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Directions for using

35¢



*Leica**

MODEL III C

E. LEITZ, INC., 304 Hudson Street, New York 13, N.Y.

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Introduction

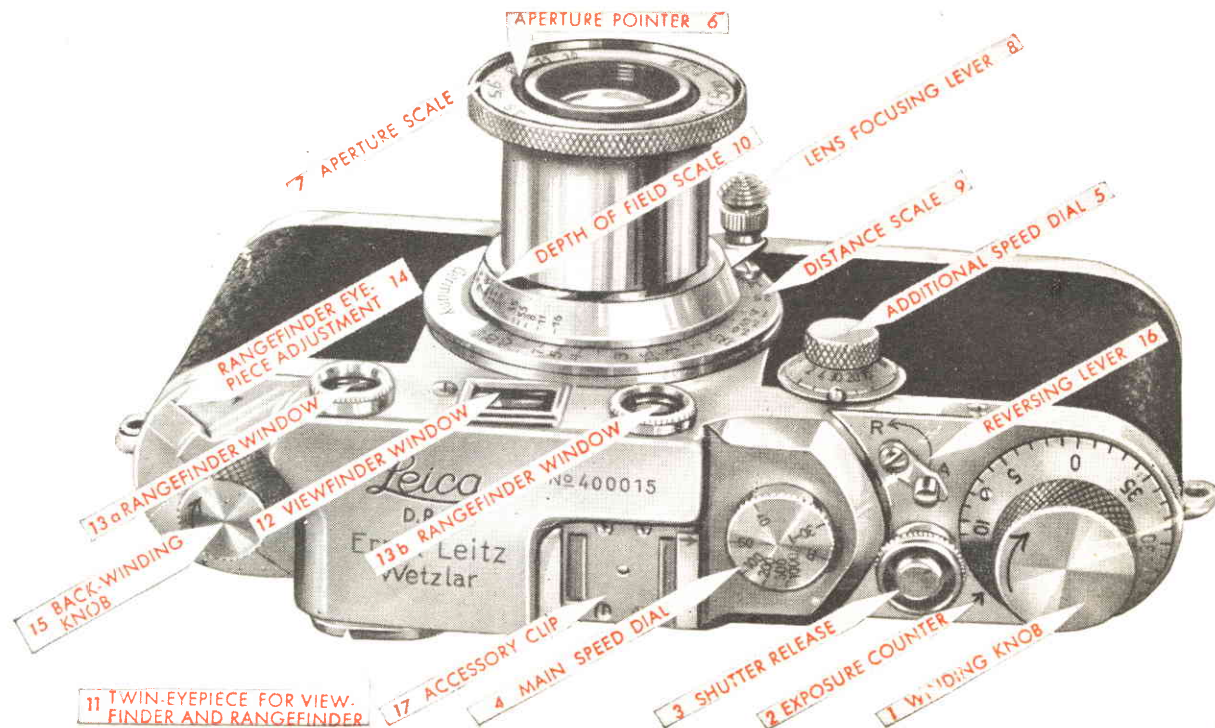
While this instruction booklet is written primarily for use with the Model IIIc Leica camera, information in it is applicable to all other Leica cameras. Every Leica, from the very first Model A to the latest Model IIIc Leica camera has the same basic general design. The main differences between the various models are the additional, unusual Leica features added to each succeeding model. A brief description of each model of the Leica camera is given on pages 44 to 47. This will enable you to identify the model designation of your camera, so that you can easily apply the information in this booklet to it.

10. DEPTH OF FIELD SCALE symmetrically engraved on both sides of the distance scale index page 14
11. TWIN-EYEPIECE FOR VIEWFINDER AND RANGEFINDER page 17
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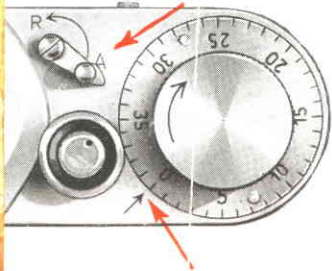
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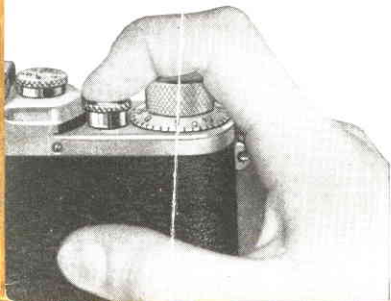


1. WINDING KNOB, advances the film and winds the shutter, at the same time	page 6
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9. DISTANCE SCALE	page 14

Set reversing lever to A.



Turn counting disc to 0 position after inserting a new film. It will automatically record the number of exposures.



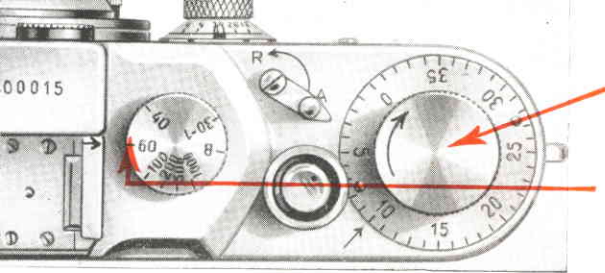
1. Turn **WINDING KNOB** (as indicated by arrow) as far as it goes up to a stop. This simultaneously winds the shutter and advances the film for the next exposure. Double exposures are not possible.

2. **AUTOMATIC EXPOSURE COUNTER.** The counting disc is turned counter-clockwise by means of two lugs. (i.e. in the opposite direction of the arrow on the winding knob).

The Leica film magazines or daylight loading cartridges can hold a strip of film, $5\frac{1}{4}$ feet long, which is sufficient for 36 pictures (24x36 mm in size).

3. **SHUTTER RELEASE BUTTON.** The exposure is made by gently pressing the release button.

The next picture can be taken only after again turning the Winding Knob (1) as far as it goes. Accidental double exposures are impossible. A special cable release can be screwed over the release button, between the button and the outer collar.

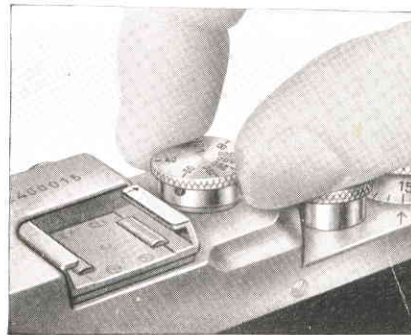


FIRST turn the Winding Knob up until it stops.

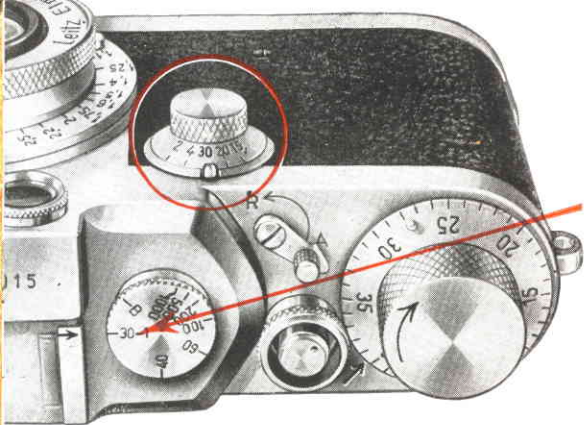
THEN set Shutter-Speed Dial to the exposure time desired.

4. The **MAIN (TOP) SHUTTER-SPEED DIAL** shows exposure figures from 30 to 1000 which represents fractions of a second (for instance $40 = 1/40$ sec.; $60 = 1/60$ sec. etc.) Intermediate speeds cannot be set. Set to **B (Z)**, the shutter remains open while the release button is pressed down. When set to the red figure 30-1, the Additional (Slow Speed) Dial (5) is put in action (next page).

The Main Shutter-Speed Dial can be adjusted only after the shutter has been wound, as it revolves when the latter is released. Re-winding the shutter brings the speed dial back to its original position.



Lift and set Dial so that the index arrow points to the desired speed.



5. **ADDITIONAL (SLOW SPEED) SHUTTER-SPEED DIAL** for the slow instantaneous speeds $1/30$ — 1 sec.

To operate this Dial set Main Shutter Speed Dial — after shutter has been wound — to the red figure 30 — 1.

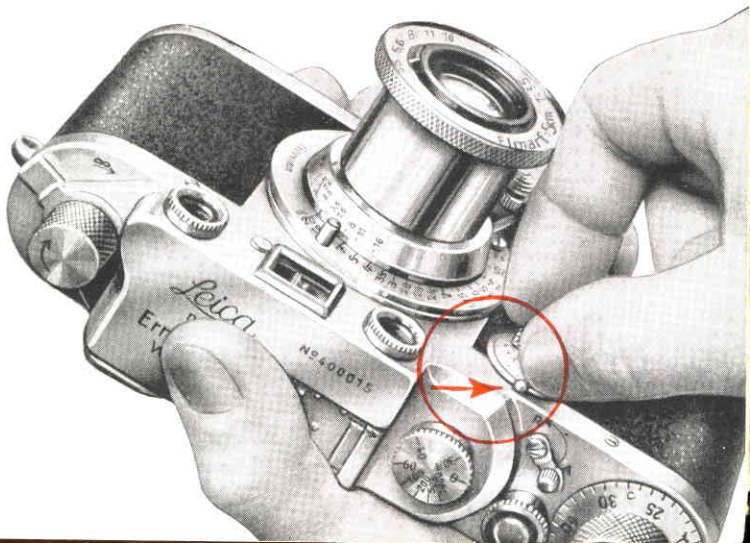
It provides exposure times of $1/30$, $1/20$, $1/15$, $1/10$, $1/4$, $1/2$, and 1 second. The figures can conveniently be read from above. Intermediate speeds can also be set (e.g. $3/4$ sec. being half way between $1/2$ and 1 sec.)

When set to **T**, the shutter opens on being released, and remains open. To close it, do not press the release button again, but merely turn the Slow Speed Dial back a little (to 1 or farther) and the shutter will close immediately.*

* The shutter also closes when the film is advanced. This is important for photo-micrography and other special purposes.

When changing from the slow speeds of the Front Dial to the high speeds of the Main Dial, the Front Dial must be set to the red figure **30**. Consequently both dials are set to **30** when $1/30$ sec. is required.

The Front Dial can be turned either way between stops. A safety spring holds the Front Dial at **30** and must be pushed back with the finger when changing to slow speeds. This can be done conveniently by pressing down the spring with the right hand thumb-nail.



The mounts of the Leica standard 50 mm lenses ELMAR f/3.5, SUMMAR f/2 and SUMMITAR f/2 are of a collapsible type.

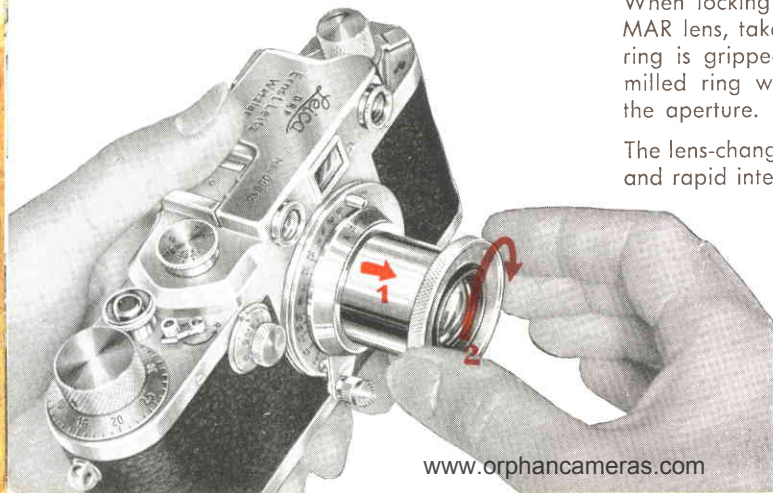
For photographing

1. pull out lens.
2. lock it by turning it clockwise to the stop.

To push lens back into the camera body, unlock it counter-clockwise.

When locking the SUMMITAR or SUMMAR lens, take care that only the front ring is gripped not touching the other milled ring which serves for adjusting the aperture.

The lens-changing flange allows an easy and rapid interchange of lenses of vari-



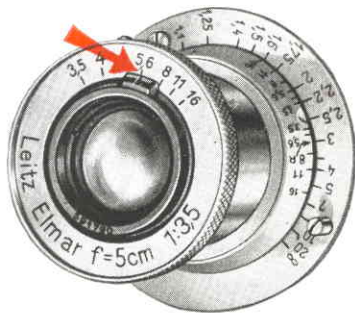
ous focal lengths. The special screw-flange of the Leica insures lasting accuracy. Lenses are simply screwed firmly into the changing flange. The helical focusing mount of the lens will automatically couple with the Rangefinder mechanism.

When changing lenses, hold the camera with the left hand, grip the lens with the right hand close to the camera body, and loosen it in the flange with a slight jerk. Then unscrew the lens, with the camera held flat in your left hand, the lens turned upwards to avoid dropping it. In the same way the lens is screwed into the changing flange, first feeling the entrance of the precision thread by turning slightly counter-clockwise, and then screwing it (by turning clockwise) firmly into the changing flange. Lenses in collapsible mounts must be pulled out and locked in the bayonet catch, their focusing lever in the infinity position, before being screwed into the changing flange.

The opening in the camera body should not be exposed to strong light, and it is best to hold the opening of the camera against the body while the other lens is taken from its case.



Take special care of this precision coupling mount. Use screw cap when carrying lens separately.



6. APERTURE DIAPHRAGM ADJUSTMENT. The light transmitting capacity of a photographic lens is controlled by its diaphragm. This has the same function as the iris of the human eye which widens or narrows the diameter of the pupil according to the intensity of the light reaching the eye.

The diaphragm of the ELMAR 50 mm (and also of the wide angle lenses ELMAR 35 mm and HEKTOR 28 mm) is adjusted by a small lug with index line. The diaphragm of all other lenses is operated by a milled ring.

7. APERTURE SCALE. The figures indicate the relative aperture of the lens. The relation between lens aperture and relative time of exposure is as follows:

Lens aperture (scale figures*)	1.4	1.5	2	2.2	2.8	3.2	3.5	4	4.5	5.6	6.3	8	9	11	12.5	16	18	22
Relative exposure time	0.5	0.6	1	1.2	2	2.5	3	4	5	8	10	16	20	32	40	64	80	128

The table shows that small diaphragm openings, which naturally necessitate longer times of exposure, are indicated by higher scale figures, and vice versa.

* The red figures represent the international (ASA) scale of aperture values, which has been adopted for all Leica lenses of recent production.

When stopping down to the next higher scale figure, the time of exposure has to be doubled.

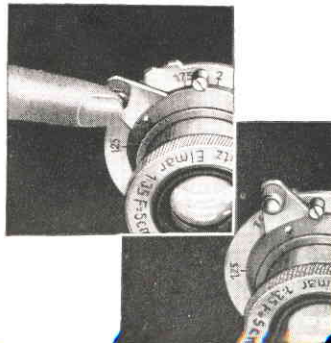
If, for example, the exposure meter indicates an exposure time $1/60$ sec. for a diaphragm setting of 5.6, the time of exposure must be doubled with the diaphragm stopped down to 8 i.e. $1/30$ sec. Or, if the correct exposure is $1/60$ sec. at 6.3, the speed should be changed to $1/30$ when the diaphragm is stopped down to 9. (When using lenses engraved with the former European System.)

The diaphragm setting 2 on the other hand would require an exposure time of $1/480$ sec. In practice you set the shutter to $1/500$ sec. as you would set it to $1/20$ when your exposure meter reads $1/25$ such little differences being of no importance owing to the great latitude in the sensitivity of modern films.

8. LENS FOCUSING. When not in use, the helical mount of the lens is locked at the infinity position (∞). By pressing the knob on the end of the focusing lever the catch is released, and the lens can then be rotated for focusing up to 3.5 ft. (1 m). The locking device is found only on lenses of 50 mm focal length or less.

When using the **ELMAR**, **SUMMAR** or **SUMMITAR** 50 mm lenses, do not forget to pull out the tubular lens barrel, and lock it in its bayonet catch.

Long-focus lenses are focused by means of a knurled ring.



9. DISTANCE SCALE. The distance may be read off the figure of the distance scale which lies nearest the index mark.

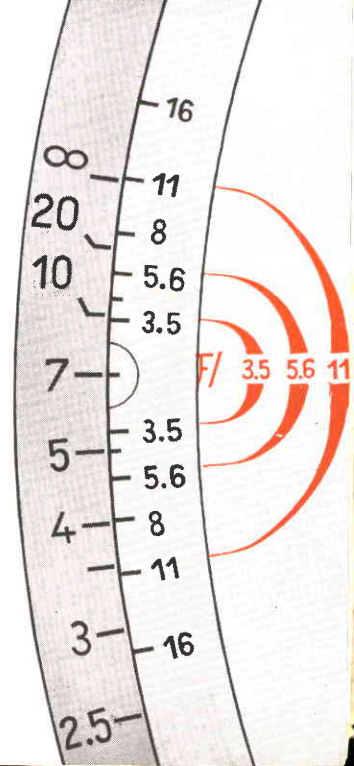
In addition to the main index, Leica lenses have a second index denoted by **R** which serves for focusing when taking **INFRA-RED** photographs (with the exception of the 28 mm and 35 mm wide angle lenses with which maximum sharpness in the case of infra-red exposures always lies within the depth of field). The lens is first focused in the usual manner, then the helical mount moved until the index **R** points to that position on the distance scale which was first indicated by the main index.

10. DEPTH OF FIELD SCALE. The maximum sharpness obtainable by a photographic lens lies in a plane at the distance to which the lens has been set. From this plane decreasing sharpness extends to the foreground as well as to the background. This range of sharpness is called the "depth of field" or less accurately "depth of focus" and depends, for a given lens, on the relative aperture and the distance to the subject focused on. **The smaller the aperture (by stopping down the lens diaphragm) the greater will be (for a given distance) the depth of field. The nearer the distance, the smaller the depth of field for a given aperture.**

To enable one to read the depth of field range at any lens aperture and distance, direct from the Leica Camera, a special scale is provided on the base of the lens mount. It bears the aperture figures on either side of the index mark, and shows the distances in front of and behind the actual focusing distance at which sufficiently sharp focus is obtained.

In the case of a lens aperture of 3.5 and a distance of 7 m the scale shows a depth of field ranging from about 5.5 m to 10 m, and when the lens is stopped down to 11 this depth of field extends from about 3.5 m to ∞ (infinity) without any alteration to the lens focusing being necessary. This latter adjustment is particularly useful when as large a foreground as possible is to be included in a landscape photograph.

NOTE: The example given above is for a lens with a metric distance scale. One meter is approximately 39½ inches.

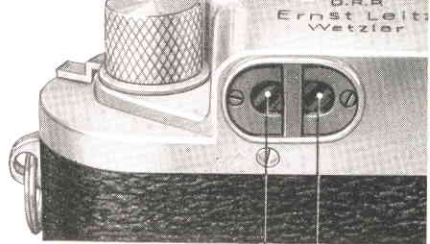


However, it should always be borne in mind that the maximum sharpness lies at the distance to which the focusing scale has been set. Therefore, for distance views, with a foreground which can be neglected, the focusing scale should always be set at ∞ (infinity).

The reading of the depth of field scale is sufficiently accurate for all practical purposes. If desired, further data may be obtained from our special DEPTH OF FIELD TABLES.

The beginner will find it advisable not to worry about the depth of field scale. His first aim will be to obtain his results with the following settings of the focusing scale: For landscapes and similar objects at long distances stop down to 5.6 or 8, (6.3 or 9) and set lens to infinity. For snapshots stop down to 5.6 (6.3), and focus to the most important part of the subject. For portraits, use full lens aperture, and focus accurately on the eyes of the person.

11. The **TWIN-EYEPIECE** combines the eye-lenses of the Viewfinder and the Rangefinder.



RANGEFINDER

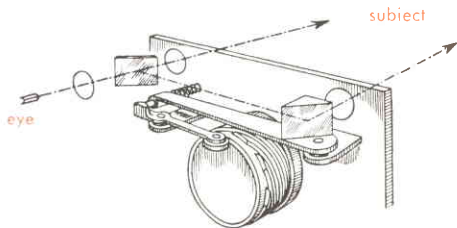
VIEWFINDER

12. The **BUILT-IN VIEWFINDER** is a direct-vision finder, and shows the field covered by the lenses of the 50 mm standard focal length. It is to be held centrally to the eye.

Lenses of other focal lengths require the use of the **UNIVERSAL VIEWFINDER**, which slips into the accessories clip **17** on top of the camera.

Bring your eye to the twin-eyepieces as close as possible. A slight movement of the eye is sufficient to change from Viewfinder to Rangefinder.

13 a - b. **WINDOWS OF THE RANGEFINDER.** The Rangefinder is coupled with the helical focusing mount of the lens so that when the lens is turned the rangefinder is automatically put into operation. Correct focus is obtained when the two images appearing in the rangefinder are fused into one by turning the focusing mount of the lens (coincidence principle).



Lens
out
of focus



Correct
focus

The automatic coupling of the Leica camera embodies a micrometer-movement mechanism with two compensating devices of a degree of precision such as is found only in very high priced microscopes.

It should be especially noted that all interchangeable Leica lenses are suitable for use on any Leica camera with built-in Rangefinder.

14. RANGEFINDER EYEPIECE ADJUSTMENT. In order to increase the accuracy and ease of focusing, the viewing aperture of the Rangefinder is fitted with a telescope having a magnification of 1.5 times. The Rangefinder eyepiece is adjusted by turning the small lever fitted under the Back-winding Knob. This permits focusing on near or distant objects to the greatest possible sharpness, compensating for slight deficiencies of the eye.

For beginners we recommend the following practicing method:

Sight a distinct object about 12 to 15 ft. away, and cover the left Rangefinder window **13 a** with the middle finger. Only a small circular field with the object at which you are aiming will be visible. See to it that your eye is centered behind the Rangefinder eyepiece so that you can get a completely circular field of the image. Adjust the lever **14** to obtain the greatest possible sharpness. Keep the object in the center of the field, and uncover the left window of the Rangefinder. Now you will see a double image of the object in a larger circular field. Always keep your eye in a central position so that the smaller field is in the middle of the larger field. Turn the focusing mount of the lens until the two images fuse into one, and thus obtain correct focus.

After practicing this method several times, you will have no difficulty in focusing any object correctly without covering the left window of the Rangefinder.



STEADY HOLD

It is strongly advised — not only for slow exposures but also for fast shutter speeds — to hold the camera steady in the hands:

Rest camera against cheek — both hands grasping the camera — the right index finger ready on the release button — the left index finger on the knob of the focusing lever.

Press the Release Button gently without jerking. Avoid shaking the camera which is the main cause for unsharp negatives. Move the finger only and not the entire arm.

THE WRONG WAY

resulting in shaking the camera while releasing the shutter is illustrated at the right. Instead:

Place the hollow of the right hand under the Base-plate to counteract the downward action of the forefinger. Give the camera a good support by pressing your elbows to your body, and bring the eye used for sighting or focusing close to the eyelens of the Viewfinder or Rangefinder.





FOR VERTICAL PICTURES

First Method:

Hold camera in right hand from underneath — right thumb stretched over Winding Knob, and resting on release button. The thumb must not touch Speed Dial. The right elbow is against body. Operate the Focusing Lever with index or middle finger of left hand, with the left thumb steadying the camera against the forehead.

This method obviates shaking with utmost certainty, and is particularly convenient when wearing a hat.

Second Method:

Hold camera as described on page 20. Change over to vertical position, right hand on top, right index finger on release button, and left hand supporting camera and operating focusing lever.

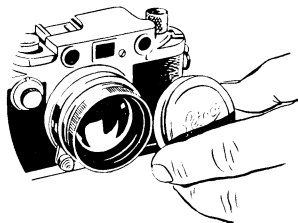
This method is favored by many as it allows a convenient and rapid transition from horizontal to vertical pictures and vice versa.



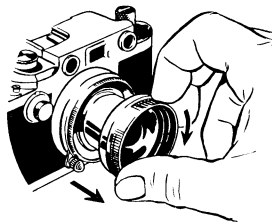
ROUTINE FOR LEICA PICTURE-MAKING

Now that the various Leica camera controls have been explained, a routine or system of operating these controls to make pictures should be established. After a short time this will become habit, and picture making will be simple. Recommended procedure for photographing with the Leica is:

1. Remove the Lens Cap from the Lens . . . a simple step which is often overlooked.

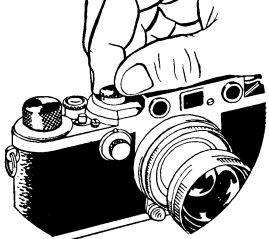


2. Pull out the Lens and lock it in position. Make sure it is firmly locked.

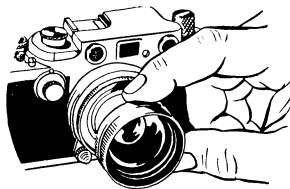


3. Turn the Winding Knob (in the direction of the arrow) as far as it will go.

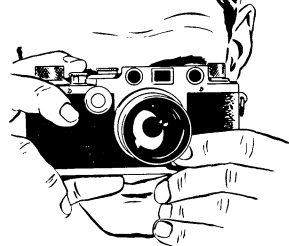




4. Set the Shutter Speed Dial according to exposure meter readings or exposure table recommendations.

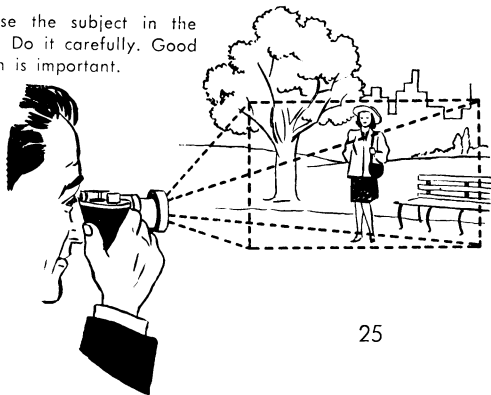


5. Set the Lens Diaphragm to the aperture indicated by the exposure meter or table.

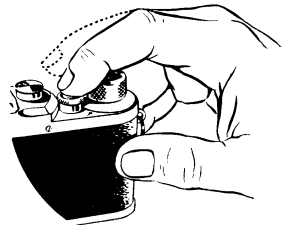


6. Focus the Lens with the Rangefinder. Both images should overlap so that a single image is seen.

7. Compose the subject in the Viewfinder. Do it carefully. Good composition is important.



8. Press the Shutter Release Button to expose the film. Move only the finger on the Button, not the entire arm.



The different types of film containers.

Film manufacturers supply perforated 35 mm film for the Leica camera in the following ways:

1. DAYLIGHT LOADING CARTRIDGES. The cartridge is used once only. It is opened in the darkroom when the film is to be developed. Special warning is given against the re-loading and the repeated use of these cartridges. Such a practice involves the risk of damage both to the film and to the shutter.

The insertion of the daylight loading cartridges into the camera, and also their removal, is done in the same way as with the all-metal Leica magazine. For further details see page 28

2. Containers having $27\frac{1}{2}$ ft. of film — 5 Leica Magazine loadings. Each loading — sufficient for 36 exposures — is tongued on one end and notched on the other end, simplifying insertion into the Leica Magazine. page 34

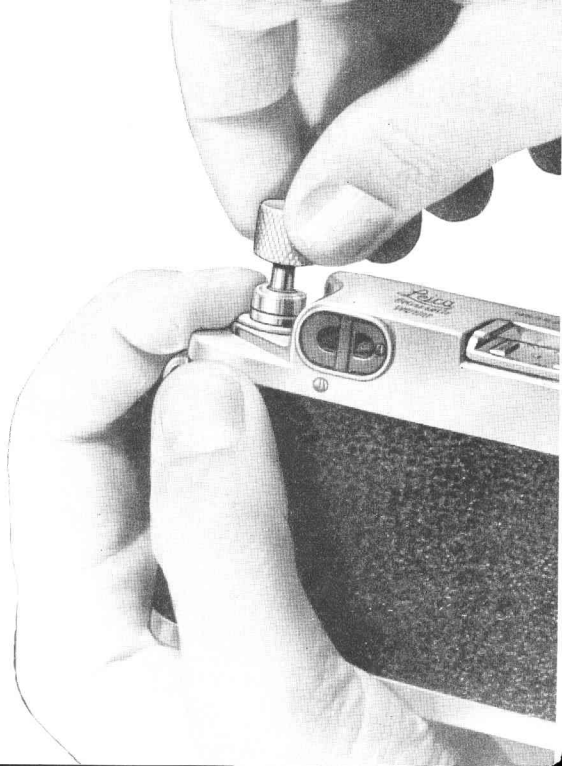
3. Containers of bulk film having 50, 100 or more feet of film. The film is a single length without any notching, etc. It is necessary to cut and trim the film correctly when inserting into Leica Magazines. page 40

Loading the camera.

The loading of the camera should be done in subdued daylight. Film Magazines and especially Daylight Loading Cartridges should not be exposed to daylight any longer than is necessary for loading the camera.

BEFORE OPENING THE CAMERA after the film has been exposed make sure that the film has been wound back into its magazine or cartridge. To do this, pull out the Back-winding Knob 15, and try to turn it in the direction of the arrow. If you feel a resistance, the camera is still loaded. Check the counting disc. If the whole film is exposed (36 photographs), wind it back completely into the magazine or cartridge and unload the camera.

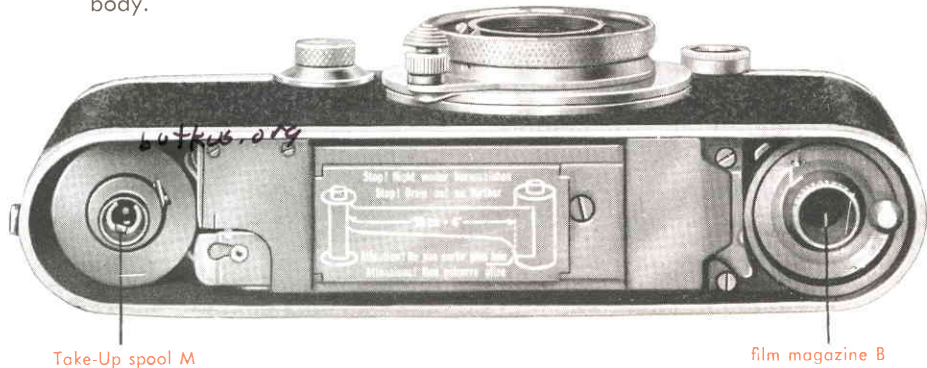
page 33



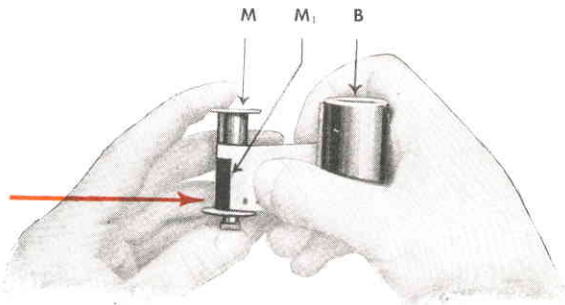
TO OPEN THE LEICA CAMERA, pick up the Lock Lever on the Baseplate and turn from CLOSED to OPEN, up to the stop, and lift the baseplate off. Some baseplates are marked AUF (open) and ZU (closed).

TO LOAD THE CAMERA

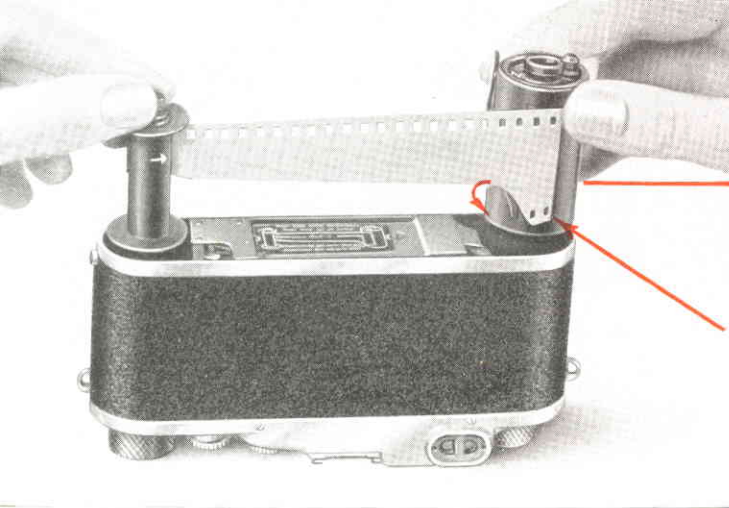
1. Set the Reversing Lever 16 to **A** (**A**dvance).
2. Withdraw the Take-up Spool from the open camera **M** (counter spool).
3. Place the opened camera in front of you with the camera back facing your body.



4. Hold Take-up Spool **M** with left hand and the loaded film magazine or cartridge **B** in the right, the knurled heads of Take-up Spool and the magazine or cartridge pointing in the same direction (down), as shown in the illustration. Push the trimmed film end under the spring **M₁** of the take-up spool. Push the film in as far as it will go — about $\frac{3}{8}$ inch. (The perforated edge of the film should lie flush with the flange adjoining the knob). Do not wind film around the spindle of the spool.



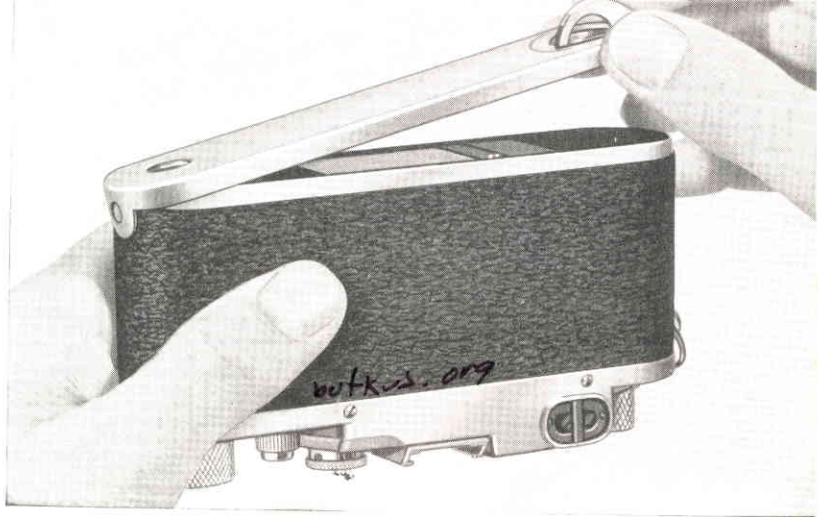
5. After thus securing the beginning of the film to the Take-up Spool, the film should be drawn out of the magazine or cartridge no further than shown on page 30. Our Leica film magazines are engraved with a curved mark up to which the leader (trimmed) strip is pulled. Thus the danger of pulling out the film further than necessary is eliminated, provided the film is trimmed correctly (page 40 and 41).



Using the all-metal Leica film magazine, take care that the safety spring lies in this corner.

Don't pull out more than two perforation holes.

6. Hold the film magazine or cartridge in the right hand, and the Take-up Spool in the left hand, and introduce the film into the slot along the camera back with the trimmed side downwards. Care must be taken that no force is used in doing so. If the magazine or cartridge does not drop right down, give a



small turn to Backwinding Knob 15.

7. Hook the Baseplate (lock set to OPEN) over the pin, close it, and . . .
8. turn lock over to CLOSED, up to the stop.

9. Turn the Winding Knob once to the stop. Pull out the Back-winding Knob and turn it clockwise until you feel a slight resistance. Then press down the Release Button. (This is done in order to dispose of the useless trimmed beginning of the film which was exposed to light while loading, and to tighten same).

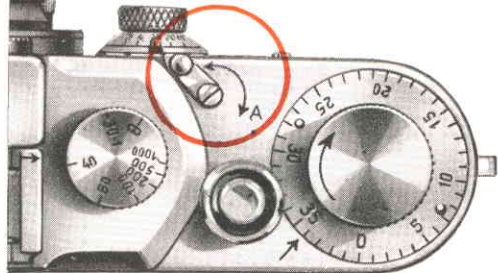
Turn the Winding Knob again and watch the Backwinding Knob, which must rotate counter-clockwise — opposite to the direction of the arrow on it.

10. Turn the Exposure Counter (2) by means of the two lugs, counter-clockwise to 0 position, and release the shutter. The camera is now ready for use.

NOTE: Especially when daylight loading cartridges are used, the first winding must be done carefully, since at the beginning, the film is liable to be somewhat difficult to withdraw. If the Back-winding Knob does not rotate, something is wrong. The camera must be unloaded (page 33) and the film inserted again correctly. It will be observed that the Release Button (3) revolves when the film is being wound back. At the moment when this button ceases to revolve there remains only a small portion of the film projecting from the cartridge or magazine. If one continues to wind back, the whole film will disappear into the magazine or cartridge. This should, of course, not be done if the film is to be replaced into the camera, which would not be possible if the beginning of the film did not project from the film chamber.

Unloading the camera.

When the end of the film is reached, the Shutter Winding Knob will not revolve any more. Do not force it, but rewind the film back into its cartridge or magazine. Before doing so, take care that the Slow Speed Dial (5) is not set to **T** otherwise the shutter might be open, and the film spoiled.

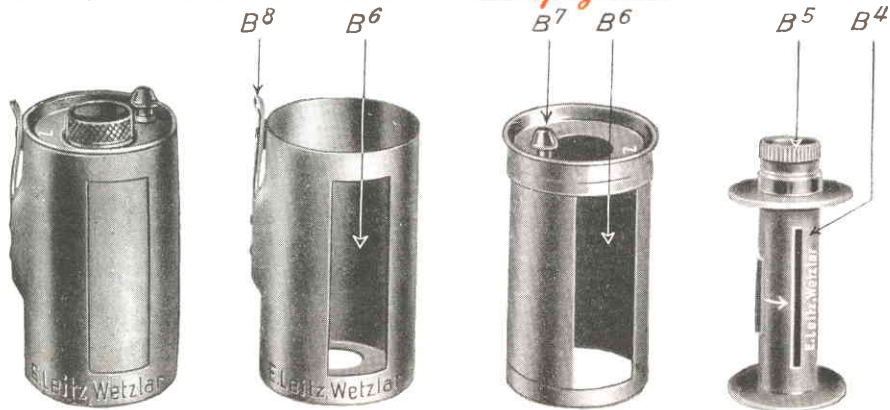


1. Set the Reversing Lever 16 from **A** to **R** in order to disengage the automatic coupling of the film advance and shutter mechanism.
2. Pull out Back-winding Knob 15, and rewind the film by turning the knob in the direction of the arrow until a slight resistance is felt; then wind past this resistance.* After two more turns, the film is completely wound back into the magazine or cartridge.
3. Turn lock on the Baseplate from CLOSED to OPEN and remove the baseplate.
4. Pull out the closed film magazine or cartridge by means of the central knurled head.

The removing of the film from the magazine or cartridge must be done only in a darkroom. Protect loaded magazines or cartridges from actinic light by storing them in the containers usually supplied with them.

* This means that the end of the film comes off the spring of the take-up spool. See also page 32.

The all-metal Leica Film Magazine.



B

Complete Film Magazine

B¹

Outer Shell

B²

Inner Shell

B³

Center Spool

B¹ = Slot of Center Spool

B⁵ = Knurled Head of Center Spool

B⁶ = Slots of Film Chamber

B⁷ = Knob for turning Inner Shell when opening or closing the film magazine

B⁸ = Safety Spring

The Leica magazine contains about $5\frac{1}{4}$ feet of 35 mm film, sufficient to make up to 36 exposures.

A guide-groove on the Inner Shell and a pin inside the Outer Shell insure proper opening and closing of the magazine.

As will be seen in the illustration, the groove first runs along the Inner Shell and then terminates in a semi-circle at the upper rim of the Shell. The guide-pin of the Outer Shell then causes the Inner Shell to be moved along the slot in the required manner.

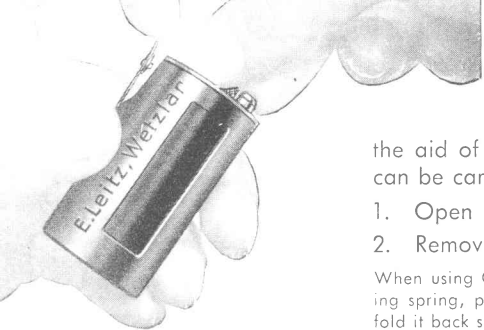
The magazine, therefore, can only be opened by first slightly lifting the Safety Spring **B**⁸ with the index finger of the left hand, turning the Inner Shell with right hand at the knob **B**⁷, clockwise to the end of the movement, and then withdrawing it (see illustration on page 36).

To close the magazine:

1. Introduce the Inner Shell with spool in the Outer Shell until its rim comes to a stop, the slot openings being one above the other.
2. Turn Inner Shell counter-clockwise up to the stop, when the Safety Spring will then engage.

If this is done properly, the magazine is closed and light-tight.





LOADING OF THE FILM MAGAZINE IN THE DARKROOM.

The loading of the magazine should be practiced in daylight with

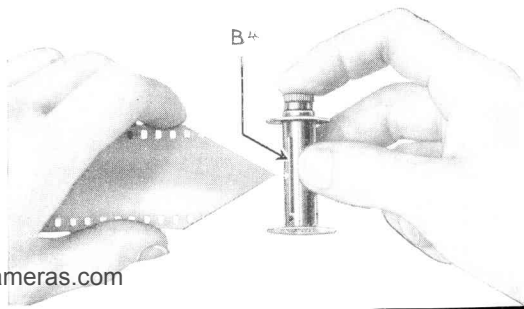
the aid of a piece of blank film until all the manipulations can be carried out with closed eyes.

1. Open the film magazine and withdraw Inner Shell.
2. Remove the Center Spool from the Inner Shell.

When using Center Spools of earlier type which have no slot, but a holding spring, push the short tapered end of the film under this spring, and fold it back sharply so as to secure it well.

3. Hold the Spool in the right hand as shown below, index finger on the knurled head, thumb in the hollow opposite the engraved arrow. Insert the short tapered end of the film, in the direction of the arrow, into the slot **B⁺** (emulsion side downward i.e. next to arrow).

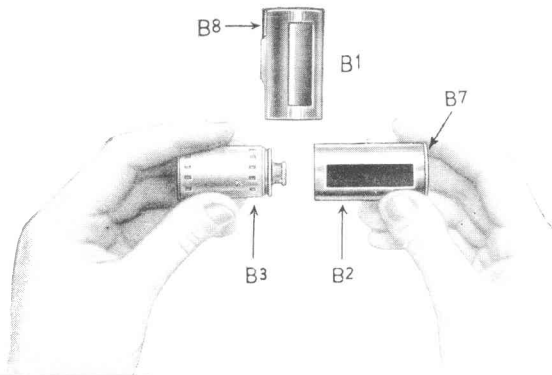
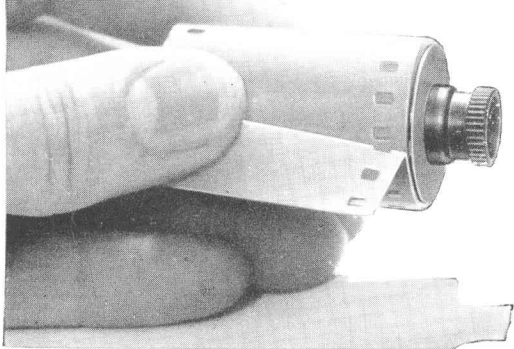
The emulsion side can easily be detected. It is the dull side, while the back of the film has a high gloss. In the darkroom the emulsion side can be detected, in two ways: 1. Film curls, and the emulsion side is on the inside of the curl. 2. Moisten a finger and touch a small portion of the film. The emulsion side feels sticky.

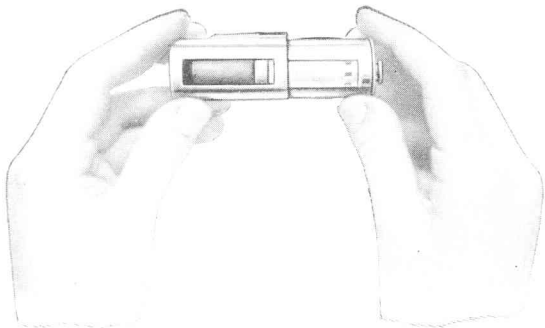


4. Wind film on the Center Spool moderately tight, emulsion side inward. If possible use hand film winder or mechanical winder (page 39).

5. Bend the beginning of the film back sharply in order to get the film out in the dark and to prevent the tapered beginning from slipping back into the magazine (see illustration).

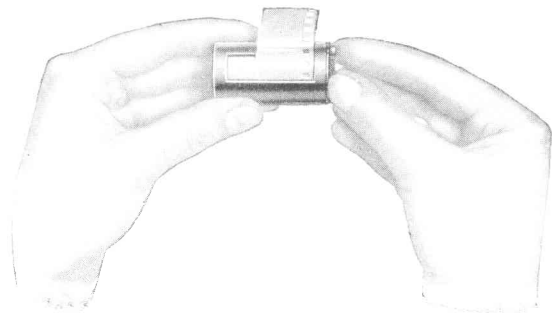
6. Introduce the Center Spool—knurled head first — into the Inner Shell, the beginning of the film lying in the rectangular opening.





7. Put both together into the Outer Shell, the two rectangular openings of the magazine superimposed. Pull out the bent beginning of the film (about 2 inches) through the open slots.

8. Close film magazine by giving the Inner Shell half a turn counter-clockwise until the Safety Spring clicks into the locked position.

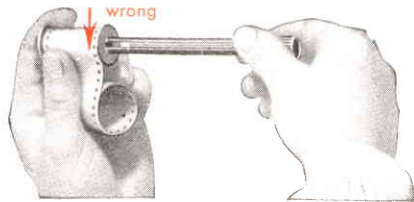


9. Pull out the beginning of the film about 2 to 3 inches from the closed film magazine. The Outer Shell of the film chamber bears an engraved curved line near the slot with which the beginning of the cut-away portion of the film should coincide.

SPOOLING THE FILM IN THE DARKROOM.

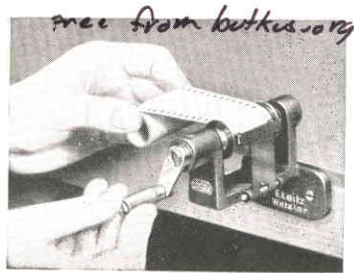
Winding of the film on the center spool of the magazine is made easier by using our Hand Winder or Mechanical Winder.

The Mechanical Winder is best attached to the edge of a table in the darkroom. To use it, first withdraw the handle of the Winder to its fullest extent, then slip out the spring pressure roller. Now insert the center spool, with the head of the spool opposite to the handle. When the handle is again inserted as far as possible, it engages in the center spool, which turns with it. The spring pressure roller is adjustable in the direction of the spool axis, so that it can be slipped into the various spools. The beginning of the film is now fixed as instructed in the slit of the center spool. On turning the handle the film winds itself on to the spool, the spring pressure roll ensuring a uniformly tight winding.



Hand Film Winder

Be careful not to touch the film on either side, as shown in the above picture but hold it only by the edge as can be seen below.



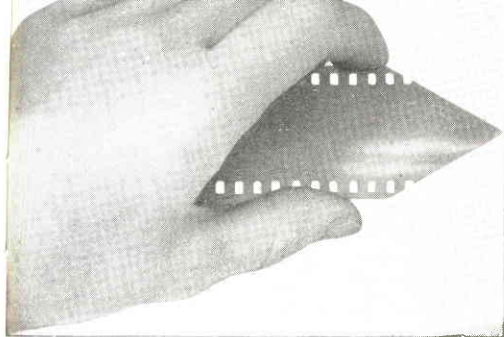
Mechanical Film Winder

TRIMMING OF THE FILM. When the required length of film is cut from a large roll, or when the exposed part of a film has been cut off and the rest is to be reloaded into the camera, remember that the film has to be trimmed correctly. Careless trimming leads to trouble in the film winding mechanism, as the perforations may be torn and small pieces of film get into and jam the mechanism. As the film winding mechanism is coupled with the shutter, this may also likewise be affected. The damage can only be remedied by a careful cleaning of the camera mechanism.

Opening the film for the center spool with a Trimming Template.



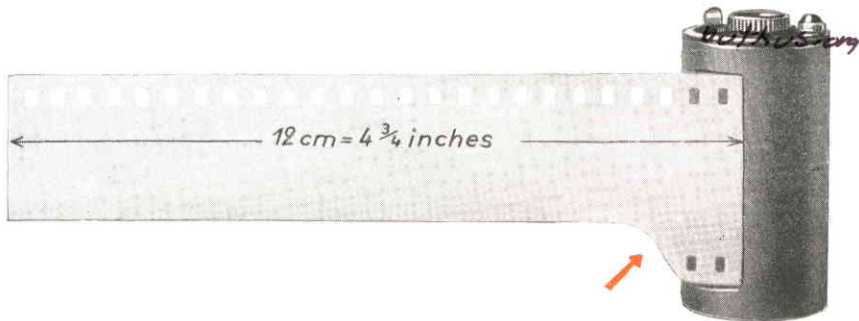
The cutting of film may be done with a pair of scissors. The beginner will probably find it advisable to use our Trimming Template because it guarantees well tapered and correctly notched film ends by cutting along the curve of the closed Template with a sharp knife.



Correctly tapered for the Center Spool.
(See also page 36.)

The film must be held by the edge only and any touching of the emulsion must be avoided.

Correctly notched for the Take-up Spool. Take special care not to cut through a perforation hole.
(See also page 30.)



Some additional hints.

CHOOSING YOUR FILM: There are three general types of film that can be obtained for use with the Leica. These are classed as: 1. slow films; 2. medium speed films; 3. high speed films. Examples of each type are:

Slow films: (Weston 24-ASA 32) Eastman Panatomic X, DuPont Superior No. 1.

Medium Speed Films: (Weston 50-ASA 64) Eastman Plus X, Ansco Superpan Supreme, DuPont Superior No. 2.

High Speed Films: (Weston 100-ASA125) Eastman Super XX, Ansco Ultra Speed Pan, DuPont Superior No. 3.

It would seem that it is best to use a high speed film continually since it permits pictures to be made in a wide range of lighting conditions, from very dim to bright. Under ordinary lighting conditions the lens diaphragm could be stopped down considerably for a large depth of field, and fast shutter speeds could be used. However, high speed in films is obtained at the sacrifice of fine grain. The faster the film, generally, the coarser the grain, which limits the amount of detail that can be reproduced and the degree of enlargement of the negative. *For average outdoor pictures we recommend the use of a slow speed film.* It has sufficient sensitivity for practically every type of outdoor picture and produces very fine grain negatives.

When indoor photographs by artificial illumination are to be made in addition to outdoor pictures, a medium speed film is recommended.

The high speed films are really special purpose films and should be used only when extreme sensitivity is necessary such as pictures indoors in ordinary room illumination and outdoor street pictures at night.

EXPOSURE: For accurate exposure of each subject we recommend the use of a good photo-electric exposure meter. However the following guide can be used successfully for general outdoor photography:

	Slow Film	Medium Speed Film
Bright sun	1/100 sec. f/6.3	1/200 sec. f/6.3
Hazy sun	1/100 sec. f/4.5	1/100 sec. f/6.3
Cloudy bright	1/60 sec. f/3.5	1/60 sec. f/4.5

The exposures given above are for average subjects. For very bright subjects, such as beach scenes, open landscapes, etc. close the lens diaphragm an additional stop. For dark subjects, or subjects in bright shade, open the lens diaphragm an additional stop.

COLOR FILM has a relatively small exposure latitude. Correct exposure is therefore very important. When using a photo-electric exposure meter walk up close to the subject to prevent extraneous light from affecting the meter.

MODELS OF THE LEICA CAMERA

The brief descriptions, given below, of each model of the Leica camera will enable one to determine the model of his camera. This booklet is written primarily for the Model IIIc Leica camera. However, all Leica cameras have the same basic design, and the information in this booklet can be applied to any Leica. The only thing to take into consideration is the differences between the models, as noted below.

CURRENT MODELS

Model IIIc Leica Camera: The features of this Model are described in this booklet. One important difference of the Model C's compared to all other Leica Models should be noted: It is $\frac{1}{8}$ inch longer than other models. Therefore, accessories which attach to the baseplate of the camera, in place of the regular baseplate, and which are designed for the other models, cannot be used on the Model IIIc. Another main distinguishing feature of the Model IIIc is the arrangement of shutter speeds on the two speed dials. The top dial is calibrated from $\frac{1}{30}$ to $\frac{1}{1000}$ sec., and Z (Bulb). The slow speed dial, on front of the camera, is calibrated from 1 to $\frac{1}{30}$ sec.

Model IIc Leica Camera has the same features as the IIIc, with the exception of the

slow-speed shutter mechanism. Shutter speeds range from $\frac{1}{30}$ to $\frac{1}{500}$ second, including "Bulb."

Model Ic Leica Camera has the same basic body design as the above two cameras, but does not have the built-in rangefinder. Two accessory clips are provided; one for a new type detachable viewfinder and one for the separate rangefinder. Shutter speeds range from $\frac{1}{30}$ to $\frac{1}{500}$ second, including "Bulb."

PRE-WAR MODELS

Model IIIb Leica Camera (also known as the Model G — 1938): It has the rangefinder and viewfinder eyepieces close together (as the Model IIIc). It also has two shutter speed dials, but in this model the top dial is calibrated from $\frac{1}{20}$ to $\frac{1}{1000}$ sec. and Z (Bulb). The slow speed dial has calibrations from 1 to $\frac{1}{20}$ sec. The rangefinder focusing lever is at the base of the rewind knob. Top and bottom plates finished in satin chrome.

Model IIIa Leica Camera (also known as the Model G): Has the same shutter speed arrangements as on the Model IIIb. The eyepieces of the rangefinder and viewfinder, however, are not close together but separated ($1\frac{1}{2}$ inch apart). The rangefinder focusing lever is on the eyepiece of the rangefinder instead of below the rewind knob. Top and bottom plates finished in satin chrome.

Model III Leica Camera (also known as the Model F): It is basically the same as the Model IIIa with the exception that it does not have the $1/1000$ sec. shutter speed. Maximum speed is $1/500$ sec. Made with the top and bottom metal plates finished either in satin chrome or black lacquer.

Model II Leica Camera (also known as the Model D): This model has only one shutter speed, dial on top of the camera, which provides speeds from $1/20$ to $1/500$ sec. and Z (Bulb). It was supplied with both bottom and top plates in either satin chrome or black lacquer finish. It does not have eyelets, for carrying strap on either side of the body. All of the models described above do have such eyelets.

Standard Model Leica Camera (also known as the Model E): Does not have a built-in rangefinder. A separate detachable rangefinder was supplied which fitted into the accessories clip. It has one top shutter speed dial providing speeds from $1/20$ to $1/500$ sec. and Z (Bulb). The rewind knob can be lifted up as in the other models described above. Both satin chrome and black finishes were supplied.

Leica Camera 250 (also known as the Model FF): Same as the Model III but with extra large magazines holding sufficient film for 250 exposures. Supplied in black finish.

Model I Leica (also known as the Model C): Long discontinued. Similar to Standard Model, but rewind knob does not lift up. No rangefinder. Some cameras have the letter "O" engraved on the lens flange (visible when the lens is removed from the camera.) This indicates that the lens flange is standardized and any of the interchangeable lenses can be used. Leica cameras Model I that do not have the "O" mark on the lens flange have to be sent to the Leica Service Department if it is intended to use additional interchangeable lenses.

Model B Leica Camera: Long discontinued. This is the only model of the Leica camera which was provided with a between-the-lens shutter. It can easily be recognized by this shutter around the lens. The 50 mm F:3.5 Elmar Lens on this camera is not interchangeable.

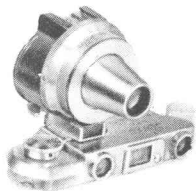
Model A Leica Camera: Long discontinued. This is the first model of the Leica camera. No rangefinder. Has one top shutter speed dial with speeds from $\frac{1}{20}$ to $\frac{1}{500}$ sec. and Z (Bulb). The lens cannot be unscrewed. There is a flat nickel plated spring at the left hand side, in front of the camera, which locks the lens at infinity. Most Model A Leica cameras have 50 mm f/3.5 Elmar lenses; a few have 50 mm f/2.5 Hektor lenses. These lenses cannot be removed from the camera and are therefore not interchangeable.

Accessories for the Leica Camera

Being a Leica camera owner gives you the great advantage of having the most versatile camera. The Leica has this singular property because there are many unique accessories available for it. If there is some special type of picture you want to make there is a Leica Accessory which will permit you to do it. A few of the more popular Leica accessories are described below:

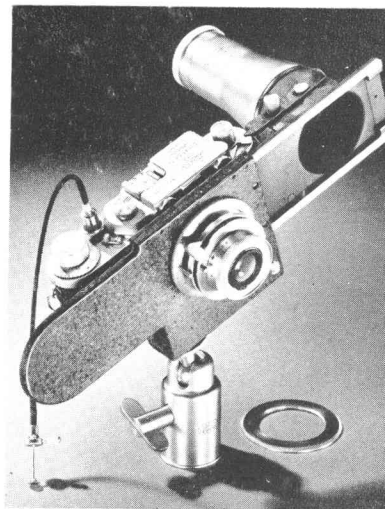
ADDITIONAL LEICA LENSES: IMARECT FINDER. Did you ever want to make a closeup of a distant object, yet you could not approach close enough to it? A fence or a stream may have been in the way; or it was just not advisable to get closer. You can overcome these obstacles by using a Leica long focus lens, such as the 90mm or the 135mm lens. These lenses bring the subject right up to you permitting a close-up to be made from a distance. The Imarect Finder shows the field of view of all lenses from 35mm to 135mm.*

*Free literature giving complete information on the individual Leica accessories can be obtained by writing to E. Leitz, Inc., 304 Hudson St., New York 13, N.Y.



THE FOCASLIDE: Copies of letters, books, documents; close-ups of flowers and insects . . . even pictures of the head of a pin can be made with the Leica camera and the Focaslide. More detail than can normally be seen is revealed. This accessory permits very close working distances between the lens and the subject.

LEICA FILTERS & SUNSHADES: Leica filters should be used to have skies reproduce in a definite tone with white clouds standing out. Yellow filters are for general use. Orange-red and Red filters cause skies to reproduce dark for dramatic effects. Panchromatic Green Filters are good for outdoor scenes with blue skies and green vegetation. There are also special Leica filters for Kodachrome color film. Leica Lens Sunshades give full protection against stray light. There are specially designed lens shades for the different Leica lenses.

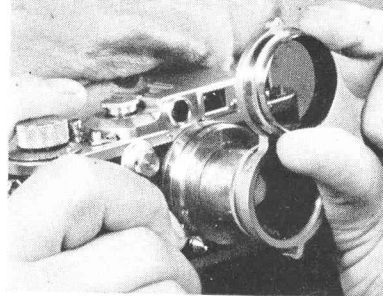




MODELS VIII AND VIIIa SYNCHRONIZED FLASH UNITS are the most advanced flash guns for Leica cameras and allow synchronized flash pictures to be made at all speeds from $\frac{1}{20}$ to $\frac{1}{1000}$ second. The VIIIa is for all Model IIIc Leica cameras; the VIII is for Leica cameras having Serial No's above 111,450.

*Free literature giving complete information on the individual Leica accessories can be obtained by writing to E. Leitz, Inc., 304 Hudson St., New York 13, N.Y.

LEICA POLARIZING FILTER: A very unique filter that does a number of things. It cuts down reflections from non-metallic surfaces, such as reflections on glass windows. With color film it makes blue skies darker without affecting any of the other colors in the scene. And, it also makes skies reproduce in a definite tone when using regular black and white film.*



LEITZ DESK VIEWER, "MODEL B." The finest viewer made for 2 x 2 inch slides and 35mm film strips. Has a 3 element achromat lens in a focusing mount which permits variable magnification. Illumination is adjustable to suit individual slides. Viewing can be done comfortably with both eyes. The film holder can be turned for showing vertical or horizontal transparencies.*



*Free literature giving complete information on the individual Leica accessories can be obtained by writing to E. Leitz, Inc., 304 Hudson St., New York 13, N.Y.

Leica Repair Service

The remarkable performance of your Leica is due to its precision construction. Ernst Leitz, of Wetzlar, makers of the Leica, are world famous microscope manufacturers, and the Leica is made with the same care and accuracy as a high priced microscope. Special instruments and tools have been devised for checking the lens, the shutter and other working parts. The same instruments and tools are used in the E. Leitz, Inc., New York, Leica Repair Service to check, adjust and repair Leica cameras.

The craftsmen in charge of the Leica Repair Service have been factory trained. They know how the Leica is built and are intimately familiar with every one of its hundreds of parts. Every Leica camera is thoroughly checked and tested for accuracy by Leica Repair Service technicians before it is returned to its owner. If your Leica camera needs repair or checking send it to the Leica Repair Service, E. Leitz, Inc., 304 Hudson St., New York 13, N.Y.

Is Your Leica Camera Registered?

As a Leica camera owner you are entitled to the many services offered by E. Leitz, Inc. One of these is the free registration of your equipment. Send us the serial numbers of your Leica camera and lens (or lenses) and other Leica equipment bearing serial numbers. This information, in our files, serves as a permanent record of your equipment should it become lost or stolen. It also insures your receiving all booklets and the big quarterly magazine LEICA PHOTOGRAPHY that is mailed free of charge to registered Leica owners. All Leica camera owners, whether their equipment has been obtained in the United States or abroad, are entitled to this free service. The record of your equipment is used only for extending service to you, and for no other purpose.

ONLY YOUR LEICA FRANCHISED DEALER is authorized to display and demonstrate the latest Leicas and the full range of Leica accessories. Only at camera stores exhibiting the Leica seal can you receive expert advice on the Leica Camera and on accessories which will extend the scope and interest of your photography.

When you want the answer to any Leica problem—call at the store identified by the distinctive seal of the Leica Franchise—and meet your Leica Dealer.



E. Leitz, Inc., 304 Hudson St., New York 13, N.Y.

Focomat 1 Enlarger

AN AUTOMATIC FOCUSING ENLARGER
DESIGNED SPECIFICALLY FOR SMALL NEG-
ATIVES.

The Focomat 1 reproduces all of the fine detail and gradation in negatives made with precision miniature cameras such as the Leica* camera. Focusing is completely automatic from 3 to 13 times magnification. As the enlarger is lifted or lowered, the lens automatically stays in focus. Greater enlargements than 13 times can be had through manual focusing. Diffused illumination minimizes grain and other imperfections. Negatives are held perfectly flat through a novel condenser-pressure-plate.

E. LEITZ, INC.

304 HUDSON STREET

NEW YORK 13, N.Y.

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