

ZORKI 1

Camera User Manual

A Practical Guide to the Soviet Leica Copy



How to Load Film, Focus, Shoot, and Unload

Produced for film photographers and Zorki enthusiasts
Shareable PDF Edition

Introduction

The Zorki 1 (often simply called the Zorki) is a classic Soviet 35mm rangefinder camera manufactured by KMZ (Krasnogorsk Mechanical Works) from 1948 to 1956. It is a direct copy of the legendary Leica II, designed to bring high-quality rangefinder photography to a wider audience in the post-war Soviet Union.

Compact, quiet, and fully mechanical, the Zorki 1 remains popular with film photographers today for its classic look, sharp Industar lenses, and the unique experience of shooting with a true Barnack-style camera. This manual covers the essential steps to use your Zorki 1 successfully.

Key Features

- 35mm film (24×36 mm frames)
- M39 screw-mount lenses (standard: Industar-22 50mm f/3.5)
- Cloth horizontal focal-plane shutter
- Separate rangefinder and viewfinder windows
- Bottom-loading film system (like early Leicas)
- Fully manual operation — no meter, no autofocus, no flash sync (on the basic model)

Specifications

Manufacturer	KMZ (Krasnogorsk, USSR)
Production	1948–1956
Type	35mm Rangefinder
Lens Mount	M39 × 1 screw (Leica Thread Mount)
Standard Lens	Industar-22 50mm f/3.5 (collapsible)
Other Lenses	Industar-50, Jupiter-8 (f/2), Jupiter-3 (f/1.5)
Shutter	Horizontal cloth focal-plane
Shutter Speeds	1/20 to 1/500 + Z (B) — varies by year (see notes)
Viewfinder	Separate optical finder (50mm)
Rangefinder	Coupled, separate window, 38mm base
Film Loading	Bottom plate, removable take-up spool
Tripod Socket	3/8 inch
Weight	Approx. 520–580 g with lens

Note on shutter speeds: Early cameras (pre-1955) often have 1/20, 1/30, 1/40, 1/60, 1/100, 1/200, 1/500 + Z. Later cameras use 1/25, 1/50, 1/100, 1/250, 1/500 + Z or B. Some very early examples have 1/1000. Check the dial on your specific camera.

■ Critical Operating Rules

1. ALWAYS cock the shutter BEFORE changing shutter speed.

The shutter speed dial rotates when the shutter fires. Changing speeds with the shutter uncocked can break the setting pin and damage the camera. Wind the advance knob fully first, then lift and turn the speed dial.

2. Never force the shutter speed dial past the stop between Z (B) and 1/500. Forcing it will damage the mechanism.

3. Trim the film leader properly before loading. An untrimmed or poorly cut leader can jam inside the camera and damage the shutter curtains.

4. Do not touch the shutter curtains with your fingers or tools. They are delicate cloth.

5. Avoid pointing the open shutter at the sun for extended periods (especially with the lens removed). The sun can burn holes in the cloth curtains.

Camera Controls



Top plate of a Zorki 1 showing the main controls

Top Plate (left to right typically):

- **Film Advance / Shutter Cocking Knob** — Turn clockwise to advance film and cock the shutter. Frame counter is on the dial beneath the knob.
- **Shutter Release Button** — Press to fire the shutter. Some versions accept a cable release.
- **Shutter Speed Dial** — Lift and rotate (only after cocking) to select speed. Index mark is usually on the accessory shoe.
- **Accessory Shoe** — Cold shoe for viewfinders or external meters.
- **Rewind Knob** — Pull up and turn to rewind film.

- **Rangefinder Window** (small, left) and **Viewfinder Window** (larger, right) — Separate on the top plate.

Bottom Plate:

- Locking key / lever marked ■■■■ (close) / ■■■■ (open).
- Removable take-up spool inside.
- Tripod socket (3/8").

Lens (Industar-22):

- Collapsible barrel — pull out and twist to lock in shooting position.
- Focusing ring / lever.
- Aperture ring (f/3.5 to f/16 or similar).
- Distance and depth-of-field scales.

Loading Film

The Zorki 1 is a bottom-loader. The back does not open. You must carefully prepare the film leader and load the cassette and take-up spool together through the bottom.

Step 1: Prepare the Film Leader

In dim light or a changing bag, pull out about 10–12 cm of film leader. Using scissors, trim the leader into a long, narrow tongue (roughly half the width of the film for most of its length, then tapering). The thin section must be long enough to reach past the shutter curtains and engage the take-up spool without jamming.

A common method is to cut the leader so it is approximately the length of the camera body plus a little extra, with a rounded or angled tip. Practice with a dummy roll first if possible.

Step 2: Open the Bottom Plate

Turn the camera upside down. Rotate the locking key on the bottom plate to the  (open) position and remove the plate.

Step 3: Remove the Take-Up Spool

Lift out the removable take-up spool. Note the direction it winds (counterclockwise when viewed from the bottom).

Step 4: Attach Film to Take-Up Spool

Slide the trimmed end of the film under the metal clip or spring on the take-up spool. Make sure it is securely held. The film should wind onto the spool in the correct direction.

Step 5: Insert Cassette and Spool

Hold the cassette (left chamber) and the loaded take-up spool (right chamber). Lower both into the camera simultaneously, feeding the film across the film gate. Ensure the film lies flat over the sprockets and does not catch on the shutter curtains. Press both fully into place. If the cassette does not seat fully, gently turn the rewind knob to engage the spool.

Step 6: Close the Bottom Plate

Replace the bottom plate and turn the locking key to  (closed). Make sure it is fully seated and locked.

Step 7: Advance to First Frame

With the rewind switch in the advance position (not rewind), turn the film advance knob clockwise to cock the shutter and advance the film. Fire the shutter, then advance again. Do this two or three times (dry shots) to get unexposed film into the gate. Watch the rewind knob — it should begin to turn once the slack is taken up, confirming the film is advancing.

Step 8: Set the Frame Counter

After the dry shots, manually rotate the frame counter dial (beneath the advance knob) so that it points to 1 (or 0, depending on preference). The counter is additive and must be reset by hand.

Tip: Load in subdued light. Practice the leader cut and loading procedure with a sacrificial roll before using important film. Many shooters pre-trim leaders at home.

Taking Photographs

1. Extend the Lens (if collapsible)

Pull the front of the Industar-22 outward until it stops, then twist clockwise until it locks in the shooting position. Reverse the process to collapse it for storage.

2. Set Aperture

Rotate the aperture ring on the lens to the desired f-stop. Smaller numbers (e.g., f/3.5) let in more light; larger numbers (e.g., f/16) give greater depth of field.

3. Cock the Shutter and Set Speed

Turn the film advance knob fully clockwise until it stops. This cocks the shutter and advances the film. **Only now** lift the shutter speed dial and rotate it so the desired speed aligns with the index mark. Release the dial so it seats.

For Bulb (long exposures), set the dial to Z (or B on later cameras). The shutter stays open as long as you hold the release button down. Use a cable release and tripod for best results.

4. Focus with the Rangefinder

Look through the small rangefinder eyepiece (left window). You will see a double image of the subject in the center patch. Rotate the focusing ring or lever on the lens until the two images coincide into one sharp image. The distance scale will show the focused distance.

You can also set focus by the distance scale if you know the distance (zone focusing).

5. Compose and Shoot

Look through the larger viewfinder window to compose your frame. Because the viewfinder and rangefinder are separate, you must switch between them. Press the shutter release smoothly. After each shot, advance the film again for the next frame.

Exposure tip: The Zorki has no built-in meter. Use a handheld light meter, a phone app, or the Sunny 16 rule. For black-and-white film, slight overexposure is often safer than underexposure.

Unloading the Film

When the roll is finished (or when you reach the end of the film and the advance becomes hard), switch the camera to rewind mode:

1. Locate the rewind release lever (usually near the advance knob or on the bottom) and set it to the rewind position.
2. Pull up the rewind knob and turn it in the direction indicated (usually clockwise) until you feel the film fully rewound into the cassette (the tension drops).

3. Open the bottom plate, remove the cassette, and return the rewind lever to the advance position.
4. Close the bottom plate.

Tips & Troubleshooting

Common Issues

- **Film jams or shreds:** Leader was not trimmed long/thin enough, or film was not seated properly over the sprockets. Always pre-trim.
- **Shutter speeds inconsistent or stuck:** Old lubrication or dirt. A CLA (clean, lubricate, adjust) by a technician familiar with Soviet cameras is often needed. Never force the mechanism.
- **Rangefinder out of alignment:** Images do not coincide properly. The camera may need adjustment. Check focus accuracy with a test roll before important work.
- **Rewind knob does not turn while advancing:** Slack in the cassette — advance a couple more frames. If it never turns, the film may not be advancing.
- **Lens will not thread on:** Focus the lens to the closest distance before mounting; this often helps engagement.

General Tips

- The camera is quiet and discreet — excellent for street photography.
- Collapsible lens makes it pocketable when not in use.
- Use a 3/8" to 1/4" adapter for modern tripods.
- Store the camera with the shutter uncocked when possible, and keep the lens capped.
- The Industar-22 and Industar-50 produce classic, slightly soft but characterful images.

Resources

- Camera-wiki.org — Zorki 1 page
- Sovietcameras.org
- YouTube video manuals (search “Zorki 1 film loading” or “Zorki 1 how to use”)
- Rangefinder Forum for community advice

This manual was created as a practical guide based on publicly available information about the Zorki 1. Always handle vintage cameras with care. Individual cameras may vary slightly by production year and condition.

Happy shooting! — Enjoy your Zorki.