SIGHT
PO1×20 PM, PO1×20 PM1

SERVICE MANUAL

Because of permanent work at improvement of the sight, there can be insignificant changes in the sight's design, which are not reflected in the present edition.

CONTENTS

Present service manual describes design, specifications, operation, maintenance and storage, safety and service instructions essential for correct use of technical features of the sight.

1 PURPOSE

Sights PO1×20 PM and PO1×20 PM1 (hereinafter referred to as the sight) are intended for aimed shooting on the range of direct shoot from the smooth-bore and rifled hunting weapon with the upper seat of Picatinny rail type.

The illuminated reticle allows to aim under the twilight and night conditions when the target is visible.

The sight operates within ambient temperature range of -40 to 40 °C and relative humidity up to 98% at temperature +25 °C.

2 SPECIFICATIONS

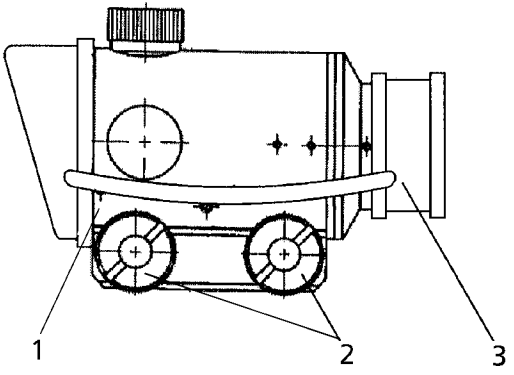
	«Rakurs-PM»	«Rakurs-PM1»
Magnification, x, min	1^{x}	1^{x}
Field of view, min	13 °	13 °
Eye relief, mm, min	100	100
Exit pupil, mm, min	20	20
Diopter adjustment, D	–	±2.5
Line of aim adjustment range at the distance of 100 m:		
– for height	±80	±80
– for direction	±80	±80
Overall dimensions, mm, max	108×55×70	116×55×70
Weight, kg, max	0.365	0.415

3 DELIVERY SET

Sight	1
Spanner	1
Box	1
Service manual	1

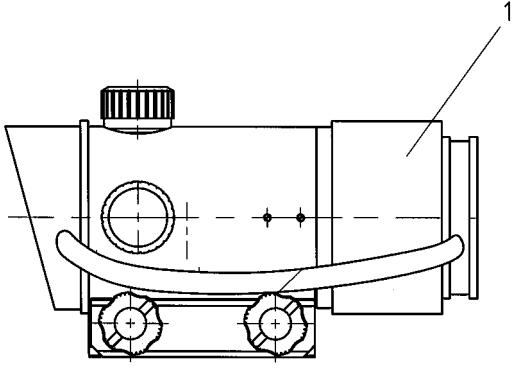
4 SIGHT DESIGN

4.1 The sight consists of the body 1 (Figure 1) with built-in objective lens, eyepiece, reversal prism with aiming reticle, height and direction zeroing mechanisms, light source. At the bottom side of the body there is a clutch, intended for mounting the sight on the weapon.



1 – body; 2 – screws, 3- cap

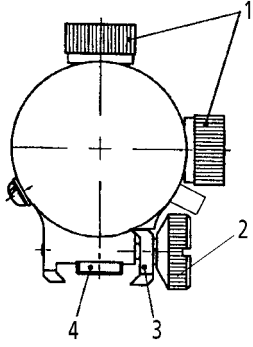
Figure 1 – **The sight PO1×20 PM. Side view**



1 – eyepiece

Figure 2 – **The sight PO1×20 PM1. Side view**

The clutch (Figure 3) consists of the clip 3, screw-nut 4, screws 2.



1 – caps; 2 – screw; 3 – clip;
4 – screw-nut

Figure 3 – **The sight PO1×20 PM. The front view**

4.2 The cap 3 (Figure 1) is intended to secure optic surfaces of an objective and an eyepiece.

4.3 The light source is used to illuminate the aiming reticle at twilight. It consists of the light element, which operation is based on the effect of emitting the visible radiation by phosphor.

4.4 The sight PO1×20 PM1 has the diopter adjustment mechanism for compensation of the shooter's poor eyesight. Observing through the sight, rotating the frame of the eyepiece 1 (Figure 2), reach the sharp image of the reticle.

4.5 The height and direction zeroing mechanisms (covered with the thread caps 1, (Figure 3) have a discrete move with a fixation and look like screws with wide nicks when the caps are off.

There are signs: "↓D", "↑U", "↓R", "↑L" – on the sight body near the each of zeroing mechanisms.

During zeroing in of weapon at a distance of 100m, one turn of zeroing screw will remove the point of impact to 2,5 cm in the chosen direction.

5 SIGHT MOUNTING AND ADJUSTMENT ON THE WEAPON

5.1 The sight is adjusted on the weapon, which has a special upper seat of Picatinny rail type.

When adjusting, it is necessary to unscrew by 3-4 turns the screws 2 (Figure 1), allowing the free moving of the clip 3 (Figure 3), insert the lug of the screw-nut 4 into the groove of "Picatinny" rail, which provides eye relief of 100 mm, and fasten the sight on the weapon screwing the screws 2 (Figure 1). If necessary, use the spanner from the complete set.

The sight must be fastened well on the mounting seat of a weapon.

Mounting of the sight closer than 100 mm from an eye can lead to face injuries while shooting, especially with a large-caliber weapon. Mounting at more than 100 mm will cause the decrease of the field of view.

5.2 Do the following to adjust the sight on a weapon:

– attach the sight to the seat on the weapon according to the 5.1;

– take the cap 3 off;

– aim the weapon by optical sight at the aiming point at a distance of 100 m, if the weapon is rifled, and 35-50 m, if the weapon is smooth-bore;

– fire a shot;

– if a peak of the aiming mark 1 (Figure 4) coincides with the point of impact, the sight is considered to be adjusted;

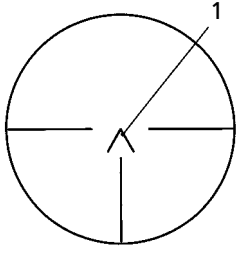
– otherwise unscrew the caps 1 (Figure 3) and turning the zeroing screws (with spanner or coin) make the peak of the aiming mark coincide with the point of impact;

– fire a repeated shot and check the coincidence of the peak of the aiming mark with the point of impact;

– screw the caps 1.

To prevent a failure of the sight during the adjustment it is banned to apply excessive efforts to the zeroing screws at their extreme positions.

ATTENTION! IT IS BANNED TO SHIFT ZEROING MECHANISMS FOR MORE THAN +/- 0-0.8 (+/- 80 cm/100 m) FROM THE MIDPOSITION.



1 – aiming mark

Figure 4 – **Field of view**

6 OPERATION

During shooting, combine the peak of the aiming mark with the aiming point.

7 MAINTENANCE AND STORAGE

It is banned to dismantle the sight body!

The sight must be protected from mechanical damages.

Outer optical surfaces must be cleaned with soft clean cloth, fat stains and thin coating must be cleaned with cotton wool wetted with spirit.

During the storage and exploitation, optical details must be protected from scratches.

8 SAFETY

It is necessary to check periodically the mounting of the sight on a weapon according to the point 5.1.

To avoid injuries while shooting it is not allowed to move an eye closer than 100 mm to the last lens of an eyepiece.

9 ACCEPTANCE CERTIFICATE

The sight PO1×20 PM, PO1×20 PM1 (cross out the odd), serial № _____, is manufactured in accordance with mandatory state requirements for technical documentation and is fit for operation.

Date of issue _____

Signatures _____

_____

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