

Leica

I f · III f · III If

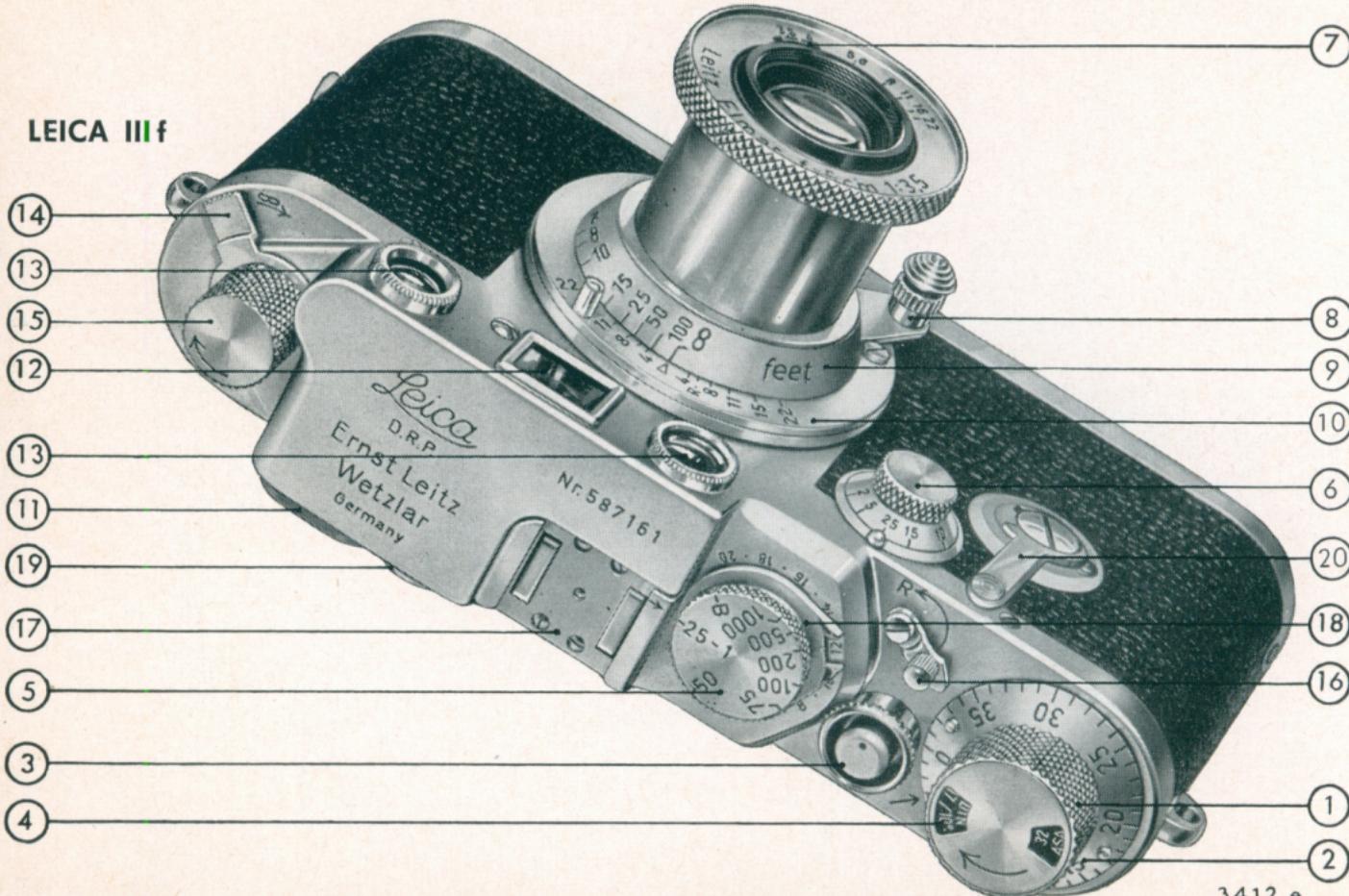


Instruction
Book

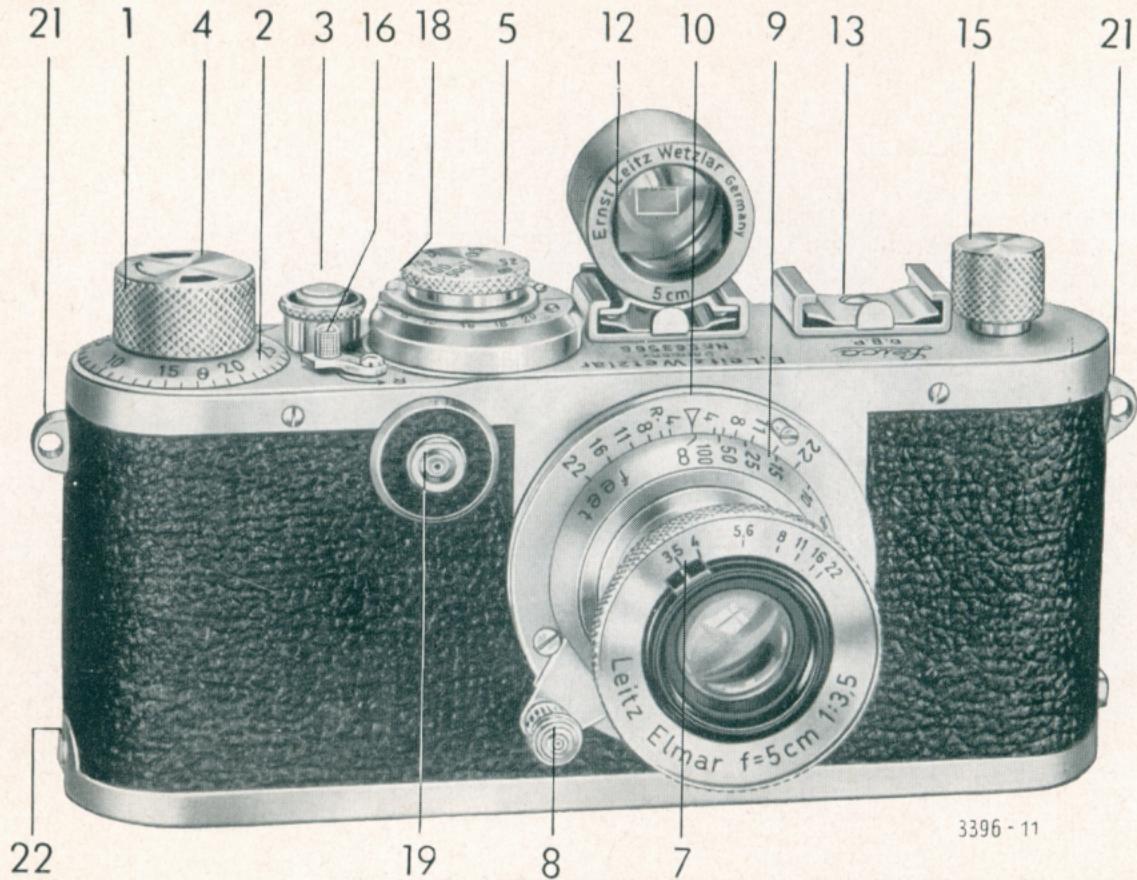
ERNST LEITZ · GMBH · WETZLAR

These two pages indicate the various parts and controls of the LEICA. Compare the illustration on the left with your camera but do not yet operate any knob, button or lever.

LEICA III f



LEICA If



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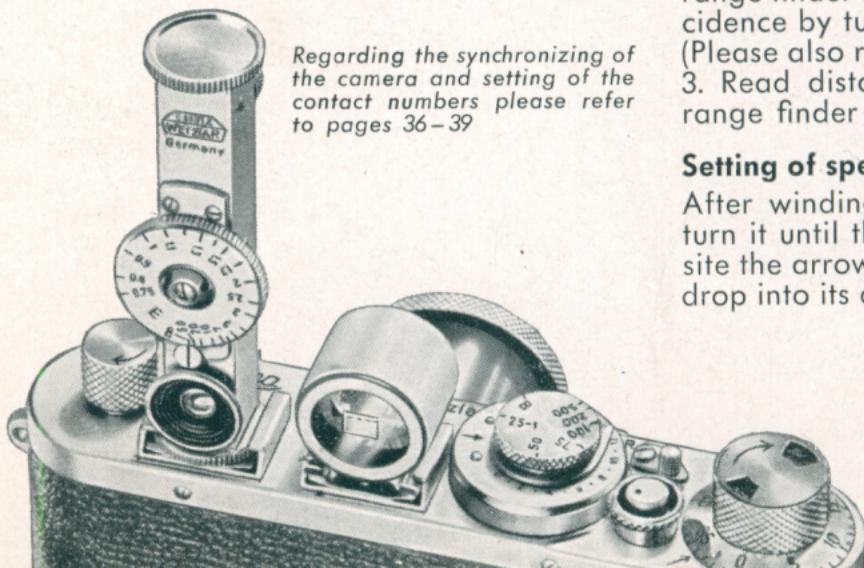
There is no principle difference in handling the LEICA I f compared with the handling of the II f and II f models except the fact the I f LEICA has no automatic coupling of the range finder.

Flash plug socket

The flash plug socket of the LEICA is at the front of the camera. The flash lead plug held in horizontal position and with the arrow engraved on it turning towards the lens is pushed into the flash socket and secured by a 90° turn to the right when the arrow will show upwards.



Regarding the synchronizing of the camera and setting of the contact numbers please refer to pages 36-39



The rangefinder

is fitted to the accessory shoe (13).

Focusing with the LEITZ range finder fitted to the camera

1. Select the framing of the image in the reflex finder.
2. Looking through the eyepiece of the range finder bring both images in coincidence by turning the milled scale. (Please also refer to page 18).
3. Read distance on the scale of the range finder and set lens accordingly.

Setting of speed dials

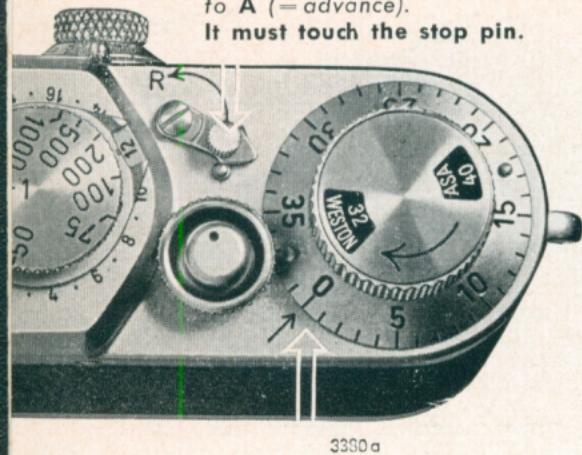
After winding shutter, lift speed dial, turn it until the desired speed is opposite the arrow and allow the dial to drop into its catch.

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4 Film type indicator	7	This lever must properly be set to A when loading the camera and when taking photographs.	
5 Fast shutter-speed Dial for speeds from $1/25$ sec. to $1/1000$ sec. and "Bulb"	8	17 Accessory shoe for special viewfinder etc.	16
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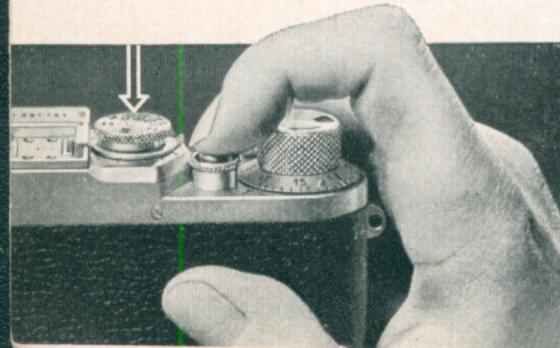
You are now ready to practice with the unloaded camera. Continue until you are thoroughly familiar with the instructions given in the following pages and can even operate your LEICA in the dark.



Set reversing lever
to A (=advance).
It must touch the stop pin.



After loading with film
set exposure counter to 0



1 TURN WINDING KNOB

in the direction indicated by the arrow until it comes to a stop. This operation simultaneously winds the shutter and advances the film for the next exposure. Double exposures are thus prevented.

Attention: In the event of the reversing lever (6) not being shifted right to the stop A (Advance) the shutter winding and film advance mechanisms will remain blocked.

2 THE EXPOSURE COUNTER

automatically registers the number of exposures made, provided it was set to 0 when the new film was inserted. Note: the dial may be turned in an anti-clockwise direction, independently of the knob.

3 SHUTTER RELEASE

Press the button gently and firmly, avoiding any jerking movement. Use the index finger of the right hand when the camera is held horizontally, or the right thumb when a vertical picture is being made. A cable release may be screwed over the release button when required.

Routine Practice:

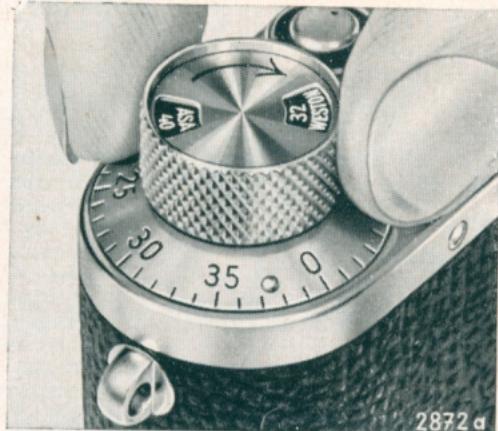
Set exposure counter to 0, wind and release shutter repeatedly, noting the action of the counter.

While the shutter is operating the main speed dial revolves. Avoid touching it when pressing the button.

4 THE FILM TYPE INDICATOR

On the winding knob is set to the type and speed of film used and a new adjustment made whenever the camera is loaded with different negative material. Film speeds are shown in ASA and Weston Exposure Index Numbers.

To set the film type indicator, lift the milled edge of the winding knob. For black-and-white film turn it in the direction of the engraved arrow and let it drop into place at the correct setting. The lettering will then be in white on black. For colour film lift the milled edge and turn as far as required against the direction of the arrow. The letters ASA and Weston are then in white on red, which shows that the camera is loaded with colour film. The speed figure itself is always white on black.



The winding knob is also available with a film type indicator for DIN and ASA speed values.

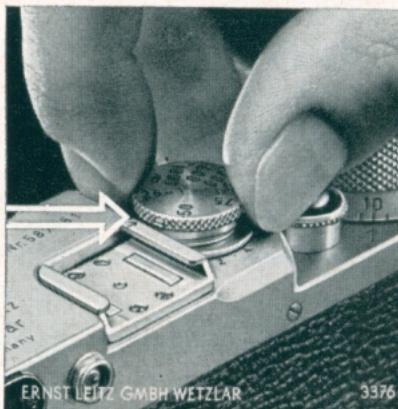
SETTING THE SPEED DIALS



After winding shutter, lift main speed dial, turn it until the desired speed is opposite the arrow and allow the dial to drop into its catch. At $1/1000$ sec. the dial will not drop back quite so deeply.

The old-fashioned invitation by the portrait photographer to "watch the birdie" has given place to the quiet click of the LEICA shutter. Modern lenses and emulsions have reduced exposure times from minutes to fractions of a second.

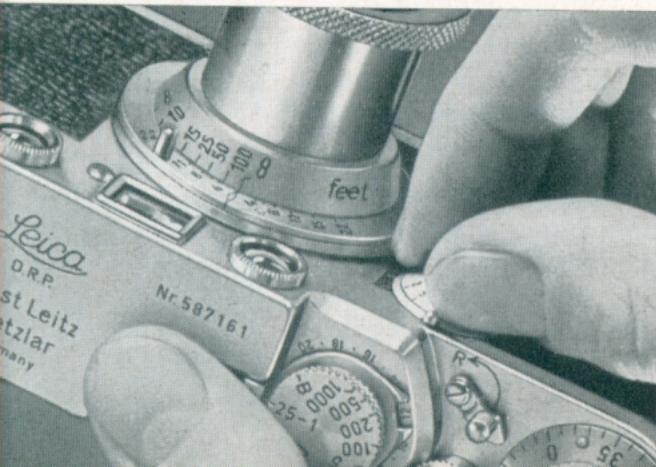
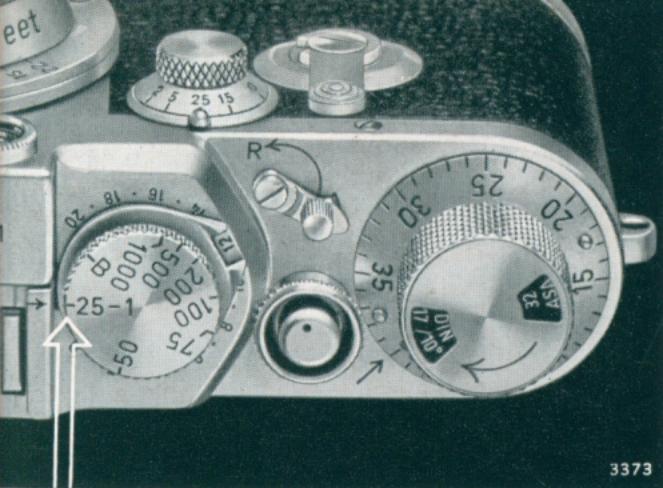
The LEICA Model III f has two shutter speed dials: the main dial on the top and the slow-speed dial on the front of the camera.



5 FAST SHUTTER-SPEED DIAL

The engraved figures are the denominators of the fractions of a second they represent, e. g. 50 indicates $1/50$ sec., 1000 signifies $1/1000$ sec. and so on. The speed is set after winding the shutter by raising the dial and turning it until the desired figure falls opposite the arrow. It is then allowed to spring back into its seating. When set to "B" (bulb or brief time) the shutter remains open as long as pressure on the release button is maintained. When the shutter is rewound the dial returns to the position occupied before release. The dial need not, therefore, be adjusted unless a different speed is required.

When exposures longer than $1/25$ sec. are required the slow shutter-speed dial is brought into play as indicated overleaf.



IMPORTANT RULE:

For exposures of $1/25$ sec. and faster the shutter-speed dial on the top of the camera is set to the desired speed, but the slow-speed dial must be first set to red figure 25. To make exposures longer than $1/25$ sec., first set the top dial to red mark 25-1. Thus, when working at $1/25$ sec., both dials are set at red figures.

6 SLOW SHUTTER-SPEED DIAL

Before setting this dial the top dial of the LEICA must be set to the red index 25-1. **This is most important.** The figures on the slow-speed dial can be read from above and provide for exposures of $1/25$, $1/15$, $1/10$, $1/5$, $1/2$ and 1 sec., and "Time".

This range also covers speed intermediate between those marked; thus set half-way between $1/2$ and 1 sec., the shutter yields an exposure of $3/4$ sec. Intermediate speeds are not possible in the faster exposure range. When the slow-speed dial is set to "T", the shutter opens on being released and remains open until the slow-speed dial is turned back a little. A safety catch retains the slow-speed dial at the "25" position. This catch is released by the thumbnail, as shown at left, when slower speeds are required.

SETTING SHUTTER SPEEDS — SUMMARY:

Short Instantaneous Exposures:
from $1/25$ to $1/1000$ sec.

1. Set slow-speed dial to 25.
2. Wind shutter, lift fast-speed dial and turn to appropriate setting.

Slow Instantaneous Exposures:
 $1/25$ sec. to 1 sec.

1. Wind shutter and set top speed dial to 25-1.
2. Set slow-speed dial.

Brief Time (Bulb) Exposures:

1. Set slow-speed dial to 25.
2. Wind shutter and set top dial to "B". The shutter will remain open so long as pressure is maintained on the release.

Time Exposures:

1. Wind shutter and set top speed dial to 25-1.
2. Set slow-speed dial to T. The shutter opens when pressure is applied to the release button and remains open until the slow-speed dial is turned slightly back.

THE BUILT-IN SELF-TIMER OF THE III f LEICA

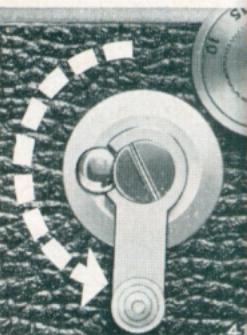
Fig. 1 shows the lever in its normal position (pointing to the top).

Turning this lever downward as indicated by the arrow in fig. 2 the self-timer is wound up and arrests in its final position.

To release the self-timer the small knob at the side is pushed down when after approximately 10 seconds the shutter will be released automatically as seen in fig. 3.

The photographer will have time during the 10 seconds to get in position within the angle of the objective and by doing so, being photographed himself.

The self-timer furthermore is used with advantage when a camera shake is to be prevented which otherwise can be a problem taking photos with longer exposure times and not using a tripod.



THE STANDART LENS OF THE LEICA

is the world-famous ELMAR having a maximum aperture of f/3.5 and a focal length of 50 mm. Of the wide range of LEICA lenses it is the most useful general-purpose lens. It is highly corrected to ensure optimum definition. Its aperture is sufficiently wide for all but exceptional purposes.

The SUMMICRON f/2 is of the same focal length but passes three times as much light as the ELMAR at full aperture. As is to be expected it is larger and heavier than the standard lens. It is intended for the experienced LEICA photographer for use under difficult lighting conditions.

Both ELMAR and SUMMICRON are fitted with collapsible mounts, the barrel sliding into the camera body when not in use. The lens is drawn out and locked in position by a slight clockwise turn, and returned to its collapsed position by reversing the movements.

Routine Practice: 1. Drawn out! Lock
2. Unlock! Push back!

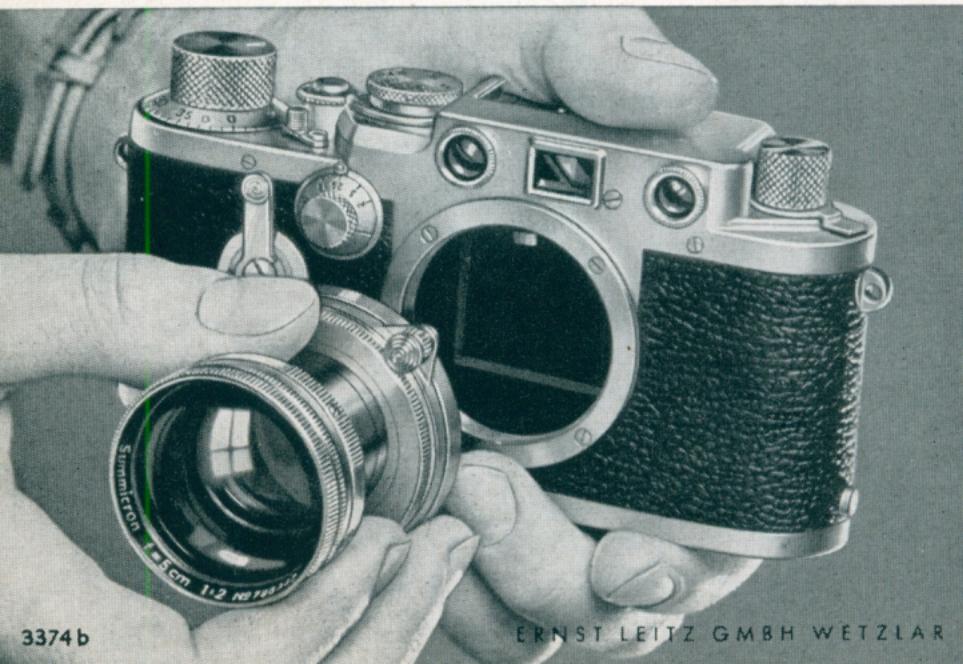


A bluish sheen characterises the "coated" or "bloomed" LEICA lenses. The coating, by reducing surface reflection, minimises loss of light and markedly improves the brilliance and contrast of the picture. The colour in itself is, however, no measure of the effectiveness of the coating.

CHANGING LENSES

All LEICA lenses are interchangeable and will fit any LEICA camera (except very early models). To change a lens hold the camera horizontally, lens pointing upwards, in the left hand, and with the right hand grasp the lens close to the camera body and unscrew it by turning anti-clockwise.

To fit the alternative lens, hold the camera as described and present the lens to the flange in such a way that, in the case of 35 or 50 mm lenses, the focusing



lever (8) is directly in front of the viewfinder window (12). Engage the threads by a slight anti-clockwise turn and screw home, turning the lens mount in a clockwise direction. The lens tube should be drawn forward and locked before the lens is fitted to the camera.

When the lens is detached the shutter is visible. It is made of a special rubberised cloth, unaffected by temperature, while its flexibility ensures smooth running. Below the upper rim of the flange opening the lever will be seen which couples the focusing adjustment and the rangefinder. It is actuated by a helix on the lens barrel.

Rule: Do not change lenses in direct light. Turn away from the sun and work in the shadow of the body. When carrying extra lenses, fit a dust cover to protect the precision coupling mount. Also put a lens cap over the front component.

7 IRIS DIAPHRAGM ADJUSTMENT

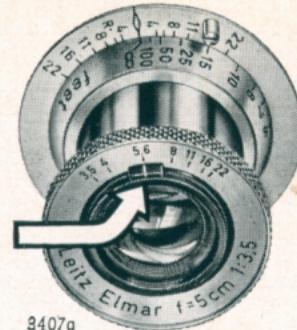
The human eye is able to adapt itself to varying intensities of light by dilation or contraction of the pupil. The lower the light intensity the wider the pupil becomes and vice versa. The "pupil" of the photographic lens is enlarged or reduced by means of an iris diaphragm. The light-passing value of a lens is governed by the ratio of its focal length to the diameter of the "pupil", and is usually referred to as the "aperture" or "stop".

The numerical value of the stop is stated either as a ratio, thus 1 : 3.5 or commonly f/3.5. A lens of this value has a focal length three and a half times as large as the diameter of the pupil. Theoretically, all lenses having the same f-number pass the same amount of light for the purpose of exposure.

It is customary to graduate the aperture scale on photographic lenses so that the values vary in a 2 : 1 ratio. Thus, stopping down one division demands a doubling of exposure time, other conditions being equal.

The following table shows the relation between aperture value and exposure time:

exposure time:	0.5	1	2	(3)	4	8	16	32	64	128	
Relative Lens aperture	1.4	1.5	2	2.8	(3.5)	4	5.6	8	11	16	22



3407a

LEICA lenses ELMAR 50 mm. have the aperture scale engraved on the front of the lens mount. The iris is opened and closed by adjustment of a small lever engraved with an index line. On all other LEICA lenses the diaphragm is controlled by means of a milled ring.



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LENS APERTURE and EXPOSURE TIME

Example:

Assuming an exposure time of $1/100$ sec. is correct for a diaphragm setting of f/5.6, the exposure time must be doubled, i. e. increased to $1/50$ sec., if the diaphragm is stopped down to f/8, other conditions being equal. On the other hand, if the stop were opened up to f/4, only half of the exposure at f/5.6 would be needed, viz. $1/200$ sec. Slight differences in the exposure times used, especially somewhat longer times, are of no significance in practice and are covered by the latitude of modern films. For best results in photography, of course, correct exposure times should always be aimed at.

8 FOCUSING THE LENS

All LEICA lenses having a focusing lever are automatically locked at the infinity (∞) position. To release the lever for focusing on nearer subjects press the knob at the end of the lever.

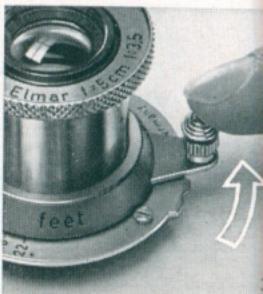


DON'T FORGET:

ELMAR 50 mm. and SUMMICRON 50 mm. lenses have collapsible mounts. The lens barrel must be drawn out and locked before focusing. (See page 9).

9 DISTANCE SCALE

Normally, actual distances do not interest LEICA photographers as focusing is effected by the rangefinder. The distance scale, therefore, is of importance only when referring to the depth of field scale described on page 17.

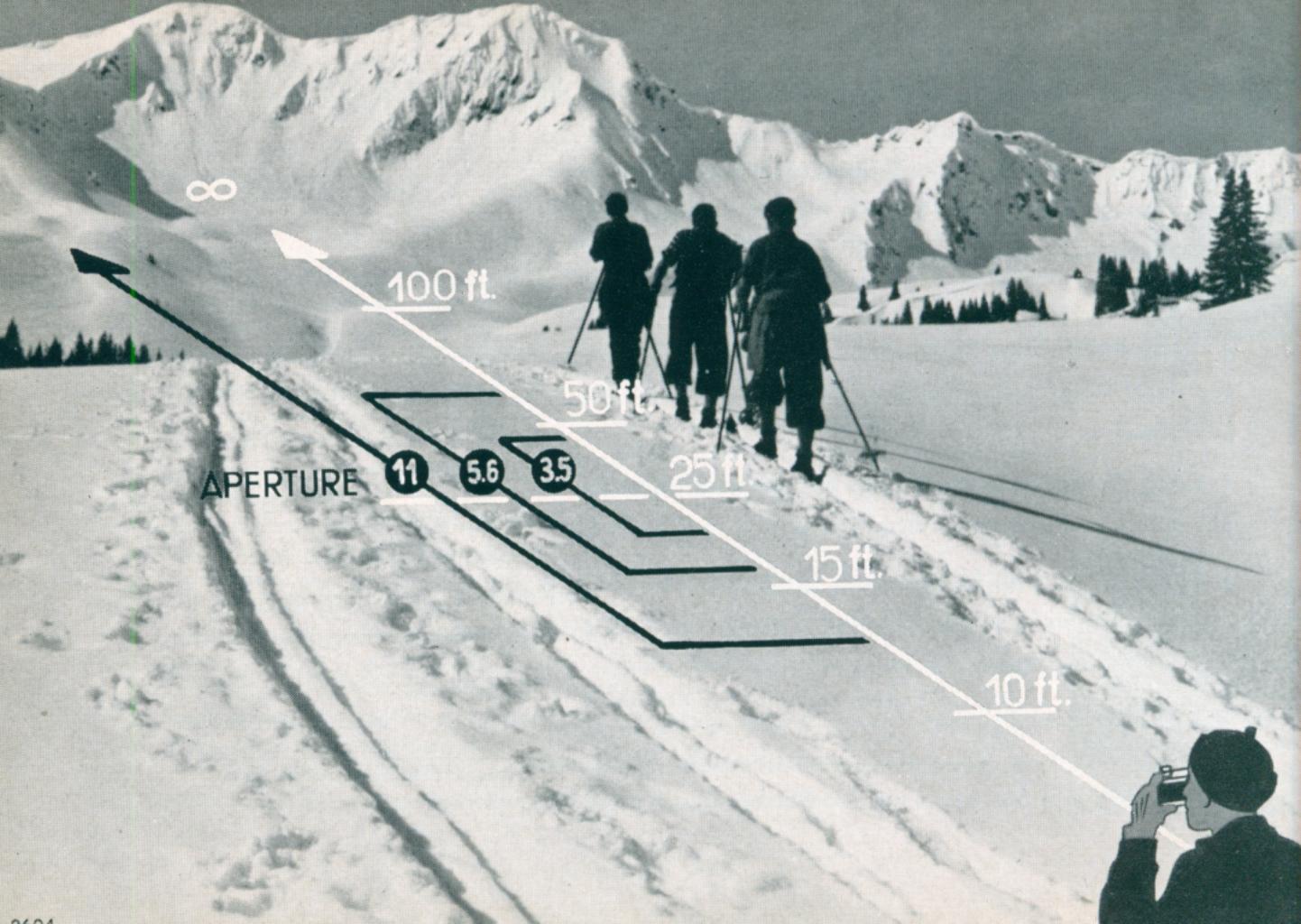


GENERAL RULES FOR STOPPING DOWN

- 1. Objects most sharply defined** are those at the distance at which the lens is focused. Therefore, always focus carefully on the centre of interest of the subject.
- 2. Snapshots:** Stop down to f/5.6 and focus on principal object. The depth of field will usually be sufficient.
- 3. Long distance views without foreground interest:** Set lens to infinity and stop down to f/5.6 or f/8.
- 4. Landscapes with foreground:** Stop down so that the depth of field scale indicates a range extending from the foreground distance to infinity.
- 5. Portraits:** Use full lens aperture and focus accurately on the eyes. The sitter should be sharply defined and the background subdued by being diffused.

The Second Index Line

marked R on distance scale is used for infra-red-photography. First focus accurately on the object in the usual way, then adjust the lens mount until index line R registers with the distance indicated by the rangefinder setting. Exceptions: When working with wide-angle lenses, no special adjustment is required.

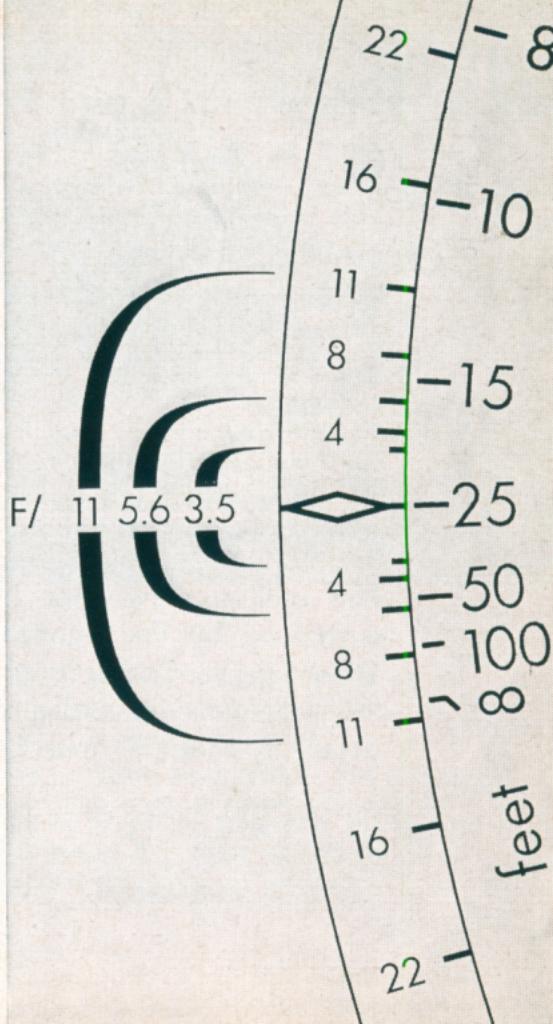


10 DEPTH OF FIELD SCALE

An object is most sharply defined in a photograph when it lies at the distance on which the lens is focused. Definition would gradually deteriorate if the object were moved nearer the camera until a point would be reached when definition would be quite unsatisfactory. Similarly, definition would deteriorate, although not so rapidly, if the object were moved away from the camera. The distance between the nearest plane and the furthest plane at which objects are sufficiently sharply defined is known as the "depth of field" (often erroneously called "depth of focus"). It varies with the distance focused upon and the aperture of the lens. The nearer the principal object and the larger the stop of the lens the shallower the depth of field and therefore the more critical must focusing be.

A scale on LEICA lens mounts enables the depth of field to be read at each aperture and each distance setting down to 3.5 feet. Objects at distances between those indicated on the scale will be sufficiently sharply defined.

Example: With a standard focal length of 50 mm., when the distance scale is set at 25 feet and the lens aperture at f/3.5, the depth of field extends from 20 feet to 40 feet. With the lens stopped down to f/5.6 it will extend from 16 feet to about 60 feet. At f/11 all objects beyond 12 feet will be in focus.



VIEWFINDER and RANGEFINDER:

11 TWIN EYEPIECE

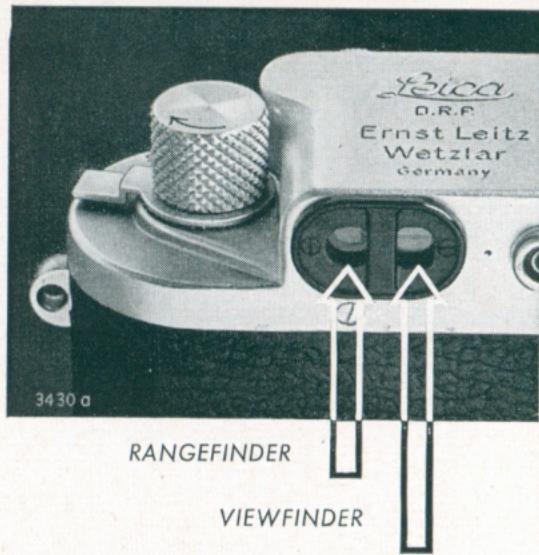
This carries the eyepieces of both viewfinder and rangefinder so that only a slight movement of the head is necessary when changing from one to the other.

Correction lenses can be fitted to the twin eyepiece, enabling users with defective eyesight to operate the LEICA without glasses. Such lenses are made to the user's optician's prescription.

12 VIEWFINDER

The built-in viewfinder indicates the view embraced by the standard 50 mm. lenses. When lenses of other focal lengths are in use, the universal viewfinder, which fits into the accessory shoe (17), must be brought into use.

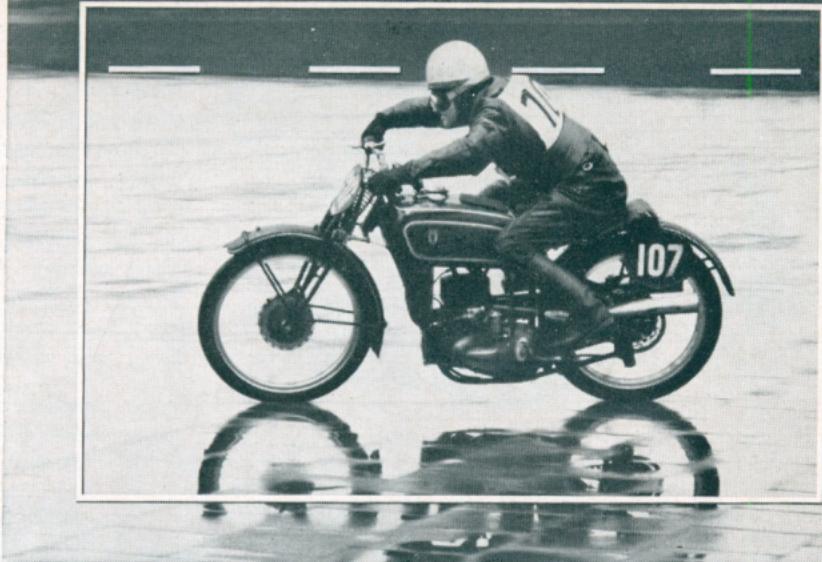
The viewfinder of the LEICA If is detachable since this camera often serves special purposes, i. e. scientific photography, where other methods of observation are advantageous (micro-attachment, reflex housing etc.).



*Place the eye close to the twin eyepiece
Care should be taken to look squarely
through the centre of each eyepiece.*

13 THE VIEWFINDER

of the LEICA If is of the reflecting type and can be used to good advantage on models IIIf and IIIIf.



As the field covered by 50 mm. lenses is shown in its natural size this reflecting finder allows the use of both eyes, the brilliant field frame appearing in the observer's unimpaired natural field

of view without the risk of eyestrain. A dotted line along the upper edge enables one to make adequate allowance for parallax in the case of close-ups (distances less than 10 feet).

14 COUPLED RANGEFINDER



In miniaturephotography accurate focusing is essential for perfect definition and sharp enlargements.

Former visual examination under

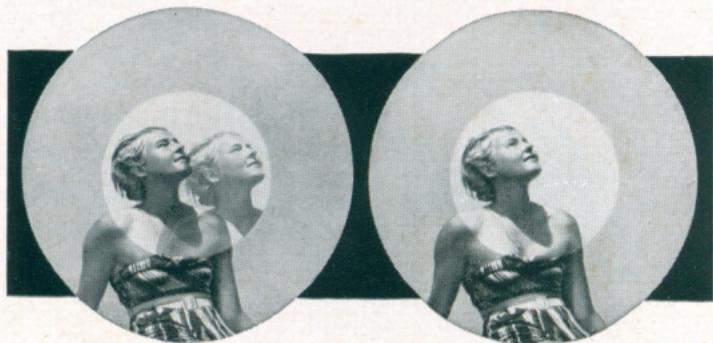
the black cloth is now replaced by the movement of a single finger.

The rangefinder coupled with the LEICA lens measures the distance and at the same time focuses the lens accurately on that distance.



Focusing is effected by means of the lens focusing lever (8). When the lens is set at "infinity", near objects appear to be "double" when viewed through the rangefinder. When the lever is operated so that the two images of an object coincide the lens is focused on that object. All interchangeable LEICA lenses up to 13.5 cm. focal length are automatically coupled with the rangefinder when screwed into the camera body.

Only LEICA I f differs in that it has an attachable rangefinder without provision for coupling lenses (A conversion into models II f or III f is possible).



Out of focus

Correct focus

How the coupled

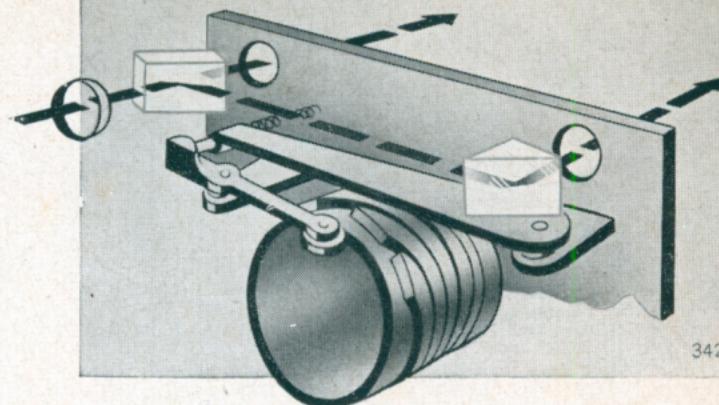
Rangefinder works:

As the lens is focused, the backward and forward movement is communicated by a lever to the rangefinder, the precision of which resembles that of a high-grade microscope.

15 ADJUSTMENT OF RANGEFINDER TELESCOPE

The accuracy of the LEICA rangefinder is augmented by a built-in telescope having a magnification of 1.5. By means of the small lever (14) it may be focused on distant objects. It will also compensate for slight eyesight defects (between -2 and +1.5 dioptres).

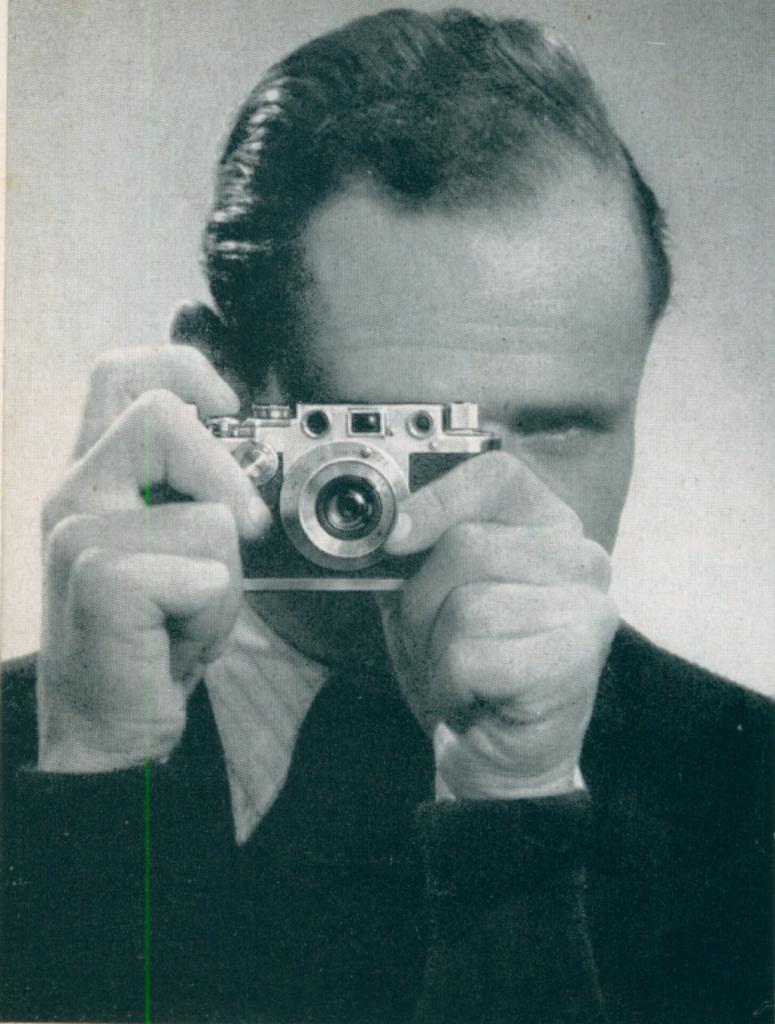
To demonstrate the operation of the rangefinder: Sight, through the rangefinder, an object about 12 to 15 feet away, the lens being set to "infinity". Cover the left hand rangefinder window with the middle finger of the left hand. Look centrally into the rangefinder eyepiece. The object will be seen in a small circular field. Adjust lever (14) until the greatest possible sharpness is obtained. When the finger is removed from the window a double image of the



object will be seen in a larger circular field. Adjust the lens by lever (8) until the two images coincide. The lens is then accurately focused on the selected object. Unless the small field appears exactly in the centre of the larger, the line of sight is sideways and incorrect. Bearing this in mind will quickly enable the LEICA user to focus rapidly and accurately.

When working at short distances it is advisable to focus the lens by scale on the appropriate distance and correct slight difference by approaching or receding from the subject until the rangefinder images merge.

To enhance the colour differentiation of the rangefinder images a small orange filter in mount can be fitted to the left window (13).



HOLDING the LEICA:

Grip the LEICA with the right hand so that the rounded end of the base-plate rests in the palm. The index finger should rest lightly on the shutter-release button. It is important that the camera is cupped in the base of the palm counteracting the pressure of the finger on the release. The other end of the camera is gripped in the left hand, with the index finger on the focusing lever. Hold the camera steadily against the head with the twin eyepiece immediately in front of the eye. Press the elbows to the chest and stand with the feet well separated.

Press the release button gently but firmly, taking care not to jerk. Apply pressure with the forefinger only and maintain pressure until the shutter has completed its run.

THE WRONG WAY:

The camera is not held firmly and may give way to the pressure on the release button when not cupped in the base of the palm. The result will almost certainly be a blurred picture. In addition to the method of holding the LEICA described on page 22, experienced users hold their breath at the moment of release.

Some enthusiasts boast that they are able to hold the camera steady for a whole second. However, it is always safer to set the camera on a firm support when using exposure times of the slow speed dial, i. e. shutter speeds between $1/25$ and 1 second.

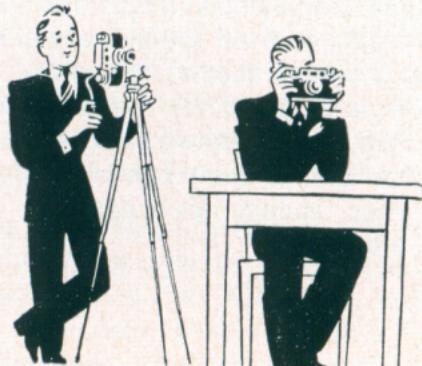




VERTICAL PICTURES:

Grip the LEICA with the right hand with the thumb on the release button and the fingers exerting counter pressure. The upper end of the camera is grasped with the left hand, one finger of which operates the focusing lever. The top of the camera should rest against the forehead. Thus held, the camera can be operated without jerking.

*Slow-speed, hand-held snapshots
are not difficult . . .*

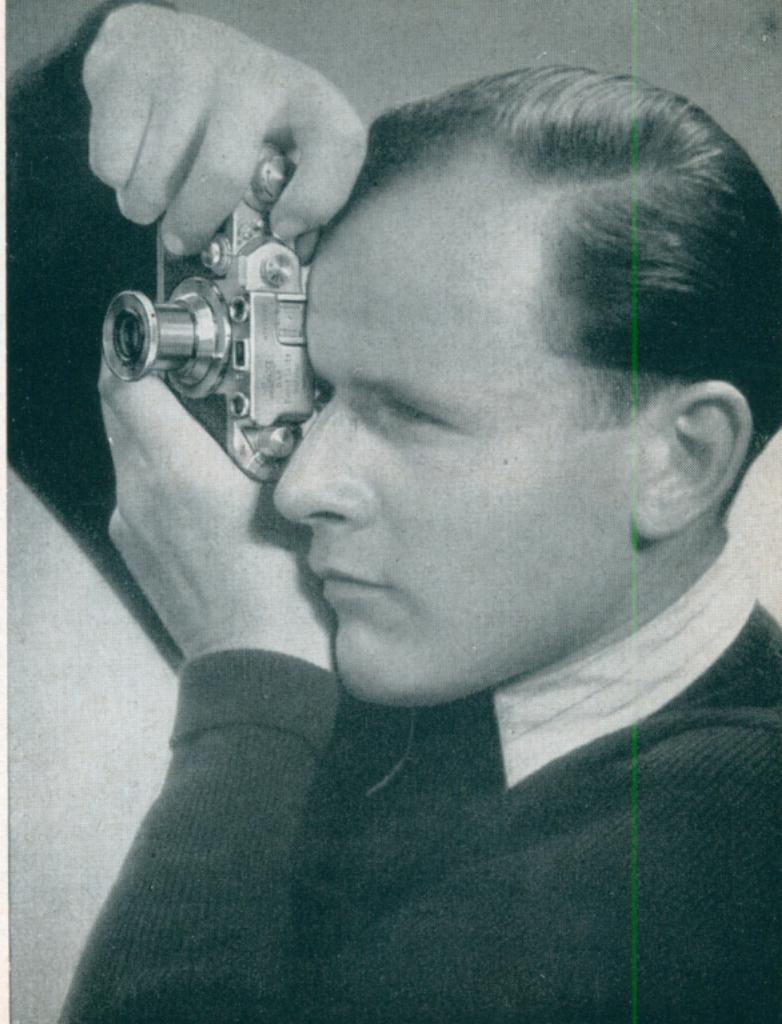
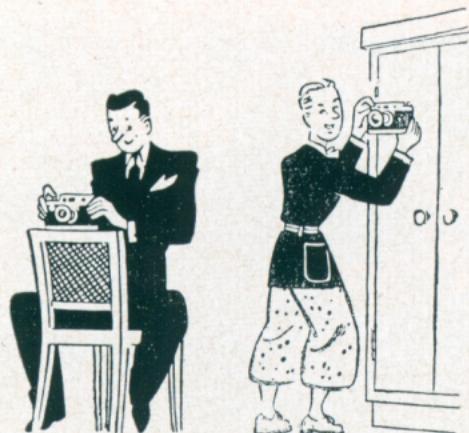


THE SECOND METHOD

of taking vertical pictures, popular when changing from horizontal to vertical position or vice versa.

Grip the LEICA as described on page 22, then turn to the vertical position.

... if ingenuity is called upon.

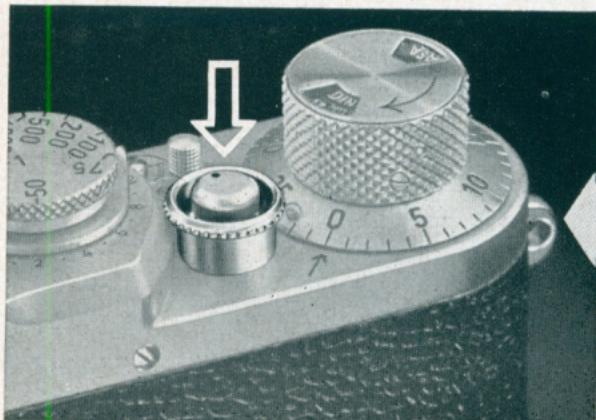




1

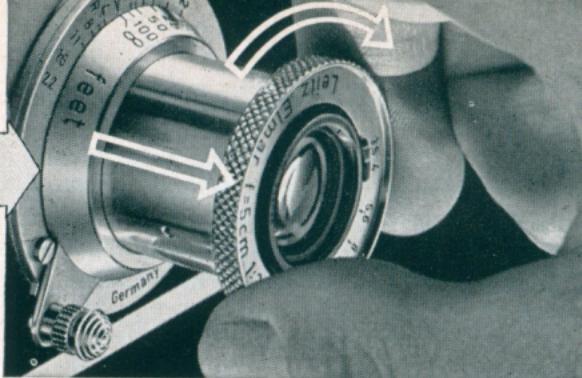
Remove LENS CAP.

CAMERA DRILL



8

... gently press RELEASE BUTTON.



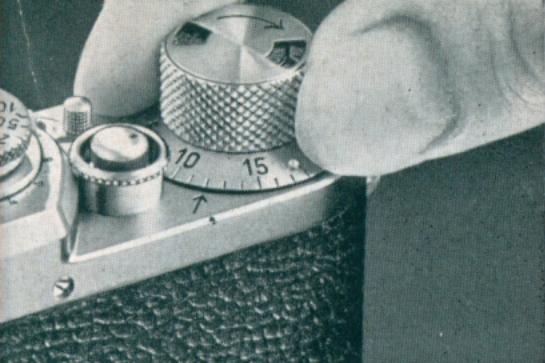
2

Withdraw LENS and lock it by turning clockwise to the stop.



3

FOCUS LENS through rangefinder,
move eye back to VIEWFINDER, and

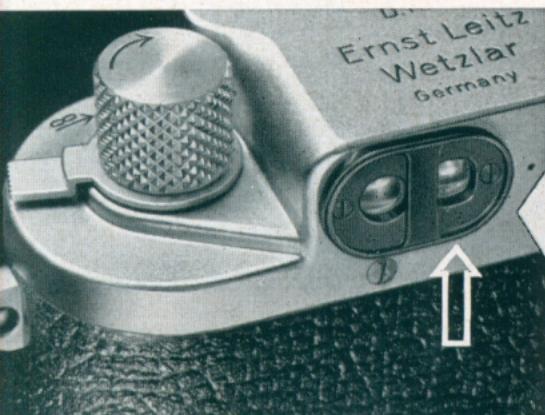


Turn WINDING KNOB to the stop.

4

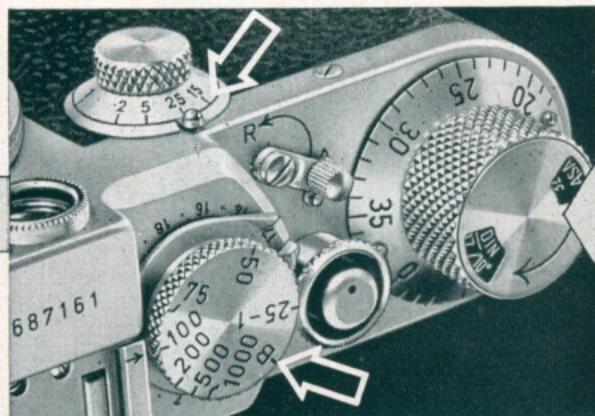


Adjust LENS APERTURE.



COMPOSE PICTURE in viewfinder.

6



Set SHUTTER SPEED DIAL

5

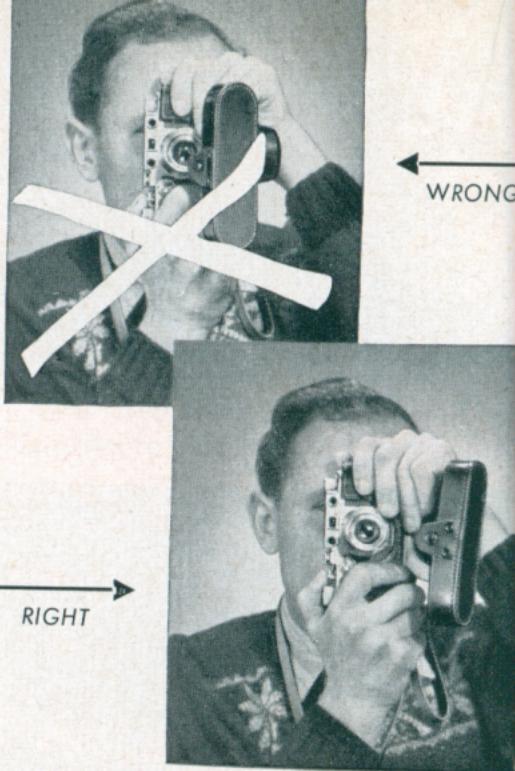
FILM CARTRIDGES, SPOOLS, CASSETTES

The principal manufacturers supply 35 mm. perforated film as used in the LEICA in various degrees of sensitivity etc. and issue the following:

- 1. Daylight Loading Cartridges** which are simply inserted in the camera in daylight in the same way as LEICA film cassettes. They should not be loaded a second time.
- 2. Daylight Loading Spools** which consist of a standard length of film with opaque paper leaders and wound on a centre spool. Directions for use are supplied with the spools.
- 3. Darkroom Loading Spools** which contain ready-trimmed lengths of film which require to be loaded into the LEICA cassette in the dark-room.
- 4. Bulk Supply.** This is available in lengths of 18-200 feet. In the darkroom the required length is cut off, loaded into the LEICA cassette and trimmed (see page 31). The LEICA film cassette holds 1.6 m. (approx. 5 1/4 feet) of film, sufficient for 36 exposures.

The Ever-Ready Case:

The LEICA is best kept and carried in the ever-ready case. To remove the LEICA from the case, loosen the bottom screw.

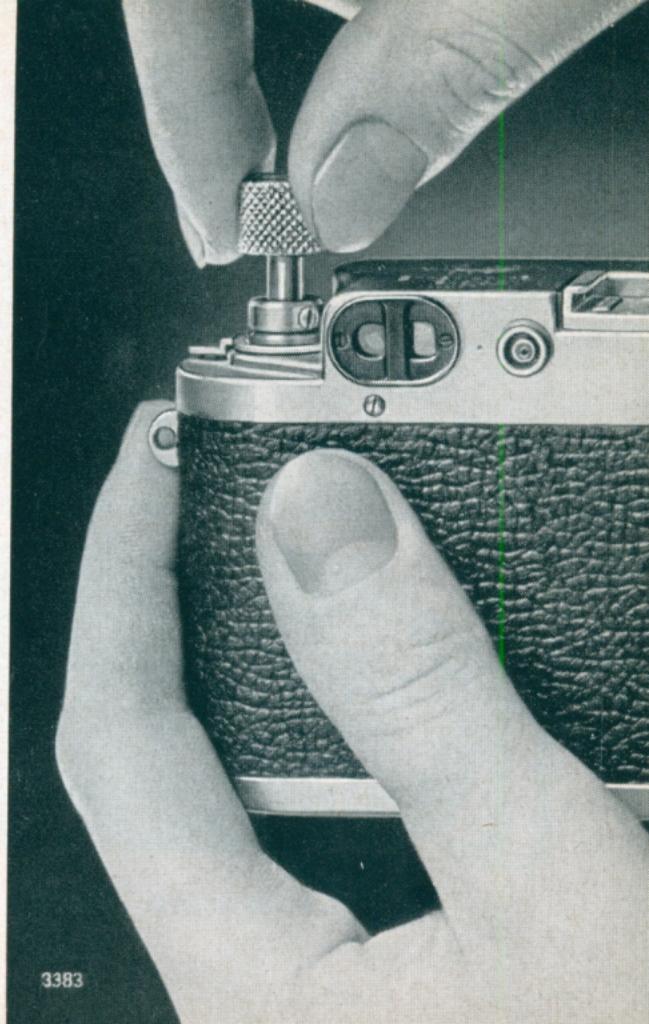


Caution: When using a new case and when taking vertical pictures care should be taken that the hinged portion does not swing in front of the lens.

LOADING the LEICA

The fact that exposures as short as $1/500$ or $1/1000$ sec. can produce successful pictures is sufficient indication of how minute an amount of light may affect a film. LEICA cassettes and daylight loading cartridges are light-tight but even so, they should never be exposed to direct sunlight. Always load and unload the camera in the shadow of the body in the absence of other light protection.

Before opening the LEICA make sure that the film has been rewound into its cassette. If there is any doubt about the camera being loaded, pull out the rewinding knob (15) and turn it in the direction of the arrow. If resistance is felt the camera is loaded and the film should be wound back into the film cassette.

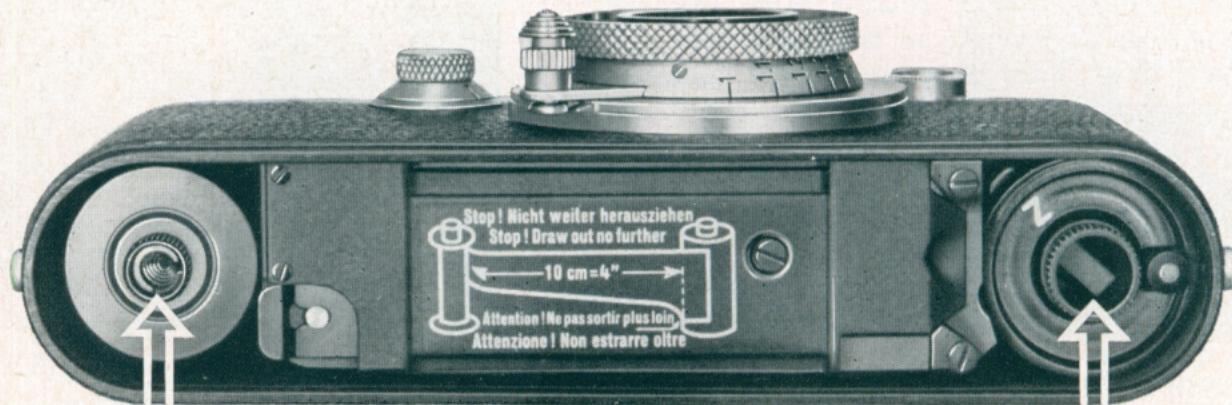


TO LOAD THE LEICA:

1. Before inserting a new film cassette, **set reversing lever (16) to A (Advance), i. e. against the stop pin.** Wind and release the shutter to make sure that it is in order. Wind the shutter again but do not release it.
2. Open the camera by raising the

locking handle on the baseplate and turning to "OPEN" and lift the baseplate. (Some models are marked) "AUF" (open) and "ZU" (close).

3. Remove the take-up spool from the camera.
4. Place the LEICA on a firm support as shown in the illustration.



TAKE-UP SPOOL

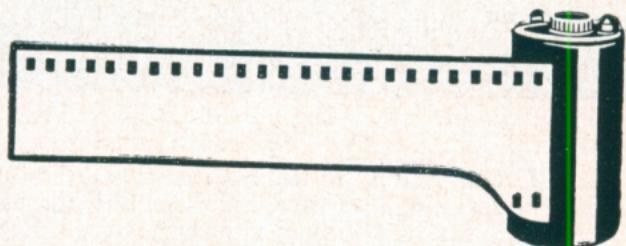
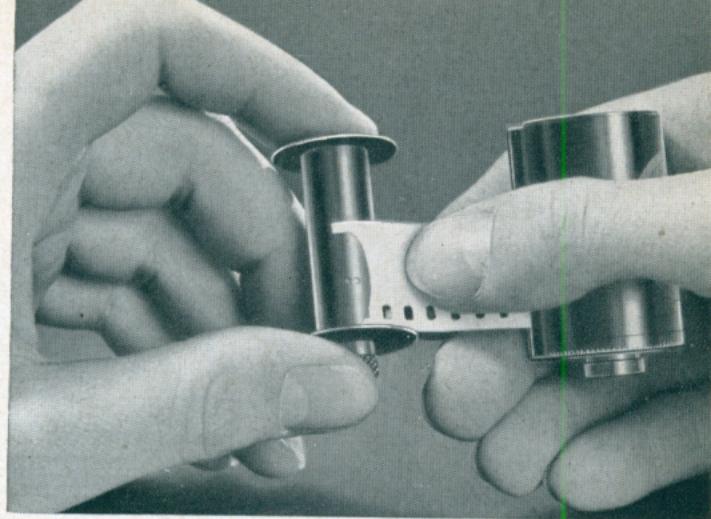
FILM-CASSETTE

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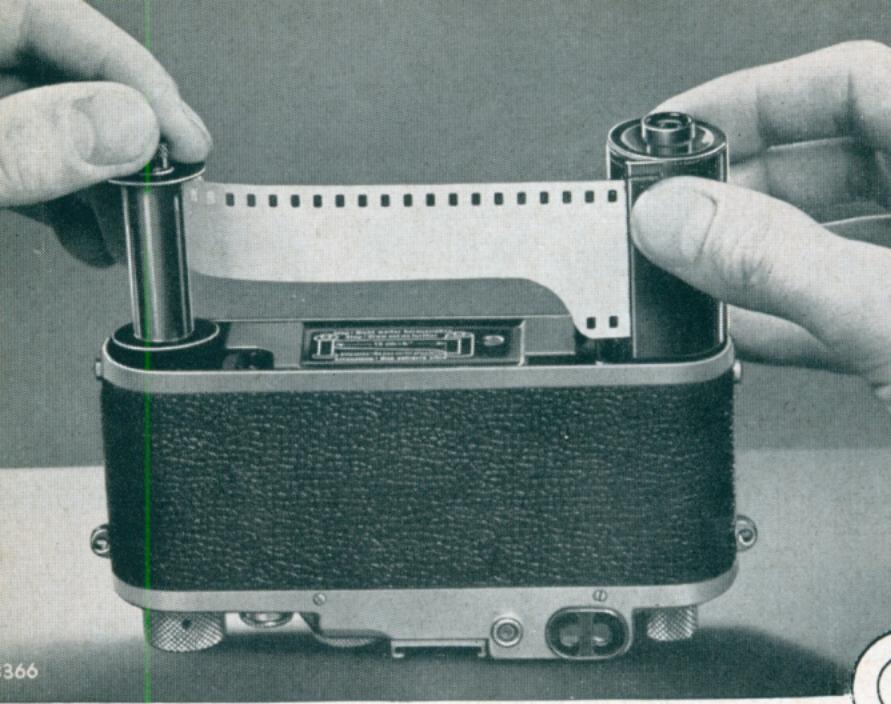
LOADING THE LEICA

5. Hold the take-up spool in the left hand and the loaded film cassette in the right. Both knurled heads should point downwards (see illustration). Insert trimmed end of the film under the clamping spring of the take-up spool as far as it will go. The perforated edge of the film should abut the spool flange.

6. Draw the trimmed leader strip from the film cassette slot until two (but no more) perforations on the trimmed edge of the film are visible. (See illustration page 32.) The curved mark on the outer shell of the LEICA cassette indicates the correct position of the film.



10 cm = 4"

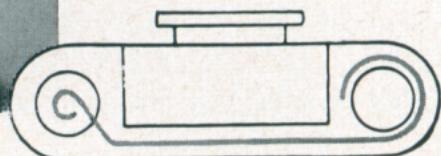


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LOADING THE LEICA

The safety spring of the standard LEICA film cassette should always lie in the corner next to Z, as illustrated on page 30.

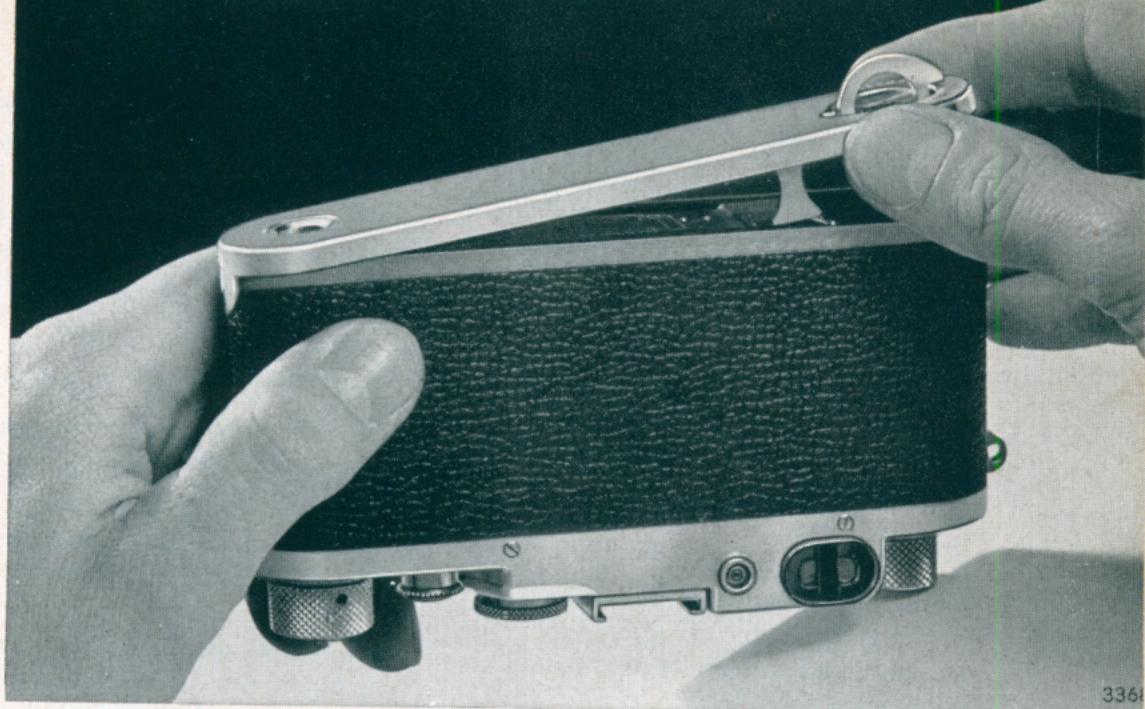
With properly trimmed film no more than two perforations should be visible on the trimmed edge.



7. Introduce the take-up spool and film cassette into camera simultaneously, knurled heads pointing upwards. The trimmed film will then enter the slot along the back of the camera. If the cassette will not drop right down, turn the rewinding knob (15) slightly.

Check the path of the film by this diagram; the emulsion side must face the lens.

LOADING
THE LEICA



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8. Hook the baseplate over the pin, close it and turn the locking handle to "CLOSE" (or Zu). The camera is now light-tight.

LOADING THE LEICA

9. Turn the rewind knob (15) carefully in direction indicated by the arrow until a slight resistance is felt. This will tighten the leader strip and ensure that the film roller sprockets engage the perforations of the film properly. Press the release button (3) and turn winding knob once again.

10. Turn exposure counter (2) anticlockwise to 0, release shutter and again turn the winding knob. While doing this **the rewind knob should revolve**. This will indicate that the film is travelling properly. With the exposure counter pointing to 1 the LEICA is ready for use.

To avoid failures always set reversing lever to A against the stop pin when loading the camera and check that the rewind knob rotates while the shutter winding knob is being operated for simultaneous film advance.

If the film has not been correctly inserted . . it may disengage from the take-up spool and will not advance. This fault will be recognized by the rewind knob failing to rotate while the winding knob is being turned. The film must be re-inserted.

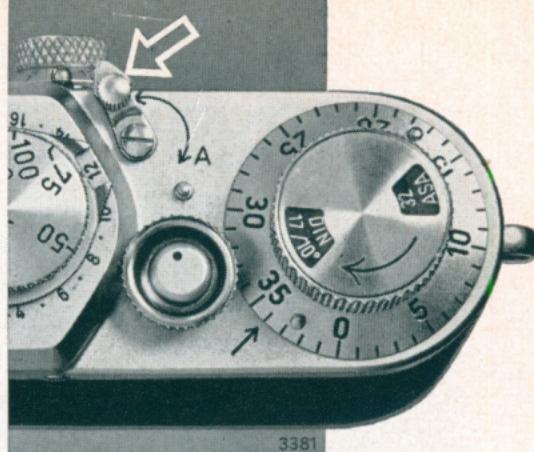
First set reversing lever (16) to **R**, then turn rewind knob (15) in the direction of the arrow. **only so long as the release button continues to rotate**. When the latter ceases to rotate the film will have passed the release shaft and only a very short length will be protruding from the mouth of the cassette. Should the end of the film be drawn into the cassette it will be necessary to go into a darkroom to withdraw the leader.

UNLOADING the LEICA

When the full length of film has been exposed it will be impossible to turn the winding knob without exerting undue force. It will be necessary to rewind the film into the cassette. Before doing so verify that the slow-speed dial is not set to T or the shutter might be open and the film would be exposed while being rewound. To be doubly sure fit the lens cap while rewinding.

1. To unload the camera set the reversing lever (16) to **R** (Reverse). This disengages the automatic coupling of the film transport and the shutter mechanism.

2. Pull up the rewind knob (15) and turn in the direction of the arrow until resistance is felt. This will indicate that the film has been unwound from the take-up spool and is being held merely by its tip under the spring of the spool. Wind to overcome resistance, and after two complete turns the film will be completely rewound into the cassette.



If a partially exposed film is removed from the camera and the unexposed portion is to be used at a later date, the film must not be fully rewound into the cassette. Watch the release button carefully when rewinding and stop as soon as it ceases to turn. (See also page 34.)

3. After rewinding the film the baseplate may be removed and the cassette withdrawn. Protect loaded cassettes from dust and light by storing in the original plastic containers.

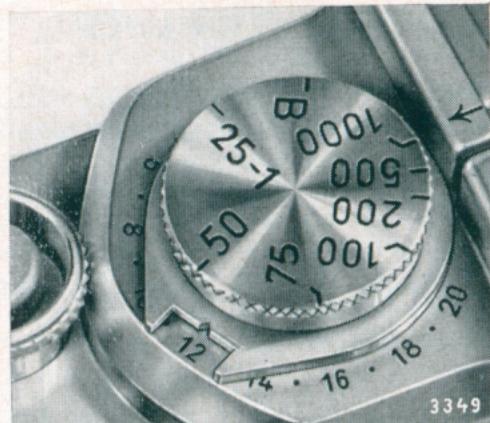
FLASH SYNCHRONIZATION

The LEICA has provision for flash synchronization at the various shutter speeds. An adjustable contact scale (18) with red figures is fitted under the fast shutter-speed dial (5).

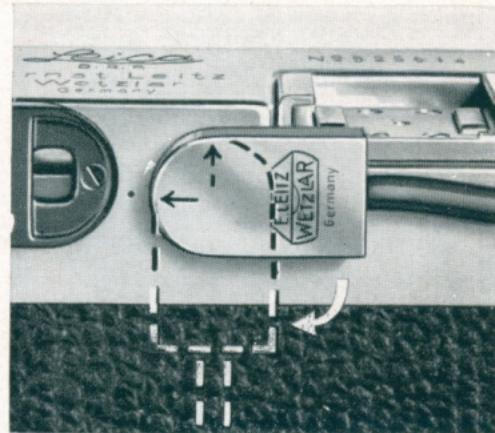
The contact scale allows adjusting the built-in shutter synchronization in accordance with the flash peak of all commercial types of flash bulbs and also electronic flashes.

The appropriate setting of the contact scale for any exposure time required is taken from the Tables printed on pages 40-41. Similar folding Tables are supplied for retention in the ever-ready case. The circular plug socket to take the connecting cable of the flash attachment is built-in at the right hand side of the twin eyepiece of the rangefinder and viewfinder.

Special attention is drawn to the fact that these Tables are only valid for cameras with RED contact numbers and distance calculation in FEET. Special tables are available for earlier III f cameras with BLACK contact numbers.



The camera plug held in a horizontal position and with the arrow engraved on it pointing towards the twin eyepiece is pushed into the flash socket (19) of the LEICA and secured there by turning it downwards so that the arrow now points to the top. To remove the plug, turn it so that the arrow is horizontal again and pointing to the twin eyepiece.





The LEITZ flash attachment is fitted to the accessory shoe of the camera or to the shoe of the adjustable holder for the flash attachment. The unit consists of the battery container (1) with lateral socket (2) for inserting the two-pin plug of the connecting cable, tripod thread (3), detachable holder for large flash bulbs with E. S. cap (4), adapter (5) with ejecting device (6) for small flash bulbs with S. C. C. cap, reflector holder (7) and collapsible (segmented) reflector (8), and connecting cable.

The battery container includes an adapter (9) with tubular capacitor and with holder taking a small commercial 22.5 volt dry battery (commonly used with hearing aids).

Successful firing is guaranteed by the capacitor. The adapter with capacitor can be fitted, without modification, in place of the battery holder supplied with earlier flash attachments. The flash bulb socket (4) is detached by a slight left turn and similarly replaced by a right turn.

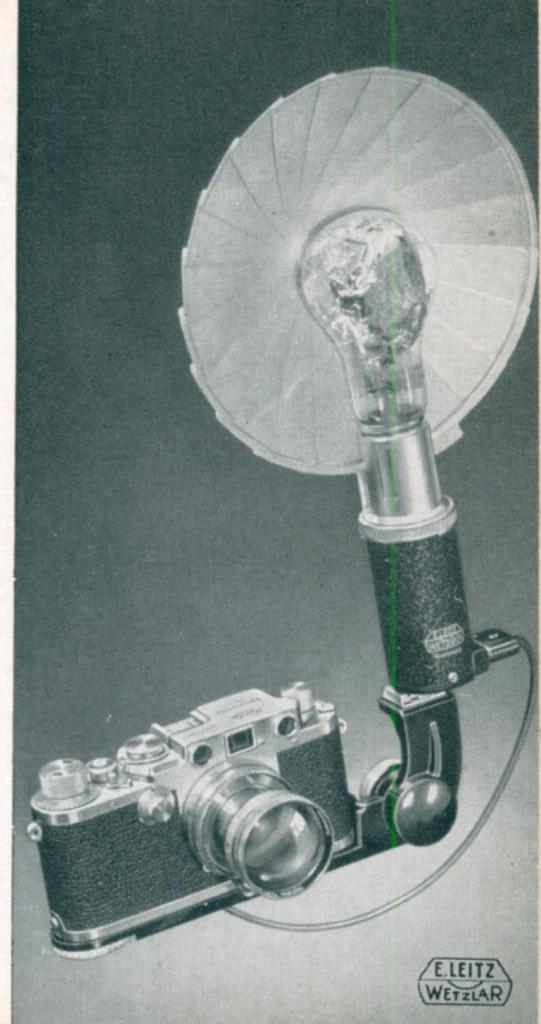
The current supplied by the battery, even after long use, will still be sufficient for firing. Ignition is, therefore, practically independent of

the condition of the battery as long as it is not completely exhausted. The capacitor is charged by inserting the flash bulb or the test filament bulb (6 volts, 0.05 amps). No bulb should, therefore, be kept inserted if the flash attachment is not in use.

The holder for flash bulbs with E. S. cap (4) takes the adapter (5) for the small flash bulbs with S. C. C. cap. This adapter is turned until its pins engage the springs of the holder and the red dots on either part are in alignment. By pressing the knob (6) of the ejecting device the hot bulb can be ejected immediately after firing.

The collapsible reflector is so attached to the holder with click stops (7) that the flash bulb is in the centre of the reflector. Radius and surface of the reflector are designed to produce a pleasing soft lighting covering a wide angle, so that the 35 mm. wide angle lens can also be used for flash photographs. With the reflector folded the flash attachment requires a minimum of space.

One or more flash attachments can be connected to the synchronized LEICA and fired simultaneously at various distances (mounted on tripods) to give special lighting effects. In this case a long connecting cable and multiple socket have to be used with the normal flash attachment cable.



Exposure Guide

for LEICA-Cameras with RED Flash Synchronisation Scale

Table 1

	Shutter Speed →	1/25	1/50	1/75	1/100	1/200	1/500	1/1000	
	Contact Number →	16	13	7	5	2	1	0	
Flash Bulbs (Type FP) for Focal Plane Shutter	Philips PF 24, Osram SO Gen. El. USA No. 6 *) Sylvania USA FP 26 West Japan No. 6 u. 6 A	100	75	62	56	40	26	20	Guide Numbers
	Philips PF 45	115	100	80	70	45	30	-	
	Gen. El. USA No. 31 *) Sylvania USA No. 2 A	150	110	95	80	56	36	23	
	Osram S 2 Gen. El. USA No. 22 *)	200	150	125	110	80	50	33	

*) Same positioning for bulbs of the same type made by Westinghouse, Duramite, Amplex, Japan etc.

1. Adjust red scale of synchro-dial below the shutter speed dial in accordance with the CONTACT NUMBER given in the table for the required shutter speed.
2. Look up the GUIDE NUMBER for the flash bulb and shutter speed used, divide by the distance (in feet) between bulb and subject and set lens diaphragm to the figure thus ascertained. This adjustment ensures satisfactory exposures on films of medium speed 17/10⁰ DIN or 32 ASA.
3. Open up one lens stop for 16 ASA (14/10⁰ DIN) and close down one stop for 64 ASA (24/10⁰ DIN) films. Also stop down when allowance must be made for highly reflecting objects or surrounding bright surfaces.

Consult special table for LEICA III f with BLACK contact scale.

Table 2

Flash Settings for the synchronized LEICA with red Syncro-dial.

Shutter Speed ➤	1/25	1/50	1/75	1/100	1/200	1/500	1/1000
Osram XP	1 52	6 46					
XO	3 70	7 60					
Osram XM 1	7 52	10 52					
Philips PF 1							
Philips PF 3 N		52	52				
PF 14 N	14 72	11 60	5 50				
PF 25 N	105	80	70				
PF 38 E	150	110	92	80	56	36	
PF 60 E	14 200	11 160	6 130	4 115	2 82	1 52	0 36
PF 100 E	16 250	13 180	7 150	4,5 125			
General No. 5	100	75	65	56	43	26	—
Electric*) No. 11	105	80	70	60	46	33	23
	14	11	6	4	2	1	0
Sylvania No. 0	100	75	65	56	43	26	—
Press 40	130	100	85	75	56	33	23
Electronic flash	0	20			Check guide number against specification of electronic flash		

*) Same positioning for bulbs of the same type made by Westinghouse, Duramite, Amplex, Japan West etc

To use this table consult Directions 1. to 3. on preceding page.

ASA, such as Kodachrome K 135, the diaphragm is to be opened by half a stop more than the one specified in our table. It is pointed out that the colour temperature of flash bulbs can also be corrected to suit the colour temperature of the film by using colour temperature correcting filters such as they are known as conversion filters.

Guide numbers are approximate values. They are calculated for the Leitz folding reflector, the subjects to be photographed having a normal brightness and the ceiling reflection being considered as the standard one. It is, therefore, necessary to consider extraordinary lighting conditions when selecting the lens stop.

Pictures taken that way can be developed in the ordinary procedure together with pictures taken in daylight on the same film. Developing flash pictures in the ordinary way has the further advantage that the depth of the picture turns out brighter than it would when choosing a higher guide number and developing longer. This procedure is only to be recommended if one intends to bring out distinctly subjects in the foreground of the picture.

For colour film the following rules are to be adhered. With **negative colour film** clear glass flash bulbs can be used as any correction of the colour temperature can be attended to while copying the colour positives.

With **artificial light colour film** yellow-tinted flash bulbs are to be used.

Daylight colour film demands blue-tinted flash bulbs with the exception of electronic flash where the colour temperature is equal to daylight.

The contact numbers mentioned in our tables are the same for all the differently tinted flash bulbs of the same type. The guide numbers, however, are influenced by the tinted flash bulbs and are to be corrected accordingly.

The great number of different colour films and the necessity of exposing correctly makes it not advisable to specify special guide numbers. It is recommended to gain some experience with certain colour films and flash bulbs as only by doing so satisfactory results can be expected. It has been found, for example, that using blue-tinted flash bulbs with the daylight colour film of 15/10° DIN (i. e. Agfacolor L-UT) half the value of the guide number is about correct. If a colour film, however, has a sensitivity of 10

Simplified Testing Method for Built-in Flash Synchronization.

The cause of failures is usually found outside the camera. The voltage of batteries may have dropped by long storage so much that there is no ignition of flash bulbs. The synchronization is checked as follows: the two-pin plug of the connecting cable is inserted into the flash attachment fitted with a test filament bulb or connected to a torch battery with a filament bulb in series connection. The filament will light up when the pins of the plug, while inserted in the socket, are shorted. To test the cable the camera plug on the other end of the cable must also be carefully shorted.

For actually checking the LEICA synchronization, push camera plug into the socket of the LEICA and test series contact with shorted main contact as follows: Wind shutter, set speed dial to $1/25$ sec. and synchro-dial to 0 or 1. Press down release button (shutter will release). The test filament bulb will light up only for a fraction of a second due to the capacitor. If a commercial battery with suitable bulb is used with the flash attachment for checking purposes, the bulb will light up on depressing the release button and go out again as soon as the pressure is released.

For checking the various contact settings of the synchronization, set shutter speed and synchro-dial as follows:

Shutter speed	1000	500	200	100	75	50	25
Synchro-dial	0	1	2	5	7	13	19

The shutter speed dial is held firmly and the release button pressed down. No contact, the bulb does not light up. Then the shutter speed dial is allowed to revolve slightly. Contact is established, the bulb lights up. On rewinding the shutter speed dial to the stop the current must be switched off again. With these tests proper flash synchronization is established. In case of difficulty with electronic flashes it is advisable to have the insulating resistance checked by an expert (electrical engineer) at the two-pin plug of the cable while the camera plug is pushed in position. The test voltage should be not more than 220 volts, the insulating resistance at least 2 megohms. If the camera does not conform with this requirement it should be sent to our works or our official agency.

CHOICE OF FILM MATERIAL:

A wide variety of films of differing speeds and other characteristics is available, enabling the LEICA photographer to select the type most suitable for any particular purpose.

Medium Speed Films with a rating of about $16/10$ DIN to $18/10$ DIN are most suitable for general use. They yield high contrast, fine grain images, exhibit wide exposure latitude and possess high resolving power.

High Speed Films should only be used under certain circumstances, such as poor light, indoor and theatre work and sports photography when high shutter speeds are essential. High speed can only be realised at the expense of some coarsening of grain structure and therefore of resolving power.

Slow Films possess particularly fine grain and yield the highest contrast. They are most suitable when the reproduction of fine detail is required and length of exposure is unimportant. The copying of documents and drawings is best done on slow films.

Film manufacturers express the speeds of their materials by various systems. The more frequently used ratings employed by film and exposure meter manufacturers are shown in the accompanying table.

DIN	B. S. & A. S. A.	General- elect ic	Weston	American Scheiner	European Scheiner
	Arithmetic	Logarithmic			
10/10	6	19 ⁰	8	5	16 ⁰
11/10	8	20 ⁰	10	6	17 ⁰
12/10	10	21 ⁰	12	8	18 ⁰
13/10	12	22 ⁰	16	10	19 ⁰
14/10	16	23 ⁰	20	12	20 ⁰
15/10	20	24 ⁰	24	16	21 ⁰
16/10	25	25 ⁰	32	20	22 ⁰
17/10	32	26 ⁰	40	24	23 ⁰
18/10	40	27 ⁰	48	32	24 ⁰
19/10	50	28 ⁰	64	40	25 ⁰
20/10	64	29 ⁰	80	50	26 ⁰
21/10	80	30 ⁰	100	64	27 ⁰
22/10	100	31 ⁰	125	80	28 ⁰
23/10	125	32 ⁰	160	100	29 ⁰
24/10	160	33 ⁰	200	125	30 ⁰
25/10	200	33 ⁰	250	160	31 ⁰

Scheiner, DIN, ASA/BS (log) ratings progress by three units per doubling of speed. In the other systems, doubling of the speed figure denotes a doubling of the film speed.

CORRECT EXPOSURE:

A good exposure meter greatly simplifies exposure problems, but even without a meter, it is possible to acquire a facility for estimating exposures based on previous experience. From the start, make two different exposures of each subject and compare the result after development. The accompanying table applies to average subjects.

When estimating exposures bear in mind that in a photograph bright objects appear relatively brighter, while dark objects appear darker than they do to the eye. This is because the eye adapts itself to the prevailing light. When making a visual estimate of an exposure, therefore, until extensive experience has been gained in bright light, take a second picture giving one third of the estimated exposure. In dull light make a duplicate exposure giving 3 to 5 times the estimated time. The above applies to black-and-white film. Colour film has little exposure latitude and the use of an exposure meter is recommended.

Snapshots, Groups, Street Scenes, Houses:	f/5.6	1/50 - 1/100
Rapidly Moving Objects, Sports Pictures:	f/4 f/2.8	1/200 - 1/500 1/500 - 1/1000
Landscapes with foreground:	f/8	1/25 - 1/50
Open Landscapes:	f/8	1/50 - 1/100
Open Sea, Snow Scenes:	f/8 - f/11	1/50 - 1/200
Outdoor Portraits in the shade:	f/3.5	1/25 - 1/50
Indoor Portraits near window:	f/2 f/3.5	1/5 - 1/50 1/2 - 1/25

The above exposures are for medium speed films $17/10$ DIN (28° European Scheiner, 27° B.S. & A.S.A. Logarithmic Index) and a clear sky during the summer months between 10 a. m. and 4 p. m. In spring and autumn double these exposures and in the winter months multiply by four. High-speed films will require only half the exposures indicated.

The geographical latitude also influences exposures. Those shown apply to the temperate zones.

THE INTERCHANGEABLE LEICA LENSES

are offered in a large variety of types ranging from wide-angle to telephoto, ensuring excellent results in all branches of amateur photography and most specialized professional work.

Average requirements are often wholly satisfied by one of the 50 mm. standard lenses while extra lenses open up many special photographic possibilities.

More recent additions to the range of LEICA lenses are the TELYT 400 mm. f/5 and the HEKTOR 125 mm. f/2.5 both fitting the VISOFLEX focusing housing.

General Purpose Lenses:

ELMAR 50 mm. f/3.5 (1)

SUMMICRON 50 mm. f/2 (2)

Ultra Speed Lenses:

SUMMARIT 50 mm. f/1.5 (3)

SUMMAREX 85 mm. f/1.5 (4)

Wide-Angle Lens:

SUMMARON 35 mm. f/3.5 (5)

Long-focus Lenses:

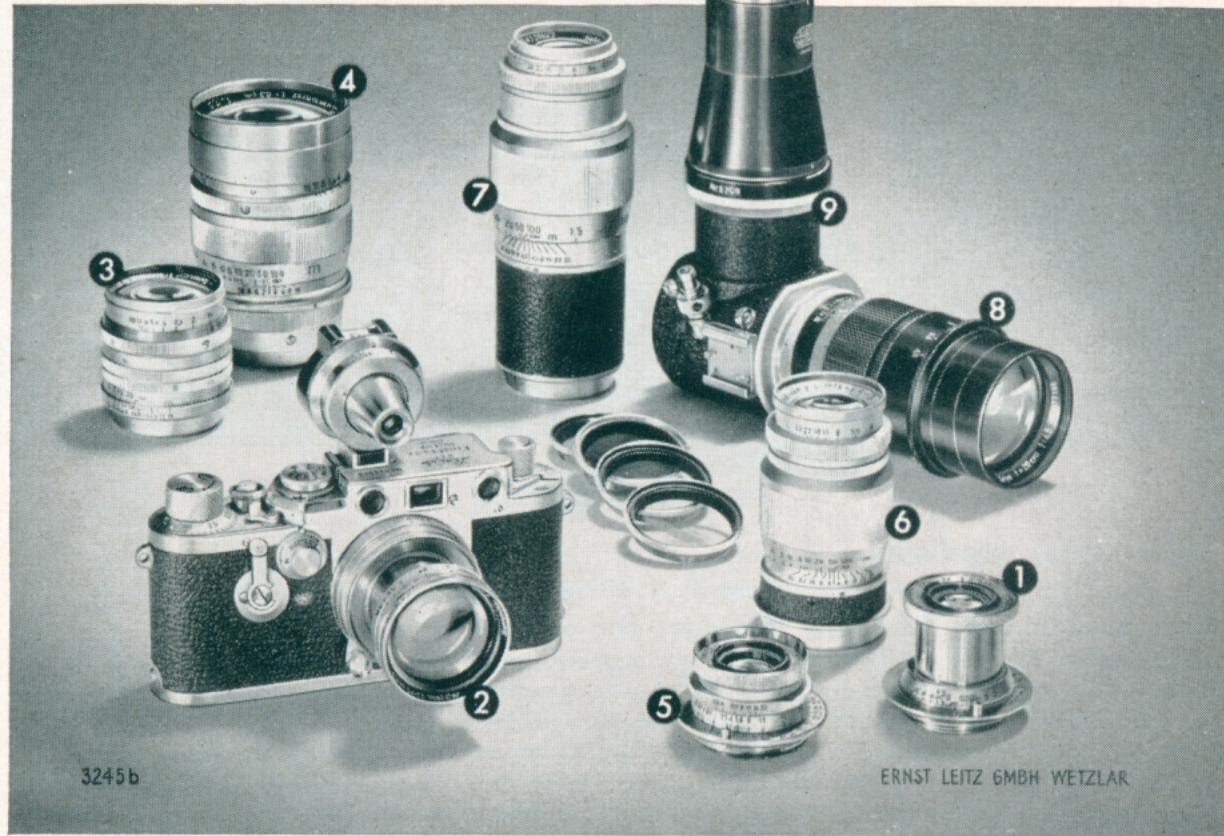
ELMAR 90 mm. f/4 (6), HEKTOR 135 mm. f/4.5 (7)

Telephoto Lens:

TELYT 200 mm. f/4.5 (8)

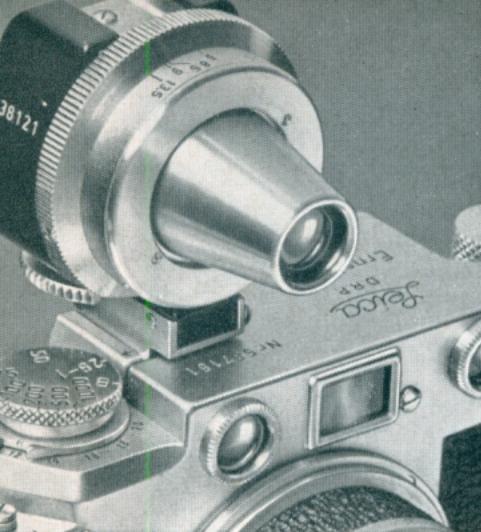
The TELYT 200 mm. can only be used in conjunction with the VISOFLEX mirror reflex housing (9), which also takes the HEKTOR 135 mm. when fitted with a short mount.

THE LEICA LENSES



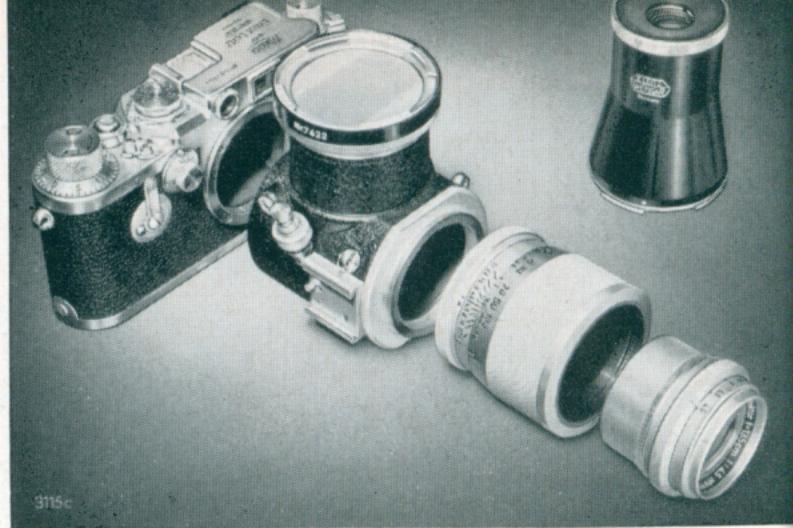
3245b

ERNST LEITZ GMBH WETZLAR



THE UNIVERSAL VIEWFINDER

is designed for lenses of 35 mm. up to 135 mm. focal length and presents the fields covered in natural left-to-right and vertical orientation, the field diaphragm being operated by a milled ring with click stops. A graduated lever provides the necessary parallax correction for close-ups.

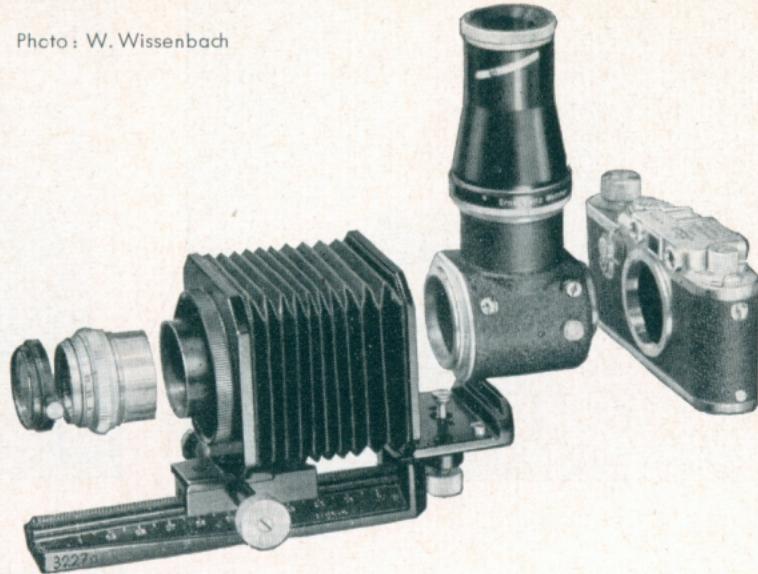


THE MIRROR REFLEX HOUSING "VISOFLEX"

is intended for viewing and focusing directly on a ground glass screen with the aid of a 5 x magnifier. This device is primarily designed for focusing the 125, 200 and 400 mm lenses but use can also be made of the 135 mm. lens for which a special short focusing mount is available. (For sports photography with the 200 and 400 mm. lenses direct vision viewfinders are also offered.)



Photo: W. Wissenbach



THE UNIVERSAL FOCUSING BELLOWS

in conjunction with the VISOFLEX housing and the 135 mm. lens (used without its normal focusing mount) affords continuous focusing from infinity down to scale 1 : 1 (natural size). Other scales of reproduction, i. e. magnifications up to 6 : 1 on the negative, are obtainable with lenses of shorter focal length. An extending lens shade is most effective, particularly when using artificial sources of light or photographing against the sun.



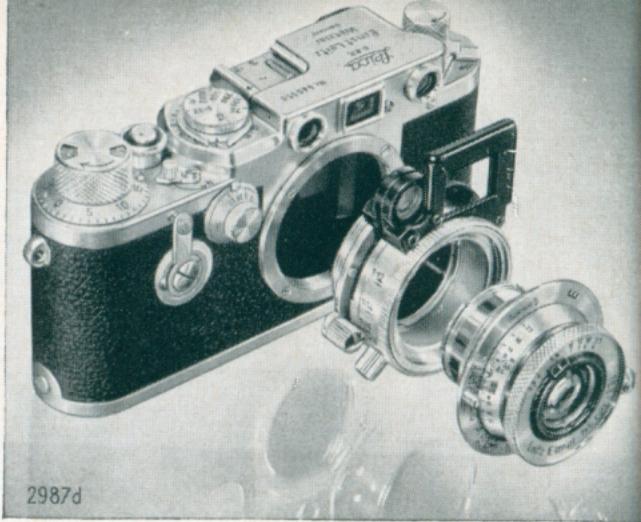
3188

LENS HOODS

should form part of every camera outfit. They not only screen off direct sun and other extraneous light but prove very advantageous when photographs have to be taken under adverse weather conditions as they will protect the front lens from rain or snow.

FILTERS

are recommended in order to increase contrast and improve general picture quality. For all LEICA lenses yellow, green, orange, red, UV protective, and polarizing filters are supplied.

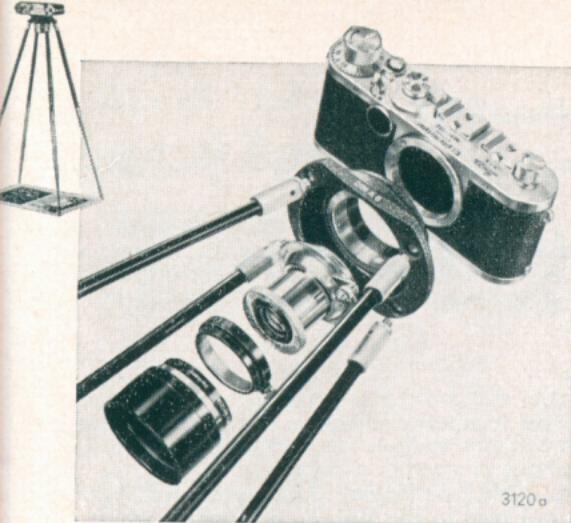


THE OPTICAL NEAR FOCUSING DEVICE

enables the LEICA user to focus the 50 mm. ELMAR or SUMMICRON lens for distances between 17 inches and 3½ feet, parallax being automatically compensated. Even in this range use is made of the coupled rangefinder of the LEICA IIIf and IIIIf.

THE BALL-AND-SOCKET TRIPOD HEAD

allows the camera to be adjusted easily and rapidly when taking photographs with the aid of a tripod. The heavy design ensures reliable clamping with any LEICA outfit.



Contact your photodealer for literature on all LEICA accessories you are interested in.

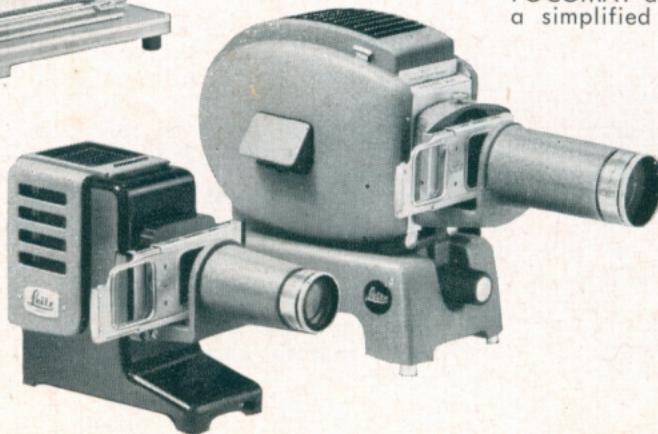
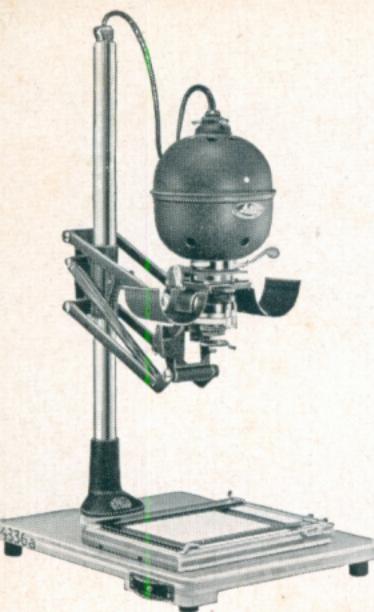
AUXILIARY SETTING DEVICES

are made in various models for the LEICA to provide inexpensive mechanical means for copying or similar close-up work. Focusing for scales of reproduction of 1 : 4, 1 : 6 and 1 : 9 (approx. fields 4" x 5³/₄", 5³/₄" x 8¹/₄" and 8¹/₄" x 11¹/₄") is achieved mechanically by 4 extending rods and 3 intermediate adaptors fitting between camera body and 50 mm lens ELMAR or SUMMITAR (BOOWU).

Another outfit which makes use of 3 intermediate collars, 4 extensible rods and a universal clamping collar gives negatives at the scales 1 : 1.5,

1 : 2 and 1 : 3. (Only suitable for ELMAR 50 mm, codeword BEHOO.)

The auxiliary setting device for scale 1 : 1, i. e. reproduction in natural size on the film, is made with clamping collars fitting either the 50 mm. ELMAR or SUMMITAR (codewords BELUN and BELUN-HESUM).



Small Negatives LARGE PICTURES

It is not only economical for the LEICA photographer to develop and enlarge his own negatives, but it enables him to utilize to the fullest extent the pictorial possibilities of his subjects and to express individuality in his pictures.

Enlargers

THE FOCOMAT ENLARGER is fitted with an automatic focusing device to ensure maximum sharpness of every enlargement without tedious adjustment. It renders enlarging as simple as contact printing.

50 mm lenses ELMAR or SUMMITAR may be used in the FOCOMAT and also in the VALOY II enlarger which is a simplified form, focusing being nonautomatic.

Miniature projection

The brilliance of LEICA photographs projected on to a screen makes for lifelike presentation and most impressive demonstration of the LEICA photographer's work for entertainment, teaching or many other purposes. The LEITZ PRADO projectors 150 & 250 are the ideal equipments for showing black-and white and colour films in the home or lecture rooms. A high-power model for a 500 or a 750 watt lamp is also available. The PRADO 250 and 500 projectors can be fully adapted for showing 2 $\frac{1}{4}$ " x 2 $\frac{1}{4}$ " slides if desired.

NEVER TRY

to repair a LEICA if by any chance it has become damaged. Always take it to an authorized LEICA repair service. The LEICA is built by specialist and only specialists should be entrusted with its repair.



EVERY LEICA and EVERY LEICA LENS

bears a REGISTRATION NUMBER



In case of loss or theft it is important that this number be known. Make a note of all serial numbers and carefully preserve it for reference in case of loss. It may help to recover a lost or stolen camera or lens. If you furnish us with the necessary details, all our technical services will be notified and will communicate about every camera reported.

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