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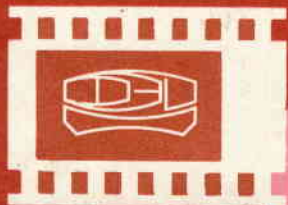
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# CAMERA

INSTRUCTIONS  
FOR USE

P3D 5B

**IMPORTANT:**

**Set the shutter speeds only when the shutter has been cocked. Do not turn the exposure head in the interval between "30" and "1". Failure to comply with these requirements results in breaking of the camera.**

**Since efforts are continually made to improve the reliability and performance of the product, minor changes may be introduced without special notice.**

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**CAMERA**

**FD5B**

**FED5B**

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Instructions for • Use

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## **1. GENERAL DIRECTIONS**

**Camera FED 5B is intended for amateur and professional shooting on standard black-and-white and colour perforated film 35 mm wide.**

**The camera is simple in handling. Fulfilment of the rules set forth in the present manual ensures its reliable operation for many years.**

**While handling the camera, do not exert excessive efforts, protect it from dust, avoid to touch its optics.**

**The design of the camera is protected by the USSR inventors' certificates Nos 773562, 313194.**

## 2. SPECIFICATIONS

Picture size, mm . . . . .	24 × 36
Film magazine load . . . . .	film 1.65 m long for 36 pictures
Lens . . . . .	anastigmat INDUSTAR-61 Л/Д; 1:2.8; $f' = 55$ mm
Lens fastening thread . . . . .	M 39 × 1 mm
Coupling dimensions for attachments, mm:	
plane . . . . .	42
threaded . . . . .	M 40.5 × 0.5
Focusing range . . . . .	from 1 m to ∞ (infinity)
View finder . . . . .	optical, combined with range finder, provided with dioptric correction of ±2D
Shutter . . . . .	curtain-type, with speeds from 1 to 1/500 s and "B" (by hand)
Automatic releaser . . . . .	mechanical
Synchronizer . . . . .	X-contact, for electronic flash lamps
Tripod thread . . . . .	1/4"
Mass of camera in case, kg . . . . .	0.96

### 3. DELIVERY SET

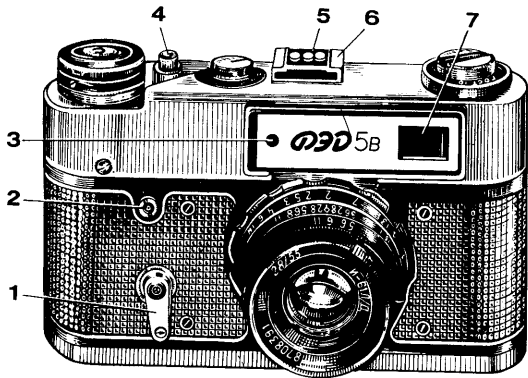
Camera	1
Film magazine	1
Lens cap	1
Clip stopper	1
Case	1
Instructions for Use	1
Packing box	1

### 4. DESIGN

The main units of the camera are as follows: the body which houses the mechanisms of the shutter, automatic releaser, synchronizer, range-and-view finder, picture counter and

the lens with diaphragm, depth-of-field, and distance scales. The lens is attached to the body with the aid of a thread.

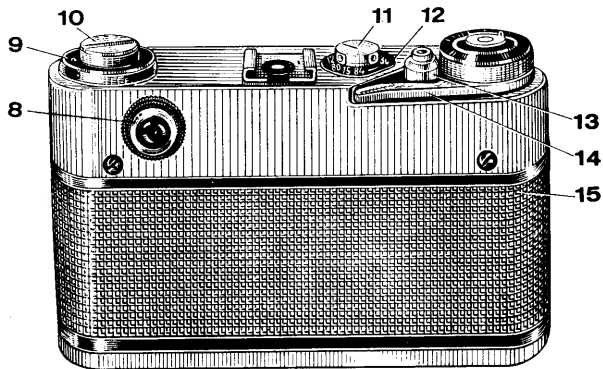
The camera controls and functional units are shown in Figs 1 and 2.



**Fig. 1:**

*1* — automatic releaser cocking lever; *2* — automatic releaser button; *3* — range finder aperture; *4* — shutter release button; *5* — clip stopper; *6* — clip with synchronizer contact; *7* — view finder aperture





**Fig. 2:**

**8 — dioptic correction ring; 9 — film sensitivity indicator limb; 10 — rewinding knob; 11 — exposure head; 12 — exposure scale; 13 — disconnecter sleeve; 14 — shutter cocking lever; 15 — camera cover**

## 5. PREPARATION FOR OPERATION

Preparation of the camera for shooting consists in its loading by the magazine with a film.

The loading is carried out under ordinary soft lighting conditions.

Undo the screw fixing the camera in the case. Remove the camera from the case.

Raise the lock shackles of camera cover 15 (Fig. 2) and turn them half-way round as far as they go according to Fig. 3. Then pressing with the thumbs on the cover, shift it in the direction of an arrow, as shown in Fig. 4, and take off the camera.

Put the magazine with a film into the camera recess. Insert the end of the film into the slot in the take-up reel as shown in Fig. 5.

Turning the shutter cocking lever 14 (Fig. 2) pull the film so that its perforations should get onto the teeth of both rims of the feeding drum.

Close the camera by the cover and push its edge under the shield. Turn the lock shackles half-way round and lower them into the recesses.

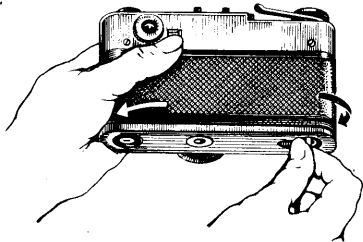


Fig. 3

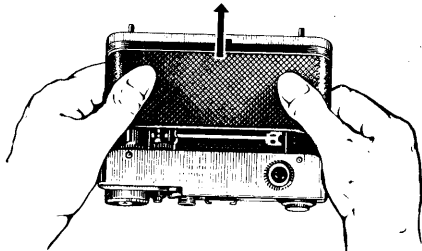


Fig. 4

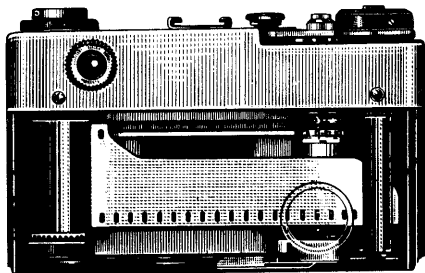


Fig. 5

To feed the unexposed film to the picture aperture, cock the shutter twice, pressing on release button 4 (Fig. 1) after each cocking.

The shutter cocking lever should be turned each time as far as it goes, otherwise the button will be interlocked and the shutter will not operate upon pressing on the button.

After the second-third cocking picture counter limb 17 (Fig. 6) will set opposite

digit "1" and will show the first frame prepared for shooting.

For convenience in use the shutter cocking lever has two positions: operating and transport. In the operating position the end of the lever protrudes beyond the camera shield.

Shown in Fig. ~~6 and 7~~ <sup>15</sup> ~~are a film type and a film sensitivity indicator limbs.~~

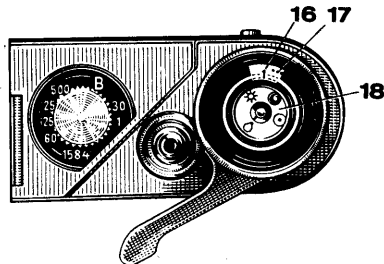


Fig. 6:

16 — picture counter index; 17 — picture counter limb; ~~18 — shutter cocking lever~~

The film type indicator limb is arranged on the picture counter. The conventional designations of the film types drawn up on the limb are as follows:



— colour film for day light;



— colour film for artificial light;



— black-and-white film.

~~Having loaded the camera, ~~turn limb 19 until the symbol corresponding to the type of film by which you have loaded the camera, coincides with index 16 on the counter.~~~~

Then turn limb 9 until the number corresponding to the sensitivity of the film loaded into the camera coincides with index 19.

The indicator limb will help you to remember by what type of the film the camera has been loaded when you want to take pictures after a long interval.

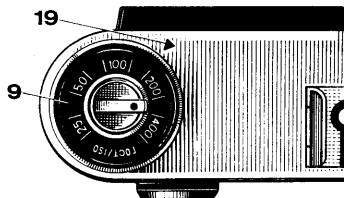
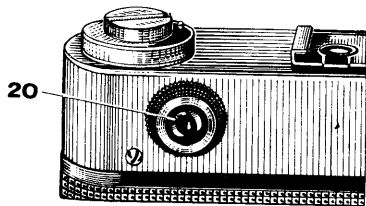


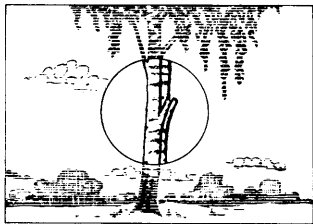
Fig. 7:

19 — film sensitivity indicator index



**Fig. 8:**

20 — view-and-range finder eyepiece



**Fig. 9**

## 6. OPERATING PROCEDURE

So, you have loaded the camera and may begin loading.

Having chosen the place for shooting, open the camera case, take the cap off the lens and locking through eyepiece 20 (Fig. 8) of the view-and-range finder check how the chosen subject is arranged within the field of vision of the view finder.

In order to set the camera at an accurate focus first turn dioptric correction ring 8 (Fig. 2), focus the view-finder by your own sight.

Focus the lens. With this purpose by turning distance scale 23 (Fig. 10) align two images seen in the circle of the field of vision of the view finder, as shown in Fig. 9, into one.

When photographing the remote subjects or if the distance to the subject to be photographed is known the lens may be focused by the distance scale.

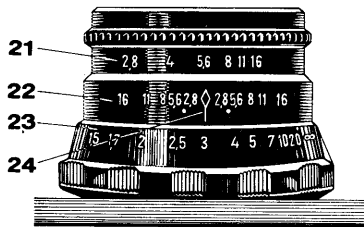
In case of photographing the objects having a considerable extension to the depth or when

shooting a series of subjects located at different distances from the camera, determine the value of the necessary diaphragm with the aid of the depth-of-field scale and diaphragm the lens by setting diaphragm scale 21 in the required position relative to the index.

Depth-of-field scale 22 consists of two rows of numbers corresponding to the lens diaphragm scale and disposed symmetrically relative to distance scale index 24.

When the lens is being focused, the depth-of-field scale shows on the distance scale the shortest and longest distances from the camera within which the image sharpness will be satisfactory for each diaphragm value chosen in shooting.

For example, in Fig. 10 you can see that when the lens is focused at a distance of 3 m, the diaphragm being 5.6, all the subjects located at a distance of 2.5 to 4 m from the camera will be sharply photographed. When the diaphragm is equal to 8 the subjects located

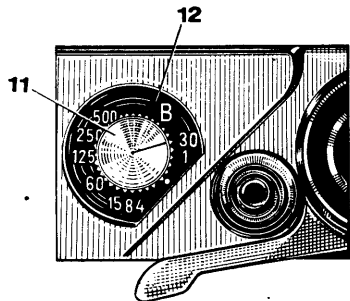


**Fig. 10:**

21 — diaphragm scale; 22 — depth-of-field scale;  
23 — distance scale; 24 — distance scale index

from 2.2 to 5 m from the camera are sharply photographed on the picture and so on.

Determine the shutter speed required for shooting. You can easily do it with the aid of a pocket exposure meter or exposure metering tables.



**Fig. 11**

*To protect the lens from the overhead-and-side light it is good practice to put a sunshade on the lens in shooting.*

Having determined the value of the required exposure, raise slightly exposure head 11 (Fig. 11), turn it till the index registers with

the chosen value on exposure scale 12 and lower it, in this case the head should be fixed in the set position.

In Fig. 11 the head is set at the exposure (shutter speed) of 1/30 s.

*The exposure can be set only with the shutter cocked. Do not turn the exposure head in the interval between "30" and "1".*

Digits on scale 12 correspond to shutter speeds of 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250 and 1/500 s.

The dot between digits "1" and "4" on the exposure limb corresponds to the shutter speed of 1/2 s. Letter "B" determines the position of the exposure head intended for obtaining the prolonged exposures "by hand" — when the release button has been depressed, the shutter remains open until the instant of releasing the button.

*On exposure scale divisions "1", "2", "4", "8" and "15" the exposure head is set somewhat higher than on the other divisions; do not try to lower the head down by pressing on it.*

Now aim the camera at an object to be photographed, check its position in the field of vision of the view finder and, upon choosing the necessary instant smoothly press on the shutter release button.

In taking pictures with the automatic releaser, cock the automatic releaser after setting the diaphragm and the shutter speed. For this purpose turn automatic releaser cocking lever 1 counter-clockwise, as shown in Fig. 12, to the upper position. Secure the camera on the tripod and set the camera to the required position with the aid of the view finder. Press on the automatic releaser button 2 and occupy the spot chosen for yourself beforehand.

The shutter will be released at least in 9 s. It is possible to cock the shutter with the automatic releaser either released or cocked.

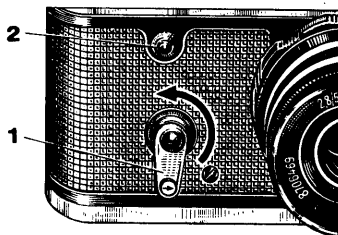


Fig. 12

When photographing with a flash lamp, the shutter should be set to the speed of  $1/30$  s and the diaphragm value is to be selected in accordance with the film sensitivity, the distance to the object to be photographed and the lamp power.

The camera has clip 6 (Fig. 1) with cableless connection.

Prior to connecting remove clip stopper 5 and insert the flash lamp in the clip as shown in



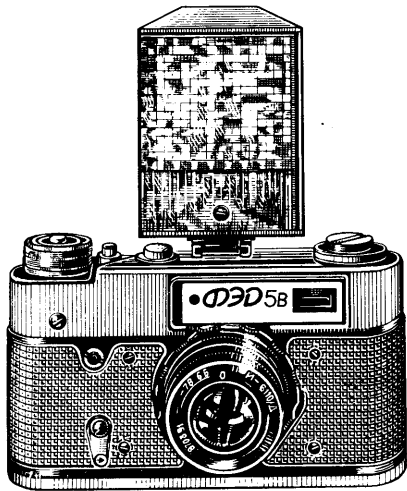


Fig. 13

Fig. 13, thus it is connected to the synchronizer contact.

The flash lamps can be connected and disconnected with the shutter either cocked or released.

More detailed information on shooting with the flash lamps can be obtained by referring to the manual enclosed with the lamps and to the manuals on photography.

On depressing the release button the flash lamp is switched on simultaneously with the shutter operation. The flash lamp can be also switched on with the aid of the automatic releaser.

When photographing the film is pulled out of the magazine and wound onto the take-up reel. To reload the camera the film should be rewound back into the magazine.

As soon as you take pictures of 36 frames, disconnect the shutter mechanism. It can be made by pressing on the edge of disconnecter sleeve 13 (Fig. 14) downwards as far it will go and by fixing the sleeve in this position.

*While pressing on the sleeve never move aside the cocking lever since this does not allow the sleeve to be fixed.*

Then, taking rewinding knob 10 (Fig. 15) rotate it in the direction of the arrow.

*While rewinding the film back the lens should be covered with a cap.*

The end of rewinding is determined by the change of an effort required for pulling the film end out of the take-up reel.

*To protect the film from accidental exposure, do not reload the camera at excessively bright lighting (e. g., under conditions of direct solar radiation).*

Open the camera, as it has been described above, and take out the film magazine. In this case the picture counter limb will be automatically set to the initial position.

Cock the shutter for connecting the shutter mechanism. Close the camera by a cover and lock its locks. Put the camera into the case and fix it with a screw.

When closing the case do not forget to shift the cocking lever to the transport position. To do this, tighten the lever end to the shield. In this position the lever will not hinder to close the case.

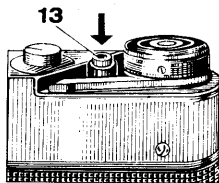


Fig. 14

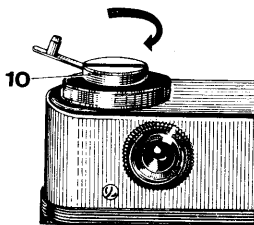


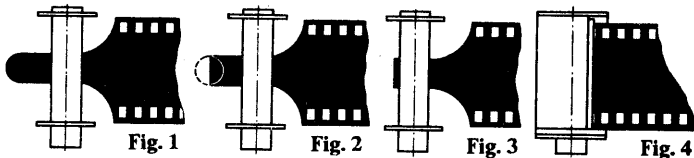
Fig. 15

### Rules of Loading the Magazine with a Film

The camera is completed with the magazine type 135M intended for repeated application. Take the reel out of the magazine and insert the film end into the reel slot as shown in Fig. 1. Fold the free end of the film twice according to Fig. 2 and, pressing it by the thumb of the left hand, pull the film out of the reel with your right hand. In this case the folded end of the film should pass into the reel slot.

Pull the film so long as it will be fixed (Fig. 3).

Load the reel with the wound film into the magazine. In this case the film end should enter the slot of the magazine housing (Fig. 4).



Reload the magazine in the reverse order.

To avoid the film fault it is necessary to clean the packing piece of the magazine removing the dust and emulsion remains from the film.

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