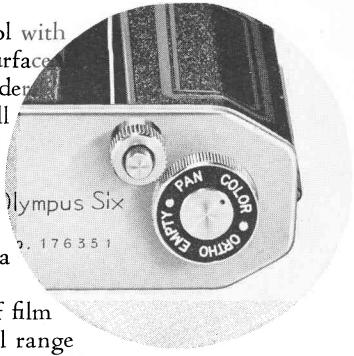
OLYMPUS *Chrome* SIX

ZUIKO 1 : 2.8 F = 75 mm FULL COATED
ZUIKO 1 : 3.5 F = 75 mm FULL COATED
SYNCHRO-COPAL SHUTTER
B, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, 1/200, seconds.
Built-in Selftimer and Flash Synchronizer.
Twelve 6 × 6cm or sixteen 4.5 × 6cm pictures on a roll of 120 film.
Film Plane Corrector.
Film Indicator.
Excellent definition with full coated Zuiko.
Accurate and smooth operation of synchro-copal shutter.
Indestructible dye-cast body with elegant satin chrome finish.

The Olympus Chrome Six have become widely accepted by the Public as the all-around Camera because of continuous research and manufacturing know-how over the last decade which added a great number of outstanding features. Our latest model III brings you an entirely new and ingenious invention called the film plane corrector, thus making this the only spring camera in the world equipped with a device which holds the surface of the film firmly to the focal plane of the camera. Get the full benefit of this camera by developing all its characteristics by reading this booklet.



Since roll film is flexible celluloid film wound on a spool with its back paper, it is very difficult to keep the sensitized film surface parallel to the flat focal plane of the camera. However, in order to take 100% advantage of the lens and get sharp and well defined pictures, the film surface should lie evenly with the focal plane. For this reason we often experience in getting pictures which is inexplainable out of focus. Irrespective where it was manufactured, either here or abroad and whether it is very expensive or cheap, as long as it was a roll film camera it was impossible to get rid of this defect.

To get a perfect alignment between the sensitive surface of film to the focal plane is rather difficult, however there is a natural range of allowance. This range in photography is known as the depth of focus and for pictures in sizes 6×6 cm or 4.5×6 cm the depth of focus for F 1:2.8 opening is plus or minus 0.1 from the focal plane and for F1:3.5 it is plus or minus 0.13 in mm. Therefore, even though some irregularities may exist on the film surface, as long as it is within the range above mentioned, it will not affect the practical sharpness of the picture. By enlarging the diameter of the circular aperture of the diaphragm, the depth of focus will decrease as shown on the following table.

DEPTH OF FOCUS

Iris	2.8	3.5	4	5.6	8	11
Depth (mm) .	±0.10	±0.13	±0.14	±0.22	±0.32	±0.44

By the use of a microscope the position of the film surface at the center of a given block was tested to determine its relationship with the focal plane in the roll film camera and the uneven position of the film surface is as shown on figure I.

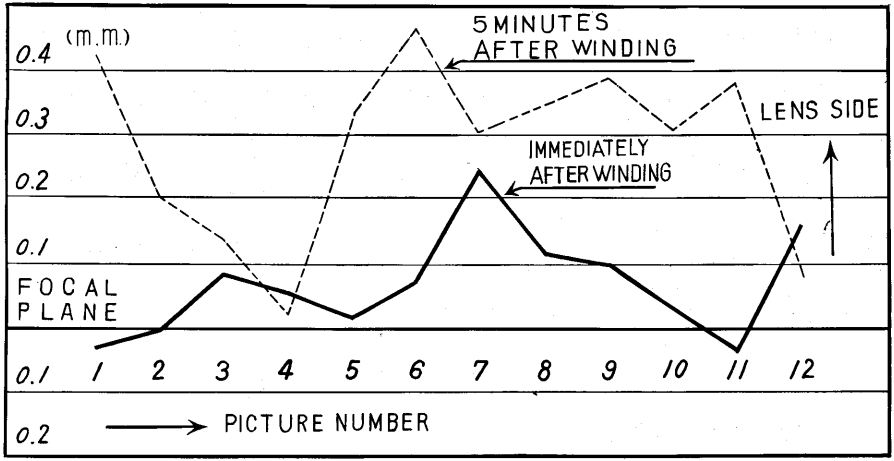
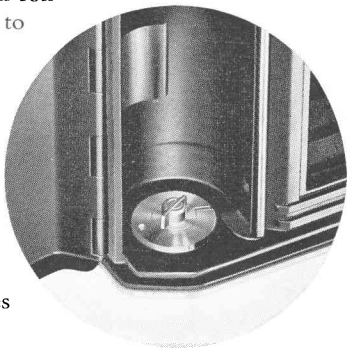


Fig. I

The figures under the horizontal axis show the exposure number. The upper figures indicates the projected parts towards the lens and the lower figures shows the depressions away from the focal plane. The full line which shows the position of the film surface immediately after it was placed into position shows that No. 1 to No. 6 is properly set but No. 7, the film surface is projected over 0.2 mm towards the lenses and No. 12 to 0.15 mm. After a lapse of five minutes since the film have been wound up, only No. 4 is within the allowable range of the depth of focus, as it is shown by dotted line, and all the rest have projected itself towards the lens.

The illustration is only one example but generally in all roll film cameras at its best have irregularities ranging from 0.2 to 0.4 mm, normally is about 0.3 to 0.5 mm and under bad conditions at times goes beyond 1 mm.



Contributing reasons for this irregularities are as follows:

1. Curling of film and its back paper, which changes in temperature and moisture,
2. Backlash of the film winder,
3. Loosening of film from its position due to vibration, knocks to the camera etc:

This Firm to rid such shortcomings have finally evolved the unique and ingenious device which eliminates the troubles above mentioned with the sensational film plane corrector.

Based on the film plane corrector, the Olympus Chrome Six Model III firmly holds the film in relation with the focal plane without slackening and

at the same time, the construction of the surface where the film travels, the flatness of the pressure plate and the pressure against the plate holding the film in place is properly adjusted allowing the film surface to maintain its proper relationship as shown in figure II. With the addition of this new device the un-explainable distortions and improper focusing have been eliminated from this roll film camera.

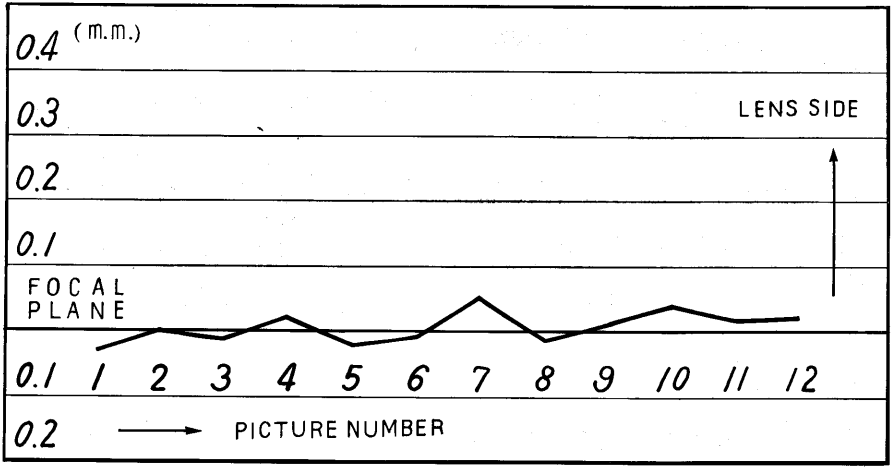
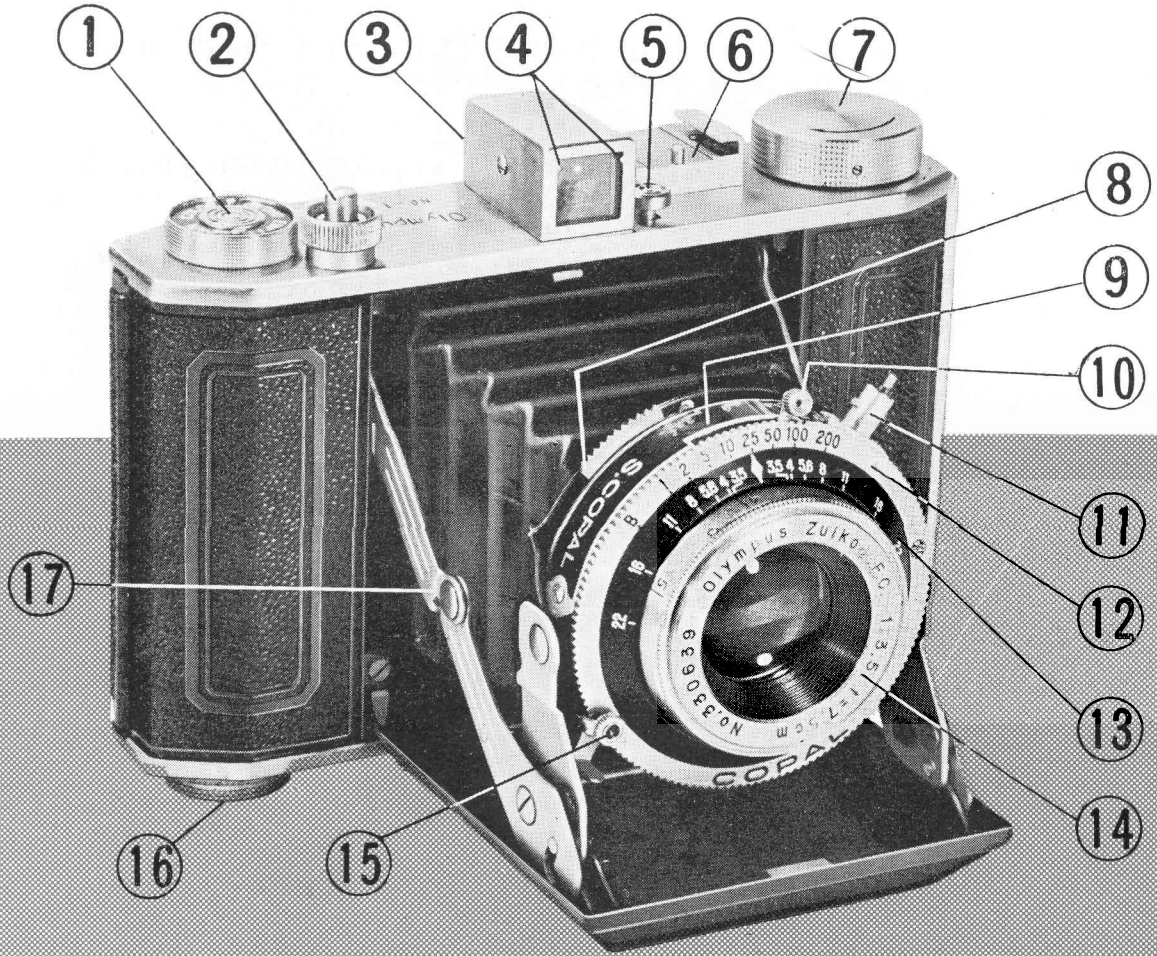
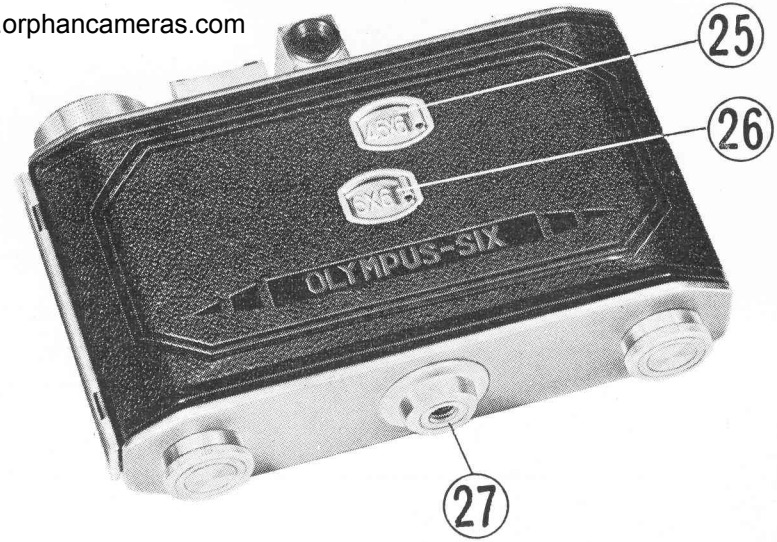
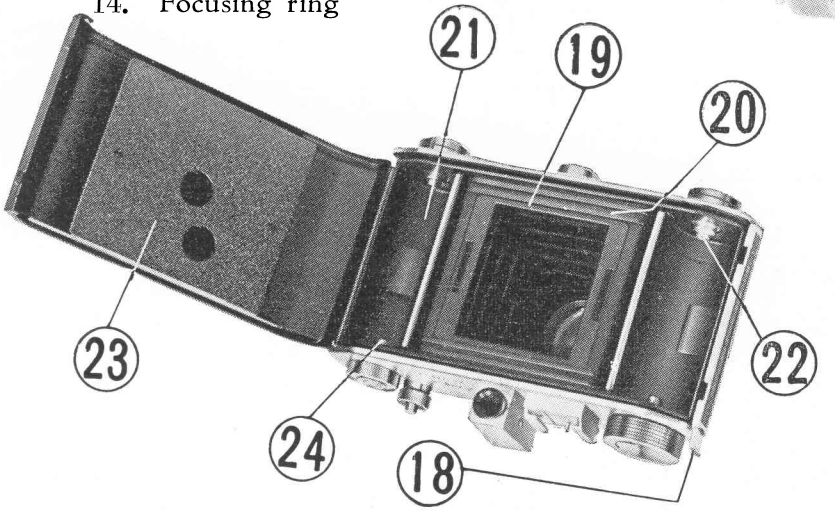


Fig. II

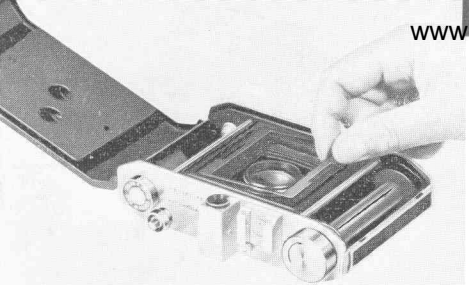


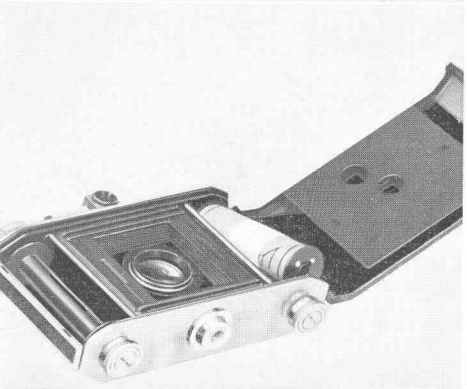


1. Film indicator
2. Release button
3. View finder
4. 3.5 ft mark of view finder
5. Opening button of camera front
6. Accessory shoe
7. Winding knob
8. Iris-diaphragm regulator
9. Aperture scale
10. Cocking lever of shutter
11. Flash plug
12. Speed dial of shutter
13. Depth of field scale
14. Focusing ring



15. Selftimer lever
16. Spool holder knob
17. Side struts
18. Catch for camera lock
19. Detachable mask for 4.5 × 6cm picture
20. Base frame
21. Film chamber
22. Empty spool holder
23. Pressure plate
24. Film plane corrector key
25. Window for 4.5 × 6 cm picture
26. Window for 6 × 6 cm picture
27. Tripod screw





1. Pull out the catch (18), then the camera back will open.

2. You will find the detachable mask (19) for 4.5 × 6 cm pictures, which is attached to the base frame of the focal plane (20). Now you must decide which picture size should be chosen . . . . 6 × 6 cm or 4.5 × 6 cm.

3. If you prefer to take 6 × 6 cm pictures, take off the mask by slightly bending it, but insert it when you like to take 4.5 × 6 cm pictures. To insert it, fit one of its ends to one side of the base frame (20) and then the other end to the opposite side by bending the mask slightly. See that the mask is placed in the correct direction; the longer side must be parallel to the roller.

4. Pull out the spool holder knob (16), turn it a little to either side, then, it will be fixed. Put the new film into the film chamber (21) and turn back the spool holder knob. Then, the spool holder knob will be fixed into its

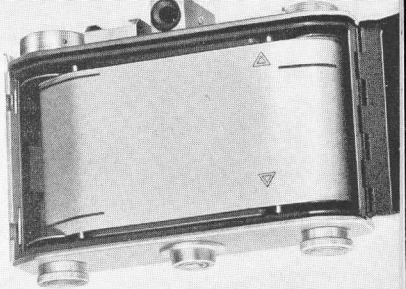
original position and the film will be held ready for rotation.

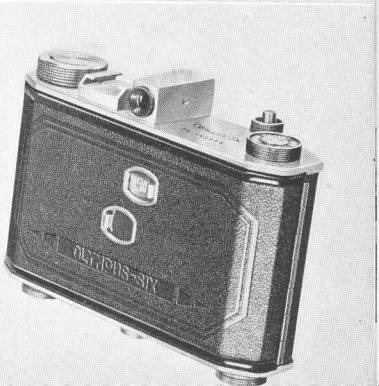
5. Take off the gum strip of the new fil n, pull out leader paper, insert its end into the longer slit of the empty spool which has been placed in the take up film chamber. Turn next the knob (7) a little to make sure that the end of leader paper is properly inserted, then close and lock the camera back.

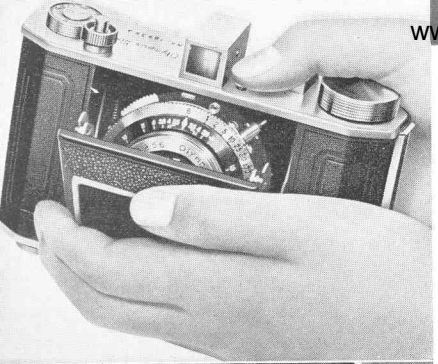
6. Before closing the back, be sure that leader paper is placed right between the outer rails of both side of the focal plane as shown in the illustration.

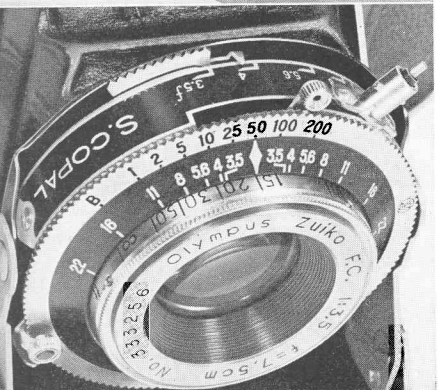
7. Open the center window (25) for 6 × 6cm pictures or the upper window (24) for 4.5 × 6cm pictures. In both cases, wind the knob (7) until figure 1 appears.

8. Film indicator is your memory of loaded film. Turn its dial and set the letter to the red mark according to the kind of film.





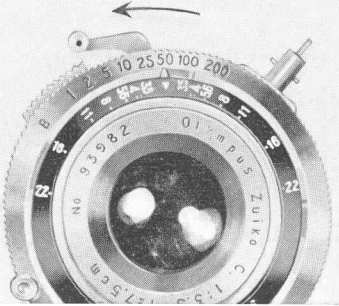


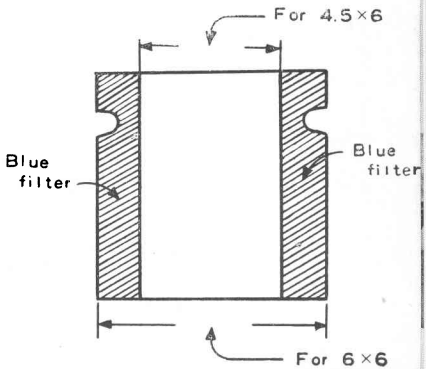


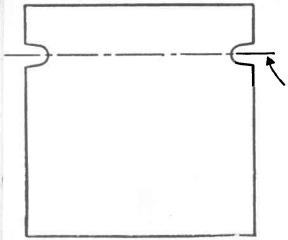
1. Push the button (5) to open the camera front. It is advisable to open the camera front slowly holding it lightly so as not to disturb the surface of the film at the focal plane.
2. Before making an exposure, you must determine three factors . . . . focus, shutter speed and lens aperture.
3. Scales of distance indicated in feet are engraved on the side of the focusing ring (14). Measure the distance of your subject by the eye or by means of a distance meter and place the corresponding scale under the center mark (▼) on the depth of field scale (13) by rotaing the focusing ring. (Refer to Page 15.)
4. Shutter speed and lens aperture must be determined according to the motion of the subject, light condition and the kind of a film used. In ordinary cases, first determine shutter speed according to the moving speed of the subject and then regulate the lens aperture with adequate consideration given to the light condition and the speed of film. (Refer to Page 18.)

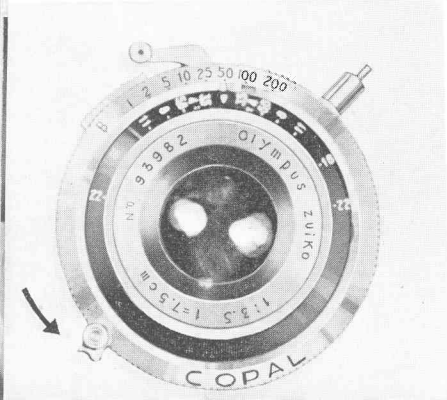
5. Engraved figure B on the speed dial of the shutter (12) indicates bulb exposure, Set figure B to the center mark (▲) on the shutter, lay down leftward the cocking lever (10) and push the release button (2). Now, you will find the shutter opens; as long as the release button is pressed, the shutter remains open.
6. The other figures on the speed dial, being the denominators of fractions of a second they represent, indicate the time required for an instantaneous opening of the shutter. 1 indicates 1 second, 2 indicates 1/2 of a second, and so on. In any case, set your desired figure to the center mark, cock the shutter and push the release button; then the shutter will make an instantaneous opening at an indicated speed.
7. Apertures of the lens are indicated by F numbers on the aperture scale (9). The higher the number the smaller the aperture. The quantitative proportion of light passing through the lens are:

F number	2.8	3.5	4	5.6	8	11	16	22
Proportion	2	1.3	1	1/2	1/4	1/8	1/16	1/32



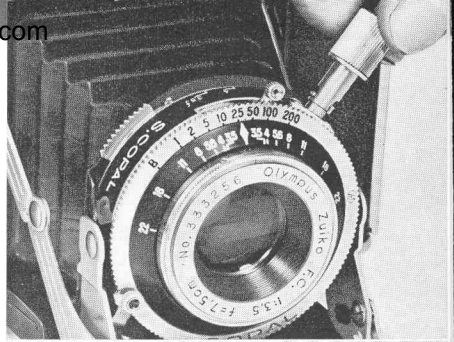


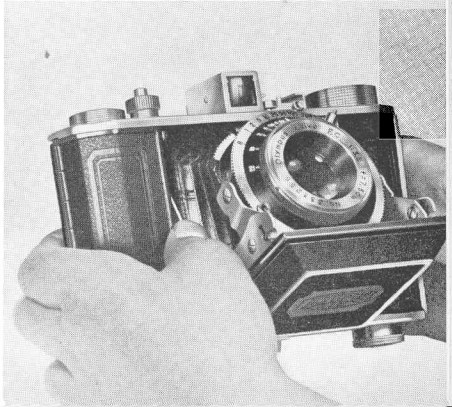




8. Set distance, set shutter speed, regulate the lens aperture by placing the iris-diaphragm regulator (8) on your desired scale (9) and cock the shutter. Now, all is ready for an exposure. You need only to press the release button slowly, looking at the subject through the viewfinder (3) to take your first picture.
9. It is essential to press the release button slowly in order not to give any shock to the camera, since even the slightest shock will spoil the definition of your negative.
10. When you take 6×6cm pictures, use the entire area of the viewfinder including the area covered by the blue filter, but use only the white area for 4.5×6cm pictures.
11. In both cases, when the subject is at an extremely near distance, the upper limit of the subject to be taken in the picture, due to the parallax of the viewfinder and lens, becomes lower than that which may be seen through the viewfinder. The 3.5 feet mark on the viewfinder (4) indicates this upper limit when the subject is 3.5 feet distant.

12. When you want to take your own portrait or to make an automatic exposure, set downward the selftimer lever (15) after the shutter is cocked, and push the release button. Then, the shutter will make a delayed-action automatic release after about 10 seconds.
13. When you like to make a flash exposure, connect the socket of the flash gun to the flash plug (11) of the shutter and operate the shutter as usual. This makes possible a flash synchronized exposure. The limit of shutter speed is up to 1/100 of a second for F-type bulb and 1/50 of a second for M-type bulb.
14. When a filter or sunshade is to be used, fix it to the round groove on the front of the focusing ring (14). The diameter of filter or sunshade must be 37mm.
15. In the case of a wire release, connect the same wire release as that used for Leica to the screw thread of release button (2).
16. To close the camera front after exposures, fold the side struts (17) as shown in the illustration and then shut the front base board.





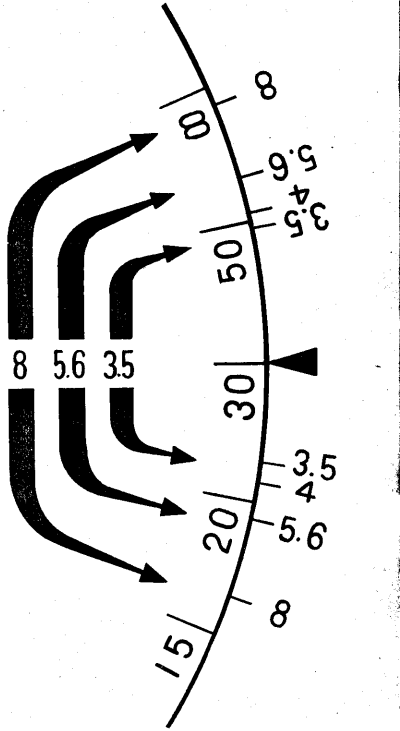
1. The depth of field indicator (13) is a useful guide for regulating focus and lens aperture.
2. Your subject will be defined most sharply when it lies just at the distance on which the lens is focussed; its definition will gradually become less sharp when it is moved too near to or too far from the camera. Even when the subject does not lie exactly at the focussed distance, if the difference is within certain limited range, its definition will be practically satisfactory. This range .... the distance between the nearest and furthest planes within which subjects are to be taken with satisfactory sharpness .... is commonly known as "depth of field". It varies with focussed distances and lens apertures. The depth of field indicator (13) shows this relation on the focusing scale (14).
3. There are two same figures on both sides of the center mark on the depth of field indicator (D.F.I.) The figures on the left side indicate the furthest planes of depth of field on the focusing scale when the lens is stopped down to any of the said figures, while the figures on the right side indicate the nearest planes.
4. For instance, put the 30 feet mark on focusing scale under the center mark (▼) on D.F.I. In this case, the subject comes out most sharply when it is at the distance of 30 feet, no matter what lens aperture may be used. But if you fix lens aperture at F 1 : 4, the other subjects coming within distances of 20 to a little over 50 feet will practically be defined satisfactorily. This can be said:—

   Read the figures on the focusing scale that come directly under Fig. 4 on D.F.I. As you can easily see, Fig. 4 on the right side indicates 20 feet and Fig. 4 on the left side a little over 50 feet. Thus, you can determine the depth of field under the lens aperture of F 1 : 4 as ranging from 20 to a little over 50 feet.
5. Likewise, when you stop down the lens to F 1 : 8, read the figures on the focusing scale

which come under Fig. 8 on both sides of the center mark of D.F.I. In this case, you will find the depth of field is from about 16 feet to infinity.

6. Put other feet marks under the center mark on D.F.I. In the same manner, you can determine the depth of field under the lens aperture you have chosen.
7. On the other hand, when you like to produce a sharp picture of more than one subject happening to be at different distances, you can easily regulate the focusing ring and determine the lens aperture which may be used, by means of this D.F.I.

First, measure the distances of the nearest and furthest subjects. Supposing the nearest distance is 7 feet and the furthest 10 feet, regulate the focusing ring in order that the center mark (▼) on D.F.I. may come between 7 and 10 feet, and then seek the smallest same figures including these two distances on D.F.I. You will find that the figure obtained will be 5.6. Thus, you can know that you must stop down the lens to F1 : 5.6. Similarly, if the distance of the nearest subject is 7 feet and that to the furthest is 30 feet, the lens must be stopped down to F1 : 16.



1. Don't forget to wind up the film immediately after each exposure in order to prevent double exposures.
2. Open one of the back windows chosen by you, wind up the knob (7) until the next figure appears.
3. After the last exposure, open one of the back windows and wind the knob (7) until the entire length of back paper is wound up. Open the camera back, pull out the spool holder, take out the exposed film and paste down the end of back paper.
4. Film loading and unloading should not be done under direct sunlight.

NOTE:

1. Protect your camera from dust and moisture.
2. Keep your lens clean. When the lens gathers dust wipe it carefully with soft, clean cotton cloth. Never leave it as it dusty.

For ordinary purpose, medium speed film with a rating of about 30 to 50 ASA is suitable. Under a poor light condition, high speed film may be used, but it has rather coarse grain. Low speed film possesses fine grain and high contrast. ASA number is proportional to the speed of film.

TABLE I

ASA	DIN	GE	WESTON
8	10/10	10	6
10	11 10	12	8
12	12/10	16	10
16	13 10	20	12
20	14 10	24	16
24	15/10	32	20
32	16/10	40	24
40	17/10	48	32
48	18/10	64	40
64	19/10	80	50
80	20/10	100	64
100	21/10	125	80
125	22/10	160	100
160	23/10	200	125
200	24/10	250	160
250	25/10	300	200

TABLE II

Subject	Lens Opening	Shutter Speed
Street scene, Building: . .	5.6- 8	1/50
Landscape with dark foreground:	8-11	1/100
Open landscape:	11-16	1/100
Open sea, Snow scene: . .	11-16	1/200
Portrait in shadow: . . .	3.5-4	1/50
Indoor portrait near window:	3.5	1/10-1/25

This exposure guide table is for medium speed films and a clear sky during the summer months between 10 A.M. and 4 P.M. During spring and autumn, double these exposures and winter multiply them by four. In the case of color photography, the use of a photo-electric exposure meter is recommendable.

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