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Controls of the PRAKTICA nova I

1. Latch for camera back
2. Shutter release
3. Rewind knob
4. Flash socket
5. Camera back
6. Cocking lever
7. Setting knob for shutter speeds
8. Speed marking index (red triangle)
9. Follow pointer
10. Meter needle
11. Stop value dial
12. Window
13. Setting ring for follow pointer
14. Exposure counter
15. Film type reminder dial
16. Rewind release knob
17. Distance setting ring
18. Manual stop down lever
19. Rewind crank
20. Carrier catch
21. Transport sprocket
22. Take-up spool
23. Supporting piece
24. Marking point
While congratulating you on having acquired a PRAKTICA nova I we, at the same time, request you to treat your camera kindly. Please take your time and read these Instructions for Use carefully. Although of very rigid construction, the PRAKTICA nova I/ nova I B is, nevertheless, a mechanical-optical precision instrument. Handled carefully, your camera will reward you, even when subjected to rigorous conditions, by giving you beautiful pictures.

On the inside cover pages you will find specified illustrations. The reference numbers given in the text are printed in parentheses.
**Special features**  
of the PRAKTICA nova I

- The PRAKTICA nova I is a single-lens reflex camera for the 24 x 36 mm picture format.

- Prism viewfinder with bright, unreversed, and parallax-free finder image which, through the instant return mirror, is permanently visible and blacked out only for the short moment of exposing.

- Fresnel lens with two different methods of focusing. Warning signal in viewfinder.

- Conveniently placed rapid wind lever, smoothly working, obliquely mounted finger tip shutter release with locking device against inadvertent tripping. Shutter wind and film transport are coupled and locked against double exposures and blanks.

- Focal-plane shutter for speeds from 1 sec. to $\frac{1}{500}$ sec. and B.

- Non-rotating shutter-speed setting knob with click stops.

- Synchronization for bulbs and electronic flash.


- Interchangeable lenses with focal lengths from 20 mm to 1000 mm with PRAKTICA fitting, mostly equipped with automatic pressure diaphragm — APD. Wide range of accessories for special activities.

- Subsequent model developed from the PRAKTICA nova I is the PRAKTICA nova I B with built-in photoelectric exposure meter.
Abridged Instructions and Contents

A. Open camera back

B. Inserting the film: Pull out rewind knob (3) as far as it will go. Place full cartridge into cartridge chamber. Push rewind knob in again. Push lower perforation of film from above underneath the little support (23) over the transport sprocket (21), place beginning of film strip on to the core of take-up spool (22) as far as marking point (24). Wire bracket of take-up spool must not stand upward.

C. Close camera back

D. Setting speed of film:
   (Only on PRAKTICA nova IB)
   Set film speed by means of stop value dial (11) in window (12).

E. Setting type of film:
   Rotate film type reminder dial (15) until symbol required meets the red dot.

F. Preparing for the exposure:
   Actuate shutter release (2) and cocking lever (6) until exposure counter (14) stands on number 1.
Finding and setting the shutter speed:
Rotate speed setting knob (7) until the desired speed number coincides with red triangle (8).

Finding and setting the aperture:
Rotate diaphragm setting ring on lens mount until the desired numeral meets the red mark.

Measuring the exposure time:
(Only on PRAKTICA nova I B)
Direct camera towards object. Rotate setting ring (13) for follow pointer until pointer (9) coincides with meter needle (10). Read the appropriate aperture / shutter speed value and adjust speed setting knob (7) and aperture setting ring on lens mount accordingly.

Focusing:
Rotate distance setting ring (17) until the two part images in the rangefinder lens meet, or the image in the circular micro-prism screen is perfectly sharp.

Releasing and cocking the shutter:
Actuate shutter release (2). Red signal in viewfinder indicates that shutter has to be cocked. Swing cocking lever (6) around as far as it will go.

Changing the film:
After the last exposure, depress rewind release knob (16). Swing out rewind crank (19) on rewind knob (3). Rewind film in direction of arrow. Open camera back (5). Remove cartridge from camera.

Exchanging lenses

Flash exposures

Maintenance of camera and lens

Accessories

Please also read the complete Instructions for Use!
A  Opening the camera back

Push latch (1) for camera back in direction of arrow. Open camera back (5). Exposure counter (14) jumps automatically to zero.

B  Inserting the film

The PRAKTICA nova 1 accepts all commercially available types of perforated 35 mm film in standard cartridges. The cartridges with perforated 35 mm film yield 36 or 20 exposures in the 24×36 mm picture format — either on black-and-white film, on color negative film for color prints, or on color reversal film for color transparencies.

The cartridges are light tight. Nevertheless, we would advise you not to insert or exchange films in direct sunlight — the shade given by your own body will suffice.

Pull out rewind knob (3) as far as it will go.

Insert cartridge into cartridge chamber and push rewind knob (3) with slight backward and forward movements right back into the camera.

Push lower perforation of film from above underneath the little support (23) over the transport sprocket (21), place beginning of film strip on to the core of take-up spool (22) as far as marking point (24).

Wire holder of take-up spool must not stand upwards!
C  Closing the camera back

Close camera back (5) and press it on tightly (it locks automatically).

D  Setting speed of film

(Only on PRAKTICA nova I B)
Rotate stop value dial (11) until the film speed stands against the mark in window (12).
15 DIN, 25 ASA    27 DIN, 400 ASA
In the PRACTICA nova I, the stop value dial (11) operates as a film speed indicator. The DIN or ASA value on the film reminder dial (speed of the film in the camera) has to be set against one of the figures, 12, 20 or 36 (number of frames on the film strip in the camera).

E  Setting type of film

Film type setting dial (15) is to remind you which kind of film you have inserted into your camera. The symbol corresponding to your film is set against the red marking point. You will thus always know on which film you are taking your pictures.

1 Black-and-white film  2 Color reversal film for daylight  3 Color reversal film for artificial light  4 Color negative film for daylight  5 Color negative film for artificial light
Preparing for the exposure

Swing cocking lever (6) around as far as it will go and let it glide back.

(Move cocking lever only in winding direction. Forced movement in opposite direction will cause damage!)
Actuate shutter release (2).

The shutter release (2) is provided with a locking device to avoid inadvertent tripping. 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 degrees.

To show that the film has been inserted correctly and is being transported accordingly, the rewind knob must rotate in the opposite direction of the arrow while the shutter is being cocked.

Cock shutter and release it a second time and then cock it again. The automatic exposure counter (14) now stands on number 1.

Special setting of the exposure counter is not necessary; it starts working automatically when the camera back is closed.

Attention!

Be careful when cocking the shutter not to depress rewind release knob (16); this would cause overlapping of frames.

The coupling of shutter wind and film transport eliminates double exposures and blanks.

After the exposure, a red signal appears in the upper left-hand corner of the viewfinder. This means that cocking lever (6) has to be actuated to make the camera ready for the next picture. The signal disappears when the shutter is cocked.

Releasing of shutter not possible
Releasing of shutter possible

Releasing of shutter not possible! Camera ready for exposing
Actuate cocking lever
When taking your picture we would advise you to hold your PRAKTICA nova as shown in the illustrations. The camera can, of course be held in a different position — but it must lie firmly in both hands and you must be able to actuate the shutter release comfortably.
Finding and setting the shutter speed

Determine shutter speed and aperture with the aid of a photo-electric exposure meter or an exposure table. Set the speed by turning knob (7) and move the lens ring to the desired diaphragm numeral.

For PRAKTICA nova I B: Direct camera towards the object.
Rotate setting ring (13) for follow pointer until pointer (9) coincides with meter needle (10).
The speed values on the setting ring stand opposite the diaphragm numerals on the stop value disk (11). The speed values are combined into groups and marked by colors.
Red numbers mean longer exposure time (use a tripod)
White numbers mean short exposure time
They correspond in color to the values on the scale of speed setting knob (7).
Green numbers mean exposure time in full seconds.
These are not marked on the scale of speed setting knob (7).
At the "B" setting, time the exposure by the second-hand of a watch. Read the most suitable aperture / shutter speed combination and set the values on speed setting knob (7) and aperture lens ring accordingly.

Setting the exposure speed: Rotate speed setting knob (7) until the desired speed numeral stands against marking point (8).

White numbers = short exposure time 30 = 1/30 sec., 60 = 1/60 sec., 125 = 1/125 sec., 250 = 1/250 sec., 500 = 1/500 sec.

Red numbers = long exposure time
B, 1 = 1 sec., 2 = 1/2 sec., 4 = 1/4 sec.,
8 = 1/8 sec., 15 = 1/15 sec.

The speeds are graduated so that each figure indicates double, or one half of the speed marked by the next figure on the scale. The exposure speeds can be set either before or after the shutter has been cocked.
Long time exposure made on a tripod. Shutter speed setting B, exposure time about 4 seconds, f/8 aperture.

Subject displaying especially fast movements. Shutter speed 1/500 sec., aperture f/4.

Snapshot at a speed of 1/125 sec., aperture f/5.6.
Finding and setting the aperture

On the modern lenses with automatic pressure diaphragm in the PRAKTICA nova I/nova I B the desired aperture numeral need only to be clicked in on the aperture setting ring. The diaphragm closes down automatically when the shutter release is depressed. Most lenses can be stopped down before the exposure by a manually operable lever (18) to the preselected value to check the depth of field.

Attention!
When using lenses with pre-set diaphragm please note special reference made in Section N — “Exchanging Lenses”.

Measuring the exposure time

To find the correct exposure time it usually suffices to direct the PRAKTICA nova I B from its taking position towards the subject. Then rotate setting ring (13) for the follow pointer until the pointer (9) coincides with meter needle (10). Read the most suitable aperture/shutter speed combination on setting ring (13) and adjust speed setting knob (7) and aperture setting ring on lens mount accordingly.

This method of measuring may be applied to all average scenes not showing excessive light contrasts.
In some cases this method of measuring the subject has to be corrected by taking "close-up measurement", as for instance:

+ with light subjects in front of a dark background,
and vice versa
+ and essentially in portraiture and persons in general

For close-up measurement, approach your subject quite closely so as to measure only the important parts of the scene. Make sure that neither the shadow of your body nor the shadow of the camera covers the parts to be measured.

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**K Focusing**

To brighten up the finder image, the prism viewfinder of the PRAKTICA nova I/nova I B is provided with a Fresnel lens. This Fresnel lens is not to be used for focusing.

There are two different systems for determining image sharpness:
Focusing on the rangefinder screen
The rangefinder screen is used when the subject shows distinct upright lines in the horizontal or horizontal lines in the vertical format. On rotation of distance setting ring (17) the upright lines in the horizontal image will move to the left or right (as shown in example 1).
In the vertical image the horizontal lines move up or down. When the two part images meet precisely at the line of intersection the lens is in correct focus (as shown in example 2).
Also lenses without automatic diaphragm release must be opened to full aperture for focusing (diaphragm numeral not greater than 5.6), otherwise the rangefinder area would be partially or totally obscured.

Focusing on the micro-prism screen
The image is out of focus if it looks fuzzy or crumbles into screen elements (as shown in example 3).
Correct focusing is achieved as soon as the image in the micro-prism screen appears distinct and free from fuzziness (as shown in example 4).
Focusing is extremely reliable owing to the rather quick transition from unsharpness to sharpness and vice versa. It is advisable also in this case to work with the lens opened to a wider aperture.

Focusing on the circular ground-glass area
The ground-glass area encircling the rangefinder lens or the micro-prism screen may be used for focusing on subjects not having significant lines characteristic for rangefinder focusing.
The circular ground-glass area is applicable also in the field of macrophotography. This part of the viewfinder can be used in combination with a small lens aperture (large diaphragm numeral) or in case of greater scales of reproduction as, for instance, in close up or macro work. The remaining section of the viewfinder (Fresnel lens) is not meant for focusing.
After focusing, the distance setting is marked by the red triangle or stroke

Black numerals = meters
Red numerals = feet

Automatic depth-of-field indication

These are the figures on the right and left of the red focusing index. The exposure distance is set against the red mark. On the left of the mark, next to the desired diaphragm numeral, you read on the distance scale where the depth of definition begins, and on the right, where it ends.

For the 50 mm ZEISS Pancolar f/1.8: In accordance with the aperture setting, the two black marks refer to the depth of field. The distance figure stands against the red index. On its left you see where the depth of definition begins and on the right, where it ends: You move forward from the marks on the white or black rim surfaces toward the distance scale.

For infra-red exposures the distance setting has to be slightly modified. By rotation of distance setting ring (17) the distance reading (in meters or feet, or the infinity mark ∞), which after focusing stands next to the red indicator, has to be moved to meet the red dot (infra-red dot) on the right of the indicator. Thus, the image produced by the invisible infra-red rays, which is somewhat further away from the lens than the one designed by the visible light, is brought into the image plane and will appear sharp on the negative.
Releasing and cocking the shutter

Before releasing the shutter, please note the following:

1. Make sure that the shutter release of your PRAKTICA nova I is unlocked (see Section F, page 12)

2. If your exposure is to be longer than $\frac{1}{30}$ sec. it is advisable to use a tripod and a cable release.

3. If signal is visible in viewfinder, camera is not ready for exposing! Cock the shutter! (see Section F, page 12)

The shutter release (2) has to be depressed smoothly and evenly — by no means with a jerk — as far as it will go, until the shutter has run down. Do not leave hold of the body release, or cable release, before the shutter closes completely, otherwise the diaphragm will open before its time. (Danger of overexposure)

When once released the shutter cannot be released a second time. (Lock against double exposure).
Changing the film

When exposure counter (14) shows the figure indicating the number of frames marked on the film packet (12, 20 or 36), the film has to be exchanged.

Depress rewind release knob (16). Knob remains locked in this position! Swing out rewind crank (19) on rewind knob (3). Rotate rewind knob (not too quickly) in the direction of the arrow. Rewinding too quickly causes electrostatic charge and statics on the film.

Towards the beginning of the film strip greater resistance becomes noticeable. After this, the crank turns more easily, a sign that the film is fully rewound. Fold the crank down again.

Open camera back (5) by pushing latch (1) in direction of arrow. Pull up rewind knob (3) as far as it will go and remove the cartridge. On recocking of the shutter the rewind release knob (16) returns automatically to its initial position.

Should you have attempted to expose more than 36, 20, or 12 frames on your film strip, it may happen that cocking lever (6) gets jammed and cannot be swung around completely. In this case depress rewind release knob, at the same time swinging cocking lever (6) as far as it will go. The film can then be rewound as described above.
Exchanging lenses

Take hold of the lens mount and rotate it in anti-clockwise direction. The exchange lens is inserted by clockwise rotation. The camera accepts any lens with the M 42x1 screw fitting, with focal lengths from 20 mm to 1000 mm. High performance anastigmats of various focal lengths and speeds are available for the PRAKTICA nova I, thus opening up pictorial possibilities under every working condition.

<table>
<thead>
<tr>
<th>Name of lens</th>
<th>Focal length and f number</th>
<th>Diaphragm</th>
</tr>
</thead>
<tbody>
<tr>
<td>aus Jena Flektogon</td>
<td>20 mm f/4</td>
<td>APD</td>
</tr>
<tr>
<td>Meyer Orestogon</td>
<td>29 mm f/2,8</td>
<td>APD</td>
</tr>
<tr>
<td>Meyer Lydith</td>
<td>30 mm f/3,5</td>
<td>PD</td>
</tr>
<tr>
<td>aus Jena Flektogon</td>
<td>35 mm f/2,8</td>
<td>APD</td>
</tr>
<tr>
<td>aus Jena Pancolar</td>
<td>50 mm f/1,8</td>
<td>APD</td>
</tr>
<tr>
<td>Meyer Oreston</td>
<td>50 mm f/1,8</td>
<td>APD</td>
</tr>
<tr>
<td>Meyer Domiplan</td>
<td>50 mm f/2,8</td>
<td>APD</td>
</tr>
<tr>
<td>aus Jena T</td>
<td>50 mm f/2,8</td>
<td>APD</td>
</tr>
<tr>
<td>aus Jena Pancolar</td>
<td>55 mm f/1,4</td>
<td>APD</td>
</tr>
<tr>
<td>aus Jena Pancolar</td>
<td>75 mm f/1,4</td>
<td>APD</td>
</tr>
<tr>
<td>Meyer Orestor</td>
<td>100 mm f/2,8</td>
<td>APD/PD</td>
</tr>
<tr>
<td>aus Jena S</td>
<td>135 mm f/3,5</td>
<td>APD</td>
</tr>
<tr>
<td>Meyer Orestor</td>
<td>135 mm f/2,8</td>
<td>PD</td>
</tr>
<tr>
<td>aus Jena S</td>
<td>180 mm f/2,8</td>
<td>APD</td>
</tr>
<tr>
<td>Meyer Orestegor</td>
<td>200 mm f/4</td>
<td>PD</td>
</tr>
<tr>
<td>aus Jena S</td>
<td>300 mm f/4</td>
<td>PD</td>
</tr>
<tr>
<td>Meyer Orestegor</td>
<td>500 mm f/5,6</td>
<td>PD</td>
</tr>
<tr>
<td>aus Jena Mirror Lens</td>
<td>500 mm f/4</td>
<td>—</td>
</tr>
<tr>
<td>aus Jena Mirror Lens</td>
<td>1000 mm f/5,6</td>
<td>—</td>
</tr>
</tbody>
</table>

APD = automatic pressure diaphragm,
PD = pre-set diaphragm
Regardless of the lens in the camera the distance is always set in accordance with the reflex image in the prism finder of the PRAKTICA nova I.

Since the taking lens also acts as finder lens you obtain, at any focal length, a finder image coinciding, free from parallax, with the picture you will get on your film.

For the use of older interchangeable lenses, without automatic diaphragm, the diaphragm mechanism in the camera, underneath the instant return mirror, has to be disconnected.

Lift the mirror carefully by its frame (do not touch the coated surface with your fingers) and move the red-marked knob to the right as far as it will go; then let the mirror return to its 45° position.

Proceed in reverse order when using lenses with automatic diaphragm — red-marked knob must be moved to the left. Should the mirror be accidentally pushed up too far while the shutter is cocked it will remain in a horizontal position. One blank exposure will bring the mirror back to 45°.
4 PRAKTICA nova I pictures taken from the same view point:

1st picture 20 mm
2nd picture 50 mm
3rd picture 135 mm
4th picture 180 mm
Flash exposures

are made not only at night in the family circle or at social and festive gatherings. On dull days, too, you may use effect lighting to brighten up your outdoor portraits.

With black-and-white film flash can be employed as the sole light source, but it can also be combined with daylight or incandescent lamps.

When making your exposures on color film for daylight or artificial light, please read the instructions for use given with the film. In case of uncertainty, your photo dealer will be ready to help you.

There are two ways of synchronizing flash light to the PRAKTICA nova I. The cable of the flash equipment has to be connected to the corresponding socket (4) in the camera.

F synchronization

The F switch releases the flash about 10 ms before the image gate is completely uncovered by the shutter. It is used for short-burning flash bulbs and has the advantage of allowing for a shorter exposure time. For flash bulbs of the F or M class (e.g. AG 1, XM 1, XM 5, PF 1, PF 5) the exposure speed to be set by means of knob (7) may be 1/30 sec.

X synchronization

With the X synchronization the electronic flash, that flares up practically without delay, is released when the focal-plane shutter has completely uncovered the image gate.

When using electronic flash equipment, adjust speed setting knob (7) to the flash symbol. This is equal to 1/40 second, the shortest possible exposure speed to be employed with electronic flash. Insert flash cable into the right-hand (X) socket!
Regarding aperture settings you will also find directions, in form of so-called “guide numbers”, given on the wrappings or in the literature coming with the bulbs and units. The aperture of the lens and the distance between flash and subject are brought into harmony by dividing the guide number by the distance number:

Diaphragm number = guide number : flash-to-subject distance

P. Maintenance of camera and lens

Perfect pictorial performance and lasting service of your PRAKTICA nova I depend very largely on careful maintenance and proper handling of the camera.

Your camera is a valuable precision instrument, so protect your PRAKTICA nova I from shock and dust by using an everready case. Never use force when operating the mechanism. Make it a rule to work with “delicacy of feeling”.

Q. Accessories

Avail yourself of the “small” accessories of this great camera. They will help you to obtain interesting results in picture composition.

Cable Release

The indispensable accessory for longer exposure time and for many special activities.
Everready Case
It protects your valuable PRAKTICA nova I from shock and dust.

Focusing Telescope
An indispensable piece of focusing equipment yielding a 2.7-fold magnification of part of the image.

Universal Tripod
Extremely rigid, permits varying position of camera from close to ground up to approximately eye level; adjustable column serves as camera support.

Angle finder
This, too, is a useful focusing aid in working at worm's eye view on subjects difficult to approach. It may be fixed to the eyepiece of the viewfinder and adapted to faulty eyesight by means of a diopter scale.
Intermediate Rings

A means of increasing extension when photographing tiny objects and living creatures, also for copying illustrations and printed matter.

Intermediate Rings with Plunger

permit maintaining operation of the automatic pressure diaphragm without the need for a special intermediate ring.

Reversing Ring

To attach the lens to the camera by its filter thread and to achieve utmost sharpness of the image exceeding a ratio of 1.5.

Close-up Bellows Attachment

For an infinitely variable increase of extension, giving scales of reproduction from approx. 0.7 to 2.2. In PRAKTICA nova IB a 7 mm intermediate ring has to be inserted between camera and bellows attachment.

Focusing slide

A very useful accessory for close-up work on the Universal Tripod. Makes it possible to adjust the distance between camera and object without having to move the tripod.

Accessory Shoe

For attaching accessory equipment, e.g. a flash unit, to the camera.
Special Intermediate Ring with Double Cable Release
Keeps automatic diaphragm mechanism operative in connection with close-up bellows and intermediate rings.

Lens Hood
Eliminates disturbing flares and protects the front element of the lens from rain and snow.

Filters
For correct rendition of color values and striking effects in black-and-white photography.
Color filters yellow, green and orange are applicable only in combination with black-and-white film, whereas the UV filter and the polarizing filter may also be used with color material.

Carrying Strap, adjustable
To be recommended if you are using your PRAKTICA nova I without the everready case — connected to a flash unit.

Rubber Eye Cup
Keeps out stray light during focusing.

Mount for Correcting Lenses
For persons with faulty eyesight, to replace their spectacles.

Micro Attachment Piece
for connecting camera and microscope.

Special literature on the above only briefly mentioned accessories for PRAKTICA nova I/nova I B will be sent on request. Please write and let us know your particular wishes.

Further development of the PRAKTICA nova I/1B may lead to slight alterations of the details given in this booklet.
Finally, we ask you once more to read these Instructions for Use carefully, since we can accept no liability for any damage which may be caused by improper handling of the equipment.

KOMBINAT

VEB PENTA CON DRESDEN
Cross section of PRAKTICA nova I

A surface-coated mirror deflects the light rays coming through the lens on to the focusing system. The moment the shutter is depressed the mirror is swung out of the path of rays and, forming a light-tight cover over the focusing system, allows the light rays to pass freely on to the image plane, whereupon the shutter runs down. Immediately after the exposure the mirror returns to its viewfinder position (45 degrees). Thus, the finder image is almost permanently visible, showing what is going to appear on the negative.

No parallax error, since taking lens and finder lens are one and the same

The finder image is slightly smaller than the picture format. Everything visible in the viewfinder will appear on the film, regardless of distance or focal length. In picture composition, therefore, the finder image can be utilized to its very edges. This renders it possible to use lenses of various focal lengths as well as accessory equipment without the need for any extra finder attachments. There are also the advantages of the Fresnel lens. You always have the upright, unreversed, parallax-free reflex finder image to show you what your picture will be like.