Kalinka Optics Warehouse User Manual

www.kalinkaoptics.com

PO 4x32, PO 4x32L, PO 8x56, PO 8x56L & PO 8x56LF Pilade Rifle scopes

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SPECIFICATIONS

Magnification	4x	8x
Field of View	6.33o	3.33°
Field of View at 1000 m	100 m	100 m
Objective Aperture	32 mm	56 mm
Eye Relief	75 mm	74 mm
Eye Relief Diameter	7.6 mm	7 mm
Independent Focus	Dual, Diopiter (+3/-3) and Fine*	Dual, Diopiter (+3/-3) and Fine*
Tube Diameter	1"	1"
Nitrogen Purged	Yes	Yes
Waterproof	Yes	Yes
Reticle	German Picket or Dragunov	German Picket or Dragunov
Rangefinding Capability	Yes	Yes
MOA at 100 m	1.2"	.9"
Illuminated Reticle	Red on L	Red on L and LF
Mount Type	Any	Any
Power Source	3V (2 x 625A)**	3V (2 x 625A)**
Operating Temperature	+50 to -40oC	+50 to -40°C
Weight	.3 kg	.45 kg

*** Fine on LF models only.**
**** Batteries are necessary for illuminated reticles only.**

INCLUDED EQUIPMENT
STANDARD ACCESSORIES
Scope – 1
Eyepiece and Objective covers – 2
Russian Manual – 1
Packaging – 1
Sun Shade - 1

OPTIONAL ACCESSORIES
Shade
Rubber eyepiece
Mounting rings or adapters
English Manual

INTRODUCTION

- Rifle scopes P 4x32, P 4x32L, P 8x56, P8x56L, & PO 8x56LF (further the scope) are designed to assist in aiming at distant targets and can be mounted onto any hunting or assault rifle regardless of caliber. Models designated with an "L" have an illuminated reticule for target acquisition in low light conditions.
- The scope can be mounted onto weapon using 1" mounting rings or adapters designated to accept scopes with a 1" tube. "PILADE" scopes allow for more precise long distance shooting, as they are parallax free, contrary to comparable scopes.
- All reticules available in "PILADE" scopes have a range finding capability. Rangefinding instructions for metered reticles such as the Dragunov are included below. The German Picket version will accommodate a 1 meter wide target between the three points of the reticle at 100 meters
- The 1000 meter Dragunov military reticle has an extremely effective and useful height-based rangefinder for dual use, with graduated scales for both standing and prone figure estimation. It includes extended distance inverted chevrons providing aiming points for 1000, 1100, and 1200 meters. Since the range calibrations are measured in equal amounts of MOA, this reticle can be used effectively with any caliber of weapon.
- The scope can be used in various climatic conditions in the temperature range from - 40C° to +50C° (-50F° to +110 F°)

GENERAL DESCRIPTION

Kalinka Optics Warehouse® carries only the finest rifle scopes. The Pilade Series is based on Soviet military designs, which are extremely rugged and have the very best optical properties. The factory is small, private, and with the very best quality control. Like most Russian optics, the Pilade is made in the Zeiss tradition and are of the highest quality for military, law enforcement and sporting use. The scope allows easy and precise aiming without the parallax inherent to mechanical sights. The scope has a fixed click scale-up ratio, 4 (+/- 0.2), and has angle of sight and side angle adjustment knobs. The 'L' series comes with an illuminated reticule that lets you see where you are aiming in the worst light conditions. Unlike most scopes, where the sighting rings are covered by caps and need a screwdriver to adjust, these scopes have exposed rings for quick adjustment. Although the rings are exposed and may be moved, you can instantly return to your zero point just by turning the rings so that two red marks line up. This scope has a one inch tube. It is easily mountable to any weapon that takes Weaver-style rings, Ruger rings, Dovetail rings or other one inch rings. The Pilade is a top selling scope and one of our most recommended. The scope has three major optical parts: Objective lens, Inverting lens and the Eyepiece. The objective lens projects a de-magnified inverted image on the reticule plane. The inverting lens system transfers the image and reticule onto the focal plane of the eyepiece and at the same time inverts the image. The user sees the directly magnified view of the image and the reticule. The scope is parallax-free which means that the reticule won't appear to be shifted related to the target once the user changes its position relative to the optical axis of the scope. To get sharper image adjust the eyepiece to your eyesight using the diopiter adjustment ring. Once set to the desired position the setting can be secured by the locking nut. The reticule can be adjusted in any direction as needed during sighting. The reticule is adjusted by using windage and elevation turrets. Windage and elevation turrets have scaled cams with the aiming angles to assist you during the sighting process. The value of each click varies by the type of the scope. Please see the table below. One numbered point interval equals 1 MOA or 3.6" at 100 yards.

Scope Click Value
Pilade P 4x32, P 4x32L _ MOA 1.2" @ 100 yards
Pilade P 8x56, P 8x56L(F) ¼ MOA 0.9" @ 100 yards
To set aiming angles correctly during the sighting process you'll need to know the ballistics of your ammo or determine it by experimentation.

OPERATION

Mounting the Scope

The scope can be mounted on the gun using 1" mounting rings or adapters that accept scopes with 1" tube. You should determine which rings or adapter is required to mount the scope on your gun as all guns have specific mounting options. Keep in mind that accuracy of your scope depends on how well the scope is bore sighted on your gun and the quality of the mount being used. Choose the mounting option that will hold the scope securely and won't be compromised by recoil.

Sighting and Zeroing the Scope

IMPORTANT! Before mount-firing the scope, remove the windage and the elevation turret covers. Tightly secure the gun at the firing station using sand bags or special sighting rack to avoid shooter related inaccuracy. After the trial shots (4-5) have been made, adjust the reticule position using the windage and the elevation turrets to reflect the average striking point. One or two shots may deviate from the shot group, this is normal, disregard those shots, and make adjustments based on the concentrated group of shots. After the reticule has been adjusted to deliver reasonable firing accuracy you'll need to set the scale on the elevation and the windage turrets back to the "0" position without actually changing the set windage and elevation settings. To do so release the two top screws and very carefully, without turning the turrets, adjust the scale ONLY by aligning the "0" mark on the scale with fixed mark on the scope. Tighten the screws and put the turret covers back on, you are done. The scope is ready for use.

While aiming you must put your eye on the optical axis of the scope so the image appears flat and without shadows at the edges. Using the soft rubber eyepiece will help you to properly align your eye to the optical axis and ensure the proper eye relief. Use the rubber shade for shooting in bright daylight conditions to prevent sunshine directly striking the objective lens and preventing excessive glare.

ATTENTION:

The scope has a binocular-style diopiter adjustment from –3 to +3 D. To adjust the scope to your eyesight release the locking ring by turning it, adjust the eyepiece and tightly secure the locking ring.

The adjustment range for the windage and the elevation turrets may exceed one full turn in either direction resulting in having the scope being set to false "0". In this case the reticule will be significantly shifted off the center and won't represent the actual results of sighting. To avoid this refrain from excessively turning the turrets.

Aiming and shooting at fixed targets.

Adjust the elevation turret or chose the appropriate chevron with respect to the range to the target and the ballistics of the ammo being fired. Assuming there is no cross wind, keep the windage turret at the "0" position.

Aiming and shooting at moving targets

While shooting at moving targets it is necessary to aim ahead of the target. To determine how far the aiming point has to be taken out you'll need to estimate the speed of the target and the distance to it. The faster the target moves and the further the distance to it the further ahead you'll have to aim. Have the moving target aligned with horizontal hairs of the reticule as you aiming.

RETICULE

Rangefinder

The rangefinder works by placing the target (1.7 m or 5'8" in height) between the horizontal and the top reclining lines with the numbers. On the reclining line locate the number closest to the point where the target touches the line. Multiply that number by 100; this is the distance to the target in meters. 1 meter = 1.11 yards.

Windage scale / rangefinder

Windage scale can be used to make horizontal adjustments or as a rangefinder. Shifting the aiming point by one division left or right will move the point of impact by 10cm / 4" for every 100m / 333 ft of the distance. The distance to the target can be determined by assuming that a 1m / 3'4" wide/long object fits between the small divisions at 100 m / 333 ft.

Aiming chevrons

The chevrons are designed to adjust for bullet drop of ANY caliber, provided you know the ballistics of the ammo. If the top chevron is zeroed at 100 yards, aiming with 2nd, 3rd and the 4th will drop the aiming point by 1.2", 2.5" and 4" accordingly for each 100 yards of the distance.

Zeroing
There are a few different ways to zero this sight. The reticle is displayed below with an explanation of its features and how to determine range to target:

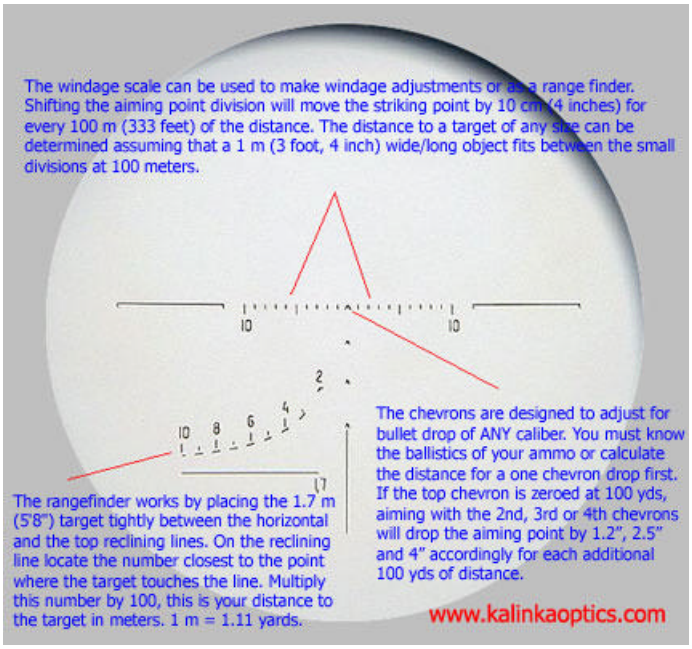
- Zeroing with the iron sights first:
    - The rifle is test-fired by four shots, aiming thoroughly and uniformly with the aid of the open iron sight. Fire is conducted at the black rectangle, 20 cm wide and 30 cm high, secured on a white board, 1 m high and 0.5 m wide. The point of aim is the middle of the black rectangle bottom edge. During firing when the open sight is used the normal position of the MPI is marked with chalk or a colored pencil by the plumb line, 16 cm above the point of aim. This point serves as the check point (CP). The range is 100 m. Firing is conducted from the in any method that provides adequate support. To test-fire and zero a rifle, use should be made of cartridges with ordinary bullets having a steel core. Fire is conducted with the knife bayonet removed. Upon firing the shots, examine the target and arrangement of hits; determine accuracy of fire and position of the MPI. The rifle fire accuracy is considered normal, if all the four hits are arranged within the circle, 8 mm in diameter.
- If the shot group does not meet the requirements, test-firing is repeated. If the shot group is found normal, determine the MPI and its position relative to the check point. Determination of the mean point of impact is shown in Fig. 1. The rifle fire accuracy is considered normal, if the mean point of impact coincides with the check point or deviates from it in any direction by no more than 5 cm.
- If during test-firing the MPI deviates by more than 5 cm from the CP in any direction, the position of the front sight (as to its height) or that of its body (as to side position) should be changed accordingly. If the mean point of impact is below the check point, the front sight should be screwed in, if it is above the check point, the front sight should be screwed out. If the MPI is to the left of the CP, the front sight body should be shifted to the left, if to the right, shift the body to the right. The front sight body displacement by 1 mm to the side and one complete revolution of the front sight (when screwed in or out) will change the position of the mean point of impact by 16 cm when fire is delivered at a range of 100 m.

Fig. 1. Determination of mean point of impact (MPI): 1 - by consequent division of lines; 2 - with symmetrical arrangement of hits. CTR means MPI

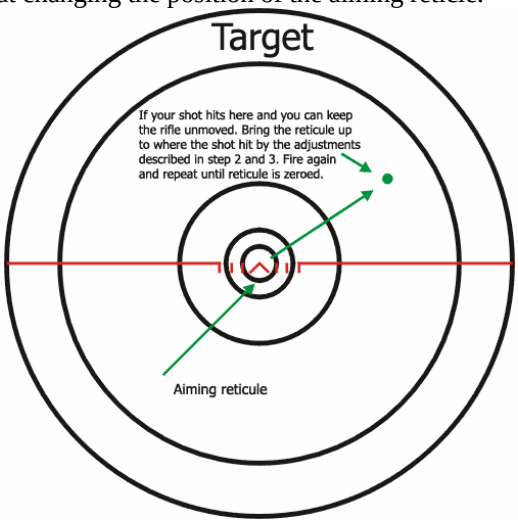
Repeat test-firing to make sure that the above displacement of the front sight and its body is properly done.

- To zero the rifle with the optical sight, attach it to the rifle. Rotate the knobs to set the range dial on 1 the windage/deflection dial at 0. Perform the test-firing with the aid of the optical sight, the conditions being the same as for test-firing of the rifle with the aid of the open sight, but the check point in this case is marked at a height of 14 cm from the point of aim. If, as a result of the test-firing, all four hits are arranged in a circle, 8 cm in diameter, but the mean point of impact deviates from the check point by more than 3 cm, determine the deviation of the MPI and rotate the dials for range and windage appropriately to bring the shots on target.

Now if you are like me then you didn't understand how to adjust the sight and all of that MPI stuff was confusing. These pictures should help.



- The first step is to ensure that the rifle is zeroed with the iron sights. Also this process is much easier with little wind effects so do this on a day that isn't windy if possible. Set up the rifle on a firm and solid base and aim at a target with the iron sights at a distance of 50 meters. Zero the scope at 50 meters or 100 meters by using the scope. Set the windage to "0". Now see if the aiming reticle is lined up with the target. If it is, then your sight is considered an adjusted one. If it is not in line then rotate the dials (range and/or windage as necessary) to bring the reticle onto the target. At this point if you have to reset your dials so that they show '0' when you are zeroed for a target 50 meters away without changing the position of the aiming reticle.



- To move the reticle to the shot (assuming you can keep the rifle in the same position as you make adjustments - otherwise trial and error will do the same thing...just take more ammo) you have to loosen the two screws on the top of each dial. Loosen the screw but do not remove them. As an example we will walk through the above example. We need to move the reticle over to the right since the rifle is hitting to the right. Rotate the windage dial clockwise until the reticle is approximately under the bullet hole when looking through the scope (make sure the silver part of the dial with the numbers on it does not move (I had to hold the range dial with pliers)). If you have to pick up the rifle to do this or otherwise can't keep it on target you will have to do guess work when moving the reticle. This may cause you to overcompensate but several iterations of firing and adjusting should zero the rifle. Then rotate the range dial counterclockwise to raise the reticle. Once you believe that you are close to where the bullet hit, screw the silver screws back in and repeat firing the rifle. Repeat this process until the rifle is zeroed.

SAFEKEEPING

Avoid hard strikes to the scope or dropping it. After using the scope in wet conditions wipe it with dry soft cloth and leave it to dry out at temperatures not exceeding 112 F°. To protect the glass surfaces of the scope always use the objective lens and eyepiece cups when the scope is not in use. When not in use, keep the scope in a dry place at room temperature with humidity not exceeding 80%.

NEVER ATTEMPT TO FIX THE SCOPE YOURSELF OR TAKE IT APART FOR ANY REASON. VIOLATION WILL VOID THE WARRANTY.

WARRANTY

The scope meets or exceeds the quality standards set forth by the manufacturer and its technical specifications match those listed in this manual. The scope carries 12 months limited warranty against manufacturing defects from the date of sale. The retailer can not store the scopes for more then 3 years from the date of the manufacture. The scopes can still be sold after the expiration of the 3-year storing limit after receiving an approval from the manufacturer. If the scope fails during the warranty period the customer is entitled to have the scope repaired of fixed at the desecration of the dealer of the manufacturer. Each party is responsible for shipping cost of the scope at their end. The scope must be shipped to Kalinka Optics as outlined by their Warrant & Return policy which is available for viewing on the website, www.kalinkaoptics.com. The package must contain the detailed description of the problem and the clearly written return address. If the date of sale can not be determined the warranty period assumed to begin at the date of manufacture of the scope. If maintenance or feasible and justifiable repairs have to be done upon expiration of the warranty period, all costs related to these services is responsibility of the customer.