

SALYUT camera

Operation manual

Purpose of the camera

The camera "Salyut" is hi-end SLR camera with 55x55mm image size. The camera is intended for wide and versatile application in research work, for the picture story, for making of technical pictures, and for the amateur purposes. The resulting negatives allow to produce big high-quality prints.

Specifications

The camera comes with "Industar-29" lens with instant return diaphragm. Focal length of the lens is 82.2 mm, relative aperture is 1:2.8.

Metal curtain shutter provides automatic exposures of 1/1500; 1/1000; 1/500; 1/250; 1/125; 1/60; 1/30; 1/15; 1/8; 1/4; 1/2, and also any exposure by hand - "B".

The camera has self-timer and synchronizer, allowing shooting with pulse and disposable flash lamps.

Cocking the shutter is coupled with film advance.

Focusing is accomplished by wedge device and ground glass. Condenser lens and instant return diaphragm allow using the optical viewfinder and range finder at low light.

The camera is supplied with two film backs that allows to switch between different films quickly.

You can take 12 pictures on 6cm film. The film back loading can be done at daylight. The lens is interchangeable.

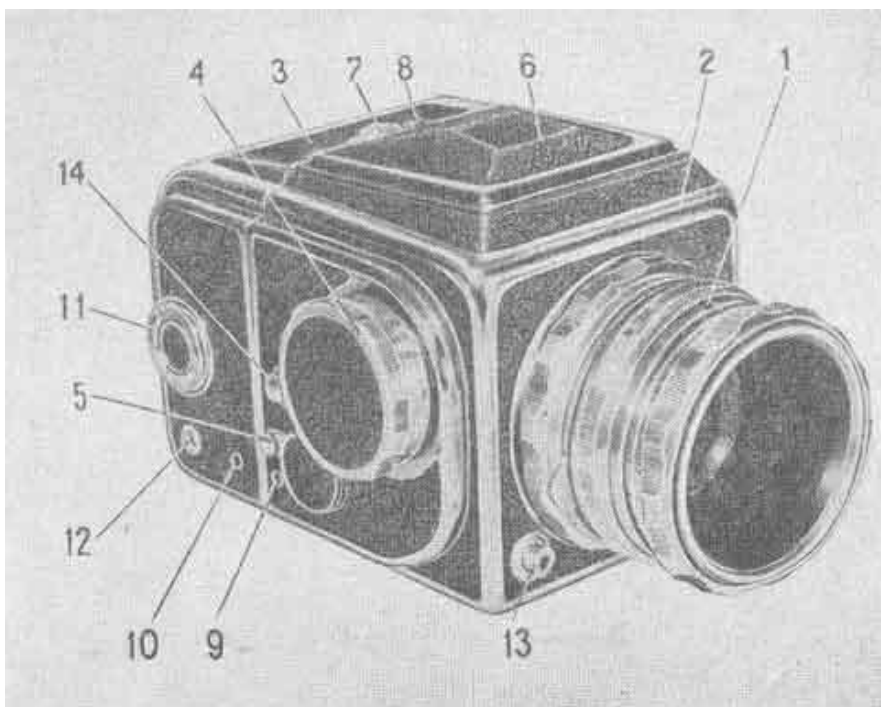
Dimensions of the camera: 180x105x102 mm.

Weight of the camera with the lens and the film back is 1,6 kg.

Delivery set

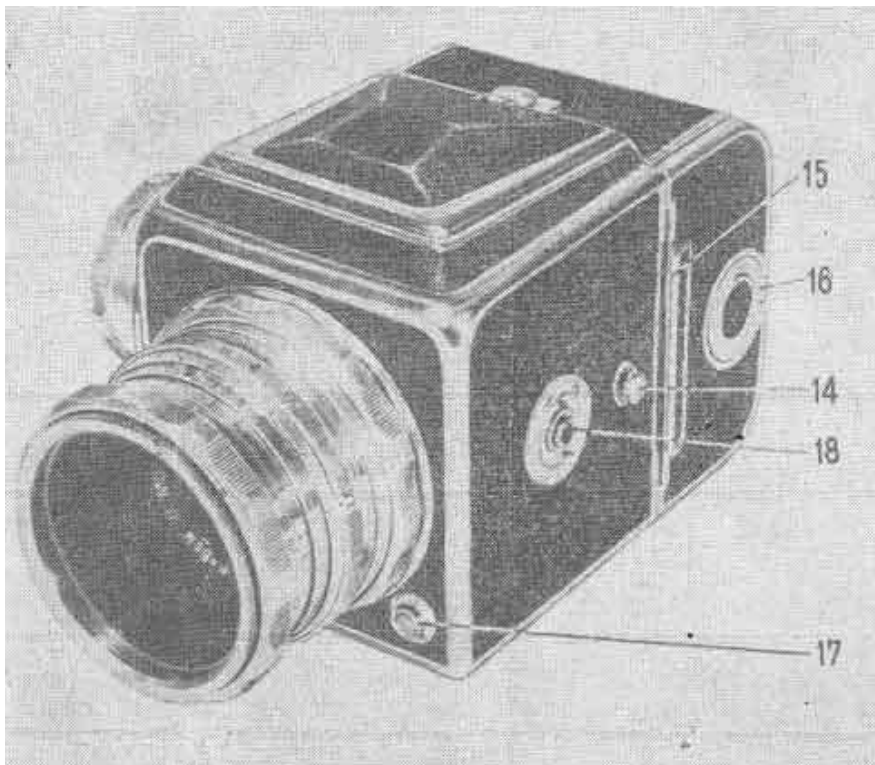
- | | |
|---|---|
| 1. The camera with "Industar-29" lens, film back with take-up spool, and shoulder strap | 1 |
| 2. The set of optical filters | 3 |
| 3. The lens cap | 2 |
| 4. The spare film back with take-up spool | 1 |
| 5. The cable release | 1 |
| 6. The case | 1 |
| 7. The shoulder strap of the case | 1 |
| 8. The manual | 1 |
| 9. The passport | 1 |

Exterior of the camera



Picture 1. Exterior of the camera.

1 - the lens; 2 - the camera body; 3 - the film back; 4 - the shutter cock crank; 5 - the self timer head; 6 - the shaft of the viewfinder; 7 - the film back lock button; 8 - the viewfinder shaft button; 9 - the shutter cock indicator; 10 - the indicator of the film exposition; 11 - the rewind crack; 12 - the picture counter window; 13 - the shutter release button; 14 - the strap locks button; 15 - the film back slider; 16 - the handle of the film transport mechanism lock; 17 - the lens lock button; 18 - the synchronizer disk.



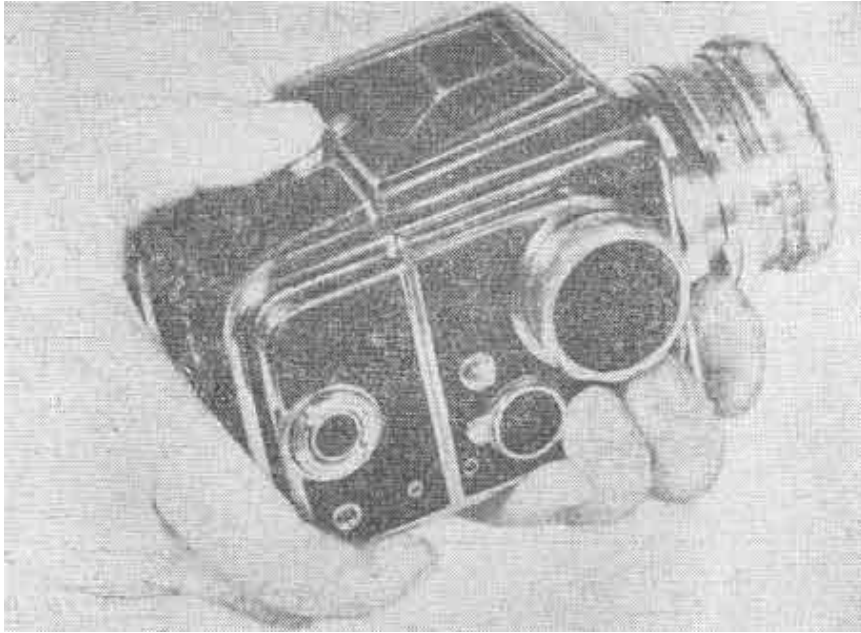
Picture 2. The synchronizers side view.

Using the camera

The camera outfit is placed into special case. To prepare the camera for operation, take it out of the case and prepare to load the film back with film.

Loading the film back

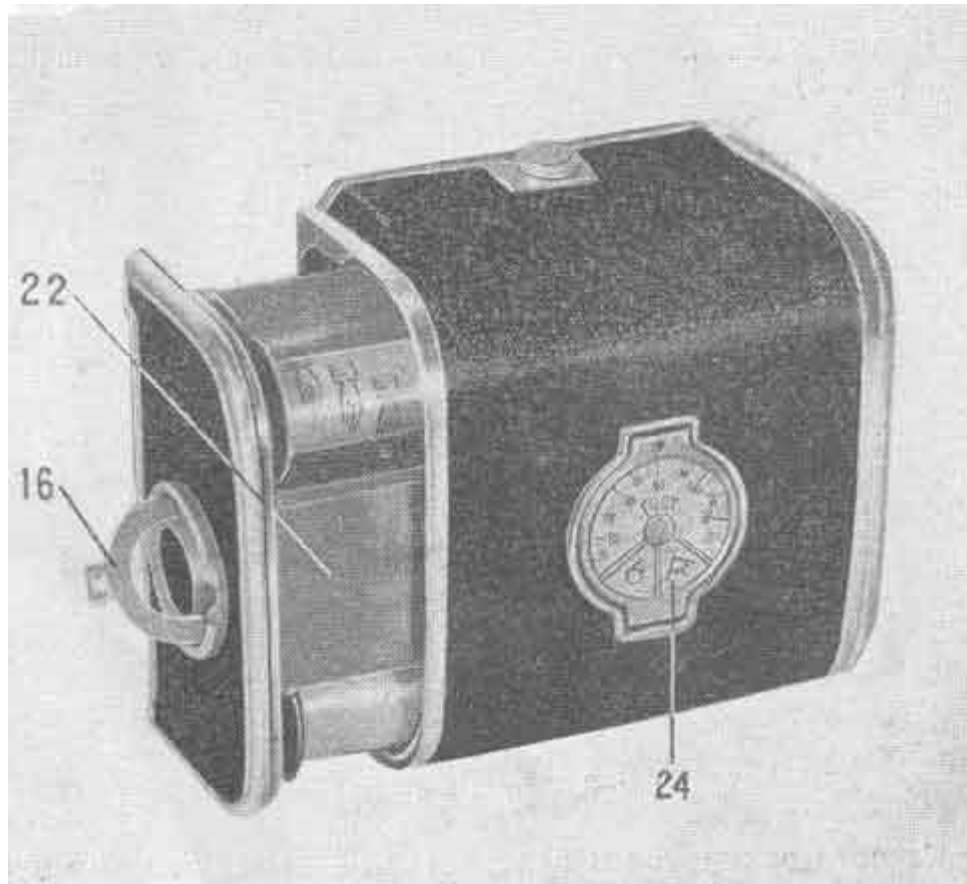
To load the film back, remove it from the camera (Picture 3).



Picture 3. Removing the film back

The slider should be inserted into the film back fully during mounting or removing the film back from the camera (Picture 2), and shutter should be cocked. The lock of the film back releases automatically upon pulling the slider out. This prevents accident film light-strike during the film back removing.

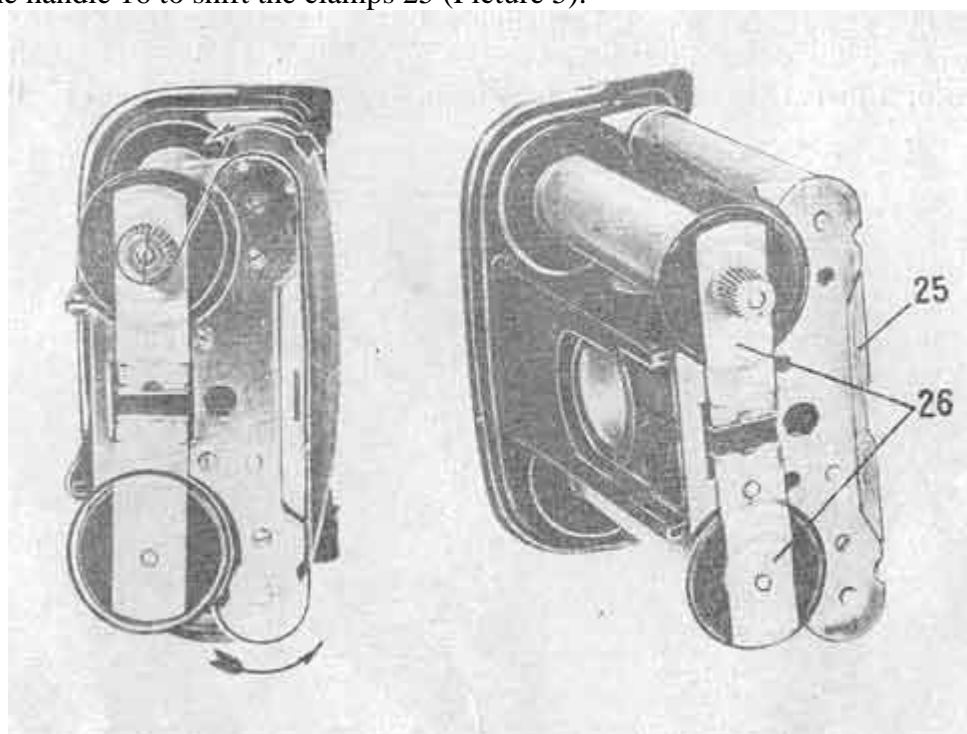
To remove the film back from the camera it is necessary to shift the button 7 (Picture 1) of the film back lock in the arrow direction and remove the film back from the camera, turning it from the top downward. Then lift the film transporting mechanism handle 16 and turn it counter-clockwise until stop. Pull the mechanism 22 from the film back (Picture 4).



4. Extraction of the transporting mechanism from the film back.

The film spool is installed onto the centers of the bottom slot so that the spool's groove is pointed toward the bars 26. The take-up spool should be installed into the top slot. To install the spools, lift the bars 26 (Picture 5).

Then turn the handle 16 to shift the clamps 25 (Picture 5).



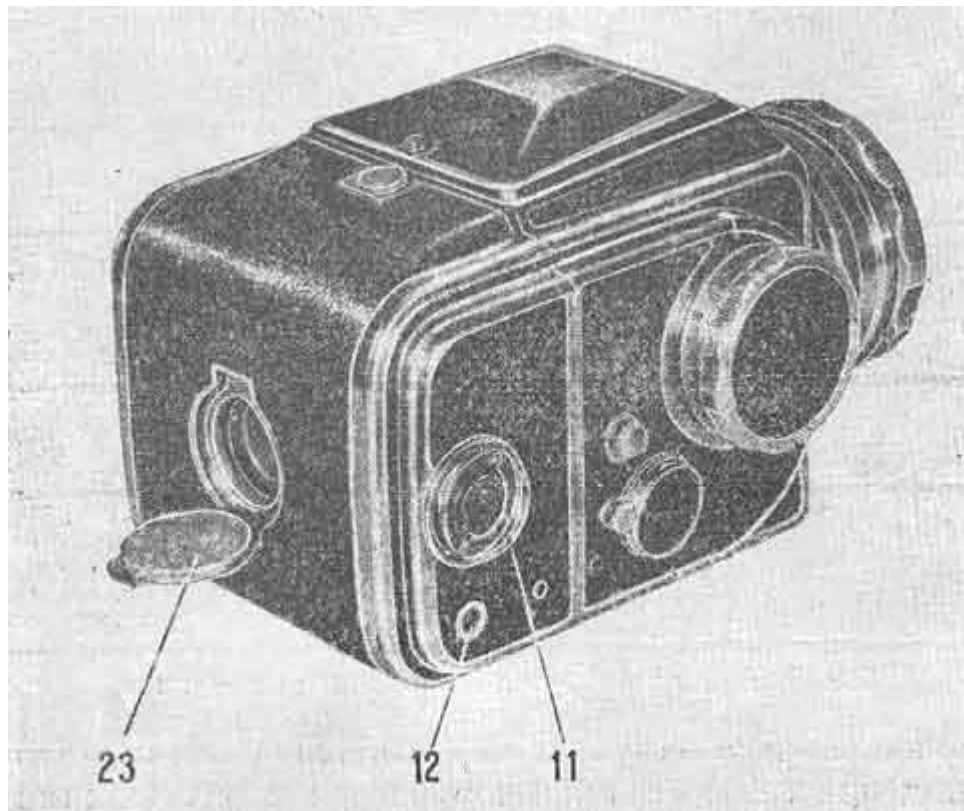
Picture 5. The film back transporting mechanism.

The film leader should be passed through the bottom roller, then under the clamps, under deflectors (as shown at the Picture 5) and secured at the take-up spool finally.

Turn the handle 16 in reverse direction to shift the clamps back to the plate. If the film has been loaded correctly, black side of the film leader will be pointed toward the lens.

Turn the crank 11 counter-clockwise until you'll see number '1' in the picture counter window 12.

Insert the transportation mechanism into the film back (you may have to turn the crank 11 a bit to insert the mechanism fully) and shut the lock handle 16. Insert the slider 15 fully. Open the window 23 (Picture 6) on the rear part of the film back. Turn the crank 11 until you'll see number '1' in the window 23.



Picture 6. The inspection window.

Mount the loaded film back onto the camera. The film will advance automatically during shutter cock. You'll see number of the current picture in the picture counter window.

Indicators 9 and 10 (Picture 1) tell you about current frame condition. The white color means this frame isn't exposed yet. Red color means that current frame has been exposed already.

Rear side of the film back has a film type reminder 24 (Picture 4) to memorize a type and sensitivity of the loaded film.

Cocking the shutter and setting of the shutter speeds

The shutter cocking and shutter speed setting is accomplished by the same handle 4 (Picture 7).

To cock the shutter, turn the handle clockwise until stop. Shutter state is indicated in the window 9: white color means cocked shutter; red color means released shutter.

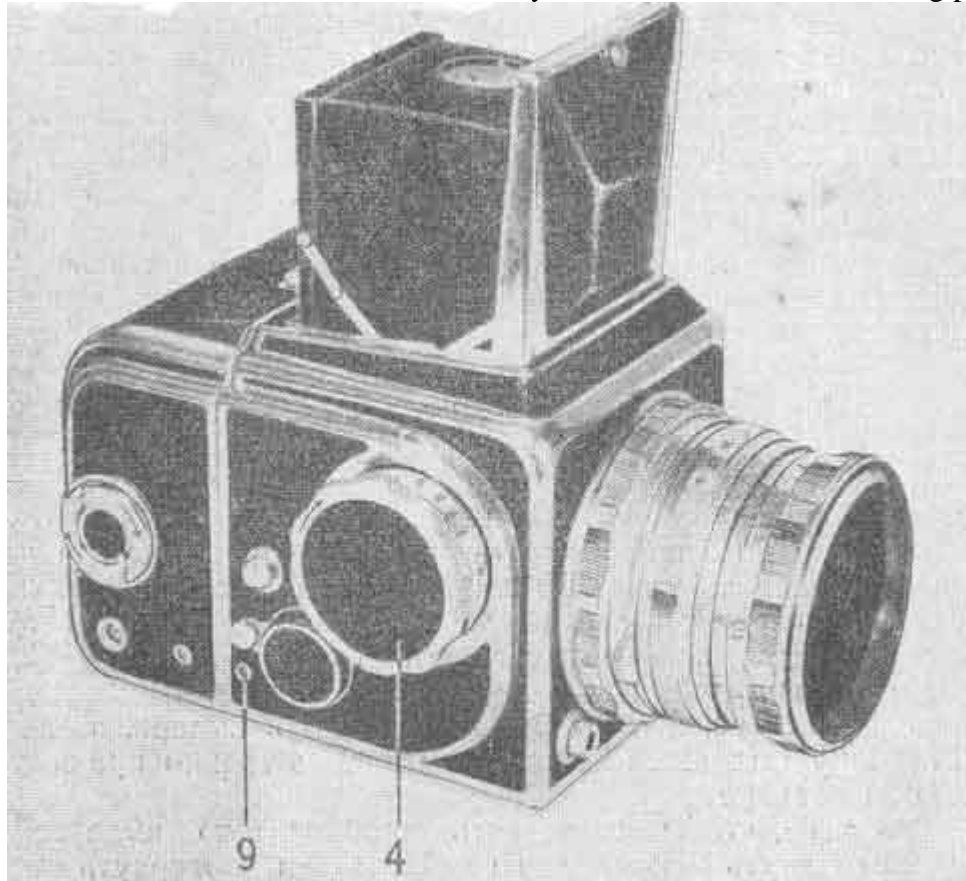
Cylindrical surface of the handle 4 inscribed with values of shutter speeds from 1/1500 up to 1/2 sec, and 'B'. **Set the speeds after cocking the shutter only.**

To set required speed, it is necessary to pull the handle, turn it in any direction to match the required speed with the index on the camera body, and **push the handle so that it is fixed back.**

Focusing and aperture set

The Salyut camera has coupled rangefinder.

It is possible to focus the lens with cocked shutter only, when the mirror is in working position.



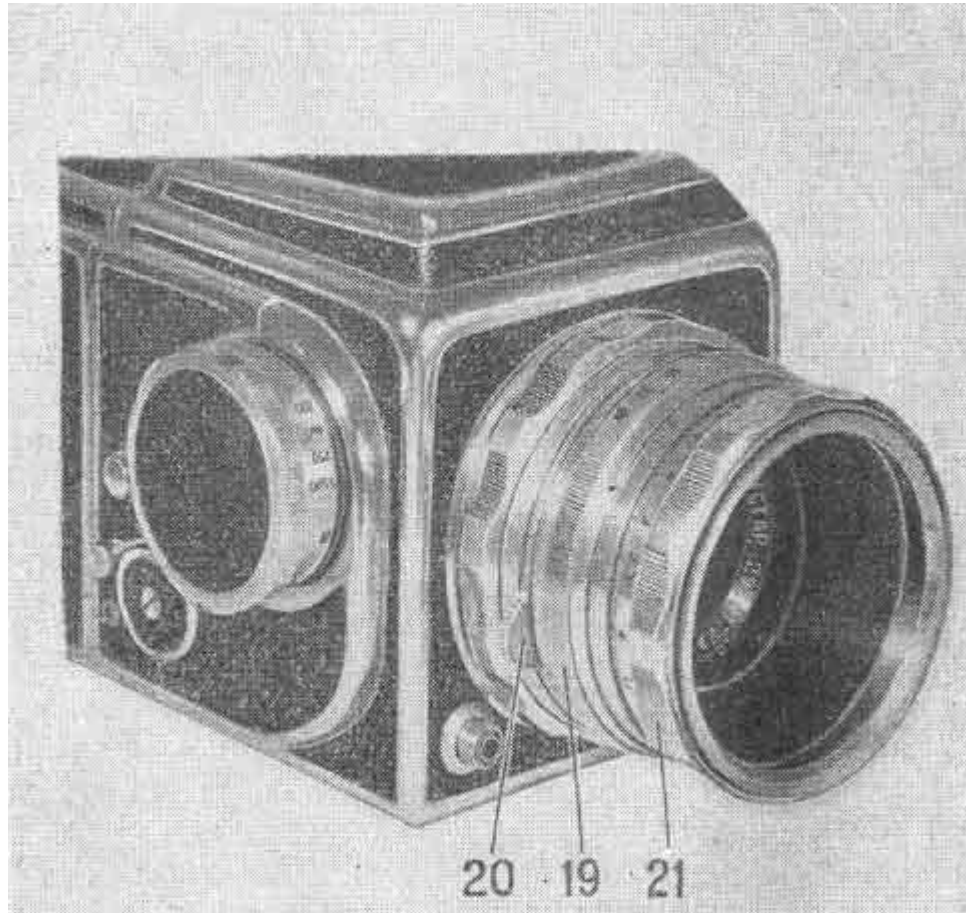
Picture 7. The control handle.

To focus the camera, it is necessary to open the viewfinder shaft by shifting the button 8 (Picture 1) in the arrow direction.

Second shift of the button 8 puts the viewfinder magnifier into operating position. It is recommended to focus the camera with fully open aperture, but it is possible to focus at any aperture values if necessary.

To set the aperture value, it is necessary to open it fully initially.

To open the diaphragm, turn the ring with lug 20 until stop (Picture 8).

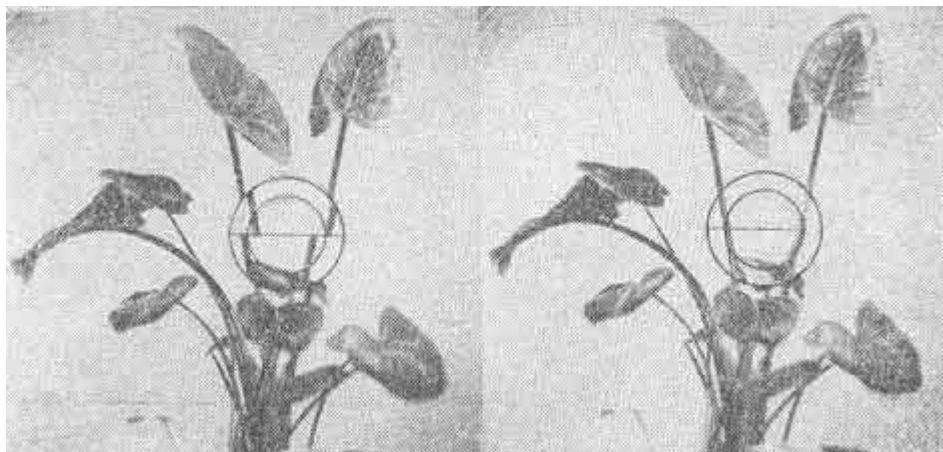


Picture 8. Opening the diaphragm.

Desired relative aperture of the lens is set by turn of the ring 19.

The lens has special catchers allowing to set chosen aperture values quickly. Focusing the camera is carried out by turn of the lens ring 21.

There are focusing wedges in the center of the ground glass. They allow focusing the camera by overlapping of two image halves (Picture 9). The image is observed through the viewfinder magnifier.



Picture 9. Focusing by means of wedges.

If the shooting object has no sharp vertical contours, you can focus by means of ground glass.

The viewfinder allows to keyframe the object. Field of view corresponds to size of 55x55 mm frame.

The viewfinder of Salyut camera has increased brightness of the ground glass image.

The increased brightness is provided by flat condenser lens. This allows focusing the camera at low light conditions.

You can see concentric rings in the viewfinder. These are parts of the condenser lens. It is not defect, and this doesn't interfere with focusing or keyframing.

Releasing the shutter

It is necessary to remove the slider 15 (Picture 15) before releasing the shutter.

To release the shutter, press the shutter release button 13 (Picture 1) located at the right bottom part of the front side of the camera. You can release the shutter by hand or by cable release. The lens diaphragm is closed down to preset value, and mirror is lifted automatically before shutter triggering upon pressing the release button 13.

It is recommended to hold the shutter release button until end of the shutter operation cycle at long exposures (1/8..1/2).

Whereas the main operations with the camera (visioning, shutter speed set, shooting) are possible with cocked shutter only, it is necessary from the very beginning to get used **to cock the shutter right after release**. High quality shutter springs allow keeping the camera with cocked shutter for a long time.

Using the synchronizer

The camera has synchronizer for shooting with pulse and disposable flash lamps.

The synchronizer disk 18 (Picture 2) is located on the left side of the camera.

There is a jack for connecting a flash lamp in the center of the disk. The scale of the synchronizer disk has two symbols and red mark.

You can turn the disk by means of the special pin. Shooting with pulse flash lamps should be done at 1/30 sec. Red mark should be positioned against the symbol in this case.

In case of using disposable flash lamps having a long uniform luminescence, the red mark is established against the symbol , and shooting may be done at shutter speeds from 1/1500 up to 1/8 sec.

Shooting with disposable flash lamps with non-uniform luminescence should be done at 1/8 sec. The red mark should be positioned against the symbol in this case.

Using the self-timer

The self-timer is located under the control handle on the right side of the camera.

To wind the self-timer, turn the self-timer head 5 (Picture 1) counter-clockwise until stop. To start the self-timer, press the release button 13. The self-timer has 9-15 sec delay time. Wind the self-timer with cocked shutter only. It is not recommended to use the self-timer at 'B' shutter speed.

Unloading the camera

After taking 12 pictures, the camera should be unloaded. It is necessary to insert the slider 15 and remove the film back from the camera. Then rotate the rewind crank 11 (Picture 6) until whole film leader will be wound onto take-up spool. After that you can remove the spool from the film back at daylight.

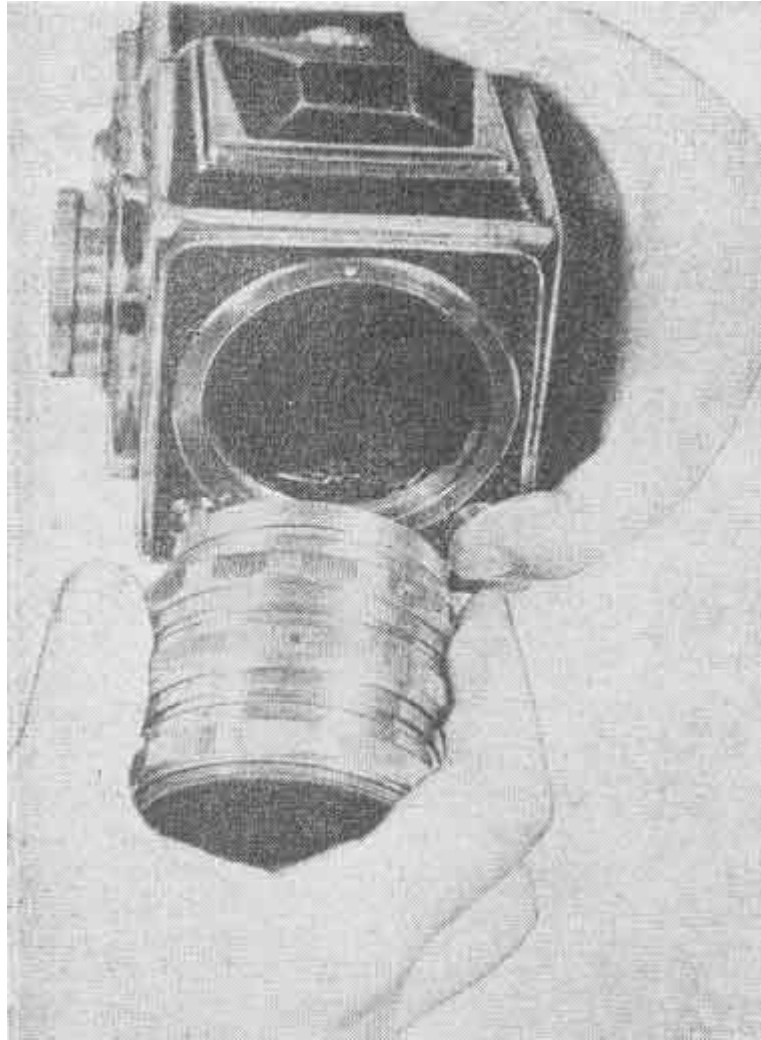
Changing a lens and using a filters

You can use interchangeable lenses with the camera (wide angle, tele lens etc.)

To replace a lens (Picture 10): press the lens lock button 17 (Picture 2), turn the lens counter-clockwise on 1/3 of full turn, and pull it out of the camera.

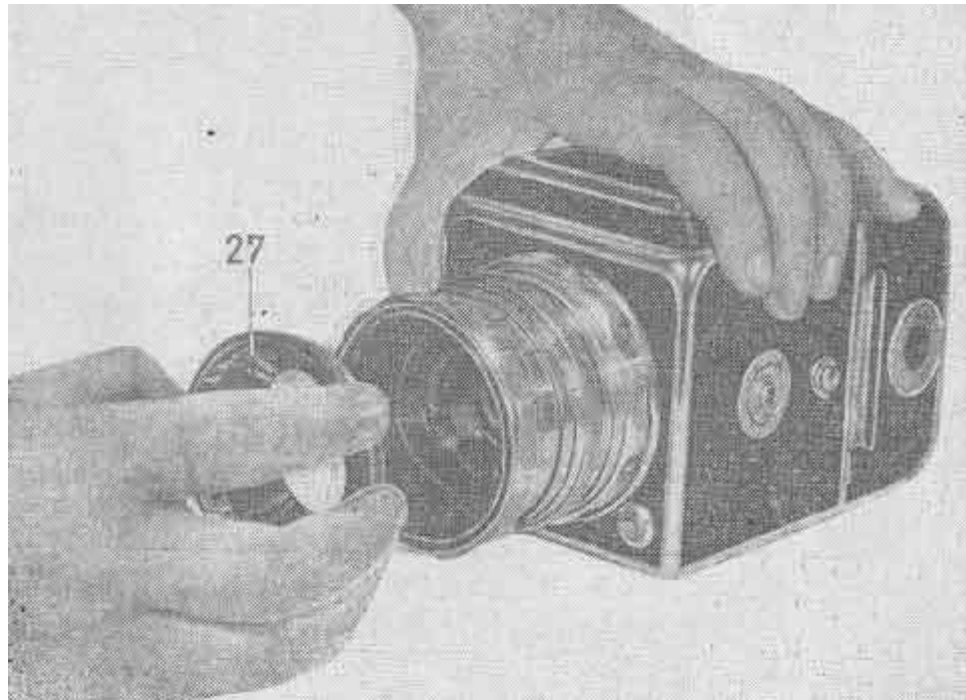
To install a lens, match red dots of the lens and the camera, insert the lens into the camera, and turn the lens clockwise until click.

The lens diaphragm should be fully open during removing or installation.



Picture 10. Changing the lens

The camera outfit includes a set of optical filters YB-12, YB-17, OB-12 in special mounts. To install the filter, it is necessary to set the lens to 0.9m distance, screw out the ring 27 (Picture 11), screw the filter into the ring, and then screw the ring with filter back to the lens.



Picture 11. Installation of the filter

Practical advices

You can shoot from hands, from support and from any steady horizontal surface.

There is support nut at the bottom of the camera.

It is recommended to carry the camera as it is shown at the Picture 12.



Picture 12. Carrying position of the camera.



Picture 13. Keyframing.



Picture 14. Focusing.



Picture 15. Shooting at overhead position.

There are special buttons on the sides of the camera to fast a carrying strap to them
Normal position of the camera during taking pictures is shown on the Pictures 13, 14, 15.
It is not recommended to bring the camera from cold into warm room since this causes moisture condensing in the camera.
Long stay of the camera at cold may slow down automatic setting of the diaphragm and increase exposure therefore.
So, it is recommended to not keep the camera at cold air (minus 10°C or lower) for a long time.
There is no need to apply significant force operating the camera.
Store the camera in its case in dry place.
It is necessary to preserve the camera against strong strikes and protect it from dirt, moisture and dust.
Do not disassemble the camera mechanism yourself.
Qualified experts only may do repair and adjustment.
The lenses of the camera are coated. That is why it is necessary to take good care of them to minimize necessity of cleaning. You can wipe the lens with clean (well washed) flannel, print or cambric napkin or cotton wool slightly moistened with spirit-rectificate or ether. Use dry napkin to wipe a possible smudges.
Glass of the viewfinder should be cleaned after removing the viewfinder shaft.
If the lens' coating layer will be damaged, the lens will have better optical transmission and contrast than non-coated lens anyway.
There are some tiny bubbles can be noted in some lenses during careful examination.
Presence of some of these bubbles in complex Soviet and foreign lenses is allowable due to technological difficulties of optical glass manufacturing.
The sizes and quantity of the bubbles practically do not affect image quality. These bubbles are not considered as defects.

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