Instructions

Leica M

Bottleneus

Your new LEICA® M 4

follows the tradition established by the many famous LEICA models in providing an unequalled combination of rugged reliability and proven precision. Its unique qualities are based upon rigid production controls with uncompromising optical and mechanical tolerances.

The short time you invest in studying this manual — with your M 4 at hand — will be repaid many times over by enhancing your skill as a LEICA-photographer. The LEICA's reputation is based upon outstanding results, and we want yours to be as good as possible, as soon as possible!

ERNST LEITZ GMBH WETZLAR

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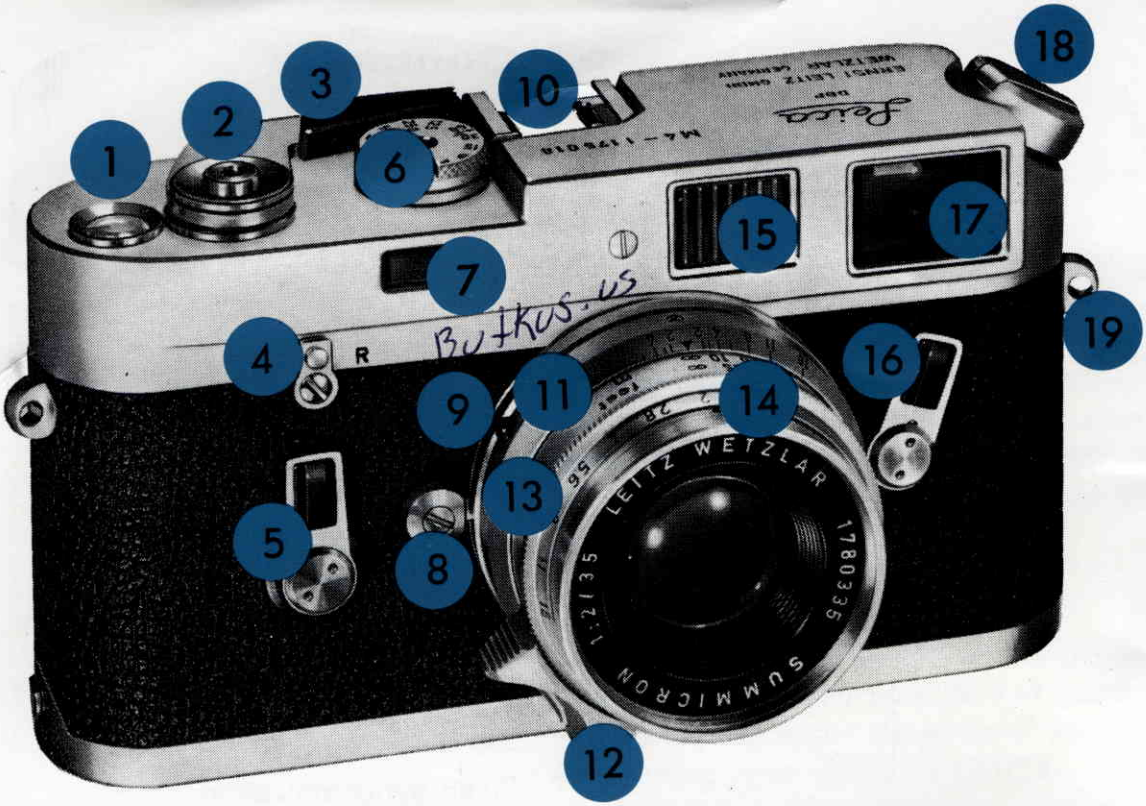

1 Automatic frame counter
2 Shutter release button
3 Rapid advance lever
4 Reversing lever, for rewinding film
5 Self-timer
6 Shutter speed dial
7 Rangefinder window
8 Lensmount bayonet lock
9 Raised red dot for lens changing
10 Accessory shoe
11 Depth-of-field scale
12 Lens focusing lever
13 Distance scale

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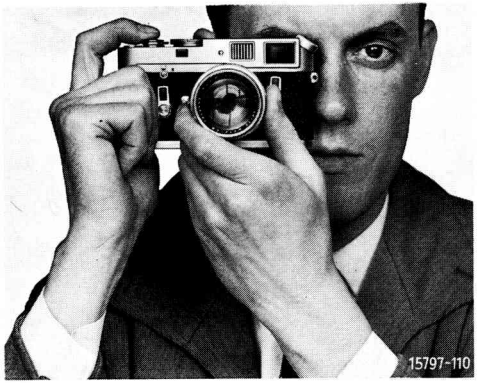
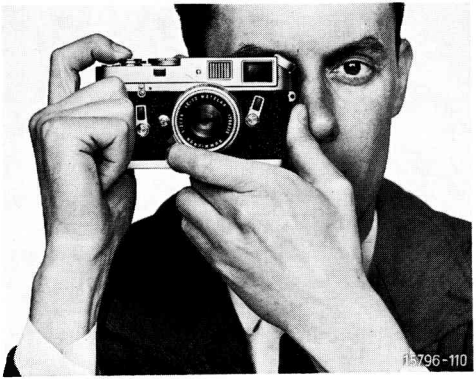
14 Aperture scale
15 Focal frame illuminator
16 Focal frame pre-selector lever
17 Viewfinder window
18 Folding rewind crank
19 Strap lugs

20 Combined range-viewfinder eyepiece
21 Baseplate latch
22 Electronic-flash synchronization contact
23 Flash bulb synchronization contact
24 Film type/speed indicator
25 $^1/_4$" tripod bushing





Holding the LEICA

For steady three-point support, the right hand grasps that side of the camera, with forefinger on the release button, and thumb against the transport lever. The left hand cradles the lens from below, and the forehead presses against the camera back.

For vertical pictures, keep both hands in the same positions described for horizontal shooting, and simply swing the right side of the camera upward into the vertical position. This method keeps you in full command of all LEICA controls, your fingers performing the same functions in

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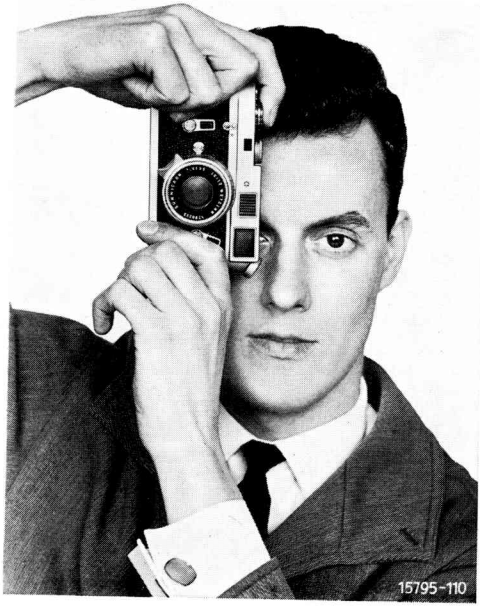

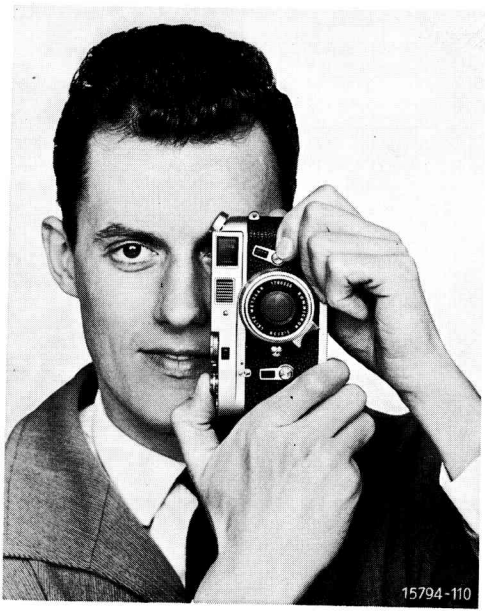

both positions. An alternative method often favored by professionals is to swing the right side of the LEICA **downward** into the vertical position. In this case the shutter is released with the thumb, the other fingers squeezing against the camera baseplate.

The universal range-viewfinder

of the LEICA M 4 combines the functions of a particularly efficient viewfinder and an unusually accurate coupled rangefinder. Brilliantly illuminated finder frames are provided for the four most important focal lengths: 35-, 50-, 90-, and 135mm. These frames are coupled to the focusing movement so that they shift their positions within the viewfinder field to provide automatic parallax compensation over the full focusing range. This ensures that everything visible within the frames will be recorded on the film.

The sharp rectangular rangefinder focusing field is centered in the finder, and appears brighter than the surrounding area. All LEICA lenses from 21- to 135mm focus couple automatically to the rangefinder. When LEICA lenses from 35- to 135mm are inserted into the M 4 bayonet lens-mount, the proper frame appears automatically.

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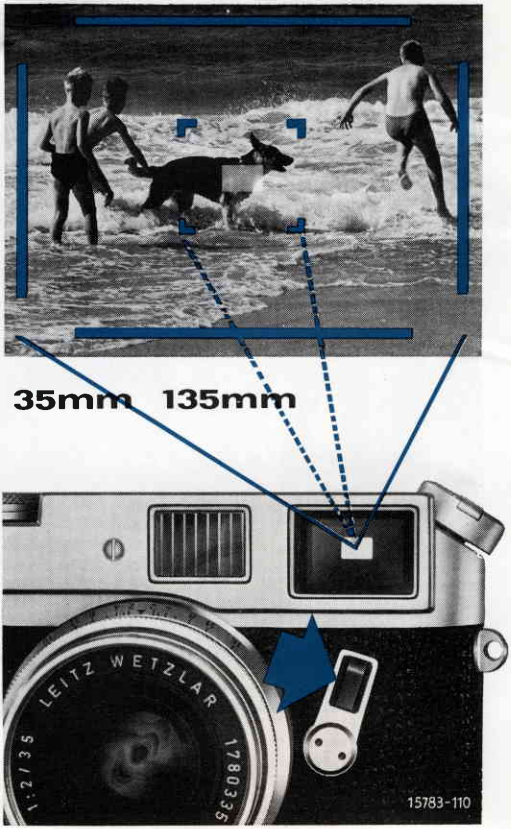
Rangefinder Field
135mm Viewfinder Frame
35mm Viewfinder Field

The frame pre-selector lever (16)



permits you to preview the effect of any focal length within the 35-50-90-135mm range, without actually changing lenses. It is also specially important in combination with the LEICAMETER MR, as described on page 23. When the preselector lever is released it automatically returns to its original position, and the additional finder frame disappears.

Lever pointing upward:
Field of view for 50mm lenses.

Lever pointing toward lens:
Field of view for 90mm lenses*)

Lever pointing away from lens:
Field of view for 35- and 135mm lenses.

*) Lever takes 90mm position when 135mm ELMARIT f/2.8 with optical viewfinder attachment is used.

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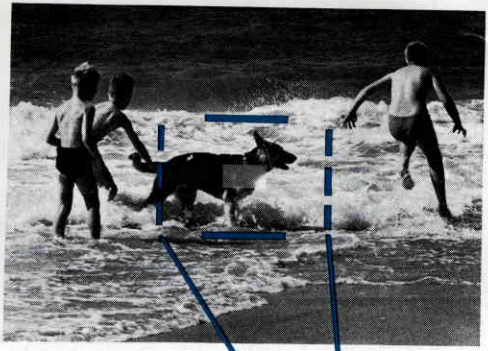
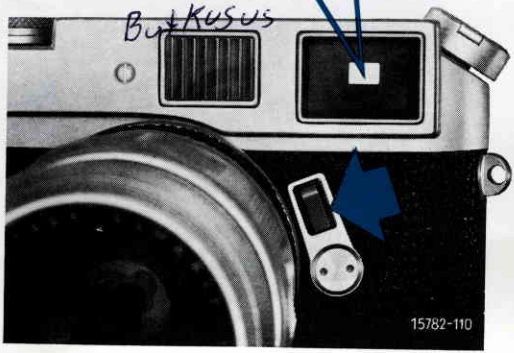
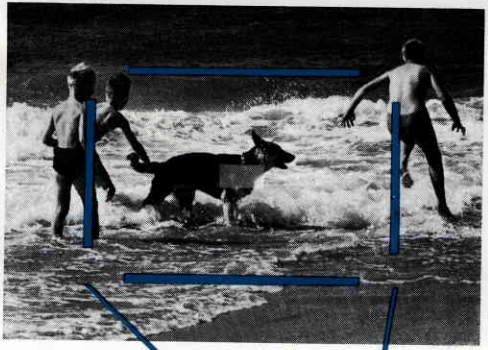


90mm





50mm



Rangefinder focusing

is the fastest, easiest, and most accurate of all known focusing methods. The LEICA rangefinder is particularly advantageous because of its long base-length, extreme brightness, and sharply defined focusing field which permits two focusing methods.

Coincidence focusing: The focusing ring is turned until a double-image in the rangefinder field fuses to form a single sharp image.

Split-image focusing: When a vertical subject line cuts through both the viewfinder and rangefinder fields, the focusing ring can be turned until the moving image inside the rangefinder field lines up with the stationary line so that it becomes continuous across the rangefinder field.

(**Note:** Some 50mm LEICA lenses and all 21-28-35mm LEICA lenses lock in the infinity position. To focus at nearer distances it is first necessary to release the lock by pressing inward. Collapsible LEICA lenses must be extended and locked in position with a short right-hand twist before focusing.)

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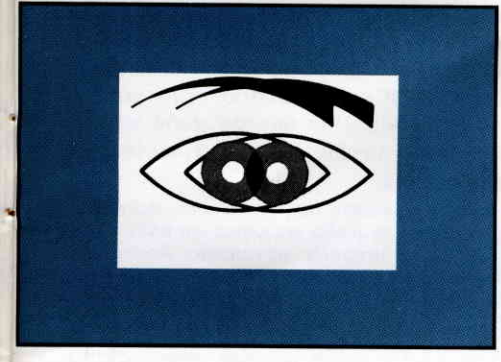
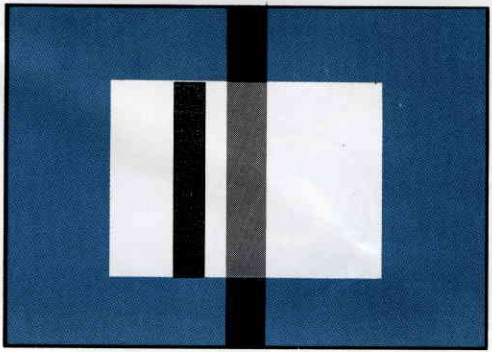


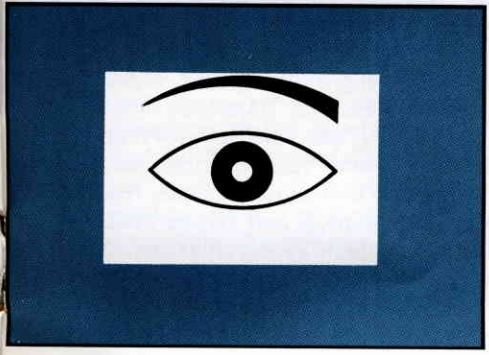
Double images = Unsharp

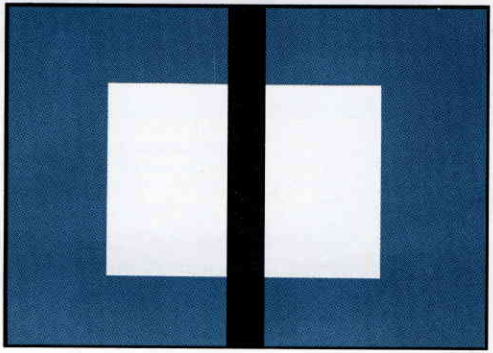
Fused image = Sharp

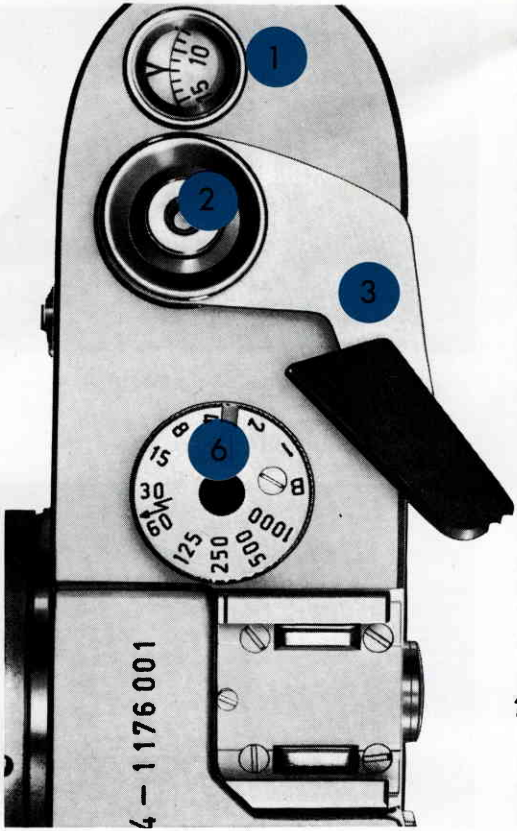


Broken line = Unsharp

Continuous line = Sharp







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The film transport lever (3) simultaneously tensions the LEICA's focal-plane shutter and advances the film by one frame. Push the lever all the way to the right until a firm stop is felt. This can be done with a single thumb-stroke, or by a series of shorter strokes.

You cannot advance the film more than one frame at a time or make an exposure before the film has been properly advanced. Accidental double-exposures are impossible.

The release button (2) is threaded for a standard cable release with a conical fitting. The LEITZ cable release with locking screw for Time exposures is Cat. No. 14097. **Always press the release button gently, never jab it!** You will hear the click as the shutter runs down to expose the film.

The shutter speed selector dial (6) can be set either before or after tensioning the shutter. The engraved figures represent fractions of a second. Thus 1000 indicates $^1/_{1000}$ sec, 4 is $^1/_4$ sec, and so on. When set to "B", the shutter remains open as long as the release button is pressed. The red ⚡ symbol between $^1/_{30}$ and $^1/_{60}$ sec indicates the electronic-flash synchronization speed of the $^1/_{50}$ sec. Intermediate shutter speeds may be set between the click-stop settings, except between $^1/_8$ and $^1/_{15}$ sec and between $^1/_{30}$ and ⚡ symbol.

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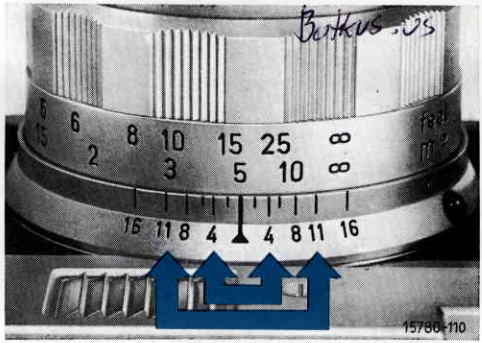
The depth-of-field scale (11)



The lens images most sharply objects at the exact distance — in a plane parallel to the film — on which it is focused. This sharpness gradually falls off in front of, and behind the focused distance, producing a zone in which all objects are acceptably sharp. The extent of this zone of acceptable sharpness — the **depth-of-field** — depends upon the object distance, the focal length, and the lens aperture. Stopping down to a smaller aperture, such as f/8, produces greater depth-of-field than wider apertures, such as f/4.

The double aperture engravings at either side of the focusing mark indicate the sharply focused distances in front of and behind the focused distance. The 50mm SUMMICRON® f/2 scale shows that when focused at 15 ft (5m) the depth-of-field at f/4 ranges from about $12\frac{1}{2}$ ft (4m) to about 20 ft (6m). Note also the very much greater depth obtained at f/11.



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The distance scale (13)

is used when setting the lens for a specific depth-of-field requirement, as well as in flash photography. In this case, the focused distance is divided into the flash guide number to obtain the correct exposure aperture.

The lens aperture (14)

works very much like the iris of your eye which opens and closes to adapt itself to weaker or stronger light. Thus, in very bright light we "stop down" to a small aperture like f/8 or f/11. Conversely, in dim light we "open up" to one of the larger apertures like f/2 or f/2.8. The f/stops **(f/1.4 – 2 – 2.8 – 4 – 5.6 – 8 – 11 – 16 – 22*)** follow an internationally standardized scale. Closing down the aperture by one f/stop reduces the light reaching the film by 50%; opening up by one f/stop doubles the light. One f/stop interval on the aperture scale corresponds to one shutter speed interval on the LEICA speed selector dial. Remember: **The larger the f/number, the smaller the aperture.**

*) The length of this scale depends upon the lens type. In some cases the first, or maximum lens aperture will have an intermediate value, such as f/3.5.

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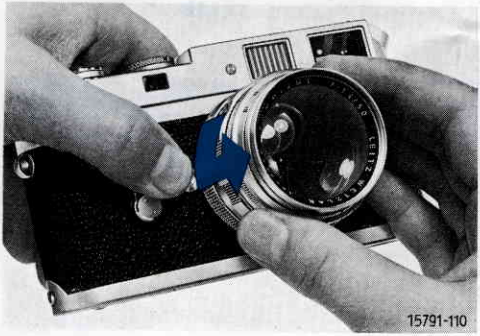
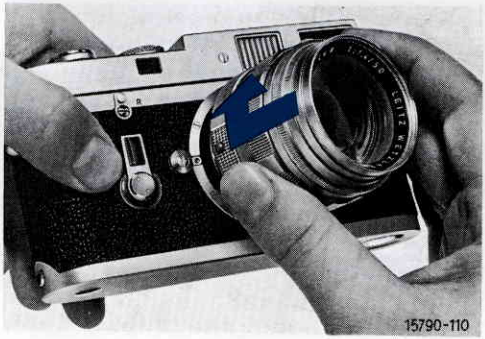




Changing lenses

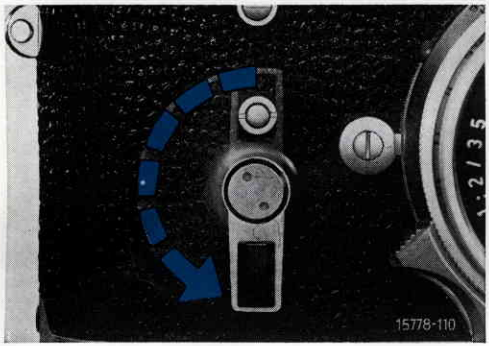
To remove the lens, press the catch (8), turn the lens to the left, and lift out of the bayonet lensmount. Grasp the lens at its base, close to the camera body.

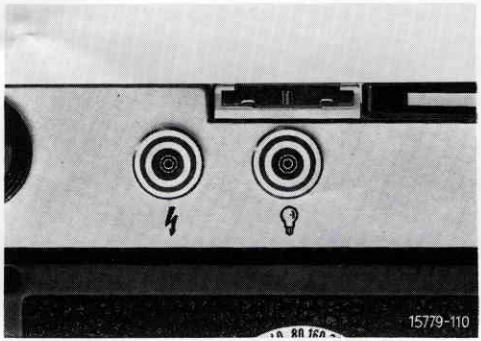
To insert the lens, align the red dot on the lensmount (9) with the red dot on the camera body, and turn to the right until the bayonet lock engages with an audible click. Out of doors in bright sunlight, it is best to change lenses in the shadow of your body.

By making it a practice to use the recommended lenshood with each lens you'll avoid forgetting to remove the lens cap before making pictures!

Collapsible LEICA lenses

Some LEICA lenses (e. g., the 50mm ELMAR) can be collapsed when not in use by turning the barrel to the left and pressing into the camera body. Before taking pictures, always remember to extend such lenses by pulling forward and turning to the right until the lens barrel is locked into its proper focusing position.





The built-in self-timer (5) can be used with all shutter speeds, and can be set either before or after the shutter is wound. For delayed-action exposures, release the shutter by means of the small chromed button indicated by the arrow in the illustration above. Do not use the shutter release button, as this will bypass the self-timer. When turned all the way down, the self-timer lever will give a delayed action of about 10 seconds; turning half-way down will give a delay of about 5 seconds.

Flash synchronization means that the flash lights up at the exact instant in which the shutter opens. All electronic-flash units and most types of flash bulbs can be used with the LEICA M 4. At the rear of the camera you will find two internationally standardized co-axial flash contacts. The left-hand contact marked ϟ is used with electronic-flash and several types of miniature flash bulbs. The right-hand contact marked is used with all other types of flash bulbs. The flash synchronization table gives the needed information for working with the most widely used flash sources.

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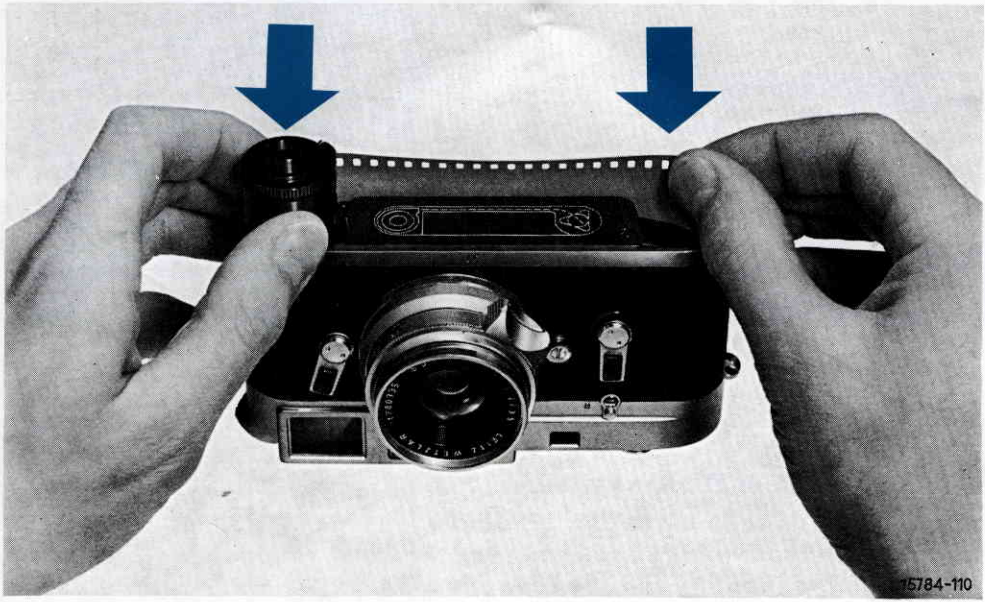
LEICA M 4 flash table

Electronic-Flash		ϟ	B→ϟ (=1/50)
Flash bulbs	AG 1 Flash Cubes AG 3 M 2	ϟ	B → 1/30
	XM 1 PF 1	💡	B → 1/60
	PF 5	💡	B → 1/60
	GE 5 25	💡	B → 1/30
	GE 6 26	💡	B → 1/500
	M 3	💡	B → 1/125

ϟ = Contact for electronic-flash

💡 = Contact for flash bulbs



Film loading

Before opening the LEICA, make sure that it isn't already loaded by unfolding the rewind crank (18) and turning gently in the arrow direction. If resistance is felt, a film is in the camera. See rewinding instructions on page 21.

Turn baseplate latch (21) to the left, and remove baseplate; back panel will swing open, and frame counter will spring 2 marks before 0. Set the LEICA on its top, with the lens facing you.

Start the cartridge into the left-hand cham-

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ber, at the same time drawing out only enough film to reach the three prongs you will notice in the right-hand chamber. Press the cartridge and film-end straight into the LEICA. It is only necessary to note that the film-end lies between two of the three loading prongs. Close back panel and replace and lock baseplate. A disc on inner side of baseplate will press the film into correct position.

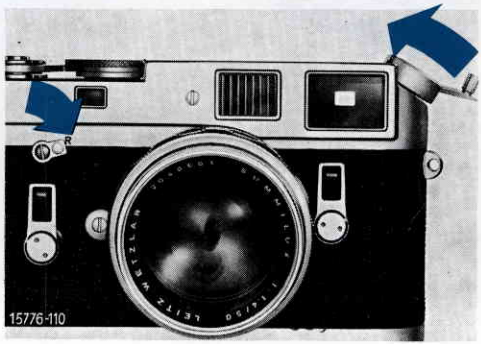
Complete loading by making two blank exposures; after the second the frame counter will stand at number 1, and the LEICA M 4 is ready for action. The backward turning of the rewind crank is your proof that film is being properly transported.

Notes for bulk-film users: Remember that film for the LEICA M 4 must have a tongue similar to that cut in factory-loaded films. Be sure to attach the film very securely to the cartridge spool.

If you should tear the film out of its cartridge by advancing after the last frame, the film will wind itself around the loading prongs, and rewinding will be impossible. **Open the LEICA in a completely darkened room.** With baseplate removed, and LEICA bottom facing downward, **slowly** stroke the transport lever and release the shutter until the wound-up film emerges by itself. **Be careful!** The film is now wound with its sensitive emulsion side facing outward. Store carefully in a suitable light-tight can, or process immediately.

Rewinding the exposed film

When transport lever (3) can no longer be moved, the last exposure has been made, and the film must be rewound. Set reversing lever (4) at "R", and leave it there. Unfold rewinding crank (18) and turn in arrow direction until no further resistance is felt.



This indicates that the film has been completely rewound. If it is desired to leave the film end protruding from the cartridge, stop turning as soon as reduced resistance is felt. Otherwise, give a few extra turns so

that all film goes into the cartridge. A partially exposed film can be removed from the LEICA, and then re-loaded. Note frame number of last exposed picture, rewind film, and be sur to leave film-end protruding from cassette as explained above. When re-inserting, proceed as with an unexposed film, but cover the lens with its cap, and keep releasing the shutter and advancing the film until counter indicates 2 frames more than the number of previously exposed pictures.

Lens care

The hard LEITZ anti-reflection coating on the outer surfaces of LEICA lenses is abraision resistant, but not scratch-proof! Treat lens surfaces with great care, starting any cleaning by dusting with a soft camel's hair lens brush. If this doesn't suffice, wipe gently with a soft, well-laundered piece of linen, a clean chamois leather, or a high-grade (white) optical lens tissue. Avoid colored or chemically impregnated papers or cleaning cloths. Use lens cleaning fluids sparingly, if at all. When not in use, protect your lens by using front and back caps. Above all, remember: **It is better to keep your lens clean, than to keep cleaning your lens.**

When photographing in sandy, dusty, or other potentially dangerous places, protect the front lens surface by using a clear LEITZ UVa (ultra-violet absorbing) filter. This will not affect the exposure time. Should salt water splash onto your camera or lens, clean by first wiping with a cloth dampened in ordinary tap-water, then dry thoroughly with a second clean cloth.

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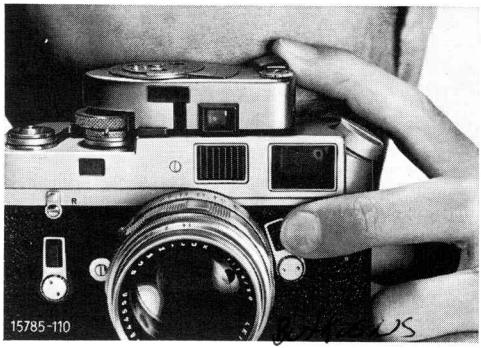
Leica System

Critical exposure control

is afforded by the LEICAMETER® MR which couples to the speed selector dial of the LEICA M 4. This sensitive, battery-powered CdS meter has a selective measuring field equivalent to that of a 90mm LEICA lens.



The 90mm focal frame built into the M 4 viewfinder system is therefore used, by means of the frame pre-selector (16), to give accurately aimed exposure readings. A LEICAMETER MR belongs on your LEICA M 4 because it lets you measure exactly what you want, and lets you know exactly what you are measuring.



Interchangeable LEICA lenses

Your LEICA M 4 accepts more than 20 interchangeable LEITZ lenses. The range-finder couples with all lenses from 21 to 135mm, and focal frames are provided for the important 35–50–90–135mm range. The 21mm SUPER-ANGULON® f/3.4 and 28mm ELMARIT® f/2.8 ultra-wideangle lenses are used with optical bright-line viewfinders which fit into the accessory shoe.

The 90mm ELMARIT f/2.8 and SUMMICRON f/2, and the 135mm TELE-ELMAR f/4 and ELMARIT f/2.8 can also be used for reflex groundglass focusing with the VISOFLEX III reflex housing.

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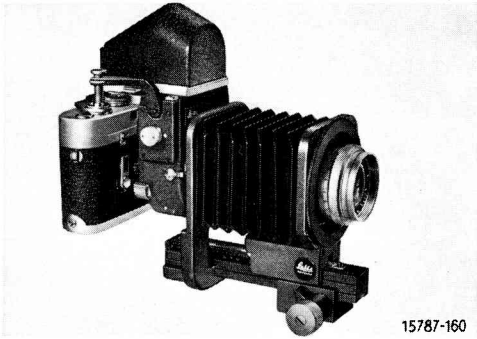

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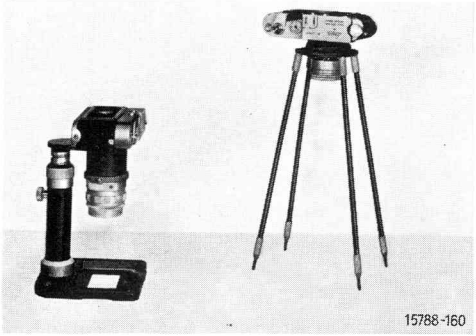
VISOFLEX III

Whenever groundglass focusing and image control are needed, the VISOFLEX® III converts your LEICA M 4 into a compact single-lens reflex camera with instant-return mirror. LEICA lenses giving infinity to close-up focus with the VISOFLEX III include the 65mm ELMAR® f/3.5, and the TELYT® series of 200, 280, 400, and 560mm long-focus lenses. Most 90mm and all 135mm LEICA lenses can also be used.

Focusing Bellows II

This valuable VISOFLEX accessory is ideal for technical, scientific, and all close-up and macro assignments. With the Focusing Bellows II, various 90mm LEICA lenses give a continuous focusing range from infinity to 1:1, and optical units of 135mm LEICA lenses focus from ∞ to 1:1.5. High magnifications are achieved with 35 and 50mm LEICA lenses and the special 50mm FOCOTAR® f/4.5 and 24mm REPRO SUMMAR® f/4.5 lenses.



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LEICA copying stands

For occaisional copying and reproduction jobs, the LEICA System offers two handily compact copying stands giving a variety of fixed reproduction ratios. The small column stand (No. 16511) is used with your LEICA M4 and any 50mm LEICA lens. Metal masks provide the fields for reproduction ratios of 1:1, 1:1.5, 1:2, and 1:3. For larger format applications, the LEITZ four-legged copying stand covers three formats with a 50mm lens.

TELEVIT

This light-weight fast focusing mount is used with the VISOFLEX III for rapid-action long-lens photography. The TELEVIT accepts 280, 400, and 560mm TELYT lenses and incorporates many professional features: push-pull pistol grip focusing; fine focusing thumb-wheel; pre-settable distance blocks; horizontal/vertical swing; integral filter slot for standard Series VII filters; attachable shoulder stock.

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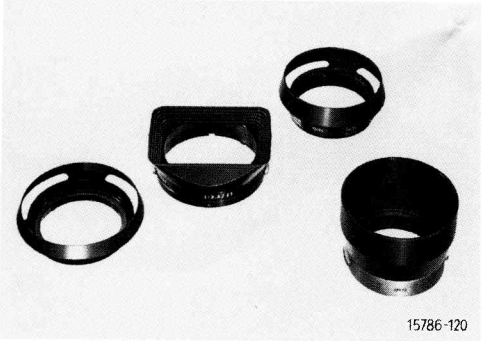
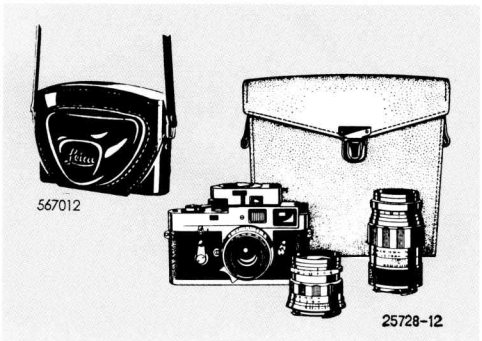


LEICA lenshoods

improve optical quality by blocking-off stray light from all sides of the subject field, thus reducing scatter inside the camera. They are also a big help in rain or snow, as they help to keep the front lens surface dry.
LEITZ lenshoods with spring-clamp fittings are provided for all of the shorter focus lenses, and in many cases can be reversed for easier transport. The 90mm SUMMICRON, 135mm ELMARIT, and all of the TELYT lenses have integral telescoping hoods.



The ever-ready case

for the LEICA M 4 holds the camera with a 35 or 50mm lens, or the 90mm TELE-ELMARIT f/2.8, and affords excellent protection when carrying the camera.
LEICA outfit cases, for carrying the camera with a number of lenses and accessories keep your equipment well organized, and ready for use.

The high quality of your LEICA camera and its interchangeable LEITZ lenses depends, in the last analysis, upon the quality of the equipment you use to enlarge and project. This is why precision LEITZ FOCOMAT® enlargers and PRADOVIT® and PRADO-LUX® slide projectors play such an important role in the LEICA System.



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Enlarging and Projection

LEITZ FOCOMAT auto-focus enlargers utilize sturdy parallelogram construction for lasting accuracy. The FOCOMAT Ic is designed for all negatives up to 24 x 36mm, the larger FOCOMAT IIc for negatives up to $2^1/_4 \times 3^1/_4$" (6 x 9cm). Both offer uniform negative illumination, first class enlarging optics, and the filter drawer required for color printing.

www.orphancameras.com



A wide range of LEITZ projectors are available for every projection need, at home, in lecture halls, for business, advertising and and professional purposes.

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