



OPTICAL SIGHT

# P01,5-4,5x16

SERVICE MANUAL



# INTRODUCTION

Service manual describes operation, technical characteristics, performance features and main rules of correct exploitation and using of the sights' technical capabilities.

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Because of continuous modernization of Sights, their design may have some changes, not indicated in the given manual.



**OPTICAL SIGHT PO 1,5-4,5x16**

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# 1 PURPOSE

PO1,5-4,5x16, PO1,5-4,5x16-01, PO1,5-4,5x16-1, PO1,5-4,5x16-1-01 pancratic optical sights (hereinafter referred to as the sights) with variable power from 1.5<sup>x</sup> to 4.5<sup>x</sup> are intended for mounting on hunting weapon. PO1,5-4,5x16, PO1,5-4,5x16-01 sights are mounted on the "Tiger" type rifle, PO1,5-4,5x16-1, PO1,5-4,5x16-1-01 sights are mounted on the "Saiga", "Vepr" type rifle.

Reticle illumination allows aiming at twilight if a target is visible.

The sight is intended for outdoors operation at the temperature range from minus 20 °C to 30 °C.

## 2 SPECIFICATIONS

Table 1

| Parameter              |                 |       |
|------------------------|-----------------|-------|
| Magnification, x       | from 1.5 to 4.5 |       |
| Field of view          | 10°             | 3°40' |
| Resolution limit       | 30"             | 10"   |
| Exit pupil, mm         | 7.9             | 3.3   |
| Eye relief, mm         | 72              |       |
| Diopter adjustment, D  | from -0.5 to -1 |       |
| Overall dimensions, mm |                 |       |
| PO1,5-4,5x16           | 338x140x75      |       |
| PO1,5-4,5x16-1         | 338x145x75      |       |
| Weight, max, kg        |                 |       |
| PO1,5-4,5x16           | 1.1             |       |
| PO1,5-4,5x16-1         | 1.15            |       |

### 3 DELIVERY LIST

Table 2

| Description    | Quantity | Note                     |
|----------------|----------|--------------------------|
| Sight          | 1        |                          |
| Spanner        | 1        |                          |
| Eyeshield      | 1        | separated from the sight |
| Bag            | 1        |                          |
| Napkin         | 1        |                          |
| Box            | 1        |                          |
| Service manual | 1        |                          |



## 4 PREPARATION FOR USE

Mount the sight on the weapon and make an adjustment before use.

Mount the sight on the weapon with a special bracket. When mounting the sight on the weapon turn the latch 6 (Figure 1) aside up to the stop, align the mounting seat of the sight with the dovetail mounting rail of rifle, push the sight up to the stop and secure it by turning the latch 6 forward – for the sights PO1,5-4,5x16, PO1,5-4,5x16-01; backward – for the sights PO1,5-4,5x16-1, PO1,5-4,5x16-1-01 up to the complete fixation of the lug on the sight's bracket.

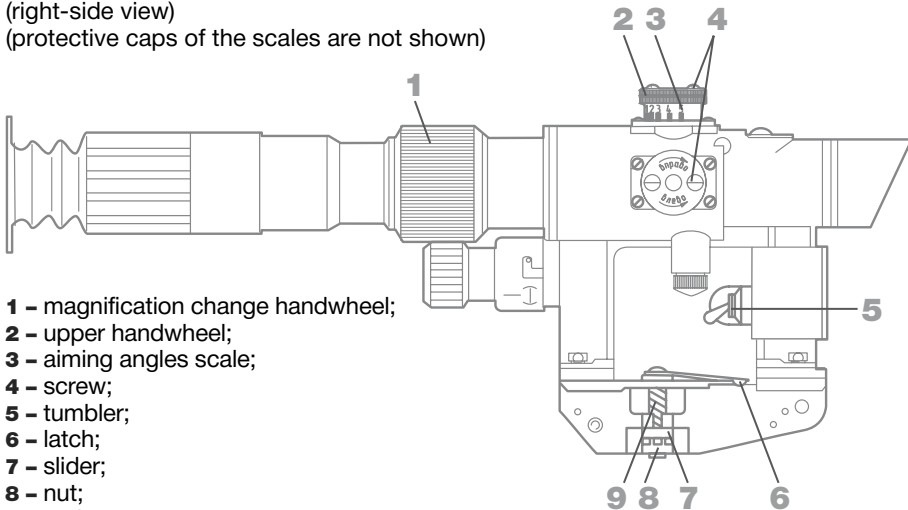
The sight must be fastened securely. If the sight sways or the latch 6 does not shut when the sight is fastened, adjust the clamp in the following way:

- take off the sight from a weapon;
- push the slider 7 in the bottom part of the sight's bracket until pressing of the spring 9;
- turn the nut 8 by 1-2 teeth counter-clockwise or clockwise;
- ensure firm fastening of the sight on a weapon and repeat the adjustment if necessary.

## Figure 1 - PO1,5-4,5x16 Sight

(right-side view)

(protective caps of the scales are not shown)



**1** - magnification change handwheel;

**2** - upper handwheel;

**3** - aiming angles scale;

**4** - screw;

**5** - tumbler;

**6** - latch;

**7** - slider;

**8** - nut;

**9** - spring

The sight is adjusted on the weapon after zeroing in with iron sight (front sight and sight). Adjust it as follows:

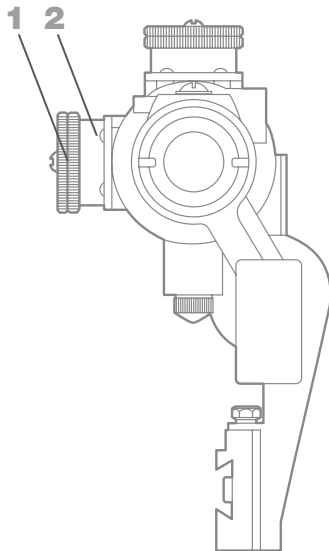
- mount the sight on the weapon;
- set the upper handwheel 2 on the point “1”, the side handwheel 1 (Figure 2) – on the point “0”;
- aim the rifle with the iron sight at the 100m distant target;
- look through the sight’s eyepiece, notice the reticle’s aiming mark position;
- if the aiming mark coincides with the reticle’s aiming point of the iron sight, the sight is considered adjusted;
- otherwise, turn screws 4 (Figure 1) by 1–2 turns on the upper and side handwheels according to Figures 1, 2, then by turning these handwheels (scale 3 (Figure 1) and scale 2 (Figure 2) are in the initial position) coincide the aiming mark with the aiming point of the iron sight;
- screw down the screws 4 (Figure 1) of handwheels up to the stop and check the coincidence of aiming mark with aiming point of the iron sight one more time. Repeat the adjustment if necessary.

The sight is to be adjusted at 4.5<sup>x</sup> magnification.

**Figure 2 - PO1,5-4,5x16 Sight**

(front view)

(protective caps of the scales  
are not shown)



**1** - side handwheel;

**2** - windage adjustment scale

## 5 OPERATION

The upper handwheel setting must be determined experimentally, depending on the firing distance and type of the weapon.

Shift of the aiming line of the handwheel of the elevation and windage adjustment mechanisms by 1 division (1 click) is equal to 3 cm for 100 m.

The sight can be produced with one of two reticles according to figures 3, 4.

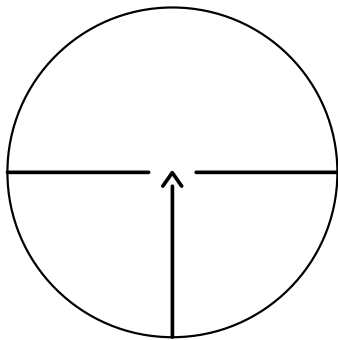
The sights marked with 01 index have reticle with rangefinding scale by the height of a target (Figure 4).

Observation and search for the target with the sights is more convenient to execute at 1.5x magnification. Aiming fire is to be carried out at magnifications from 1.5<sup>x</sup> to 4.5<sup>x</sup>.

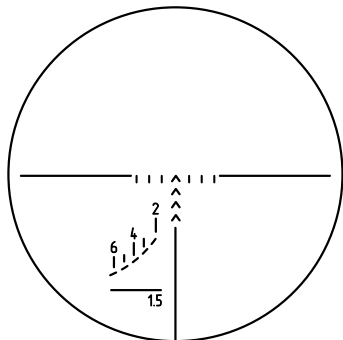
Required magnification is set by turning the magnification change handwheel 1 (Figure 1) counter-clockwise or clockwise. Magnification is changed evenly all over the range.

The sights have elevation scale 3 for fire correction and windage scale 2 (Figure 2) with zero stroke.

The distance to the target can be determined by using of range-finding scale of the sight's reticle according to Figure 4.



**Figure 3 - Field of view**



**Figure 4 - Field of view**

To determine the distance according to range-finding scale of the sight's reticle by the height of a target of 1.5 m, aim the scale at the target so that the target is placed between the continuous horizontal and dotted inclined lines. Scale stroke above the target indicates the distance to the target.

The sights are equipped with the reticle illumination for aiming in the twilight, illumination switches with the tumbler 5 (Figure 1) "ON-OFF". Any battery of AA type and 1,5 V voltage may be used as a power source for the illumination. When the illumination is on, reticle's strokes are of red colour.

## **6 MAINTENANCE AND STORAGE**

Avoid mechanical damages. Protective caps of the scales can be removed only for work with handwheels.

Clean outer optical surfaces with clean soft napkin, remove fat stains and dust with a cotton wetted in alcohol.

Protect optical details from scratches during storage and operation.

## **7 SAFETY**

Ensure firm fastening of the sight on a weapon. Adjust the clamp of the bracket as indicated in the part 4, if the sight sways.

## 8 ACCEPTANCE CERTIFICATE

PO1,5-4,5x16\_\_\_\_\_ sight, serial № \_\_\_\_\_, is manufactured in accordance with technical documentation and is fit for operation.

Date of issue \_\_\_\_\_

Signatures \_\_\_\_\_

\_\_\_\_\_

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