



## OPERATION MANUAL FOR

### Scopes 3-25x50/IL DZD FFP , 0.1 mrad



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## MAINTENANCE

The riflescope does not require a special maintenance. However the owner must ensure a general maintenance, following these steps:

- The lenses should be cleaned very carefully using a soft bristle and an optics-quality lens brush (for large particles removing), lens paper or cotton swabs and special cleaning materials (liquid or non-liquid) for the final cleaning;
- The main tube should be wiped with a soft, clean and dry cloth;
- The moving parts should be cleaned to remove dust and other particles, using a soft bristle brush.

## WARRANTY

Warranty does not include the defects resulted from improper or unauthorized handling of the scope.

### **WARNING !**

Repairs should only be carried out by authorized workshops.  
**DANGER! Unload firearms before installation to prevent shooting accidents!**  
Please protect your rifle scope against knocks.

## TECHNICAL CHARACTERISTICS

Magnification: ..... 3 - 25 x  
Objective diameter: ..... 50 mm  
Visual field: angular: 6.67° - 0.81°  
: linear: 11.64. - 1.41 m/100 m  
Diametrul pupilei de ieşire: 6.5 - 2 mm  
Output pupil relief: 80 - 90 mm  
Dioptric adjustment: ..... ± 3 dpt  
Adjustment range: on height 100 MOA  
on direction ..... ± 25 MOA  
One click value: ..... 0.1 MRAD  
Parallax correction: ..... 10m - infinite  
Reticule: ..... FFP / illuminated  
Battery: ..... 3V CR 2032  
Tube diameter: ..... 35 mm  
Length: ..... 335 mm  
Weight: ..... 1 kg  
Accessories: ..... sunshield

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### WARNING !

*Never look at the sun with the riflescope.  
You risk to suffer lesions of the eyes !  
Protect the scope (mounted on the rifle) from jolts and  
Any interventions on the scope should be made only by  
the specialized workshop staff.  
It is not allowed to act to the compensation mechanism.*

### CAUTION

#### Dusty or sandy areas

Operation in dusty or sandy areas can cause pitting and scratching of optical elements and damage to mechanical components.

The general precautions are:

- avoid pointing the scopes into the wind unless necessary for operation
- insure that all dust and sand is removed from the scope after operation.

#### Salt water areas

Operation in salt water areas can cause corrosion of the scope.

The general precautions are:

- after expose to salt water clean with fresh water.
- dry all parts completely (do NOT disassemble), use lense paper to clean the objective and eyepiece lens.

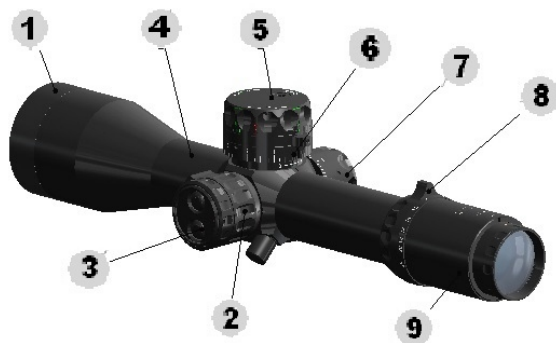
#### Rainy or humid conditions

Operation in rainy or humid conditions can cause corrosion and deterioration of scope.

The general precautions are:

- dry all parts after exposure to rain or high humidity.
- Do NOT store scope in a wet carrying case or wet storage case.

## CONSTRUCTION



1. Objective
2. Ring for parallax correction
3. Digital illumination system
4.  $\Phi$  35 mm Tube
5. Tambour for height adjustment
6. Index ring for zero position
7. Tambour for direction adjustment
8. Magnifications ring
9. Eyepiece

-Firstly, fix the special mounts (rings) to the rifle; position the scope on the special mounts, so that to provide an optimum distance from the shooter's eye (in shooting position) to the eyepiece, so that to see the whole visual field of the scope.

-after the preliminary fixing of the scope in the mounts (by tightening the superior semi-rings), check the position of the reticule center of scope to the rifle's barrel, to 100 m distance.

-checking is made with "cold"/boresight adjustment devices ("cold" / boresight adjustment scope, laser pointer) mounted on the rifle's barrel;

-the special mounts should be adjusted so that to make a correspondence between the reticule center of the scope and the reticule center of the "cold" adjustment scope or, center of laser fascicle. This coarse adjustment must be accomplished from the mounts (rings, bases, rails) and, the fine adjustment being accomplished from the mechanisms of the scope;

-after making these adjustments, block definitely the tightening screws of the mounts on the rifle;

-tightening the screws of the superior rings is made by a dynamometric key adjusted for a force of 12-15 inch-pounds, from Aluminum alloy and, 15-18 inch-pounds for steel rings;

-final adjustment shall be made in the polygon, by target shootings.

#### ATTENTION !

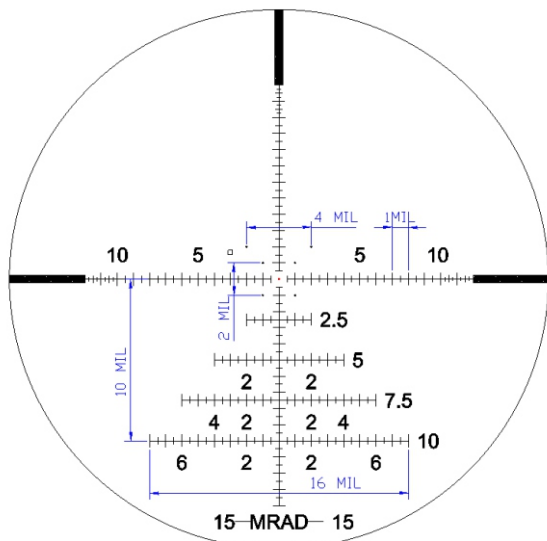
-Complying with the mounting and adjustment instructions of the attachment on rifle mounts is compulsory.

-After adjusting the scope to "0", check its proper working, namely:

- uniform movement of the magnification ring;
- rotating the eyepiece ring, so that to get a clear reticule image;
- making the complete run of the mechanisms on height and direction.

## RETICULE – ENGRAVE DETAILS

FFP reticule is calculated in milliradians



### MOUNTING THE SCOPE ON THE RIFLE

- Mounting and adjusting the aiming telescope on the rifle is done by armourers in a specialized workshop, provided with the necessary tools and devices.
- Attaching on the rifle is made with the help of special mounts with Ø35 diameter corresponding to the tube of the scope, which will be fixed on the attachment system specific to the utilized rifle.

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## INSTALLING

- IMPORTANT:** Make sure the gun is not loaded !
- Use only suitable tools, so that to do not damage the telescope, the attachment rings or the fixing base;
- When mounting on the gun, use a set of attachment rings for 35 mm tube, suitable for the respective application;
- Use rings with the smallest possible height, so that to provide a stable shooting position;
- When mounting, make sure that the scope is in contact only with the the rings surface, so that to do not affect the shooting operations;
- Position the scope on the rifle, providing an optimum distance to the shooter's eye;
- Check the alignment of the reticule vertical axle with the vertical axle of the rifle;
- Tighten gradually the attachment rings' screws, providing – by the help of a dynamometric screwdriver – the necessary force:
- firstly, tighten manually the screws that fix the rings, alternatively on those two lateral faces;
- make sure that the interstices between the two halves of the attachment rings are equal on both sides;
- finalize the tightening of screws by the help of a dynamometric screwdriver; the recommended force is 15 inch-pounds.

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### BDC RINGS

- On demand, the scope can be delivered with BDC rings, instead of the base ones, from the production list of IOR company.
  - After adjusting the scope on the rifle for “0” distance, specific to the calibre, proceed as follows:
  - loosen those 3 pins of the BDC ring; this will be positioned by unscrewing, with the inferior surface on the “0” line of the fix tambour;
  - tighten those 3 pins pf the BDC ring;
  - loosen those 4 pins of the tambour; rotate the tambour to the coincidence “0” of the BDC ring with the vertical scratch of the fix tambour (without driving the mechanism axle);
  - gradually and diagonally, tighten those 4 pins of the tambour, keeping its adjustment;
- From this position choose the desired distances, correlating the colors between the BDC ring and the fix tambour.



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### PARALLAX CORRECTION



parallax

- The correction mechanism of the parallax allows focusing the image and the parallax elimination for the distance range between 10m and infinite.
- The parallax is the apparent movement that is observed between the reticule and the target, when moving the eye from center and edge of the output pupil of the scope; this phenomenon takes place if the reticule and the target image are not in the same plane.
- To eliminate the parallax, firstly adjust the eyepiece, so that the reticule to be seen the most clearly.
- Then, move the eye slowly in the output pupil of the scope, from left to right and from upward to downward, so that to detect any apparent movement between the reticule and the edge of target. Rotate the correction ring of the parallax until no movement is observed anymore, and the reticule center remains overlapped just over the target.

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## BASIC OPERATIONS

### EYEPIECE ADJUSTMENT

- The eyepiece can be adjusted by diopters compensation.
- Look through the scope and rotate the eyepiece forward and backward, until obtaining the clearest image of reticule.
- There is an interior ring, for preventing the detachment of eyepiece from the scope body.

### SELECTING THE MAGNIFICATION

- Rotate the magnification ring until getting the desired magnification.

Magnification ring



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## DIGITAL ILLUMINATION SYSTEM

The scope is equipped with illuminated tactical reticule, commercially named MP-EXTREME X1, situated in the image plane of the objective (FFP) and having the central point illuminated in red.

The illumination system is digital type, with two acting buttons for increasing and decreasing the illumination level. Illumination starts by pressing any of those two buttons.

The last set level is saved for the next restart.

Stopping the illumination is done by simultaneously pressing of those two buttons



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## CORRECTIONS ON HEIGHT AND DIRECTION

-Any deviation between the bullet impact point and the sighted point on the target, can be easily and precisely corrected, by the help of the adjustment turret on height and direction.

-The height and direction adjustments permit both the scope alignment with the rifle and corrections of the impact point, as well.

-The adjustment run on height is 100 MOA (minutes of arch), and the adjustment run on direction is  $\pm 25$  MOA, equal from left to right

-The division value per click of the adjustment turret on height and direction is 0.1 mrad.

-Each click can be heard and felt when rotating, so that the shooter will not have to look to the turret scale.

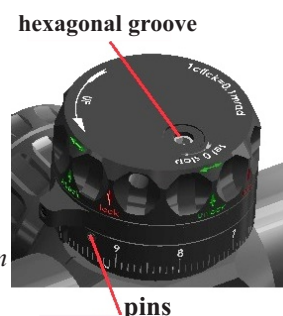
The acting directions are marked on the caps of turrets with arrows. "UP" and "R" symbols are referring to the movement directions of the impact point, respectively upward and to the right.

—On the height adjustment turret, there is fixed an index ring for zero position. This is used to memorizes a certain setting or for marking the second impact point.

—The turrets of height adjustment are provided with a "stop zero" fixing system, that can be adjusted as follows:

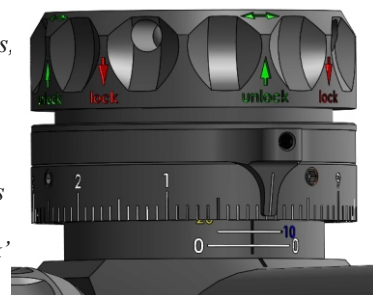


1. With a hexagonal key of 3 mm, rotate in the arrow direction the piece with hexagonal groove, until blocking, so that to fixing the zero position when making the initial mount on rifle.
2. Loosen the pins from the index ring assembly and reposition it on "0".



—The rosette for acting the tambours for adjustment on height, allows – by axial translation – to blocking the mechanism in any position of height adjustment, as follows:

1. Pull the tambour, thus, unblocking the "unlock" mechanism.
2. By rotating, adjust the mechanism.
3. After adjustment, press back the tambour for blocking on the "lock" adjusted position.



### ATTENTION !

Do not operate by rotating the mechanism for height adjustment when this is in the blocking position marked "lock". Operating in this position leads to internal mechanical damages as well as to decreasing or even cancelling the blocking effect.

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