



NPZ

NOVOSIBIRSK INSTRUMENT-MAKING PLANT, JSC



OPTICAL SIGHTS

PO1x20 A

PO1x20 A1

SERVICE MANUAL

INTRODUCTION

This service manual is for learning operating rules, necessary information for correct maintenance of the sight and usage of all its functions. The service manual also includes specifications, zeroing and adjustment, operating and storage and safety requirements.

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OPTICAL SIGHTS PO1x20 A, PO1x20 A1

1 PURPOSE

The sights PO1x20 A и PO1x20 A1 (hereinafter referred to as the sights) are intended for aiming shooting on the range of direct shoot from the smooth-bore and rifled hunting weapon with the side slot.

The illuminated reticle allows aiming during the twilight when the target is seen.

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

2 SPECIFICATIONS

Table 1

Parameter	PO1x20 A	PO1x20 A1
Magnification, x	1 ^x	1 ^x
Angular field of view in the objects area	13°	13°
Eye relief, mm	100	100

Exit pupil diameter, mm	20	20
Diopter adjustment, D	—	±2,5
Adjustment range of the sight, cm at 100 m:		
• by height	±80	±80
• by direction	±80	±80
Overall dimensions, mm	180x65x110	180x65x110
Weight ,kg, max	0.55	0.6

3 DELIVERY SET

Table 2

Name	Quantity	Notes
Sight	1	
Bag	1	
Service manual	1	

4 DESIGN

4.1 The sight consists of the following main parts:

- body 2 (figure 1) with built-in protective glass, objective, eyepiece, turning prism with aiming reticle, windage and elevation zeroing mechanisms with caps 11 and 12;
- bracket 4 with clutch attached, intended for mounting the sight on the weapon. The clutch consists of bracket 5, washer 6, screw 7, latch 8, handles 9, 10. Quick-detachable protective caps 1 and 3 for protection external optical components from dirt and damage are fastened to bracket 4.

4.2 To illuminate the aiming reticle in the twilight the light source is used. Its operation is based on the effect of phosphor lighting.

4.3 Sight PO1x20 A1 has diopter adjustment mechanism from -2.5 to $+2.5$ D to compensate poor eyesight. Turn the frame of eyepiece 1 (figure 2) to achieve sharp image of the reticle.

4.4 The windage and elevation zeroing mechanisms are closed with thread caps 11 and 12 (figure 1) and has a discrete move with a fixation through 0-00,25. When the caps are removed mechanisms look like screws.

Marks “↓D”, “↑U”, “↓R”, “↑L” are engraved on the body of the sight near windage and elevation zeroing mechanisms.

Marks mean that during turning adjusting screw on one click towards the index, aiming mark shift on 0-00,25 in the chosen direction.

To shift the point of impact on 2,5 cm during titled weapon zeroing on 100 m distance, turn zeroing mechanism on one click.

Figure 1

The sight PO1x20 A.
Side view

- 1 - protective cap;
- 2 - body;
- 3 - protective cap;
- 4 - bracket;
- 5 - bracket;
- 6 - washer;
- 7 - screw;
- 8 - latch;
- 9, 10 - handles;
- 11, 12 - caps.

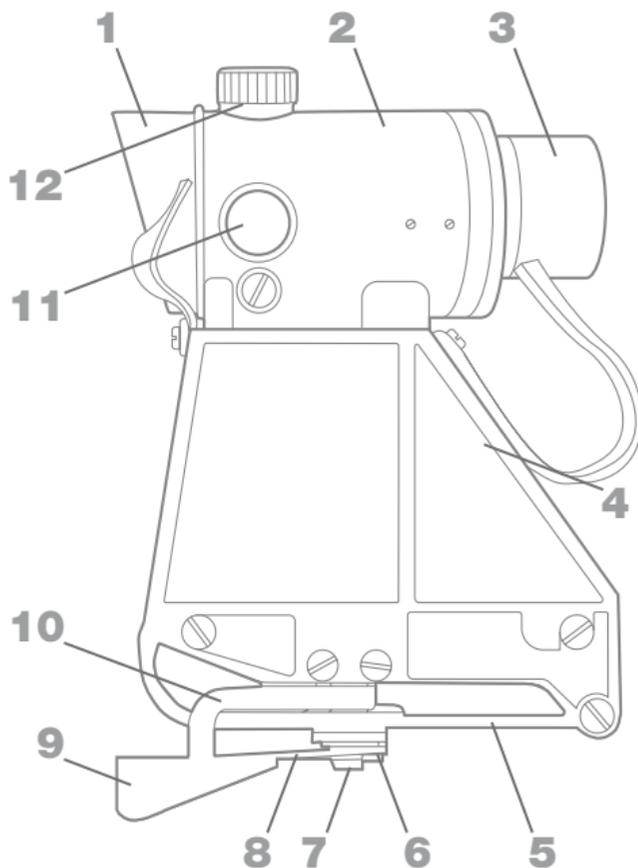
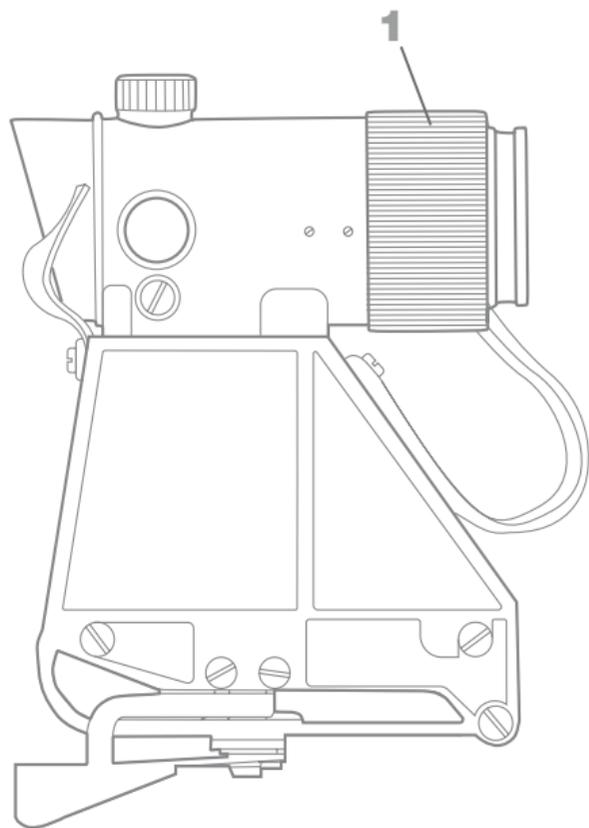


Figure 2

The sight PO1x20 A1.
Side view

1 - eyepiece.



5 MOUNTING THE SIGHT ON A WEAPON AND ZEROING

5.1 The sight is adjusted on the weapon, which has a special side seat of the dovetail type. When adjusting, it is necessary to connect the slot of the sight clutch with the seat of dovetail mounting by turning the handle 9 forward up to the complete fixation of a lug to bracket 5 of the sight.

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

5.2 To fit the clamping unit to the side bracket of the weapon do the following:

- Turn latch 8, freeing it from the head of screw 7, and remove;
- Rearrange handle 9 on a number of teeth, which provides a secure fastening of the sight on the bracket of the weapon;
- Turn back latch 8 at its place.

5.3 For the sight adjustment on the weapon do the following:

- Fasten the weapon on the shot machine;
- Set collar of the mechanical sight if the weapon is threaded on the division “1”;
- Aim a weapon using the mechanical sight to the aiming point at the distance of 100 m for rifled weapon and 50 m for the smooth-bore;
- Mount the sight on the side bracket of the weapon and fit the clamping unit of the sight to the mounting seat of the weapon according to 5.2 if necessary;
- Remove protective caps 1 and 3;
- Watching through the scope PO1x20 A1, turn the frame of eyepiece 1 (figure 2) to achieve sharp image of the reticle.
- Watching through the scope, check coincidence of the top of the sighting mark (figure 3) on the reticle with the same point using the mechanical sight;
- If the aiming point is not the same, unscrew caps 11 (figure 1) and 12 and coincide the top of the sighting mark (figure 3) on the reticle with the aiming point of the mechanical sight by turning zeroing mechanisms;
- Screw caps 11 (figure 1) and 12;
- Put on protective caps 1 and 3.

It is allowed to zero a rifled weapon with the help of special zeroing devices.

It's recommended to check weapon zeroing by shooting on 100 m for rifled weapon and on 50 m for smooth-bore weapon. If necessary, repeat zeroing taking into consideration that one click of the mechanism shifts the point of impact on 2.5 cm at distance of 100 m.

Do not apply excessive efforts to zeroing mechanisms in extreme position during zeroing to prevent damaging of the sight.



CAUTION! DO NOT TURN ADJUSTMENT MECHANISM AT MORE THAN $\pm 0-08$ (± 80 CM/100 M) FROM THE MIDDLE POSITION.

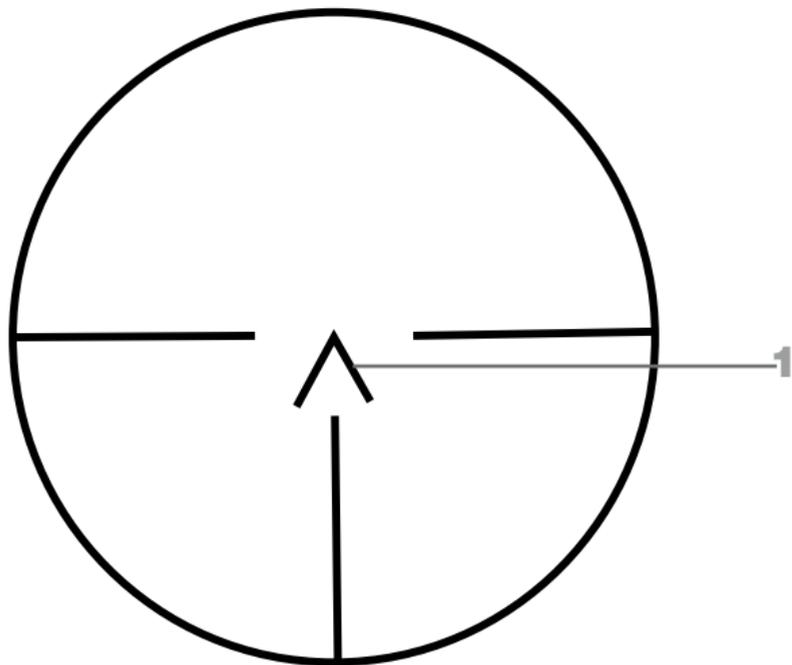
6 OPERATION WITH THE SIGHT

When firing, coincide the top of the aiming fence (figure 3) of the sight reticle with the aiming point. To prevent “dumping” of the weapon, the lines to the left and right of the aiming point must be horizontal.

Figure 3

Field of view

1 - sighting mark.



7 STORAGE AND MAINTENANCE RULES



DO NOT disassemble the device during the operational process!

Protect the device from mechanical damages to avoid the injury to optical details and the light element, which includes the light source.

External optical surfaces are to be wiped with a clean soft cloth. Oil stains and coating can be removed with a cloth saturated with an alcohol.

8 SAFETY REQUIREMENTS

Check security of the sight mounting on a weapon according to the point 5.2 before shooting.

Do not bring an eye to the eyepiece lens closer than 100 mm to avoid damage.

9 ACCEPTANCE CERTIFICATE

Sight PO1x20 A _____, serial № _____, is manufactured in accordance with the requirements of mandatory state requirements, effective technical documentation and is found fit for operation.

Date of issue _____

Signatures _____

JSC «Novosibirsk Instrument – making plant»
179/2, D.Kovalchuk str.,
Novosibirsk, 630049
Russia

e-mail: sales@npzoptics.ru. www.npzoptics.com



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