

# **KIEV-6S & KIEV-60 TTL cameras**



***INSTRUCTION MANUAL***

In connection with the continuous work to improve these cameras, their design may have been insignificantly changed and not been reflected in the present edition of the manual.

### **ATTENTION!**

*The curtains of the camera are made of gummed fabric, and for their safety in bright solar light it is necessary to observe the following precautions:*

*Remove the cover of the lens and open the finder-hood only directly before shooting;*

*Don't aim the lens of the camera directly into the Sun;*

*Don't leave the camera in the Sun for long intervals between shootings.*

More Manuals at: [LensBusters.com](http://LensBusters.com)

## INTRODUCTION

The camera Kiev-6S was introduced at the Arsenal Plant (Kiev city, former USSR) in 1971 and issued up to 1980. It was the first Soviet mass produced camera of 6x6cm frame size and with classical mirror configuration. It looked like the famous USSR Pentacon-six camera, but was of different construction and design, not so elegant and nice like the Pentacon-six. Long ago Soviet shooters understood that Kiev cameras had a larger matte screen than the Pentacon and were more reliable, especially regarding shutter working and film winding. The lens mount of the Kiev-6S camera is exactly like the Pentacon-six, but the depth of field preview was removed from lenses and was built into the body.

The Kiev-6S TTL camera was issued from 1978-1986. Its prism has a built-in light-meter, but the other features are the same as the basic model.

Soviet shooters disliked only one feature of those Kiev-6S cameras: the left handed shutter release button.

The Kiev-60 TTL camera was issued beginning in 1984. It has most of the features of the Kiev-6S TTL camera and a nice shutter release button situated for the right hand. One significant feature was removed: the Kiev-60 lost the ability to use type 220 rollfilm.

The Kiev-60 camera has an improved construction of the shutter. The electrical scheme of the TTL prism being changed later on, first with the battery compartment being modified to accept modern G13 size cells, and second the TTL prism

was made with auto power-off. In the presented Instruction Manual most of the descriptions are correct for both Kiev-6S and Kiev-60 cameras. Any sufficient divergence will be marked "for K-6S" or "for K-60" according to the camera type.

### FEATURES

The Kiev-6S TTL or Kiev-60 camera is a single lens reflex TTL camera with a frame size of 6x6 cm. The camera is intended for professional and amateur shootings.

With correct operation and careful use it will give you quality slides and black-and-white and color photos in a large format.

The Kiev-6S TTL is designed for use with photographic rolfilm of 61.5 mm width (type 120 or

220). The Kiev-60 TTL can accept only type 120 film. With the use of type 120 film the camera provides 12 frames, with type 220 — 24 frames.

The curtain shutter of the camera provides shutter speeds in a range from 1/1000 up to 1/2 sec and "B".

The lever for cocking the shutter is blocked by the film winding mechanism and by the frame counter, preventing double exposures. Adjusting for sharpness is made by ground glass with microprism spot, located at the center of the field of sight. The back of the camera is hinged.

The frame counter automatically resets when the back of the camera is opened. The K-6S frame counter has two scales designed for the two types of film used.

The camera has synchronization for

photographing with a flash unit.

The camera is completed by a normal lens  $F=90$  mm (**K-6S**) or 80mm (**K-60**), relative aperture 1:2.8, with the range of the aperture's adjustment being from 1:2.8 up to 1:22. The design of the camera allows the use of interchangeable lenses specially manufactured for the Kiev cameras. Also interchangeable lenses made for "Pentacoon Six" cameras can be mounted. Lenses are mounted on a bayonet type "B", all Soviet lenses of this type have that index in the end of their name.

A finder-hood is included in a complete set of the camera, except TTL prism view-finder. It allows the image to be examined on ground glass with a magnifying lens or without it, and also it provides composing with the help of the frame view-finder. The size of the field of view of the finder-hood is

53x53 mm. The eyepiece of the prism viewfinder magnifies the view 2.5x, the size of the field of view is 49x51.5 mm.

The schematic image of the field of sight when working with replaceable view-finders is given below (see fig. 1). In the body of the prism view-finder there is an exposure meter with a light indicator which defines the correct exposure based on light passing through the lens. The advantage of a TTL measurement system consists in automatically accounting for all the factors influencing the amount of light exposing the film. The field of measurement of the exposure-meter is in the central part of the field of sight and it has an oval shape as shown in figure 2.

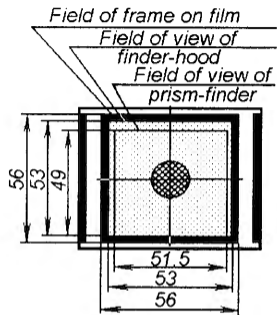


Fig. 1.

The exposure-meter provides measurement in a range of brightness from 1.6 up to 13000  $cd/m^2$ , thus these factors are taken into account: photosensitivity of the film in use (from 8 up to 1000 units FOCT (same as ASA) or from 10 up to 31

units DIN), shutter speed (from 1/1000 up to 8 sec) and aperture (from 1.4 up to 32).

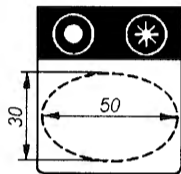


Fig. 2.

**NOTE:** The dot on the scale of film sensitivity means 1000 units FOCT.

The power supply of the exposure meter is provided by a battery with a voltage of 3.75—4.5 V, having a diameter of 16.5 mm and height of 22 mm, or 3 cells with a voltage of 1.25-1.5 V each, having a

diameter of 15.6 mm and length of 6.3 mm. A low battery indication is provided by an LED on the body of the prism view-finder.

**NOTE:** During the last years of production, TTL prisms designed for modern cell types (A)G-13, LR44, L1154, A76, 357(A) and others with the same dimensions (3 pieces) were made.

### COMPLETE SET OF THE CAMERA

Item	K-6S	K-60
Camera with prism view-finder TTL, rubber eyepiece, and take-up spool	1	1
Lens VEGA-12B F=90mm	1	—
Lens VOLNA-3 F=80mm	—	1
Finder-hood	1	1
<b>Filters:</b>		
UV-1x	1	1

YG-1.4x	1	1
<b>Rings for close-up shooting:</b>		
From a distance up to 0.4 m	1	1
From a distance up to 0.35 m	1	1
Shutter release cable*	1	1
Front lens cap	1	1
Back lens cap	1	1
Cover for the camera body	1	1
Cover of the finder-hood	1	1
Power source	1	1
Battery insert	1	1*
Support for a flash unit	—	1
Neck-strap	1	1
Case	1	1
Instruction manual	1	1
Packing box	1	1

\* In some completeness sets this can be absent because in different years complete sets can vary.

## THE BASIC UNITS AND DETAILS OF THE CAMERA

- 1 — Single stroke film advance lever;
- 2 — Prism viewfinder TTL;
- 3 — Socket for mounting the cable release;
- 4 — Shutter release button;
- 5 — Straplet attachment points;
- 6 — Nut for fastening lens bayonet;
- 7 — Camera body;
- 8 — Lens;
- 9 — Socket for fastening support with accessory shoe for a flash unit (K-60);
- 10 — Reminder scale for film speed;
- 11 — Window of the frame counter (K-6S);
- 12 — Button for attaching the prism view-finder;
- 13 — Scale of apertures;
- 14 — Scale of depth of sharpness;
- 15 — Scale of distances;
- 16 — Shutter speed setting knob;
- 17 — Back wall;
- 18 — Center for installation of the take-up spool;
- 19 — Center for installation of the film spool;
- 20 — Depth of field (or sharpness) preview button;
- 21 — Tripod socket;
- 22 — Take-up spool lock;
- 23 — Removable rubber eyepiece;
- 24 — Film spool lock;
- 25 — Camera back lock (K-60);
- 26 — Film pressure plate;
- 27 — Film pressure plate attachments (K-6S);
- 28 — Film type selector knob (K-6S);
- 29 — Eyepiece;



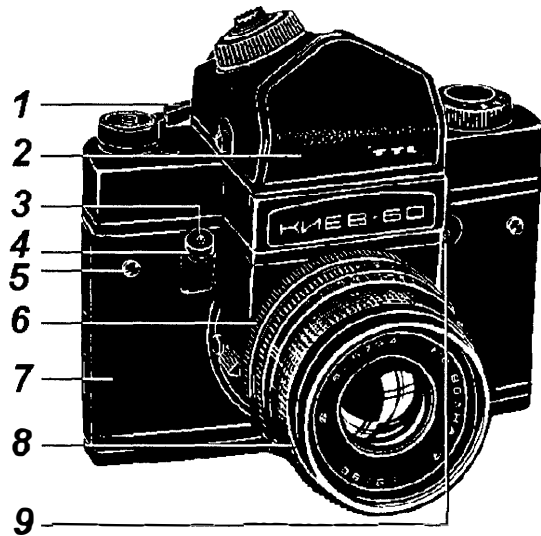
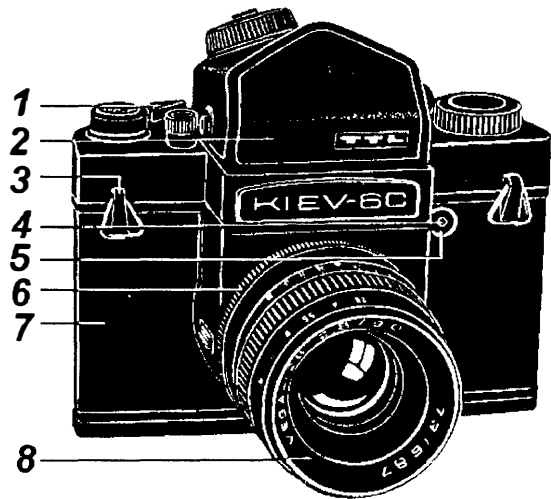


Fig. 3

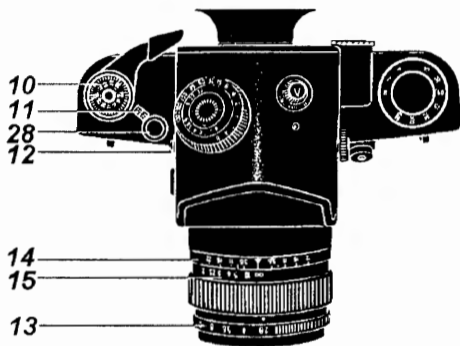


Fig. 4.

- 30 — TTL light meter power switch;  
 31 — Power switch index mark;  
 32 — Battery indicator light (light on=good battery);

- 33 — Film speed in  $\Gamma$ OCT units;  
 34 — Film speed setting dial (at light meter);

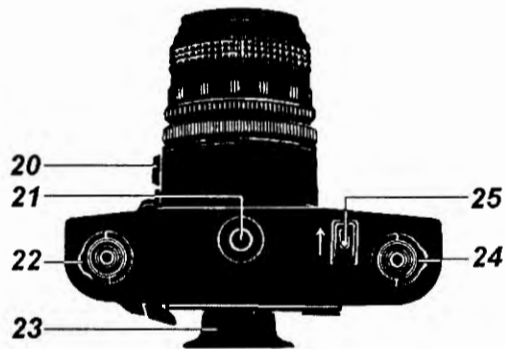


Fig. 5.

- 35 — Index of aperture setting (at light meter);

- 36 — Aperture setting scale (at light meter);
- 37 — Film speed in DIN units;
- 38 — Shutter speed scale (at light meter);
- 39 — Ring of light metering;
- 40 — Shutter speed index mark;
- 41 — Prism lock;
- 42 & 43— Indexes of prism viewfinder lock;
- 44 — Front wall of finder-hood;
- 45 — Lock of magnifying lens;
- 46 — Magnifying lens;
- 47 — Direct frame viewfinder window;
- 48 — Front window cover of frame view-finder;
- 49 — Directing groove for lens mount;
- 50 — Directing pin of lens;
- 51 — Synchronization socket;
- 52 — Support for fastening the flash unit (K-60);
- 53 — Finder-hood;

- 54 — Battery insert;
- 55 — Individual batteries;
- 56 — Battery compartment;
- 57 — Battery compartment cover.

## **THE OPERATING PROCEDURE WITH THE CAMERA**

### **Film loading**

It is possible to load film into the camera in the light (it is desirable to do so in the shadow). Take the camera out of the case. Open the lock 24 (K-6S) or 25 (K-60). Open the back wall 17. Turn locks 22 and 24 counter-clockwise, thus the centers 18 and 19 will be lowered.

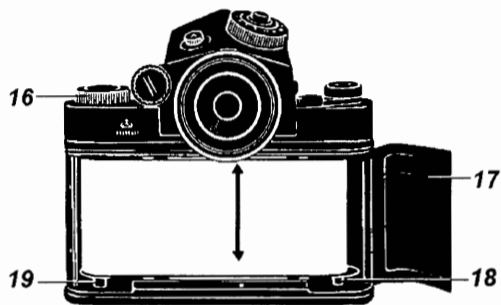


Fig. 6.

Insert into the right film compartment of the camera the take-up spool so that the top center goes into its hole. Holding the spool, place the bottom center 18 into its hole by pressing the lock 22 and by turning it clockwise against the stop.

Tear off the paper label from the end of the backing paper. Insert the spool with a film into the left jack of the camera so that the top center goes into the hole of the spool. Holding the spool and backing paper, so that they are not unwrapped, place the bottom center 19 into the hole of the spool by pressing the lock 24 and by turning it clockwise against the stop.

Insert the end of the backing paper in the take-up spool and, turning it, wrap the backing paper until you align the mark on the backing paper with the red index on the body of the camera

For obtaining the complete amount of film frames and maintenance of correct working of the frame counter, observe the following rules:

- when loading film, wind the backing paper on take-up spool tightly and accurately;

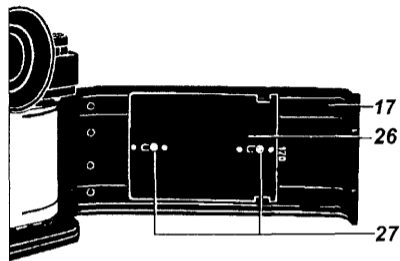


Fig. 7.

- when cocking the shutter, it is necessary to move the lever against the stop in one turn. It is not necessary to cock the shutter by several small turns of the lever.

**For K—6S:** Set the film pressure plate 26 in the position appropriate to the type of film loaded in the camera.

It is necessary to press the pressure plate so that heads 27 slide in the grooves and to move the film-table in position, after which is visible the selected film type printed on the back wall, (220 or 120) (fig. 7).

Close the back, pressing it until it locks.

### Preparation of the camera for shooting

**For K—6S:** Establish in the window 11 the number of the frame appropriate to the type of film loaded in the camera (12 or 24). To accomplish this, hold the dial 28 and turn it until it stops at the correct number.

Make three single snapshots for winding the backing paper on the take-up spool. Then with the next cocking of the shutter there will be a figure "1"

in the window of the frame counter, which corresponds to the first frame on the film. Establish on the reminder scale *10* the speed of the film. To do this, holding the lever *1*, turn the disk with the scale *10* to align the film speed number with the index mark. The scale of sensitivity of the film (film speed) is given in units of systems  $\Gamma$ OCT (same as ASA) and DIN.

### Shooting

The process of shooting consists of the following operations:

- Cocking the shutter and winding of the film;
- Determination of the exposure settings (shutter speed and aperture);
- Setting the shutter speed;

- Setting the aperture;
- Adjusting sharpness;
- Composing;
- Shutter release.

Cock the shutter by turning the lever *1* against the stop. If the cocking is made completely, the lever automatically comes back to the initial position. With an incomplete cocking it remains in an intermediate position (in this case it is necessary to complete the shutter cocking). It is necessary to avoid an incomplete cocking.

At the first part of the cocking action, a slightly greater resistance may be felt than is present during the last part of the movement.

When the shutter is cocked, the film is advanced one frame, and in the window of the frame counter the next figure appears. The counter shows the

number of the exposed frames.

The determination of the exposure settings is made with the shutter cocked. To determine the exposure settings, establish on the calculator the sensitivity of the film loaded in the camera by turning the dial 35 until the film speed in units of ГОСТ (same as ASA) and DIN appears in windows 32 and 37 (fig. 8).

Establish on the calculator the largest aperture of the lens, mounted on the camera by turning the scale 36 until the appropriate number lines up with the index 35.

For determining the correct shutter speed and aperture combinations, execute the following operations:

- Check the condition of the power supply, by turning the switch 30 until the index 31 aligns with

the position "КБ"– ("CHECK"). The control LED 32 should shine. If it does not shine, it is necessary to replace the power supply or to examine the contacts;

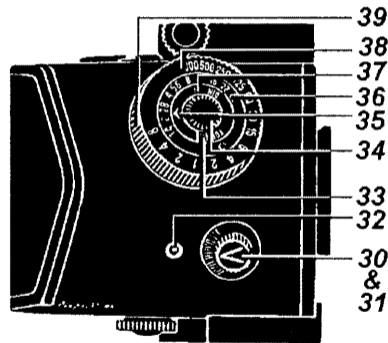


Fig. 8.

- Turn on the exposure-meter by setting the switch 30 in the position "BKJI"– ("ON");

- Looking through the eyepiece 29, direct the camera to the object of shooting so that the image is within the limits of the field of exposure-meter measurement. In the viewfinder of the eyepiece you will see one of two luminous signals: ☉ — underexposure or ☼ — overexposure. Slowly turn the ring 39 until the second signal shines (if the signal ☉ shines, turn it counter-clockwise, if the signal ☼ shines, turn it clockwise). The exposure is determined with the simultaneous luminescence of signals ☉ and ☼;

- On the calculator on the scales of shutter speeds 38 and aperture 36, choose the pair "shutter speed — aperture" necessary for shooting;

After determining the exposure setting, switch off

the exposure-meter by moving the switch 30 to the position "BЫKA"– ("OFF").

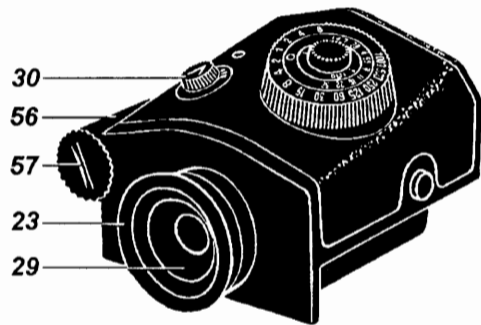


Fig.9.

**Note:** In bright light it is necessary, whenever possible, to not allow light to enter the eyepiece. In this case, it is necessary to apply special rubber eyepieces.



**Note:** The last type TTL prism has a single position switch which turns on the exposure meter. The power source will turn off automatically 15 seconds later.

Set the chosen pair "shutter speed — aperture" on the scale of the shutter speed knob of the camera and on the aperture scale of the lens.

**Shutter speed** can be set both with lowered and with cocked shutter by turning the knob 16 to align the chosen speed with the index 40 on the top plate of the camera (fig. 10). Setting the shutter speed in the range from 1/1000 up to 1/60 sec with a lowered shutter requires greater effort than with the shutter cocked.

Set the shutter speed "B" (by hand) by rotation of the knob only clockwise (between shutter speeds 1/1000 sec and "B" the knob is blocked).

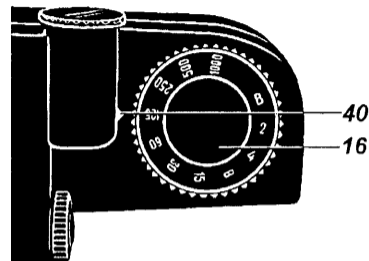


Fig. 10.

Set the **aperture** by turning the ring 13 until the chosen value lines up with the index on the motionless ring. On all apertures the scale is fixed (rotates with clicks).

**Note:** The design of the eyepiece allows you to apply additional dioptic lenses. For installation of a dioptic lens it is necessary to unscrew the eyepiece ring 29 and to

insert the lens (with a diameter 16 mm) into the recess (or space) between the ring and the eyepiece and to fix it by tightening ring again (fig. 9).

Adjust the **sharpness** by rotation of the ring with the scale 15 with the help of the ground glass with microprism spot or by using the scale of distances. Use of the ground glass is carried out only with a cocked shutter, when the mirror is in the working position and the aperture is completely opened.

The depth of sharpness is defined on the scale of distances with the help of an additional scale 14. The depth of sharpness can be previewed by looking at the image on the ground glass in the field of sight of the view-finder by pressing the lever 20 down until it stops.

This causes the aperture of the lens to close to the earlier established setting. When the lever is

released, it automatically comes back to the initial position and the aperture completely opens.

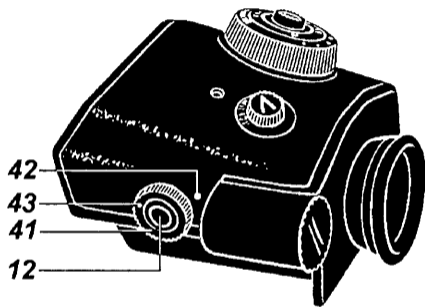


Fig. 12.

Under certain conditions of shooting, the finder-hood can be used for composing.

Replacement of the TTL prism with the finder-hood is done as follows:

Turn the ring 41 clockwise to align indexes 42 and 43 (fig. 12). By pressing button 12, lift the TTL prism view-finder upwards;

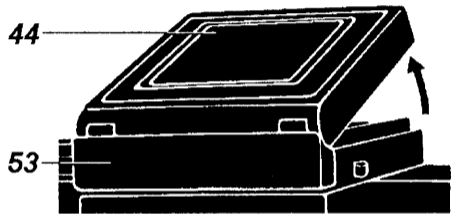


Fig. 13.

Establish the finder-hood 53 on directing pins (to be assured of the reliable fastening of the finder-hood on the camera). Open the finder-hood by turning the forward wall 44 in the direction of the arrow in fig. 13. In the final position the forward

wall of the finder-hood is fixed, and the lateral and back walls are automatically set in place. Moving the locking lever 45 upwards sets the magnifying lens 46 in the working position (fig. 14).

Upon the termination of shooting when using the finder-hood, press the wall of the magnifying lens to the forward wall 44 to lock it in the up position, then press down the lateral walls (at first left, then right), then the back wall and, holding them, return the forward wall to its initial position.

During action shooting (for example sports) the finder-hood can be used as a simple frame view-finder (fig. 15). One frame is provided by a window 47 in the back wall of the finder-hood, and the second by a window in the forward wall, normally closed in the non-working position by a cover 48. By pressing the cover, it turns and is locked in the

down position.

Adjusting sharpness when working with the frame view-finder is carried out by using the scale of distances *15* of the lens or through the eyepiece on ground glass.

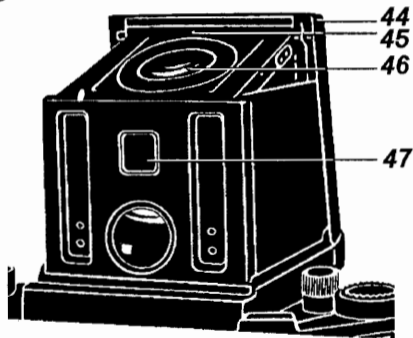


Fig. 14.

18

To close the frame view-finder it is necessary to press the wall of the magnifying lens, thus the cover *48* will come back to its original position. After folding the frame view-finder, close the finder-hood by the way specified above.

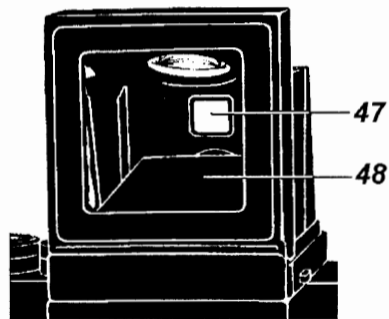


Fig. 15.

Smoothly press the button 4 until it stops, releasing the shutter. Thus the automatic aperture of the lens closes to the preset value, the mirror automatically rises, and the shutter works.

If the shutter speeds are longer than 1/30 sec it is recommended to photograph from a support. The tripod socket of the camera has a 3/8" thread. The shutter release is carried out by a special shutter release cable, which is screwed in the threaded socket 3 of the shutter release button (fig. 3).

### Replacement of the lens

The design of the camera allows the use of interchangeable lenses. To remove the lens, it is necessary to turn the nut 6 counter-clockwise against the stop and to disconnect the lens from the

camera.

When mounting the lens, it is necessary to insert it into the camera so that the directing pin of the lens goes into the groove 49 on the body of the camera (fig. 16). Then turn the nut clockwise against the stop (the lens will be locked on the body of the camera).

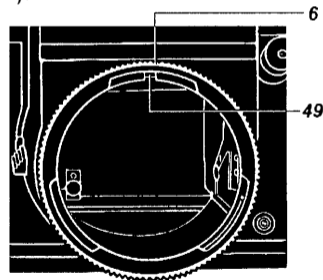


Fig. 16.

### Unloading the film from the camera

Shooting can be continued until the letter "K" (end) appears in the window of the frame counter, indicating complete use of the film. After that it is necessary to wind the remaining backing paper onto the take-up spool with the help of the cocking lever. The shutter mechanism at this time is switched-off, therefore the shutter release button should not be pressed with each cocking.

Upon termination of winding (when the effort needed to move the winding lever decreases) open the back wall of the camera, remove the take-up spool and take out the spool with exposed film.

### Shooting with a lamp-flash

The camera is supplied with a synchronization

socket 51 for connection of flash units. Shooting with flash units is possible with shutter speeds from  $1/30$  up to  $1/2$  sec.

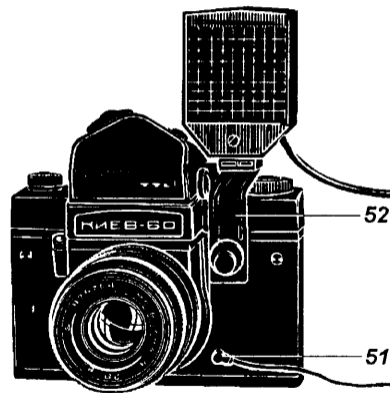


Fig. 17

**(For K-60)** For mounting the flash units the special support 52 with standard accessory shoe is supplied in a complete set of the camera. It attaches to the camera with the help of a special nut (fig. 17).

### **Close-up (macro) shootings**

For photographing small subjects close up, extension rings are supplied in a complete set of the camera. The application of rings allows shooting at distances less than 0.6 m, that being the minimal focusing distance for the standard lens "VEGA-12B" or "VOLNA-3B". Install the rings between the body of the camera and the lens, mounting them the same as an interchangeable lens. The rings can be connected together (in this case the distance of shooting will be the least and will be about 0.3 m).

When using the finder-hood and rings it is necessary to increase the exposure which has been determined by use of an exposure-meter. Increase the exposure according to the data given in table 2. When using the TTL prism view-finder, the influence of the rings on the exposure is taken into account automatically.

### **Installation and replacement of the power supply**

Unscrew the cover 57 with the help of a coin inserted in the slot in the cover.

Insert the battery into the battery compartment 56, by positioning the positive end toward the battery cover (on the inside of the cover there is the "+" symbol).

When using three cells 55 with a voltage of 1.3 V

each, place them into the battery insert 54, as shown in figure 18. Improved TTL prisms have a built-in battery insert intended for modern (A)G-13, LR44, L1154, A76 and 357(A) button cells.

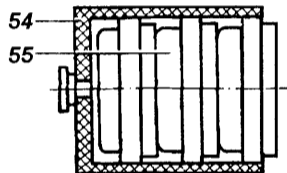


Fig. 18.

### Application of filters

Included in the complete set of the camera there are filters which screw into the front of the lens, with appropriate threads M58x0.75 or M62x0.75.

Filter  $Y\Phi-1x$  (UV) is colorless, and is used for reducing the influence of ultra-violet light. For example, for shooting in high-mountainous conditions, and also photographing with color film.

Filter  $\mathcal{K}3-1,4x$  (YG) is light yellow-green, and improves the imaging of multicolor objects on high-sensitivity films with insignificant loss of their sensitivity. On films of an average photosensitivity, practically correct imaging of multicolor objects is achieved. Can be used only with black-and white films.



Table 1

**Replaceable lenses designed for "KIEV-6S TTL" & "KIEV-60 TTL" cameras**

<b>Lens brand</b>	<b>Relative aperture</b>	<b>Focal length, <i>mm</i></b>	<b>Angle of view, <i>degrees</i></b>
ZODIAK-8B — fisheye	1:3.5	30	180
MIR-26B— wide-angle	1:3,5	45	83
MIR-3B & MIR-38B — wide-angle	1:3,5	65	66
VEGA-28B — long-focus	1:2.8	120	41
KALEYNAR-3B — long-focus	1:2.8	150	28
JUPITER-36B — telephoto	1:3,5	250	19
3M-3B — telephoto	1:8	600	7°30'

Table 2

Designation of ring installed on the camera, <i>m</i>	Factor of increase of exposure from that determined with exposure-meter (when the lens is set to a focusing distance of 0.6 <i>m</i> ).
0.4	~ 2x
0.35	~ 3x
0.4 + 0.35 (two rings together)	~ 3,5x

## CAMERA & LENSES CARE TIPS

It is necessary to use the camera carefully to maintain its cleanliness, and to protect it against shocks, impacts, dampness and sudden fluctuations of temperature. Store the camera in the closed case. The lens should be protected with a lens cap, and the replaceable finder-hood should be in the storage compartment provided for it in the case.

It is not recommended to unnecessarily remove the lens from the camera (to protect it against pollution and dust collecting on the surface of the lens). If the camera is stored without a lens, the opening in the camera and the rear of the lens needs to be covered.

Wipe the surfaces of the lens (if it is necessary) with a clean soft fabric or cotton wool slightly moistened with spirits or ether.

When bringing the camera in from freezing temperatures to a warm room, it should not be taken from the case immediately. It is recommended to give it time to gradually (within two hours) get warm in the case, to prevent the condensation of moisture on the exterior and interior of the camera and lens.

Do not apply excessive force with the manipulation with the camera. When a defect or damage is discovered, do not repair it at home; use only a special repair service.