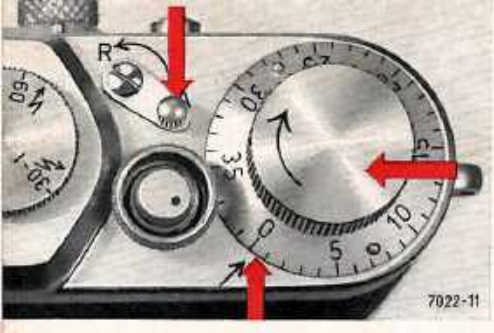
ERNST LEITZ GMBH WETZLAR
GERMANY

# Leica III g

INSTRUCTION BOOK




## Turn the Transport Knob

in the direction of the arrow as far as it will go. This tensions the focal plane shutter and at the same time advances the film by one frame. Make sure that the reversing lever is fully pushed to position "A" (if set between "A" and "R", the transport mechanism is locked).

## The Film Counter

automatically indicates the number of exposures made. After loading the film, set the counter disc to 0. The disc can be turned by its small lug against the direction of the arrow on the transport knob.

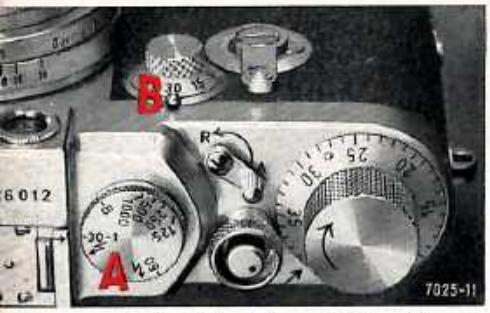

## The Release Button

Press the release button with your right index finger – press gently, don't jar it! Careless releasing will impair the sharpness of your pictures. As there are different ways of releasing for upright and horizontal shots, be sure to hold the camera steady (pages 14–15).



## Setting the shutter speed dials.

The LEICA IIIg has two shutter speed dials: the main dial for fast speeds (A) on the top and the slow speed dial (B) on the front of the camera. The range of speeds extends from $^1/_{1000}$ of a second to 1 second and time exposures of any desired duration. Remember that as a general rule only the fast speed exposures ($^1/_{60}$ to $^1/_{1000}$ sec.) are taken by hand. For slow speeds of $^1/_{30}$ and longer, place the camera on a rigid tripod to prevent blurred pictures due to camera movement.




## The fast shutter speed dial.

The engraved figures represent fractions of one second: 1000 = $^1/_{1000}$ sec., 125 = $^1/_{125}$ sec. and so on. Read these figures or set the speed dial **only after the shutter has been wound.** To change the speed, lift the dial, turn it until the desired speed figure falls opposite the arrow and let it snap back into its setting. At the $^1/_{1000}$ setting the dial does not snap back all the way but will remain somewhat higher than at the other speeds. Intermediate speeds cannot be set. Since the fast shutter speed dial rotates when the exposure is made, the arrow will not show the proper speed at which the shutter is set until the shutter has been rewound.

Besides the other speeds, the fast shutter speed dial has two lighting bolt marks engraved in red and black. These are for synchronizing electronic flash units and short duration bulbs (see page 24–27).

When set at "B" the shutter will stay open as long as you press the release button down. Speeds of $^1/_{30}$–1 sec. are set at the slow shutter speed dial. To do this, first set the fast speed dial at 30–1 or red $\frac{1}{2}$.

## The Slow Shutter Speed Dial

sets an escapement which controls the speeds from $^1/_{30}$ to 1 second. A small spring catch engages at $^1/_{30}$ second; the slow speed dial can only be turned if you first push back this spring with the thumb nail. The figures are easily readable from above, and indicate shutter speeds of $^1/_{15}$, $^1/_8$, $^1/_4$, $^1/_2$, and 1 second. Unlike the fast shutter speed dial, the slow speed dial can be set to intermediate positions, e. g. $^3/_4$ second between $^1/_2$ and 1 second.

On releasing at the T setting, the shutter opens and remains open. It only closes on turning the slow speed dial away from this setting. This is useful for photomicrography and other special purposes.


Remember always that the slow speed dial yields the right speeds only if the fast speed dial, after tensioning, is set to 30–1 or to the red ⨽ mark.

## The selftimer.

Turn the lever of the selftimer downward to the left until it clicks into its catch. Before you push down the small knob at the side of the lever to release the selftimer, make sure that the shutter is wound. Only then can you release the selftimer.

The delay of the timer is about 8–10 seconds. You will have plenty of time to "get into the picture". If you watch the movement of the selftimer lever, you will be able not only to hear but also to see the moment of exposure. It is reached when the lever points slightly to the left at the top.

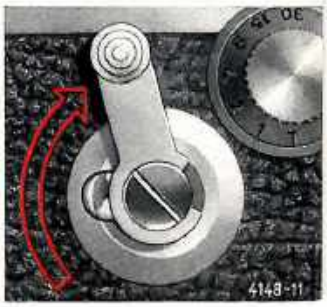
Before the selftimer mechanism has run off it can be stopped or rewound. You can release the shutter as usual with the selftimer wound. In order to disengage the selftimer mechanism – and it is advisable to do this – release it when the camera shutter is unwound.

All speeds for 1 to $^1/_{1000}$ sec. and time exposures can be made with the selftimer as well as synchronized flash exposures of any kind. See page 24–27 about synchronization.

You can use the selftimer to advantage to prevent camera shake which might otherwise be a problem in taking long exposures when not using a tripod.


Wind


Release




Shutter is released after 8–10 seconds.


## Extending the Lens

When not in use, the collapsible lenses of the LEICA can be unlocked by turning the front slightly anti-clockwise, and pushed into the camera body. For use, pull out the lens as far as it will go, and lock by turning to the right.

## Setting the Aperture

Turn the lens of your LEICA to the light, and rotate the aperture ring. You can then see through the lens components how the iris diaphragm opens and closes. The aperture or f-numbers - 2 - 2.8 - 4 - 5.6 - 8 - 11 - 16 - 22 - 32 - are a measure of the amount of light reaching the film*). They are chosen in such a way that closing down the aperture from each number to the next reduces the light by one-half. Conversely, on opening up, each aperture passes twice the light of the previous one. So remember: a high aperture number signifies a **small** aperture, and vice versa.

*) The length of this scale of numbers depends on the type of lens.



## Focusing the lens

The standard lenses (of 50 mm. focus) for the LEICA focus from ∞ infinity to 3.5 feet. The focusing lever locks automatically at the infinity ∞ position. To release the lever for focusing at a closer range depress the knob at the end of the lever and move lever counterclockwise.


Lens locked at "infinity".

Focusing the lens.


## The distance scale

You can conveniently read the distance at which the lens is focused on the distance scale. At the same time you can determine the depth of field for the stop used.

## The Depth of Field Scale

The picture reproduces with maximum sharpness those parts of the scene which are at the exact distance on which the lens is focused. This maximum sharpness **gradually** falls off in front of, and behind, this distance, resulting in a certain zone within which everything is still acceptably sharp. The smaller the aperture used, the greater will be the depth of this zone of sharpness, i. e., the depth of field.

To find the limits of this zone, look at the depth of field scale of your lens. If, for instance, you have set your 5 cm. lens to 15 feet, the useful depth of field with an aperture of f/4 extends from about 13 to 18 feet. At f/8, it would cover a field from about 10 to 25 feet. (See illustration 1).


Fig. 1

If you now look at the various distance settings, you will notice that the depth of field obtainable is appreciably less at near distances than at far ones. For instance, at f/8 and 5 feet, the depth covers a zone from 4'5" to 5'9" feet (see illustration 2); while at f/8 and 25 feet the depth extends from 14 to 100 feet (see illustration 3).

### Zone Focusing for Snapshots

with the 5 cm. Lenses

Near zone: Focus on 10 feet at f/8, to obtain a zone from 8 to 15 feet.

Far zone: Focus on 35 feet at f/8, to obtain a zone from 17 feet to infinity.

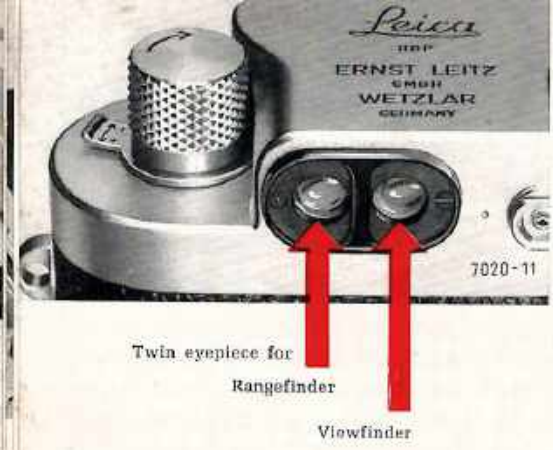



Fig. 2


Fig. 3

### General rules for correct use of lens stops

1. The optimum sharpness is always in the plane at which the lens is focused. Always focus on the most important plane of your picture.
2. For long distance views without foreground interest, set lens to infinity (∞) and stop down to f/5 or f/8.
3. For portraits use your lens at full aperture or only slightly stopped down and focus accurately on the eyes. The subject, thus sharply defined, will tend to stand out. The background will be subdued by diffusion.
4. Most interiors, landscapes with foreground interest and street scenes require an extensive depth of field. Use small apertures. Find the important near and far distance points of your subject (see page 12.) Then set these two distances on the distance scale against the depth of field scale so that they fall as closely as possible between two stop figures of the same value. This stop and the distance setting thus arrived at are the best ones to use.
5. Action shots often do not allow sufficient time for accurate focusing. In such instances use the "Zone Focus Settings".




## The Twin Viewfinder and Rangefinder Eyepiece

The twin eyepiece combines the eyepieces of the viewfinder and the rangefinder. A slight movement of the eye is sufficient to change from the one to the other. The eye should be close to the eyepiece, with the eye socket in contact with the LEICA body.


*For users with defective eyesight, correction lenses are available for the twin eyepiece, to take the place of spectacles. This has the advantage that the eye can get really close to the eyepiece, and permits photographers with even strong eyesight defects to see the whole field of view in the viewfinder and rangefinder. The correction lenses are made according to the optician's prescription for distance glasses.*



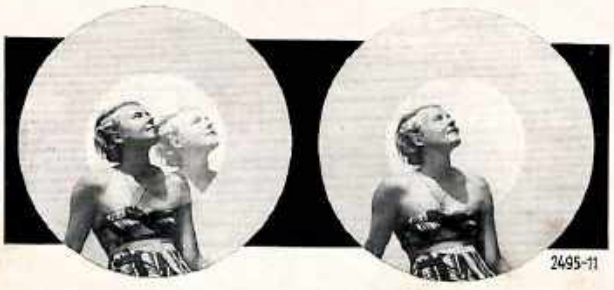
## The bright-line viewfinder

When you look through the viewfinder eyepiece at the right you will see the exact field for the standard 50 mm. lenses within a bright-line frame. The four "corners" in the center show the area covered by a 90 mm. lens.

Parallax, which could cause framing errors because of the separation of the optical axes of lens and viewfinder, is automatically compensated for throughout the entire focusing range of both 50 mm. and 90 mm. lenses. Special viewfinders for other lenses with focal lengths up to 135 mm. are available. They fit the shoe on top of the camera (9).

## The Coupled Rangefinder

The left-hand aperture of the twin finder eyepiece is the rangefinder eyepiece. Measurement of the distance is automatically coupled to the focusing movement of the lens. The measuring accuracy is exceptionally high, as a magnifying eyepiece shows the subject under observation on a larger scale than the unaided eye. With the lens set to infinity, any nearer object appears with double outlines in the rangefinder field. Turning the helical focusing mount of the lens will bring these two images nearer together until they fuse into one when the lens is set to the correct distance. The LEICA lenses in screw mount with focal lengths up to 13.5 cm. are automatically coupled to the rangefinder as soon as the lens is screwed into the camera.



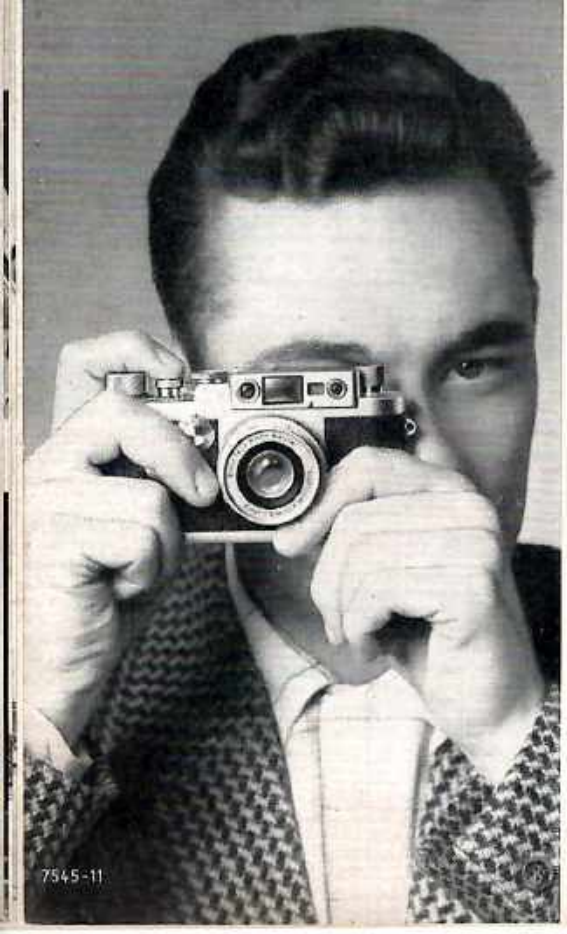



### A little tip for the beginner:

*Since you can use the extreme accuracy of the rangefinder only if you "measure" in the center, we recommend the following method: First, cover the rangefinder window opposite the eyepiece with your left index finger so that you can see only a small circle. Uncover the window. You will now see a double image of the subject within a large circular area. Now operate the focusing mount of your lens until the two images superimpose. This is the proper focus. With this method you aim exactly through the center of the rangefinder. Naturally, as soon as you have become used to proper focusing you can eliminate the practice of covering the opening. When working at short distances it is easiest to focus the lens by scale on the appropriate distance and correct slight differences by approaching or receding from the subject until the rangefinder images merge. Incidentally, if you prefer to use your left eye for viewing rather than your right, this, of course, is possible.*


## Adjustment of the rangefinder telescope

You can focus the telescope for close-up and distance with the small lever (12). This will also compensate for small eyesight defects between + 2 and − 4 diopters. Move the lever until best sharpness is obtained.




## Holding

A good hold is the best safeguard against camera shake. Grip the LEICA so that the base rests in the palms of both hands. Use a firm, but not a cramped grip. The eye should be close to the twin eyepiece. Practise holding the camera so that it is supported as much as possible against the face; the camera, head, and hands should be as one unit. The purpose of it all is to ensure a really steady camera position. This will prevent camera shake and give you that high standard of definition in your negatives which has always been the hall-mark of the highly corrected LEICA lenses.

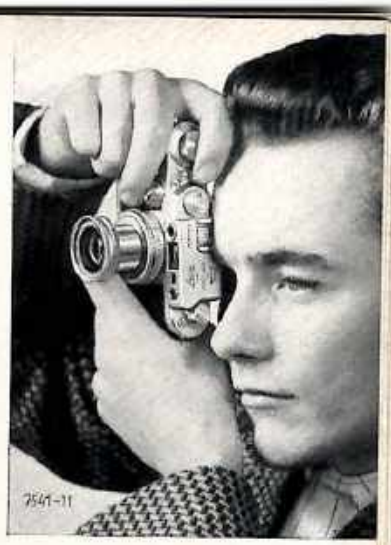
Press the release button smoothly and gently, never jerk it. Move only the index finger, not the whole hand. At first try it with shutter speeds of $^1/_{40}$ second or faster; after some practice you will eventually be able to expose even slower shots without camera shake.

If you find it more convenient, the left eye is just as suitable for viewing as the right one.



## correctly when shooting

If you want to change from horizontal pictures to vertical, turn the LEICA around the axis of the finder. This will not cause much of a change in the way you hold the camera. Grip the camera the same way as you would when taking horizontal pictures.




For vertical pictures, you can also keep your right hand in the lower position and release the shutter with your thumb. Grip the camera so that the tip of your thumb rests on the release button and the other finger puts counter-pressure against the camera. Your left hand focuses the lens. The top of the camera rests against your forehead. With the camera thus held a very smooth release is possible.


## The Interchangeable Lenses of the LEICA III g

You have a choice of focal lengths from 2.8 to 40 cm., and have at your disposal even lenses with the exceptional aperture of f/1.5. With this range you can chose your viewpint at will, and have complete control over the field of view and perspective. You can make the fullest use of the pictorial possibilities available. Every one of these lenses represents the peak of achievement possible at the present-day level of scientific research and production.

2.8 cm. SUMMARON f/5.6 – 3.5 cm. SUMMARON f/3.5 – 5 cm. ELMAR f/2.8 – 5 cm. ELMAR f/3.5 – 5 cm. SUMMICRON f/2 – 5 cm. SUMMARIT f/1.5 – 8.5 cm. SUMMAREX f/1.5 – 9 cm. ELMAR f/4 – 12.5 cm. HEKTOR f/2.5 – 13.5 cm. HEKTOR f/4.5 – 20 cm. TELYT f/4.5 – 40 cm. TELYT f/5.



## Changing the lens

To change the lens hold the camera in your left hand. With your right hand grasp the lens at the focusing ring as close as possible to the camera body. Unscrew it by turning it counterclockwise. Screw the other lens into the camera body by turning it clockwise, tightening it moderately. When changing lenses with an infinity catch at the focusing mount, lock them.

Do not change lenses in direct light. Turn away from the sun and hold the camera against your body. If you store camera and lens separately use protective covers for both.

A highly efficient lens can perform at its best only if its outside surfaces are immaculate. It is more important to protect the surfaces than to clean them frequently. A light yellow filter, (for black-and-white pictures) or a colorless UV filter (for color pictures) which you always leave on the lens, protects the lens from damages (such as that from fine sand when you are at the sea). Remove dust from lens surfaces with a soft camel's hair brush. In emergencies only use a clean linen cloth, which has been previously washed in pure soap. Do not use any other cleaning solution because of possible chemical residues.

Every screw-mounting LEICA lens will fit every LEICA with screw-in lens flange.

wrong

## In its Ever-ready Case

the LEICA IIIg is protected against the weather and minor knocks, but is always ready for action. As it is held in the case by a screw it will not easily get lost.

When taking upright pictures, keep the lid of the case well clear of the lens. See illustration.

correct

## Filters

improve the tone values of black-and-white pictures. The yellow and orange filters in particular bring out pictorial cloud effects. The new truly neutral LEITZ polarizing filters are also useful in colour photography, for they subdue disturbing reflections from glass, water, and varnished surfaces (though not metals) and increase the contrast of clouds against a blue sky.

## Lens Hoods

protect the lens against direct rays of strong light sources that can give rise to flare, and also against rain and snow.
Lens hood and filter can be used together; provided the correct hood is used for the lens, it will not cause vignetting (i. e. cutting off of the corners of the negative field).
*If you use the ever-ready case for the LEICA IIIg with SUMMARIT f/1.5 lens (ENSOO), the lens hood can remain permanently in the ever-ready case; simply invert it over the lens.*


7510-11



image distortions. Therefore, effective lens hoods designed for comfort in carrying and handling are offered for all lenses. *If using the eveready case for the LEICA IIIg with the SUMMARIT 50 mm. lens f/1.5 (ENSOO) you can carry the lens hood in the case by putting it on the lens reversed.*

## LEICA films

*Film manufacturers in all parts of the world offer perforated 35 mm. film for the LEICA Camera. You can get it in several forms:*

*DAYLIGHT CARTRIDGES*, containing a length of film for 20 or 36 exposures 24 × 36 mm. in a lightproof shell, can be loaded into the camera in daylight. (All color films are supplied in this form).

*DAYLIGHT SPOOLS* offered for the same number of photographs have their length of film wound on to a centre spool and covered with a black paper leader so that they can be placed in the LEICA magazine in daylight. (Not available in the USA).

*DARKROOM SPOOLS* are ready cut lengths of film which are specially made for LEICA magazines, but which must be loaded into a magazine only in a darkroom. (Not available in the USA).

35 mm. *BULK FILM* (in lengths of 18–200 ft.) preferred by many amatuers and professionals for reasons of economy, must be cut to suit the number of photographs intended and loaded into the LEICA magazine in a darkroom. Special purpose films usually come in this form only. Separate directions contain details on the handling of film magazines.

For general-purpose photography, medium speed films (17/10 DIN = 32 ASA = 24° Weston) are particularly recommended. For poor lighting conditions, the super speed films (25/10 DIN = 200 ASA = 160 Weston) give good results but with somewhat less technical quality than the slower films give.


## Loading the Camera

Although daylight cassettes and closed LEICA cassettes are light-tight, avoid loading or unloading the camera in direct sunlight or strong artificial light. The shade of your own body will provide adequate protection. Also, do not leave exposed or unexposed cassettes lying about, but keep them in a cassette tin until you are ready to use or develop them.

Before opening the camera, make sure that it does not already contain a film. To do that, pull out the rewind knob and turn it in the direction of the arrow. If you feel a resistance, first rewind the film fully and unload the camera as described on page 23.

Turn the key in the base plate in the direction marked "auf – open", and lift off the base plate. The special LEICA cassette and the take-up spool are now easily removable. Place the camera in front of you on the table, with the open base upwards, and the camera back facing you.


Now take the take-up spool in the left hand, and the freshly loaded cassette in the right, both with the spool knobs pointing down. Push the beginning of the film under the clamping spring of the take-up spool as far as it will go. The perforated film edge must lie close against the spool flange, as shown in the illustration.

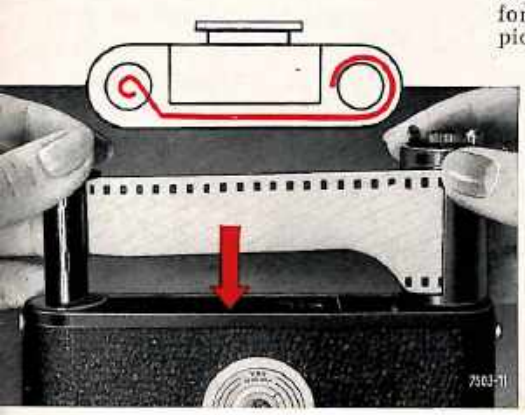

Put the camera in front of you on a table, open side up and with the back towards you.

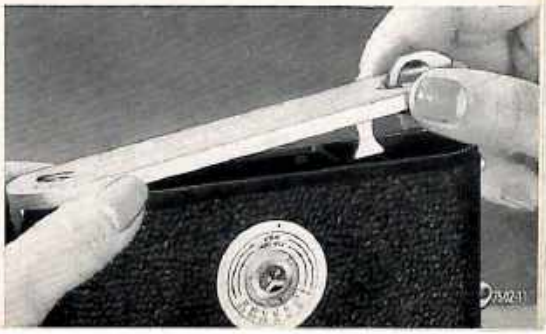
Before inserting a new cartridge, set the reversing lever (4) *all the way against the stop pin at A* (advance). The film transport and shutter winding mechanism will stay locked if you do not set the reversing lever properly. Wind and release the shutter to make sure that it is in order.

Pull out the trimmed leader of the film from the cartridge or magazine just far enough to permit inserting both the cartridge and the spool into the camera. The knurled knobs remain on top and visible, the film slides into the slot along the back of the camera. Make sure that the film is placed as shown in the diagram (below). The matte emulsion side must face outwards. Also make sure that the take-up-spool and the cartridge (or magazine) are inserted all the way down. Only then is the film properly positioned in the film gate and the sprocket of the transport roller can engage the film perforations. If the cartridge or magazine does not drop right down give a small turn to rewind knob (10).

Attach the baseplate to the camera body and turn the locking swivel to "close". This closes the camera light tight. To tighten the film for proper transport, pull out the rewind knob and turn it gently in the direction of the arrow until you feel a resistance.

Remember: the visible strip of film between take-up spool and cartridge has been exposed to light. It is, of course, spoiled. Therefore, this short length is no longer useable for pictures and must be moved out of the way



Advance the film, and release the shutter. Repeat these steps, and set the film counter disc to No. 0. Advance the film once more; the film counter will now indicate No. 1, and the camera is ready for the first exposure. You can recognize whether the film is advancing correctly by watching the shaft of the rewind knob; this should turn against the direction of the arrow.

## To Set the Film Indicator

in the camera back press one finger against the centre, and turn it to the type and speed of the film loaded in the camera. One of the three pointers next to the appropriate symbol (black-and-white for black-and-white film, sun on red background for daylight colour film, or lamp on red background for artificial light type colour film) should point to the required film speed in ASA or DIN.


**If the Film was Incorrectly Loaded**

it may become detached from the take-up spool, and will not advance (the rewind knob does not move while winding the shutter). In that case reload the film properly as follows.

1. Move the reversing lever (4) to "R" (rewind).

2. Turn the rewind knob (10) in the direction of the arrow, but only as long as the release (1) also rotates, then stop immediately. At this point the film has passed the shaft of the release button, and only a short length protrudes from the cassette. This is important when inserting the film again. If you were to wind the film completely into the cassette, you would have to draw out the end again in a darkroom.



## Unloading the camera


When the whole length of the film has been exposed, the winding knob will no longer operate, a signal that the film should be rewound into its cartridge. Set the reversing lever (4) to R, pull out the rewind knob and turn it in the direction of the arrow (without pressing down the release button) until you feel a pronounced resistance.

Continue rewinding to overcome this resistance and for one more turn. The film has now been pulled from the clip of the take-up spool, but a short strip is still outside the cartridge. You can now open the camera (page 21) and remove the cartridge with the exposed film. It is a good practice to mark the leader of an exposed film as such.

If you wish you can expose a roll of film only partly. For example, you can take 11 exposures, rewind them, and reload the camera with a different type of film, color or black-and-white as the case may be. When you reload the first film, proceed as you would with a fresh unexposed roll. Be sure to set the counter at 0, put on the lens cap and wind and release the shutter until the counter registers 12. You are then ready to continue taking pictures on the first film.

## Using Flash

A flash is synchronized when it lights up at the precise instant when the shutter is open. The speed-synchronization of the LEICA IIIg permits the use of all electronic flash units and flash bulbs. Setting the shutter speed automatically determines the correct moment of firing of the chosen flash. The enclosed table "Flash Guide Numbers for the LEICA IIIg" indicates the shutter speeds suitable for the various types of flash, and their guide numbers when using the collapsible LEITZ flash reflector.

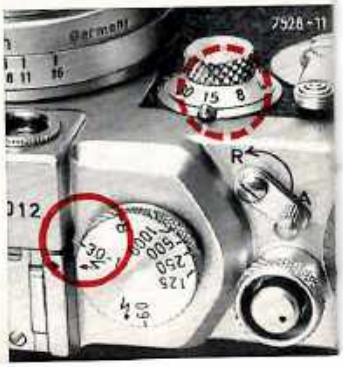
Before using the table, note the following points.

1. **Flash bulbs** of class M and FP are synchronized at all shutter speeds shown as suitable in the table.
2. **Electronic flash units**, on the other hand, are synchronized only when the fast shutter speed dial is set to one of the two ⚡ symbols. The black ⚡ symbol indicates the shortest suitable shutter speed of $^1/_{50}$ second, while the red ⚡ symbol yields a shutter speed of $^1/_{30}$ second.

Fig. 1


Fig. 2


Fig. 3




3. **Slow shutter speeds below $^1/_{30}$ in combination with flash bulbs and electronic flash units** are synchronized by setting the fast shutter speed dial at the red ⚡ and the slow speed dial at the desired speed (Fig. 3.)

4. The setting "B" on the fast shutter speed dial can be used for both flash bulbs and electronic flash units.

### For average work

we would like to give you a few more pointers. The LEITZ flash guns with folding reflector will light your subjects very evenly. You will appreciate this – particularly when you use wide angle lenses since an improperly designed reflector could cause a fall-off of light in pictures taken with these lenses.

**The Guide Numbers** are approximate values. They are valid when you use LEITZ folding reflectors for objects of average brightness where some light is reflected from the ceiling and the walls. But you will have to make exposure allowances in extreme lighting conditions. In large, dark-colored rooms, open up one or two stops. In small, light colored rooms, close down a stop or two.

Pictures so taken can be developed according to a normal formula together with pictures taken in daylight on the same film. Normal development of flash pictures also offers the advantage that the background illumination will be brighter than it would if a higher guide number were used and the film be overdeveloped. This procedure, although sometimes recommended, would merely permit smaller apertures when foreground illumination alone is important.

**Watch these Points with Colour Film:**

**With daylight type reversal colour film** use only electronic flash or blue coated flash bulbs.

**With artificial light type reversal colour film** use yellow coated flash bulbs.

**With type F reversal colour film** (flash type) use clear flash bulbs.

**With negative colour film** either clear flash bulbs or electronic flash can be used, as colour correction is possible at the printing stage. Use only blue flash bulbs as fill-in lighting for pictures taken by daylight.

The possible shutter speeds for flash bulbs of the same type are of course independent of the colour of the bulb. The filter effect of the coloured coating will, however, lower the guide number.

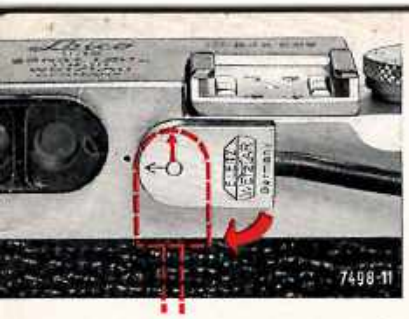
**The wide range** of colour films available and the need for exact exposures makes it impossible to give specific guide numbers. We therefore suggest that you should first make some trial exposures with the chosen flash and film combination. The following method will yield an approximate guide to exposures for colour film with blue flash bulbs. First work out from the table the aperture corresponding to the guide number for the same flash bulb with clear glass envelope, and then increase the aperture as follows.

(a) with daylight reversal films of 32 ASA or 17/10° DIN (e. g. Ektachrome or Anscochrome) open up by one stop;

(b) with daylight reversal films of 20 ASA or 15/10° DIN (e. g. Agfacolor L-UT) open up by two stops;

(c) with daylight reversal films of 10 ASA or 12/10° DIN (e. g. Kodachrome K 135 or Ilford Lolour) open up by two-and-a-half to three stops.





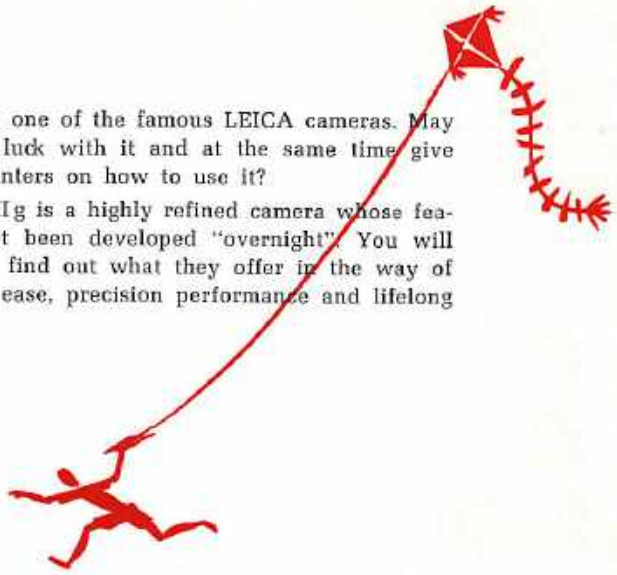

The contact socket (on the back to the right of the twin eyepiece) accepts the contact plug of the flash gun connecting cable.

The connecting cables have a camera contact plug which can be locked to the contact socket of the LEICA III g. Insert this contact plug horizontally into the contact socket of the LEICA, with the engraved arrow pointing at the twin eyepiece. With a slight pressure, lock it by turning it to a vertical position (for protection against accidental detachment). To detach the plug, press it in slightly and turn it to its horizontal position (see also pamphlet on connecting cables for the LEICA [12-13]).

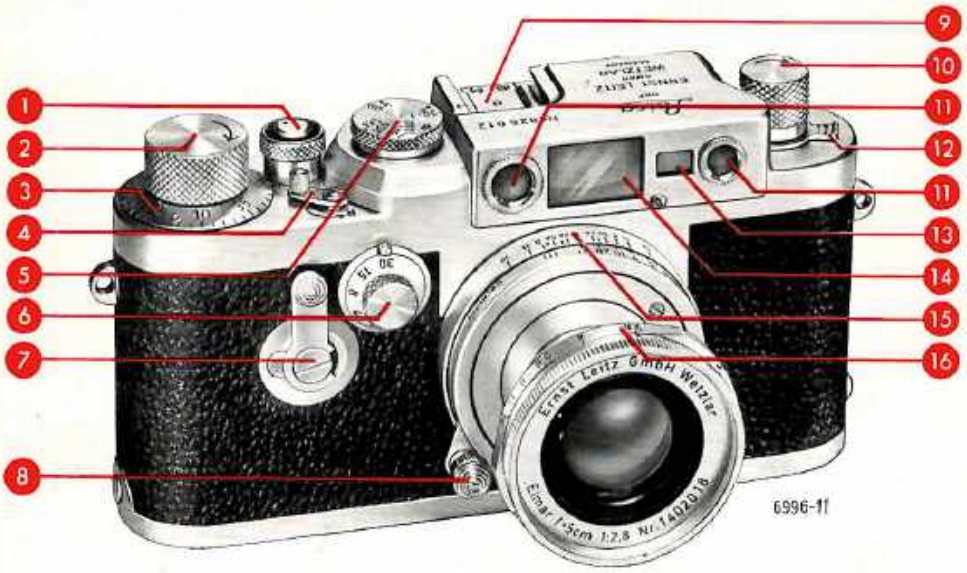
A handy accessory for attaching the flash guns to the camera baseplate is the hinged angle bracket CTOOM.

You now have one of the famous LEICA cameras. May we wish you luck with it and at the same time give you a few pointers on how to use it?

Your LEICA IIIg is a highly refined camera whose features have not been developed "overnight". You will soon begin to find out what they offer in the way of picture-taking ease, precision performance and lifelong enjoyment.



As a LEICA owner you have at your disposal a universal system of photographic equipment which covers even scientific and technical photography. In its wider sense, this system also includes the LEITZ enlargers and the LEITZ-PRADO miniature projectors. And the scope of the projected picture is rarely utilized to its full extent. For your pictures, especially your colour shots, will unfold their full beauty only when you see them several feet large on a screen. We hope that your LEICA will constantly help you to experience the thrill of their brilliant realism.




1 Shutter Release Button
2 Film transport and Shutter Winding Knob
3 Exposure Counter
4 Reversing Lever (A Film ADVANCE position, B Film REVERSE position)
5 Fast Shutter Speed Dial ($^1/_{25}$ to $^1/_{1000}$ sec. and "Bulb" ∫ for synchronizing electronic flash units)
6 Slow Shutter Speed Dial ($^1/_{25}$–1 sec. and "time")
7 Selftimer
8 Focusing Lever with Infinity Catch
9 Accessory Shoe for LEICA-METER, etc.
10 Rewind Knob
11 Rangefinder (two windows)
12 Adjustment lever of the Rangefinder Telescope
13 Illuminating Window for bright-line Viewfinder Frame
14 Viewfinder Window
15 Depth of Field scale and distance scale
16 Lens Aperture Scale
17 Twin Eyepiece of Viewfinder and Rangefinder
18 Contact Socket for flash connecting cable
19 a, b Eyelets for neck strap
20 Film type indicator
21 Locking swivel of base plate
22 Tripod Socket

**Instructions in**

## A. Taking the picture.

1. Take off lens cap. If you have a collapsible lens, pull out lens barrel and lock it by a short clockwise turn.
2. Turn winding knob clockwise as far as it will go.
3. Set lens stop (16) and shutter speed (5, 6).
4. View subject through the twin eyepiece on the right (viewfinder-eyepiece); compose picture in the bright-line frame.
5. Focus lens through the twin eyepiece on the left until the two images fuse into one. Move your eye to the viewfinder eyepiece at the right and release shutter gently.

## B. Changing the Lens.

1. Do not change the lens in direct strong light. Hold the camera against your body.


2. Remove the lens by unscrewing it to the left (counter-clockwise).
3. Insert the other lens, turning it clockwise.
4. Protect the detached lens with caps at both ends. (Rear lens caps are available as accessories.)

## C. Inserting the Film.

1. Remove baseplate, pull out take-up spool.
2. Push film leader under the spring of take-up spool.
3. Insert film cartridge or magazine (cassette) and take-up spool into camera. See detailed instructions on page 20.
4. Check that sprocket wheel of film transport mechanism properly engages film perforations. Attach baseplate and lock it.
5. Advance unusable film leader twice: turn winding knob as far as it will go and release shutter; turn it again and release it. Set exposure counter (3) to 0, wind shutter once more. The camera is now ready for the first exposure.
6. Set film exposure index and film type reminder disc (20).

## D. Unloading the camera.

1. Set reversing lever (4) to "R".
2. Pull out rewind knob (10) and turn it in the direction of the arrow until Film is fully rewound. You will feel a slight resistance when you approach the end and when the film detaches from the take-up spool. Continue with one more turn to rewind the film leader into the magazine.
3. Unlock and detach baseplate. Remove exposed film.