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INSTRUCTIONS

LEICA M 5

Leitz
WETZLAR

110-88/Engl.

is the first rangefinder camera in the world with through-the-lens light metering. This means not only the most accurate lens focusing possible, but precisely selective exposure readings under any lighting conditions, night or day.

We recommend that you begin practicing without film in the camera, working all of the controls to get the feel of the camera. Should you have some initial difficulty in seeing the exposure meter readout bar underneath the viewfinder, two tips: First, make sure that your eye is so centered that you can easily and sharply see the shutter speed imaged in the viewfinder, and practice glancing downward to read the meter. Second, if there isn't enough subject background contrast to make the needle and setting curve clearly visible, simply place your finger temporarily in front of the main viewfinder window. This will make the meter elements spring into focus.

You will find the LEICA M 5 a fast-handling camera in the LEICA tradition, with the added advantage of a highly sensitive CdS through-the-lens light meter. Please invest a small amount of time in reading through this short manual, with your new LEICA M 5 in hand. And good luck!

ERNST LEITZ GMBH **D 6330 WETZLAR**

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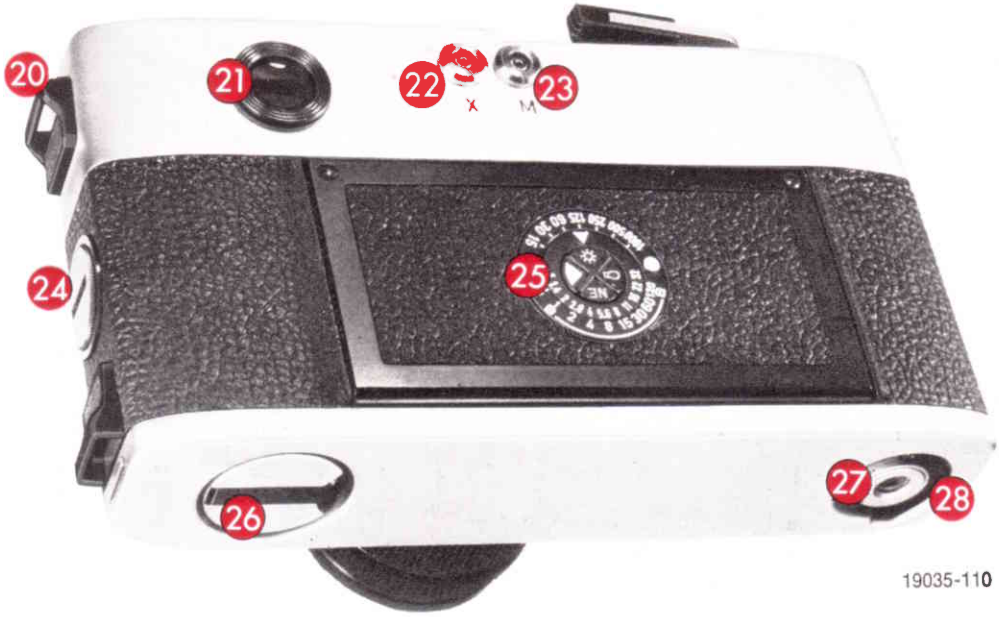
LEICA M 5 parts identification

1 **Automatic frame counter**
2 **Shutter speed selector ring**
3 **Shutter release button**
4 **Rapid transport lever**
5 **Accessory shoe, with X flash contact**
6 **Film-plane indicator mark**
7 **ASA/DIN film speed scales**
8 **Illumination window for internal meter readout**
9 **Film rewind release**
10 **Rangefinder window**
11 **Illumination window for bright-line frames**
12 **Viewfinder window**
13 **Selftimer**
14 **Lensmount bayonet lock**
15 **Red locating protrusion for lens insertion**



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16 Depth-of-field scale
17 Distance scale
18 Aperture scale
19 Field-of-view preselector, and battery-test lever
20 Strap fittings
21 Range-viewfinder eyepiece
22 X synchro contact for electronic-flash and short-peak lamps (see pag. 22, 23)
23 M synchro contact for medium-peak lamps (see pag. 22, 23)
24 Battery cover plate
25 Film type indicator and aperture/speed calculator
26 Folding film rewinding crank
27 ¼″ tripod bushing
28 Baseplate lock

How to hold the LEICA

For steady three-point support, grasp the LEICA with your right hand, index finger on the release button, and thumb against the transport lever. The left hand either supports the lens from below, ready for rapid refocusing, or holds the strap-side of the camera. Both hands finally press the camera against your forehead.

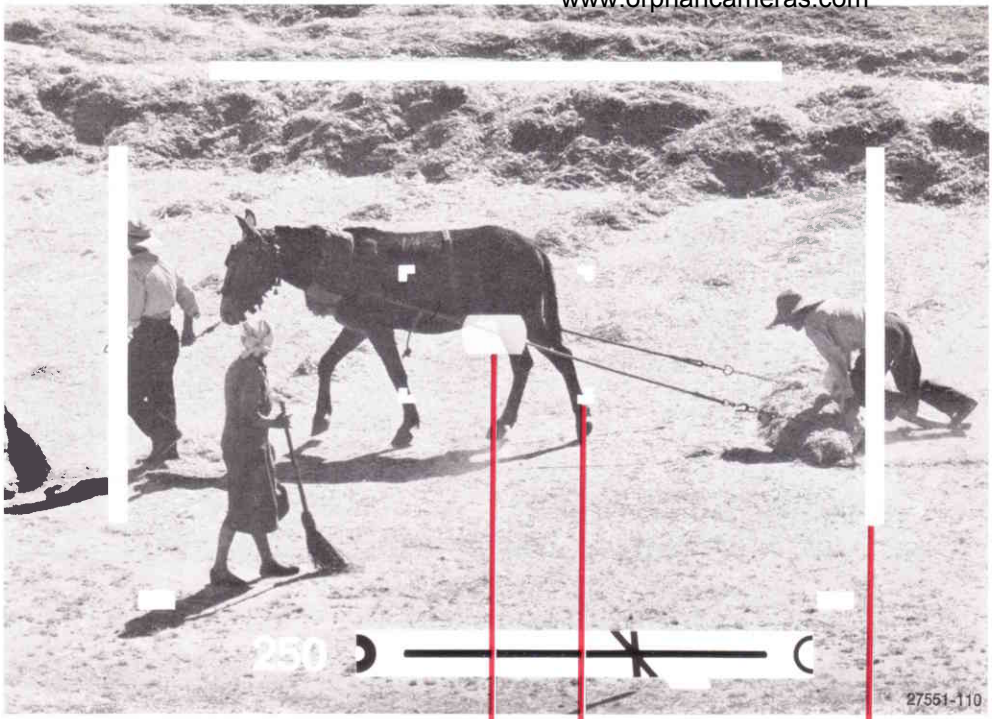
With this holding method, verticals can easily be made by simply rotating the camera through 90-degrees. Your hand position on the controls never changes, and the LEICA can be rotated either upward (as illustrated) or downward.

The bright-line range-viewfinder

The bright-line range-viewfinder of the LEICA M 5 combines three functions: that of a precisely accurate rangefinder coupling with all lenses from 21-* to 135mm; a viewfinder with illuminated focal frames providing automatic parallax compensation at all focusing distances for lenses of 35-, 50-**, 90-, and 135mm; and as measuring field indicator for the through-the-lens light meter. The extra-bright rangefinder focusing patch is always present in the center of the field. Illuminated focal frames for the various lenses appear automatically when they are inserted in the bayonet mount, or may be previewed by means of the preselector lever (13). When a 50mm lens is mounted, four circular arcs appear to define the light metering field.

* No light metering is possible with 21mm lenses; see information sheet No. 120 – 47.

** Before using the collapsible 50mm ELMAR® f/2.8 (Code No. 11 112), please see information sheet 120 – 47.

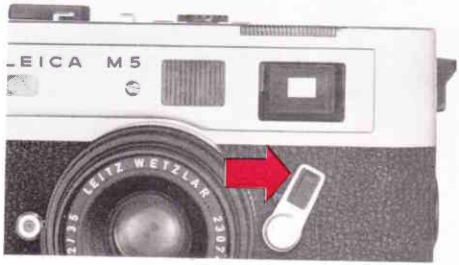


Rangefinder focusing patch

35mm focal frame

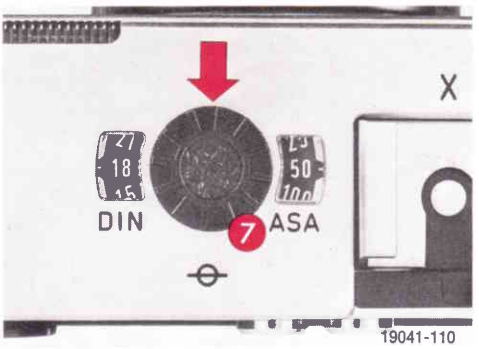
135mm focal frame, also measuring field indicator for exposure meter with 35mm lens

The field-of-view preselector



The field-of-view preselector (19) functions as a universal viewfinder, enabling the LEICA user at any time to introduce the focal frames for lenses other than the one in use. Lever outward: field-of-view frames for 35- and 135mm lenses. Lever inward: frame for 90mm lens. Lever straight: frame for 50mm lens.

The through-lens exposure meter



Correct film-speed setting is essential for accurate exposure measurements!

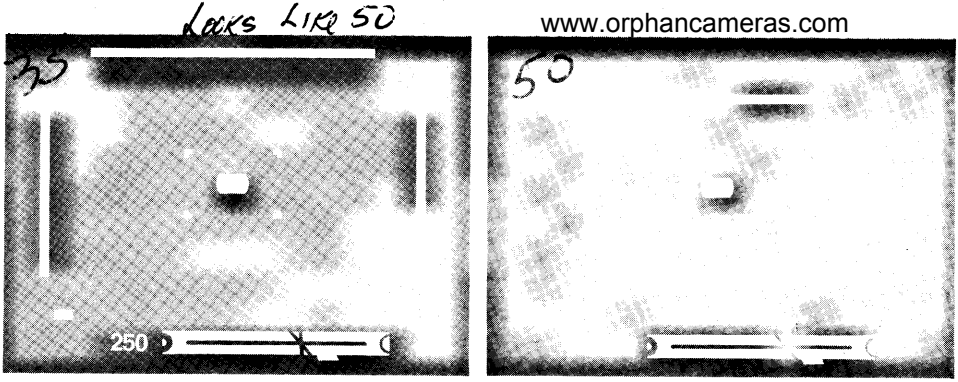
The ASA/DIN scale knob (7) permits setting ASA indexes from 6 to 3,200, and DIN speeds from 9 to 36. Settings are firmly click-stopped to prevent accidental changes.

Meter readings can be made only when the shutter is tensioned, by stroking the transport lever (4). The meter is switched off after each exposure.

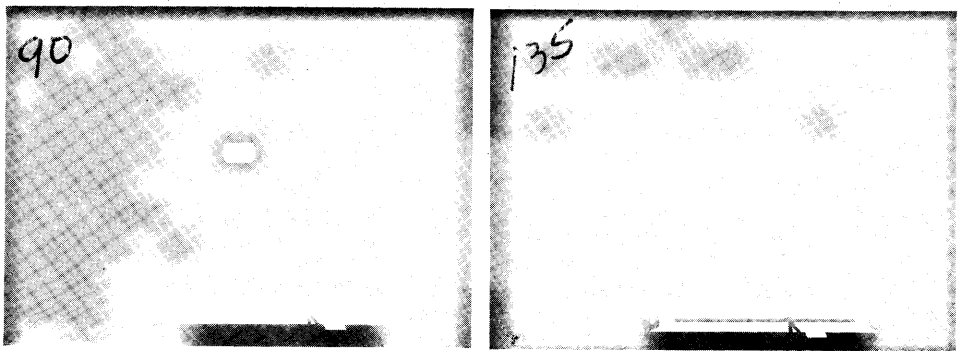
Exposure measurements should be made with the camera held horizontally. For a 35mm lens, the light metering field is indicated by the 135mm focal frame. With a 50mm lens this light measuring field is defined by four circular arcs, representing a full circle, which appear when a 50mm lens is mounted. The rangefinder patch, which is also rounded off at its ends to represent an incomplete circle, defines the metering area covered by a 90mm lens, and is also used to center the reading with a 135mm lens.

Only 28mm ELMARIT f/2.8 lenses above the serial number 2 314 920 can be used for light metering with the LEICA M 5. For these 28mm lenses, the 90mm focal frame is imaged to define the metering area. After modification, older 28mm f/2.8 lenses can be used with the LEICA M 5 range-viewfinder, but not with its light meter. Please see information sheet No. 120–47.

Underneath the viewfinder picture area is the exposure meter readout bar, with illuminated shutter speed at left. Correct exposure is set by aligning the meter needle and the setting curve so as to cross at the horizontal center line, as shown in illustrations on facing page. The setting curve is activated by the shutter speed dial (2), the meter needle by the lens aperture ring (18). Best practice: start by selecting an appropriate shutter speed, then adjust lens aperture to achieve meter alignment. Shutter speeds can easily be changed



The next smaller focal frame functions as the metering area



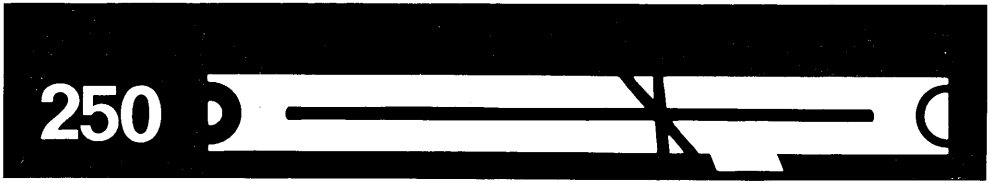
without removing your eye from the viewfinder. *Important!* Avoid any finger pressure on release button (3) during exposure measurements; this will cause meter cell to move away from its correct central measuring position, and will produce incorrect readings.

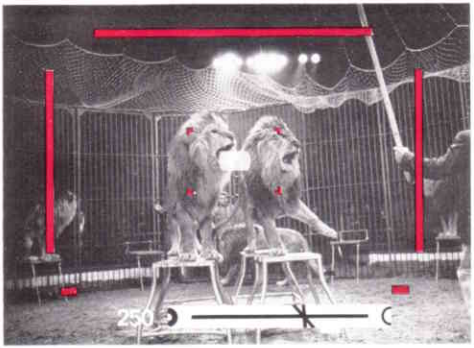
Two semi-circles at either end of the meter readout bar serve as aperture indicators. If the meter needle moves toward the smaller semi-circle at left, a smaller f/stop is being set. Needle movement toward the larger right-hand semi-circles indicates a larger aperture setting.

The LEICA M 5 through-the-lens light meter provides the advantages of selective light measurement. This means that disturbing influences, such as extremely bright or dark areas, direct light sources, etc., can readily be eliminated from the reading area. Always try to select a subject section representative of the whole scene, and when in doubt follow these general rules: Measure where you focus. Avoid dark shadow areas, bright clouds, open lights or reflections from water, unless an intentionally off-beat effect is desired. Because of its selectivity, the LEICA M 5 will often permit close-up readings directly from the shooting position.

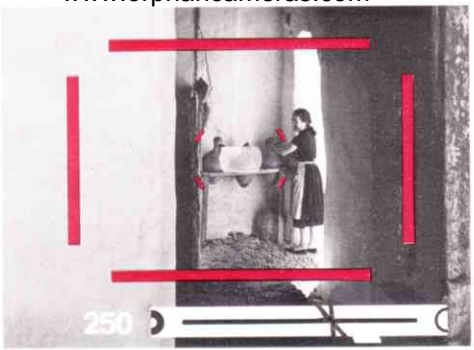
The brightness range of the LEICA M 5 light meter extends from 0.4 Asb (with an f/1.4 lens) to 200,000 Asb. This means that with full lens aperture, extremely low light levels can be measured. If the picture is then to be made at a smaller aperture, a handy calculator dial (25) has been built onto the back panel of the camera. If, for example, the meter indicates a ½ sec exposure at f/1.4, the calculator dial will show the equivalent time for an f/5.6 exposure to be 8 sec.

The LEICA M 5 cell carrier arm, see page 15.



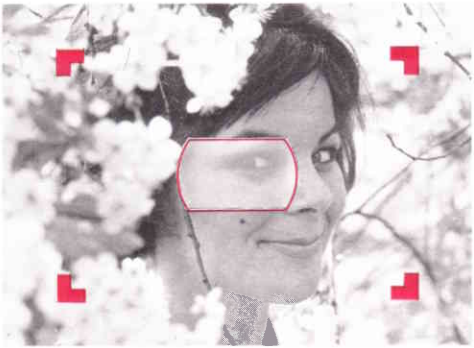


35mm focal frame and metering field

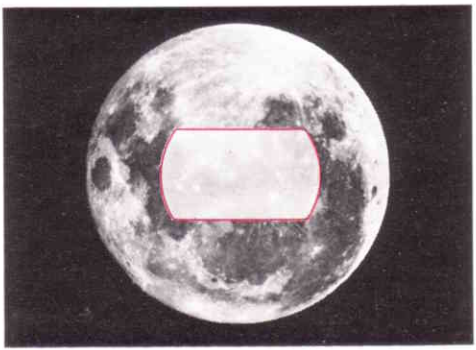


50mm focal frame and metering field

135mm focal frame and metering field

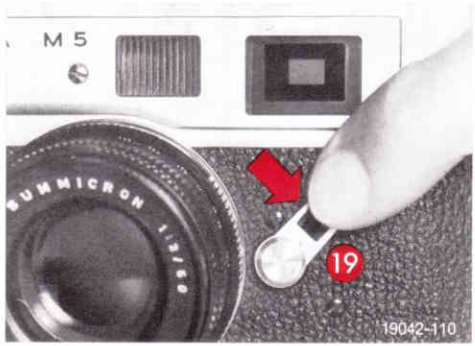


Metering field for longer than 135mm lenses



Battery testing

The CdS light meter is powered by a 1.35 volt mercury-oxide cell, the Mallory PX 625, or equivalent, such as the Varta Pertrix 7002. These cells offer a normal service life of one to two years.
To test the battery, hold the camera horizontally, look through the viewfinder, and pull the field-of-view preselector lever (19) outward, away from the lens. If the battery is still serviceable, the meter needle will fall within the cut-out area at the lower right-hand side of the readout bar.



Battery changing

The battery compartment cover is coin-slotted to permit easy removal. When inserting a new cell, always be sure that the written side faces upward before replacing the cover plate.

Using filters

With through-the-lens light metering, the energy absorbed by filters will generally be automatically taken into account. Different films, however, differ in their individual spectral response. Very dense filters, as well as those lying near the red and blue ends of the spectrum, may therefore sometimes introduce an error. If in doubt, measure without the filter, then apply the standard filter factor. In general, a dense orange filter will require perhaps one full f/stop more than the meter indicates, a red filter two f/stops more. No more exact data can be given because of the great differences in the red sensitivity of black-and-white films.
With the LEITZ polarizing filter, rotate the disc in front of the viewfinder until the desired result is obtained; then swing the filter in front of the lens and make the light measurement without any additional rotation.

Close-up pictures

When making close-up pictures, for example with the Bellows Focusing Unit, there is no need to consider the exposure increase factor introduced by lens-to-film extension. The LEICA M 5 through-lens light meter takes this automatically into account.

The LEICA M 5 cell carrier arm

The CdS meter cell of the LEICA M 5 is mounted on a swinging carrier arm. When the lensmount is empty, the cell is hidden in its bottom recess. Inserting a lens causes the cell to move to its central measuring position, if the shutter is tensioned. First pressure on the shutter release causes the cell to move down into its recess, where it remains until the film is again transported.

Never touch or play with this sensitive mechanism!

If you wish to see the cell carrier arm in action without endangering the mechanism, insert either the empty mount of a 50mm SUMMICRON® f/2 lens, or a screw-to-bayonet lens adapter (Nos. 14 097, 14 098, 14 099). But no fingers, please!

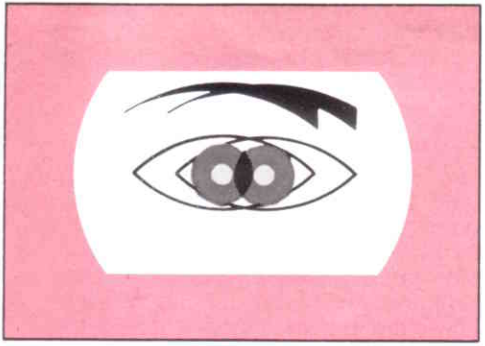
The rangefinder

The measuring field of the rangefinder appears in the center of the viewfinder as a bright, sharply outlined oblong. If you block the large field window (12) of the viewfinder, only the reflected bright-line frame and the measuring field remain visible. Focusing can be carried out by either the coincidence or split-image methods.

Coincidence (double image) focusing: in portraiture, for instance, focus on the highlight in the sitter's eye. Observe the subject through the viewfinder and rotate the lens * until the double contours in the measuring field coincide.

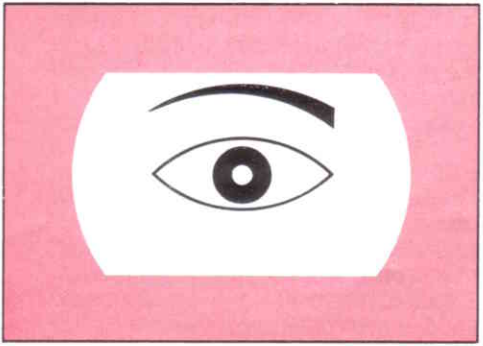
Split-image focusing: Sight an edge or any other clearcut line; if you find that this line is offset sideways as it enters the measuring field, rotate the lens* until the line becomes continuous as it passes from the viewfinder- into the measuring field and out again. This method is to be preferred because of its superior accuracy.

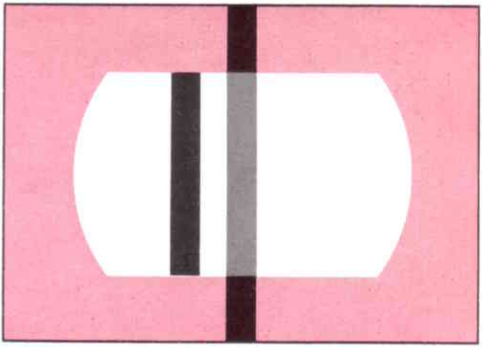
* A few short-focal-length LEICA lenses engage at the infinity setting, and the lock (12) must be depressed to permit focusing on shorter distances. Pull out collapsible lenses and lock them in position.



Double image = unsharp

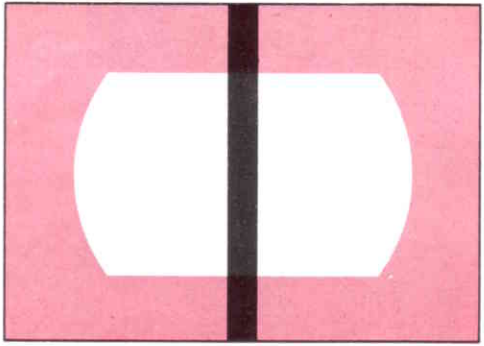
Coincident image = sharp

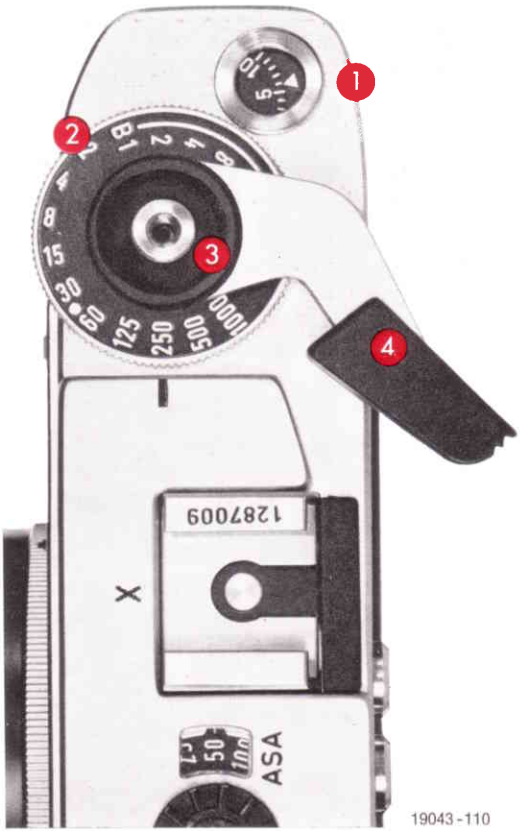




Offset line = unsharp

Continuous line = sharp





The rapid transport lever (4) winds the shutter and advances the film and the frame counter in one single motion, or in a series of shorter motions.

The shutter release button (3) is threaded for a standard cable release (No. 14 067). It should be pressed smoothly, without jerking, until a soft click indicates that the shutter has been released. (Many photographers ensure release smoothness by taking up the release-button slack before exposure. With the LEICA M 5, however, one must avoid this when taking exposure readings.)

The shutter speed selector ring (2) has click-stopped settings from 1/1000 to 1/2 sec. Intermediate speeds can be set over the whole range, except direct below the dot (●) indicating the 1/50 sec synchronization speed for electronic flash. The speed dial is additionally engraved with "B" (bulb) speeds from 1 to 30 sec, for use with the light meter. These exposure intervals must be timed by the photographer, and a cable release should, of course, be used. Starting at the interval marked "B 1", the shutter will remain open as long as the cable release is held down.

LEICA lenses have a fixed ring with depth-of-field scale (16), a rotatable ring for setting the focusing distance (17) and an iris diaphragm ring (18).

The depth-of-field scale

The lens reproduces at maximum sharpness the plane, parallel to the film, on which it is focused. This maximum sharpness falls off gradually towards the front and rear; within a certain depth, then, the subject will appear sharp. This depth-of-field depends on the camera distance, the focal length of the lens, and the lens aperture set. Stopping down the lens increases, opening it up decreases the depth-of-field.

The depth-of-field scale indicates the depth-of-field zone for the object distance on which the lens is focused.

With the 50mm SUMMICRON f/2 focused on 5m (16ft, 8in), sharpness at f/4 extends from 4m to about 8m (13ft. 4in to about 26ft. 8in). However, if you stop down to f/11 at the same focusing distance, sharpness will extend from 3m to about 20m (10ft. to about 67ft.).

The distance scale

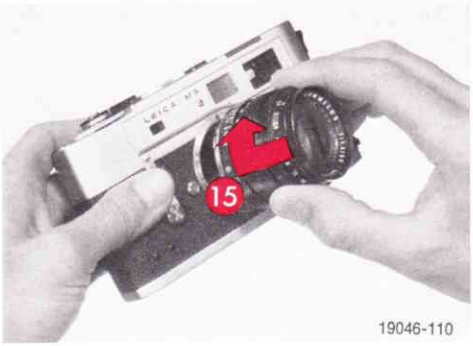
The distance scale (17) indicates the distance on which the lens is set, and, in connection with the depth-of-field scale (16), the extent of the depth of field. The distance is also important to the calculation of the guide number for flash equipment.

19045-110

The aperture scale

The aperture scale is internationally laid down; the values have been chosen so that the quantity of light reaching the film is halved every time the lens is stopped down one step. One aperture step is equivalent to one step on the shutter speed dial (2) regarding the adjustment of the light quantity to which the film is exposed.

Like the shutter speed dial, the lens diaphragm ring clicks into position opposite each number (some diaphragm rings also at half values). This will enable you, after some practice, to identify the setting of the diaphragm even in the dark.



Inserting the lens

The raised red point (15) on the lens barrel must first be aligned with the red dot (14) on the lens mount lock. The lens can now move into the mount, and a short turn to the right locks the lens with an **audible** click. Always be sure that lenses are firmly locked home, and try to change lenses in the shadow of your body. The use of older LEICA lenses is explained in the information sheet No. 120–47 supplied with this manual. Be especially careful to read the instructions regarding collapsible lenses, which will damage the meter if permitted to retract inside the LEICA M 5 housing.

Removing the lens

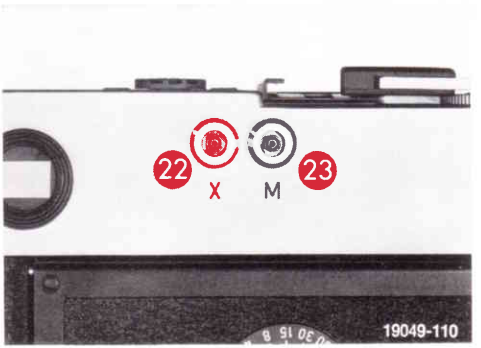
Grasp the lens by the back ring (16), press the lensmount release lock (14), turn slightly to the left and pull free.

Self-timer

Wind the shutter and rotate the lever of the delayed-action mechanism (13) downwards. (The shutter can also be wound after the delayed-action mechanism.) The release button of the delayed-action mechanism is now exposed for operation. The delay is 8–10 sec. The shutter is released shortly before the lever returns to its initial position. The delayed-action mechanism operates with all shutter speeds.

Flash synchronization

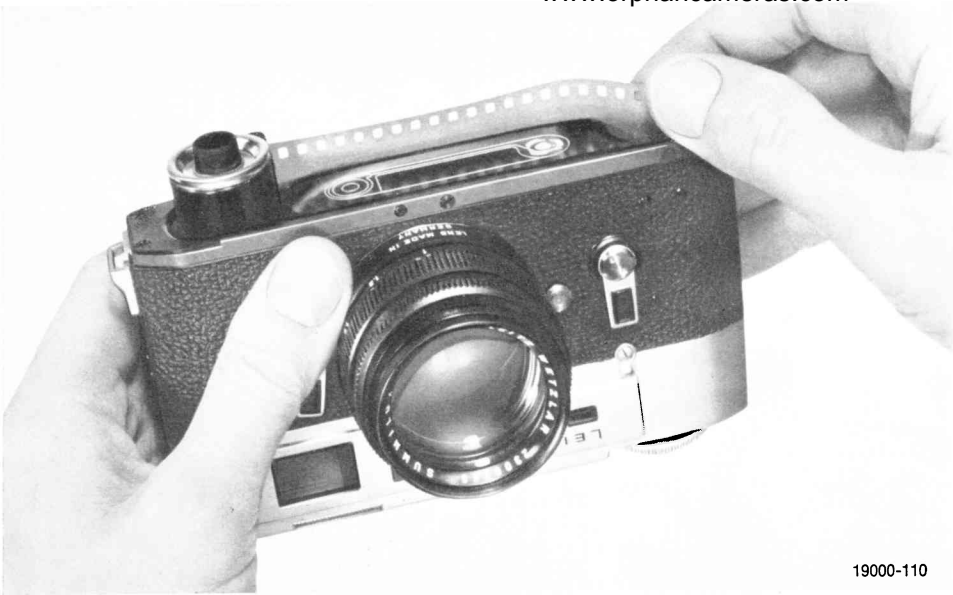
All flash units with standard coaxial plugs or the cordless "hot shoe" contact can be used on the LEICA M 5. There are two X contacts: that built into the accessory shoe (5), and at the rear of the camera a standard PC contact (22). The X contacts are used for synchronizing electronic flash units and fast-peak flash lamps, including flash cubes, as shown in the table. Also at the rear of the camera is an M contact (23),



which is used for conventional photo flash lamps.
The two X synchro contacts of the LEICA M 5 operate through completely independent internal circuits. This permits the use of two flash units simultaneously, connecting one to the shoe contact (5), and the other one to the rear contact (22), as when using a side light and a front fill-in.

Electronic flash		**X**	**B → ● (= 1/50)**
Flash bulbs	**AG 1 Flash Cubes AG 3 M 2**	**X**	**B → 1/30**
	XM 1 PF 1 XM 5 PF 5	**M**	**B → 1/60**
	M 3	**M**	**B → 1/125**
	GE 5 25	**M**	**B → 1/500**

X = Contact for electronic flash at the rear of the camera or built into the accessory shoe
M = Contact for flashbulbs



Film loading

First make sure that the camera is empty, by unfolding the film rewind crank (26) in the baseplate, and turning in the arrow direction. If you feel any resistance, proceed as described on the following page.

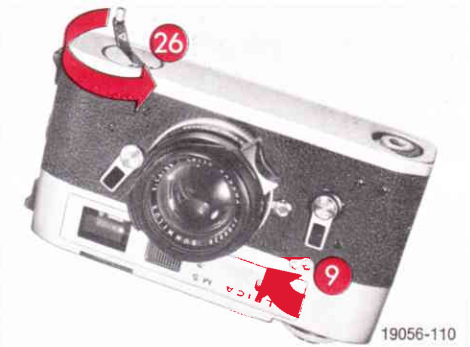
Take the camera in your left hand, baseplate up and lens facing you. Unfold the baseplate lock (28), turn to the left, and remove the baseplate. The film end can have the standard tongue trimming, but this is not necessary with the M 5. Insert

the cartridge about half-way into the left-hand chamber, and carefully draw out just enough film leader to reach the take-up spool in the right-hand chamber. Observe the illustration on the dust cover inside the camera, and duplicate this by pressing the film end into the loading slot situated at about 7 o'clock. Now replace the baseplate by first engaging the stud at the left side of the housing, near the strap fitting, pressing into position, and locking with the catch (28). A projection on the inside of the baseplate will press the film end into the proper running position. Click off two blank frames, releasing the shutter each time. **Important!** Proof of proper transport is provided by the reverse turning of the rewind crank (28). But this must be folded flat into its recess because its rachet mechanism locks the shaft tightly as soon as it is raised. After the second blank exposure it is good practice to unfold the rewind crank and gently turn it in the arrow direction until resistance is felt. Then fold down again and click off a third blank frame, observing that the crank rotates. The counter will now stand at "1", and the LEICA M 5 is ready for action.

Note: After some use, the take-up spool of the LEICA M 5 may assume a position different from that diagrammed on the inner dust cover. If this occurs, simply remove spool by grasping the knurled lifter, and replace it in the correct orientation.

Removing the exposed film

After the last frame has been exposed, the transport lever (4) can no longer move. The film must now be rewound into its supply cartridge. Move the film release lever (9) downward, as shown below, unfold the rewinding crank (28) in the baseplate, and turn in the arrow direction until the film is completely rewound into the cartridge. This will be felt by a sudden release of resistance. The cartridge can now be removed and the camera reloaded.



LEICA lenses act like burning glasses if they face upwards in full sunlight for long periods. You must therefore protect the housing and the shutter by putting on the lens cap or keeping the camera in a case, or in the shade.

The front ring of each lens has, in addition to its type, its "personal" serial number. You should make a note of this number, as well as of the serial number engraved on the top of the LEICA. These can be very helpful indeed in case of loss or theft.

A brownish-purple sheen characterizes modern "coated" LEICA lenses. These surface films, which reduce reflection, increase the brightness and brilliance of the image. The external anti-reflection coatings are wiperesistant.

Dust should be removed with a soft brush, a piece of cotton cloth (e.g. a handkerchief) washed several times, or lens tissue. Treated cloths, such as are used for cleaning spectacles, are not recommended, as they are chemically impregnated and may attack lens surfaces. (Glass used for spectacles has a composition different from that of optical glass for high-quality lenses.) Remember that it is better to keep your lens clean, than to keep cleaning your lens!

A colourless UVa filter can be left permanently on the lens, to protect the front element from external influences, e.g. of sand or sea water spray on the beach. The lens hood, too, protects the lens from accidental finger marks and raindrops. Protect your precious lenses with the appropriate lens caps. Added protection is afforded by the ever-ready case, No. 14 541.

The *Leica*-System

Interchangeable lenses

Besides the lenses of 35, 50, 90, and 135mm focal lengths the LEICA owner has a whole range of further interchangeable lenses of shorter and longer focal lengths at his command. When using older lenses, see information sheet No. 120–47.

The optical units of the 90 and 135mm lenses (except the 90mm TELE-ELMARIT® and the collapsible 90mm ELMAR®) can be unscrewed and used for groundglass screen focusing with the VISOFLEX II/III and on the Focusing Bellows II.

LEICA lenses see list 110–74.

27550-110

The VISOFLEX® III attaches to the LEICA M 5 in the same way as an interchangeable lens, converting it into a reflex camera. Three mirror actions are possible: yellow dot = instant-return mirror; black dot = slow, soft mirror rise; red dot = mirror lock-up, also used for adjusting the height of the release arm, which should have a distance of approximately 1mm between it and the release button.

For selective light measurements with the LEICA M 5, the unit should be tripod mounted. After centering the subject area to be measured by means of the small circle on the VISOFLEX III groundglass, the mirror is raised (red dot) to make the exposure reading.

For additional information about photography with the VISOFLEX III, please request our pamphlet No. 160–3.

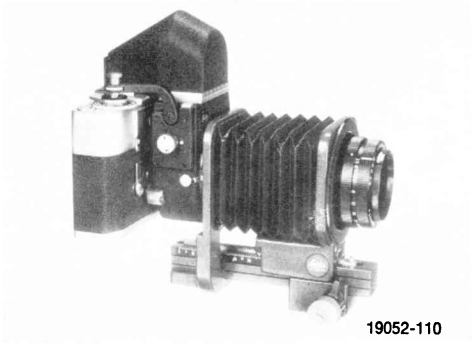
19051-110

The focusing bellows

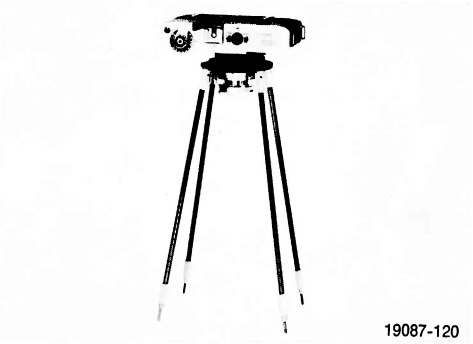
The Focusing Bellows II permit the use of almost all the LEICA lenses. High magnifications are possible with the 35 and 50mm lenses, with the 90mm lenses the reproduction range from ∞ to 1:1 is obtained, and with the 135mm lenses the continuous focusing range from ∞ to 1:1.5.
Our list No. 160–1 contains further information.

Four-legged copying stand

The four-legged copying stand No. 16526 permits three optional fixed-focus reproduction ratios of 1:9, 1:6, or 1:4, covering subject fields of approximately 9x13.5″, 6x9″, or 4x6″, respectively. It can be used with either the 50mm ELMAR f/2.8, or the optical unit of the 50mm SUMMICRON f/2 lens (with bayonet ring No. 16 508). Both lenses can also be used with the optical near-focusing device No. 16 507 for reproduction ratios between 1:5 and 1:7.5.



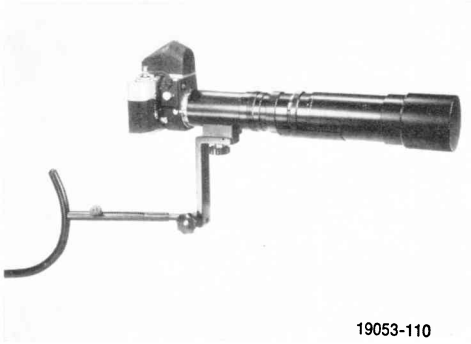
19052-110



19087-120

Extreme tele-lenses

For photography with extreme tele-lenses the LEICA M 5 offers groundglass focusing with the VISOFLEX III reflex housing. (See page 28.) Available are the 400mm TELYT f/6.8, and 560mm TELYT® f/6.8 which offer rapid-action trombone style focusing and rigid shoulder stocks for hand-held steadiness. LEICA M 5 exposures are made with the raised mirror, through the camera viewfinder.
Additional information about long-focus LEICA lenses will be found in our pamphlet No. 120–44.



19053-110

Cases

To protect your LEICA M 5 with its standard 50mm lens we recommend the zippered ever-ready case No. 14 541.
In addition, we supply the combination case No. 14 823 for carrying the LEICA M 5 with an assortment of lenses and accessories.

Enlargers

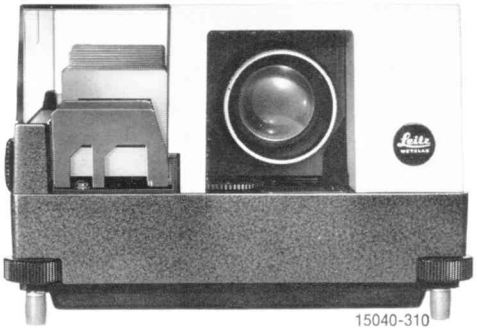
A high-quality camera such as the LEICA calls for an enlarger of matching performance if this quality is not to be wasted. For the last twenty years LEITZ have offered well-tried top-quality models with automatic focusing, the 35mm-only FOCOMAT® Ic enlarger, and the FOCOMAT IIc accommodating all film formats from 12 x 17mm to 6 x 9cm.
For detailed information please consult our Lists No. 170–2 and 170–9.

11267c-170

Projectors

A large selection of projectors is available depending on preference and purposes. They are extremely convenient to operate and can be adapted to a versatile range of uses. The most outstanding common characteristic of all LEITZ projectors is their unsurpassed optical performance coupled with traditional LEITZ precision.

Please ask for descriptive literature.



15040-310