	3'4.4"	8'3.8"	3'2.9"	3'1.8"	3'0.4"	2'10.3"
	to	3'7.0"	3'7.2"	3'7.7"	3'8.5"	3'9.7"	3'11.4"	4'1.9"	4'6.6"
2.6	from	2'6.7"	2'6.6"	2'6.4"	2'6.0"	2'5.6"	2'4.9"	2'4.2"	2'3.0"
	to	2'7.7"	2'7.8"	2'8.1"	2'8.5"	2'9.0"	2'9.9"	2'11.1"	3'1.2"

BESCHREIBUNG

1. Blitzlicht-Sockel
2. Sucher-Okular
3. Batteriefach-Verschluss
4. Batterie-Kontrollknopf
5. Stativ-Sockel
6. Filmrückspul-Auslöseknopf
7. Aufnahmespule
8. Rückdeckel

DESCRIPTION

1. Griffe pour flash
2. Oeilleton du viseur.
3. Couvercle du compartiment à pile
4. Bouton de contrôle de la pile
5. Ecrou de pied
6. Bouton de débrayage (pour le rebobinage du film)
7. Bobine réceptrice
8. Dos

DESCRIPCION

1. Zócalo del Flash
2. Ocular del Visor
3. Tapa del Compartimiento de la Pila
4. Botón Comprobador de la Pila
5. Zócalo del Trípode
6. Botón de Reenrollado de la Película
7. Bobina Tensora
8. Tapa Trasera

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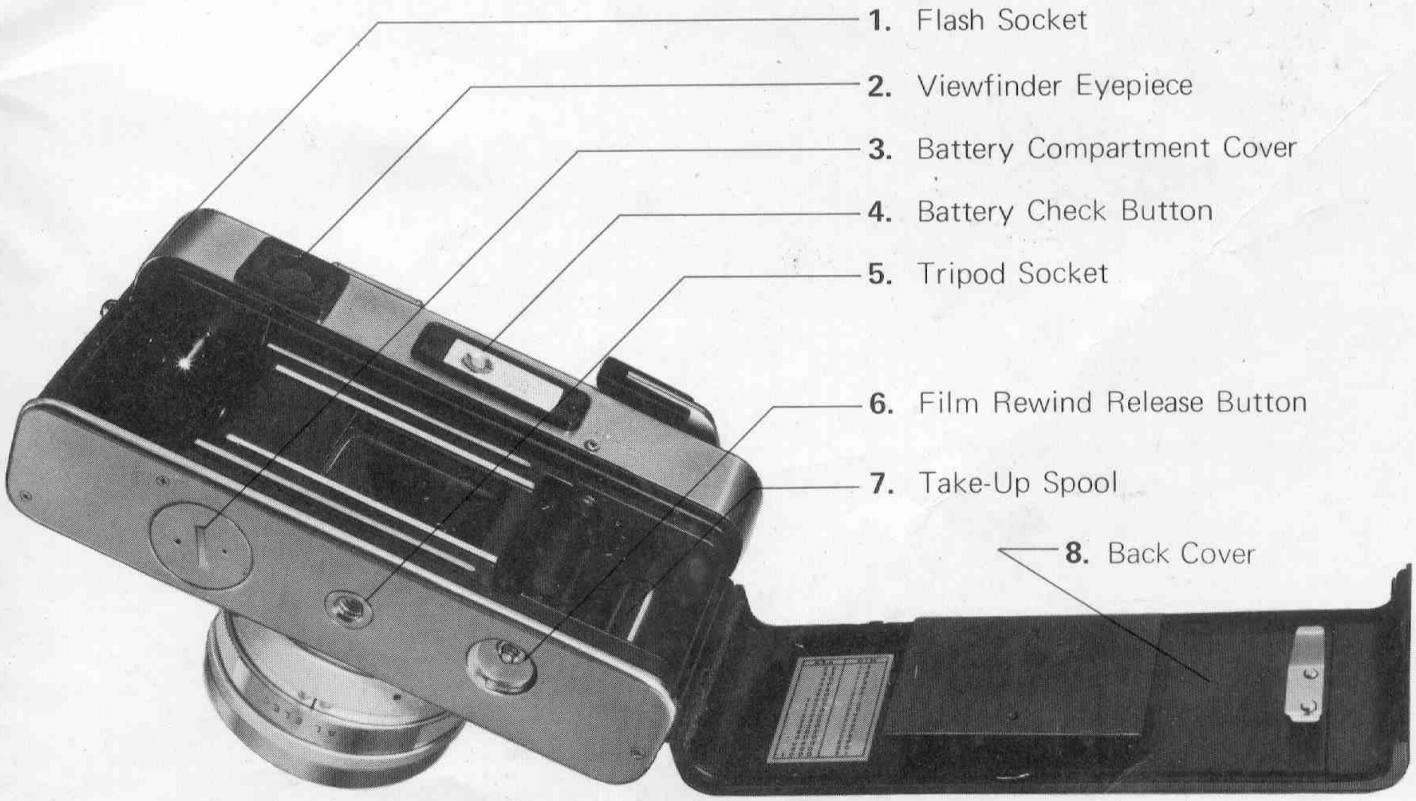
Pioneer in Electronic Cameras

YASHICA CO., LTD.

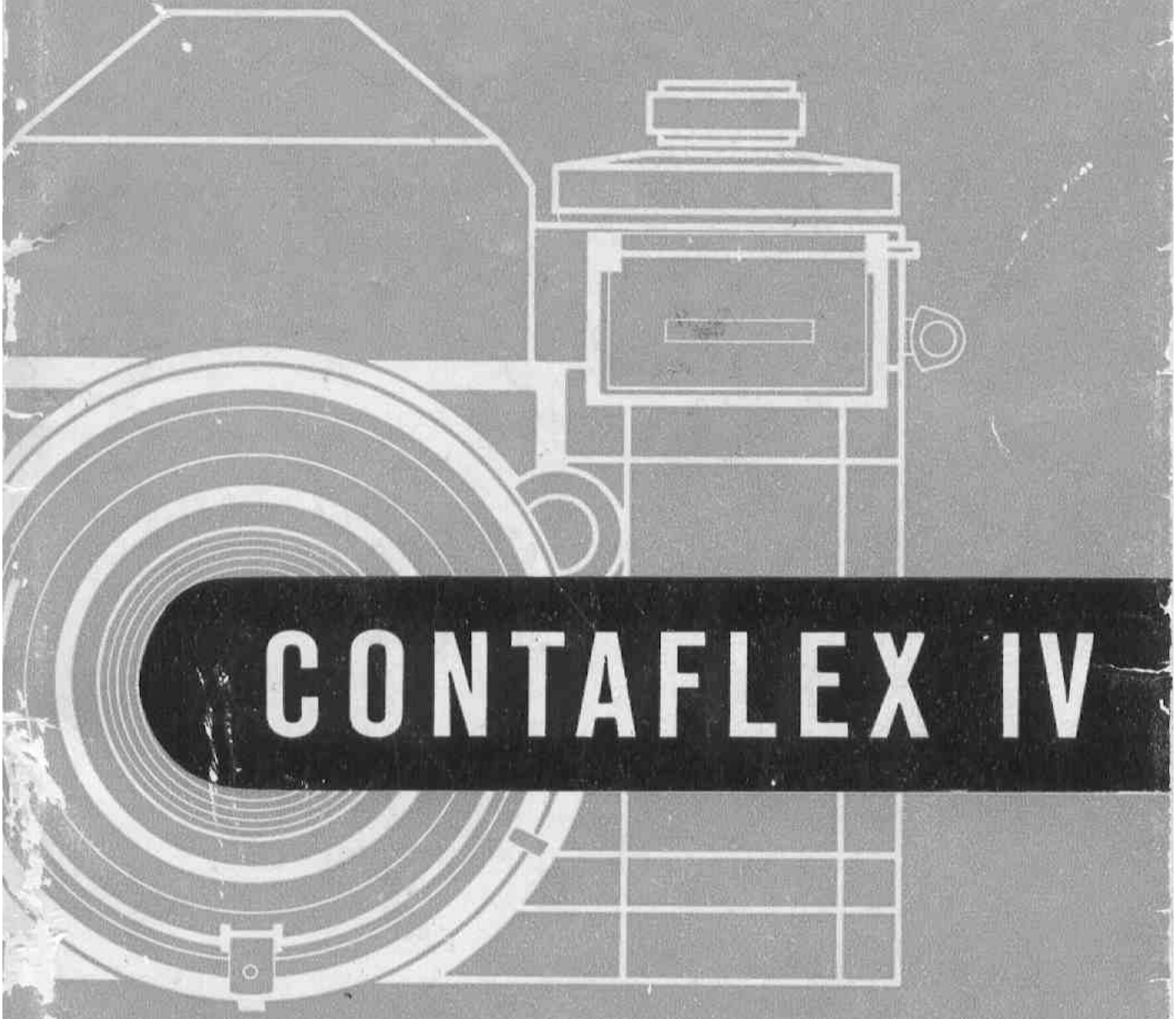
27-8, 6-chome, Jingumae, Shibuya-ku, Tokyo, Japan

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DESCRIPTION (Continued from Page 1.)



ZEISS IKON



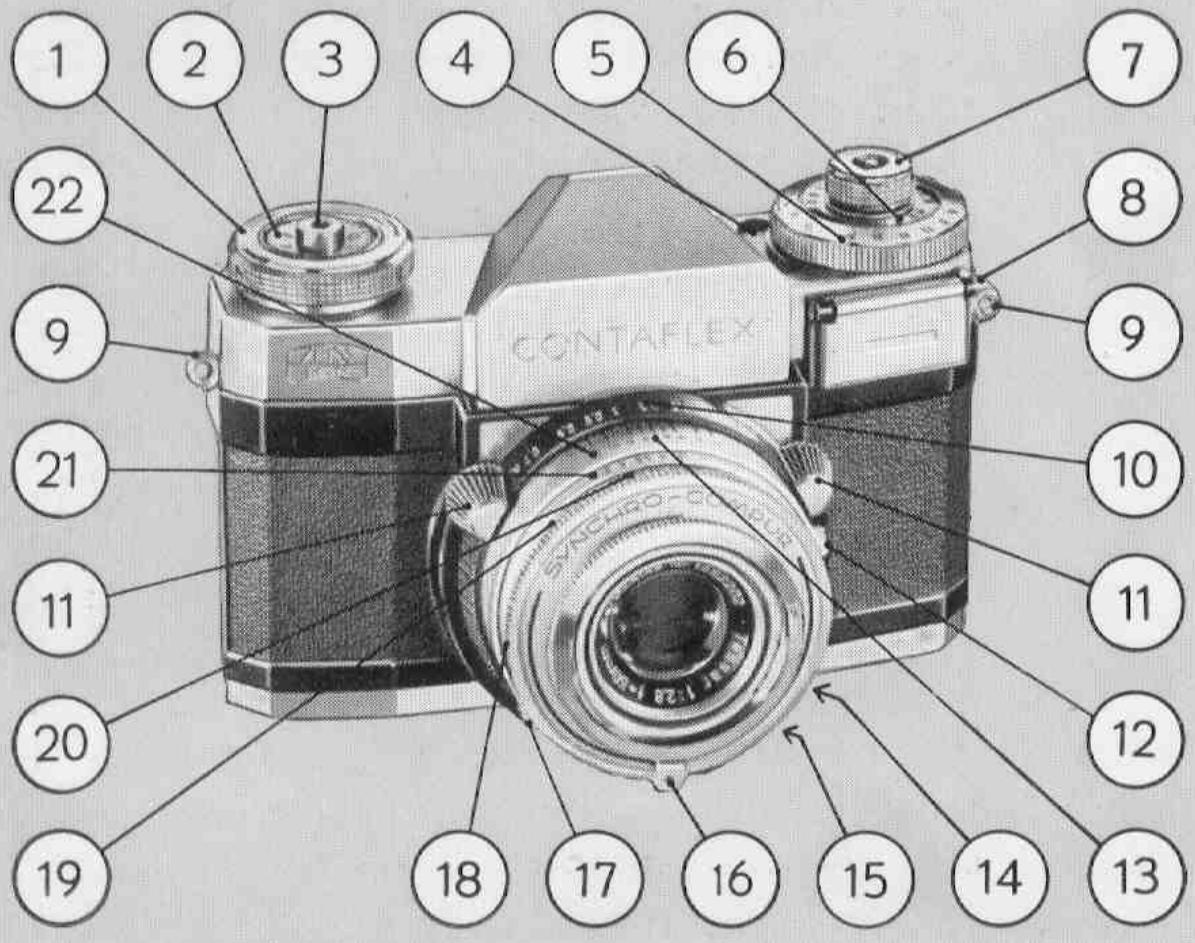
CONTAFLEX IV

INSTRUCTION BOOK

Controls of the Contaflex IV

1 Film wind knob
2 Frame counter
3 Shutter release knob
4 Pointer of exposure meter
5 Exposure meter computor disc
6 Film speed setting knob
7 Rewind knob
8 Knob operating exposure meter flap
9 Eyelets for carrying strap
10 Distance setting scale
11 Focusing knobs
12 Synchro-lever for flash and delayed-action mechanism
13 Setting mark for distance, aperture and shutter speed

For further camera controls see inside back cover.





graphy, please study this instruction book thoroughly. Open out the front and back covers and follow the manipulations with the aid of the detailed diagrams. Start by practising the various operations without a film in the camera. If you still have difficulties, see your photo dealer for free information.

We can only congratulate you on buying a Contaflex IV. You have made a wise choice – your camera will give you lifelong pleasure. We would like to share your enjoyment, and would appreciate it if you were to send us some of the most outstanding pictures you have taken with your Contaflex IV.



The picture inside the front cover was taken with the Contaflex against the light; exposure 1/60 sec. at f/5.6.

The Contaflex IV

made by Zeiss Ikon AG. Stuttgart, combines all the advantages of the two most popular types of camera: miniature and reflex. Behind this achievement lie years of experience in the manufacture of precision cameras. The Contaflex was originally designed for the advanced amateur, but its amazing versatility has rapidly made it indispensable to professional, scientific and technical photographers.

We cannot promise the impossible: but we **do** boast that the Contaflex IV is fitted with every conceivable safeguard to ensure the success of your pictures. The built-in Zeiss Ikon Rapid photo-electric exposure meter, completely enclosed in the camera body for maximum protection, gives reliable exposure figures for all films, including colour. Two coupled rangefinder systems ensure accurate focusing of the world-famed Zeiss Tessar f/2.8 lens, with all its interchangeable converter units. The large, clear viewfinder image is unaffected by parallax at even the shortest distances. The Contaflex is a rapid action camera, thanks to the ingenious automatic coupling of many operations. With the extensive range of Contaflex accessories at your disposal (see the last pages of this booklet), there is virtually no limit to the fascinating subjects you can safely cover.

So that you can get the best out of your Contaflex and enjoy the pleasures of carefree photo-

USE OF SHUTTERS

Diaphragm setting:	3.5	4	(4.5)	5.6	8	11	16	22	
Range (feet):	3	3.5	4	5	6	8	10	15	30	Infinity
Exposure times:	B	1	2	5	10	25	50	100	300	

The whole numbers on the shutter ring stand for fractions of seconds, e. g. 2 = 1/2 sec., 50 = 1/50 sec.

PRONTOR-SVS speed-s

① Joint index mark for exposure
To set exposure time, turn outer mille
To set the range, turn front lens mou

② Shutter winding lever: before
also applies to "B".

③ Feet scale (see "1" range settir

④ Diaphragm lever and scale.

⑤ Contact bush for flashlight 3 m

⑥ Synchro-lever for three settings: M, X, V.

Position M and X for flash synchronization (see chapter on Flash Technique, p. 21). When
no influence on shutter action.

Position V = automatic shutter release (delayed action release). When synchro-lever is
the shutter—the delayed action mechanism is wound for pictures with automatic shutter
also of taking delayed action pictures with flashlight (X synchronization only!). If set unir
from this position without actuating the delayed action mechanism. After each exposure ma
to be reset to X to avoid any undesired delay in shutter release when taking the next p
(2, p. 2) to take a cable release.

⑦ Depth-of-field scale (see pp. 18/20).

The Synchro-Compur Shutter, with delayed action release mechanism, is fully synchronized for flash and has a range of speeds from 1 to 1/500 sec. and a "B" setting for time exposures. It employs the exposure value system of coupled aperture settings and shutter speeds.
All scales can be clearly read from above. **The spring-loaded pre-set diaphragm** and the coupled film-wind and shutter tensioning mechanism make the camera ready for immediate action.
The camera takes 24 x 36 mm negatives on 35 mm miniature film, available in standard cartridges, daylight refills, darkroom refills or as bulk film. By using **special cassettes** the film can be changed in daylight after any number of exposures, without rewinding.
The removable back simplifies loading and unloading as well as cleaning of the camera.

Handling the Camera

Measuring the exposure

Before taking a picture, you should determine the exposure value, using the built-in photoelectric exposure meter (Fig. 1), which gives accurate readings even in the poorest light, for black-and-white or colour film, both negative and reversal.
First set the speed of the film in use. Turn the inner disc by means of the small knob (6) until the speed of the film in use appears opposite

Contaflex IV features

The large, bright finder shows the final picture in almost natural size right up to the moment of exposure. The built-in Fresnel lens renders a finder image that is bright even in the corners; furthermore, it is seen at eye-level, upright and the right way round, thanks to the pentaprism. Another advantage of through-the-lens sighting is that the finder image is always free from parallax, even when supplementary lenses are used. **What you see, you take!**

The built-in Zeiss Ikon Rapid photo-electric exposure meter correctly indicates exposure settings even in poor light. Zeiss Ikon's twenty years of experience in making exposure meters ensure its unfailing accuracy.

The focusing system shows clearly in the viewfinder the point of sharpest definition by means of a split-image rangefinder and ground glass screen, both coupled with the lens.

The standard lens is the famous Zeiss Tessar f/2.8, 50 mm. By exchanging the front element for either the Pro-Tessar f/4, 35 mm or the Pro-Tessar f/4, 85 mm, the complete lens is converted to a wide-angle or tele-lens respectively. The Steritar-B stereo attachment can also be used as a front element. All these interchangeable elements are fitted with bayonet mounts. All optical components are coated and colour corrected, and yield high-definition photographs in monochrome or colour.

Conversion Table

of the most commonly used film-speed rating systems

ASA Exp.Ind.	Scheiner European	Scheiner USA	Weston	DIN
5	20	13	4	12
6	21	14	5	13
8	22	15	6	14
10	23	16	8	15
12	24	17	10	16
16	25	18	12	17
20	26	19	16	18
25	27	20	20	19
32	28	21	24	20
40	29	22	32	21
50	30	23	40	22
64	31	24	50	23
80	32	25	64	24
100	33	26	80	25
125	34	27	100	26
160	35	28	125	27
200	36	29	160	28
250	37	30	200	29
320	38	31	250	30

Since the speed of colour films cannot be measured in the same way as for monochrome material, manufacturers are obliged to advise that their films should be exposed "like a film of . . . ASA or . . . DIN". Generally this is perfectly reliable advice, but to be on the sate side, the conscientious photographer should calibrate his equipment by making a series of test exposures at various apertures and thus determine the actual speed of the film in question and the correct exposure meter setting.

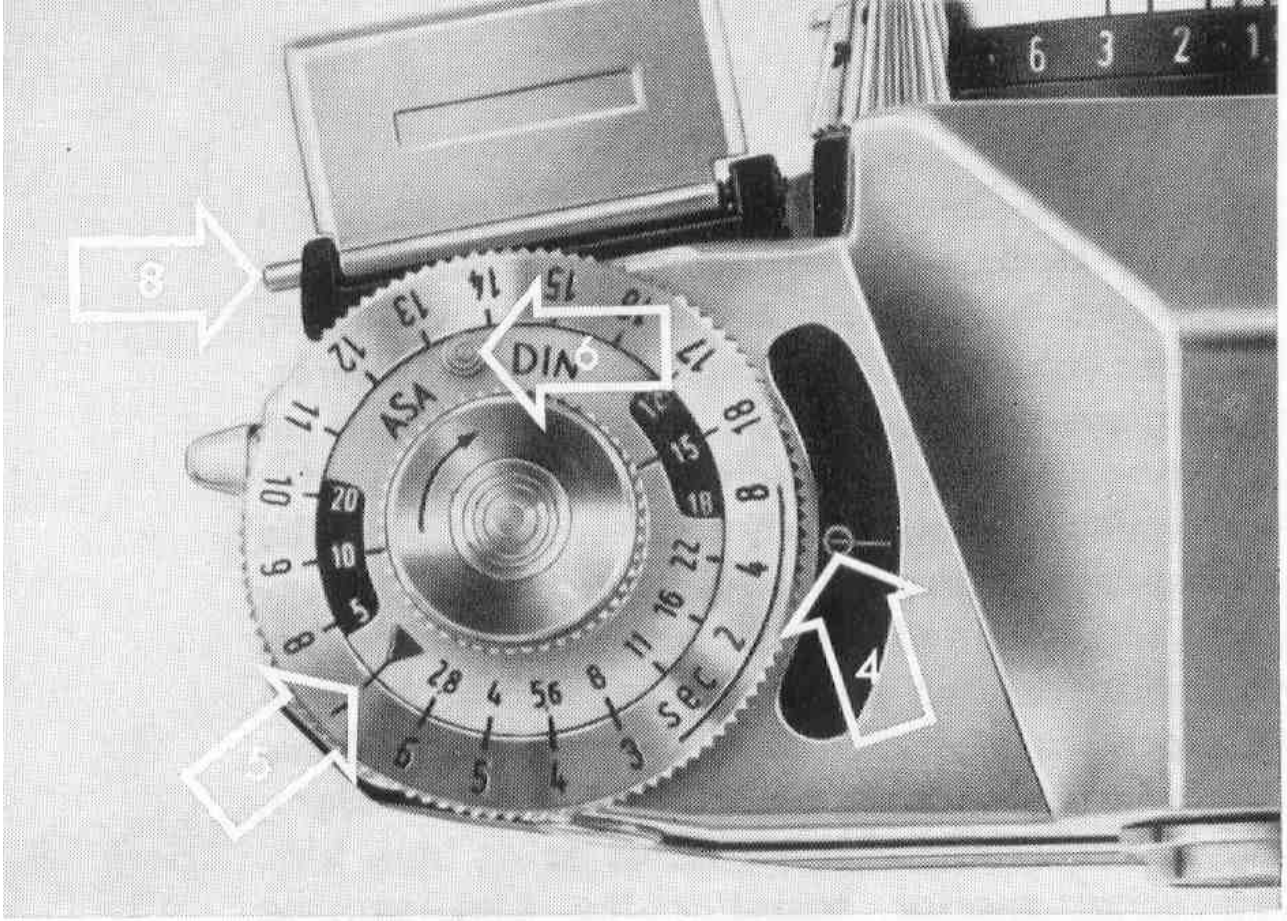


Fig. 1

the black stroke in the left-hand window (for films rated in ASA indices) or opposite the stroke in the right window (for films rated in DIN°). The disc can also be set to intermediate values. For more convenient handling, the rewind knob (7) may be pulled out slightly (see Fig. 27 on page 32).

When the film speed is quoted according to a rating other than the ASA or DIN systems, the corresponding equivalent can be found in the conversion table on page 9.

To measure the intensity of the light, first open the flap of the exposure meter by pressing knob (8) gently to the right (to close it, press the flap itself to the right with the left forefinger). The Contaflex IV should then be aimed at the

subject so as to frame it in the viewfinder. The white pointer (4) will be seen to deflect; turn the computor disc (5) until the small white circular mark is exactly over the pointer when viewed from above (see Fig. 1). The exposure value to be used is the red figure on the computor disc opposite the red triangular mark on the film-speed setting disc. In poor light, the required exposure **times** in full seconds (green figures) can be read opposite the corresponding f/numbers (black figures on the inner disc to the right of the red triangle mark).
Once the exposure value or aperture and shutter speed required have been ascertained, they must be transferred to the shutter of the Contaflex IV.

Setting the exposure value

By pressing knob (17) towards the body of the camera, the adjacent red dot can be moved until it coincides with the desired value on the red exposure value scale (19) (see Fig. 2). It is also possible to set half exposure values.
As the ring with the red dot can only be moved through a limited radius, it will sometimes be necessary to move the aperture shutter speed setting ring (18) as well, in order to set the exposure value required.
By setting the exposure value, the diaphragm and shutter speed selector mechanisms are coupled. The amount of light necessary for correct exposure is controlled by the lens open-



Fig. 2

ing (aperture or f/number) and the time the film is exposed to light (shutter speed). The exposure value obtained, which can be read off from the setting mark (13) (see Fig. 3), represents a definite amount of light, that remains the same no matter what f/number or shutter speed is chosen. If, after having determined and set the exposure value, the shutter speed setting ring (18) is turned to a higher or lower value (20), the lens aperture (21) will be automatically re-adjusted to give the same exposure. The shutter speed is likewise re-adjusted automatically when the aperture is changed.

Shutter speed: The correct shutter speed to choose depends on whether or not the subject

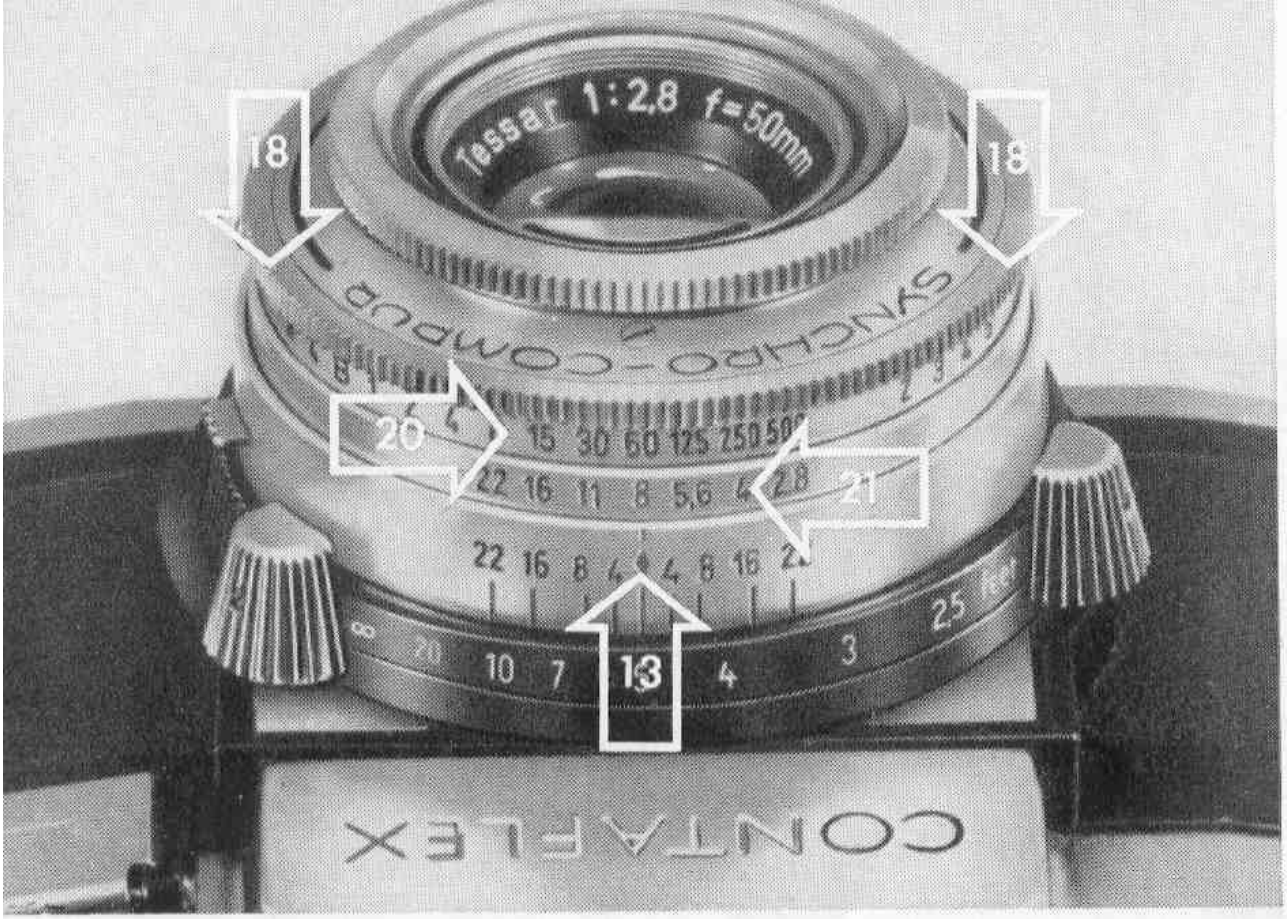


Fig. 3

is moving, and if so, how rapidly. The faster the subject-movement, the shorter should be the exposure time. The black figures on scale (20) denote fractions of seconds (60 means 1/60th second, etc.). When set to the green "B", the shutter will remain open as long as the release knob (3) remains depressed (see page 20). The green figures denote full seconds, as on the computor disc of the exposure meter, and cannot be set against the setting mark (13); their significance will be explained later on.

Aperture setting: The correct aperture of the lens diaphragm, or "stop", for short, depends on the depth of field desired (see page 16). The smaller the f/number, the larger is the actual

aperture of the diaphragm opening. The required value on the scale (21) should be set against the setting mark (13). The aperture is set by the same operation as for setting the shutter speed.

So long as the correct exposure value remains set, any combination of shutter speed and lens aperture will result in a perfectly-exposed negative. The setting ring (18) can only be turned sufficiently to allow the mark (13) to be set against the final values of the aperture and shutter speed scales. The final value at the right-hand end of the shutter speed scale is "B".

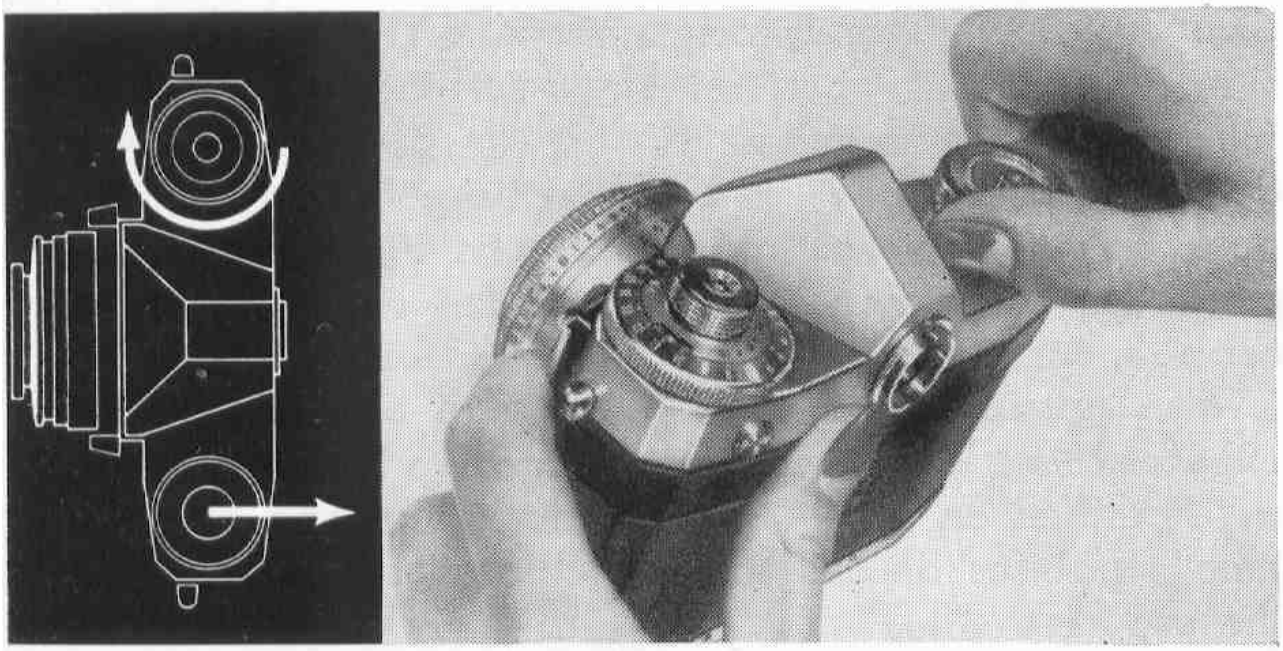
If, after setting the exposure value, the lens is stopped down until the shutter speed is set to the green "B", an exposure time of 2 seconds will be required. If it is necessary to stop down even further, the required exposure time in full seconds (green figures) can be read off opposite the selected aperture. Then set the diaphragm to the required figure; to do this, depress the knob (17) as when setting the exposure value. The exposure time can then be controlled by depressing the shutter release knob (3) for the required number of seconds. It is also possible in such cases to read off the exposure time directly from the exposure meter, as described on page 10. When changing from time exposures on "B" to automatic exposures, the exposure value must be reset.

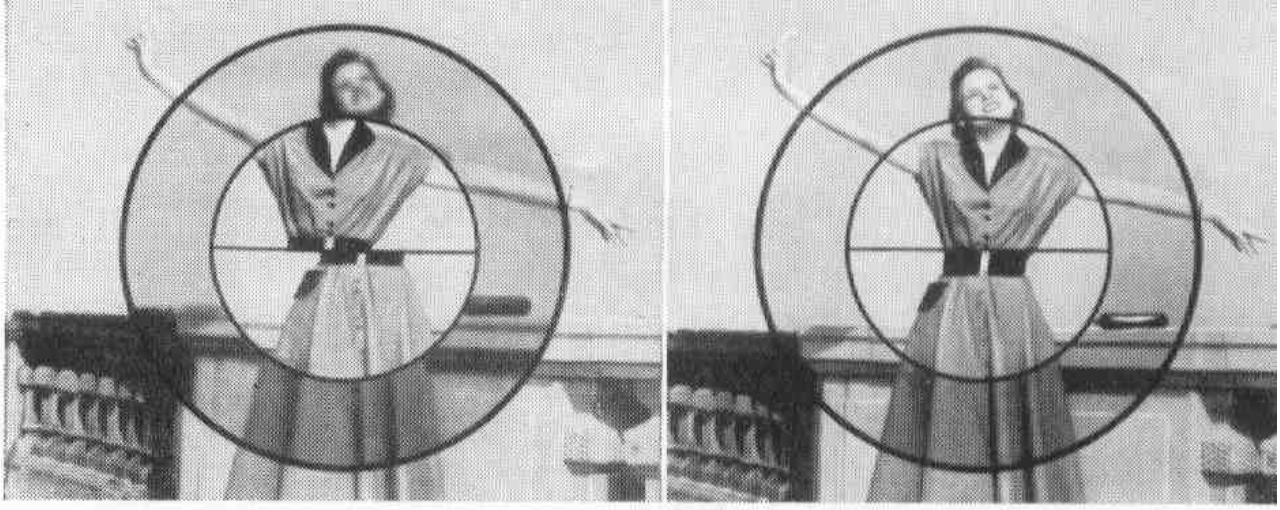
Tensioning the Shutter

The Synchro-Compur shutter is tensioned by turning the film wind knob (1) in the direction of the arrow **as far as it will go.** This one operation also advances the film by one frame and makes the viewfinder image visible. This coupling makes double exposures and blank frames a thing of the past. It does not matter whether the shutter speed is set before or after advancing the film. Keeping the shutter tensioned does not harm it in any way.

A useful hint: when turning the film wind knob don't just twiddle it round with two fingers like a screw; a much more convenient method is to swing both hands in opposite directions, holding the camera body with one hand and gripp-

Fig. 4





unsharp sharp

ing the winding knob with the other (Fig. 4). The saving in time is really surprising.

Setting the Distance

The built-in coupled rangefinder system automatically focuses the camera for the correct distance. When you look through the viewfinder eyepiece (26), you will see in the centre of the field of view a clear circular area enclosed within a ground glass ring. The clear circle is divided into two halves by a horizontal line (see illustr. on left). The subject distance can be measured in two ways:

1. Select a vertical line (such as the edge of a wall or a tree trunk) seen in the finder image. Then turn the rear black ring by the two knobs (11) on the left and right, adjoining the distance setting scale (10). Now you will see the image in the upper half of the circle move in relation to the lower half. When the two halves of the image are exactly aligned, the lens is set for the correct distance.
2. If the subject has no distinct vertical lines, observe the image in the ground glass ring.

ynchronized

time and range settings.

d ring until mark indicates the required exposure time.
nt 3 until index mark indicates the required distance.

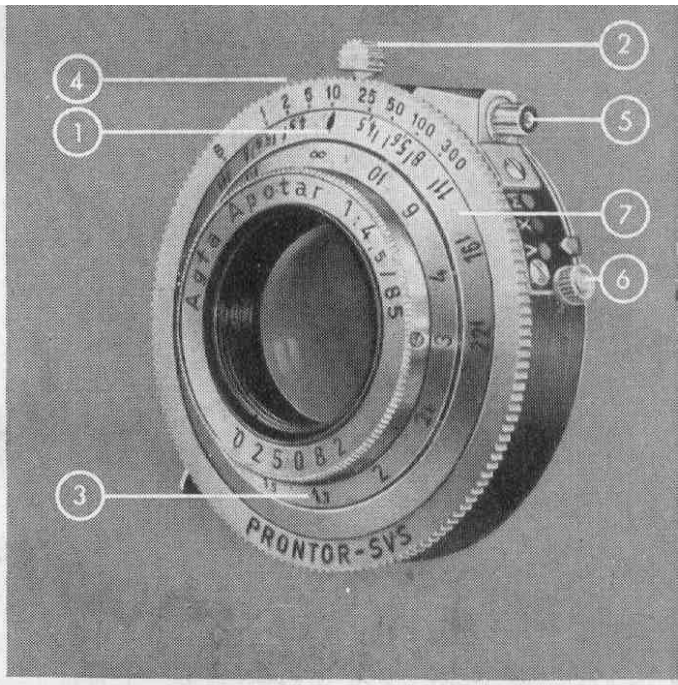
each exposure wind lever **until it is caught**—this

g).

m. diameter.

taking pictures without flashlight, these settings have

et to V—which can be done before or after winding
release; delay appr. 10 seconds. Position V permits
tentionally on V, the synchro-lever can be removed
de with delayed action release the synchro-lever has
icture. The release knob is provided with a thread



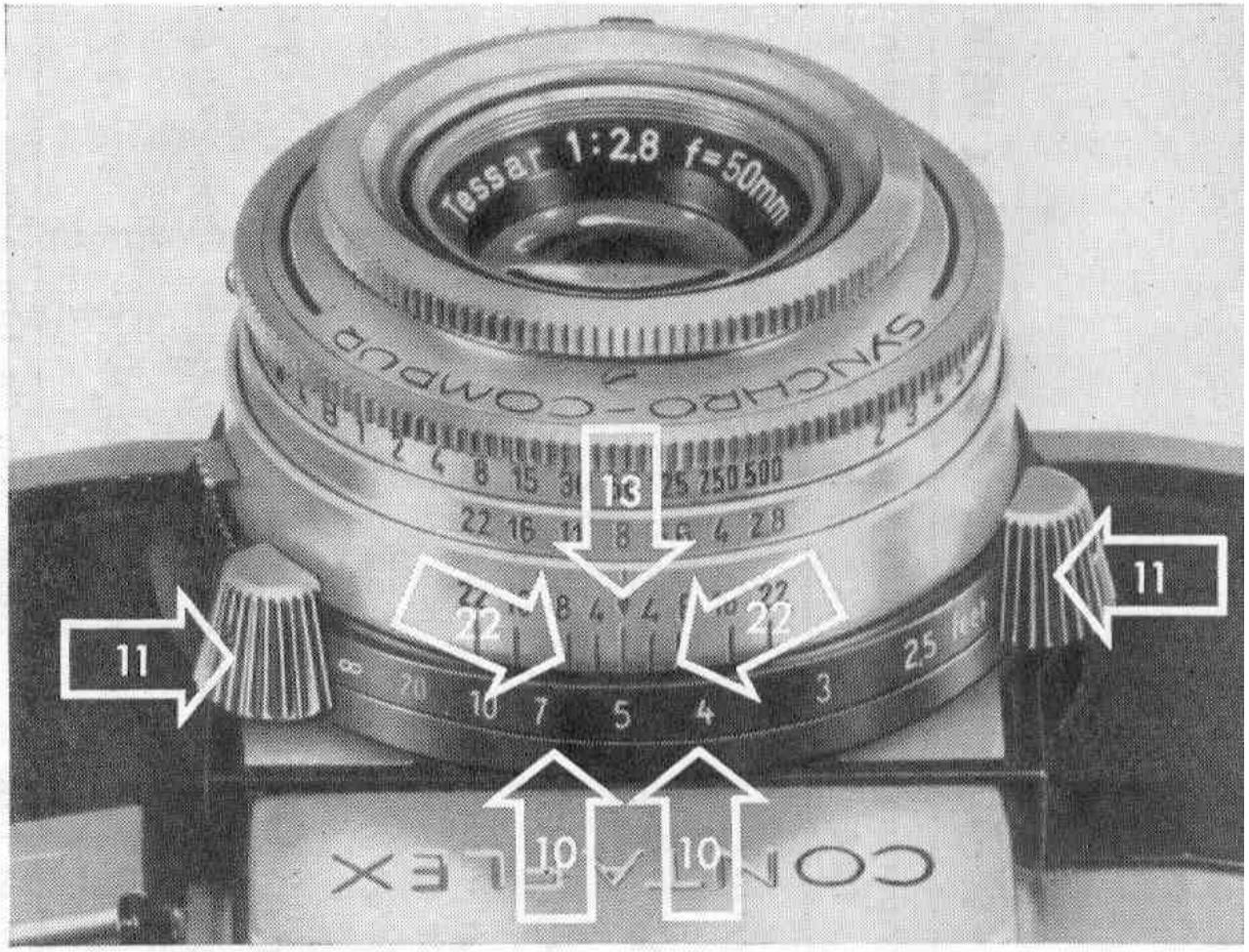
Turn the two knobs (11) to and fro until the image appears perfectly sharp.
It is immaterial which method of focusing you use; in either case the lens is automatically set to the correct distance, which can be read off from scale (10).

Depth-of-field Scale

The lens does not only define sharply those objects at the exact focused distance; it will also produce a sharp image of objects a certain distance in front and behind. This zone of sharp definition, known as the depth of field, is comparatively narrow at full aperture (f/2.8) but becomes greater the more you stop down the lens.
The depth-of-field scale (22) shows the extent of this zone at various aperture settings and distances. Locate the aperture setting to be used from among the f/numbers to the right and left of the distance setting mark (13). The distance values on the distance setting scale (10) opposite the chosen f/numbers represent the near and far limits of the depth-of-field zone. For example: assuming you are using an aperture of f/8 and have focused on a distance of 5 ft. (Fig. 5), the figure 8 on the left is opposite 7 ft. while the figure 8 on the right is opposite 4 ft. This tells you that at a distance setting of 5 ft. and an aperture of f/8, everything will be sharp from 4 ft. to 7 ft. Exact values can be found in the table on page 18.

You can equally well measure with the range-finder the nearest and farthest points of the zone to be recorded sharply, and then select the appropriate stop on the depth-of-field scale. Do not, however, stop down further than is necessary to ensure the depth of field you require. Otherwise you may need long exposure times, which increase the risk of camera shake (see page 24).

Fig. 5



Depth-of-field table for the Contaflex with Tessar f/2.8 50 mm

Distance	Aperture f/2.8	Aperture f/4	Aperture f/5.6	Aperture f/8	Aperture f/11	Aperture f/16	Aperture f/22
∞	64'4" - ∞	45'1" - ∞	32'4" - ∞	22'9" - ∞	16'8" - ∞	11'6 1/2" - ∞	8'6" - ∞
20'	15'4" - 28'9"	14' - 35'6"	12'6" - 51'7"	10'8 3/4" - 162'5"	9'2" - ∞	7'4 1/2" - ∞	5'11 3/4" - ∞
10'	8'8 1/2" - 11'9"	8'3" - 12'8"	7'8 3/4" - 14'3"	7'1/2" - 17'5"	6'4 1/4" - 24'3"	5'5 1/2" - 71'4"	4'8" - ∞
7'	6'4 1/4" - 7'9 1/2"	6'1 1/2" - 8'2 1/4"	5'10" - 8'9 1/2"	5'5 1/4" - 9'10 1/2"	5'1/4" - 11'8"	4'5 1/2" - 17'	3'11 1/4" - 37'4"
5'	4'8" - 5'4 1/2"	4'6 1/2" - 5'6 3/4"	4'4 3/4" - 5'9 3/4"	4'2" - 6'3"	3'11 1/4" - 6'11"	3'7" - 8'5"	3'3" - 11'5"
4'	3,9 1/2" - 4'2 3/4"	3'8 1/2" - 4'4"	3'7 1/4" - 4'6"	3'5 1/2" - 4'9"	3'3 1/2" - 5'1 1/4"	3'3/4" - 5'10"	2'9 3/4" - 7'1"
3'	2'10 3/4" - 3'1 1/2"	2'10 3/4" - 3'2"	2'9 1/2" - 3'3"	2'8 1/2" - 3'4 1/2"	2'7 1/4" - 3'6 1/2"	2'5 1/2" - 3'10 1/2"	2'3 3/4" - 4'4 1/4"
2.5'	2'5" - 2'7"	2'4 3/4" - 2'7 1/4"	2'4 1/4" - 2'8"	2'3 1/2" - 2'9"	2'2 3/4" - 2'10 1/4"	2'1 1/2" - 3'1/2"	2'1/2" - 3'3 3/4"

The depth of field is measured from the film plane.

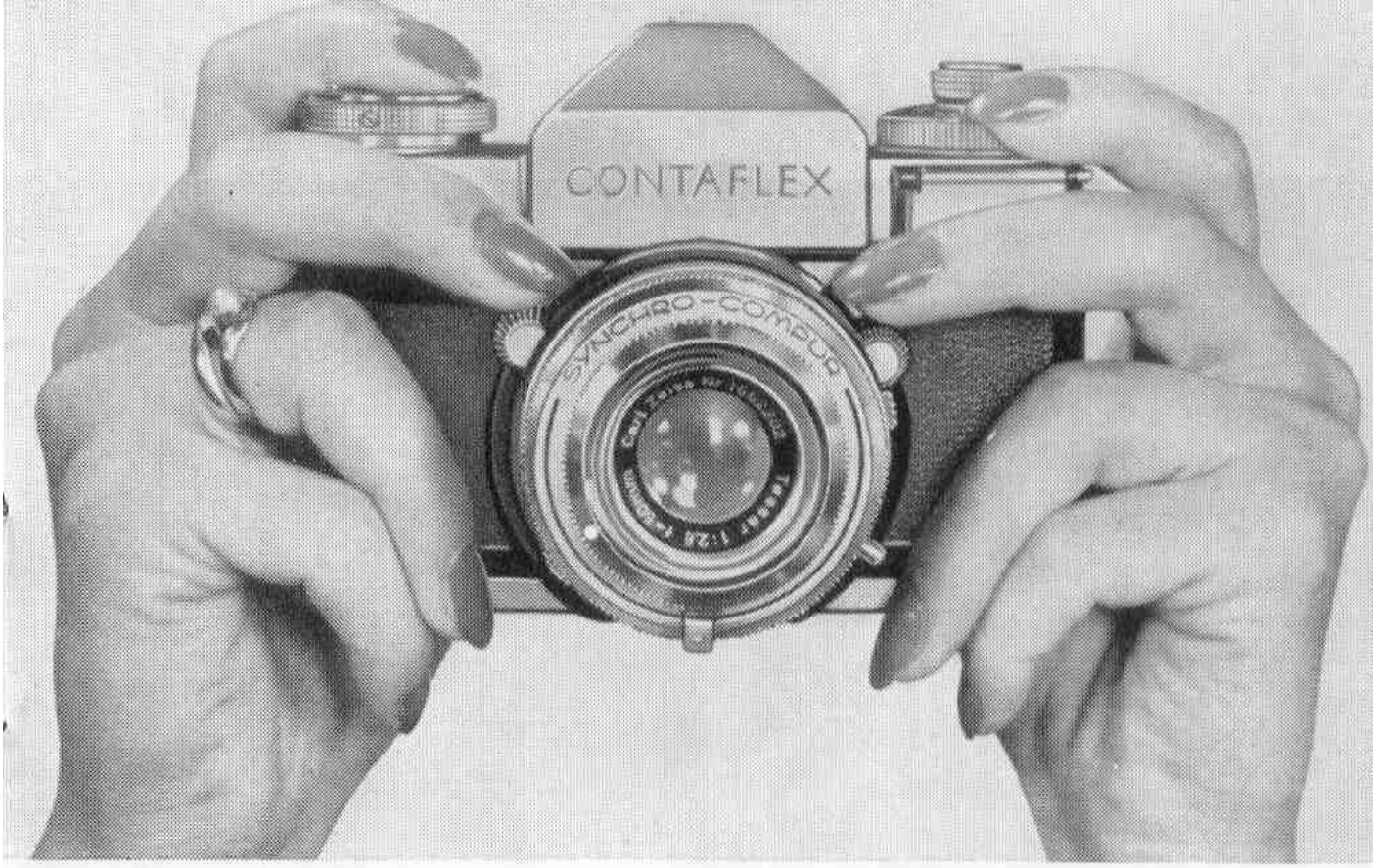


Fig. 6

Taking the Picture

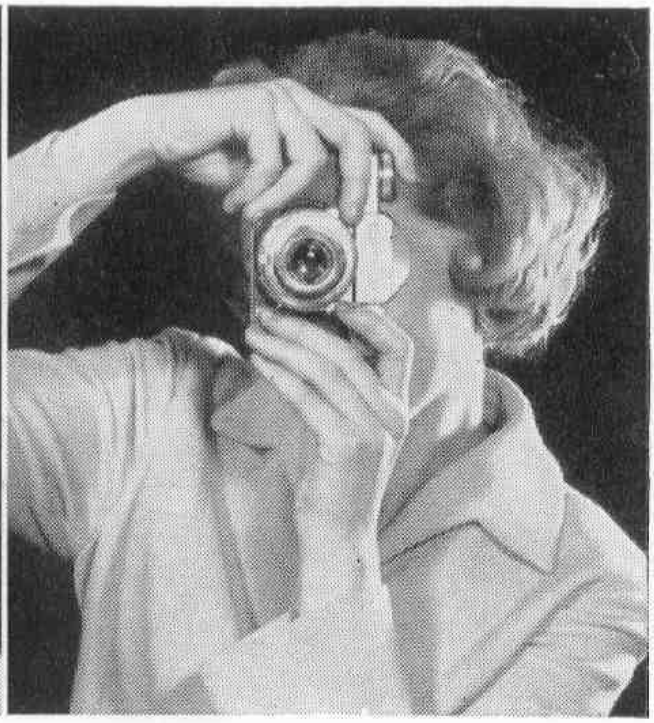
Holding the camera

Always hold the Contaflex IV perfectly steady whilst taking a picture. Support the body of the camera with the palms of both hands and grip it firmly with the fingers (Fig. 6). The thumbs should be pressed against the camera back, and the middle finger of both hands should rest on the focusing knobs (11). Use the index finger of the right hand to press the shutter release (3). Press your elbows lightly against your body (Fig. 7). You can use either the left or the right eye to look through the finder. This is the normal position for taking horizontal pictures with the Contaflex IV.

Fig. 7



Fig. 8



For upright pictures, turn the Contaflex IV through 90 degrees, and press it lightly against the forehead with the right hand. The middle finger rests on the right-hand focusing knob (11), whilst the index finger works the shutter release. The left hand supports the camera from below; it is also possible to use the index finger of this hand to operate the focusing knob (Fig. 8). Upright pictures can, of course, be taken with the camera supported by the right hand. In this case the shutter is released with the thumb.

Releasing the shutter

The shutter release knob (3) should be depressed **gently** with either the tip of the index

Fig. 9

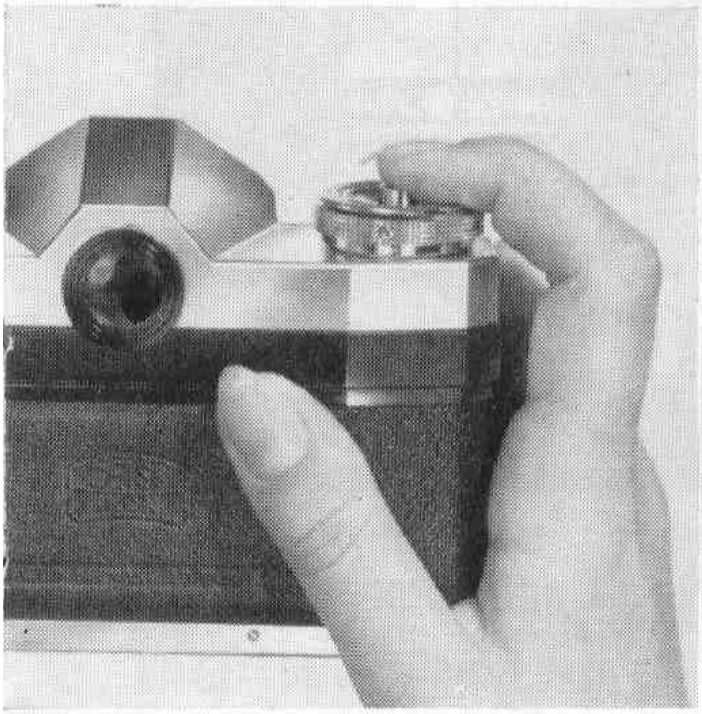
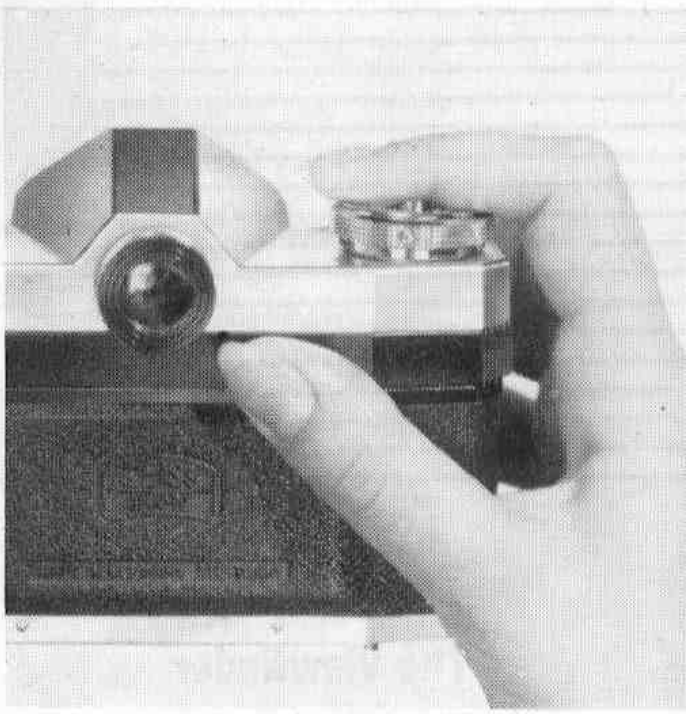
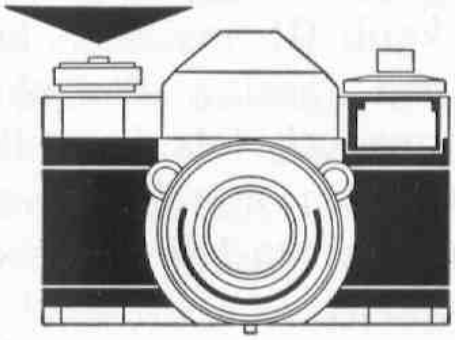
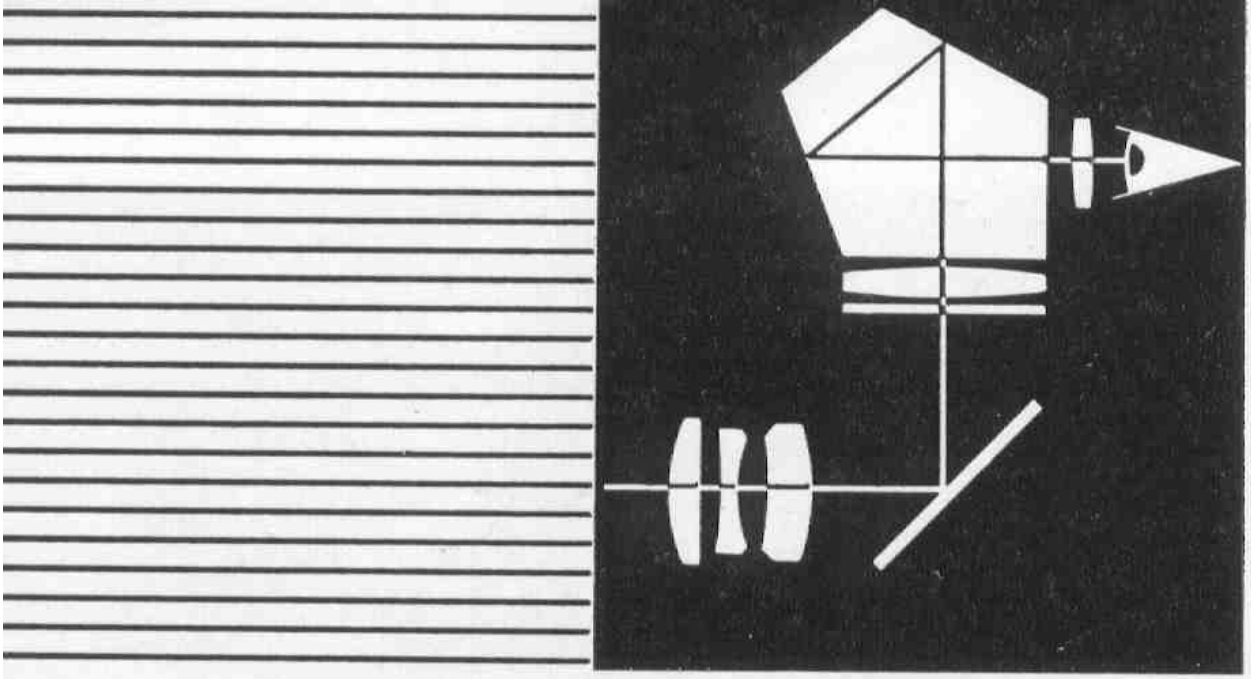


Fig. 10





finger (Fig. 9) or the first joint (Fig. 10). This method of releasing the shutter is specially recommended as being the least likely to cause camera shake. If, by any chance, the film wind knob (1) has not been wound to its fullest extent, meaning that the film has not been advanced by a full frame, the shutter cannot be released. This effectively prevents double exposures.



The finer points of the Contaflex IV

The viewfinder

The finder image is only visible after the film wind knob (1) has been turned to advance the film and tension the shutter. This operation simultaneously lets down the reflex mirror inside the camera; merely by glancing through the finder you can tell whether the camera is ready for action.

So long as you can see the large bright finder image, the lens aperture automatically remains fully open, permitting easy and accurate focusing. On pressing the release knob, the spring loaded diaphragm closes immediately to its preselected setting **before** the shutter opens to expose the film. The Contaflex is the first camera to utilize this ingenious systems.

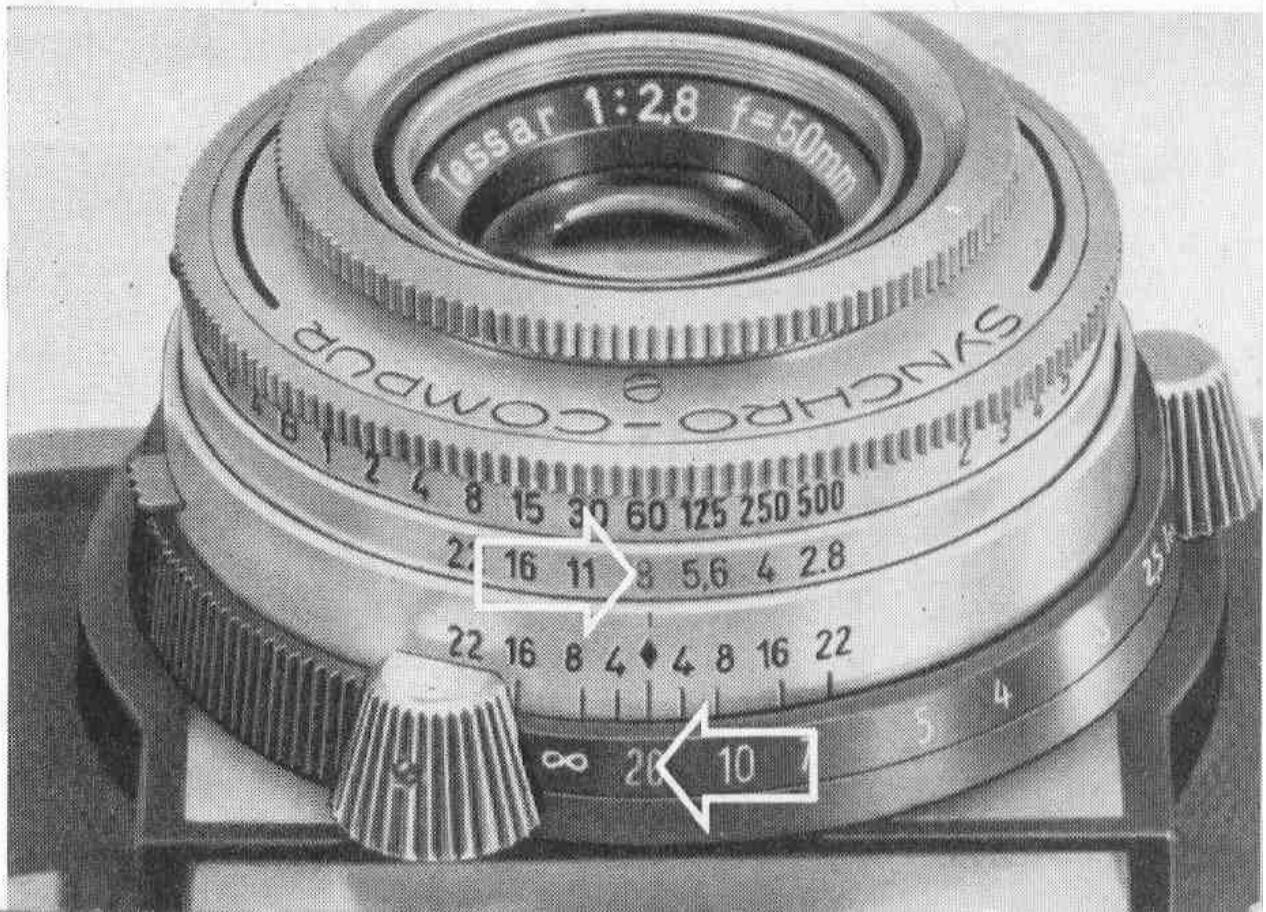
The finder image is completely free from parallax and always shows the exact field of view, even when using the Pro-Tessar for tele-or wide angle pictures or supplementary lenses for

close-ups. For rapid action shots you can easily follow the movement of your subject with the camera, since the image in the finder is seen at eye level, upright and the right way round. The black ring on the eyepiece mount (26) can be unscrewed for the insertion of correction lenses (Order No. 902) to compensate for defects of vision. Even if you normally wear spectacles you can frame and focus your pictures without the aid of glasses. When ordering, please quote your optician's prescription for distance glasses.

Snapshot Setting

So as to be ready for rapid action snapshots, first set the correct exposure value and then set the aperture to f/8 and the distance to 20 ft. (Fig. 11). For easier setting, both these figures are red. This combination results in everything between 10 ft. and ∞ being sharply recorded. Another useful way of dealing with moving

Fig. 11



subjects is as follows: if, for instance, you want to take a shot of children at play, set the aperture and exposure time and focus the lens at the most suitable distance. Now watch your subjects in the viewfinder and release the shutter when the two halves of the image in the range-finder field coincide, or when the image on the ground glass ring is sharp.

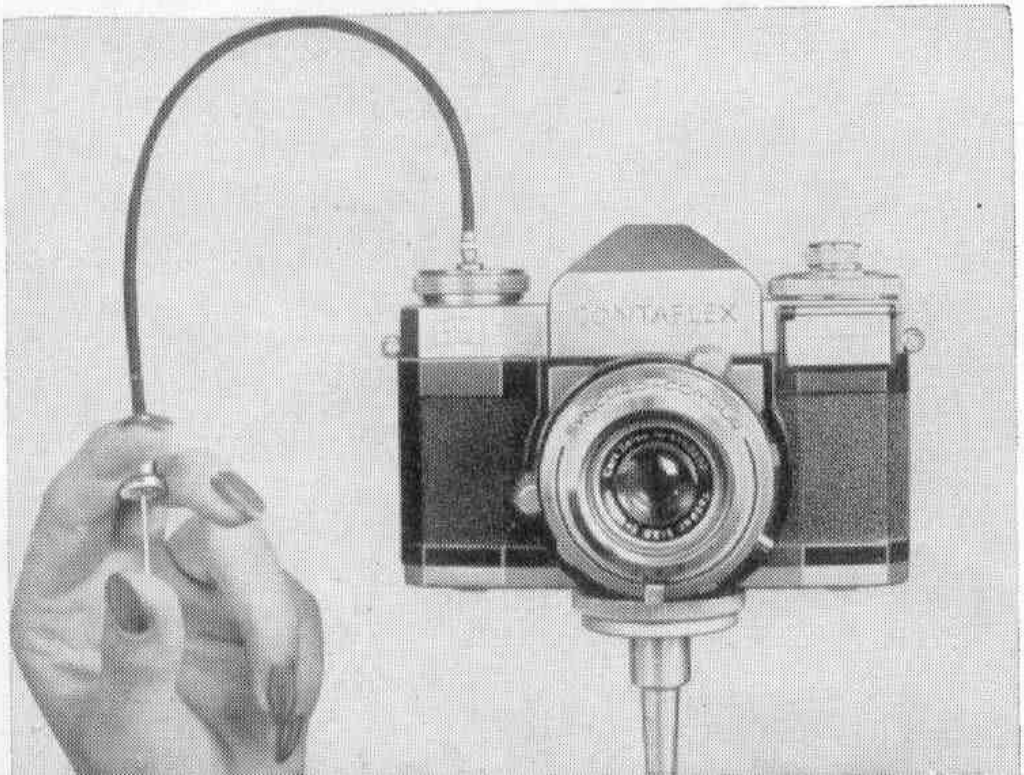
Tripod Exposures

The Contaflex IV can be mounted on a tripod (Fig. 12) by means of the tripod bush (25). A ball-and-socket head or similar tilting head will be required for upright photographs. To avoid camera shake, use a cable release (see page 41); this screws into the threaded socket in the release knob (3). Exposures requiring speeds slower than 1/30 second or time exposures should always been made from a tripod or similar solid support.

Flash and Delayed Action Shots

The fully-synchronized Synchro-Compur shutter can be used with any type of flash equipment.

Fig. 12



It is also provided with a built-in delayed-action release (self timer). The synchro-lever (12) can be set to three different positions; whenever you want to change its position, make sure to depress the lock (15) (Fig. 13).

At the "X" setting the shutter fires the flash automatically at the moment the shutter blades are fully open. Electronic flash tubes should only be fired on the "X" setting.

At the "M" setting the shutter opens after a very short delay, which corresponds to the delay-to-peak of most flashbulbs.

The correct settings ("X" or "M") for the various flashbulbs and flash capsules will be found in the makers' instructions and also in the table on page 26.

At the "V"setting the delayed-action release (or self-timer), is brought into operation. When the release knob (3) is depressed and then released, a retarding mechanism is set in motion which opens the shutter after about 8 seconds. Time exposures ("B" setting) cannot be made with the self-timer.

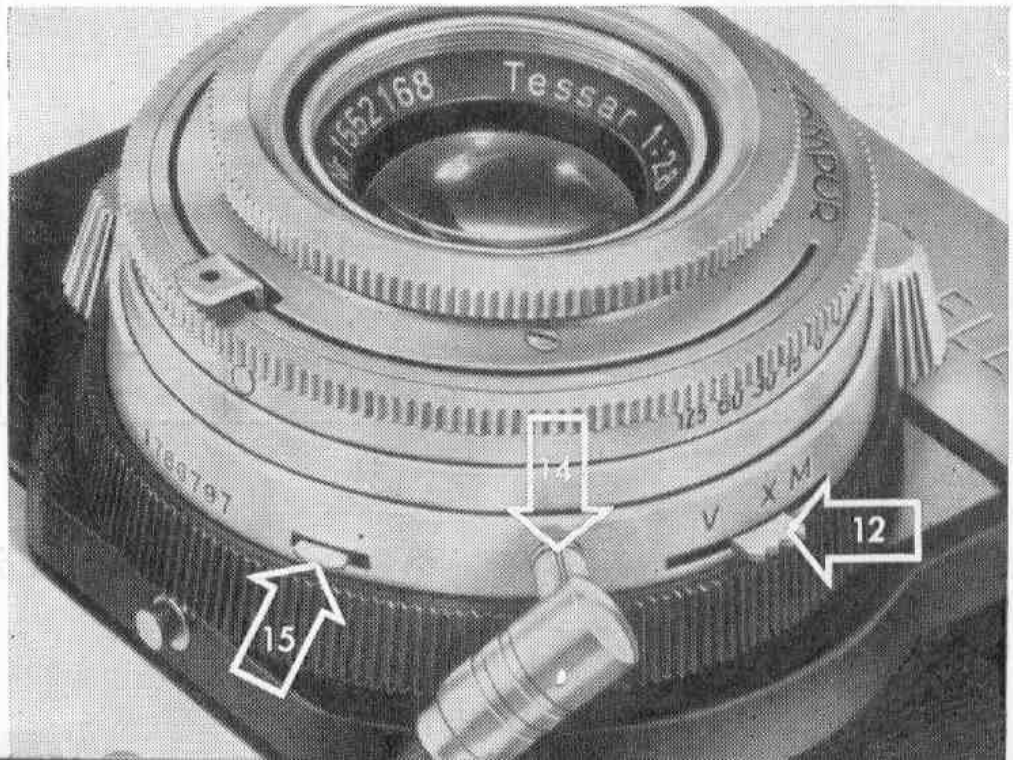
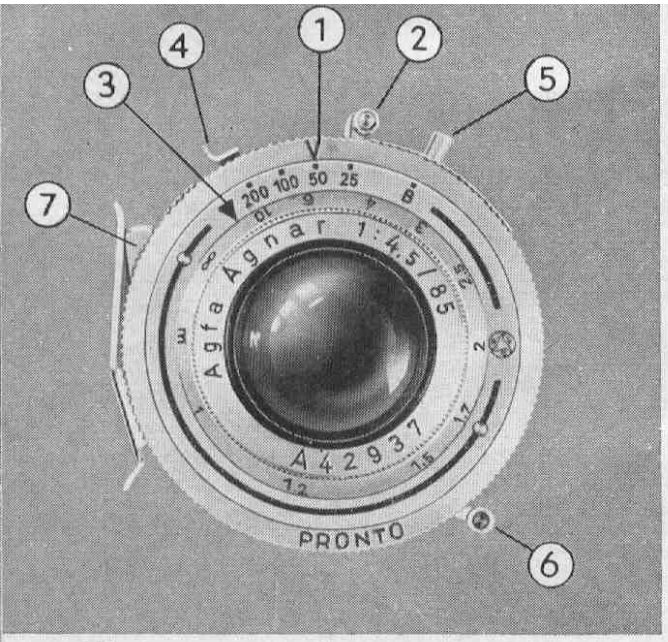


Fig. 13



⑥ Automatic shutter release.

Appr. 7 secs. delayed action.

1 Wind shutter.
2 Wind automatic shutter release lever.
3 Press shutter release button or cable release (not to be used with setting "B").

PRONTO

Exposure times: B 25 50 100 200 and automatic shutter release

Range (feet):	3	3.5	4	5	6	8	10	15	30	∞
Diaphragm Stops:	4.5		5.6		8		11		16	22

① Index for exposure time settings: rotate outer milled ring.

② Shutter winding lever: wind before each exposure, including at setting "B".

③ Index for range setting: rotate front lens mount.

④ Diaphragm lever.

⑤ Contact bush for flashlight, 3 mm. diameter.

⑦ Nipple for cable release. (Please note that the double exposure lock will be put out of action when using a cable release!)

The whole numbers on the shutter ring stand for fractions of seconds, e. g. 25 = $^1/_{25}$ sec., 50 = $^1/_{50}$ sec.

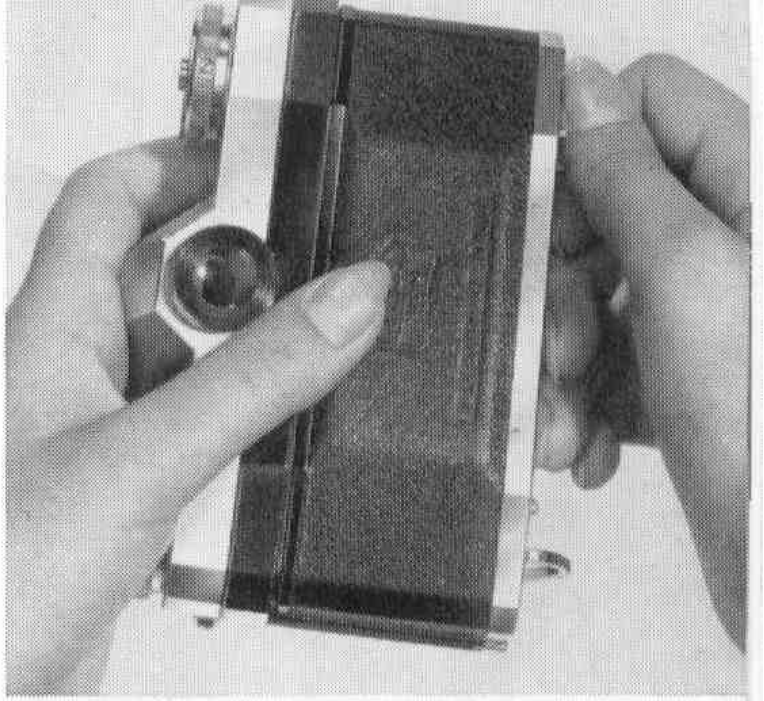
If a flash lamp (of any type) is connected to the shutter while the synchro-lever is set to "V", the delayed-action mechanism will run off normally and the flash will be fired as at the "X" setting. The synchro-lever (12) can be set to "V" only when the shutter is tensioned and after the lock (15) has been depressed. After exposure, the lever returns automatically to "X" and must, if necessary, be re-set to "V".

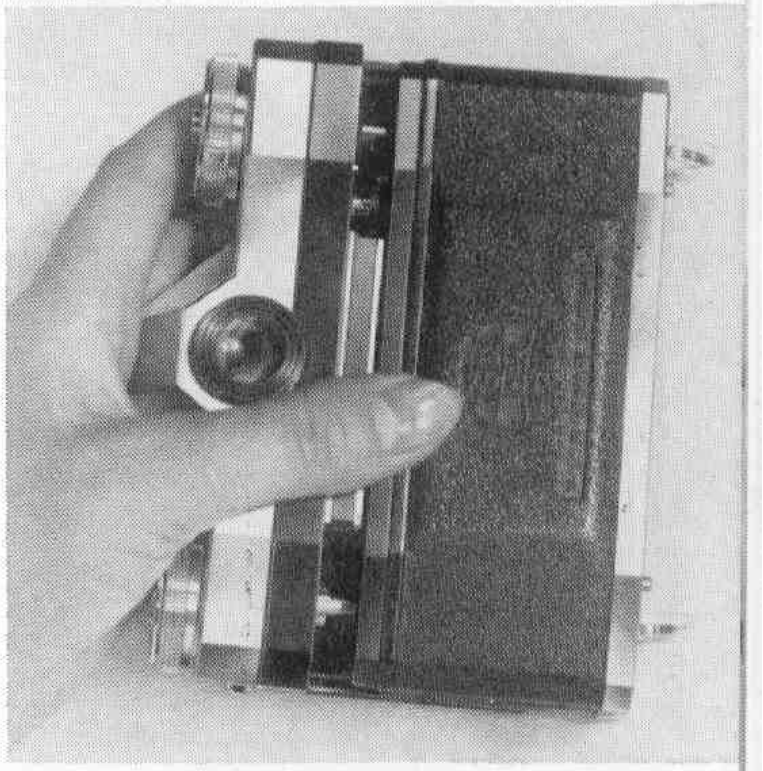
For flash exposures, connect the lead of the flash gun to the flash contact (14) and then insert the flashbulb (Fig. 13). When the release knob (3) is depressed, the flashbulb will be fired synchronously with the opening of the shutter.

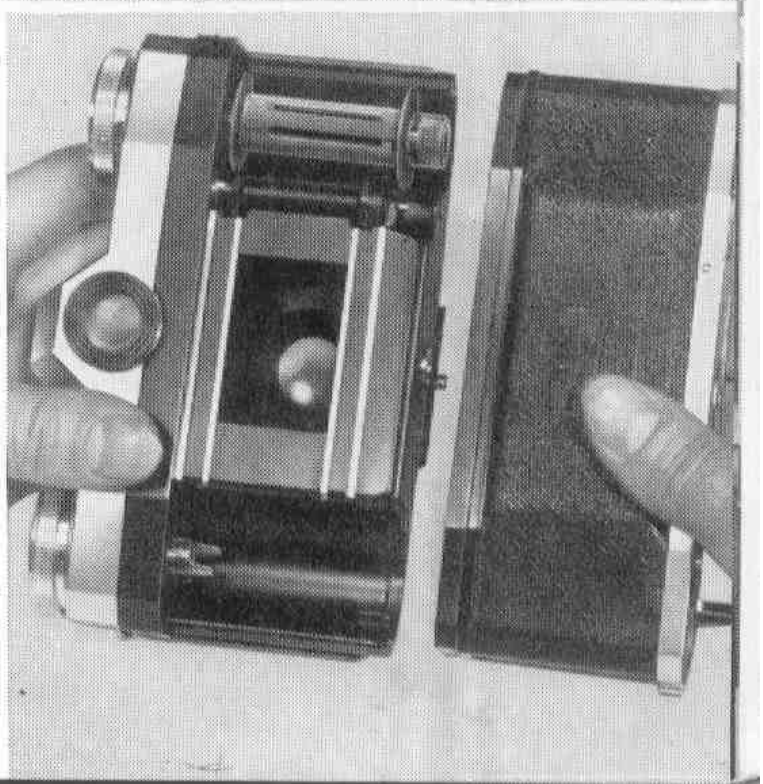
Flashbulb	Synchro-lever set to	
	X or V	M
Osram		
XM 1, S O	1—1/30	1/60—1/500
XM 1B, S OB	1—1/30	1/60—1/125
XP	1—1/60	—
XO	1—1/30	—
S 2	1—1/15	1/30—1/500
Philips		
Pf 1, Pf 3, Pf 14, Pf 25, Pf 60	1—1/30	1/60—1/500
Pf 100	1—1/15	1/30—1/60
General Electric		
No. 5, No. 11, No. 22	1—1/30	1/60—1/500
SM	1—1/125	—
No. 50	1—1/15	1/30—1/60
M 2	1—1/60	—
Sylvania		
Bantam 8, 0, 2, 25C, Press 40	1—1/30	1/60—1/500
Press 2B, 25, 25B, 40B	1—1/30	1/60—1/125
Press SF	1—1/125	—
Press 3, 3B	1—1/15	1/30—1/60
M 2	1—1/60	—
Electronic Flash Units	1—1/500	—

Loading and Removing the Film

Hold the Contaflex IV in your left hand with the lens pointing downwards, the viewfinder housing pressing against the palm of your hand and your thumb on the camera back (Fig. 14). Lift the locking keys (24) in the base of the Contaflex with your right hand and turn them in the appropriate direction. With your left thumb push the back of the camera downwards (Fig. 15) and lift it off with the right hand (Fig. 16).



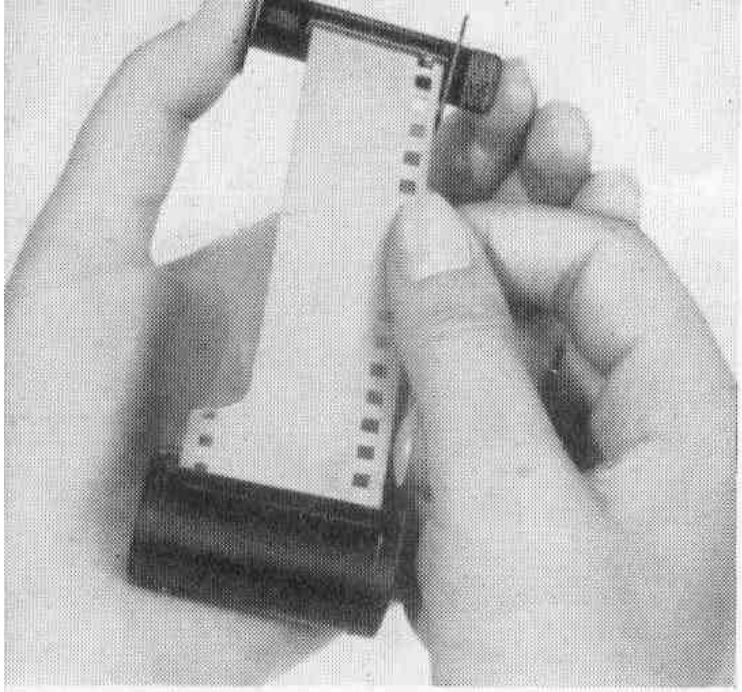


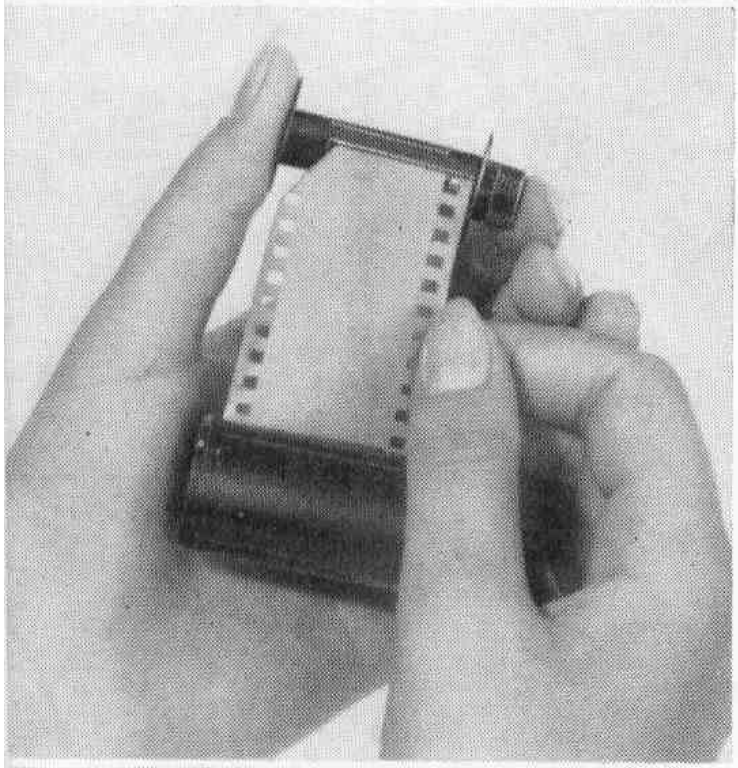


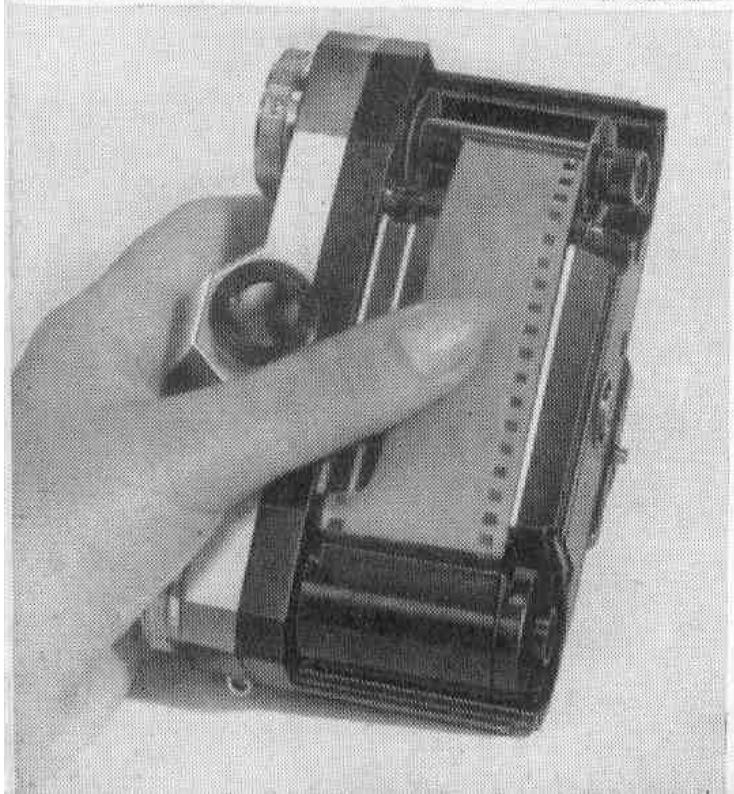
Loading the Camera

First secure the beginning of the film in the longer slot of

Fig. 14-16







the take-up spool by hooking it under the pointed lug, which will hold it in place (Fig. 17). When using cassettes loaded with bulk film, the end of the film must be cut to fit the slot (Fig. 18). Next, insert the film cartridge or cassette in the lower chamber so that the prongs engage the core of the cassette spool. Insert the take-up spool into the upper chamber (Fig. 19); now wind the film on to the take-up spool until the transport sprockets engage the perforations on **both sides** (Fig. 20).

Whilst holding the film in contact with the transport sprocket with the left thumb, so that the teeth remain engaged with the perforations,

Fig. 17-19

posure cartridges, the turns of film may partially unwind inside the cassette or cartridge; in this case the rewind knob will not rotate for the first few frames. If this happens, turn the rewind knob in the direction of the arrow until a distinct resistance is felt. This will show whether the film has been loaded correctly, and is also an indication of whether there is any film in the camera at all.

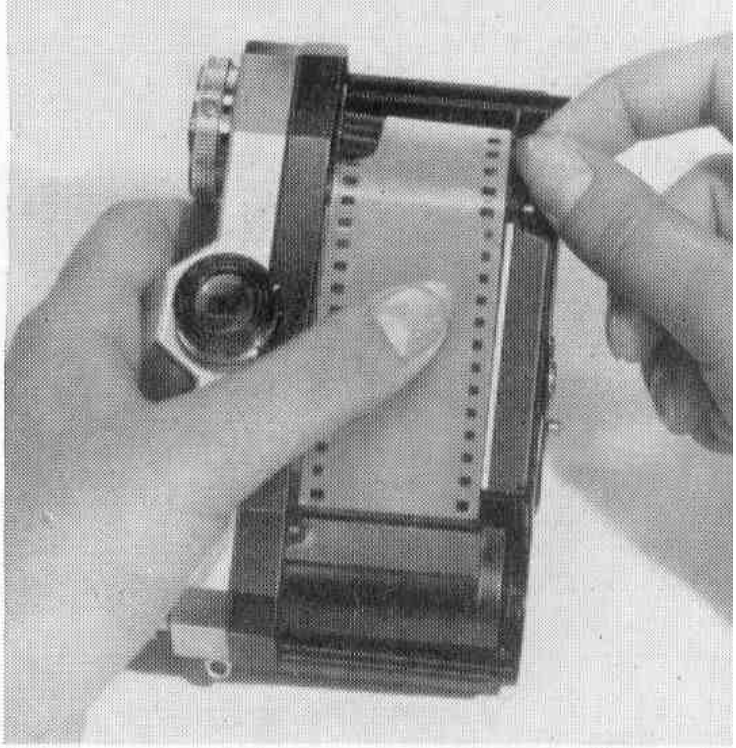
When the camera is loaded the frame counter disc (2) should be turned by its milled rim to "O" (Fig. 22). It does not matter in which direction the disc is turned. As soon as you have tensioned the shutter with the film wind knob (1), the Contaflex is ready for the first picture. The frame counter will automatically indicate "1".

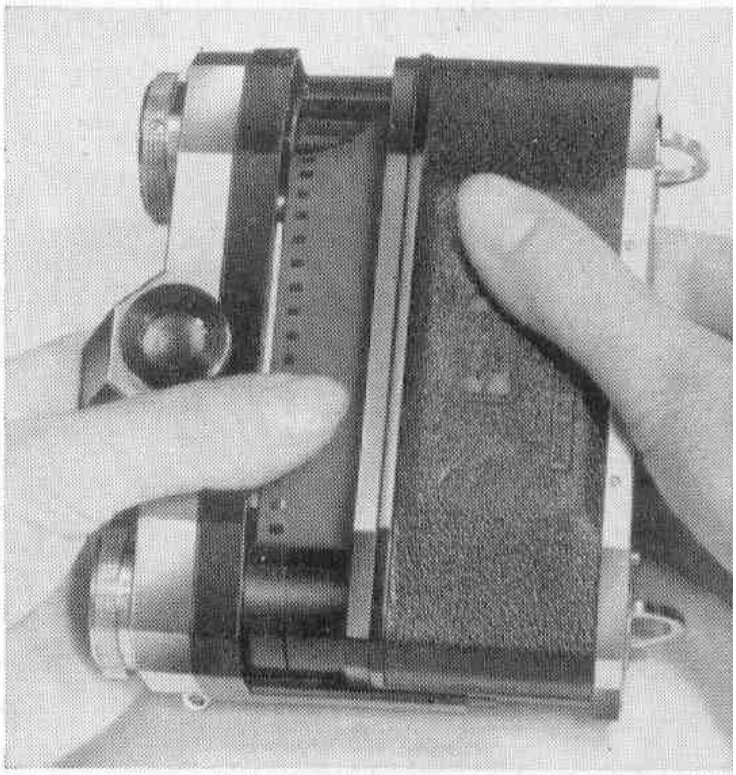
Cassettes

The Contaflex IV will take the same special cassettes as used in the Contax. You can work either from cassette to cassette or from the cassette to the take-up spool. The cassette consists of two shells and a centre spool. To open it, press the locking button, turn the inner and outer shell against each other until their slots coincide and then pull apart (Fig. 23).

Load the cassette with darkroom refills, daylight refills or bulk film. When working from cassette to cassette, the film must only be hooked on to the spool of the feed cassette (Fig. 18). When rewinding, thread the shaped end into the small

replace the camera back in its grooves (Fig. 21) and slide it up to close the camera completely. Turn the locking keys (24) in the base of the Contaflex IV and fold them flat. The keys can only be folded when the back is properly in position. Finally, tension and release the shutter twice so as to wind the fogged leader film on to the take-up spool and advance a length of unexposed film into position in the film gate. As the film is wound on, the rewind knob (7) should rotate in the opposite direction to the arrow; this indicates that the film is being advanced properly. When using short length of bulk film or 20-ex-





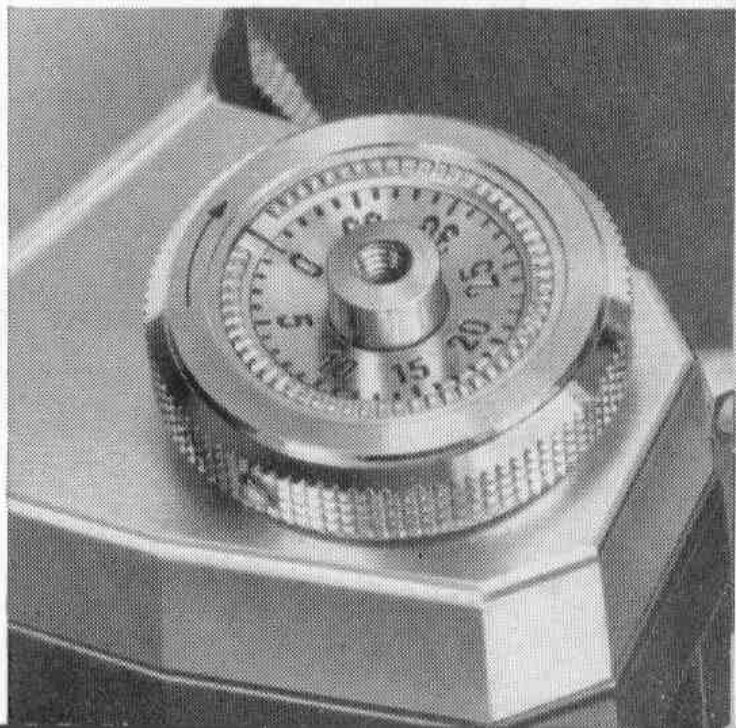
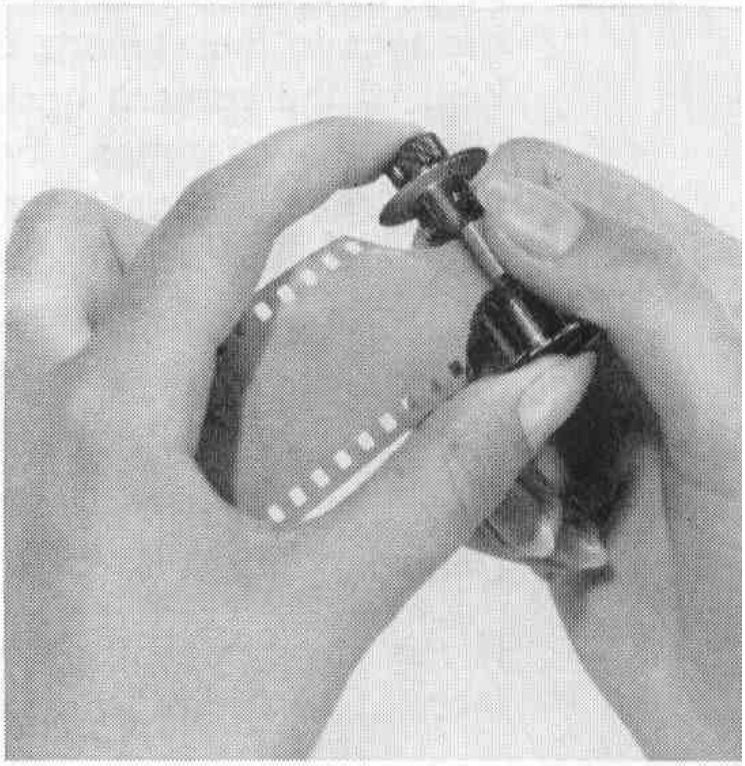


Fig. 20-22

slot of the spool so that it protrudes through the larger slot and secure the end by sticking it again into the smaller slot. Hold the film in this position with your thumb and start winding the film while pulling it tight (Fig. 24). Insert the full spool with its milled knob first into the inner shell ot the cassette and push the outer shell over it. The leader of the film should then protrude through the superimposed slots of the shells. Now turn the inner and outer shell against each other until they lock and the word **"zu"** appears. When working with two cassettes (Fig. 25), there is no need to rewind the film. Moreover, it can be





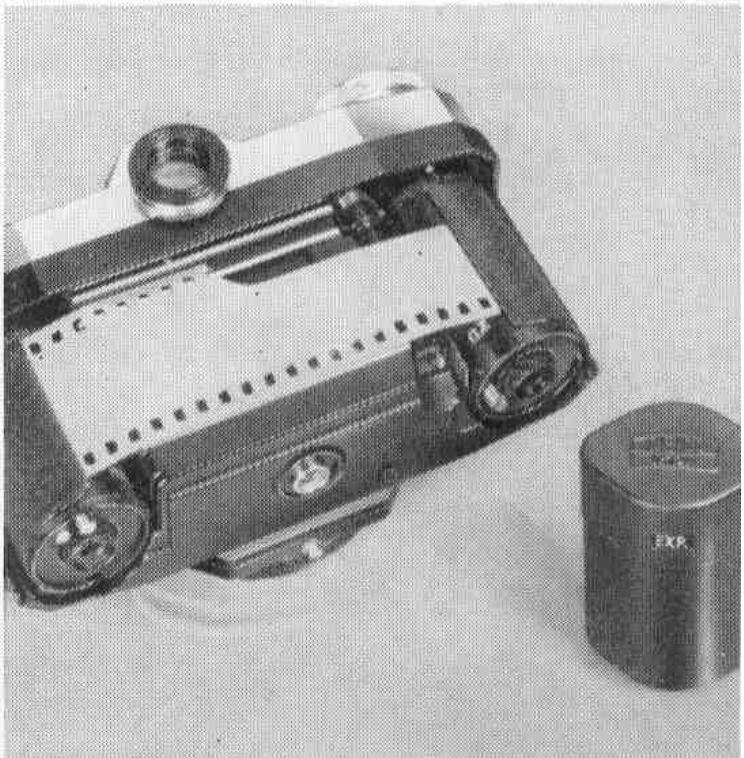


Fig. 23-25

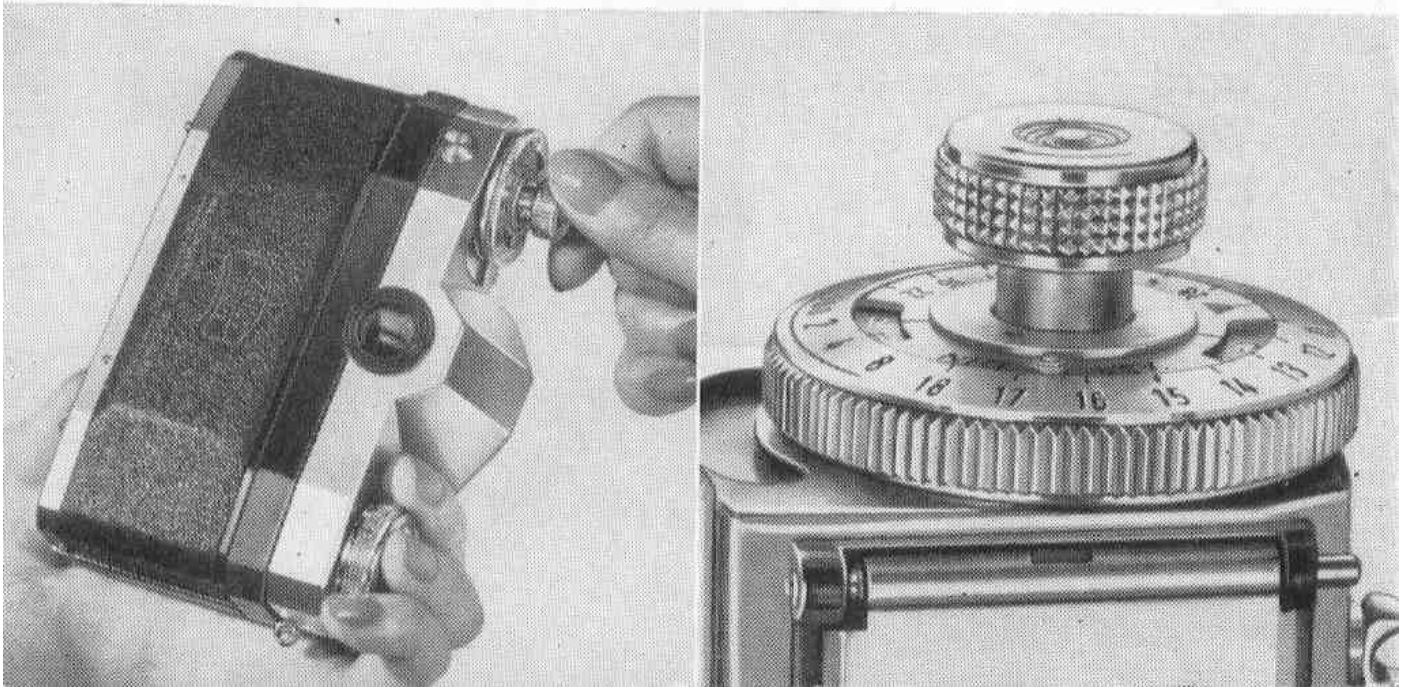
unloaded after any number of exposures, together with the take-up cassette, in broad daylight. But remember to advance and release the film three times before opening the camera. The two-cassette system is especially useful for changing over from black and white to colour film and vice versa.

When inserting the cassettes in the feed or take-up chambers, make sure that the locating pegs of the cassettes engage in the corresponding grooves in the camera body. Turning the locking keys of the camera back automatically opens or closes the cassettes. Every cassette is supplied in a special container, the lid of which has a small window. The lid can be fitted in two positions. When storing an exposed film in the container, fit the lid in such a way that the marking "Exp" is visible in the window.

Unloading

If the camera is loaded with a standard commercial cartridge, the film must be rewound be-

Fig. 26, 27



fore unloading. Depress the reversing button (23) at the base of the camera, and rewind the film into the feed cartridge by turning the rewind knob (7) in the direction of the arrow (Fig. 26). For more convenient manipulation the rewind knob can be pulled out partly (Fig. 27). When advancing the film from a cartridge to a cassette or from a cassette into a cassette, the film need not be rewound before unloading. Either of these two methods permits the film to be changed after any number of exposures and in broad daylight. However, it is necessary to tension and release the shutter three times after the last exposure in order to advance the last exposed frame safely into the take-up cassette. Then open the Contaflex as described on page 27, take out the standard or special cassette with the exposed film and make sure immediately that no dust or film particles are left inside the camera.

The Contaflex System

Exchanging the lens units

The scope of the Contaflex is greatly widened by exchanging the front element of the lens for tele- or wide-angle units. A stereo-attachment can also be used. For removing the front element, hold the Contaflex in your left hand (Fig. 28), and press the lock pawl (16) in the direction of the lens with your thumb. The milled front ring

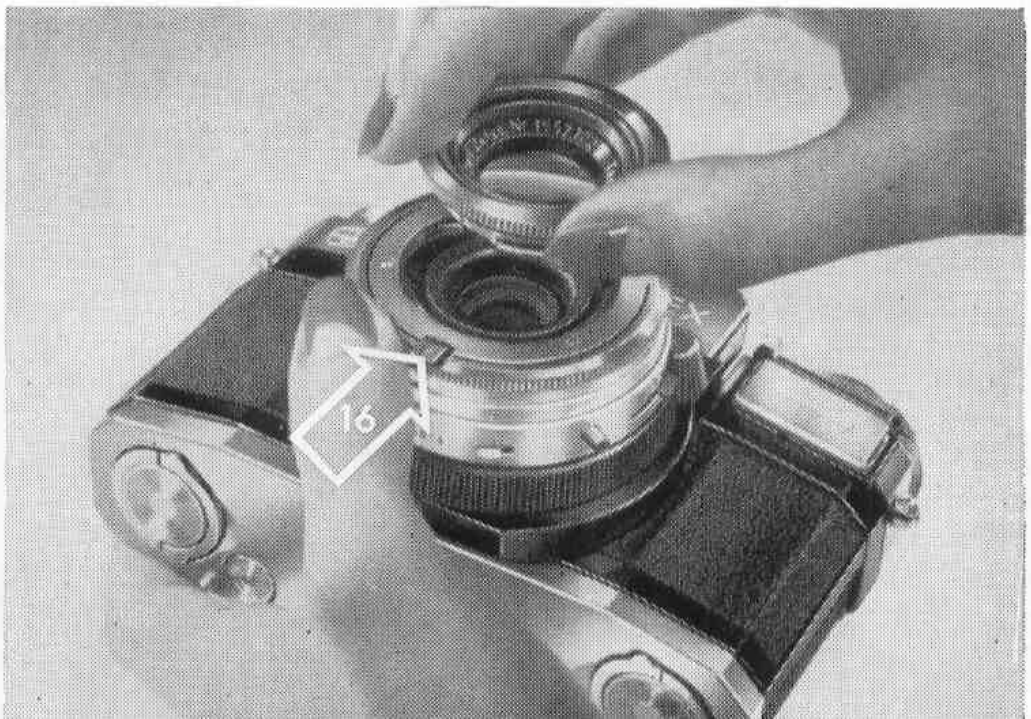
of the lens is then turned with the right hand until it comes to a stop; a slight resistance has to be overcome. Then lift the front element from its bayonet mount.

When re-inserted, the red dot of the lens unit in question must be opposite the red dot of the lock pawl. The component is pressed home with a right turn until an audible click indicates the correct position.

All lens units of the Contaflex IV are inserted in this way: red dot to red dot – right turn. But for removing, press lock pawl (16) and turn to left. In order to preserve the efficiency and high-quality performance of the valuable lenses, their surface should never be touched.

Since the taking lens is also the finder lens, the Contaflex is most suitable for taking photographs with various lenses. Regardless of the focal length of the lens in use, the viewfinder of the Contaflex will invariably show the absolutely parallax-free image field, whilst the distance

Fig. 28



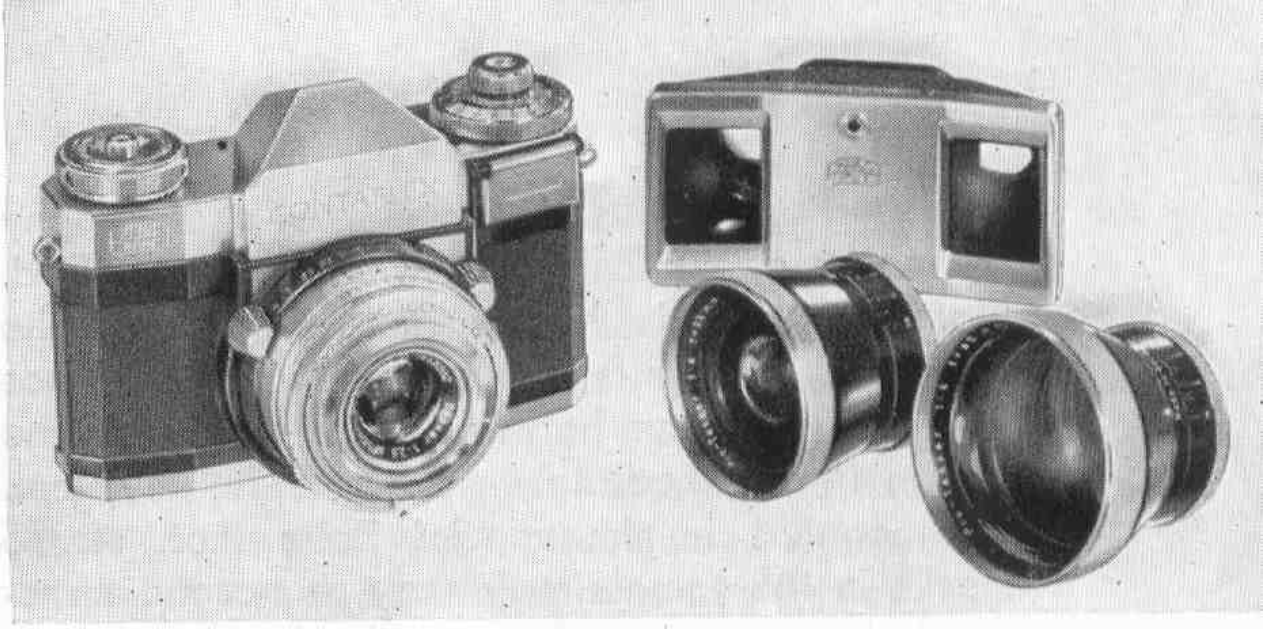


Fig. 29

is established in the usual way using either the split-image or the ground glass screen range-finder by moving the two focusing knobs (11) on the camera.
For the Contaflex IV the following interchangeable lens units are available:

The Pro-Tessar f/4, 35 mm for wide-angle photography. It enables a much wider field of view to be covered from short taking distances: an invaluable aid for interior and architectural shots. Snapshot technique benefits from the considerably deeper zone of sharp definition which results from the short focal length of this particular lens unit (Ord.No. 1003).

The Pro-Tessar f/4, 85 mm is a telephoto lens which, acting like a telescope,will permit you to record far-away subjects as large a though they were "within your reach". The main fields for employing a telephoto lens are landscapes, portraiture and the recording of all those rapid-action events which we normally have to watch from a distance (Ord.No. 1004).

USE OF SHUTTERS

Diaphragm setting:	3.5	4	(4.5)	5.6	8	11	16	22	
Range (feet):	3	3.5	4	5	6	8	10	15	30 Infinity
Exposure times:	B	1	2	5	10	25	50	100	300

The whole numbers on the shutter ring stand for fractions of seconds, e. g. 2 = 1/2 sec., 50 = 1/50 sec.

PRONTOR-SVS speed-synchronized

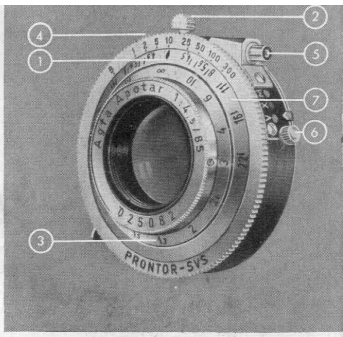
① Joint index mark for exposure time and range settings.
To set exposure time, turn outer milled ring until mark indicates the required exposure time.
To set the range, turn front lens mount 3 until index mark indicates the required distance.

② Shutter winding lever: before each exposure wind lever **until it is caught**—this also applies to "B".

③ Feet scale (see "1" range setting).

④ Diaphragm lever and scale.

⑤ Contact bush for flashlight 3 mm. diameter.



⑥ Synchro-lever for three settings: M, X, V.

Position M and X for flash synchronization (see chapter on Flash Technique, p. 21). When taking pictures without flashlight, these settings have no influence on shutter action.

Position V = automatic shutter release (delayed action release). When synchro-lever is set to V—which can be done before or after winding the shutter—the delayed action mechanism is wound for pictures with automatic shutter release; delay appr. 10 seconds. Position V permits also of taking delayed action pictures with flashlight (X synchronization only!). If set unintentionally on V, the synchro-lever can be removed from this position without actuating the delayed action mechanism. After each exposure made with delayed action release the synchro-lever has to be reset to X to avoid any undesired delay in shutter release when taking the next picture. The release knob is provided with a thread (2, p. 2) to take a cable release.

⑦ Depth-of-field scale (see pp. 18/20).

The Steritar-B is used for stereo photography by means of the Zeiss Ikon stereo system (Ord. No. 813). In this highly ineresting field, the Contaflex shows its enormous versatility. Since the two 16 x 23 mm half-images are in one frame of the film immediately side by side, they can be mounted in the special Zeiss Ikon stereo masks in the same simple way as normal transparencies and are then ready for immediate showing or viewing with the Ikolux projector with its stereo attachment or the Zeiss Ikon "O" stereo viewer respectively. The Ikolux can, of course, be used for the projection of normal transparencies.

Leather Cases

Camera ever-ready case: To guard against damage, the Contaflex IV should always be carried in its elegant ever-ready case. The camera is screwed to the case and need not be removed from its case for exposure. Moreover, the Contaflex, together with a screwed-in filter and the accessory shoe (see page 40), are easily accommodated in the case, the lid of which will also hold two filters (⌀ S 27 mm).

Pro-Tessar Case: an attractive leather carrying case is available for both the f/4, 35 mm and the f/4, 85 mm Pro-Tessars. There is also space for a special "insertion set" (Ord.No. 798/01) holding the front element of the removed standard Tessar f/2.8, 50 mm, the appropriate Proxar lens and the lenshood (⌀ A 28.5 mm). Two filters

for the Pro-Tessars can be slipped into the pockets in the lid.

Leather Cases for Stereo: The Steritar-B and a separator will fit neatly into this leather case.

Carrying Strap: To enable you to carry the Contaflex without the ever-ready case, a carrying strap is also available. This is fitted with safety hooks to hook into the eyelets on the camera (9). A safety catch prevents unintentional opening of the hooks.

Filter

Zeiss Ikon precision filters are available in the following colours: yellow, yellow-green, orange, red, Ikolor-A and B and UV filters, all of which will be of great assistance when special pictorial effects are wanted. They are screw-in filters with a diameter of 27 mm for the Tessar f/2.8, 50 mm and the Steritar-B, 49 mm for Pro-Tessar f/4, 35 mm and 60 mm for the Pro-Tessar f/4, 85 mm. Owners of both Tessars can be supplied with an additional intermediate ring (Ord. No. 1527) which fits the Pro-Tessar f/4, 35 mm, so that the ⌀ S 60 mm filter can also be used.

The use of filters makes it necessary to prolong the exposure time by the filter factor, which is engraved on the mount of all Zeiss Ikon precision filters.

Polarizing Filter Contapol

The Contapol polarizing filter, screwed into the f/2.8, 50 mm Tessar lens mount, eliminates dis-

turbing reflections from shiny and reflecting surfaces of non-metal objects. You can observe the effect of the polarizing filter in the finder. An A 28.5 mm diameter lenshood or supplementary lens (or both together) can be mounted on top of the Contapol. For further details see the full instructions enclosed with the polarizing filter.

Supplementary Close-up Lenses (Zeiss Proxars)

The f/2.8 50 mm Tessar lens of the Contaflex can be focused down to 39 inches. For subjects at shorter distances, coated Zeiss Proxar supplementary lenses should be slipped over the mount of the camera lens (diam. 28.5 mm). The finder will still show the correct field of view without any parallax error, and the Contaflex can be focused in the same way as described on page 15. Four Proxar lenses are available: focal length = 39 1/2 ins. (100 cm) for distances down to 18 1/2 ins.; 19 3/4 ins. (50) for subjects down to 11 3/4 ins.; 11 3/4 ins. (30 cm) for subjects down to 9 1/2 ins.; 8 ins. (20 cm) for subjects down to 6 3/8 ins. The table on page 39 gives details of subject distances, the scales of reproduction obtainable and the fields covered.

The distances should be measured from the front rim of the supplementary lens mount to the subject. An aperture of f/8 usually provides sufficient depth of field.

Table for using Zeiss Proxar Supplementary Lenses

	Lens set to	Subject Distance	Reduction 1 :	Field size
Proxar lens f = 1m	∞	4′1/2″	19.0	1′5 1/4″ × 2′2 1/4″
	20′	3′4″	16.2	1′2 3/4″ × 1′10 1/4″
	10′	2′11 1/2″	14.1	1′3/4″ × 1′7 1/2″
	7′	2′8″	12.7	11 1/2″ × 1′5 1/2″
	5′	2′4″	11.4	10 1/4″ × 1′3 1/2″
	4′	2′1 1/2″	9.9	9″ × 1′1 3/4″
	3′	1′10″	8.4	7 1/2″ × 11 1/2″
	2.5′	1′7 1/2″	7.5	6 3/4″ × 10 1/4″
Proxar lens f = 0.5 m	∞	1′8 1/4″	9.8	8 3/4″ × 1′1 1/2″
	20′	1′6 5/8″	9.0	8 1/4″ × 1′1/2″
	10′	1′5 1/4″	8.2	7 1/2″ × 11 1/4″
	7′	1′4 1/4″	7.7	7″ × 10 1/2″
	5′	1′3″	7.3	6 1/2″ × 10″
	4′	1′2″	6.6	6″ × 9″
	3′	1′5/8″	5.8	5 1/4″ × 8″
	2.5′	11 5/8″	5.4	4 3/4″ × 7 1/2″
Proxar lens f = 0.3 m	∞	1′1 3/8″	6.4	5 3/4″ × 8 3/4″
	20′	1′5/8″	6.0	5 1/2″ × 8 1/4″
	10′	1′1/8″	5.7	5 1/8″ × 7 7/8″
	7′	11 1/2″	5.4	4 7/8″ × 7 1/2″
	5′	10 7/8″	5.2	4 3/4″ × 7 1/8″
	4′	10 3/8″	4.8	4 1/4″ × 6 5/8″
	3′	9 5/8″	4.4	4″ × 6″
	2.5′	9″	4.1	3 3/4″ × 5 5/8″
Proxar lens f = 0.2 m	∞	8 1/8″	3.9	3 1/2″ × 5 3/8″
	20′	7 7/8″	3.8	3 3/8″ × 5 1/4″
	10′	7 5/8″	3.6	3 1/4″ × 5″
	7′	7 1/2″	3.5	3 1/8″ × 4 7/8″
	5′	7 1/8″	3.4	3″ × 4 5/8″
	4′	6 7/8″	3.2	2 7/8″ × 4 3/8″
	3′	6 5/8″	3.0	2 3/4″ × 4 1/8″
	2.5′	6 1/4″	2.9	2 5/8″ × 4″

The field size is calculated for a useful image area of 23 x 35 mm

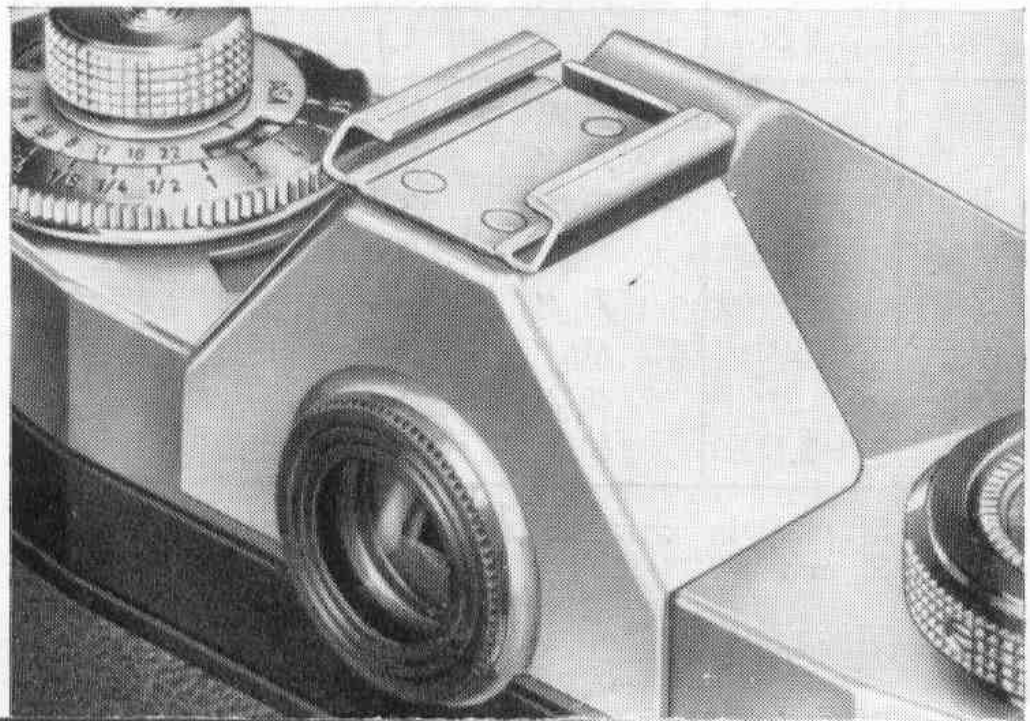
Lenshood

This prevents flares and fog in against-the-light shots. In bad weather it also protects the lens against rain and snow. The Zeiss Ikon lenshood can also be mounted on top of filters or Proxar lenses. For the Tessar f/8, 50 mm, use a lenshood with slip-on mount, ⌀ A 28.5 mm; for the Pro-Tessar f/4, 85 mm, use the screw-in type, ⌀ S 60 mm. No lenshood is required with the wide-angle Pro-Tessar f/4, 35 mm.
A smart leather case is available in which to carry your lenshood. There is also a combination leather case for the ⌀ 28.5 mm lenshood and three ⌀ 27 mm colour filters.

Accessory Shoe

An accessory shoe can be fixed to the Contaflex IV for mounting various accessories on the camera. Unscrew the black mount on the viewfinder eyepiece (26), place the accessory shoe over the eyepiece opening and screw the black mount back again to hold the shoe in place (Fig. 30).

Fig. 30



Cable Release

At slow shutter speeds and for time exposures a cable release is advisable (see Fig. 12 on page 24). This screws into the threaded socket in the release knob (3). The Zeiss Ikon cable release is fitted with a lock to keep the shutter open for long time exposures with the shutter set to "B".

Copying and Photomicrography

A special tripod head is available for using the Contaflex IV with either the Table Copying Unit or the Contax copying outfits. Two extension tubes are required to connect the camera to a microscope. To make focusing easier, a right-angle viewing telescope can be screwed over the viewfinder eyepiece.



Fig. 31

Using Flash

The Zeiss Ikon capacitor flashguns, folding Ikoblitz (Fig. 31) and Ikoblitz O, can both be attached to the accessory shoe of the Contaflex IV. Both flashguns are remarkably effective in use. The reflector of the folding Ikoblitz is collapsible when not in use; the entire outfit is then no larger than a normal soap box.

Controls of the Contaflex IV

14 Flash contact

15 Lock for flash synchro-lever

16 Lock pawl for changing lens units

17 Exposure value control knob

18 Aperture and shutter speed setting ring

19 Exposure value scale

20 Shutter speed scale

21 Aperture scale

22 Depth-of-field scale

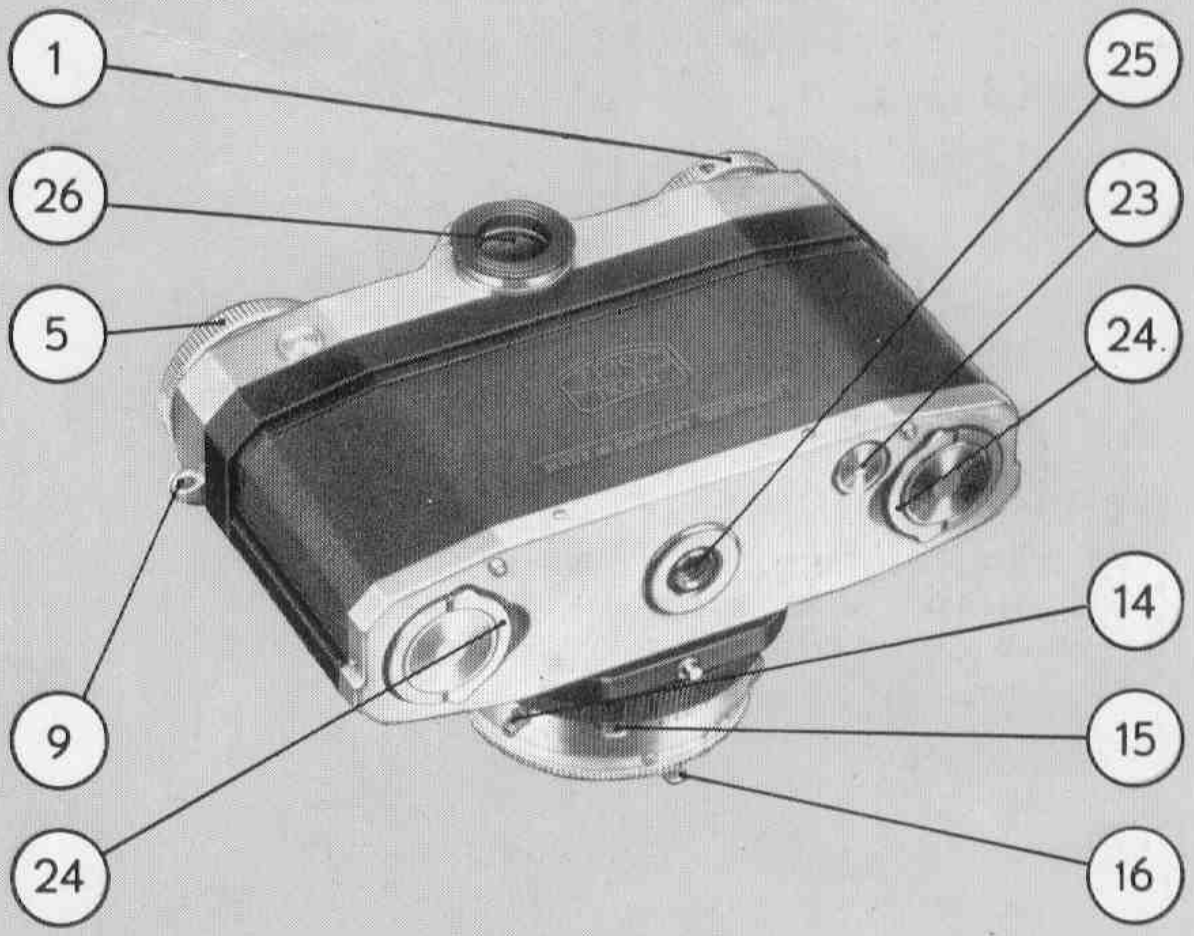
23 Reversing button for rewinding

24 Locking keys for camera back

25 Tripod bush

26 Viewfinder eyepiece

The numbers refer partly to the illustration inside the front cover.



Care of the Contaflex

From time to time, the film track, the film chambers and the back of the Contaflex should be carefully cleaned with a soft brush. **Do not force up the capping plate, as this might damage the mechanism.** Gently wipe the lens with a soft, well-washed piece of linen (but not leather!), after removing any dust with a soft brush. The lens should only be cleaned when really necessary. Polish the chromium plated external fittings occasionally with a soft linen rag. Carefully brush the exposure meter window to remove any dust or grit.

Serial Numbers

There is a serial number on the back of every Contaflex camera, and also on the mount of the standard Zeiss Tessar lens. You are advised to make a careful note of both these numbers, as they may be of great help in establishing ownership in cases of loss or theft.

Further technical developments may involve slight changes in the design and construction of the camera as compared with these instructions.

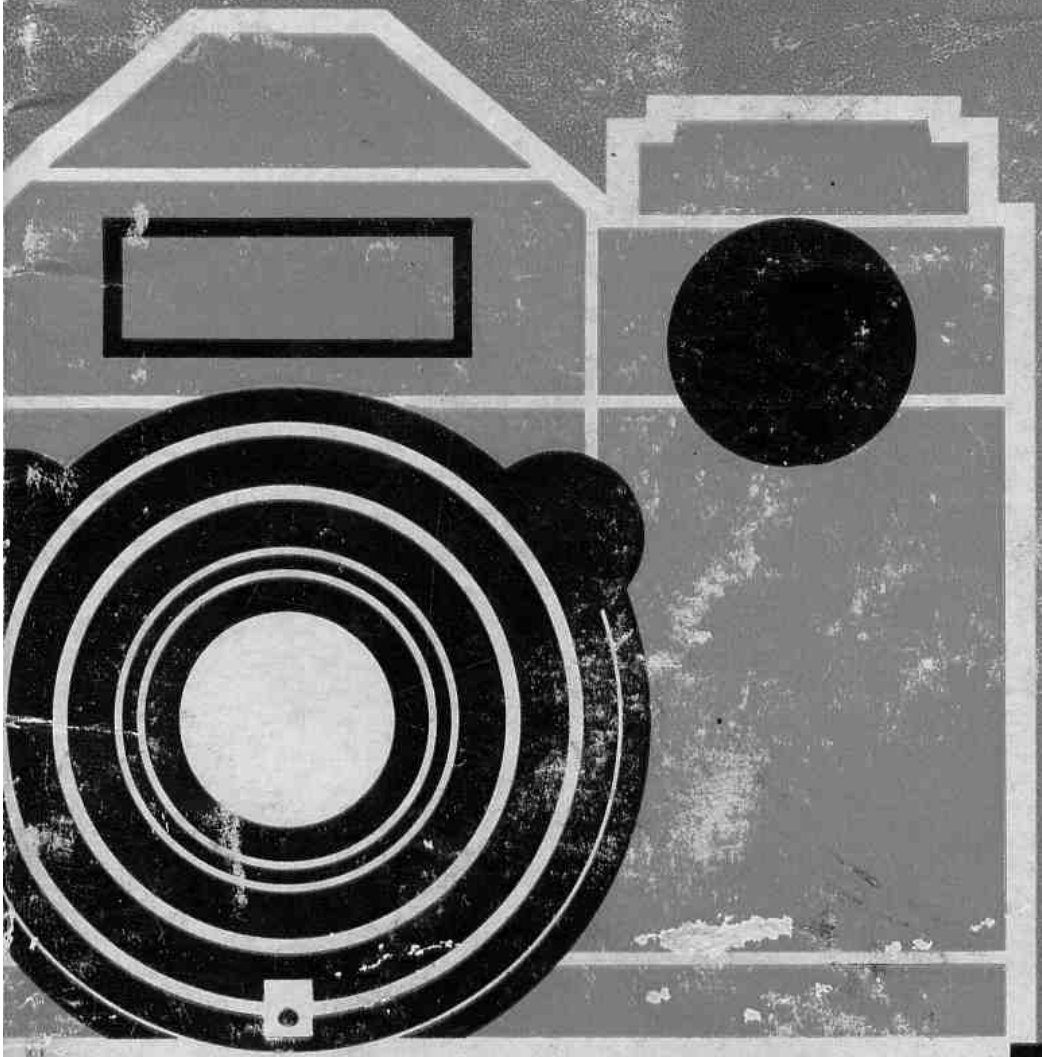
ZEISS IKON

ZEISS IKON AG. STUTTGART

englisch 319/864/24

Printed in Germany
Author: L. Kraatz 20 /857-2

Contaflex *super*



Instruction Book

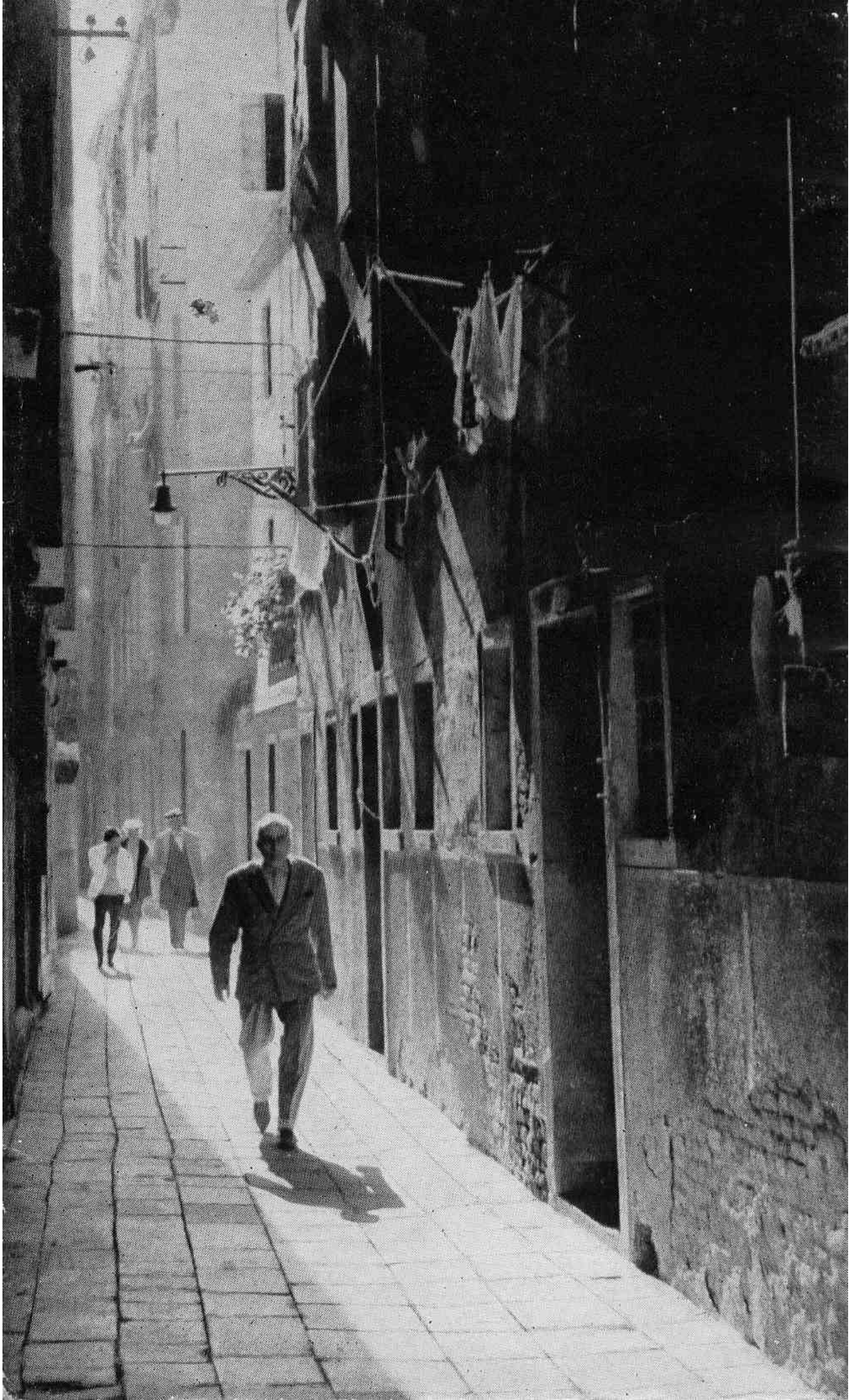
ZEISS IKON

Double exposure lock. Incorporated in the Isolette is an ingenious device preventing inadvertent double exposure of a piece of film. After each exposure the release button is automatically locked—a red mark next to the release button indicates this—and can only be actuated after the film has been wound on. *The film should therefore only be wound on immediately before the next exposure.* (See hint on p. 22.)

SHUTTER- AND DIAPHRAGM SETTINGS

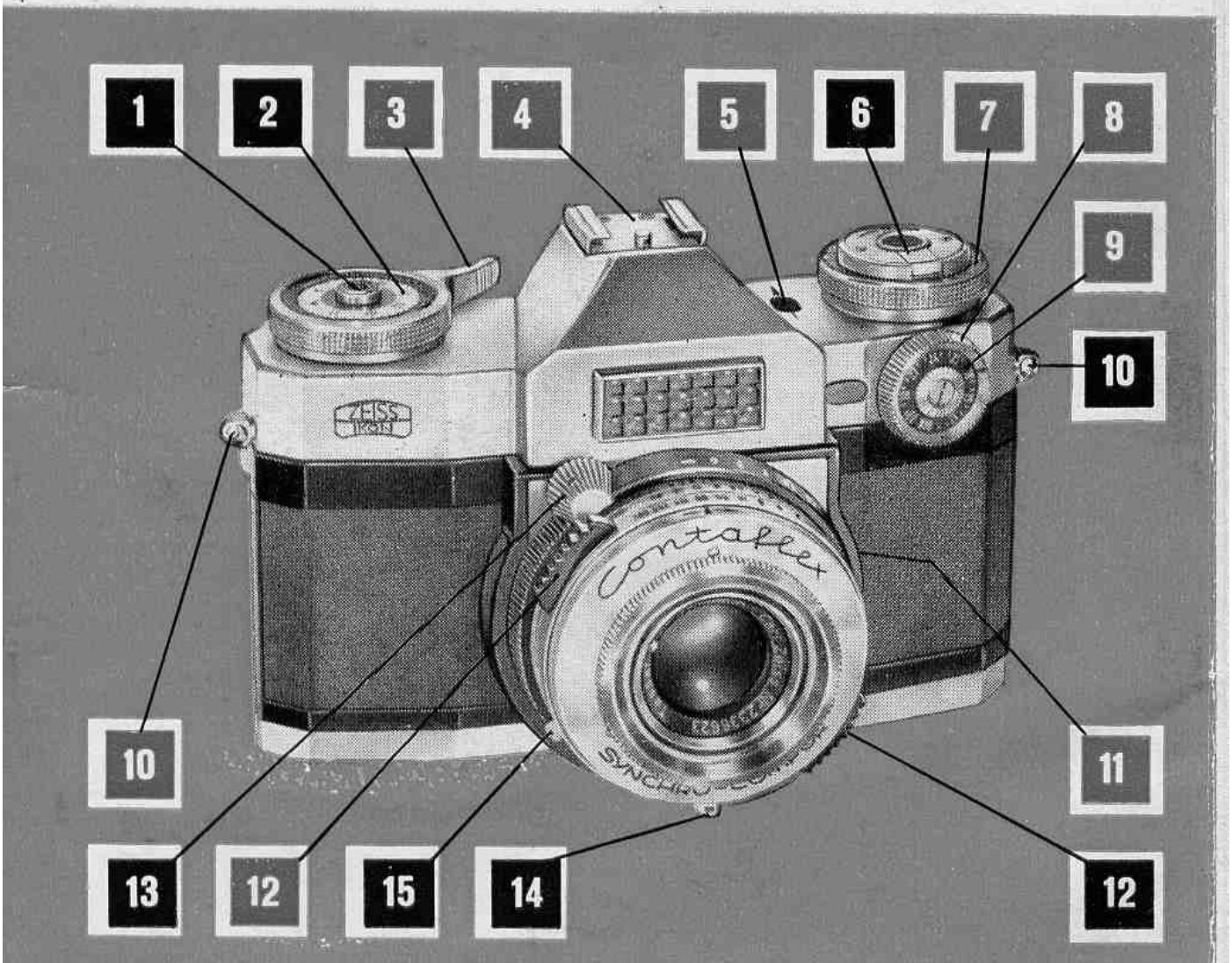
Shutter and diaphragm are adjusted to the values found with the exposuremeter or by experience (see illustration p. 17). Both scales are operated comfortably from above with the camera in the "ready"-position. Rotate shutter ring and set the required speed opposite the black mark. Set diaphragm lever on required stop number on the scale. Do not wind shutter until you are about to expose; cock lever 2 (pp. 13/14).

Depth-of-field. It is essential that the serious amateur should make himself familiar with the conception of „depth-of-field". This is the zone of sharp definition in front of and behind the point focused upon. At short distances, this zone of sharp definition is less than at long distances.



Controls and components of the CONTAFLEX super

1. Release knob
2. Frame counter
3. Rapid wind lever
4. Accessory shoe
5. Window of exposure meter pointer
6. Rewind knob with countersunk crank
7. Film type indicator
8. Light selector disc
9. Film speed setting
10. Eyelets for carrying strap
11. Flash contact
12. Shutter speed setting knob
13. Focusing knob
14. Locking pawl for front element of lens
15. Lock for flash lever



The Contaflex super

made by ZEISS IKON AG. Stuttgart is a single lens miniature reflex camera for the popular 24x36 mm miniature format. Behind this achievement lie years of experience in the manufacture of precision cameras. The CONTAFLEX super was originally designed for the advanced amateur, but its amazing versatility has rapidly made it indispensable for professional, scientific and technical photographers. It is impossible to list all the photographic tasks to which the CONTAFLEX super can be applied.

This booklet is compiled to give you a complete survey of all the features of the CONTAFLEX super, particularly the built-in and coupled measuring instruments, and to explain its operation so as to make you familiar with the camera as

quickly as possible. Further, we want to show you how to use this precision camera to obtain pictures which will give you lasting pleasure and make you cherish your CONTAFLEX super for years.

Even under awkward conditions the CONTAFLEX super will provide you with good pictures. For this purpose the CONTAFLEX super has been used as a basis of a real CONTAFLEX-System, with a large range of useful accessories.

Before reading further, turn out the inner leaves of the cover for further reference and practise operating the various controls and levers before loading the camera. Play around a while with your CONTAFLEX super, take imaginary pictures without a film and get generally familiar with your beautiful camera. You'll soon have the necessary knack of operating it properly.
If you are in doubt, do not hesitate to ask your photo-dealer for advice.

The picture on page 2 was taken with the CONTAFLEX on 17° DIN film, f 4, 1/125 sec.

The technical data of the CONTAFLEX super

Type of camera: Single-lens miniature reflex camera.

Format: 24 x 36 mm, Cartridges or cassettes for 20 and 36 exposures can be used.

Film advance: Rapid lever wind, opens diaphragm, tensions the shutter and advances the film. Double exposures and blanks excluded.

Shutter: Synchro-Compur, dustproof when changing lenses, shutter speeds "B", 1–1/500 sec. "X" and "M" synchronised flash contact. Built-in delayed action device running for 8 seconds. Spring-loaded pre-selector diaphragm.

Lens: ZEISS TESSAR f/2.8, 50 mm as standard lens. Front element interchangeable for:
PRO-TESSAR f/4, 85 mm (tele lens).
PRO-TESSAR f/4, 35 mm (wide-angle lens).
PRO-TESSAR M 1:1
ZEISS Prism Monocular 8 x 30 B (as camera attachment equivalent to f/14, 400 mm tele-lens).

STERITAR-B stereo-attachment for distances from infinity to 8 feet.
Close-up STERITAR-B for distances from 8 feet to 26 ins.

Automatic exposure control: Coupled to the shutter. Compensated for temperature variations. Indication according to zero-method, visible on the camera body or in the viewfinder.

Rangefinder: Two different indicators: split-image rangefinder and fine screen ring.

Viewfinder: Reflected image through the taking lens completely free from parallax no matter which lens is used. Upright and laterally correct image of almost natural size by means of a mirror and a pentaprism. Fresnel lens makes the image bright and sharp right up to the edges.

General features: Frame counter – film type indicator – filter corrector – accessory shoe – semi-automatic film unlocking for rewinding – rewind knob with countersunk crank – ZEISS PROXAR lenses for close-ups down to $3^1/_2$ ins.

The special features of the CONTAFLEX super

These special features are its built-in and coupled light and distance measuring instruments. By coupling this measuring equipment to the lens and the shutter the operation of the camera has been automized in a very high degree. Once the distance is measured, the lens is correctly focused on the subject no matter which lens is used.

The light selector disc of the automatic exposure control is then operated with one finger which causes a pointer inside the viewfinder to coincide with a definite mark. Once this is done the shutter is set automatically. The only thing to do is to select the aperture/shutter speed pairing most suitable for the subject to be photographed. The exposure meter, by the way, is the result of twenty years of experience in making exposure meters. The first camera ever to incorporate a built-in exposure meter was a ZEISS IKON camera!

The spring loaded pre-selector diaphragm keeps the iris diaphragm always at full aperture for sighting, no matter which aperture it is set to for taking. The moment the release knob is depressed, the iris automatically springs to the stop chosen beforehand. This feature ensures a bright finder image even under poor lighting conditions.

When you have made the acquaintance of the whole CONTAFLEX system, you'll be delighted by the large bright viewfinder image, which is always free from parallax no matter which interchangeable converter lens you use or how close you approach your subject.

Loading and unloading the camera

Opening

The CONTAFLEX super should be held in the left hand, with the lens pointing downwards as shown in fig. 1. The locking keys (17 and 20) at the bot-

tom of the camera should be folded outwards with the right hand and turned to the right or to the left respectively. Now the back is unlocked.

Fig. 1



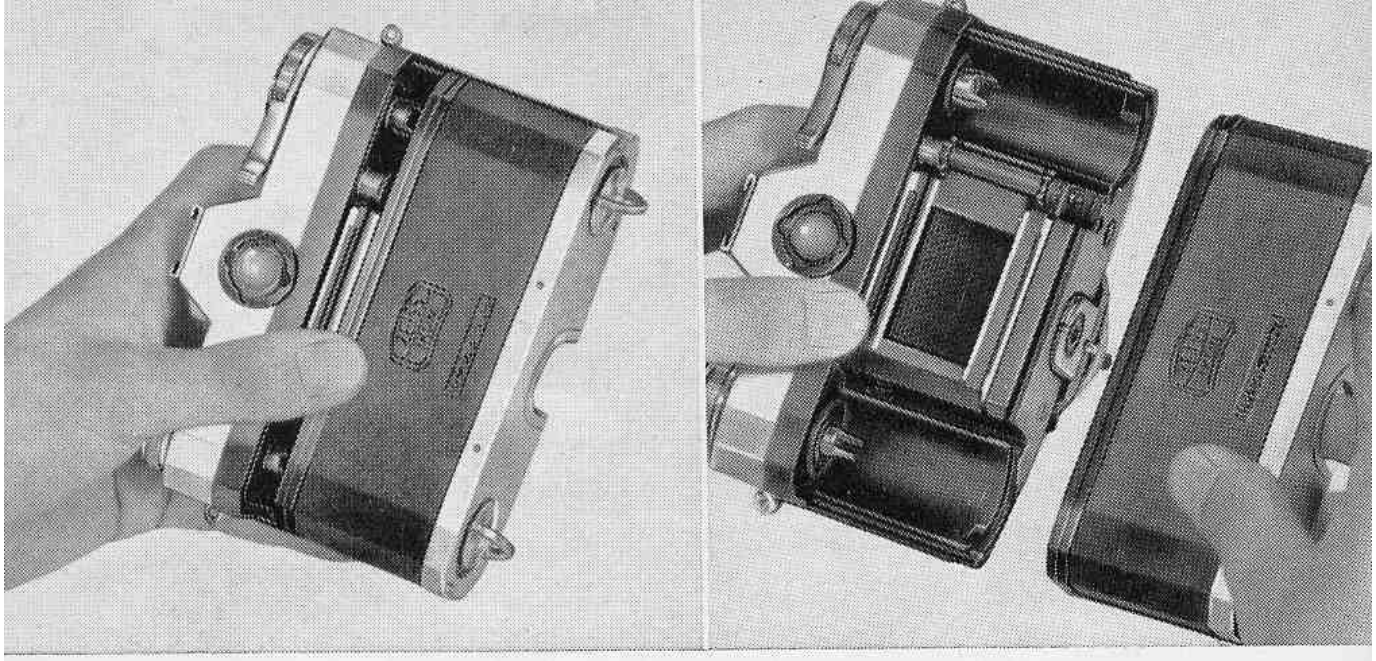
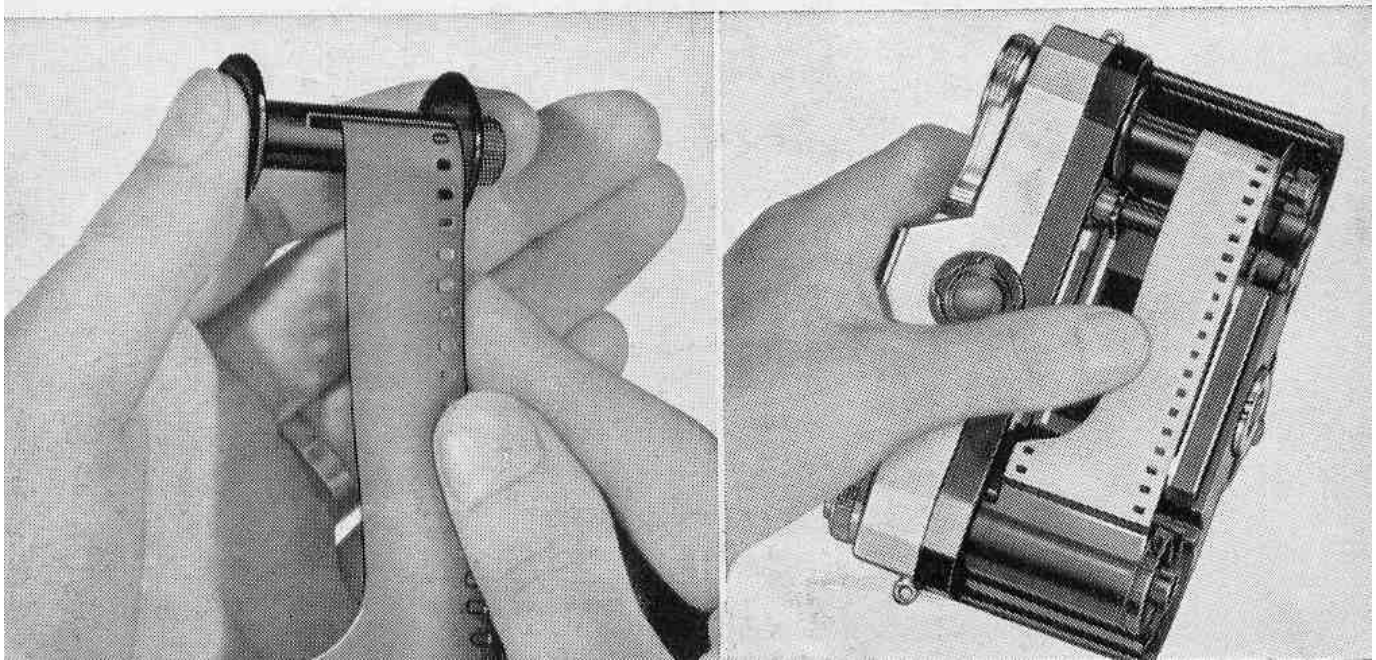


Fig. 2, 3 With your left thumb push the back of the camera downwards (fig. 2) and lift it off with the right hand (fig. 3.)

Loading

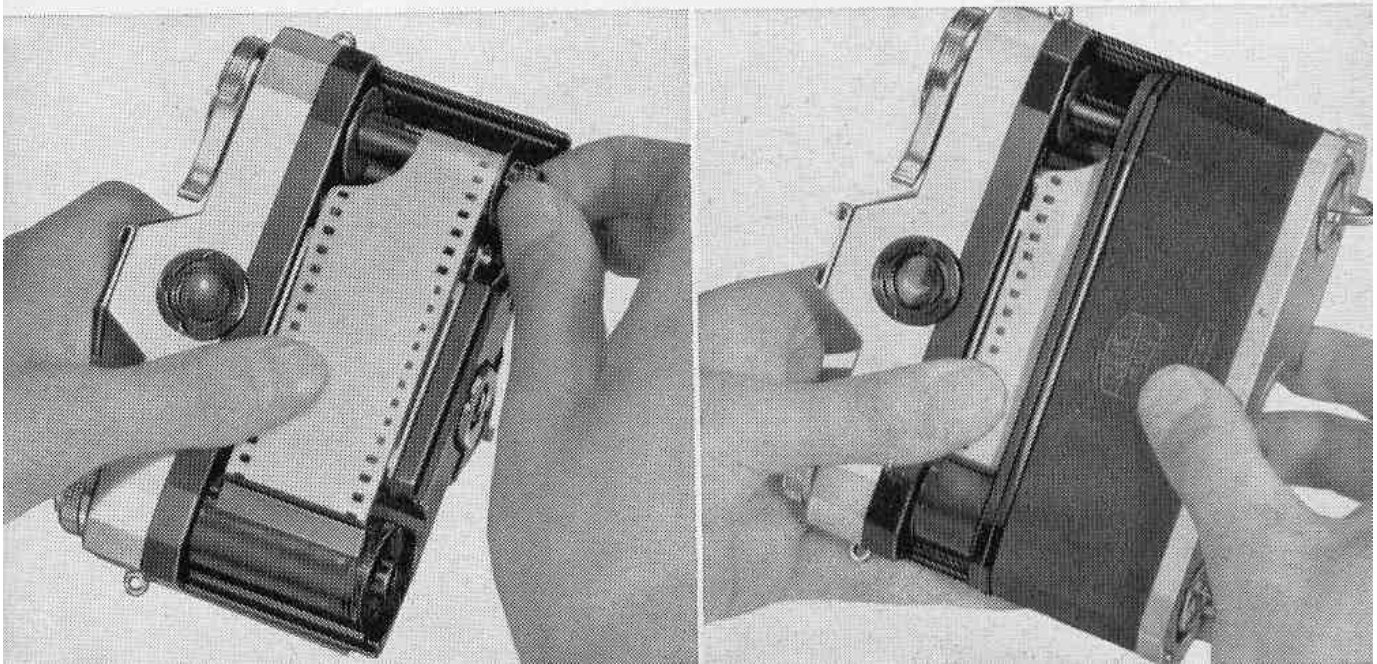
To load the camera take a standard commercial cartridge of miniature film, for 20 or 36 exposures. First secure the beginning of the film in the larger slot of the take-up spool by hooking one perforation hole over the small lug, which will hold it in place. We leave it to you whether to hold the cartridge in your hand, as shown in fig. 4 or place it immediately in the camera as in fig. 5. Try both ways and choose the most convenient for you. The film is now fixed to the

Figs. 4, 5



take-up spool. The cartridge and the take-up spool should then be inserted into the two film chambers as shown in fig. 5. It is a good plan to look at the two prongs for the feeding and the take-up mechanism in the film chambers since this will convey to you immediately in which way the two spools must be inserted. Now wind the film on to the take-up spool (by rotating the latter manually) until the perforations of the film engage the teeth of the transport sprocket on both sides (fig. 6). Whilst holding the film in contact with the sprocket with the thumb of the left hand so that the teeth remain engaged with the perforations, the camera back should be replaced by lowering it into the grooves of the camera from above (fig. 7). Then slide it back into the camera body. Turn the locking keys on the base in the opposite directions and fold them up. The keys can be folded only when the back is properly in position.

Figs. 6, 7





Large stop
e. g. 5.6 =

great speed,
but small
depth-of-field



Small stop
e. g. 22 =

slow speed,
but large
depth-of-field

Hence, a larger depth-of-field is obtained with a small stop (large number). On the other hand, the object itself may be made to stand out sharply from its surroundings by choosing a large stop (small number), because the shallow depth-of-field of large apertures causes part of the foreground as well as the background to be out of focus. **Two-point focusing** is the most convenient method to avoid having to think about the variable depth-of-field—be it through lack of time or for other reasons—and still obtain snapshots of any given subject in good time and with assurance. To do this, the diaphragm lever is adjusted to the red mark between 8 and 11, and the focusing ring either on the red number 10 or the red number 35, when the entire range from 7¼ ft. to infinity will be covered. The following ranges of sharpness giving medium values for both focal lengths should be memorized:

Diaphragm setting	Distance setting	Range of sharpness
Red mark	10 ft. (close-up)	7¼ ft. — 15½ ft.
between 8 and 11	35 ft. (distance)	15½ ft. — Infinity

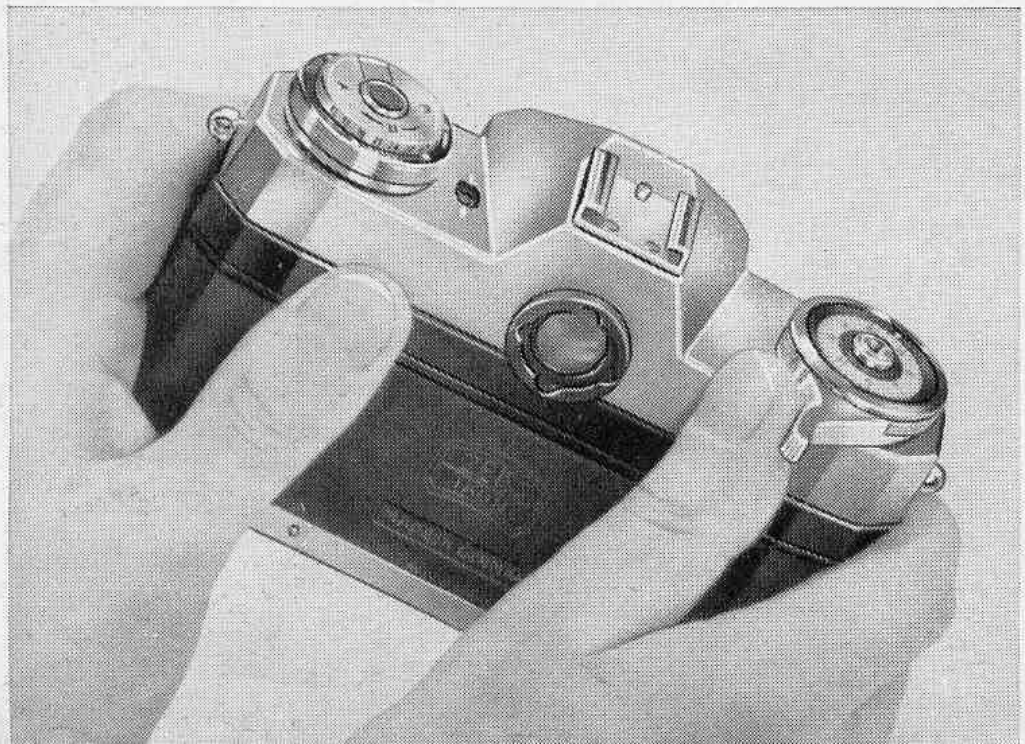
Ready for action

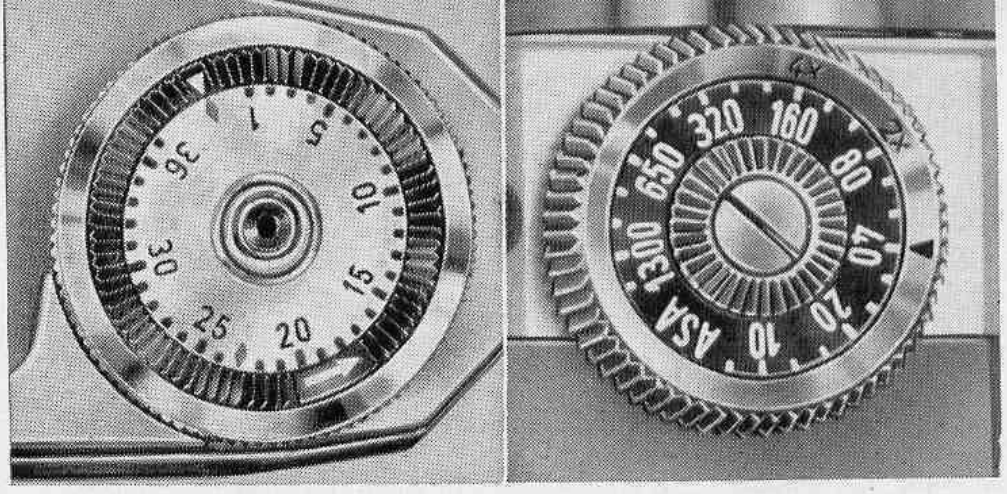
After loading, the camera is not quite ready for immediate action. The rapid wind lever (fig. 8) should be swung around with your right thumb until it butts against the stop. Do this twice, but after each movement of the rapid wind lever release the shutter by depressing the release knob (1) so as to wind the fogged leader film on to the take-up spool.

As the film is wound on, the rewind knob (6) should rotate in the opposite direction to the engraved arrow: this indicates that the film is being advanced properly. When using bulk film (see "Cassettes") or 20-exposure cartridges, the turns of the film may partially unwind; in this case the rewind knob will not rotate when the first frames are advanced. In this case unfold the small crank (countersunk into the rewind knob) and turn it in the direction of the arrow until a distinct resistance is felt (fig. 17). This is also a reliable indication whether there is any film at all in the camera.

The CONTAFLEX super has a frame counter which

Fig. 8





Figs. 9, 10

shows the frames remaining (fig. 9). After loading set the white mark to the red mark between 1 and 36, if you have a cartridge for 36 exposures in your camera. With a 20 exposure cartridge set the white mark to the red mark between 20 and 25. Cock the shutter twice and release it after each movement of the rapid wind lever. The white mark is then opposite 36 and/or 20 and will indicate the number of frames available.

The speed of the film in use should then be transferred to the automatic exposure control of the camera. Press the speed scale in the light selector disc (fig. 10) inwards and turn it until the figure ASA required coincides with the black stroke. Setting the type of film and its speed on the film type indicator is not essential for the functioning of the CONTAFLEX super, but it may prove a useful reminder for you.

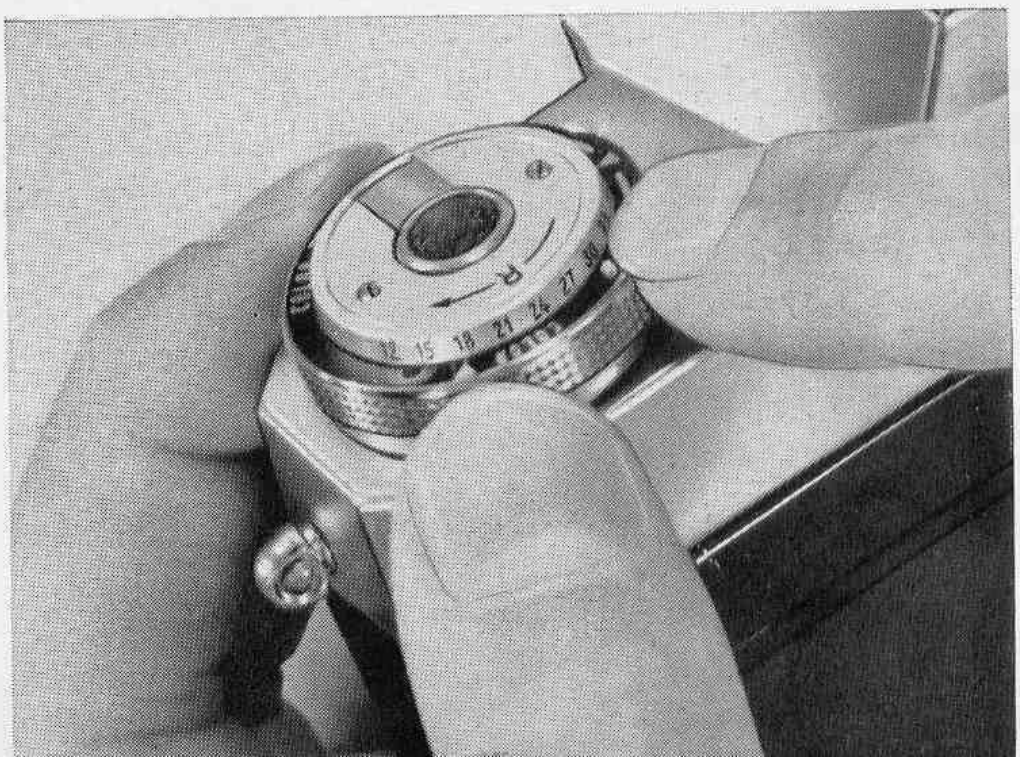
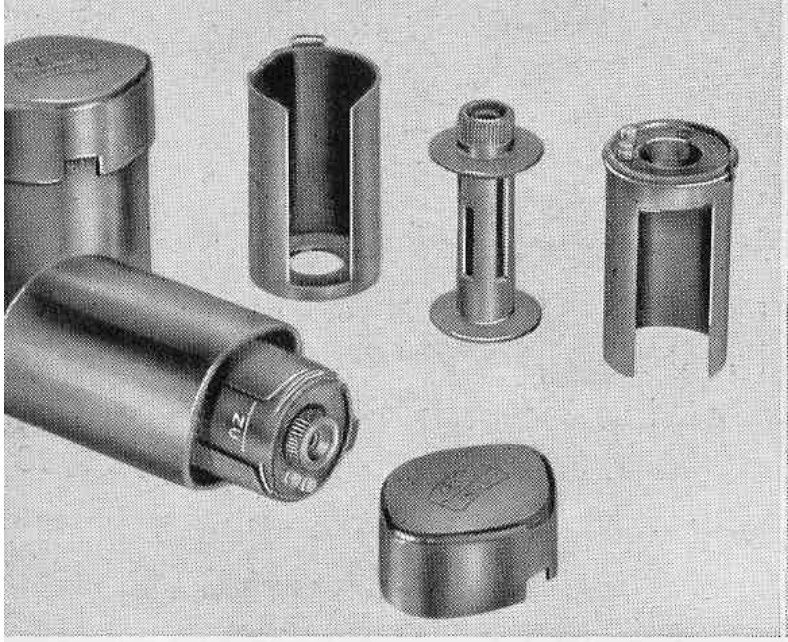
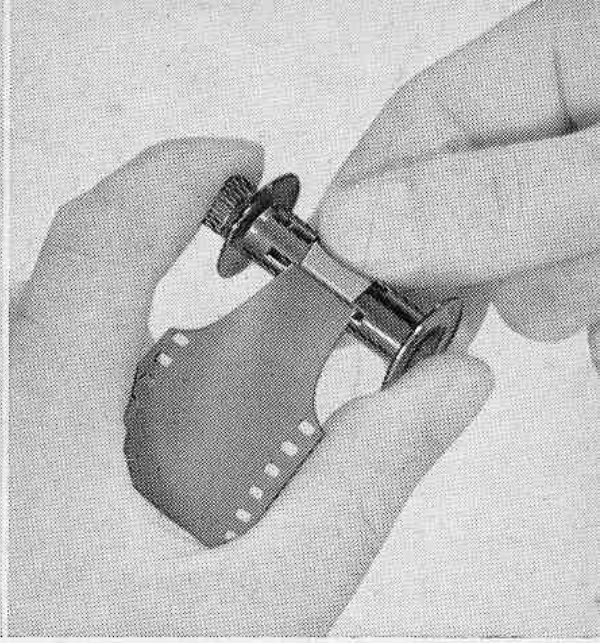


Fig. 11

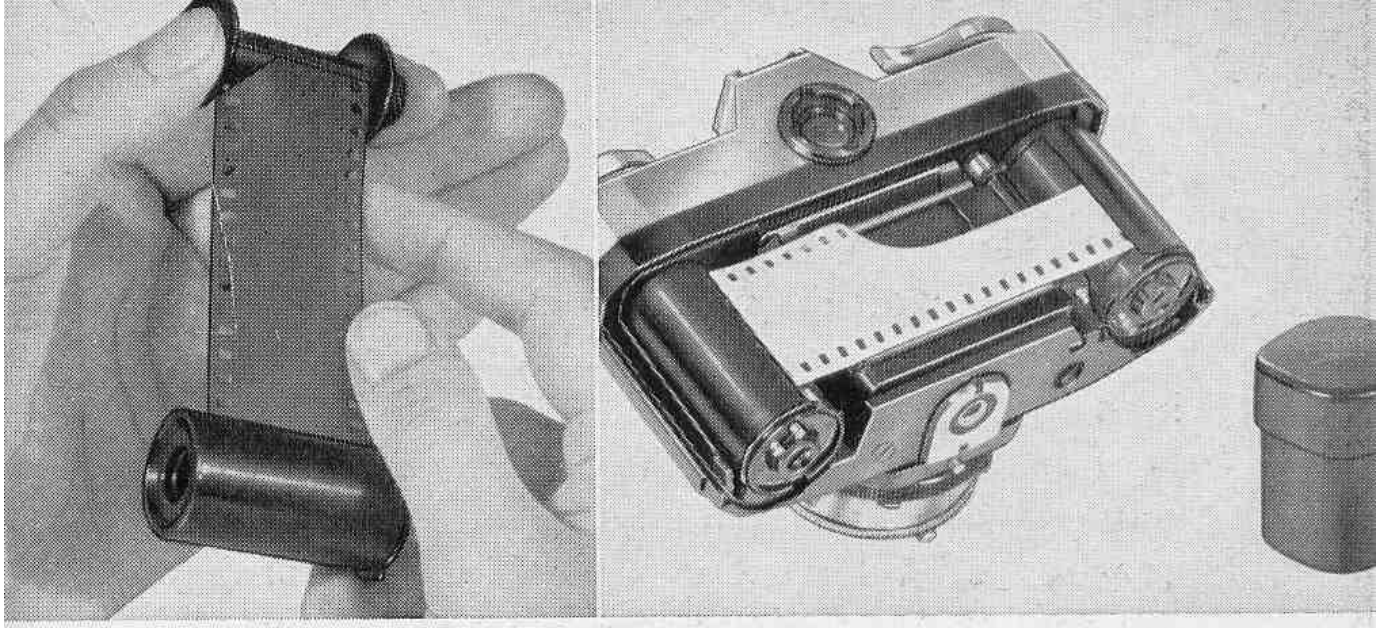




Figs. 12, 13

Cassettes

The CONTAFLEX super can also be used with cassettes. The film can be wound from a commercial cartridge into a cassette, from a cassette into another cassette or from a cartridge or cassette on the normal take-up spool without any shell. When using cassettes the type of film can be changed at any time, even in broad daylight. This cannot be done, however, when you use one cassette (or cartridge) on the feeding side only and transport the exposed film to an open take-up spool. With two cassettes or one cassette (on the take-up side) and a cartridge (on the feeding side), you can open the back of the camera after any number of exposures on one type of film (say, black-and-white film). To protect the last exposures, you should further expose two blanks and only then open the camera. When you turn the locking key to open the camera you also close the cassettes automatically. When you now load



Figs. 14, 15

the camera with a colour film and wind it into a second cassette, you can also return the black-and-white film to the camera at any time and vice versa.

When working from cassette to cassette, the feeding cassette can be loaded with darkroom or daylight refills or with bulk film. With two cassettes, there is no need to rewind the film. When using bulk film, the method of fixing the film to the feeding spool depends on whether you want to rewind the film or not. If you want to rewind the film after exposure, thread the shaped end of the film (fig. 13) twice into the centre slot of the spool; if you do not intend to rewind, hook the first perforation hole of the obliquely cut beginning of the film on the lug as shown in fig. 14. After winding the film on the spool, insert the full spool with its milled knob first into the inner shell of the cassette and push the outer shell over it. The leader of the film should then protrude through the superimposed slots in the

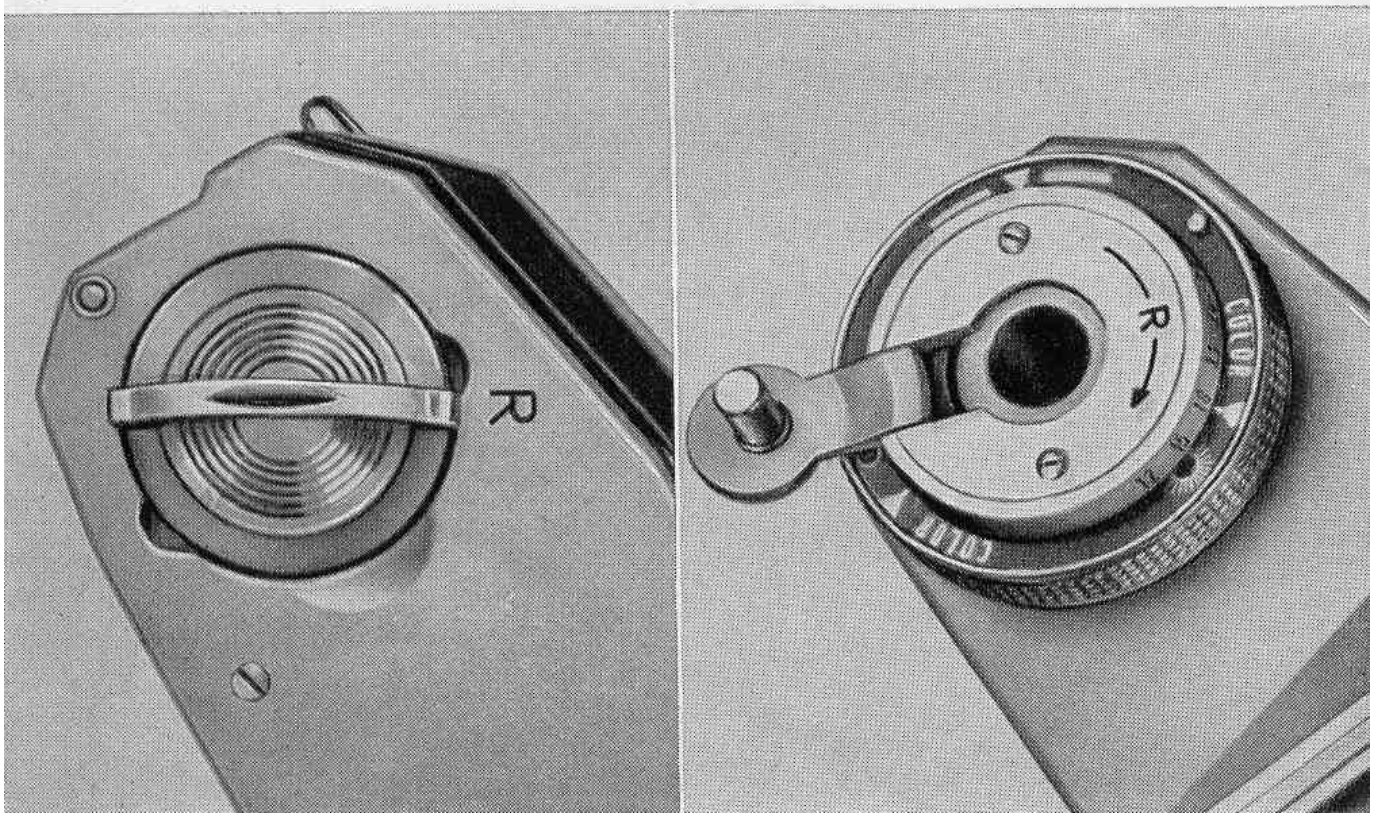
shells. Now turn the inner and outer shell against each other until they snap in and lock. The German word "Zu" (closed) will then appear. When inserting the cassettes into the film chamber of the camera, make sure that the locating cams of the cassettes engage properly in the appropriate grooves of the camera body (fig. 15). Turning the locking keys of the camera back automatically opens or closes the cassettes.
Every cassette is supplied in a special plastic container, the lid of which has a small recess. The lid can be fitted in two positions. When storing an exposed film in the container, fit the lid in such a way that the marking "EXP" (exposed) is visible in the recess.

16

Unloading

If the camera is loaded with a standard commercial cartridge, the film must be rewound before unloading. For this purpose one of the locking keys on the camera bottom, the one marked "R", is folded up and set against "R" as shown in fig. 16.

Figs. 16, 17



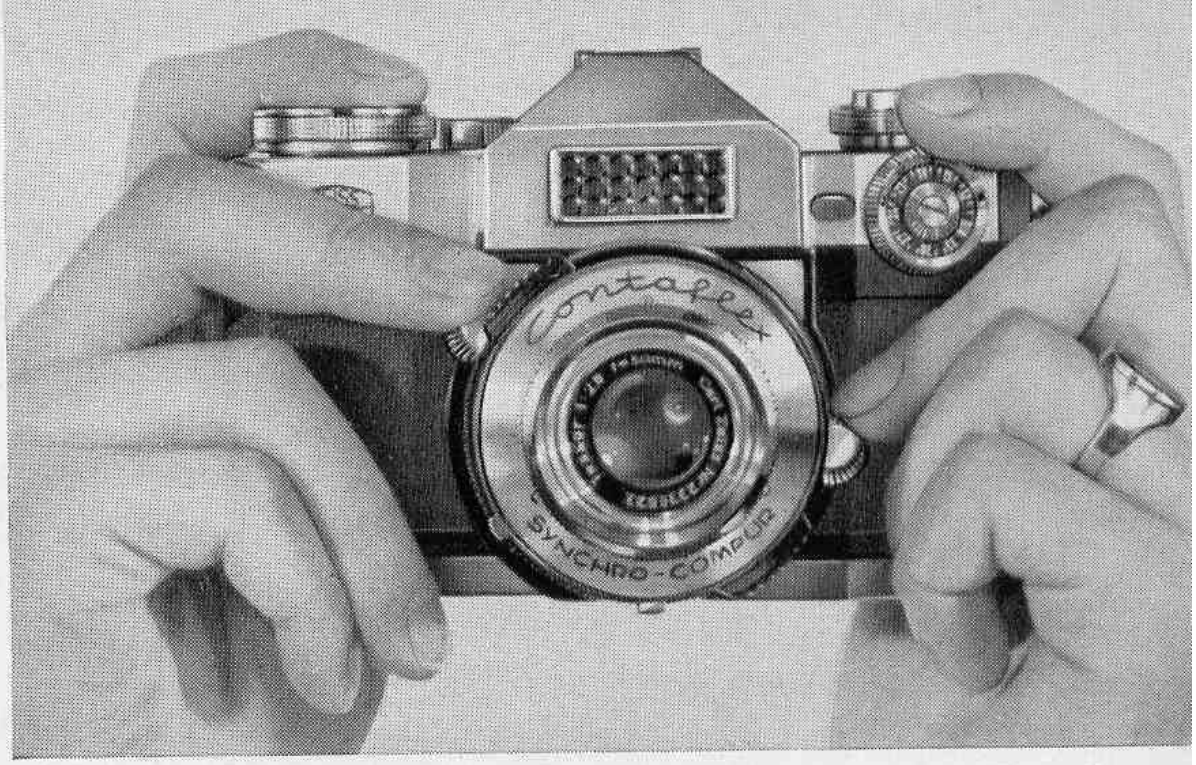


Fig. 18

17 Fold out the countersunk crank from the rewind knob (6, fig. 17) and turn it in the direction of the arrow until the film is rewound into the feed cartridge. Then remove the back and take out the cartridge. Dust or film particles left inside the camera should be removed immediately.

Setting the distance

The camera is now loaded and ready for action. When you sight your first subject through the viewfinder you will see in the centre of the finder image a circular area which is divided into two halves. The circular area is surrounded by a fine screen ring. These two indicators, a split-image rangefinder and a fine screen focusing ring, enable you to focus accurately and to have the correct distance setting under constant control.

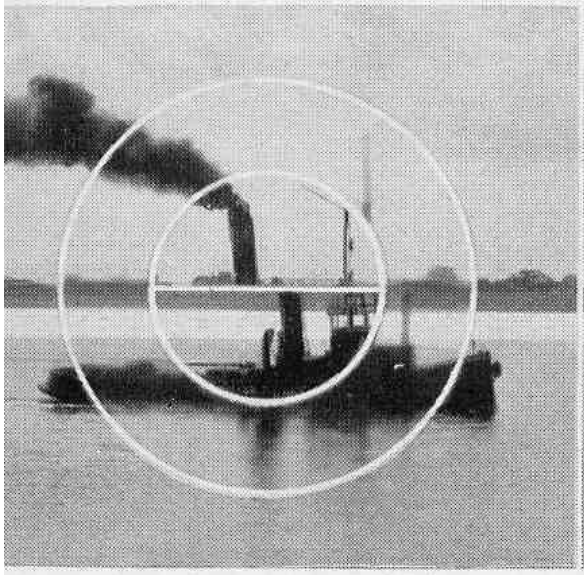


Fig. 19

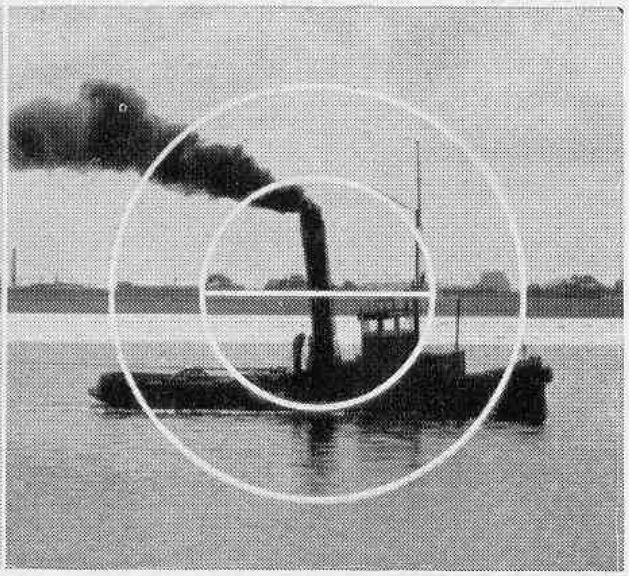
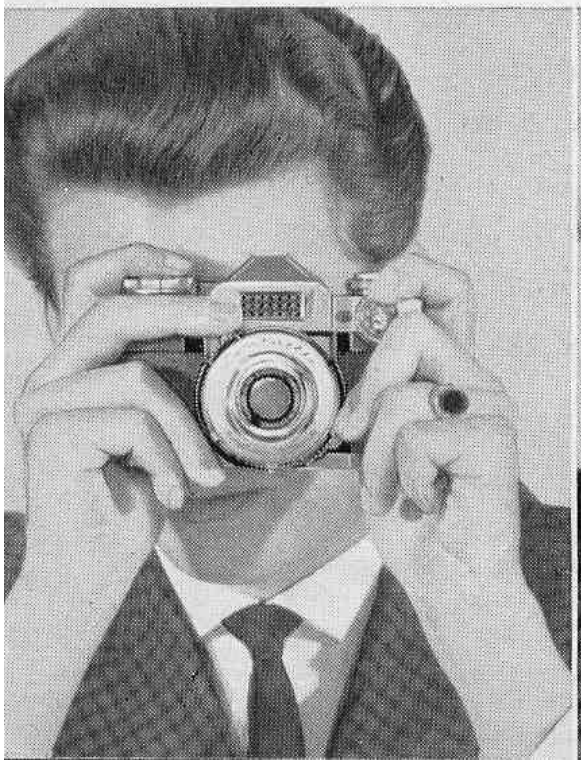


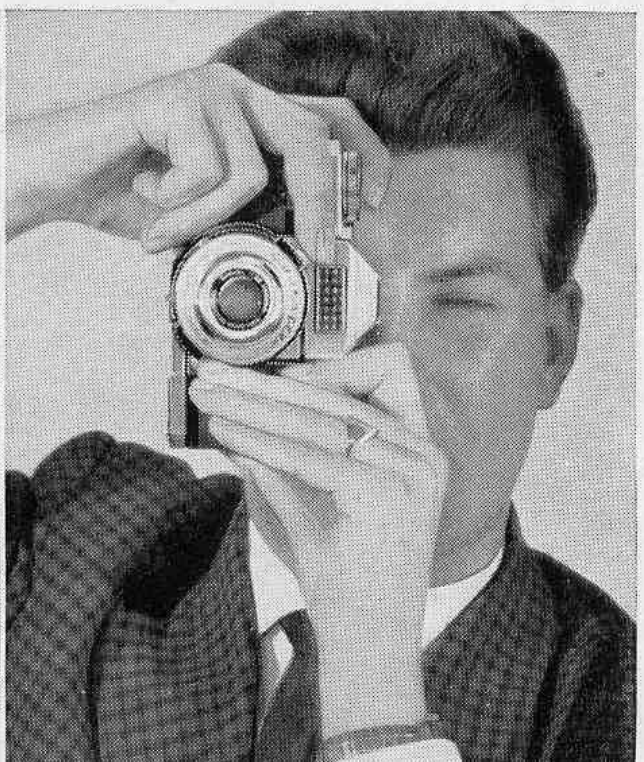
Fig. 20

Split-image rangefinder

In most cases focusing will be performed by using the split-image rangefinder. If you sight an object through the viewfinder and operate the focusing device (13, fig. 18), you will observe that the two images, separated from each other by a thin line, move in opposite directions (fig. 19). The distance is correctly set when the two partial images are exactly aligned and form one

Figs. 21, 22





single undistorted image (fig. 20). It is advisable to look for a sharp perpendicular line within the subject, a tree or the edge of a house, on which the correct alignment should be checked. When taking upright pictures (fig. 22), a horizontal line should be chosen.

Ground-glass screen focusing

There are subjects, however, which have no distinct vertical lines – say, a wide expanse of water – for your split-image rangefinder to work on; or the subject may be moving too rapidly. Then the fine screen ring should be used for focusing in the same way a normal ground-glass screen is used.

Both methods of focusing are equally good and which to choose depends solely on the nature of the subject.

If you want to take flash pictures and wish to calculate the necessary stop with the aid of the guide number for your flashbulb or unit, the flash-subject distance can be read off from the distance scale (21) on your CONTAFLEX super.

Depth-of-field scale

Generally you will focus without even a glance at the distance scale. The automation of your CONTAFLEX super makes it unnecessary to know the actual distance. There are cases however, when a different method of distance setting should be

to infinity. A depth-of-field table showing the various sharpness zones for each aperture has been given on page 41. Now measure with your CONTAFLEX the shortest and the farthest distance of the most important parts of the picture to be taken, that is to say, the zone which shall be reproduced sharply. The requisite aperture can be read off from the depth-of-field scale and set against the aperture scale (23).

Measuring the light

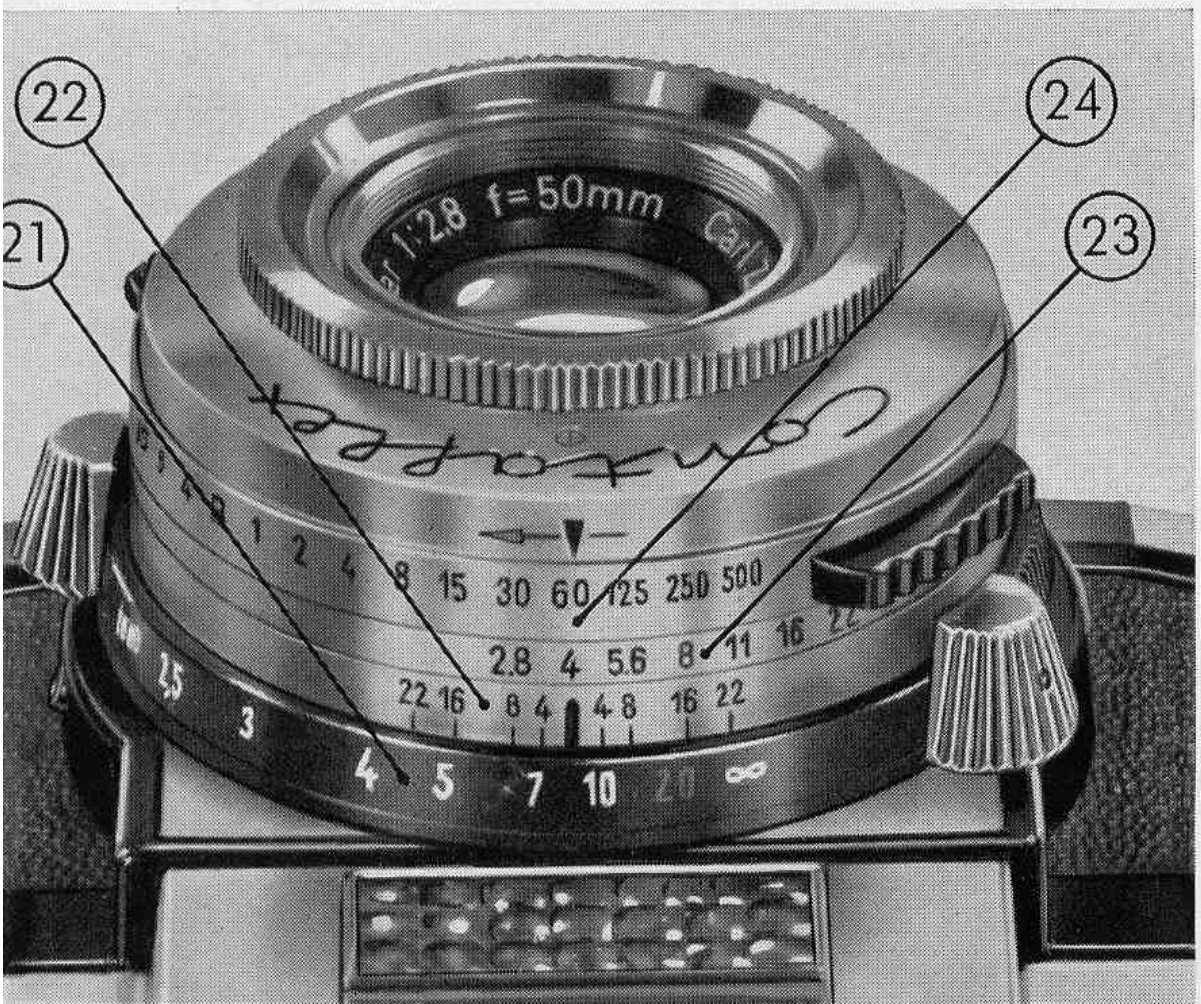
The shutter speed ring

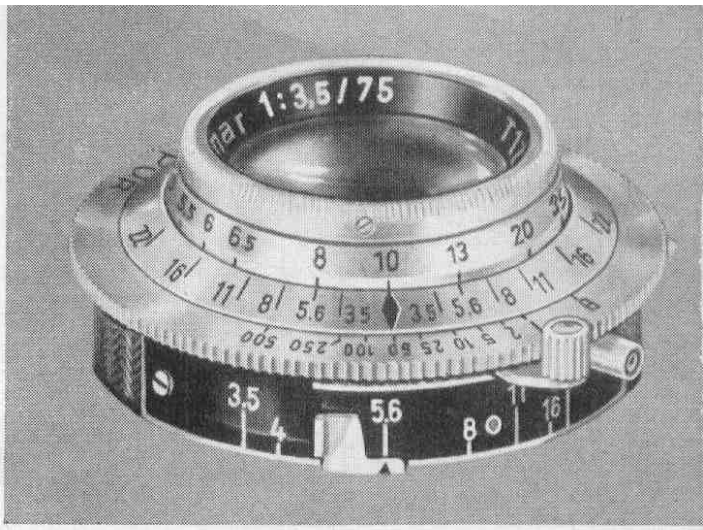
21 bears a scale (24) with two series of figures, which are separated from each other by the letter "B". The figures to the right of "B" denote fractions of a second (60 = 1/60 sec., etc.). If, after measuring the light, the lens is stopped down until the shutter speed indicator points to "B", an exposure time of 2 seconds will be required. The series of green figures to the left of "B" denotes the exposure time required in full seconds. When set to a green figure the shutter will operate as if set to "B": it opens when the release knob (1) is depressed and closes only when the pressure on the knob is relaxed.
It is recommended, but not absolutely necessary that the light measurement is performed when the shutter is tensioned.

chosen, particularly when the important details of the picture are staggered in depth. When looking at the scales (21) and (22) of your camera, you will see that there is a double-scale opposite the distance scale showing the range of f/numbers to the left and the right of the distance setting mark. From this depth-of-field scale the stop required can be read off.

The sharp definition of the lens is not limited to objects of the exact focused distance, but also covers a certain range nearer and farther from this point. This zone of sharpness is comparatively small at full aperture (f/2.8), but increases as the lens is stopped down. This is to be seen on the scale of fig. 23. An aperture of f/4 will just cover the zone from 7' to 10' while an aperture of f/22 will be found to cover the zone from about 4'6"

Fig. 23





The **depth-of-field tables** on pp. 18/20 contain the precise depth-of-field zones for various diaphragm and distance settings at a focal length of 75 mm. and 85 mm.

The **built-in depth-of-field scale** on your camera is your constant guide. It is read comfortably from above and shows automatically the zone of sharp definition to be expected with every change of distance setting—at intervals coinciding with the stop values. In our illustration, the lens is focused on 10 ft. The lines next to the stop numbers to the right and left of the pointed rhombic index mark show the limits of the range of sharp definition applicable to the 10-feet-setting on thedistance scale, e. g.

a range from appr. 8 to 13 ft. at f/5.6, etc.

These somewhat amply stated depth-of-field values are sufficient for normal amateur work. More precise data are given in the Tables on pp. 18/20.

on the exposure meter window on the body and on the shutter-speed setting mark indicate in which direction the setting should be corrected.

If the pointer must deflect in the direction of the arrow to reach the circular mark, the shutter speed setting ring should also be turned in the direction of the yellow arrow and vice versa. You need not worry if the aperture scale (which rotates automatically in the opposite direction) soon reaches its final value, you continue turning.

This pre-selection of the shutter speed can be estimated roughly, since it is almost always possible to correct it accurately for six aperture stops by means of the light selector disc (fig. 10). However, you should select full values only, not intermediate values. If you now sight your subject through the viewfinder, you will see the reflected pointer on the right in the viewfinder. Turning the light selector disc (8) will move the pointer to the setting mark in the centre of the recess. This is the correct setting which is automatically transferred to the shutter; now you can take the picture.

It is a good idea, however, to compare the previously set aperture/shutter speed pairing with the requirements of the picture. After making the light measurement you can select the most suit-

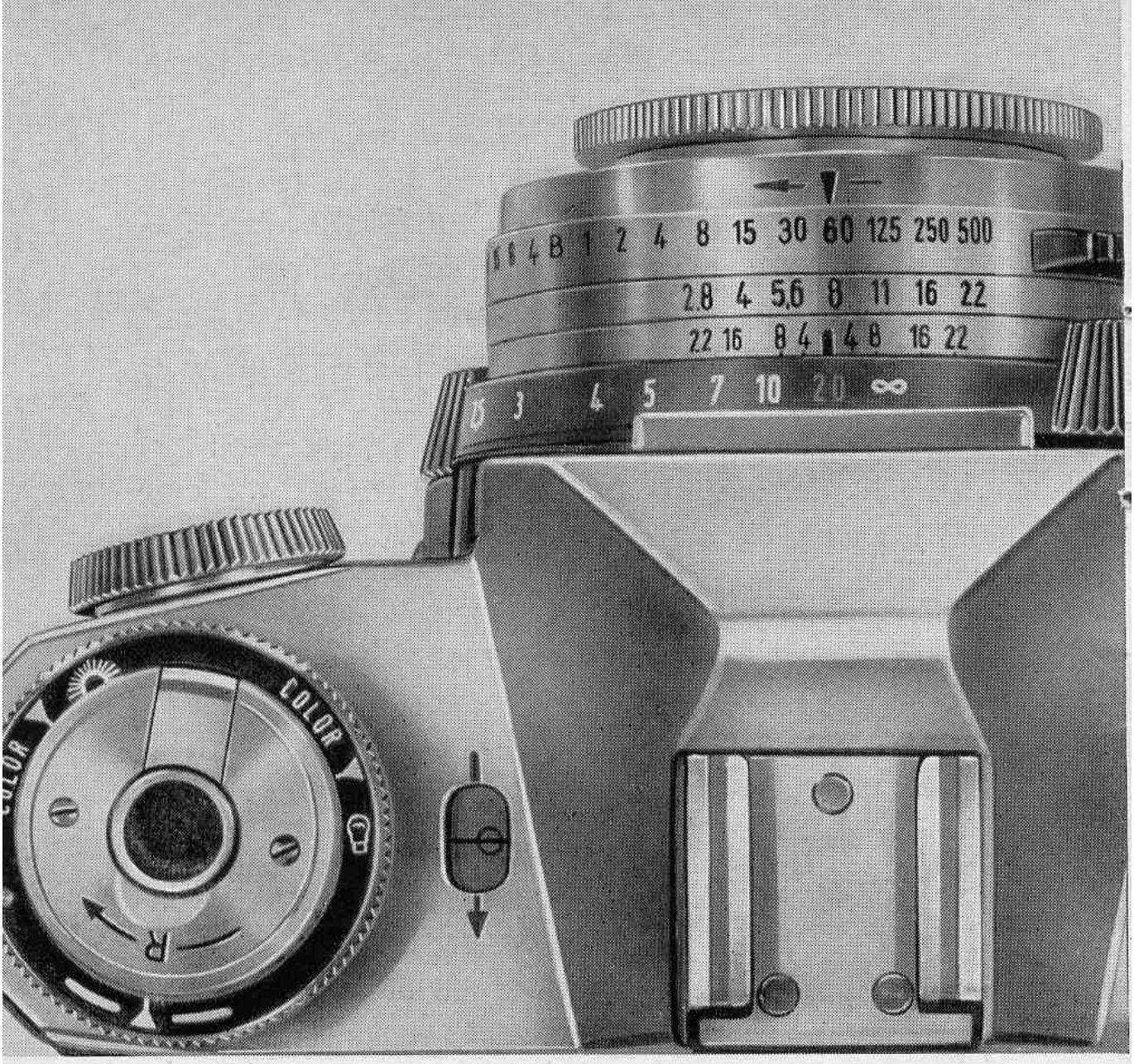


Fig. 24

The automatic exposure control

Since the setting of the film speed indicator (9) has already been performed when the camera was loaded, the automatic exposure control is ready for action. Point the camera towards the subject and observe the pointer deflection in the window on top of the camera body (fig. 24). The pointer should swing approximately within the circular mark. The yellow direction arrows both

able aperture/shutter speed combination by turning the shutter speed ring (12). If your subject possesses considerable extension in depth, a stop as small as possible ensures greater depth of field; if, on the other hand, your subject is moving rapidly a faster shutter speed is more important. When making your choice the only thing to be taken into account is that the limits of the diaphragm scale, that is, f/2.8 and f/22, are not exceeded, since this will tend to nullify the light measurement and change the basic setting entirely.

You will always obtain a correct light measurement when the camera is held horizontally even when a vertical picture will be taken.

Now a few hints for picture taking under unusual conditions. Suppose you want to take a picture by rather dim light and your camera is loaded with a 27° DIN = 400 ASA film. The light is so bad that you can no longer measure it, but you know by experience that 2 seconds at f/2.8 may just be correct. So you set the shutter to "B" and discover with dismay that it is impossible to set the aperture ring to an aperture higher than f/8. This is not a fault since the automatic exposure measurement system has been introduced with the definite intention of preventing photographers from trying to make normally nonsensical ex-

posures. But if such a setting is desperately needed, it is only necessary to put the automation out of adjustment by setting the light selector disc (8) to a lower film speed, e. g. 12° DIN = 12 ASA. Don't forget, however, to re-adjust this incorrect setting when you want to use the automatic system.
Generally, pictures can be taken with the hand-held camera at 1/60 second without running the risk of camera shake. Rapidly-moving subjects, however, or pictures in which a high standard of definition is required should be taken at faster shutter speeds.

The snapshot setting

The saying goes that the most simple cameras with only one shutter speed and two stops are easier to handle and always ready for action. The simple lens of a box camera is always stopped down to a small aperture to obtain satisfactory image quality. In this way **a great depth of field** is obtained which makes distance setting **superfluous.** Now let us see if we cannot work as quickly and accurately with our CONTAFLEX as the snapshooter with his box camera.
When working with the red dot setting of your CONTAFLEX you are taking pictures under the same conditions as the box camera user: set the distance to 20 ft. and the aperture with the knobs for the shutter speed setting (12) – after measuring the



Fig. 25

light – at f/8 (both red figures). Now, everything between 10 feet and infinity will be recorded sharply (fig. 25).

Flash and delayed action shots

The fully synchronised Synchro-Compur shutter can be coupled to any type of flash equipment and will close the flash contacts and fire the flash just at the right moment. Attention should be paid to the "X" and "M" settings (fig. 26).

At the "X" setting the shutter fires the flash automatically at the moment the shutter blades are fully open. Electronic flash tubes should only be fired on the "X" setting.

At the "M" setting the shutter opens after a very short delay, which corresponds to the delay-to-peak of most flashbulbs.

The correct setting ("X" or "M") for the various flashbulbs and flash capsules will be found in the makers' instructions, and also in the table on page 43.

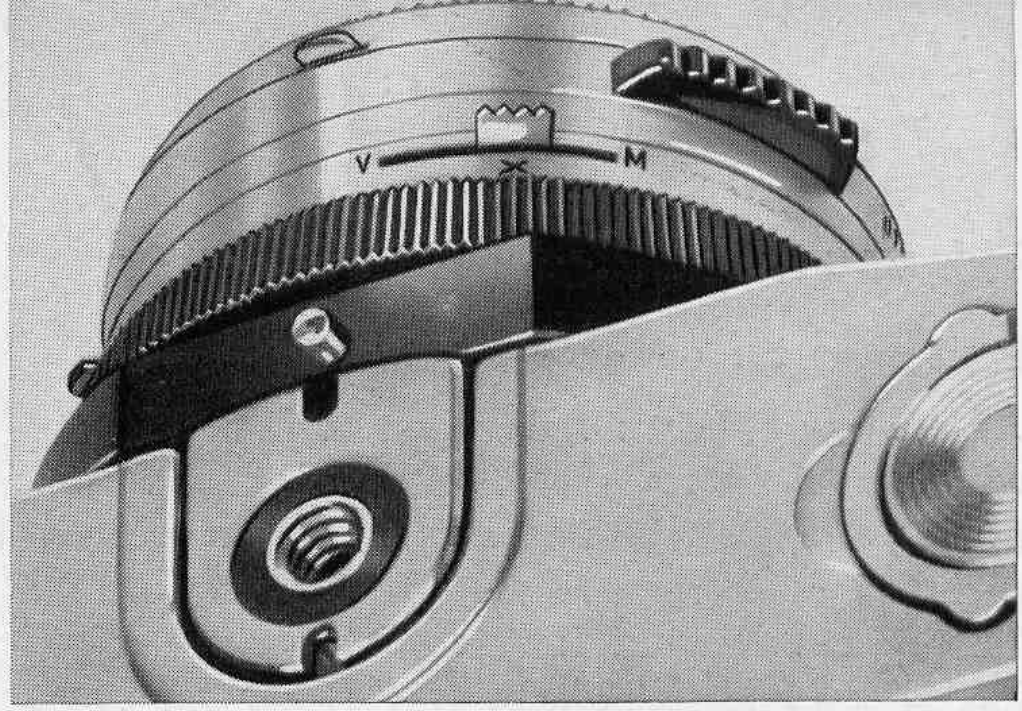


Fig. 26

In order to avoid unintentional displacement of the lever (19), it can be operated only when the lock (15) is depressed simultaneously.

At the "V" setting a delayed action release (or selftimer) is brought into operation, which operates the shutter release about 8 seconds after the shutter release knob has been depressed. The selftimer can be set only when the shutter is cocked and the lock (15) is depressed. Time exposures ("B" setting) cannot be made with the selftimer. With the shutter set to "V" flash lamps of any type will be fired as at the "X" setting.

It is advisable to connect the flash lead first to the flash contact (11) and only then insert the flashbulb. When the release knob (1) is depressed the selftimer will run off normally and fire the flash synchronously.

ZEISS IKON

inserted in this way: red dot to red dot- turn right. For removing, press lock pawl, turn to left, and lift out. In order to preserve the efficiency and high-quality performance of the valuable lenses, their surfaces should never be touched.

The following converter lenses are available for the CONTAFLEX super:

PRO-TESSAR f/4,35 mm

This wide-angle lens covers a much wider field of view and is an invaluable aid for interior and architectural shots. Generally, the red dot setting (snapshots) benefits from the considerably deeper zone of sharp definition which results from the short focal length of this lens.

PRO-TESSAR f/4,85 mm

This lens is particulary useful for portraiture and landscape photography, as well as for press photography of such events as sports, games, etc., which normally have to be watched from a distance. The telescopic effect of the tele converter results in a larger image scale.

The **STERITAR-B** for stereo-pictures; part of the ZEISS IKON stereo-system covering the range from ∞ to 8 feet. The two half-images, 16 x 23 mm in size, lie side-by-side within the normal image field of the CONTAFLEX. The twin-pictures are bound like normal slides without having to cut them apart, merely by using the ZEISS IKON stereo-masks.

The CONTAFLEX System

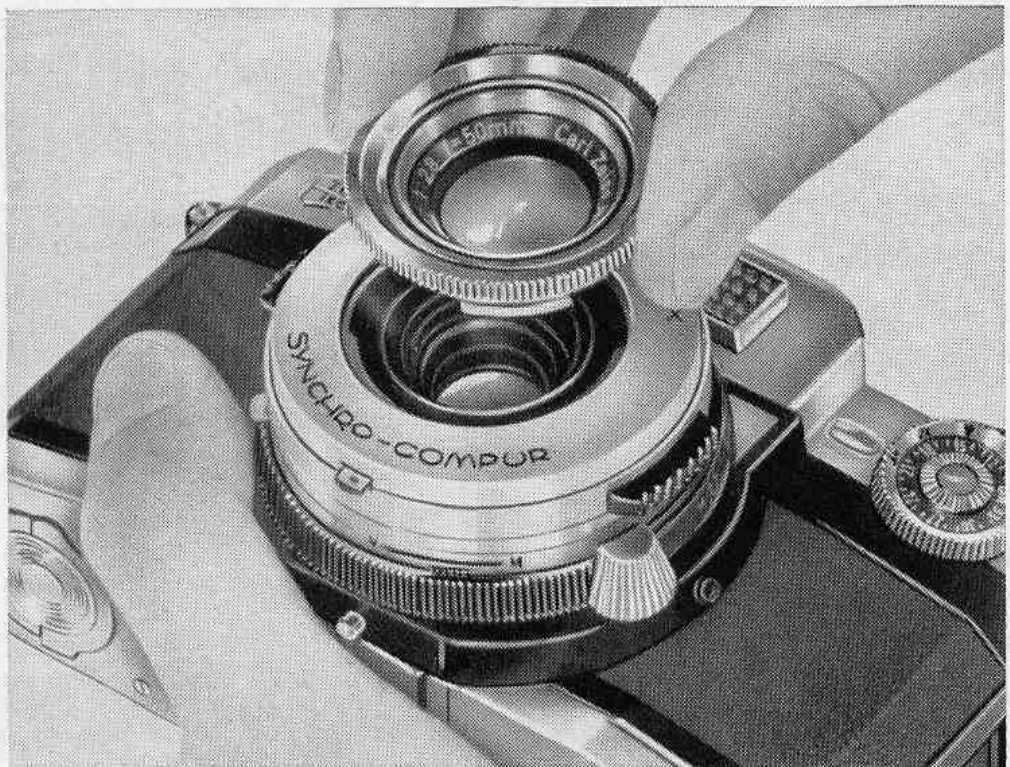
Exchanging the converter lenses

Tele, wide-angle and stereo-pictures can be taken with the CONTAFLEX super when the front element of the standard lens is exchanged for a converter lens. To remove the front element of the TESSAR hold the CONTAFLEX in your left hand (fig. 27) and press the lock pawl (14) in the direction of the lens with your thumb. The milled front ring of the standard lens is then turned with the right hand to the left until it comes to a stop; a slight resistance has to be overcome. Then lift the front element upwards from its bayonet mount.

When re-inserted the red dot of the lens unit must be opposite the red dot of the lock pawl. The lens unit is pressed home with a right turn until an audible click indicates the correct position.

All lens units of the CONTAFLEX super (with the exception of the ZEISS Monocular Attachment) are

Fig. 27



close objects or parts of objects will protrude from the frame. If care is taken to keep such objects in the centre of the picture, well away from the edges, this effect will not be disturbing to the viewer. The high definition, which is so important in close-ups, requires the lens to be stopped down to at least f/8.

A table listing the values of the PROXAR lenses in conjunction with the close-up STERITAR-B can be found on page 44.

Focusing stereo pictures should always be performed on the object nearest to the camera. It is advisable always to use the Close-up STERITAR-B with the lens hood, since in stereo pictures it acts as a definite protection against sidelight.

The ZEISS Monocular Attachment 8x30B is a complete prism-monocular and can be used as a telescope. However, it can also be attached to the CONTAFLEX super (after removing the complete eyepiece, consisting of the rubberized upper member and the adapter ring), making it possible to take pictures with an outsized tele-lens, f/14, 400 mm. The speed of this combination is determined by the prism monocular. Of the stops of the camera, only the last (f/16 and f/22) can be used. When the monocular is used as a tele-lens, the front element of the f/2.8, 50 mm Tessar remains in the camera and should not be removed. Hunters and naturalists will be delighted by this additional instrument.

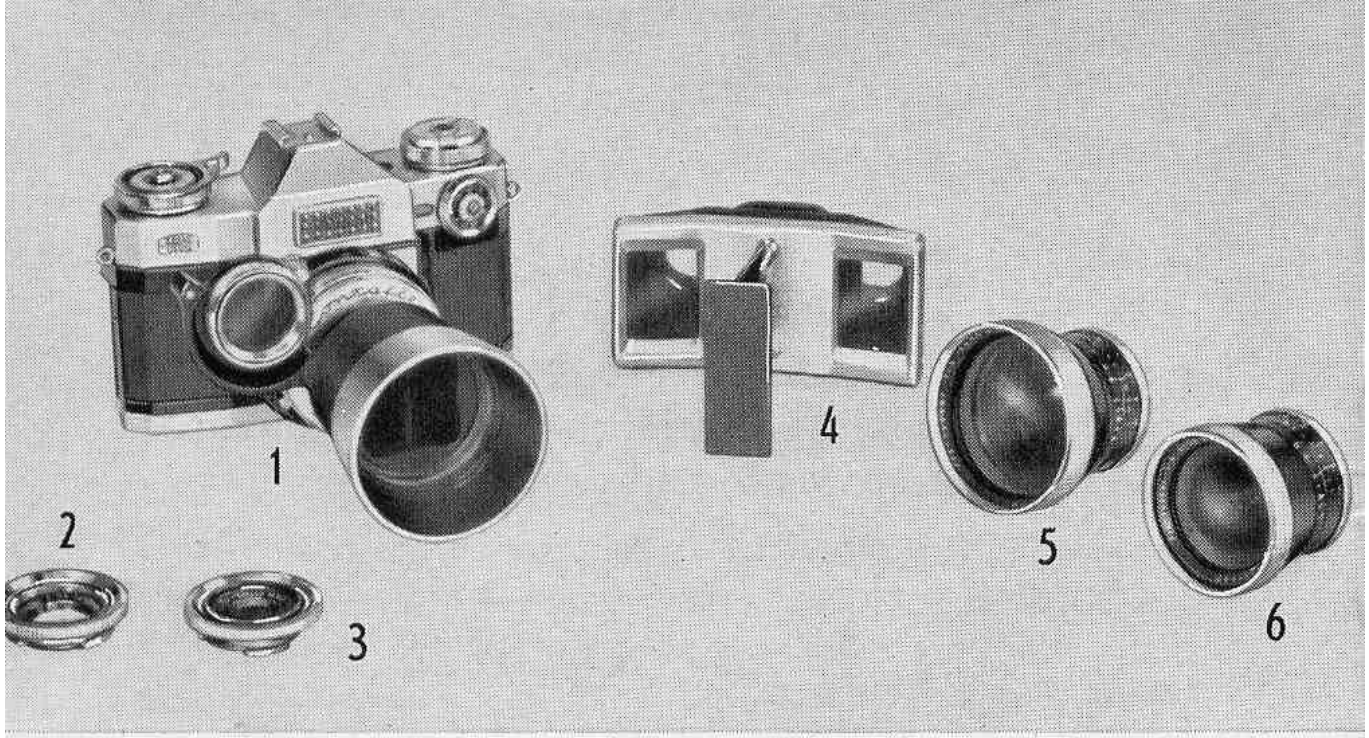


Fig. 28

1. CONTAFLEX super with close-up STERITAR-B (with Proxar f = 0.5 m in the swung-out-filter trap)
2. Front element of TESSAR f/2.8, 50 mm, which is part of the basic camera equipment.
3. PRO-TESSAR M 1:1
4. STERITAR-B with separator
5. PRO-TESSAR f/4, 85 mm
6. PRO-TESSAR f/4, 35 mm

They can then be viewed immediately in a ZEISS IKON O-stereo viewer or projected with a ZEISS IKON stereo projector.

The **Close-up STERITAR-B** is a stereo attachment like the STERITAR-B but designed for the distance range from 8 ft. to 27 ins. When ZEISS PROXARS f = 1 m, f = 0.5 m and f = 0.3 m are added, close-ups can be made from as close a distance as 11 ins. The ZEISS PROXAR f=0.2 m can also be used but in this case the so-called "window effect" can no longer be maintained, that is to say, very

DEPTH-OF-FIELD VALUES

At a distance setting feet	and a diaphragm stop of		
	3.5	4.0	5.6
	a sharp image is obtained from . . . to . . . ft.		
4	3′9 3/4″ — 4′2 1/2″	3′9 1/2″ — 4′2 3/4″	3′8 1/2″ — 4′4″
4.5	4′3 1/4″ — 4′9 1/4″	4′2 3/4″ — 4′9 3/4″	4′1 1/2″ — 4′11 1/4″
5	4′8 1/2″ — 5′4″	4′8″ — 5′4 1/2″	4′6 1/2″ — 5′6 3/4″
5.5	5′1 3/4″ — 5′11″	5′1 1/4″ — 5′11 3/4″	4′11 1/2″ — 6′2 1/2″
6	5′6 3/4″ — 6′6″	5′6 1/4″ — 6′7″	5′4 1/4″ — 6′10 1/4″
6.5	6′ — 7′1 1/4″	5′11 1/4″ — 7′2 1/2″	5′8 3/4″ — 7′6 1/4″
8	7′2 3/4″ — 8′11 1/2″	7′1 1/2″ — 9′1 1/4″	6′10″ — 9′7 3/4″
10	8′9 3/4″ — 11′7″	8′8″ — 11′10 1/4″	8′2 3/4″ — 12′9 1/2″
13	11′1 1/4″ — 15′10 1/4″	10′9 1/2″ — 16′4 1/2″	10′1 1/4″ — 18′3″
20	15′7 1/2″ — 27′10″	15′1 3/4″ — 29′7″	13′9 3/4″ — 37′
35	23′7″ — 70′	22′3″ — 82′	19′6″ — 180′
∞	66′ — ∞	58′ — ∞	42′ — ∞

Diameter of circle of confusion: 0.05 mm.
For this lens the subject distance should be measured from the **focal plane** (the back edge of the accessory shoe).

PRO-TESSAR M 1 : 1 is a three-component front element, which, when inserted into the camera, will make a 6-element lens focused to a 1 : 1 image scale. It is primarily intended for making black-and-white negatives from colour transparencies, but can be used in every case where the natural 1 : 1 size is required.

Supplementary lenses for close-ups (ZEISS PROXARS)

The CONTAFLEX Tessar lens f/2.8,50 mm can be focused at any distance down to 27 ins. For shorter distances coated supplementary (ZEISS PROXARS) lenses can be slipped on to the lens (28.5 mm ⌀). The parallax-free viewfinder will then also show the exact image field covered and the picture can be focused in the same way as described on page 17. Five PROXAR lenses are available: focal length = 39½ ins. (100 cm) for distances down to 21 ins; 19¾ ins. (50 cm) for subjects down to 13½ ins; 11¾ ins. (30 cm) for subjects down to 10¼ ins.; 8 ins. (20 cm) for subjects down to 6¾ ins.; and 4 ins. (10 cm) for subjects down to 3½ ins. The tables on pages 42 and 43 give details of subject distances, the scales of reproduction obtainable and the field covered. The distances should be measured from the front rim of the supplementary lens mount to the subject. An aperture of f/8 usually provides sufficient depth of field.

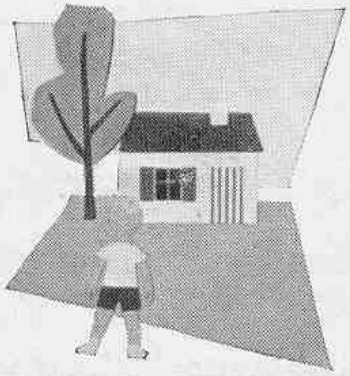
Colour filters

When looking at colours in nature and comparing them with a black-and-white picture of the same subject, you will see that there are actually two ranges of colours: a polychromatic and a monochromatic range. In nature these two ranges are always combined, one superimposed on top of the other, that is to say, each and every colour will appear in all possible hues, e. g. red can vary from the most subtle pink to a vigorous dark red, etc. However, the black-and-white picture shows the monochrome hues only from white via all values of grey to black. What is required of our films is a satisfactory representation of colour in terms of grey tones, in such a way that colours are represented on a print in terms of their apparent brightness to the eye.

Good films from well-known manufacturers nowadays guarentee a high degree of correctness in representing tonal values, but the mood of, say, a landscape may be lost completely in a black-and-white picture, since it is primarily dependent on colours. There is, however, a means of restoring this mood and even exaggerating it beyond that of the original: the colour filter.

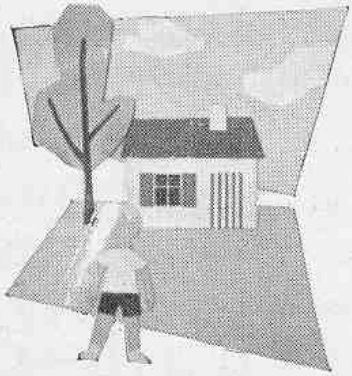
ZEISS IKON precision filters with coated surfaces are available in the following colours: yellow, yellow-green, orange and red; there are also a U.V-filter and the IKOLOR A, B, C and F filters for col-

Without filter



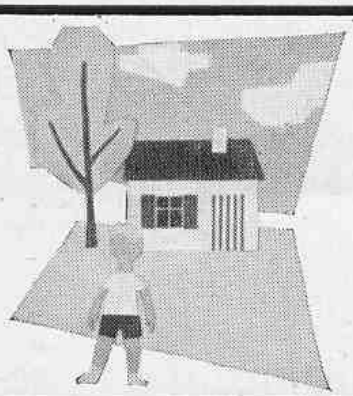
The subject taken on black-and-white film without a filter

Yellow filter
filter factor 2



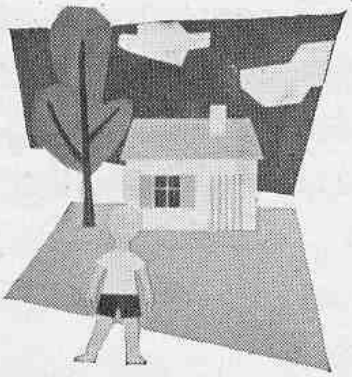
The sky in our subject has become darker, the clouds are emphasized. This filter should almost always be used for open-air photography

Green filter
filter factor 2



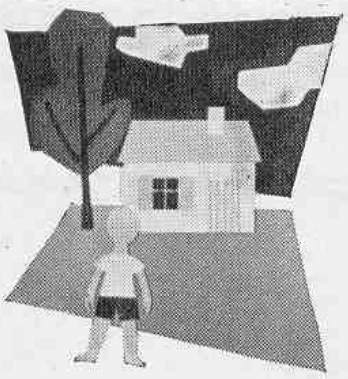
The green tree and the meadow are lighter, the red of the roof is darker, the clouds stand out boldly

Orange filter
filter factor 5



The blue sky has become darker still, all reds are lighter, hair and skin tones also

Red filter
filter factor 8



Dramatized effect, deep dark sky, menacing clouds, hair and skin tones getting paler. A good filter for distant views, since it eliminates haze.

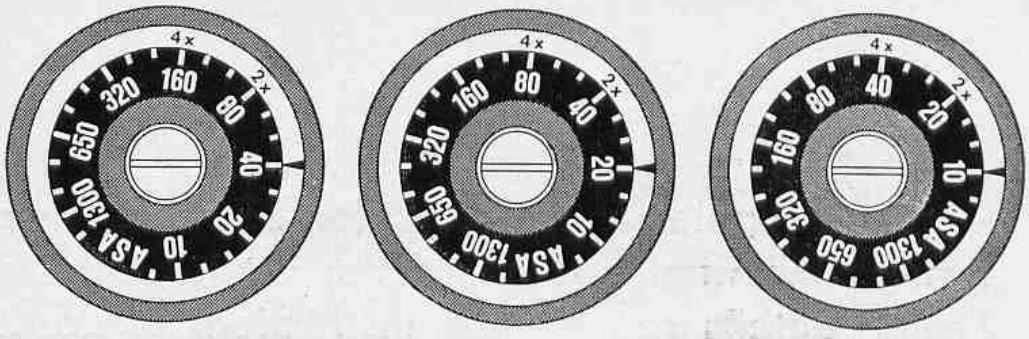


Fig. 29 Three settings of a film of 40 ASA

our photography. The effect of the filters on the pictures is shown on the opposite page.

The use of filters makes it necessary to increase the exposure by the filter factor, which is engraved on the mount of every ZEISS IKON precision filter. This is also performed automatically by setting the film speed against the filter factor (fig. 29) on the filter corrector of the light selector disc. When the filter is removed the film speed must be readjusted to the actual setting mark.

The filters are screwed into the lens mount. Their diametres are as follows: For TESSAR f/2.8, 50 mm. PRO-TESSAR M 1 : 1, STERITAR-B and close up STERITAR-B 27 mm. For PRO-TESSAR f/4, 35 mm 49 mm. For PRO-TESSAR f/4, 85 mm 60 mm. Owners of both the PRO-TESSAR 85 mm and the PRO-TESSAR 35 mm can screw an intermediate ring into the mount of the wide-angle lens which permits the use of the 60 mm filter for this lens also.

CONTAPOL Polarizing Filter

The CONTAPOL polarizing filter, screwed into the f/2.8, 50 mm TESSAR lens mount, eliminates disturbing reflections from shiny and reflecting surfaces of non-metal objects. You can observe the effect in the viewfinder. A 28.5 mm diameter lens-

hood or supplementary lens (or both together) can be mounted on top of the CONTAPOL. For further details see the full instructions enclosed with the polarizing filter.

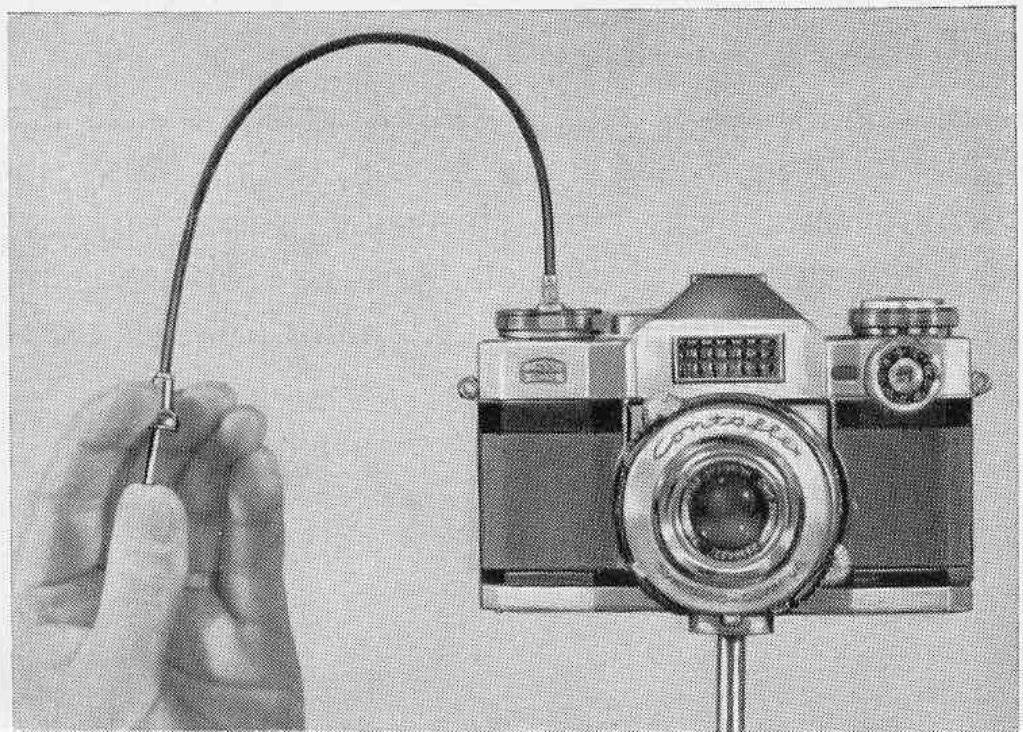
Lens hoods

They prevent flare and fog in against-the-light shots. In bad weather they also protect the lens against rain and snow. The ZEISS IKON lenshoods can also be mounted on top of filters or PROXAR lenses.

For TESSAR f/2.8, 50 mm, slip-over mount A 28.5 mm; For PRO-TESSAR f/4, 85 mm, screw-on mount S 60 mm. An adapter ring will permit the use of the lenshood with 60 mm. screw-on mount for PRO-TESSAR f/4, 85 mm on the wide-angle lens PRO-TESSAR f/4, 35 mm.

For both the TESSAR f/2.8, 50 mm and the PRO-TESSAR M 1 : 1 a common rubber lens hood is available. It has a screw-on S 27 mm mount and can remain on the lens when the ever-ready case is closed.

Fig. 30



A smart leather case is available in which to carry your lenshood. There is also a combination leather case for the ⌀ 28.5 lenshood and three ⌀ 27 mm colour filters.

Eyesight correction lenses

Into the ring on the eyepiece (16), a special mount can be screwed to accept correction lenses to compensate for defects of vision, so that focusing and composition can be performed without the aid of glasses. When ordering correction glasses, please enclose your optician's prescription for distance glasses.

Cable Release

At slow shutter speeds and for time exposures a cable release is advisable (see fig. 30). This screws into the threaded socket in the release knob. The ZEISS IKON cable release is fitted with a lock to keep the shutter open for long time exposures with the shutter set to "B".

Copying and Photomicrography

A special adapter is available for using the CONTAFLEX super with either the Table Copying Stand or the CONTAX Copying Outfits. Two extension tubes are required to connect the camera to a microscope. To make focusing easier, a right-angle viewfinder can be screwed over the viewfinder eyepiece.

Leather cases for the converter lenses

An attractive leather carrying case is available for both the f/4, 35 mm and the f/4, 85 mm PRO-TESSARS. There is also space for a special inset holding the front element of the removed standard TESSAR f/2.8 50 mm, the appropriate PROXAR lens and the lens hood (⌀ A 28.5 mm). Two filters ⌀ S 60 mm) for the PRO-TESSAR can be slipped into the pockets in the lid.

A further leather case for the close-up STERITAR-B and a lenshood is also available.

Carrying strap

To enable you to carry the CONTAFLEX super without the ever-ready case, a carrying strap is also available. This is fitted with safety hooks to hook into the eyelets (10) on the camera.

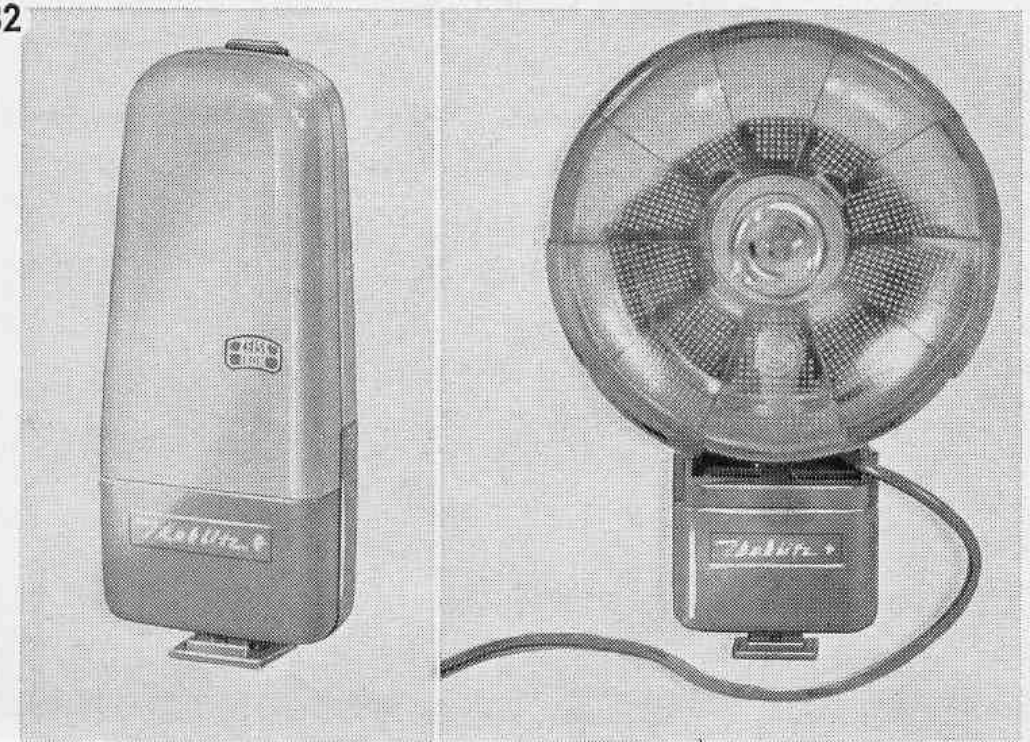
Flash light pictures

The capacitor IKOBLITZ 4 flashgun is a handy unit of almost unbreakable plastic material, which can be carried along fixed to the strap of the ever-ready case. This unit needs only a few operations to make it ready for action. Pull it out of its cover (which remains on the strap), slip it into the accessory shoe of the camera and unfold the reflector. After connecting the flash-lead to the camera shutter, the flashgun is ready for action (figs. 31 and 32).

Leather Cases

Camera Ever-Ready Case: To guard against damage, the CONTAFLEX super should always be carried in its smart ever-ready case. The camera is screwed to the case and need not be removed from its case for exposures. Moreover, the CONTAFLEX super together with a screwed-on filter or the rubber lens hood, are easily accommodated in the case, the lid of which will also hold two filters (⌀ S 27 mm). The flap of the case can be removed.

Figs. 31, 32



Comparison of Film Speed Systems

ASA Exp. Ind.	BSI ○ Scheiner	○ DIN
8	20	10
10	21	11
12	22	12
16	23	13
20	24	14
25	25	15
32	26	16
40	27	17
50	28	18
64	29	19
80	30	20
100	31	21
125	32	22
160	33	23
200	34	24
250	35	25
320	36	26
400	37	27

The speed criteria on which the usual film speed systems are based do not apply to reversal materials, since the result of the reversal process is a positive and not a negative image. The film manufacturers therefore advise that their black-and-white or colour reversal films are to be exposed like a negative film of the stated speed to yield the best results. Generally this is perfectly reliable advice, but to be on the safe side, the conscientious photographer should calibrate his equipment by making a series of test exposures at various apertures and thus determine the actual speed of the film in question and the correct exposure meter setting.

Depth-of-field table for the CONTAFLEX with Tessar f/2.8/50 mm

Distance	Aperture f/2.8	Aperture f/4	Aperture f/5.6	Aperture f/8	Aperture f/11	Aperture f/16	Aperture f/22
∞	64′4″- ∞	45′1″- ∞	32′4″- ∞	22′9″- ∞	16′8″- ∞	11′6½″- ∞	8′6″- ∞
20′	15′4″-28′9″	14′-35′6″	12′6″-51′7″	10′8¾″-162′5″	9′2″- ∞	7′4½″- ∞	5′11¾″- ∞
10′	8′8½″-11′9″	8′3″-12′8″	7′8¾″-14′3″	7′½″-17′5″	5′¼″-11′8″	5′5½″-71′4″	4′8″-∞
7′	6′4¼″-7′9½″	6′1½″-8′2¼″	5′10″-8′9½″	5′5¼″-9′10½″	5¼″-11′8″	4′5½″-17′	3′11¼″-37′4″
5′	4′8″-5′4½″	4′6½″-5′6¾″	4′4¾″-5′9¾″	4′2″-6′3″	3′11¼″-6′11″	3′7″-8′5″	3′3″-11′5″
4′	3′9½″-4′2¾″	3′8½″-4′4″	3′7¼″-4′6″	3′5½″-4′9″	3′3½″-5′1¼″	3′¾″-5′10″	2′9¾″-7′1″
3′	2′10¾″-3′1½″	2′10¾″-3′2″	2′9½″—3′3″	2′8½″-3′4½″	2′7¼″-3′6½″	2′5½″-3′10½″	2′3¾″-4′4¼″
2.5′	2′5″-2′7″	2′4¾″-2′7¼″	2′4¼″-2′8″	2′3½″-2′9″	2′2¾″-2′10¼″	2′1½″-3′½″	2′½″-3′3¾″

The depth of field is measured from the film plane.

for Agfa Solinar f/3.5 = 75 mm.

At a distance setting feet	and a diaphragm stop of			
	8	11	16	22
	a sharp image is obtained from . . . to . . . ft.			
4	3′7 1/4″— 4′6″	3′5 3/4″— 4′8 3/4″	3′3 1/2″— 5′1 3/4″	3′1″ — 5′9 1/2″
4.5	4′ — 5′2″	3′10″ — 5′5 1/2″	3′7 1/4″— 6′3/4″	3′4 1/4″— 6′11 3/4″
5	4′4 1/2″— 5′10″	4′2 1/4″— 6′3″	3′10 3/4″ – 7′3/4″	3′7 1/4″— 8′4 1/2″
5.5	4′9″ — 6′7″	4′6 1/4″— 7′3/4″	4′2 1/4″— 8′1 3/4″	3′10″ —9′11 3/4″
6	5′1 1/4″— 7′3 1/2″	4′10″ — 7′11 1/2″	4′5 1/2″— 9′4 1/4″	4′3/4″ —11′10 3/4″
6.5	5′5 1/2″— 8′3/4″	5′1 3/4″ — 8′10 3/4″	4′8 1/2″—10′8 1/2″	4′3 1/4″—14′2 3/4″
8	6′5 1/4″—10′7 1/4″	6′1/4″ —12′1″	5′4 3/4″—15′9 3/4″	4′10″ —25′3″
10	7′7 3/4″—14′6 1/2″	7′1/2″ —17′6 3/4″	6′2 1/2″—27′	5′5 1/2″—78′
13	9′2 3/4″—22′2″	8′4″ —30′3″	7′2 1/4″—78′	6′2 1/4″— ∞
20	12′2 1/2″—57′	10′8″ —190′	8′9 3/4″— ∞	7′3 3/4″— ∞
35	16′4 3/4″— ∞	13′8 1/4″— ∞	10′9″ — ∞	8′7″ — ∞
∞	29′7″ — ∞	21′8″ — ∞	15′3/4″ — ∞	11′3/4″ — ∞

Diameter of circle of confusion: 0.05 mm.
For this lens the subject distance should be measured from the **focal plane** (the back edge of the accessory shoe).

Table for using ZEISS PROXAR supplementary lenses with 50 mm. f/2.8 Tessar lens

	Lens set to	Subject Distance	Reduction 1:	Field size
PROXAR lens f = 1 m	∞	3′3½″	19.0	1′5¼″×2′2¼″
	20′	2′10″	16.2	1′2¾″×1′10¼″
	10′	2′5¾″	14.1	1′¾″×1′7½″
	7′	2′2½″	12.7	11½″×1′5½″
	5′	2′	11.4	10¼″×1′3½″
	4′	1′9″	9.9	9″×1¾″
	3′	1′6″	8.4	7½″×11½″
	2.5′	1′4″	7.5	6¾″×10¼″
PROXAR lens f = 0.5 m	∞	1′8¼″	9.8	8¾″×1′1½″
	20′	1′6⅝″	9.0	8¼″×1′½″
	10′	1′5¼″	8.2	7½″×11¼″
	7′	1′4¼″	7.7	7″×10½″
	5′	1′3″	7.3	6½″×10″
	4′	1′2″	6.6	6″×9″
	3′	1′⅝″	5.8	5¼″×8″
	2.5′	11⅝″	5.4	4¾″×7½″
PROXAR lens f = 0.3 m	∞	1′1⅜″	6.4	5¾″×8¾″
	20′	1′⅝″	6.0	5½″×8¼″
	10′	1′⅛″	5.7	5⅛″×7⅞″
	7′	11½″	5.4	4⅞″×7½″
	5′	10⅞″	5.2	4¾″×7⅛″
	4′	10⅜″	4.8	4¼″×6⅝″
	3′	9⅝″	4.4	4″×6″
	2.5′	9″	4.1	3¾″×5⅝″
PROXAR lens f = 0.2 m	∞	8⅛″	3.9	3½″×5⅜″
	20′	7⅞″	3.8	3⅜″×5¼″
	10′	7⅝″	3.6	3¼″×5″
	7′	7½″	3.5	3⅛″×4⅞″
	5′	7⅛″	3.4	3″×4⅝″
	4′	6⅞″	3.2	2⅞″×4⅜″
	3′	6⅝″	3.0	2¾″×4⅛″
	2.5′	6¼″	2.9	2⅝″×4″

PROXAR lens f = 0.1 m

Lens set to	Subject Distance	Reduction 1:	Field size
∞	4 1/8''	2	1 3/4'' × 2 3/4''
2,5'	3 1/2''	1,6	1 1/2'' × 2 1/4''

Depth-of-field based on a circle of confusion of 1/500-inch

Aperture	Depth-of-field in inches
5,6	± 3/64''
8	± 1/16''
11	± 1/8''
16	± 5/64''
22	± 5/32''

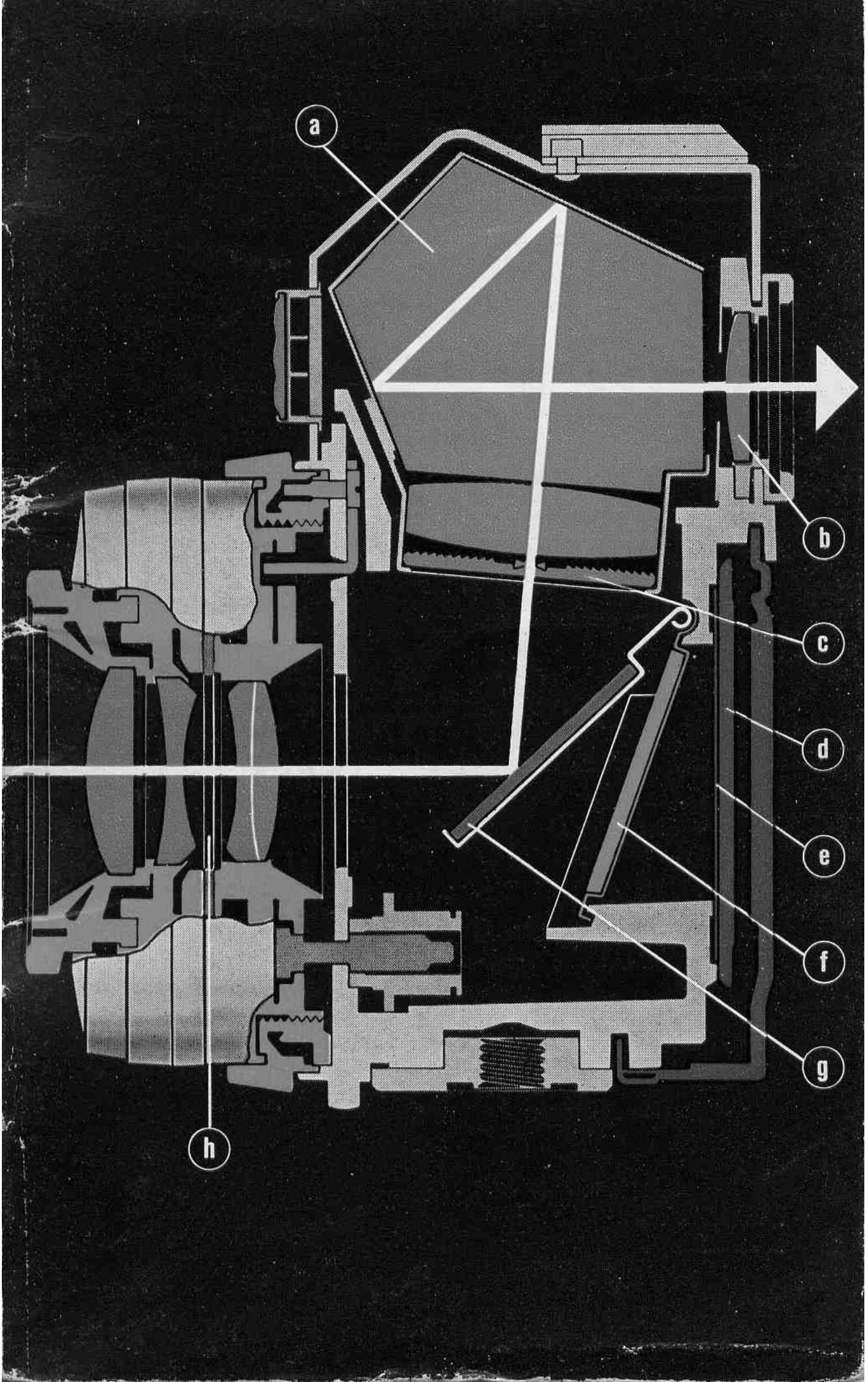
The field size is calculated for a useful image area of 23 x 35 mm.

Flashbulb	Synchro-Lever set to X or V	Synchro-Lever set to M
Osram		
XM 1, XM 5, SO, SO blue	1—1/30	1/60—1/500
XM 1 B, XM 5 B	1—1/30	1/60—1/125
Philips		
PF 1, PF 5, PF 60	1—1/30	1/60—1/500
F 1/blue, PF 5/blue PF 60/blue	1—1/30	1/60—1/125
PF 100, PF 100/blue	1—1/15	1/30—1/60
General Electric and Westinghouse		
5, 8, 11, 22, M 5	1—1/30	1/60—1/500
M 5 B	1—1/30	1/60—1/125
M 2, M 2 B, M 25 B	1—1/60	—
SM	1—1/125	—
50	1—1/15	1/30
Sylvania		
No 0, No 2, Bantam 8, Press 25, 40, M 5	1—1/30	1/60—1/500
M 5 B	1—1/30	1/60—1/125
M 2, M 2 B, M 25, M 25 B,	1—1/60	—
SF	1—1/125	—
3	1—1/15	1/30
Electronic flash	1—1/500	—

Table for using ZEISS PROXAR supplementary lenses with close-up Steritar-B

	Lens set to	Subject Distance	Reduction 1:	Field size*
PROXAR lens f = 1 m	∞	3′3½″	19.0	1′5″×1′1¼″
	20′	2′10″	16.2	1′2½″×10¼″
	10′	2′5¾″	14.1	1′½″×8⅝″
	7′	2′2½″	12.7	11¼″×7⅝″
	5′	2′	11.4	10″×6¾″
	4′	1′9″	9.9	8¾″×5⅞″
	3′	1′6″	8.4	7¼″×5″
	2.5′	1′4″	7.5	6½″×4½″
PROXAR lens f = 0.5 m	∞	1′8¼″	9.8	8½″×5⅞″
	20′	1′6⅝″	9.0	8″×5⅛″
	10′	1′5¼″	8.2	7¼″×4¾″
	7′	1′4¼″	7.7	6¾″×4⅜″
	5′	1′3″	7.3	6¼″×4 3/16″
	4′	1′2″	6.6	5¾″×3 15/16″
	3′	1′⅝″	5.8	5″×3 9/16″
	2.5′	11⅝″	5.4	4½″×3⅛″
PROXAR lens f = 0.3 m	∞	1′⅜″	6.4	5⅝″×4″
	20′	1′⅝″	6.0	5⅜″×3¾″
	10′	1′⅛″	5.7	5″×3½″
	7	11½″	5.4	4¾″×3⅜″
	5′	10⅞″	5.2	4½″×3¼″
	4′	10⅜″	4.8	4⅛″×3″
	3′	9⅝″	4.4	3⅞″×2¾″
	2.5′	9″	4.1	3⅝″×2½″
PROXAR lens f = 0.2 m	∞	8⅛″	3.9	3⅜″×2½″
	20′	7⅞″	3.8	3¼″×2 5/16″
	10′	7⅝″	3.6	3⅛″×2 3/16″
	7′	7½″	3.5	3″×2⅛″
	5′	7⅛″	3.4	2⅞″×2″
	4′	6⅞″	3.2	3¾″×1 15/16″
	3′	6⅝″	3.0	2⅝″×1 13/16″
	2.5′	6¼″	2.9	2½″×1¾″

* with reference to the near point plane

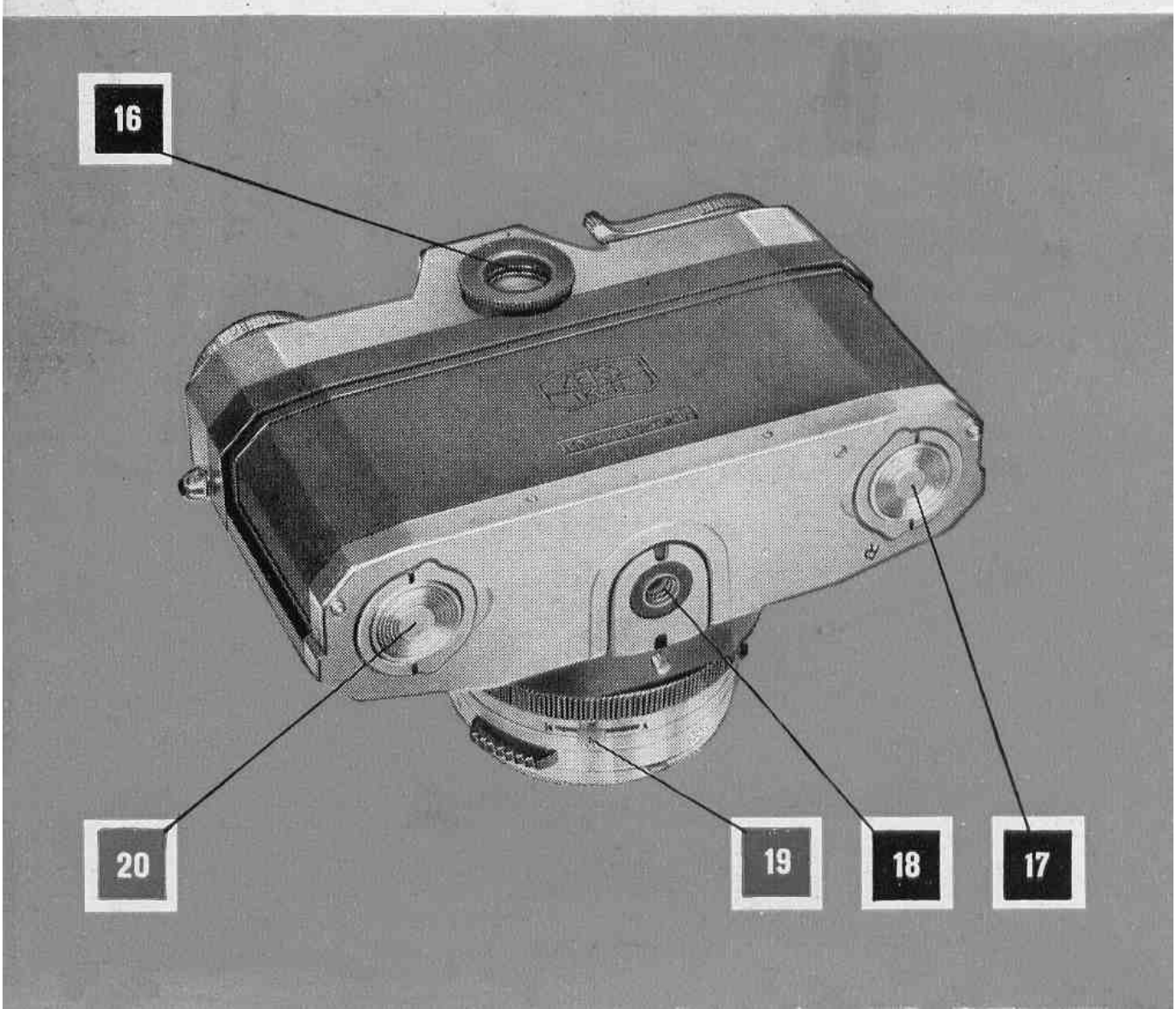

a
b
c
d
e
f
g
h

Explanations to cross section

a) Pentaprism
b) Viewfinder eyepiece
c) Fresnel field lens
d) Film pressure plate
e) Film
f) Capping plate
g) Mirror
h) Iris diaphragm and shutter

Controls and components of the CONTAFLEX super

16. Viewfinder eyepiece
17. Locking key for camera back and film unlocking
18. Tripod bush
19. Setting lever for M-X flash contact and V (selftimer)
20. Locking key for back



Care of the CONTAFLEX super

From time to time, the film track, the film chambers and the back of the CONTAFLEX super should be carefully cleaned with a soft brush. Do not force up the capping plate, as this might damage the mechanism. Gently wipe the lens with a soft, well-washed piece of linen (but not leather), after removing any dust with a soft brush. The lens should only be cleaned when really necessary. Polish the chromium-plated external fittings occasionally with a soft linen rag.

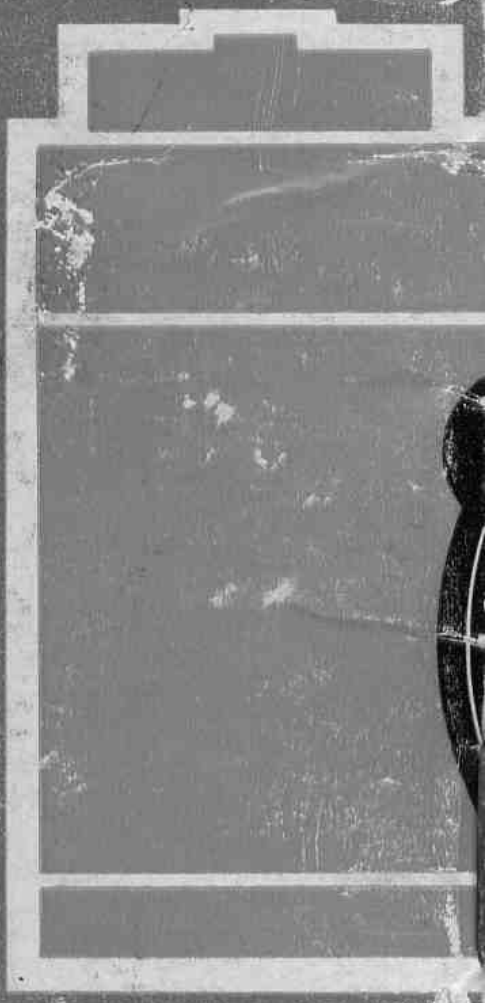
Serial Numbers

There is a serial number (with a letter preceding the number) on the back and body of every CONTAFLEX camera, and also on the mount of the standard TESSAR lens. You are advised to make a careful note of both these numbers, as they may be of great help in establishing ownership in cases of loss or theft. You should also note the lens number in case you should lose the front component of the TESSAR lens; quote this number if you order a replacement front-component.

Subject to changes in the interest of technical progress.

ZEISS IKON

Zeiss Ikon AG. Stuttgart



englisch | GA [illegible]/1 Printed in Germany
Author: Prof. Dr. J. Stüper 20 0461-6

DEPTH-OF-FIELD for Agfa Apotar f/4.5 = 85 mm.

At a distance setting feet	and a diaphragm stop of					
	4.5	5.6	8	11	16	22
	a sharp image is obtained from . . . to . . . ft.					
3	2.9—3.1	2.8—3.2	2.7—3.3	2.6—3.4	2.5—3.7	2.4—4.0
3.5	3.4—3.7	3.3—3.8	3.1—3.9	3.0—4.1	2.9—4.5	2.7—5.0
4	3.8—4.3	3.7—4.4	3.6—4.6	3.4—5.1	3.2—5.4	3.0—6.1
5	4.6—5.5	4.5—5.6	4.3—5.9	4.1—6.4	3.8—7.3	3.5—8.9
6	5.4—6.7	5.3—7.0	5.0—7.5	4.8—8.2	4.4—9.8	3.9—13
8	7.0—9.4	6.8—9.8	6.4—11	5.9—12	5.3—17	4.7—28
10	8.4—12	8.2—13	7.5—15	6.9—18	6.1—29	5.3—103
15	12—21	11—23	10—30	9—48	7.5—∞	6.4—∞
30	19—69	18—101	15—∞	13—∞	10—∞	8—∞
∞	53—∞	42—∞	30—∞	22—∞	15—∞	11—∞

Diameter of circle of confusion: 0.05 mm.
For this lens the subject distance should be measured from the **diaphragm plane** (front edge of diaphragm lever).