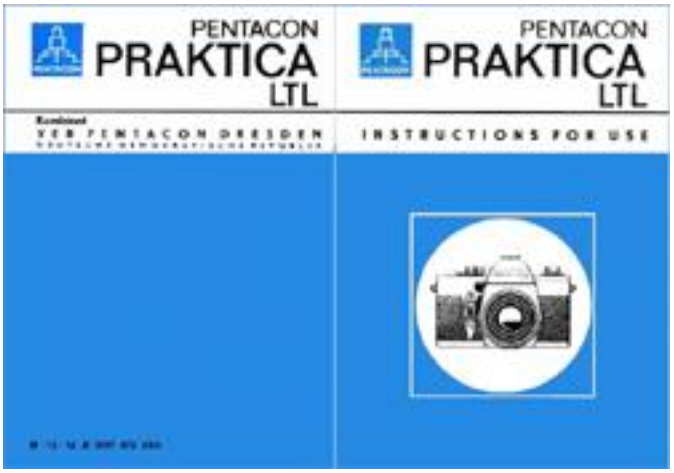
# Praktica LTL




Instructions for Use.

We are extremely pleased that you have chosen the high-quality PRAKTICA LTL, and we wish you every success in working with this modern reflex camera.

Before using your camera, however, we would request you to study the Instructions for Use carefully. This will help you to avoid trouble caused by wrong handling of the equipment.

The PRAKTICA LTL is a miniature single-lens reflex camera for the 24 mm × 36 mm picture format, with automatic exposure control and internal metering to which the shutter-speed, aperture and film-speed settings are coupled. The measuring system employed is partially integrated, the main measuring field , about 20 mm in diameter, being arranged in the centre of the viewfinder. The result is perfectly accurate metering since, with the most majority of subjects, the most important details of the image are located within this area. All the subordinate marginal sections are photometrically left aside and cannot influence the reading.

Metering is performed with the lens stopped down to taking aperture by adjusting the diaphragm ring on the lens mount while depressing the metering key. By means of this key the circuit is closed. All lenses having the international PRAKTICA fitting M42×1 may be used. The automatic mechanism in the camera causes the pressure diaphragm in the lens (APD) to operate as a spring diaphragm. This means that only during the actual moment of exposure the diaphragm closes down to the value obtained by means of the light meter.

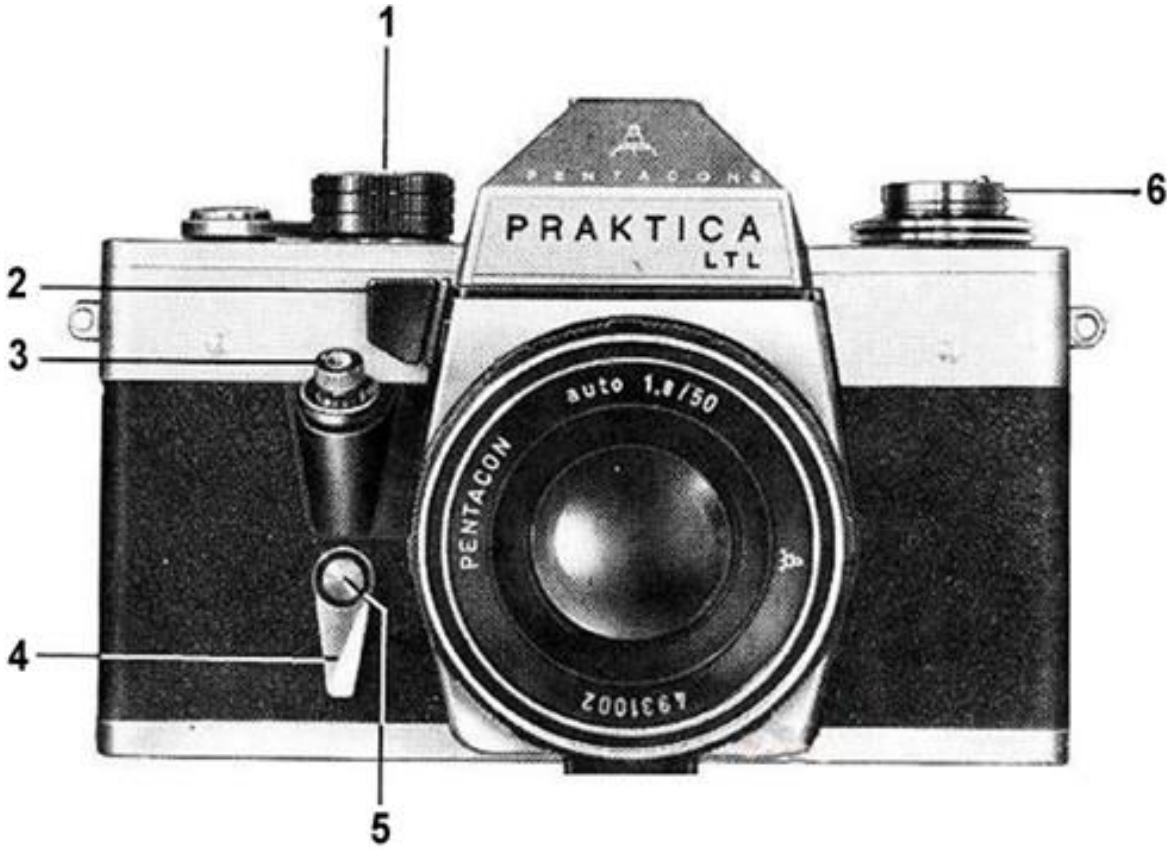
The novel type of metal-bladed focal-plane shutter travels across the shorter side of the frame and has a range of speeds from 1 sec. to 1/1000 sec. It is synchronized for the use of flash bulbs and electronic flash units. As a result of the very rapidly moving steel curtains, the electronic flash can be synchronized at about 1/125 sec. The centre contact makes it possible to connect camera and flash unit without using a coble.

The PRAKTICA LTL can be supplied either with or without built-in-self-timer.

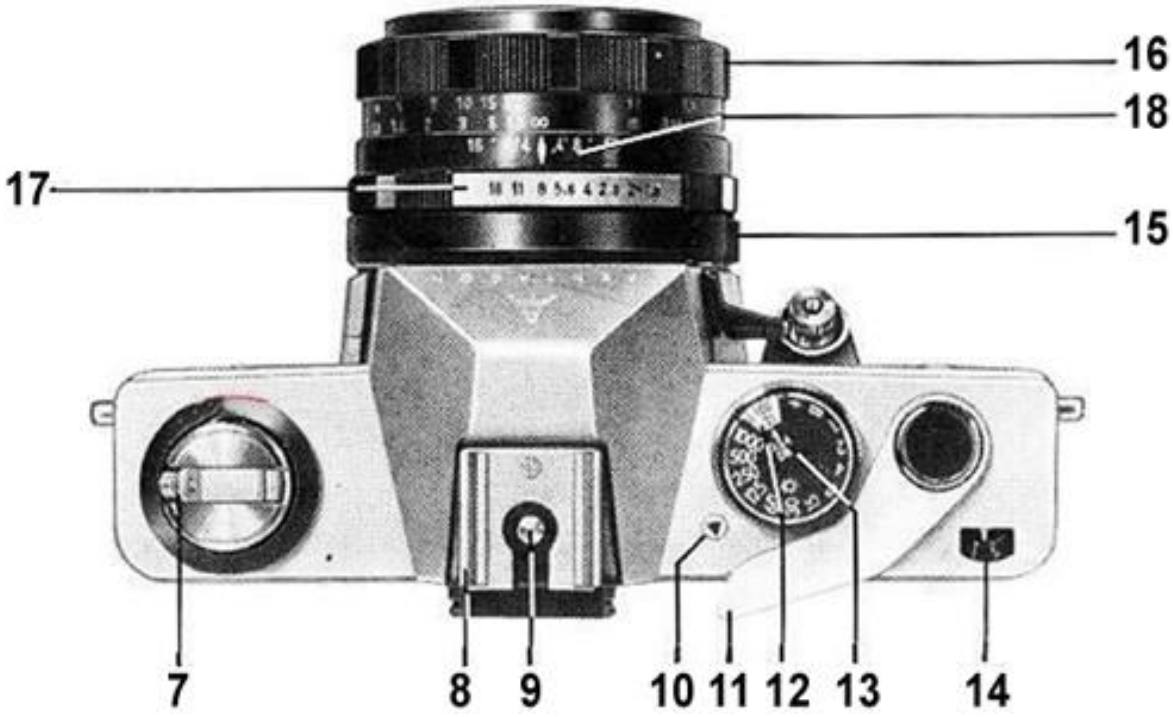
The pentaprism is firmly built in, and the focusing system, due to its Fresnel lens, reveals a finder image of maximum corner-to-corner brightness, in which also the meter needle and the readiness indicator are visible.

Microprism screen and groundglass circle ensure quick and perfect sharp focusing. In combination with its wide range of accessories, the PRAKTICA LTL may be employed for a great variety of special photographic activities.

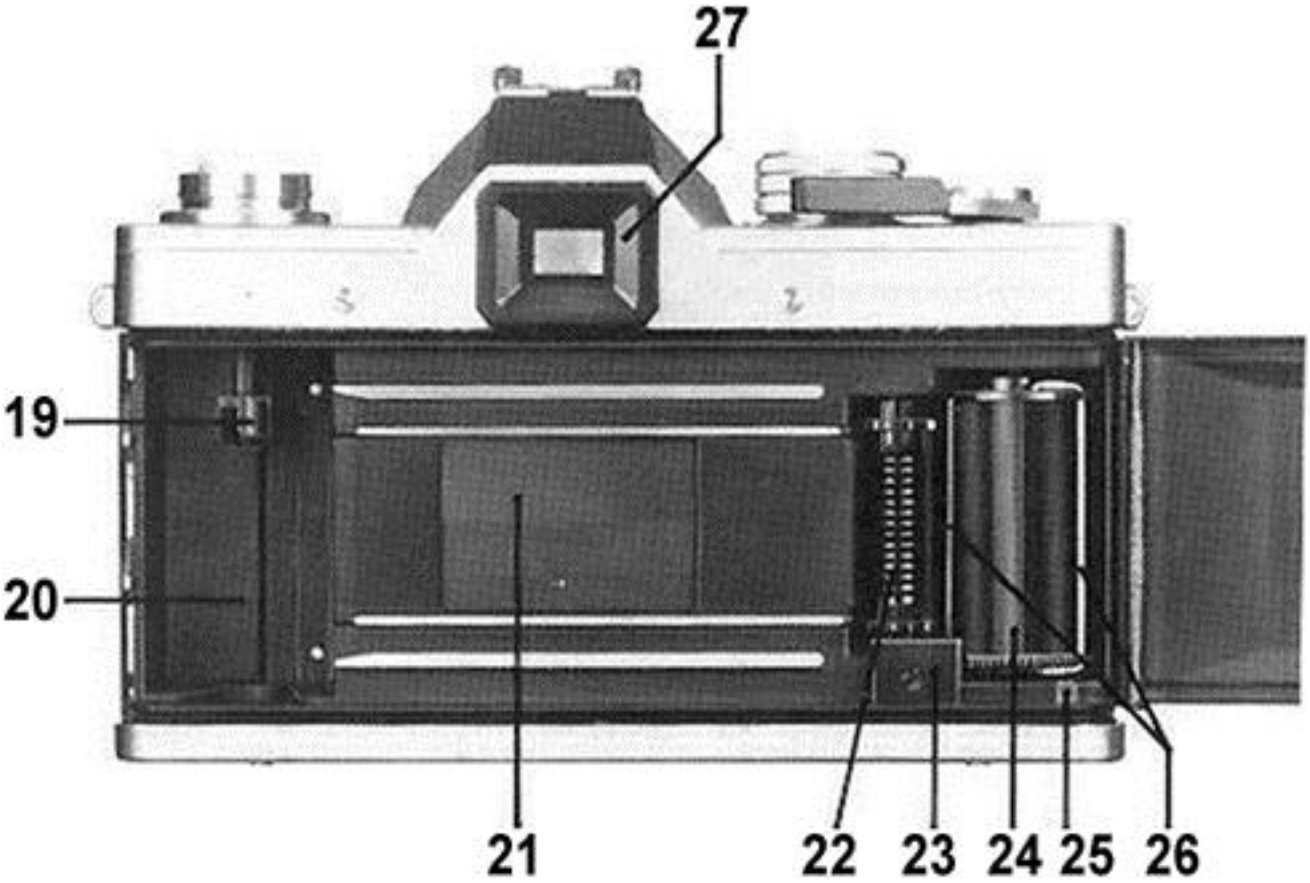
## Control Parts of the Praktica LTL



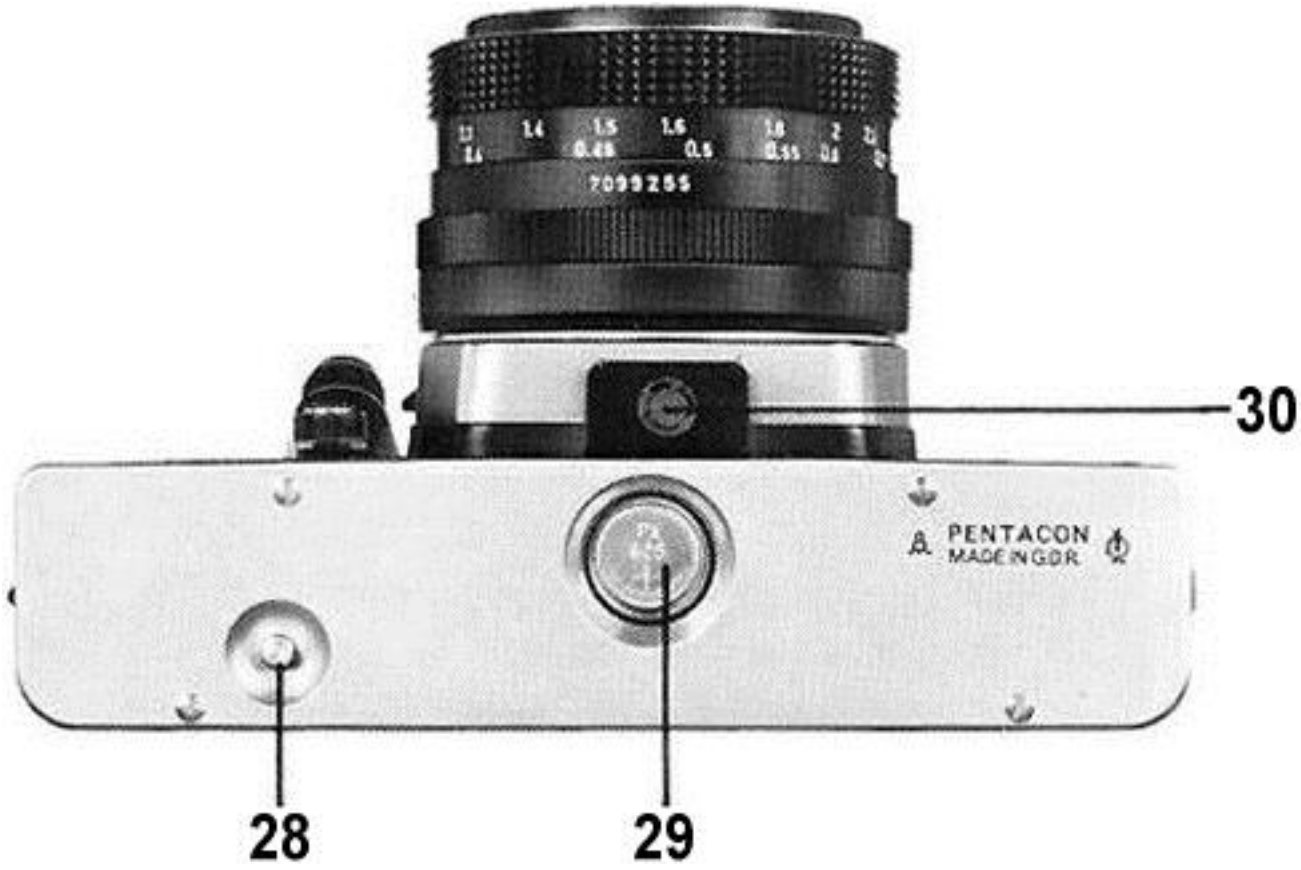

1 – Knob for setting the shutter speeds;
2 – Metering key;
3 – Shutter release;
4 – Cocking lever for self-timer;
5 – Self -timer release knob;
6 – Rewind knob.




7 – Rewind crank;
8 – Accessory shoe;
9 – Centre flash contact;
10 – Exposure speed index;
11 – Rapid wind lever;
12 – Film speed scales;
13 – Film speed indicator;
14 – Exposure counter;
15 – Manual stop down key;
16 – Distance setting ring;
17 – Diaphragm setting ring;
18 – Depth-of-field scale.



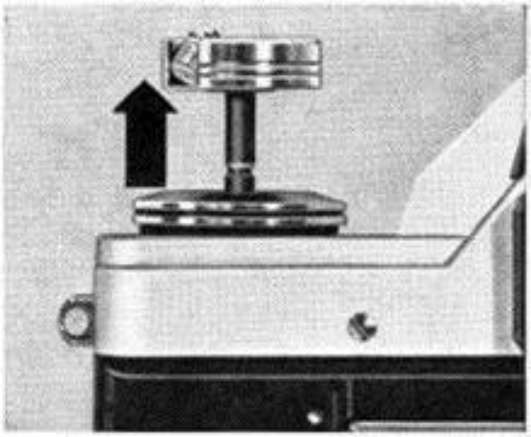

19 – Rewind catch;
20 – Cartridge chamber;
21 – Metal-bladed focal-plane shutter;
22 – Transport sprocket;
23 – Supporting piece;
24 – Take-up spool;
25 – Green marking point;
26 – Wire brackets.




28 – Rewind release knob; 29 – Battery lid; 30 – Tripod nut.

**A. Opening the camera back**

Pull rewind knob (6) upward until you feel hard resistance. The camera back is thus unlocked and can be opened. The exposure counter (14) will automatically jump to zero position.

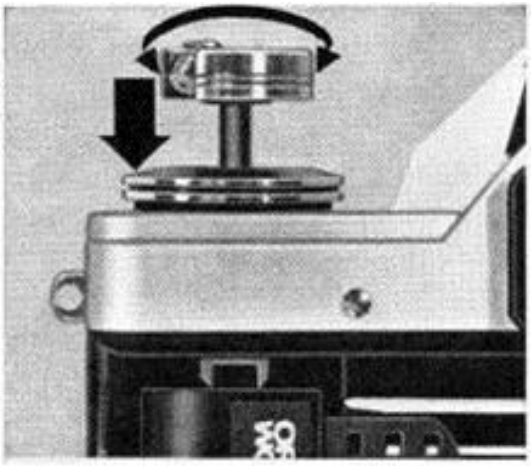


**B. Inserting the film**

Any type of 35 mm film in commercially available standard cartridges may be used. The cartridges contain film lengths for 36, 20 or 12 exposures in the 24 mm × 36 mm format. To ensure that light enters the slit of the cartridge the film should not be loaded in direct sunlight. The shade of your own body will suffice.

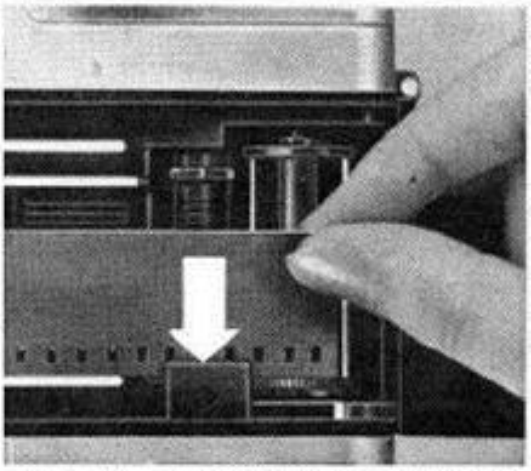
By having pulled out the rewind knob (6) to open the camera back you hove withdrawn the rewind catch (19) from the cartridge chamber (20), and you can now place the cartridge into the cartridge chamber.

Push the rewind knob, with slight backward and forward movements, right back into the camera. The rewind catch will engage in the core of the cartridge.



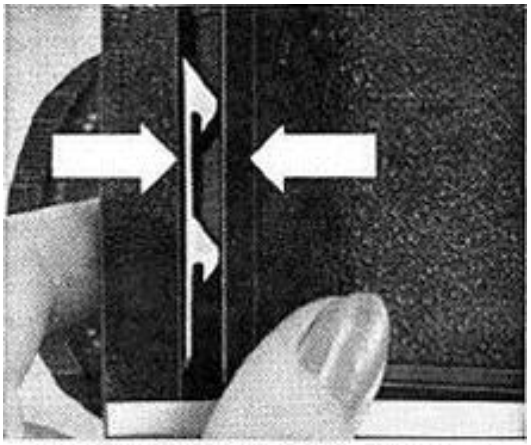
Push the beginning of the film projecting out of the cartridge from above as for as it will go underneath the supporting piece (23) on the transport sprocket (22). The beginning of the film strip must now lie on the core of the take-up spool (24) and meet the green marking point (25).

**The wire bracket (26) of the take-up spool must not stand upwards.** Should the happen to be the case the milled flange of the spool has to be turned to move the bracket wires to lateral position.



**C. Closing the camera back**

Take hold of the latch side of the camera back and press it firmly to the camera body. It will lock automatically.

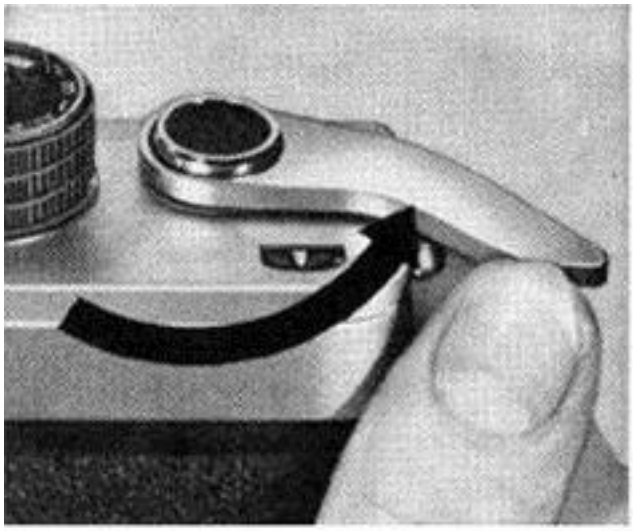


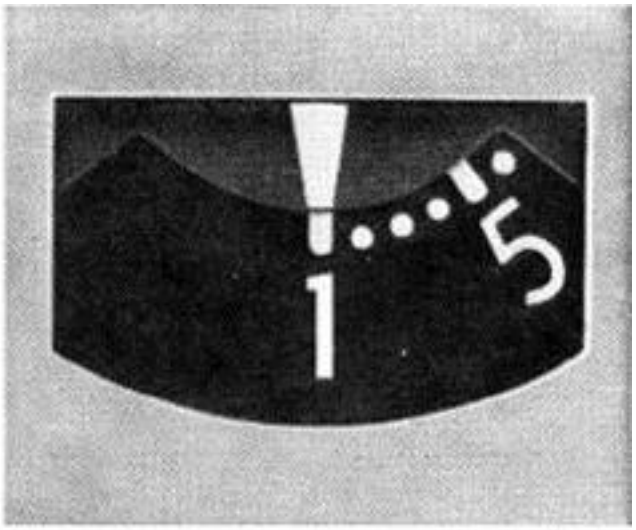
**D. Preparing for the exposure**

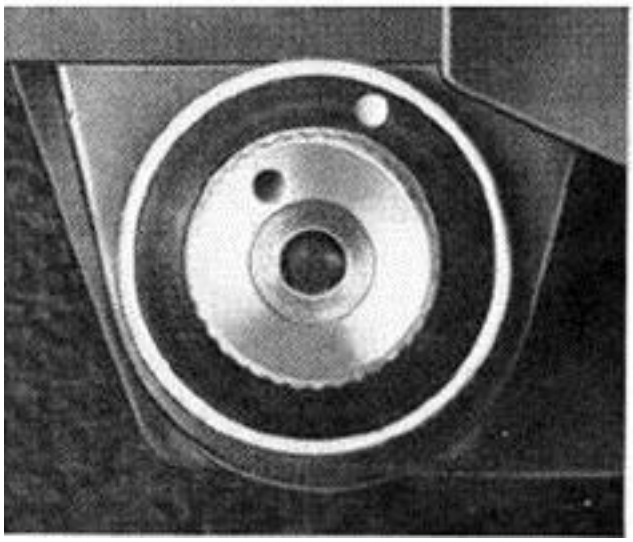
The rapid wind lever (11) has an idle stroke of about 15° when brought from its rest position into readiness for action. It can be easily grasped – a great advantage, especially in serials shots.

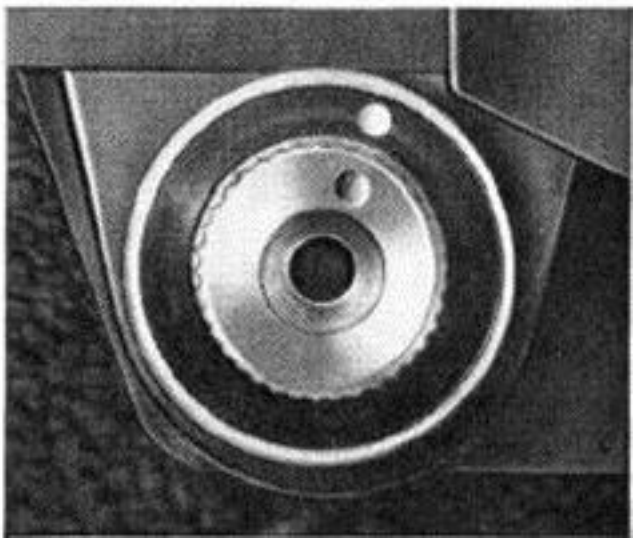
Swing the cocking lever around **as far as it will go**, move it back again, and depress shutter release knob (3). Repeat these operations and then cock the shutter once more. The automatic exposure counter (14) now stands on number "1". Special setting of the exposure counter is not necessary since it starts working automatically when the camera back is closed.

To avoid inadvertent tripping, the shutter release (3) is provided with a locking device. The release mechanism is locked when the red dots on the knob and on the outer ring meet. The mechanism is unlocked by rotation of the knob through 90°.





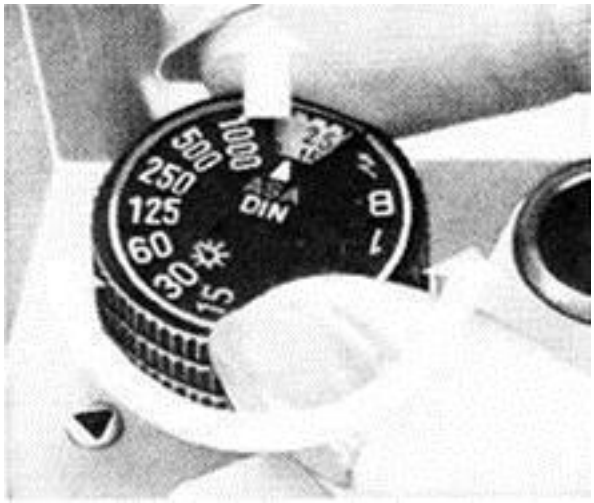





**Shutter can be released** **Shutter release locked**

**E. Setting the exposure speed**

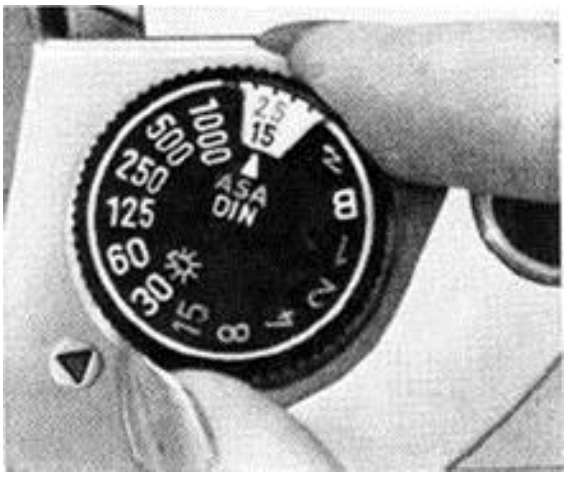
For the automatic exposure control, the film speed value has to be set. This is done by lifting the milled ring of shutter-speed setting knob (1) and rotating it until the speed value of the film in the camera (DIN or ASA) on scale (12) stands opposite the white indicator (13). When lowered, the milled ring clicks in next to the selected film speed numeral.



**F. Setting the film speed**

The metal-bladed focal-plane shutter can be set for exposure speeds ranging from 1 sec. to 1/1000 sec. When set on "B" the shutter remains open as long as the release knob (3) is being depressed. For exposures of a longer duration a cable release with locking device should be used, which can be screwed into the thread in the body release knob. For exposure speeds in connection with flash units please refer to Section O.

The slow speed exposures from 1 sec. to 1/15 sec. are marked on the scale of the shutter-speed setting knob (1) by orange-colored numerals. For exposures to be made of these speeds a tripod is required. The values for instantaneous shots from 1/30 sec. to 1 /1000 sec. are marked in white.




The exposure speeds are set by rotating knob (1) until the desired numeral coincides with the orange-coloured triangle (10) on the cover plate of the camera. Please note, when setting the exposure speeds that the milled ring of the setting knob must not be lifted up since this would alter the film speed setting and cause the automatic exposure system in the PRAKTICA LTL to give incorrect results.

The exposure speeds can be set either before or after the shutter has been cocked. The setting knob clicks in of every numeral. Intermediate values ore **not** adjustable.

**G. Setting the diaphragm**

On the lenses with automatic pressure diaphragm (APD) the desired aperture numeral on the diaphragm setting ring (17) simply has to be brought to meet the red index mark on the lens mount. At first, the diaphragm remains fully open, and then closes down to the preselected value when the shutter release is depressed. The automatic diaphragm mechanism in the PRAKTICA LTL causes the pressure diaphragm to function as an automatic spring diaphragm. Regardless of the speed with which the shutter release (3) is depressed, the diaphragm will spring to the preselected value and then open again immediately after the shutter has run down.

For checking the depth of field in the viewfinder image, most lenses can be stopped down, before the exposure is made, to the preselected value or to the value determined by the light meter, by actuation of a manually operable key on the lens mount. In the PRAKTICA LTL, this may be very conveniently achieved also by means of the metering key (2).

**H. Automatic exposure control**

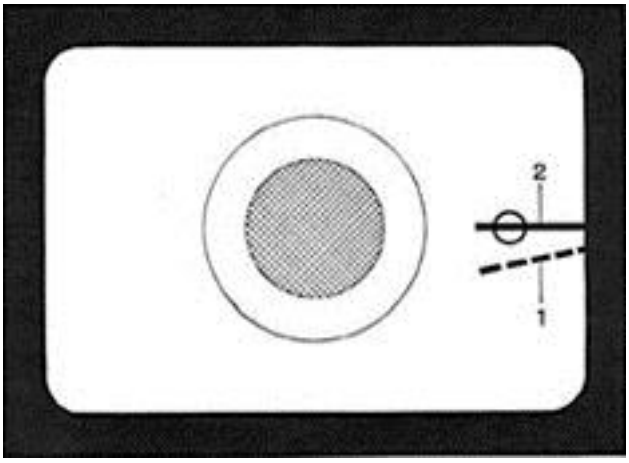
The automatic exposure control system in the PRAKTICA LTL offers two possibilities of measuring the exposure time:

1. You preselect the shutter speed and adjust the diaphragm numeral on the lens mount.
2. You preselect the diaphragm numeral and adjust the shutter speed.

The first method is applied if, for instance, movement of the object requires a certain exposure speed, whereas the second method will preferably be applied it a specific aperture has to be preselected to achieve the necessary depth of field.

***Metering with shutter speed preselected***

Preselect shutter speed by means of knob (1). Press metering key (2) above the shutter release towards the camera body **as far as it will go**, while at the same time rotating diaphragm setting ring (17) on the lens mount till the meter needle visible in the viewfinder is centered in the circular mark. The diaphragm of the lens opens or closes in accordance with the adjustment of the diaphragm setting ring. In lenses with automatic pressure diaphragm it opens after metering, when pressure on the metering key relaxes, and closes down automatically to the measured value when the exposure is made.


1. Resting position of the needle
2. Needle centered in circular mark

***Metering with diaphragm stop preselected***

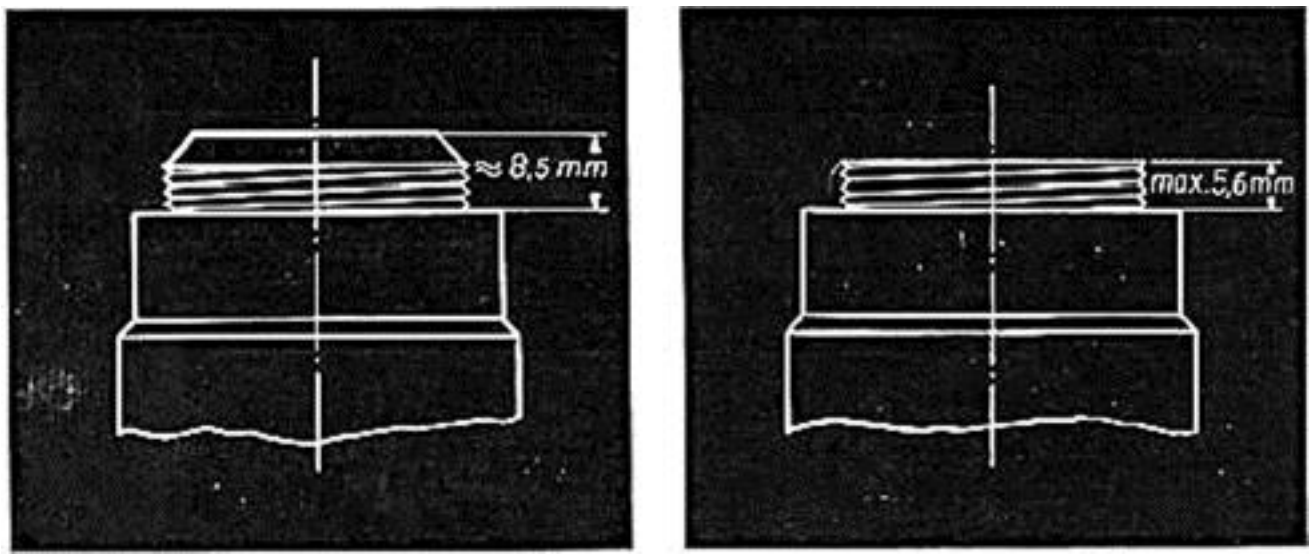
Preselect diaphragm numeral in accordance with exposure conditions by rotating diaphragm setting ring (17) on lens mount. Depress metering key as described above, while at the same time adjusting shutter speed setting knob (1) till the meter needle is centered. The shutter speeds must be set to the click stops. Intermediate values cannot be set. Should the meter needle not be accurately centered, fine adjustment has to be made by means of the diaphragm setting ring on the lens mount. The diaphragm ring can be set to intermediate values between the click stops.


***Using lenses without automatic diaphragm control***

In case lenses without automatic pressure diaphragm are being used, the lens will remain stopped down till the shutter is released. To achieve precise definition it is, therefore, advisable to focus with the lens wide open before taking the meter reading.

Owing to the construction of their barrels, some of the older types of lenses protrude so far into the inside of the camera body, as to impede the functioning of the automatic diaphragm, the mirror, and the shutter. The metering key (2) cannot be actuated either. By no means use force, so as not to cause damage to the camera! Lenses with barrels of this kind (see illustration left below) cannot be used in the PRAKTICA LTL.

**Not to be used** **To be used**




***Working range of the automatic exposure control system***

The following table shows within which range of shutter speeds the automatic system works in connection with the various film speed settings. Outside of this range the metering system is disconnected. The meter needle then moves to its resting position below the circular mark.

| Speed of film DIN | ASA | Exposure speed |
|---|---|---|
| 12 | 12 | 1 sec. to 1/125 sec. |
| 15 | 25 | 1 sec. to 1/250 sec. |
| 18 | 50 | 1 sec. to 1/500 sec. |
| 21 | 100 | 1 sec. to 1/1000 sec. |
| 24 | 200 | 1/2 sec. to 1/1000 sec. |
| 27 | 400 | 1/4 sec. to 1/1000 sec. |
| 30 | 800 | 1/8 sec. to 1/1000 sec. |
| 33 | 1600 | 1/15 sec. to 1/1000 sec. |

**I. Focusing**

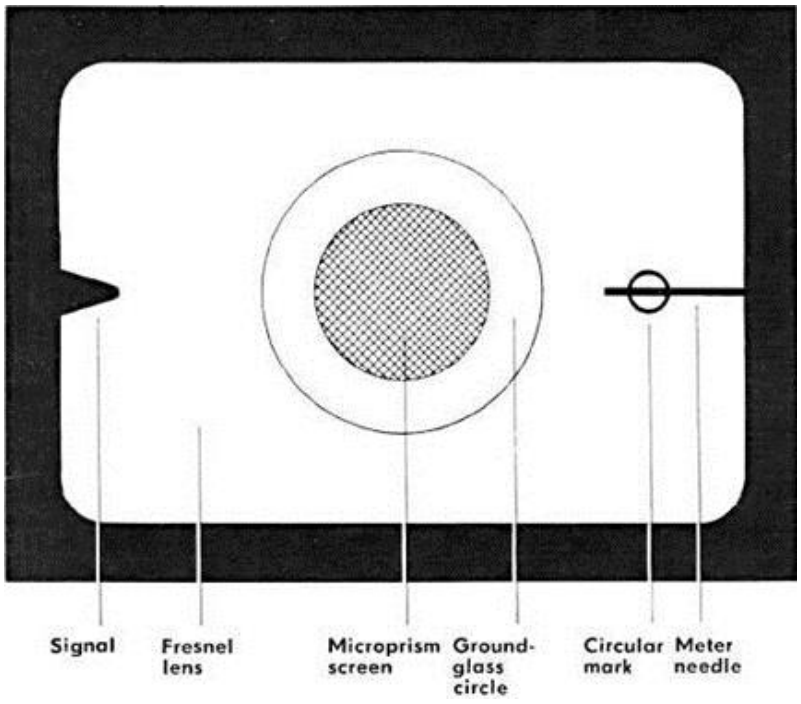
The prism viewfinder of the PRAKTICA LTL is fitted with a Fresnel lens, in the centre of which are the two focusing systems:

– the microprism screen right in the middle and

– the circular groundglass area surrounding it.

To achieve utmost definition, focusing is preferably performed with the lens at full aperture. In lenses with automatic pressure diaphragm (APD) this takes place in any case if the metering key is not being depressed.

If lenses without automatic diaphragm are being employed, focusing is performed, as already stated in Section (H), with the lens at full aperture (smallest diaphragm numeral) **before** the meter reading is taken.



***Focusing on the microprism screen***

The image in the microprism screen is in correct focus as soon as it appears clear and free from fuzziness. It is out focus if it looks fuzzy and shows screen elements. The microprism screen is preferred for focusing if the subject to be photographed is quite still or only slightly moving.

Microprism screen is fuzzy = unsharp

Microprism screen not fuzzy = sharp

***Focusing on the circular groundglass area***

The groundglass area is used for focusing it there is more movement in the scene. Also, it is often most appropriate in ultra-close-ups and in photomicrography.

The Fresnel section of the viewfinder is not meant to be used in focusing.

The depth of field is determined by means of the depth-of-field scale (18) arranged on the right and left of the red indicator on the lens mount.

While the camera-to-subject distance figure stands opposite the red mark, the limits of the range of definition can be read from the distance scale above the numerals on the depth-of-field scale, which latter are equivalent to the diaphragm numerals. As an example, the illustration shows a zone of sharpness from 2 to 5 m (7 ft. to 16 ft.) for a distance setting of 3 m (10 ft.) and an f/8 aperture.


Depress the metering key (2), or the manual stop down key (15) provided on most of the lenses, and you will also be able to judge the depth of definition in the finder image.

Persons with defective eyesight may work without their spectacles on by having a corrective lens corresponding to their long-distance glasses fitted into the eye cup which is then attached to the ocular mount (see Section “Accessories”).

For infra-red exposures the focusing point has to be slightly modified. By rotation of distance setting ring (16) the distance reading which, after focusing, stands next to the red indicator, has to be moved to meet the red dot (infra-red mark). Thus, the image produced by the infra-red rays is brought into correct position in relation to the film.

**K. Releasing and cocking the shutter**

Before releasing the shutter, please note the following:

1. Make sure that the shutter release (3) is unlocked (see Section D).

2. If the signal is visible in the left side of the viewfinder, **the camera is not ready for exposing**. The shutter has to be cocked!

3. For exposure speeds of 1/15 sec. and slower, a tripod and a cable release have to be used.

Your PRAKTICA LTL should be held so that it lies firmly in both hands and you are able to actuate the shutter release comfortably.

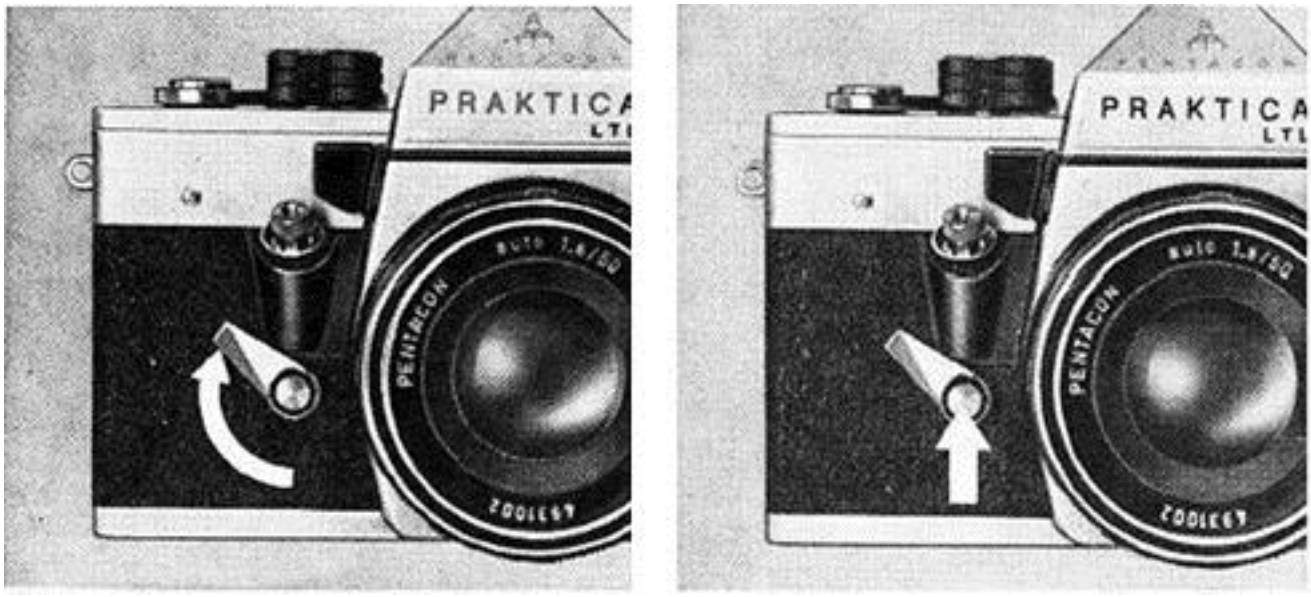
Depress the shutter release steadily – never with a jerk – to beyond the soft-running range until the shutter runs down.

The close proximity of metering key and shutter release enables releasing the shutter immediately after taking the meter reading, with the metering key still in depressed position and the lens remaining at taking aperture. But the shutter release can also be actuated alone, in which case APD lenses are fully open up to the moment of the exposure.

After the exposure, the signal on the left side of the viewfinder image becomes visible again, a sign that the shutter has to be cocked.

**L. Self-Timer**

The self-timer mechanism is cocked by moving lever (4) upwards as far as it will go. By means of pressure on knob (5) it will start running, and after about 10 seconds the shutter is released. The sell-timer mechanism may be cocked either before or after the shutter is cocked. Also, the shutter can be released in the usual manner by means of release knob (3) even if the self-timer is cocked.




**M. Changing the film**

When the exposure counter (14) indicates the number of frames obtainable with the film in the camera (12, 20 or 36 exposures) the film has to be rewound into the cartridge which is then taken out of the camera.

Depress rewind release knob (28) in the base of the camera. It will remain locked in this position.

Unfold rewind crank (7) out of rewind knob (6) and rotate it, not too quickly, in the direction of the arrow (mark on crank (7)). Rewinding at too great a speed may cause electrostatic charge and statics on the film.

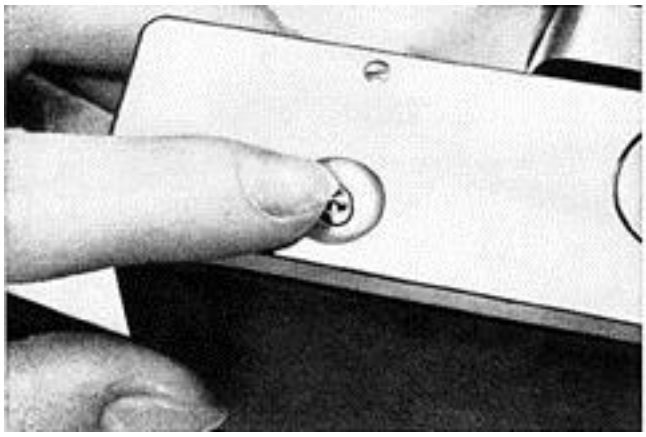
Just before rewinding is completed, greater resistance becomes noticeable until the film is disengaged from the take-up spool. After this, the crank turns quite easily.

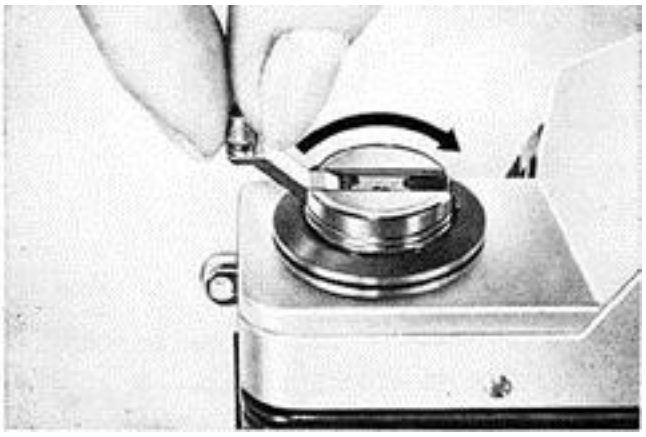
Fold the rewind crank back into the knob and pull the knob upwards as far as it will go. The camera back is thus unlocked and can be opened. Remove the cartridge with the exposed film from the camera.

Loading a new film, and subsequent cocking of the shutter, cause the rewind knob (28) to spring back automatically to its initial position.

Should you have attempted to expose more frames than the number marked on your film pocket, the cocking lever might, at the end, of the film, get jammed so that it cannot be swung around completely. **Never use force** in such a case as this might tear the perforation of the film, or the end of the film might slip off the spool inside the cartridge. In both cases, rewinding would be impossible.

It the cocking lever – as described above – could not be fully cocked, this must be completed, and the shutter released, after the usual rewinding procedure and before a new film is inserted.



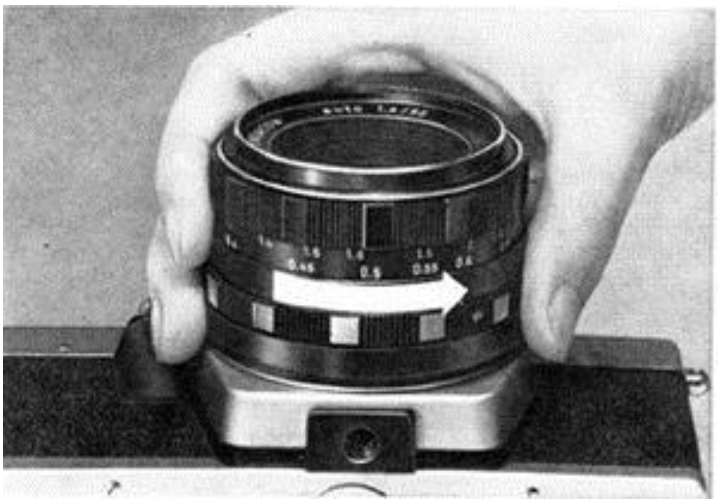


**N. Exchanging lenses**

The standard lens of the PRAKTICA LTL can easily be replaced by lenses of other focal lengths or apertures. You take hold of the lens body, as shown in the illustration opposite, and turn it in an anti-clockwise direction. The exchange lens is inserted accordingly and screwed tight by clockwise rotation.

All lenses having the international PRAKTICA screw fitting M42×1 may be used.

Only some of the older types of lenses are not suitable because of their structural design (please refer to Section H).



**Standard lenses:**

| | | |
|---|---|---|
| T from Jena | 50 mm f 2.8 | (APD) |
| Pancolar from Jena | 50 mm f 1.8 | (APD) |
| PENTACON auto | 50 mm f 1.3 | (APD) |

**Supplementary lenses:**

| | | |
|---|---|---|
| Flektogon from Jena | 20 mm f 4 | (APD) |
| PENTACON auto | 29 mm f 2.8 | (APD) |
| PENTACON auto | 100 mm f 2.8 | (APD) |
| PENTACON | 135 mm f 2.8 | (PD) and Adapter |
| S from Jena | 180 mm f 2.8 | (ASD) and Adapter (SD) |
| PENTACON | 200 mm F 4 | (PD) and Adapter |
| PENTACON | 300 mm f 4 | (PD) and Adapter |
| PENTACON | 500 mm F 5.6 | (PD) and Adapter |
| Mirror Lens from Jena | 1000 mm f 5.6 | (no diaphr.) and Adapter |

FD = pro-set diaphragm
APD = automatic pressure diaphragm
ASD = automatic spring diaphragm
SD = spring diaphragm

*) In conjunction with the PRAKTICA LTL camera the ADP is converted into the higher grade ASD.

**O. Flash exposures**

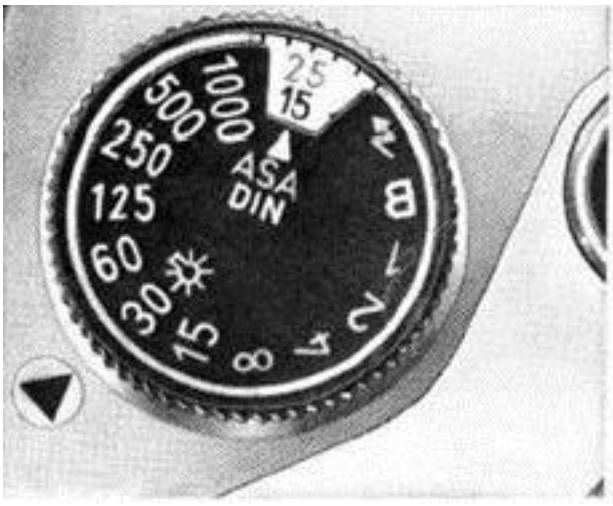
The shutter of the PRAKTICA LTL is desig-ned for synchronization with flash bulbs and electronic flash units.

When the flash unit is attached to the camera, the electric connection between camera and unit is automatically effected by means of the centre contact (9) in accessory shoe (8). Thus, no synchronization cord is required. Modern flashbulb and electronic units are equipped for this purpose with a suitable accessory shoe fitting.

For the use of flash units fitted with a synchronization card, an adapter piece with flash socket to accept the plug of the card has to be pushed into the accessory shoe of the PRAKTICA LTL.


***Flash bulb exposures***

In connection with bulbs for short flash duration, the shutter has to be set for a speed of 1/30 sec. – marked by the lamp symbol – or slower. The ignition circuit is closed only as long as the shutter runs down. No contact is made during the cocking procedure, so that flash bulbs can be exchanged also before the shutter is cocked.





***Electronic flash exposures***

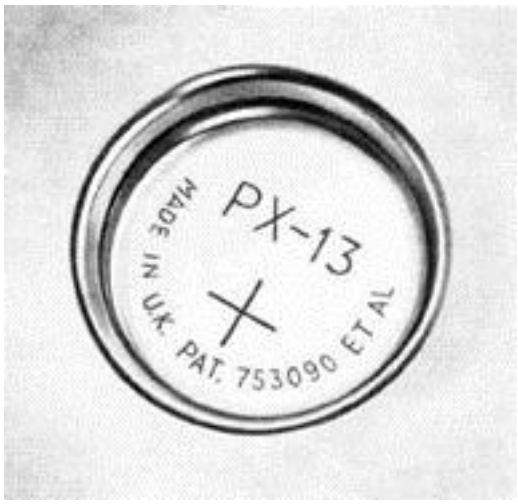
Owing to the extremely rapid travel of the curtains in the metal-bladed focal-plane shutter, synchronization is possible up to a shutter speed of 1/125 sec. The knob for setting the shutter speeds has to be moved to the flash symbol setting ⚡ next to "B".

***The guide number***

The diaphragm numeral to be set on the lens mount for flash exposures can be found with the aid of the "guide number". Manufacturers of bulbs and electronic flash units give these guide numbers on the wrappings or in the instructions for use as required for the various sensitivity grades of the films. The correct aperture is determined by dividing the guide number for the flash in use by the flash-to-subject distance figure. Formula for the flash unit attached to the accessory shoe of the camera:

$$\text{Diaphragm numeral} = \frac{\text{guide number}}{\text{flash-to-subject distance}}$$

**P. Exchanging the power source**

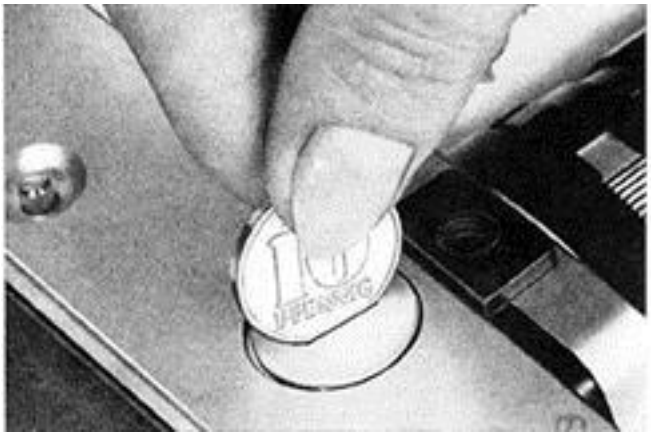



The automatic exposure system is powered by a Mallory mercury oxide battery PX 13, PX 625 or any other corresponding type having a nominal voltage of 1.35 V (*new type – non mercury oxide battery – Varta V 625 U*).

The battery compartment is on the underside of the camera. The lid (29) is screwed out with the aid of a coin and the new battery placed into the compartment with its positive pole (marked +) facing the lid. The lid is then screwed on and fastened with the aid of a coin.

Since the battery is used only for the short period of measuring the light it will last for about 2 years.

Please note that the consumed battery (primary cell) must not be charged or thrown into the fire Both might cause explosion!



**Q. Maintenance and care**

The PRAKTICA LTL is a highly valuable precision instrument. Perfect functioning of the camera depends very largely on proper handling and careful maintenance.

The camera must, above all, be protected against shock, dust and moisture. That is why the everready case should be used wherever possible.

From time to time the cartridge chamber and spool chamber, also the film track and camera back with film pressure plate must be cleaned with a soft brush. But be careful not to exert pressure on the steel blades of the shutter or to touch them with your fingers.

Neither should the optical parts (lens, eyepiece of viewfinder, mirror) be touched. Should this have happened, however, any fingerprints must be removed immediately with a piece of fine linen after a soft brush has been used to remove any possible dust.

The mirror should be dusted only in urgent cases with a very soft brush.

Never interfere with the mechanism of the camera. Repair work should be carried out only by one of our special Repair Workshops.

Special literature on the accessories for the PRAKTICA LTL, which are only briefly mentioned here, will be sent on request.

We request you kindly to follow these instructions for Use carefully. We can accept no liability for any damage which may be caused by improper handling of the equipment.

Kombinat VEB PENTACON DRESDEN
Deutsche Demokratische Republik

Further development of the PRAKTICA LTL and its accessories may lead to slight modification of the details given in this booklet.

## R. Accessories

It is the accessory equipment that makes the PRAKTICA LTL universally applicable in the vast range of photographic activities.

**Everready Case**

It protects the camera against shock and dirt without impairing its readiness for action.


**Cable Release**

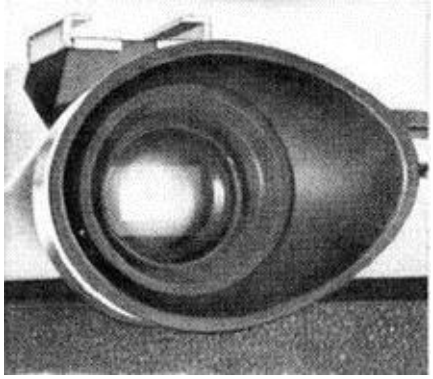
For exposures of a longer duration from the tripod, for close-up work and photo-micrography. For prolonged time exposures it is advisable to use a cable release with locking device.


**Lens Hood**

Eliminates disturbing flares in counterlight photography and protects the lens surface in rainy weather from getting wet. The lens hood must match the image angle of the lens.

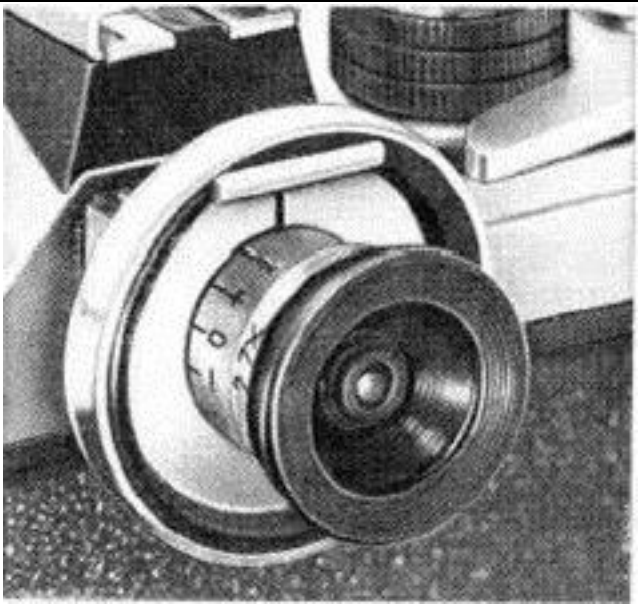
**Filters**

These are screwed into the filter thread of the lens mount. In colour photography, special types of filter – except in the case of UV and polarizing filters – are required.



**Rubber Eye Cup with Mount for correcting lens**

Keeps out extraneous light during focusing. Persons with defective eyesight may have a correcting lens corresponding to their long-distance glosses fitted in. The eye cup can be swung around for exposures in the vertical.



**Focusing Telescope**

The focusing telescope yields an additional 2.7-fold magnification of a section of the finder image. It is adjustable to the eye by means of a dioptre focusing mount.


**Angle Finder**

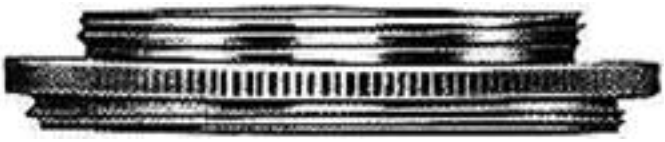
To be attached to the ocular mount. It is rotatable to any viewing direction and reveals a complete upright and laterally correct finder image. Adjustment by means of dioptre scale is possible.

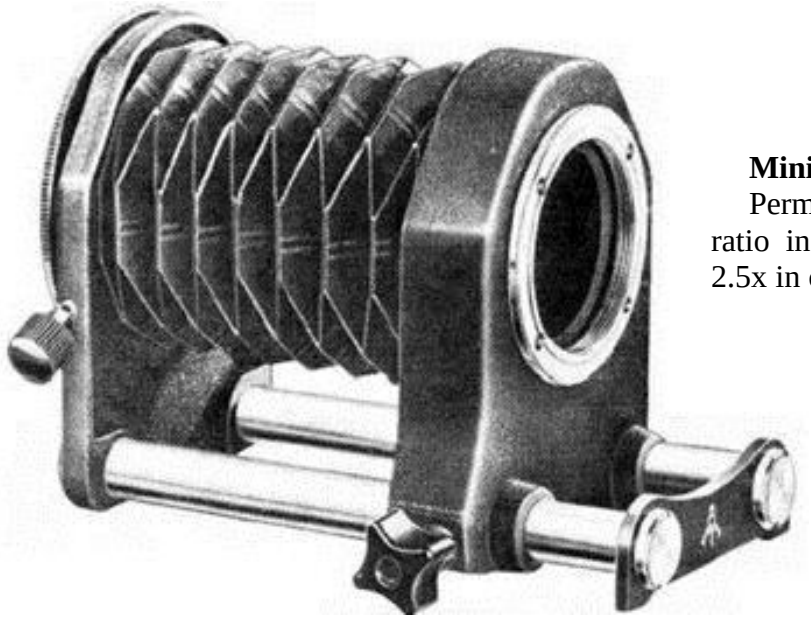
**Intermediate Rings**

These rings are screwed in between lens and camera either individually or combined, as a means of increasing the picture ratio in close-up work. Rings provided with plunger pins keep the automatic diaphragm mechanism operative.

**Reversing Ring**

To screw the lens into the camera by its filter thread for extreme close-ups with an image ratio exceeding 1.5x.



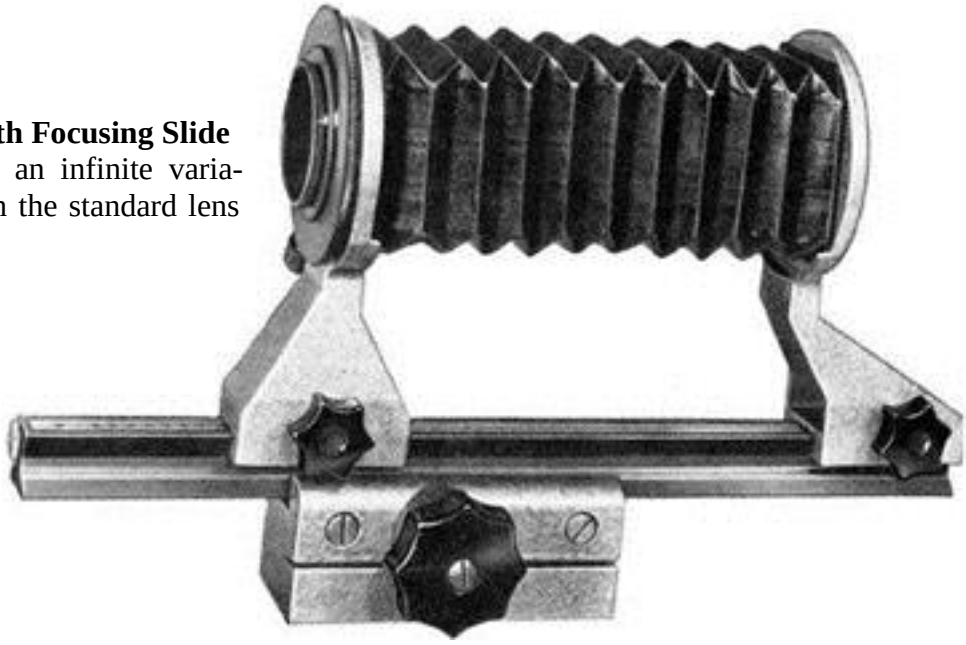


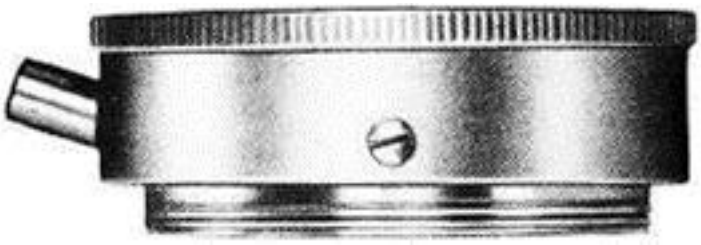
**Miniature Close-up Bellows Attachment**

Permits an infinite variation of the image ratio in close-up work from approx. 0.7x to 2.5x in combination with the standard lens.

**Bellows Attachment with Focusing Slide**

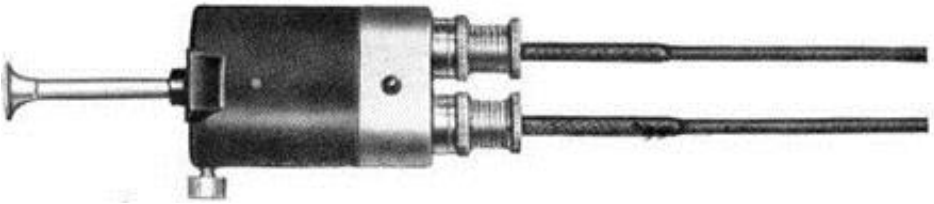
This equipment permits an infinite variation of the image ratio with the standard lens from 0.7x to 44x.





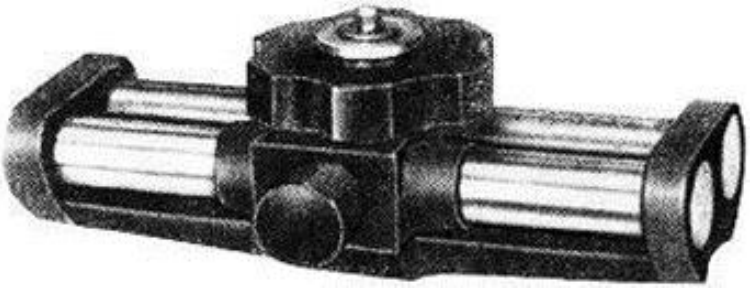
**Special Intermediate Ring with Cable release Connection**

For use with the bellows attachment, in connection with a double cable release, to keep the automatic diaphragm mechanism operative.



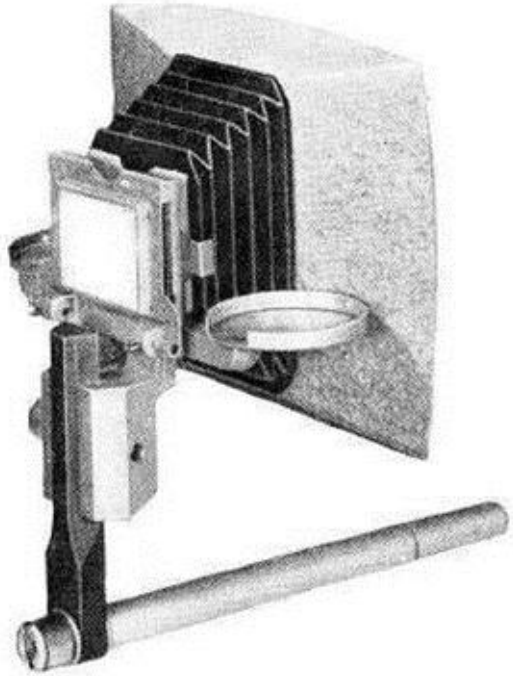
**Focusing Slide**

Of great advantage in close-up work with a tripod (e.g. the Universal Tripod). Enables adjusting the camera-to-object distance without moving the tripod.



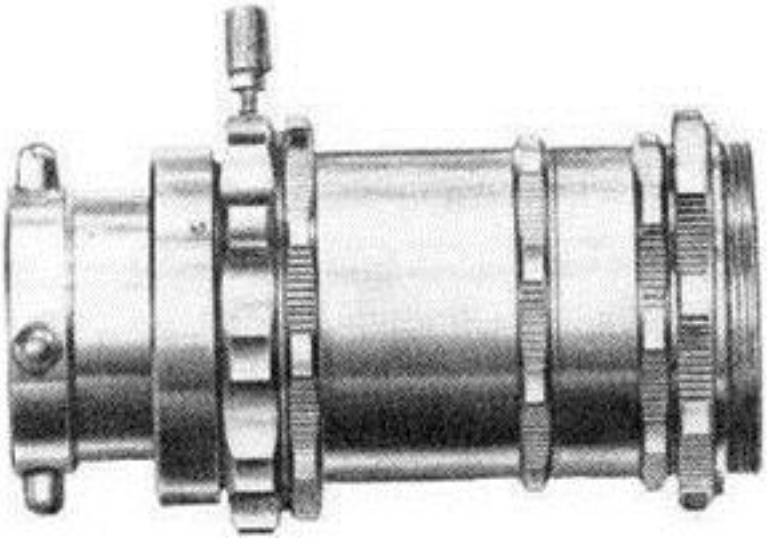
**Universal Tripod**

Extremely rigid, for varying position of camera from close to ground up to about eye level. All direction pan and tilt movement.



**Transparency Copying Equipment**

Supplementary device for the bellows attachment with focusing slide, as a means of making transparencies and intermediate negatives 24×36 mm from negatives or reversal transparencies.

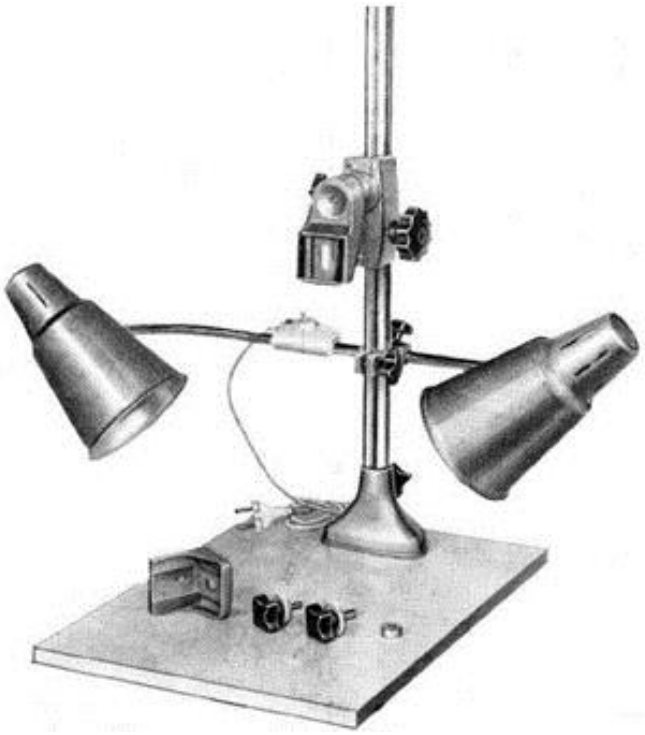


**Microscope Attachment Piece**

For connecting camera and microscope.

**Copying Stand with Lighting Equipment**

Suitable, in connection with the repro arm, for all kinds of reproduction and close-up work.



**Repro Arm with screw thread M49×0.75**

Extra fitting for the copying stand, to accept any reflex camera up to the size of 6×6 cm (2 ¼″ × 2 ¼″ in.) which is screwed in securely by the filter thread of its lens Adapter ring available for filter thread M58×0.75, in preparation for the M55×0.75 thread.