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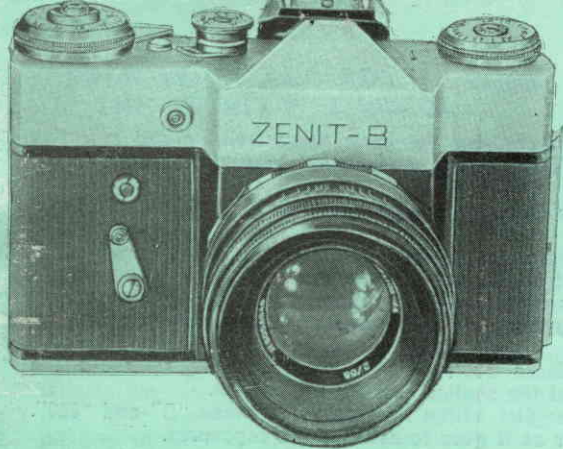
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REFLEX



CAMERA

**ZENIT**

**B**

## **ATTENTION!**

The present Instruction Manual contains the basic characteristics and essential operating principles of the ZENIT-B camera and cannot be regarded as a handbook on photography.

Before using the camera, make thorough study of the handling rules and operation procedure of the camera.

Due to ever-advancing development of the camera construction, there may occur minor differences between the text of Manual and the construction of your camera.

Screw out or screw in the lens only by the lens mounting ring.

Do not touch the surfaces of optical parts with fingers, because this may damage their coatings.

Do not rotate the shutter release button for no reason, while releasing the shutter, to avoid disengagement of the shutter cocking mechanism.

Do not rotate the exposure time dial within the interval between "B" and "500". Always wind the shutter as far as it goes to avoid blank exposures.

## APPLICATION AND ADVANTAGES OF THE "ZENIT-B" CAMERA

ZENIT-B is a single-lens reflex camera, fitted with a mirror of instant return type.

The instant return mirror permits continuous viewing of the photographed object, except the moment of exposure.

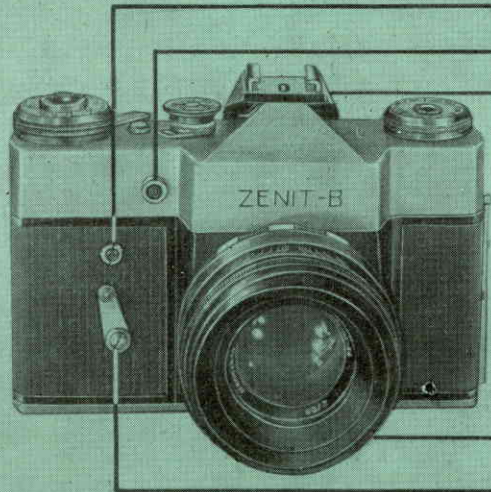
Thanks to its specifications, the ZENIT-B camera can be used for most various amateur shootings and a number of special shootings.

The ZENIT-B camera can be used with interchangeable lenses with focal length from 37 to 1000 mm.

The design of the reflex viewfinder (groundglass focusing) allows to apply extension rings and to make reproduction works. It allows to photograph small objects with large magnification (macrophotography) and to photograph with the help of microscope (microphotography). With ZENIT-B you can take close-up pictures of close or distant objects.

Instant return mirror, shutter setting lever, hinged back cover of the camera, small dimensions and light weight — all these are important advantages of the ZENIT-B camera.

The camera is supplied in two variants: with HELIOS-44 lens 58 mm f/2 and with INDUSTAR-50 lens 50 mm f/3.5. The camera can be used with any metal or plastic cassette corresponding to GOCT 3543-54.



self-timer release button

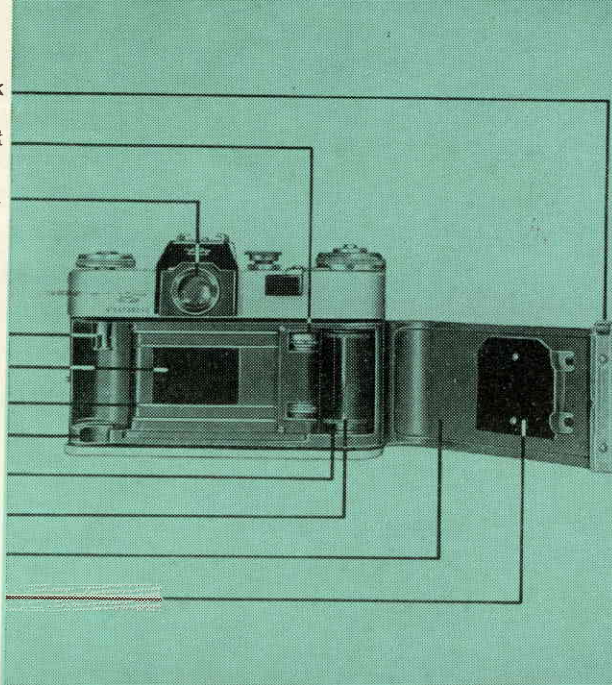
flash unit connector socket

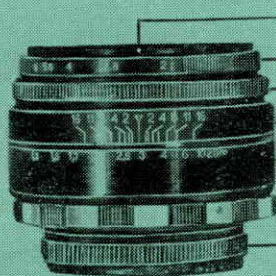
flashgun bracket

lens

self-timer setting lever

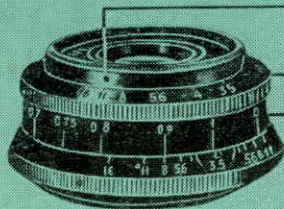
latch of the lock  
sprocket  
viewfinder eyepiece  
cassette spool guide  
film gate  
film channel slides  
cassette chamber  
take-up spool  
take-up spool spring  
folding back cover  
film pressure plate





HELIOS-44 2/58

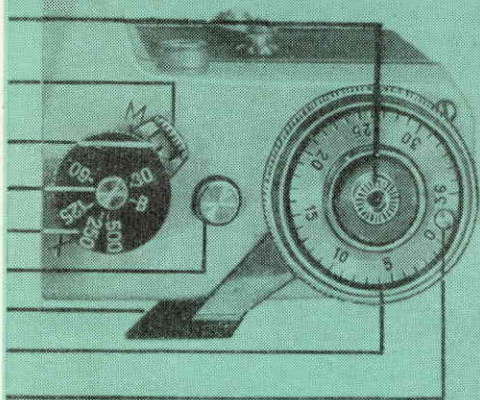
- index of the diaphragm setting ring
- diaphragm setting ring
- diaphragm ring with index
- depth of field scale with index
- distance scale
- focusing ring
- lens mounting ring



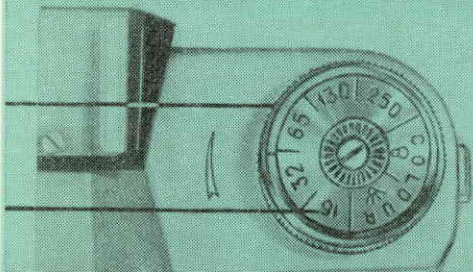
INDUSTAR-50 3.5/50

- diaphragm setting ring with index
- focusing ring with diaphragm scale
- distance scale
- depth of field scale

shutter release button  
synchronization setting lever  
synchronization lever index  
index of the exposure time dial scale  
exposure time dial scale  
film rewind release button  
shutter cocking lever  
exposure counter dial index  
exposure counter dial with guide



film rewind knob  
film sensitivity scale

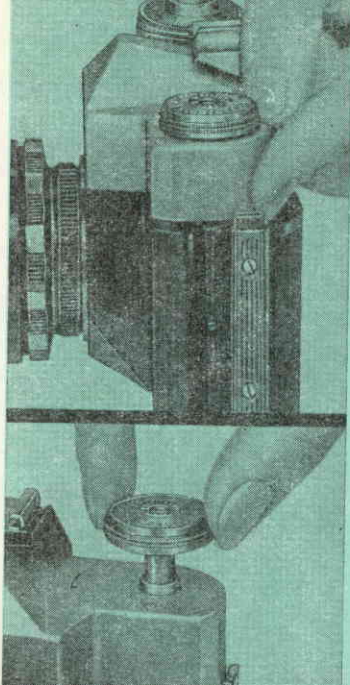


## SPECIFICATIONS

Picture size	24×36 mm		
Width of perforated film	35 mm		
Number of frames	36		
Shutter speeds	from 1/30 sec to 1/500 sec (automatic); "B" (by hand) and slow shutter speed		
Viewfinder field of view	20×28 mm		
Eyepiece magnification	5x		
Standard lens	HELIOS-44	or	INDUSTAR-50
Focal length	58 mm		50 mm
Relative aperture	1 : 2		1 : 3.5
Minimum taking distance	0.5 m		0.65 m
Diaphragm scale	from 2 to 16		from 3.5 to 16
Threaded seat for sun shade	∅ 55 mm		∅ 36 mm
Light filter mounting thread diameter	49×0.75		33×0.5
Tripod socket thread	1/4"		1/4"
Camera overall dimensions	138×93×100 mm		138×93×72 mm
Weight	920 g		800 g

## PREPARATION OF THE CAMERA FOR LOADING

Open the back cover, pulling the latch of the lock upwards. Pull the film rewind knob upwards and remove the cassette.



## LOADING THE CAMERA

The camera is loaded at usual lighting. To load the camera:

1. Cut straight the end of the film.
2. Open the back cover of the camera by pulling the lock latch upwards.
3. Fix the cut end of the film under the take-up spool spring and hook on the spool protrusion by a sprocket hole. See that the film is placed correctly between the film channel slides.
4. Place the cassette into its seat. Before placing the cassette into the camera pull the film rewind knob upwards.
5. Return the rewind knob to its initial position.
6. Close the back cover and press down the lock latch.
7. Cock the shutter, turning the shutter setting lever to the stop, then press the release button.

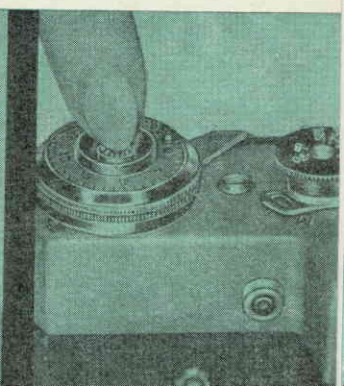
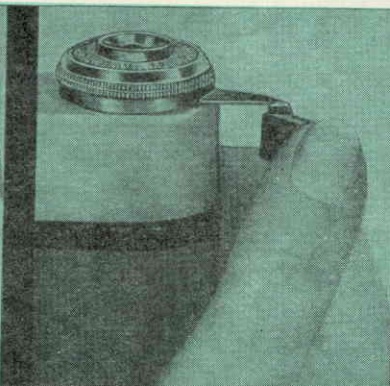
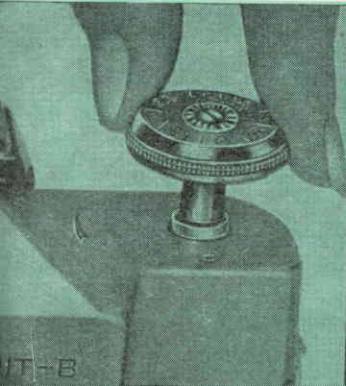
As the lever turns, the film moves by one shot.

To transport nonexposed film to the film gate, cock the shutter three times pressing the release button after each cocking.

Note. While cocking the shutter, see if the film rewind knob rotates. If not check whether the camera is correctly loaded with film.

8. Turning the exposure counter dial set the figure "0" against the index dot on the ring.

Set the exposure counter when the shutter is cocked.





## EXPOSURE TIME SETTING

Slightly pulling up the exposure time dial and turning it round its axis set the selected exposure time figure against the index mark in the middle of the dial, sink the dial and fix it.

The figures on the exposure time dial indicate fractions of a second, and "B" indicates a hand-controlled exposure time.

To obtain slow shutter speed you should cock the shutter, set the exposure time dial against "B", press the shutter release button and turn it counter-clockwise as far as it goes.

After exposure return the release button to its initial position.

Notes. 1. The exposure time can be set both with cocked and released shutter.

2. It is good practice to use a tripod when photographing with slow shutter speed and "B" exposure.

3. When photographing without flash bulbs the synchronization setting lever can be set at will.

## STOP SETTING

To obtain a necessary diaphragm on the HELIOS-44 lens set the index against one of the figures (2; 2.8; 4; 5.6; 8; 11; 16) engraved on the diaphragm setting ring. For setting the diaphragm rotate the ring until you hear a slight click. This means that the ring is fixed. The diaphragm of the INDU-STAR-50 lens is set only after the focusing of the lens is done.



## FOCUSING THE LENS FOR IMAGE SHARPNESS

Focusing should be done with the diaphragm aperture opened at maximum. For this purpose diaphragm ring of HELIOS-44 lens should be turned counter-clockwise as far as it goes.

Aiming the lens at the photographed object and observing through the viewfinder eyepiece, turn the lens focusing ring until sharp image appears on the frosted glass. After focusing, the lens is stopped down by turning the diaphragm ring clockwise as far as it will go.

When photographing with the INDUSTAR-50 lens, which has no diaphragm mechanism, the diaphragm of the lens is set after the focusing is done.

In cases when you want to photograph a number of objects disposed at different distances use the depth-of-field scale.

The depth-of-field scale presents divisions which are symmetrically arranged on both sides of the index and correspond to diaphragm values. After the camera is focused you can read limits of the depth of field for a chosen diaphragm which are disposed against equivalent divisions of the depth-of-field scale on both sides of the index on the distance scale.

For example, when the lens is focused at 4 m and f/11 diaphragm is selected, the image will be sharp in limits from 2.5 m to 10 m.

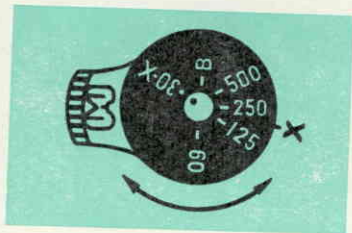
## OPERATION OF FLASH SYNCHRONIZER

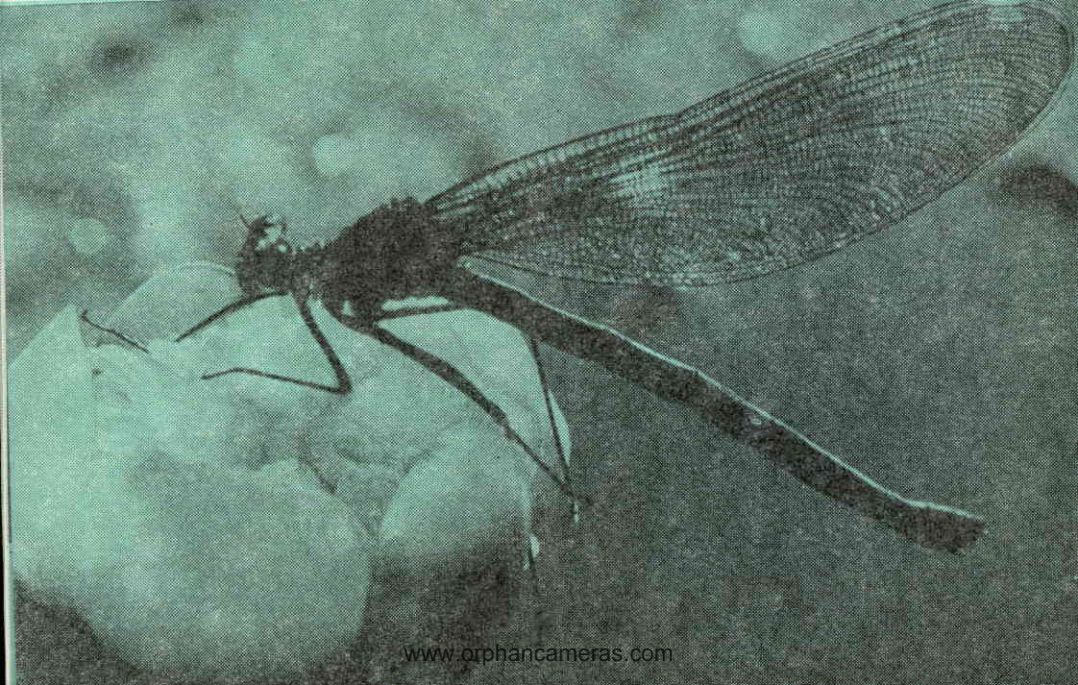
For photographing in conditions with poor illumination you should use flash bulbs. For this aim the ZENIT-B camera is fitted with a special device which synchronizes the bulb flash moment with the shutter operating time.

To switch on a single action flash bulb, set the synchronization setting lever against index "M". When operating with an electronic flash, the synchronization setting lever should be set against index "X".

Only exposure time of 1/30 sec. (when the gating is full) may be used in the ZENIT-B camera, when photographing with either flash bulbs or electronic flash.

Hand exposure "B" is not desirable when using flash bulbs since a considerable amount of stray light (after flash) gets into the camera and there comes out a blurred image on the film.





## PHOTOGRAPHING WITH SELF-TIMER

When shooting with self-timer, do the following procedure: cock the shutter, wind the self-timer mechanism by turning the self-timer setting lever down as far as it will go.

Set exposure, choose the frame, focus the lens. Close the lens opening to the stop, press the self-timer release button and stand in position to be photographed. The shutter operates in no less than 9 sec. after pressing the button.





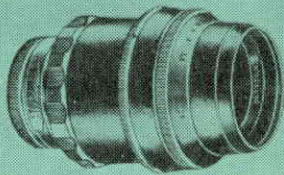
MIR-1

F—37 mm



HELIOS-44

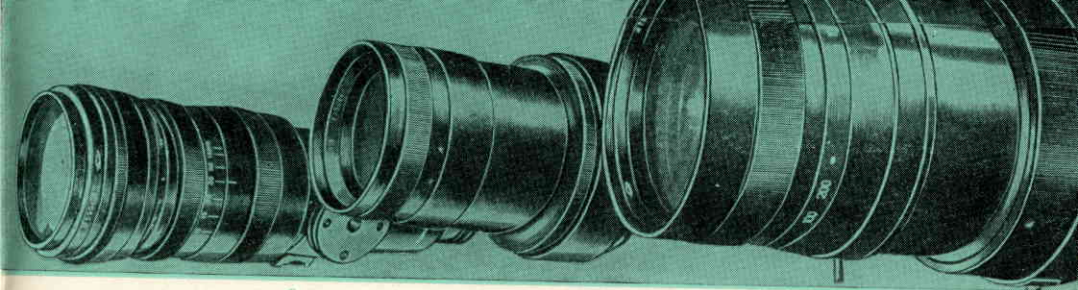
F—58 mm



TAIR-11

F—133 mm





**TAIR-3**

**F—300 mm**


**MTO-500**

**F—500 mm**

**MTO-1000**

**F—1000 mm**






WARNING FOR ALL ZENITH CAMERAS

TIME LOCK RELEASE

When checking your camera please see that the release button in the centre of the wind lever is not in the locked down position. Failure to release this will give the impression that the wind mechanism is faulty.



Various interchangeable lenses on sale for cameras of ZENIT type with rollerblind shutter can be used with the ZENIT-B.

Like HELIOS-44 lens, the interchangeable lenses are mounted on the camera by means of M42×1 thread.

When using the interchangeable TAIR-3 lens, the left edge of the image field on the negative may be cut off.

## INTERCHANGEABLE LENSES

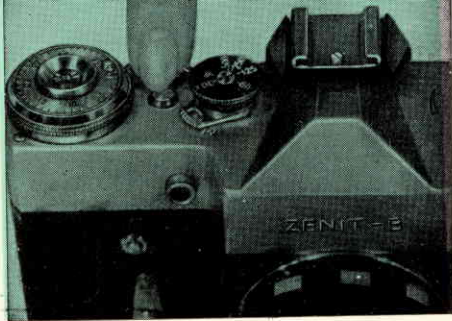
No	Lens name	Specifications			
		Focal length, mm	Relative aperture	Lens angle	Limit of focusing
1	Helios-40	85	f/1.5	28°	1.15 ÷ ∞
2	Tair-11	133	f/2.8	18°	1.5 ÷ ∞
3	Tair-3	300	f/4.5	8°	3 ÷ ∞
4	Jupiter-6	180	f/2.8	14°	2 ÷ ∞
5	Jupiter-9	85	f/2	28°50'	0.8 ÷ ∞
6	Jupiter-11	133	f/4	18°30'	1.5 ÷ ∞
7	Telemar-22	200	f/5.6	12°30'	2.5 ÷ ∞
8	Mir-1	37	f/2.8	60°	0.7 ÷ ∞
9	MTO-500	500	f/8	5°	4 ÷ ∞
10	MTO-1000	1000	f/10	2°30'	10 ÷ ∞

## UNLOADING THE CAMERA

When the exposure counter dial shows figure 36, it means that the exposed film should be rewound into the cassette. The procedure is the following:

1. Disengage the shutter mechanism. For this aim press the film rewind release button and, holding it in this position, rotate the film rewind knob in the direction, shown by the indicating pointer, until you feel by the applied force that the end of the film left the spring of the take-up spool.
2. Open the back cover of the camera.
3. Pull the film rewind knob upwards and remove the film cassette out of the camera.

Note. For further photographing cock the shutter and, holding the sprocket, make sure that the latter rotates.



## IMPORTANT TIPS

The camera should be handled carefully, should be kept clean and protected from mechanical damages, moisture and sharp temperature fluctuations.

Keep the camera in a closed carrying case. In such cases the cap should be put on the lens while the shutter and the self-timer are released.

Never remove the lens from the camera, unless you need it, to prevent dust and dirt from getting on the surface of optical parts.

Clean the optical coated lens surfaces only from outside with a clean soft piece of fabric or cotton. Fabric or cotton can be slightly moistened with rectified alcohol, ether (petroleum or sulfuric) or, if these means are absent, with toilet eau-de-Cologne.

As the camera is a complex optical mechanical device, any repair of the camera and its adjustment should be performed only by a highly qualified specialist.