The FED 5 - CAMERA OF TOMORROW

INSTRUCTION MANUAL by Lomography

www.lomography.com/fed5

The camera of tomorrow...available today !

A futuristic all-mechanical wonder. Gone is the past of clunky batteries, auto focus, and power film advance. Say goodbye to on-board camera computers, built-in flashes, and "megapixels." Embrace the future! Feel the power of the multi-element "Industrar 61" lens, coated with space-age Lanthanum.

Experience the lighting speed of selenium-driven light meters, fully manual apertures , and steel-dial shutter speed selection. Be careful not to burn yourself with the "hot shoe!" Do not be afraid. Those who do not step in line with the march of progress are destined to be left behind.

ATTENTION!!!

You now hold the solid metal of the Fed 5 in your hands. It is very tempting to start playing with its myriad dials and controls. PLEASE READ THIS GUIDE FIRST BEFORE TOUCHING ANYTHING!! The Fed 5 has complex, old-school mechanics which are susceptible to damage if used incorrectly. And, no matter what you do, be sure to avoid the two most common pitfalls of new Fed 5 users:

1. The Viewfinder is Blurry

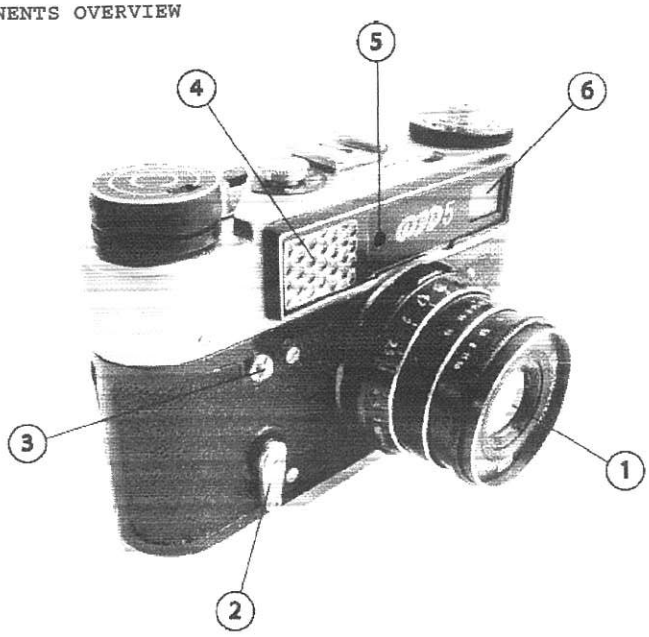
You are a victim of the Dioptric Adjustment. On the back of the viewfinder is a bumpy metal ring. Look through the viewfinder and rotate this ring either clockwise or counter clockwise until you see clearly.

2. This Shutter Speed Dial Looks Like Fun

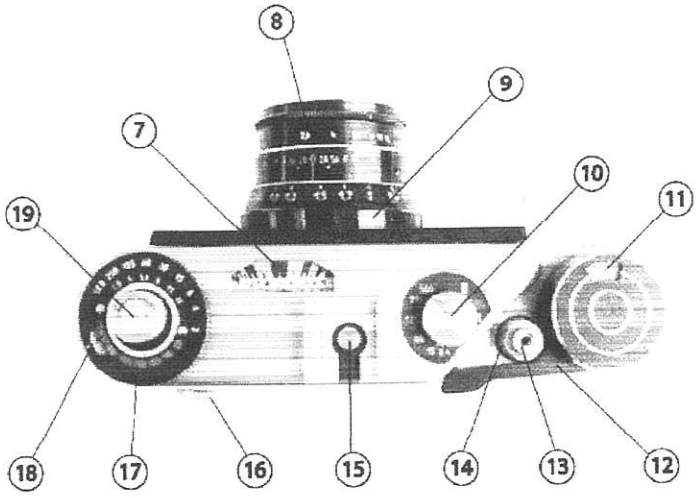
We admit that it does. BUT DON'T TURN IT UNTIL THE SHUTTER IS COCKED FIRST. Better yet, don't do anything until you first read through these instructions.

Note: The shutter must always be cocked first before turning the shutter speed dial - otherwise you risk irreparable damage to the camera.

COMPONENTS OVERVIEW



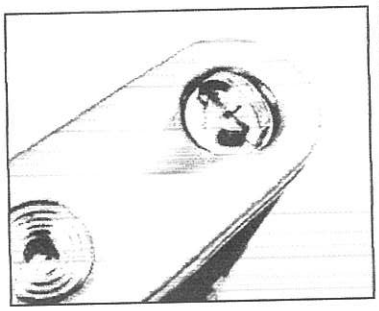
1. Industrar 61 Lens
2. Self Timer Crank
3. Self Timer Release Button
4. Light Meter Window
5. Coupled Viewfinder
6. Rangefinder Optic
7. Selenium Match Needle

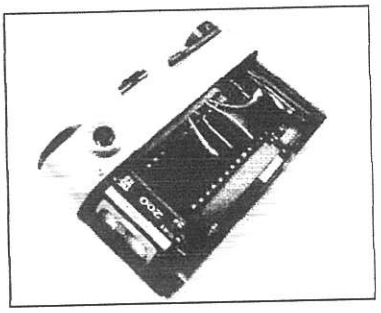


8. Aperture Control Ring
9. Focus Ring
10. Shutter Speed Dial
11. Exposure Counter
12. Shutter Cocking Lever
13. Shutter Release Button
14. Rewind Collar
15. Hot Shoe
16. Dioptric Adjustment
17. ASA/Aperture Setting Ring
18. Shutter Speed/Light Reading Ring
19. Rewind Knob

1. Loading the film

To access the film compartment you must remove the one-piece back. It is secured by two rotating latches on the bottom plate. Rotate each latch toward the outside of the camera body and slide the back off.





To load film place the 35mm cartridge onto the left spindle, with the film leader placed into the take up spool on the right. Note that the take up spool pulls the film UNDER the spool, so feed the leader so that it passes OVER the sprockets and then UNDER the take up spool. You are now ready to take pictures!

2. Film Advance / Shutter Cocking

The shutter cocking lever (12) is located on the top right of the camera. Grab the lever with your thumb and push it out to the limit of its travel. This will advance the film one full frame and cock the shutter. Don't allow the lever to snap back against the camera after you pushed it out - ease it gently back in with your thumb. Each time the film is advanced, the counter will move forward by 1. It will automatically reset to zero each time the film is rewound.

3. Setting Shutter Speed

IMPORTANT!!! AS WE SAID BEFORE -- NEVER CHANGE THE SHUTTER SPEEDS WITHOUT FIRST COCKING THE SHUTTER!!! In the worst case, you may do major damage to the mechanism. At best, you will find that the shutter behaves erratically for a few frames. Either way, bub, it ain't pretty.

The shutter speed dial (10) contains the following speed choices - B, 30, 1, 2, 4, 8, 15, 60, 125, 250, and 500. The numbers correspond to fractions of seconds - therefore "250" is 1/250 of a second, "8" is 1/8 of a second, and "1" is 1 second. "B" will keep the shutter open for as long as you hold down the release button - perfect for long exposures. "30" is designated as the flash sync speed.

To change speeds, FIRST COCK THE SHUTTER. Now grasp the speed selector dial (10) and gently pull up while rotating the red arrow to the desired speed as marked on the dial. You will notice that the knob moves easily from 1/30th counter clockwise, until it reaches the 1/15th mark. At that point resistance will be felt, and a noise like the winding of a clock will be heard. This is normal as the slow speed mechanism is engaged. It's actually a mechanical spring which winds, thereby powering the shutter to stay open.

The speed selector cannot be moved counter clockwise farther than the 1 second mark. DO NOT TRY! To go from on second to 1/30th you must turn the knob clockwise all the way around past B. Likewise, do not attempt to turn the speed selector clockwise past the 1/30th mark.
After you take your shot and advance to the next frame, the shutter speed will automatically return to the setting from the prior shot.

4. Setting Aperture

Manual aperture controls enable you to select the size of your lens diaphragm opening, across the possible f-stops of f/2.8 (greatest possible aperture), f/4, f/5.8, f/8, f/11, and f/16 (smallest possible aperture). The greater the aperture, the more light is admitted through the lens. The smaller the aperture, the greater the possible depth of field (total amount of your image in focus). Select your aperture by turning the outmost ring of the lens (8).

Example A
Your exterior light is low. Choosing a large aperture (f/2.8 or f/4) allows for a shorter required shutter time for proper exposure, thereby lessening the chance of camera shake or image blurring

Example B
You require both your foreground and background to be in focus. Choose a small aperture (f/16) to maximize "depth of field," allowing the lens and film to render the majority of the image in correct focus

Example C
You would like to create a portrait. Choose a large aperture (f/2.8) to render your close foreground in focus, imposed against a very blurred background. Alternately, choose a medium aperture (f/5.6) on a subject at medium focal distance, highlighting it in focus between a slightly out-of-focus foreground and a very out-of-focus background.

5. Setting Exposure

Taking correct exposures and setting the shutter speed properly with the Fed 5 is an acquired skill. To do it three elements must be considered.

* ASA Film speed - anywhere from ASA 25 to ASA 400. Higher film speeds allow for faster exposures, and therefore need less light to expose properly.

* Aperture - from f-stop 2.8 to 16. Lower aperture numbers yield a wider "iris" opening for the lens, allowing more light in and faster exposures.

* External Light - the more light, the faster the exposure can be.

Your light settings are provided courtesy of the Selenium match needle. This works without batteries , and should keep functioning for another 25 years or so to come.

First, take a look at your exposure wheel, on the left top of the camera. This is your guide to excellent Fed 5 images. The innermost guide ring (17) corresponds with the ASA speed of your film. Line up the appropriate green number (from a choice of 25 through 400) with the small vertical black line on the silver metal inner ring. Next, point the camera towards the subject you want to photograph. The match needle (7) will assess the exterior light and give you a value between 1 (darkest) and 11 (brightest). The outermost ring (18) of your exposure wheel has a small window, with numbers inside. Rotate the ring until the window number corresponds with the match needle reading.

So far, so good? Okay, now, take a look at the inner ring (17) with the ASA speeds, and see the numbers on top of it, in a light grey color. These are your aperture values. These will be below the yellow numbers in the outermost ring (yellow and red), which correspond to your shutter speed. You can now observe which shutter speeds should be chosen for which apertures, given your film speed and light reading. Here are some examples:

ASA 100 & Light reading "5" = shutter speed of "125" at aperture "2.8"

ASA 400 & Light reading "7" = shutter speed of "60" at aperture "16"

6. Using the Viewfinder

Engineered within the glass viewfinder (5) is a "brightline" system rangefinder. When peering at your subject, the rangefinder spot will produce a spilt image within its brightline spot. As you rotate the distance focus ring (9), the split image inside the rangefinder will merge into the surrounding viewfinder image. When the viewfinder image matches the rangefinder image, your focus distance is properly set. If it is too dark outside to see the rangefinder spot properly, you'll have to guess the distance to your subject and set the focus ring accordingly - on the top of it are distance setting marks from 1 to 20 meters, and infinity. For English measurement equivalents, one meter equals 3.28 feet. The Industrar lens has a good tolerance for distance, so don't get too stressed out about it - a subject at 2 meters will be in focus if you set the ring to 1.7 meters.

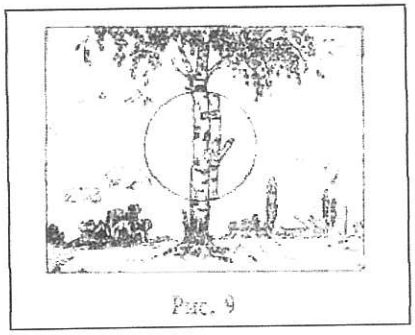


FIG. 9

7. Taking a Picture

Okay, you've got your light reading, you've chosen the aperture and set the shutter speed correctly. The subject is at the correct focus distance according to the rangefinder. Now, push the shutter release (13), and !CLACK! you've taken your shot.

A soothing word - although the preparation to take a shot looks complicated, it's not really so bad. Your ASA rating is only set each time you load a film (and only if your new film is a different speed). For a given photo session, you'll generally stay in about the same light conditions, and prefer the same aperture. If these elements are relatively stable, the only thing you have to do is focus properly before taking a shot. You'll be a Fed 5 pro in no time.

8. Rewinding the film

After you have shot your roll and you are ready to rewind, you must FIRST RELEASE THE SHUTTER. Failure to do so may cause the shutter to behave erratically the first few times when you next load your film. Trust us.

Locate the rewind knob (19) at the top left of the camera. It is a small, rough metal knob. Push it down and turn it counter clockwise until it pops up. Next, press down on the rewind collar (13) as shown above (yes, we think it's a stupid place to put that as well). It surrounds the shutter release button, and you'll probably have to use a fingernail to hold it down.

Rewind the film in a clockwise direction until there is no more resistance. Pop open the back, and there you go. Push the rewind knob back down & rotate clockwise to lock it back into position.

9. Using a Flash

The FED 5 synchronization is designed for use with electronic flash at a shutter speed of 1/30 second. It takes a standard hot-shoe flash. Place your flash into the hot-shoe (15), and set your shutter speed at "30" (the number is in red on the dial) for correct use. With using a manual flash, we've gotten great results by choosing a medium aperture (5.6 or 8), setting the distance at 1 meter, and shooting people at about 1 meter every time. Clear and sharp flash pictures.

10. Changing Lenses

Your Fed 5 uses Leica Thread Mount (LTM) screw threads, 39mm X 1mm. This allows you to use not only the lenses made in Russia for the Fed, Zorki, Mir, etc., but also other LTM lenses made by Nikon, Contax, Steinheil, and currently by Voigtlander, as well as Leica.

To remove the lens, simply turn the barrel of the lens counter clockwise until it comes out. To install a lens, carefully square up the threads and gently turn clockwise, making certain that it is not cross-treaded. Continue until the lens is firmly against the camera body, but do not over tighten.

CAUTION: KMZ (Zenit, or sometimes Zenith) made LTM mount lenses for some of their early SLR cameras with a different film registration depth. They may mount on the Fed 5, but will only operate properly at infinity. Also, not all LTM mount lenses will work with your Fed 5 Some lenses use a "tongue" to push against the rangefinder cam, rather than a cylinder. As the shape of the cam itself is different on the Fed from that of a Leica screwmount, it may not push pass the cam to completely seat the lens. Never try to force a lens into your Fed 5 lens mount. If you are going to buy a new LTM lens, we recommend picking it up at a shop and actually trying it on your camera. Also, your viewfinder is calibrated for a 55mm lens. If you buy another size lens (say 28mm), you will have to buy a viewfinder attachment to match.