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**AUTOMATIC
MINIATURE
CAMERA**

O3D 50

INSTRUCTIONS FOR USE

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

**AUTOMATIC
MINIATURE
CAMERA**



FED 50

Instructions for Use

GENERAL DIRECTIONS

The FED 50 is a modern miniature camera intended for amateur shooting on standard black-and-white and colour perforated film 35 mm wide. The camera operates in the automatic and manual control modes.

In the field of vision of the view finder the information is available on the shutter speed and diaphragm processed in the automatic mode. For accurate framing of a picture the lighted frame provided with the marks for parallax correction is available. The camera is furnished with a self-reset picture counter. The interlocking of a release button in the automatic mode in the event of insufficient lighting as well as the interlocking of the

shutter cocking (which prevents the repeated or incomplete cocking) are envisaged by the design of the camera.

The automatic system of the camera operates from a photocell which is designed for long-term use. The replaceable power supply sources are not required.

Thoroughly familiarize yourself with the present instructions before using the camera. The observance of all recommendations set forth in the instructions will ensure the reliable operation of the camera for many years.

SPECIFICATIONS

Picture size, mm	24 × 36
Quantity of pictures	36
Photographic lens INDUSTAR-81:	
focal length, mm	38
relative aperture	1 : 2.8
focusing range, m	from 1 to ∞(infinity)
Coupling dimensions, mm:	
for plain attachments	Ø48
for threaded attachments	M46 × 0.75
Shutter	aperture-type, behind-the-lens
Automatic mode:	
exposure, s	from 1/30 to 1/650
diaphragm	from 1 : 2.8 to 1 : 14
Manual control mode:	
exposure, s	1/30 and «B» (by hand)
diaphragm	from 1 : 2.8 to 1 : 16
View finder	optical, with cutting frame
Synchronization with flash lamp	«X»-contact
Tripod thread	1/4"
Camera mass, kg, not over	0.49

DELIVERY SET

Camera	1
Shoulder strap	1
Magazine	1
Lens protective cap	1
Flash lamp clip stopper	1
Lens hood	1
Case	1
Packing box	1
Instructions for Use	1

DESIGN

The design of the camera is shown in Figs 1—4.

Fig. 1:

1 — release button; *2* — clip stopper; *3* — clip; *4* — rewinding knob; *5* — view finder aperture; *6* — operation mode index; *7* — photocell embossing

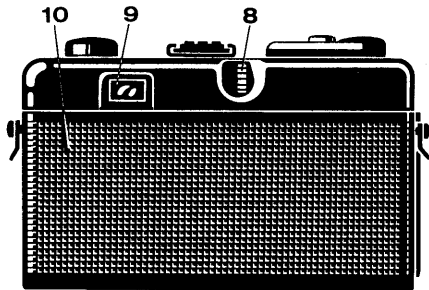
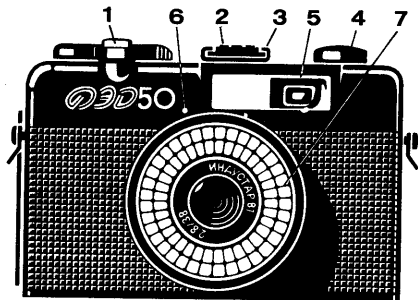


Fig. 2:

8 — film sensitivity setting disk; *9* — view finder eyepiece; *10* — rear cover

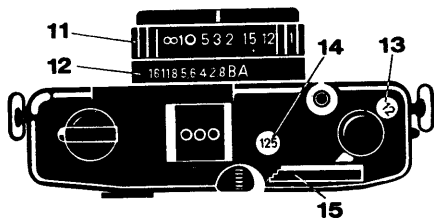


Fig. 3:

11 — distance limb; *12* — operation mode limb;
13 — picture counter aperture; *14* — film
 sensitivity scale aperture; *15* — shutter cocking
 lever

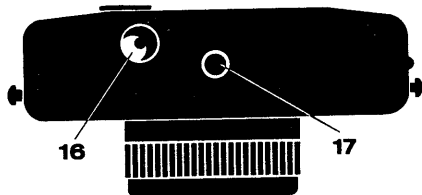


Fig. 4:

16 — rewinding button; *17* — tripod thread

PREPARING FOR OPERATION

Remove the camera from the case. Pull up the rewinding knob until the opening of a rear cover occurs. Load the camera with the magazine with the film and lower the rewinding knob (Fig. 5).

Insert the threading end of the film under the spring of the take-up sleeve and, while rotating the sleeve taking its knurled part by hand or turning the cocking lever, pull up the film so that its perforation holes would get onto the teeth of both rims of the transport drum (Fig. 6). Close the rear cover until the click is heard.

For convenience in use the shutter cocking lever has two positions: a working position and a transport position. In the working position the lever end protrudes beyond the camera shield. To shift the lever from the working position to the transport one, it is sufficient to press on its protruding end (Fig. 7) by applying a small force.

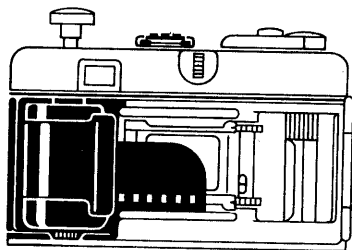


Fig. 5

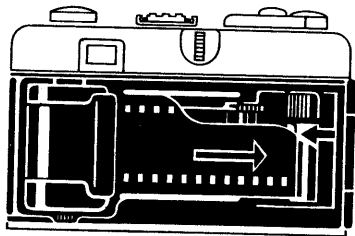


Fig. 6

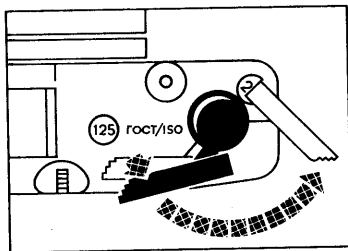


Fig. 7

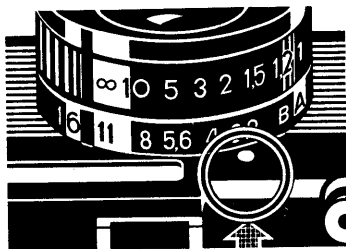


Fig. 8

To rewind the light-struck part of the film and to set the picture counter to the reading «1», cock the shutter several times, pressing on the release button (Fig. 7) each time. In this case the operation mode indicator limb must be set to any position, except the position «A», since under conditions of insufficient lighting or in the event of the closed cap on the photographic lens the release button will be interlocked (Fig. 8). When using the film with the speed expressed in the units of GOST, set the nearest value of the unit of GOST/ISO specified in the Table. Set the film sensitivity whose value is seen in the aperture (Fig. 9) by rotating the disk. The ratio of the speeds of a used photographic material and of the marking on the camera scale is specified in the Table.

Speed of used photographic material in the units of GOST/ISO	Marking on scale	Speed of used photographic material in the units of DIN	Marking on scale
16; 20	16 •	13; 14	13 •
25	25	15	15
32; 40	32 •	16; 17	16 •
50	50	18	18
64; 80	64 •	19; 20	19 •
100	100	21	21
125; 160	125 •	22; 23	22 •
200	200	24	24
250; 320	250 •	25; 26	25 •
400	400	27	27

OPERATING PROCEDURE

Choose an object for shooting by observing through the eyepiece the picture boundaries, designated by the lighted cutting frame. When the object is located at a distance of 1—2 m, the upper and side boundaries of a picture are determined by parallax correction marks 1, 2, 3 (Fig. 10).

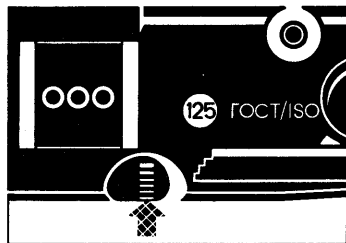


Fig. 9

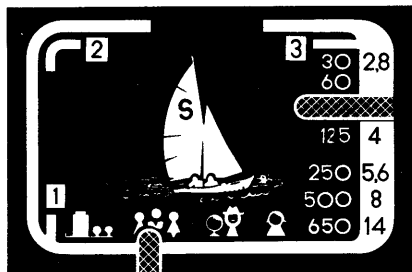


Fig. 10

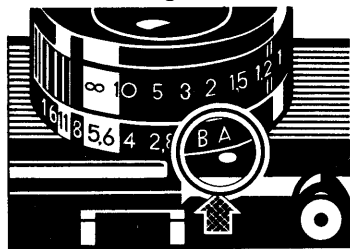


Fig. 11

Match the pointer in the lower part of the view finder field with the required symbols (Fig. 10) by rotating the distance limb or set the required distance on the distance scale.

AUTOMATIC MODE

Set the operation mode limb to the position «A» (Fig. 11).

Smoothly press on the release button, the camera automatic system will ensure the setting of the required exposure and the pointer will read the tentative value of a shutter speed and a diaphragm. The pointer is located in the right-hand part of the field of vision of the view finder.

When the necessity arises to preliminarily (without exposing a frame) estimate the exposure value, slightly press on the release button, the pointer will read the combination of a shutter speed and a diaphragm.

Important! In the event of insufficient lighting the shutter will not operate and the pointer will be set above the number series of diaphragms.

MANUAL CONTROL MODE

Set the diaphragm and operation mode indicator limb to any position, except the position «A». When the limb is set opposite the readings «2.8», «4», etc., the preset shutter speed is 1/30 s and the diaphragm value corresponds to the preset reading.

When the operation mode limb is set to the position «B», the shutter speed is controlled by hand, i. e. the shutter is kept opened until the release button is depressed.

The minor protrusion of blades does not affect the shutter operation in the position «B». In this case the diaphragm «2.8» is used.

SHOOTING WITH FLASH LAMP

Remove the stopper from the clip of the camera (ref. to Fig. 1).

Insert the electronic flash lamp into the clip (Fig. 12).

Use the special adapter in operation with the flash lamps provided with the cable connection.

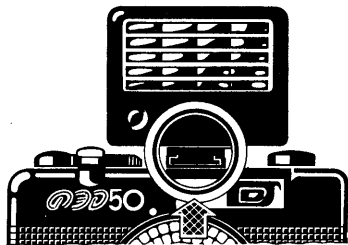


Fig. 12

The detailed description of operation with the electronic flash lamp is given in its Operating Instructions.

SHOOTING END

When the picture counter reads 36 pictures, press on the rewinding button, which releases the film transport mechanism (Fig. 13). Unfold the handle on the rewinding knob, rewind the film into the magazine (Fig. 14).

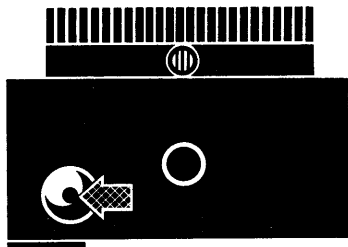


Fig. 13

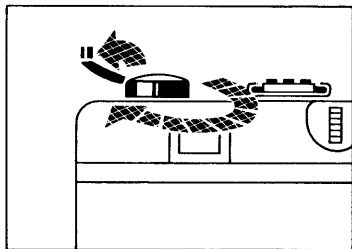


Fig. 14

Open the rear cover by pulling up the rewinding knob, remove the magazine with the film.

The film transport mechanism will be engaged automatically upon the first cocking of the shutter.

OPERATION PECULIARITIES

Load and unload the camera in the premises or in the shadow, avoiding the direct solar rays.

Shift the cocking lever as far as it will go. Otherwise the lever fails to return to the initial position, indicating that the shutter has not been cocked.

The rotation of the rewinding knob upon cocking the shutter is indicative of the fact that the film is pulled normally.

When shooting in the automatic mode, the used filter factor is taken into account automatically.

While shooting, avoid getting of direct rays from powerful light sources to the photocell — this can result in the errors in operation of the automatic system.

The system of measurement and setting the exposure in the automatic mode is designed for the most frequently occurring average conditions of lighting of objects to be photographed. In some cases it is required to increase or decrease the exposure. This is attained by varying the preset film speed relative to the speed of a loaded film. First of all the correction of exposure is recommended in shooting on the reversible films. The setting of the lesser value of speed corresponds to the increase in exposure and vice versa. For example, in shooting on the reversible film in the cases when an object is located opposite a light source, on the background of bright snow or on the sea coast in sunny weather you are to set the film speed equal to 40 or 50 units by GOST/ISO instead of the film speed equal to 64 units by GOST/ISO. In the cases when a light object is located on the dark background, the value of preset film speed is to be increased, e. g., set the film speed equal to 100—125 units by GOST/ISO instead of the film speed equal to 64 units by GOST/ISO.

Use the lens hood in shooting opposite the light or in the event of the front and side lighting.

When necessary, wipe the optical surfaces of the photographic lens and of the view finder by slight touching with a flannel napkin or cotton wool, slightly moistened in alcohol, remove the dust with a light dry hair brush.

STORAGE RULES

The camera is a precise optical-and-mechanical device. Handle the camera with care, keep it clean, protect from impacts, dust, dampness and abrupt changes of temperatures, avoid the long-time effect of direct solar rays on the photocell.

Store the camera in the case. In doing so, the photographic lens must be covered by a cap. Do not leave the camera for a long time with its shutter cocked.

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. 15, *a*. Fold the free end of the film twice according to Fig. 15, *b* 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. 15, *c*).

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. 15, *d*).

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.

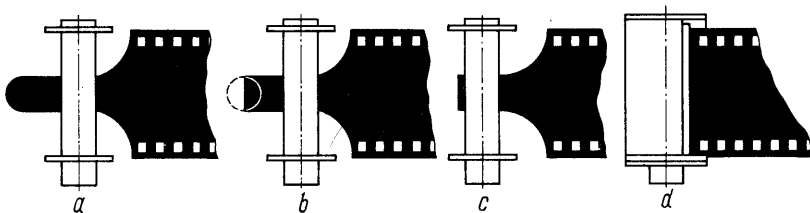


Fig. 15

ACCEPTANCE CERTIFICATE

It is hereby certified that camera FED 50, Serial No. _____ meets the requirements of the Specifications and is found fit for service.

Date of release _____

Signatures of persons in charge

of acceptance _____

Table of Focal Depths for Photographic Lens INDUSTAR-81

Distance to an object to be shot, m	Focal depth range, m, with diaphragms					
	1:2.8	1:4	1:5.6	1:8	1:11	1:16
1	0.95—1.1	0.92—1.1	0.9—1.1	0.86—1.2	0.8—1.3	0.75—1.5
1.2	1.1—1.3	1.0—1.3	1.0—1.4	1.0—1.5	0.9—1.7	0.86—2.0
1.5	1.4—1.6	1.3—1.7	1.3—1.8	1.2—2.0	1.1—2.3	1.0—3.0
2	1.8—2.3	1.7—2.4	1.6—2.6	1.5—3.0	1.4—3.7	1.2—5.9
3	2.6—3.6	2.4—4.0	2.2—4.6	2.0—6.0	1.8—9.4	1.5—∞
5	3.9—7.0	3.5—8.5	3.2—11.8	2.7—28.7	2.3—∞	1.9—∞
10	6.3—23.7	5.5—∞	4.6—∞	3.8—∞	3.0—∞	2.3—∞
∞	17.4—∞	12.0—∞	8.0—∞	6.0—∞	4.4—∞	3.0—∞

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