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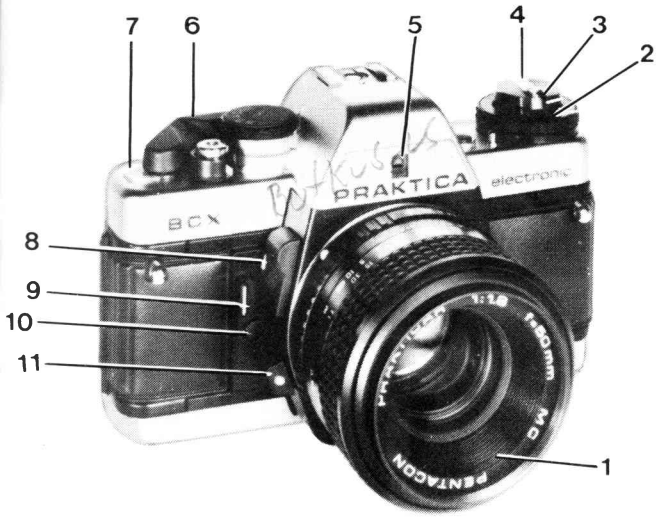
PENTACON

PRAKTICA BCX

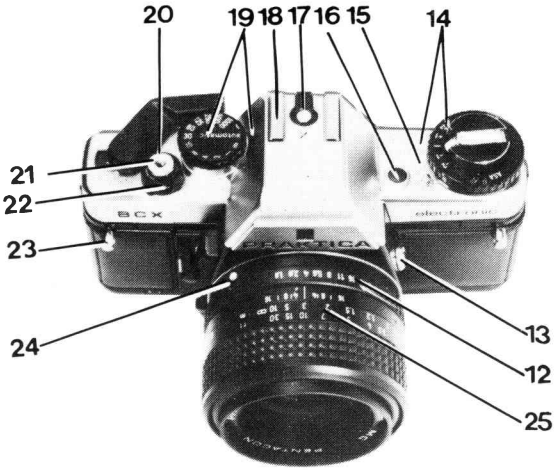
Operating Manual

PRAKTICA BCX

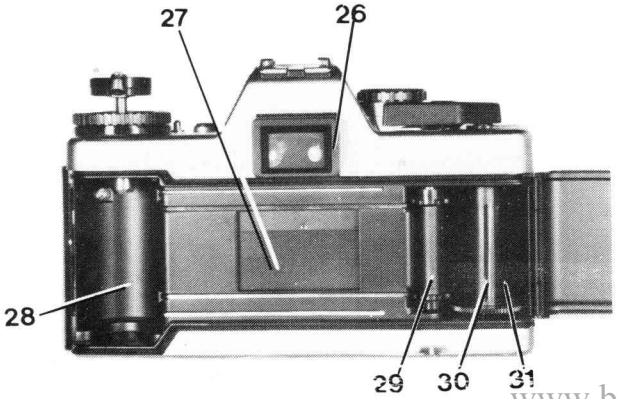
The **PRAKTICA BCX** is a fully automatic compact reflex camera with infinitely variable electronic shutter speed control within a speed range from $^1/_{1000}$ sec. to 40 sec.
Shutter speeds of any duration at B setting are electronically controlled, too. Through the electronic diaphragm-value transmission from the lens into the camera the internal metering can be made at open aperture so that the viewfinder image always remains at the brightest.
All data which are of importance for exposing are signalled by light-emitting diodes at the right hand edge of the viewfinder, e.g. the shutter speed to be expected, boundary values and automatic and semi-automatic modes, resp. Besides this, also the preselected diaphragm numeral is reflected into the lower edge of the viewfinder image. For intentional over- and underexposures the automatic mode can be manually corrected. Being equipped with the **PRAKTICA** bayonet, the **PRAKTICA BCX** offers a completely new and rapid lens connection.



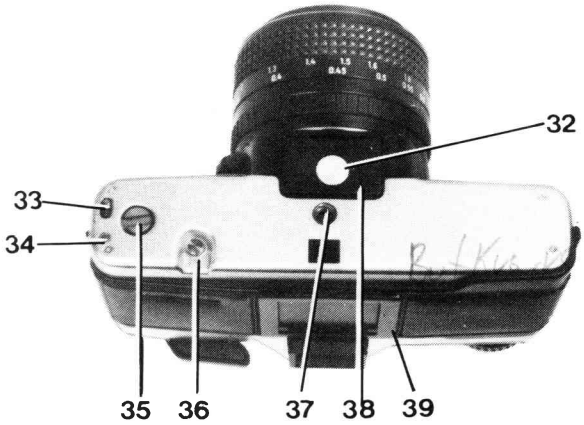
1 Filter thread
2 Film speed setting ring
3 Rewind knob
4 Rewind crank
5 Window of diaphragm value reflection
6 Cocking lever
7 Window of frame counter
8 Stopping-down key
9 Cocking lever for self timer
10 Release button for self timer
11 Release key



12 Diaphragm setting ring
13 Flash nipple
14 Setting knob for shutter speed correction, with marks
15 Release button for setting knob (14)
16 Memory key (memory and battery check key)
17 Centre contact
18 Hot shoe
19 Setting knob for shutter speed/automatics, with marks
20 Shutter release
21 Wire release socket
22 Shutter release lock with marks
23 Carrying lug
24 Mark for lens attachment
25 Depth-of-field scale



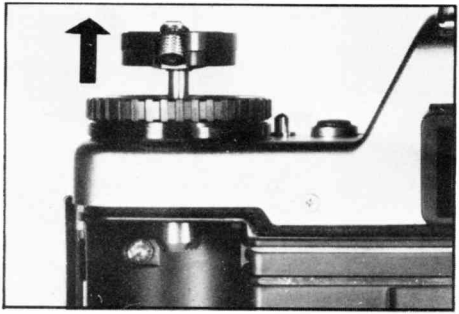
26 Ocular mount with fitting for accessories
27 Shutter
28 Cartridge chamber
29 Film sprocket
30 Slit to receive film leader
31 Take-up spool with clutch

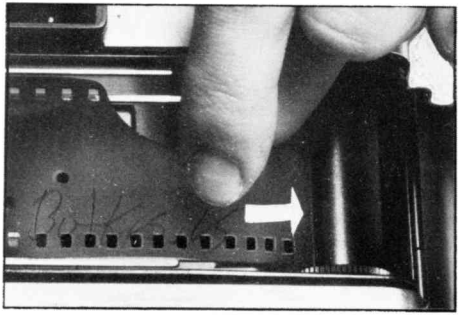


32 Locking knob for battery chamber
33 Contacts for motor drive
34 Fixation hole for motor drive
35 Coupling for motor drive
36 Rewind release button
37 Tripod socket
38 Lid of battery chamber
39 Memory holder

1

Loading the film changing the film





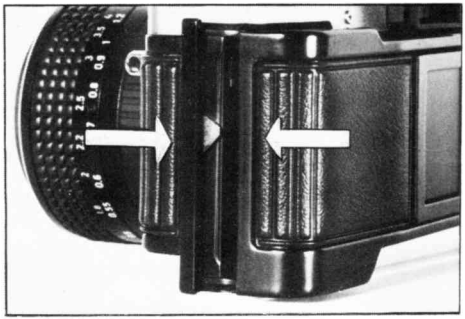
1

Opening the camera back

Pull rewind knob (3) upwards until you feel hard resistance. The camera back will jump open. Open the camera back completely; the frame counter (7) will automatically jump to zero position.

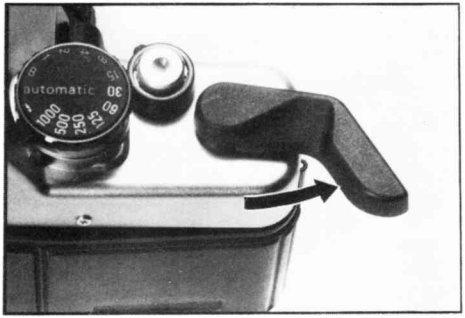
Loading the film

Load the film cartridge in the cartridge chamber (28).
Then depress completely the rewind knob (3) by simultaneously turning it. Push the leading edge of the film into the slit (30) of the take up spool (31).
The teeth of both the film sprockets (29) must engage the perforation of the film. Check the correct advance of the film by carefully actuating the cocking lever (6).



Closing the camera back

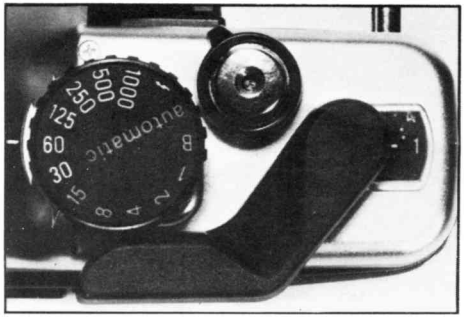
Take hold of the latch side of the camera back and press it firmly to the camera body until you hear its clicking-in.



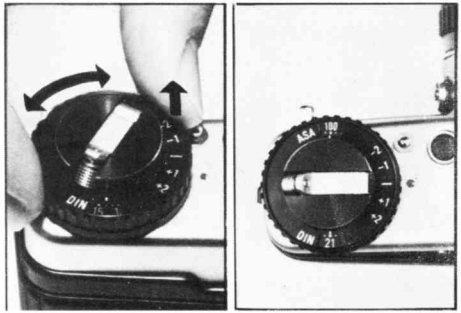
Preparing for the exposure

The cocking lever (6) has an idle stroke and can be moved into readiness for action (better ease of grasping for rapidly succeeding shots). Swing the cocking lever around to its stop, move it back again, and depress shutter release knob (20).

Attention! As with the automatic setting a long exposure time may be formed during which the cocking lever cannot be actuated, we recommend to set a short manual shutter speed. Repeat cocking once more until the automatic



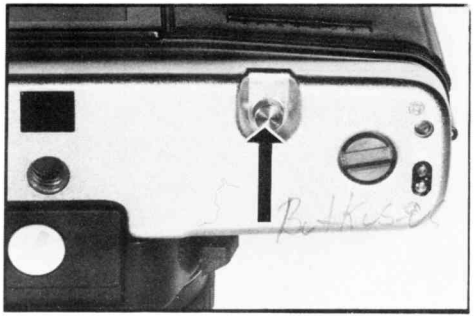
frame counter (7) indicates frame No. 1. Now, the camera is ready for shooting.

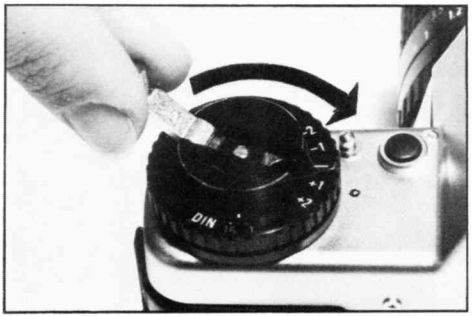


Setting the film speed

Lift the milled ring of film-speed setting knob (2) and rotate it until the speed value of the film in the camera stands opposite the relevant mark. When lowered, the milled ring clicks in again.

We recommend to slip the torn-off flap of the film box into the memory holder (39) to have an additional aid in remembering the type of the loaded film.





Changing the film

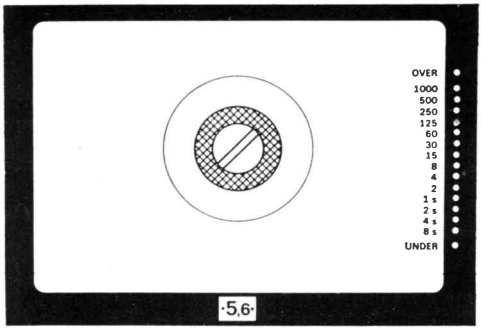
As soon as the shutter has run down, the frame counter (7) indicates the number of frames exposed on this film.
As soon as this relevant number of frames has been reached (red mark at frame 20 and 36, resp.), then change the film.
Depress rewind release button (36) to its stop, unfold rewind crank (4) and rotate it, not too quickly, in the direction of the arrow (clockwise direction) until greater resistance becomes noticeable and subsequently the crank turns quite easily, which indicates termination of rewinding.
Pull the knob upwards as far as it will go. The camera back is unlocked and the cartridge with the exposed film can be removed from the camera.
Don't change the film in full sunshine.

2

Exposure control Setting the shutter speed

Setting the shutter speed

According to the light conditions, to the preselected diaphragm numeral and to the film speed, the required shutter speed is infinitely and automatically chosen within the $^1/_{1000}$ sec. and 40 sec. range by the electronics of the **PRAKTICA BCX** which consists of several highly integrated solid state circuits.
Before shooting, the photographer can read this speed information in the viewfinder image on a 16 L.E.D. display together with the signal for OVER and UNDER exposure.
Light is metered on the through-the lens-mode at open aperture, i.e. focal length, filter, attachment lenses, and extension lengthening accessories are automatically taken into consideration. The preselected diaphragm numeral is electronically simulated and transferred into the computer of the camera. That the diaphragm of the lens will close to the set value only during the moment of exposure is effected by the stopping-down automatics.
When using lenses with the M 42 x 1 PRAKTICA thread and adapter, light metering is at working aperture.

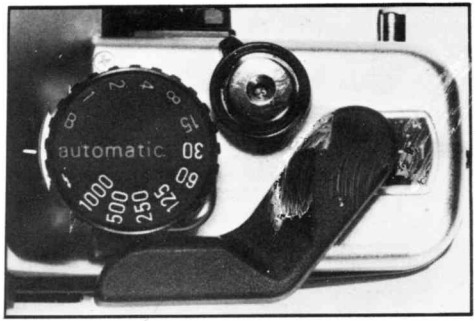


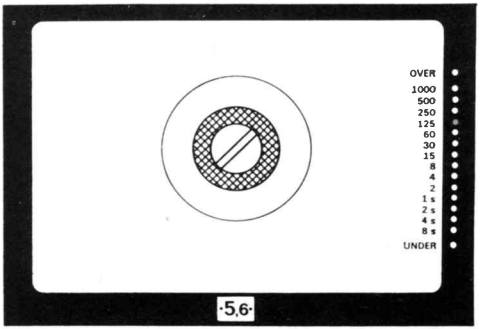
Preselection of the diaphragm numeral

Set the desired diaphragm numeral to opposite the mark on the lens mount by turning diaphragm setting ring (12). The set diaphragm numeral is reflected into the lower edge of the viewfinder image.

For film speeds of 21 DIN = 100 ASA take the below values as reference:

Light condition	Diaphragm numeral
Sunshine	8 . . . 11
Cloudy weather	4 . . . 5.6
Interior	1.8 . . . 2.8

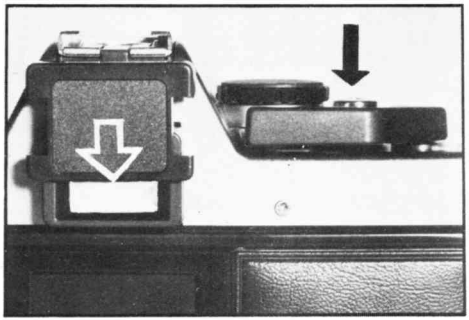




Automatic exposure control, indication

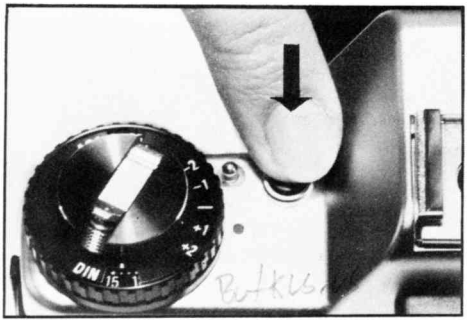
Set the shutter speed setting knob (19) to "AUTOMATIC" and switch on the electronic system by slightly depressing the shutter (20). The shutter speed selected by the automatic system can be checked on the LED display in the finder image and, if considered to be unsuited for the subject, it can be corrected by changing the preselected diaphragm numeral.

To each speed within the $^1/_{1000}$ sec. to 8 sec. range one display point is allocated, and infinitely selected intermediate values are indicated by simultaneously glowing two adjacent LEDs. Shutter speeds between 8 sec. and 40 sec. are signalled by the diodes with permanent light at "Over", passing under and over, resp. the values of $^1/_{1000}$ sec. and 40 sec. resp. with flashing light at "UNDER" and "OVER", resp. In the last case the shutter is always controlled with $^1/_{1000}$ sec. and 40 sec., resp.



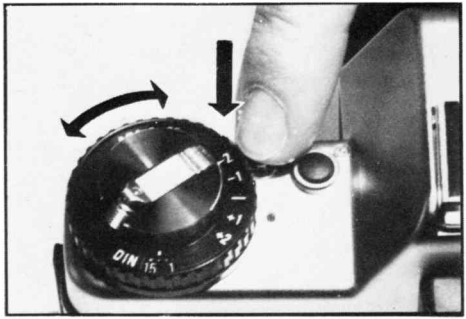
Releasing the shutter

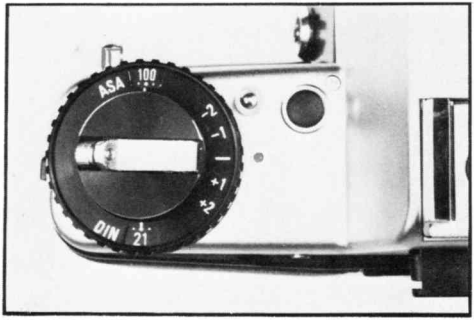
After having checked the shutter speed in the finder image, release the shutter by depressing it to its stop. When now the shutter release button is set free, the electronics is automatically switched off. But during long exposure times this setting free will not influence the processes, and the electronics will be switched off after the shutter has run down completely.
In case of a very long exposure time the process can be interrupted earlier (i.e. if the shutter has been released through an error); set the shutter speed setting knob (19) for a moment to "B" or " ⏲ ".
When on the automatic mode the camera is not held before the eye (but fastened on a tripod), cover the ocular with the protective cap to avoid faulty metering due to false light.



Storing the metered value

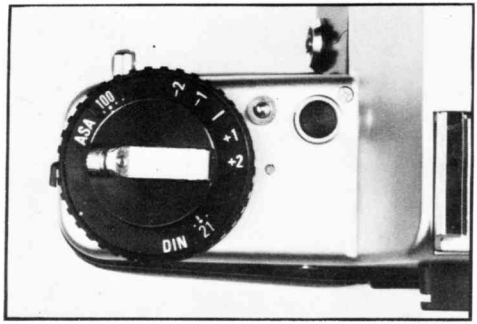
In special cases, e.g. when important picture elements are primarily metered, these values can be stored by depressing for a moment the memory key (16) together with the shutter release. The shutter must be cocked.
Until the shutter will be released no other metering is necessary; the shutter will form a shutter speed according to the value which had been stored.
By setting free the shutter and thus by switching off the electronic system, also the stored value, which is no longer required, can be erased without releasing the shutter again.



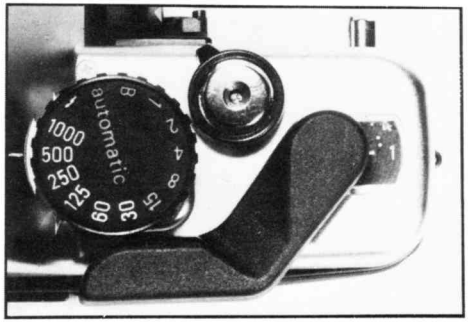


Correction

The shutter speed determined by the automatics can be intentionally influenced with knob (14).
Such correction will be necessary for subjects which differ highly from standard, e.g. a dark subject before a light background (+ 1, + 2) or a light subject before a dark background (– 1, – 2).
For this purpose, depress release button (15) and rotate knob (14) in the desired direction. As compared with the original position, the exposure time is lengthened by 1 and 2 speed values, resp. (corresponding to 1 and 2 diaphragm numerals, resp.) when setting to + 1 and + 2, resp. And exposure time is shortened when setting to – 1 and – 2, resp. Click stops are provided in half increments.

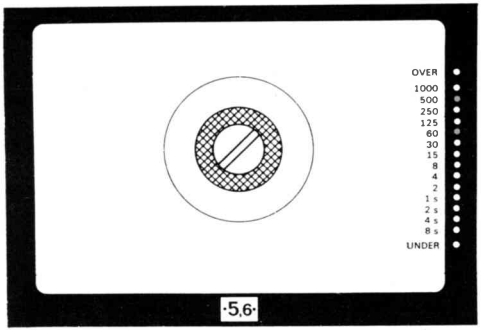


At the boundaries of the film speed range, i.e. at 12 DIN and 36 DIN, also correction over 2 steps will be possible (corresponding to 6 DIN and 42 DIN, resp.).
The range of shutter speeds cannot be expanded to beyond the values of $^1/_{1000}$ sec. and 40 sec. by such correction.
Attention! After having made such a correction, return the knob to its original position!

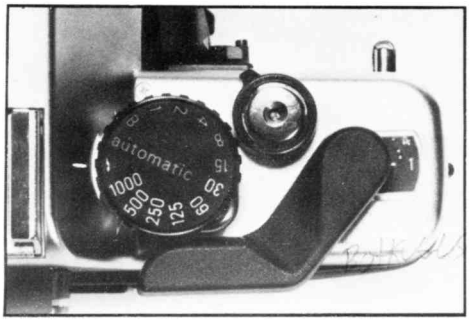


Fixed shutter speeds

For working without automatic shutter speed setting but with the fixed shutter speeds of 1 sec. . . . $^1/_{1000}$ sec., B, and flash speeds, set the shutter speed setting knob (19) to the desired speed. Speed checking in the viewfinder image is possible in this case, too. When the shutter release is slightly depressed, the LED allocated to the set shutter speed flashes, and simultaneously another LED informs, by continuous glowing, about the optimum shutter speed, the prevailing light conditions, the film speed, and the preselected diaphragm numeral. (Intermediate values are indicated by flashing of two adjacent LEDs.)



When you change the setting for diaphragm numeral or shutter speeds, you can bring about a compensation: the flashing signal approaches the permanent signal and finally vanishes on correct setting. For the flash speed and B settings the display is switched off.
The flash speed is mechanically controlled while all other shutter speeds incl. B settings are electronically, i.e. you need a battery (except of flash settings).
The automatic stopping down mode for the lenses remains operative.



Flash exposures

Synchronization can be with flash lamps or electronic flashes.

Insert the flash unit into the hot shoe (18): flash units provided with centre contact are so electrically connected with the camera, while for units without centre contact a plug must be plugged into the flash socket (13).

As both the connections have separate electrical circuits, two flash units can be used simultaneously.

For electronic flash units, set the shutter speed setting knob (19) to ⚡. As the shutter speed—about $^1/_{90}$ sec.—is formed mechanically, you can also work without battery.

On desire, any longer shutter speeds can be set.

Have in mind the reference numbers given for the flash units and take them into consideration when diaphragm or distance are determined.

3

Changing the lens

All lenses fitted with the PRAKTICA bayonet can be used, and moreover with the aid of an adapter, all lenses having the M 42 x 1 PRAKTICA thread, too. (For specifications of the standard lenses cp. the Table.)

Removing the lens

Depress the unlocking key (11) and turn the lens in counter-clockwise direction to its stop. Remove the lens from the camera.

Inserting the lens

Insert the lens so that the red marks on lens and camera stand opposite one another. Force the lens against the camera body, turn it in clockwise direction until you hear that the retaining pin clicks in.

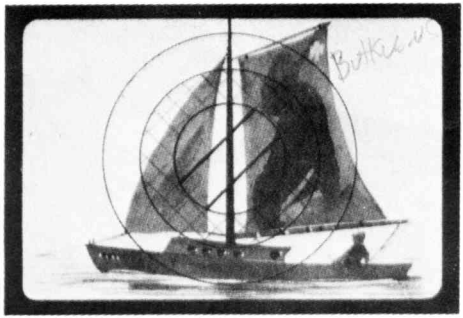
Adapter

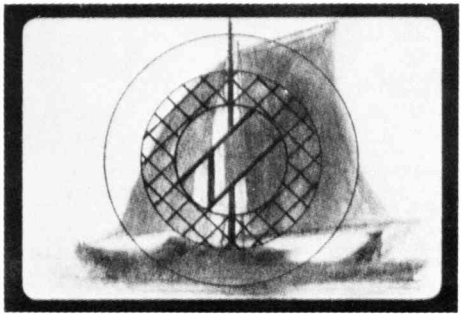
Automatic exposure setting as well as setting of fixed shutter speeds and manual compensation are possible for lenses with PRAKTICA thread attached by means of an adapter. The mode of automatic operation is to be switched to working-aperture metering in this case.
When inserting or removing the adapter, proceed as has been described for lenses.

Lenses with PRAKTICA thread are screwed into the adapter by turning them in clockwise direction to their stop.
There is another possibility: maintain the assembly of adapter and threaded lens and remove the lens only from the bayonet.

4

Focusing





Focusing

Focusing is possible by means of the novel triple wedge rangefinder system on the truncated microprism screen or the ground-glass field.

Triple rangefinder wedge

This wedge system allows high precision in focusing through its distinct staggering of vertical and horizontal contours.

Truncated microprism screen

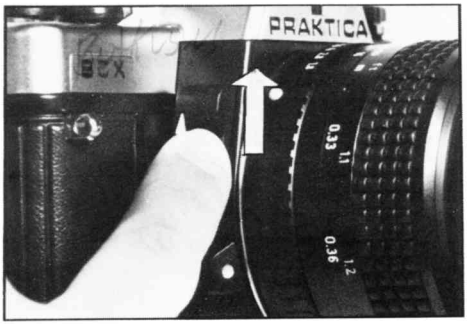
Focusing is correct when the picture on the microprism screen is clear and not fuzzy.

Groundglass field

Of particular advantage for macro and micro photography as well as for lenses with a small relative aperture (diaphragm numeral above 4). The groundglass field must show a clear image of good definition.

Depth-of-field indication

The limits of the depth-of-field range for the chosen diaphragm numeral can be taken from the depth-of-field scale (25) of the lens.
Example: Distance 3 m
Diaphragm numeral 8
Depth of field from about 2 m to 5 m.



Stopping-down key

The depth of field can also be checked in the finder image. For this test slide the stopping-down key (8) upwards.

Infrared photography

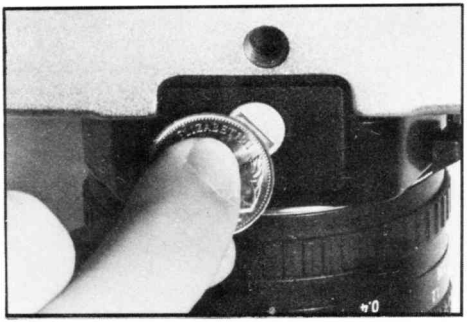
Slight correction in focusing is necessary for infrared photography: Set the distance value determined by focusing to opposite the infrared mark (arrow) on the lens.

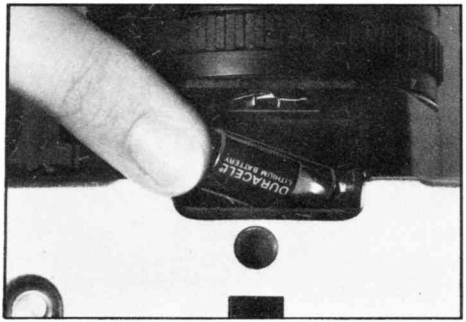
5 Energy source

To power the shutter-speed metering system, shutter speed control, and LED display, a Mallory PX 28 silver oxide battery or an equivalent type of 6 Volt is used. Under normal conditions, a new battery will be operative for about 2 years.

Checking the battery

For checking the battery depress the shutter release (20) and memory key (16). When the LED signal is seen unobjectionably, the battery will have a sufficient potential. If, however, the battery is used up, the diodes will light only weakly or not at all. Settings to "B" and ♪ don't allow such battery checking. The shutter must be cocked.



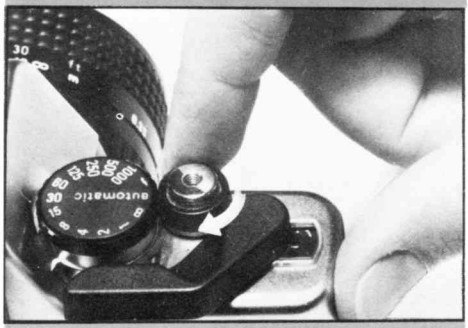


Changing the battery

To replace a used-up battery, turn the locking knob (32) of the lid (38) in counter-clockwise direction until the lid can be opened. Remove the battery.
Clean the contacts in the battery chamber and that of the new battery with a dry cloth.
Force the new battery with its plus pole against the elastic contact (cp. the polarity symbols in the lid of the battery chamber) and tilt it into the battery chamber. Shut the lid and lock it by turning the locking knob in clockwise direction.

6

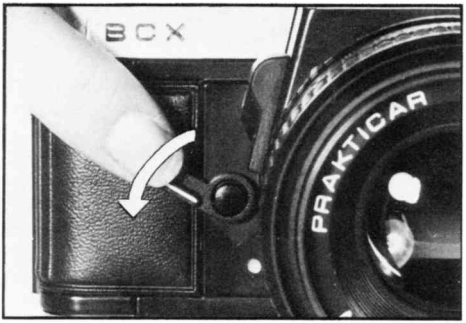
Shutter release



For ease of operation the shutter release (20) combines several functions.
Slightly depressing the shutter release to its first pressure point switches on the electronics while with further depressing the shutter is released.
In order to avoid current consumption by accidental switching on the electronics as well as by unintentional releasing the shutter, we recommend to lock the shutter before the camera is packed in the eveready case.

Locking the shutter release

You lock the shutter by rotating the ring (22), surrounding the shutter, in clockwise direction.
Locked position: Red marks on ring and camera top are opposite to one another.
The shutter is unlocked by rotating this ring in counter-clockwise direction.



Self timer

Cock the shutter, swing the cocking lever (6) of the self timer down to its stop, set exposure values and distance, release the self timer by depressing the release button (10) in the fulcrum of the lever. Delay period about 8 sec.

Don't cock the shutter when the self timer runs down!

7 Maintaining the camera

Don't use organic solvents, e.g. spirit, lacquer solvent, etc. when cleaning the camera.

The camera must be protected against shock, impact, dust and moisture. From time to time the cartridge and spool chambers, the film track and camera back 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. The mirror should be dusted only in urgent cases with a soft hair brush.

Within the range from + 40 °C to – 10 °C the camera will work unobjectionably. But for some reason, the mechanical and electro-electronical functions might differ somewhat or might be disturbed completely below or above this temperature range.

Sudden changes in temperature may result in condensate formation which might cause corrosion.

Special attention should be paid to the battery and to its contact points. These points should be frequently checked and cleaned, if required. The battery is sensitive to low temperatures and should be appropriately protected.

Remove the battery from its chamber when the camera is not used for a long time.

8

Accessories

Ocular cap
Attached to the finder ocular.
Protects the ocular against damages and keeps out extraneous light.

Adapter
For attaching lenses with M 42 x 1 thread.

Extension rings and bellows attachment
For extension lengthening in case of macro photography. 1 set of extension rings comprises one ring of 12.5 mm and one of 25 mm.
Extension lengthening through bellows attachment by 35 mm to 140 mm

Slide copying attachment (under preparation)
To make copies of available films.
Eye cup with mount for correction lenses

To be attached to the finder ocular.
Protects against disturbing light when checking the finder image. Correction lenses can be mounted.

Focusing telescope
To be attached to the finder ocular.
For exact focusing at 2.7x enlargement; diopter adjustment for eye deficiency.

Angle finder
To be attached to the finder ocular.
Adjustable for any viewing direction; diopter adjustment for eye deficiency.

Universal tripod
For universal use the tripod with the camera can be tilted and swivelled to all directions.

Microscope adapter (under preparation)
To connect camera and microscope.

Motor drive (under preparation)
For electromotive drive of the film at a picture frequency up to 2 frames/second.

Cable release
Used for long shutter speeds with the aid of a tripod, to release the shutter without blurring the image.

Lens hood
Eliminates disturbing light, e.g. in counterlight photography.

Filters
To obtain special photographic effects (e.g. UV filters, polarization filters, and other types of filters for photographic purposes).

Eveready case
Protects the camera against impact and dust.

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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 camera.
Further development of the **PRAKTICA BCX** may lead to slight modification of the details given in this booklet.

Kombinat VEB PENTACON DRESDEN

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