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# The Krasnogorsk-3

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## Operating Instructions

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Sold by  
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## INTRODUCTION

Congratulations on your purchase of one of the best things ever made in the USSR, the **Krasnogorsk-3** motion picture camera! Built as rugged as a T-72 Tank and as precise as the MIR space station, the K-3 will give you many years of reliable use. Refer to the diagrams on the final page and take a few minutes to familiarize yourself with the controls and mechanism of the camera. We've included a short length of 16mm film you can use to practice loading.

## LOADING THE CAMERA

1. Select a clean dust-free area away from direct sunlight,
2. Wind the camera a few times (it winds counterclockwise).
3. Adjust the camera speed control knob to 8 frames-per-second,
4. Flip the camera over so that the lens is pointed to your left and remove the magazine cover. Place the cover down gently and try not to get it dirty.
5. Remove any empty daylight reels from the camera.
6. Spray a burst of compressed air into the magazine to blow away any dust or debris. Check the film gate by opening it slightly (or removing it). [To remove the film gate push it open to its widest and gently pull it upwards.] If the gate does not appear to have any hairs or dust accumulated don't clean it! If it is dirty use a Q-tip or orange wood stick to clean it. You should never clean the gate with compressed air as some types can leave a harmful residue on the lens or mirror elements.
7. Unpack your unexposed film. Unroll approximately 18 inches of film and place the roll on the top spindle of the magazine so that the film comes off the bottom of the roll. Remember to push the footage counter arm aside when placing the film on the spindle.
8. Place the end of the film into the feed side (top) of the sprocket assembly. If the end of the film is jagged use scissors or the film cutter located inside the magazine to trim it straight.
9. Slowly feed the film into the sprocket assembly by pressing the trigger on the front of the camera. Watch the film carefully, if it starts to jam push, pull, or guide the film as necessary through the camera until it has emerged from the take up side of the sprocket assembly.
10. The film should be pressed against the plastic guides located at the top and bottom of the gate (this is your film loop). If the film has pulled away try to adjust it to the proper size by gently pulling film into the loop from the feed side of the sprocket assembly. You can open the sprocket assembly on the feed or take-up side to make adjusting the loop easier by lifting the smooth round pin (#25 in diagram) on the bottom or top of the assembly.
11. Run some film (at least two feet) and make sure the film is running through the camera properly. If running properly the film will emerge without scratches or ripped sprocket holes from the take up side of the sprocket assembly.
12. If you notice the pressure plate pulsing in and out as you run film, this means the pulldown claw is not engaging the film properly. Pull out the pressure plate and slide the film so that the pulldown claw is engaged. You might have to shorten the take-up loop.
13. Wind the excess film snugly around an empty daylight reel by turning the reel in a clockwise direction. Then place the reel onto the take up spindle.
14. Replace the side cover and lock it in place.
15. You are ready to film! If you hear a sudden change of sound from the magazine while filming it may be a good idea to check on it. Opening the camera in the middle of a roll will only expose approximately four to eight feet of film. If your camera should for some reason jam, try to adjust the film so that it runs smoothly. In the event you have to rip the film to free it either remove the original take up reel and start another by following the loading sequence, or splice the film back together but make sure you make a note of the film break for the lab.

On some K-3's the plastic film guides have been removed. In this case, just make the loop manually. The top loop should have about 4 perforations visible. The bottom loop about 7. As long as the camera runs properly, exact loop size is not critical.

## WINDING THE CAMERA

The spring motor uses a governor to maintain a constant film speed from the beginning of a shot until the spring has wound out. To wind the spring use the winding lever located on the side of the camera. Lift the handle into a vertical position and turn it counter-clockwise. Wind the camera as much as needed or until the lever encounters resistance. The camera will run for approximately 25 seconds at 24fps when wound completely. At higher speeds the camera will run for less time.

## SPEED CONTROL

The K-3 has a variable speed control for frame rates between 8 and 48 frames per second. Camera speeds in excess of 48 and less than 8 frames per second are also possible, but difficult to determine accurately. To change the speed turn the speed control to the appropriate setting. Normal speed is 24 fps, lower speeds create speeded up motion and faster speeds create slow motion. DO NOT RUN AT HIGH SPEED WITHOUT FILM.

## SHUTTER SPEED

The shutter speed is dependent on the filming speed. Refer to the chart below.

Filming Speed (fps)	Shutter Speed
8	1/20
12	1/30
16	1/40
24	1/60
32	1/80
48	1/120
(single frame)	1/30

## THE VIEWFINDER

The camera can be adjusted so that a person with other than 20/20 vision can use the camera without glasses. To do this you must adjust the camera's viewfinder (also called a diopter) to your eye. First loosen the small screw above the viewfinder. Then focus the camera on infinity, open the lens to F-1.9, and point the camera at a bright object. Next while looking through the viewfinder focus the grain visible in the viewfinder until it is sharp and clear, by turning the viewfinder to the left and right. If you have difficulty focusing on the grain in the viewfinder you can remove the lens from the camera by unscrewing it from the body, and then attempt to focus on the grain. Tighten the screw on top of the viewfinder to lock it in place.

Sometimes particles of dirt can be on the ground-glass and show up in the viewfinder. These will not affect the image on the film. If they bother you there are two ways to clean the ground-glass.

To get to the ground-glass, you must first remove the lens. Just unscrew if your K-3 has a screw-mount. To remove a bayonette-mount lens, push the two little knobs clockwise about 10 degrees, then pull the lens straight out.

If you look into the mirror, you will see the reflection of the ground-glass (it is above the mirror). You can brush away little dust particles with a small paintbrush. If that doesn't work, you can use a swab damp with alcohol to clean the ground-glass. Be gentle and patient. You will find that it might take a few tries to get it clear. In the beginning, you'll just move the dirt around.

## ANIMATION / TIME-LAPSE

The Krasnogorsk-3 can shoot one frame at a time for animation or time-lapse. There is a small hole at the rear of the camera where a cable release screws in. Any standard cable release used for 35mm film cameras can be used. Press and release firmly and smoothly, and one frame of film will be exposed.

Cover the viewfinder when shooting single-frame to prevent light leaking in and fogging the film. The cap from a 35mm film canister is a perfect fit (pull off the rubber eyepiece and snap on the cap). Also, cap the lens between exposures if the time between exposures is greater than 10-20 seconds. What you set the speed control dial to doesn't make a difference in the single-frame shutter speed (about 1/30<sup>th</sup> sec). It's best to just leave it at 24.

## FILTERS

The K-3 comes with either five or three filters. The filters can be used by simply screwing them into the front of the lens (the sunshade must be removed). One filter or a combination of filters can be used to achieve the desired effect. Remember that in using any of the filters (except the UV) you will be decreasing the amount of light entering into the camera so you must compensate.

- Ultra Violet (or haze): This filter is used with color film stocks to compensate for the bluish tint ultra violet light can cause when shooting outside. It can be left on with black and white film to protect the lens.
- Neutral Density: This filter is used when shooting on very bright days to reduce the amount of light entering the lens by four stops. The filter does not change the image recorded by the camera in any other way.
- +2 Diopter: This is not really a filter, but acts to halve the minimum focusing distance from an object. It's the one that magnifies.
- Light Yellow 1.4: This is used in black and white filming to darken the sky or other blue objects in the scene.
- Dark Yellow 2.0: This filter will make the sky or other blue objects darker and add to contrast in black and white filming.

The K-3 uses standard 77mm filters. Try a red filter for shooting with black and white film and a polarizing filter when shooting color outdoors. You don't need an expensive "circular polarizer" for the K-3, a "linear polarizing" filter will work fine.

## FOOTAGE COUNTER

The built-in footage counter works automatically when the camera cover is shut. The counter reads the footage remaining on your film roll in five meter increments. When fully loaded the counter will read 30 and when empty, 0. A standard 100 foot daylight load will read 30 when unused, 15 when 50 feet remains, and 0 when empty.

## CARE AND MAINTENANCE

You will find your Krasnogorsk-3 motion picture camera to be reliable, rugged and capable of taking many abuses. However, it is also a precision instrument and care should be taken to keep it in fine working order. Just follow these simple precautions and you should receive years if not decades of faithful performance from your camera.

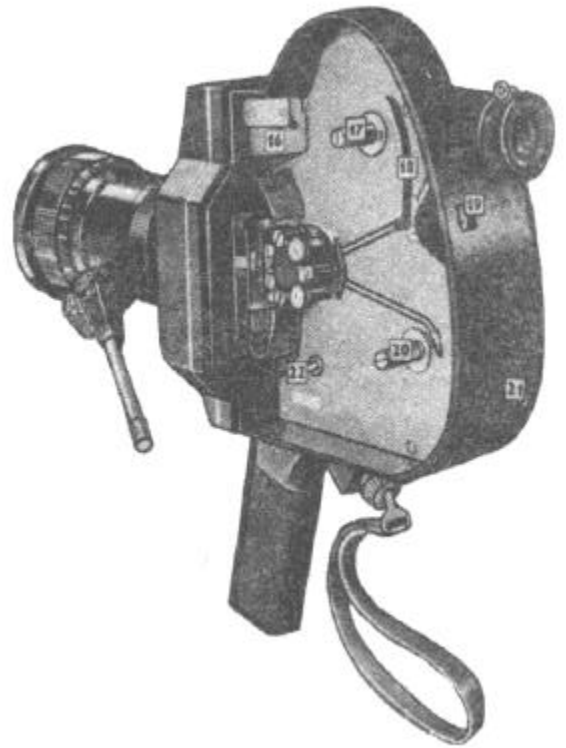
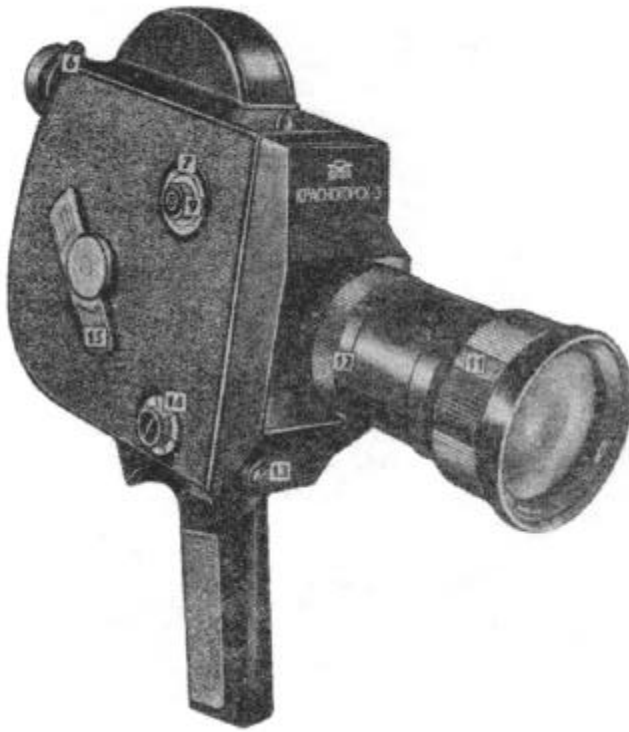
- When cleaning the lens, filters, mirror or eye piece use only lens paper and MINIMAL amounts of cleaning solution.
- When cleaning the interior use compressed air, a dry Q-tip, or a Q-tip dampened with a minimal amount of rubbing alcohol.
- DO NOT RUN THE CAMERA AT HIGH SPEED WITHOUT FILM.
- WIND GENTLY and DO NOT OVER-WIND THE CAMERA
- When storing the camera run the spring out.
- Keep the camera in a cool dry place away from solvents and areas where the camera can be subject to rapid temperature changes.
- Avoid subjecting the camera to rapid temperature changes. Be especially aware that bringing a cold camera into a warm, moist environment can cause damaging condensation to form inside the camera.
- Replace the lens cap after use. Avoid cross-threading the lens cap!

## CAMERA SPECIFICATIONS

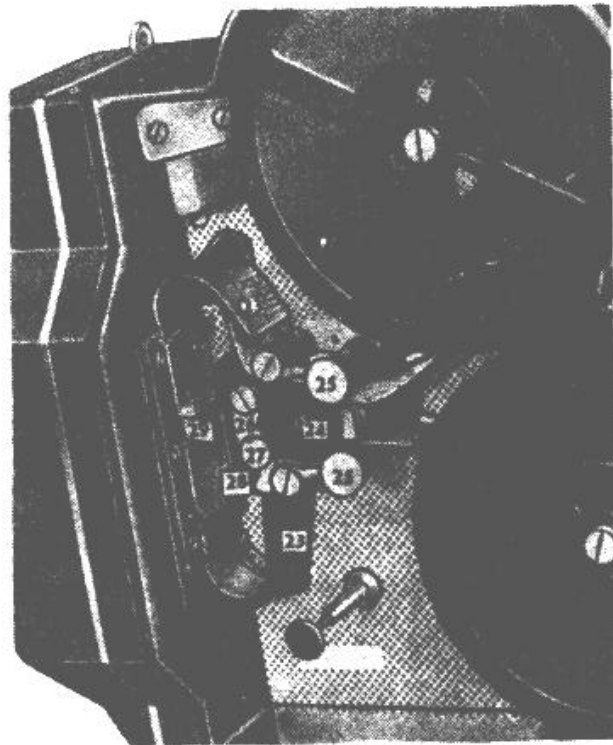
Film Type	16mm single or double perforation
Maximum film load	100 foot daylight load
Frame rate	6-50 fps and single-frame

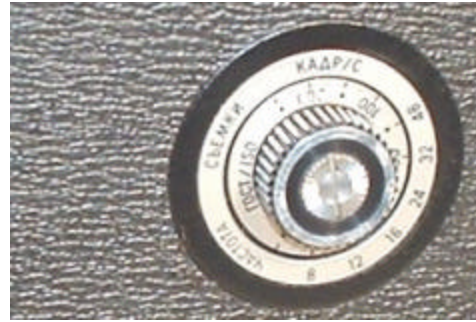
Lens	17-69mm F1.9 Zoom
Lens Thread	M42x1, "Pentax screw mount" or Bayonette
Lens Filter Size	77mm
Minimum focus	2 meters/ 6.6 ft (1 meter using diopter)

Viewing	Rotating-mirror reflex
Viewfinder diopter	+5 to -4
Shutter angle	150 degrees



- [6] Viewfinder
- [7] Light Meter FPS Dial
- [8] Light Meter Power Switch
- [9] Light Meter ASA/ISO Knob
- [10] Pistol Grip
- [11] Lens Focus
- [12] F-Stop Adjustment
- [13] Trigger
- [14] Speed Control
- [15] Winding Handle
  
- [16] Film Cutter
- [17] Feed Spindle
- [18] Footage Counter Arm
- [19] Footage Counter
- [20] Take-Up Spindle
- [21] Single-Frame Release Hole
- [22] Magazine Cover Release
  
- [23] Film Guide
- [24] Main Sprocket
- [25] Release Pin
- [26] Front Assembly
- [29] Film Gate





### Installing the Battery Adapter

This brass adapter will allow the easy use of a **Zinc-Air size 675** battery in the **Krasnogorsk-3** camera.

Place the button cell in the adapter (the '-' side goes on top), and install in the battery holder on the K-3. The button cell goes against the pin in the battery holder.

Zinc-air cells are activated once removed from their packaging and exposed to the air (there might be a plastic pull-tab to pull). Replace every six months.

If the meter in your K-3 doesn't register, it can be because:

1. The meter is broken. ☹
2. The contact pin in the battery compartment is dirty. Scrape thoroughly with the tip of a knife to remove all oxidation (fixes most problems).
3. You haven't turned it on (rotate switch on film-speed indicator counter-clockwise)



### Using the Lightmeter

The lightmeter dial is used to adjust the lightmeter. Turn the dial to match the correct ASA/ISO rating of your film (innermost numbers) with your film speed in fps (outermost numbers).

For example, if you load 200ASA film in the camera and are going to shoot at 24 fps, line up the 200 with the 24.

To turn on the lightmeter, press the screw located in the center of the dial with your finger and turn 90 degrees in a counter-clockwise direction. The slot should be pointing up and down.

Looking through the eyepiece you should notice a needle sticking up into the viewfinder. When the needle is in the center of the viewfinder (the notch) you have the correct exposure. When the needle is to the left of the notch you are over-exposed, and when the needle is to the right, you are under-exposed. Adjust the F-stop of the lens to set the correct exposure.

Don't forget to turn off the lightmeter when done shooting.

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