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1. Scope description

1.1 Introduction

The Schmidt & Bender PM II series scopes are designed to meet the unique challenges of high precision shooting. Their quality and function make it possible to achieve exceptional shooting results as well as to fulfill the critical and demanding needs of official, law enforcement and tactical applications. Strict observation of the following operating instructions is prerequisite for successful long-term use.

1.2 Safety instructions

Never look into the sun or into laser light with the scope. This may cause serious eye injuries. Do not tamper with the scope. Any repairs beyond the maintenance described in the maintenance manual should only be performed by Schmidt & Bender or by other specialists authorized by Schmidt & Bender. Protect the scope against shocks beyond normal use.

Avoid unnecessary long exposure of the scope to direct sunlight; intense and excessive sun radiation will cause extremely high temperatures inside the tube which may be detrimental to the scope.

The scope must be properly mounted to the firearm by a qualified specialist. Perfect mounting is an essential requirement for maximum accuracy and efficient functioning of the firearm and the scope. Be sure to assume the proper firing position and keep a correct eye relief in order to obtain an optimal full field of view and to avoid any injuries due to the recoil of the weapon.

2. Technical data

2.1 General data

- Magnification - 5x – 20x
- Objective lens diameter - 50 (mm)
- Field of view - 7,8 – 1,95 (m/100m)
- Exit pupil - 10,0 – 2,5 (mm)
- Eye relief distance - 90 (mm)
- Twilight factor - 15,81 – 31,62
- Transmission - 90 (%) 
- Diopter adjustment - +2 bis -3 (dptr)
- Parallax adjustment - 25 - ∞ (m)
- Weight - 862g (g)
2.2 Dimensions

Illustr. 1: Dimensions of the scope in mm

3. Accessories / Scope of supply

- Tenebraex Caps for objective and eyepiece
- Anti-reflective device
- Transport Bag “Desert Tan”
- Allen key
- Cleaning kit
4. Operating instructions

Illustr. 2: Scope controls

4.1 Adjusting the image focus with the diopter adjustment of the eyepiece

The eyepiece provides the adjustment of the reticle focus to the individual eye diopter. Set the scope to the highest magnification. Rotate the eyepiece counterclockwise until it stops. Rotate the eyepiece clockwise until you see a sharp image of the reticle (see Illustr. 3).

Illustr. 3: Diopter adjustment
4.2 Parallax adjustment

The 5-20x50 PMII scope provides parallax compensation with an easily operable setting wheel (Illustr. 4), positioned as a third turret opposite the windage adjustment. With this turret the shooter may easily focus targets at any distance without having to interrupt his target acquisition.

The parallax adjustment turret is engraved with distance markings. If the distance to the target is known rotate the turret so that the corresponding distance marking lines up with the index mark on the saddle.

If the distance to the target is not known set the scope to the highest magnification and then move the adjustment ring of the parallax compensation in the direction of the estimated distance until you obtain a focused image. Now the parallax has been properly adjusted and you may also read the distance on the turret.

Illustr. 4: Parallax adjustment

4.3 Using the scope covers

To protect the scope and its lenses against adverse environmental conditions like sand, dust, rain, snow, etc., the protective flip-up caps of objective and eyepiece should be closed after every use of the scope. Before shooting, make sure that the caps are open.

4.4 Using the anti-reflective device

The anti-reflective device prevents the reflection of light sources in the objective lens which might reveal the location of the shooter. It should be considered that the anti-reflective device decreases the light output of the scope, which especially yields in a lower performance in low light conditions.
5. Point of impact correction

5.1 Using the single turn MTC LT elevation turret and the capped windage turret

**Elevation turret**

The single turn MTC LT elevation turret includes the following features:

- Single turn MTC (more tactile click)
- Zero stop
- Locking function

The “single turn” elevation turret provides a fine click adjustment value in addition to a large elevation adjustment. The zero stop function supports the quick adjustment to the zero position. The zero stop function is determined by an end stop. The MTC elevation turret has an audible “clunk” on every 10th click.

The elevation turret includes a locking function which prevents the inadvertent adjustment of the turret. To lock the turret, the outer flange with the engraving must be pushed down in direction of the scope tube until “LOCKED” appears on the turret (Illustr. 5). To unlock the turret, the outer flange must be pulled up until the “LOCKED” indicator completely disappears (Illustr. 5).

Illustr. 5: Locking function of the elevation turret: unlocked and locked
Windage turret

The capped windage turret is designed to be low profile while still providing full functionality. The cap is rotated counter-clockwise for removal. (Illustr. 6) The windage turret has one positive "clunk" at the zero position which provides a "0" reference point.

![Illustr. 6: Removing the cap](Image)

5.2 Preliminary adjusting and fine adjusting when sighting in

When sighting in the scope for the first time, or re-sighting the scope due to service or repair, a test shoot for zeroing the scope must be performed on a 100m distance. Therefore, ensure that the parallax is set to the correct value of 100m and that both elevation and windage turrets are set to “0”. The double turn turret must be set to the first revolution.

The centering of the target pattern is then performed according to paragraph 5.3 and 5.4 on page 10.

Lock the elevation turret, loosen the two setscrews on the outside diameter in line with the "LOCKED" indicator using an Allen key (see Illustr. 6). Unlock the turret by pulling up the outer flange and turn the turret until the engraved "0" is indicated by the triangle on the saddle. Lock the elevation turret by pushing down the outer flange with the engraving and tighten the two setscrews with an Allen key.

To zero the windage turret, removed the turret cap and loosen the two setscrews turn the turret to zero. Then retighten the screw and screw the turret cap cover back onto the turret.

1. The turrets are secured by an additional third slotted screw which should only be removed when completely replacing the turret due to damage.
The turret clicks can still be felt and heard when the screws are unlocked. This has no impact on the process of zeroing as the thread piece does not move while the setscrews are loose.

Illustr. 7: Zeroing of the scope – unscrewing the Allen head screws

5.3 Elevation adjustment

The point of impact is moved by 0.1mrad (1cm on 100m) with every click. A too low point of impact is corrected by rotating the elevation turret counter-clockwise (see Illustr. 8), a too high point of impact by rotating the elevation turret clockwise.

Illustr. 8: Elevation adjustment
5.4 Windage adjustment

The point of impact is moved by 0.1mrad (1cm on 100m) with every click. A too far left point of impact is corrected by rotating the windage turret counter-clockwise, a too far right point of impact is corrected by rotating the turret clockwise (see Illustr. 9).

Illustr. 9: Windage adjustment

6. Maintenance

Schmidt & Bender PM II scopes do not require any special maintenance. All metal parts have a hard anodized surface that is extremely scratch-resistant and easy to care for.

For cleaning outer surfaces, use a clean and, if necessary, a slightly damp cloth.

For cleaning the optics use the included Schmidt & Bender cleaning kit.

Before wiping the optic’s surfaces, use a dry brush to remove coarse dirt or dust particles. Slight impurities may then be wiped off using an optic’s cleaning cloth.

Breathe onto the optic’s surfaces before cleaning them, this helps with the cleaning process. Excessive dirt may be removed using the cleaning liquid included in the cleaning kit.

Avoid dry rubbing on the outside optical surfaces, this may harm the precious coatings.

6.1 Storage temperature

The approved temperature range for the storage of the scope is from -55°C to 70°C.
7. Warranty certificate

We hereby certify that our Quality Management System has been approved by Unternehmensgruppe TUV Rheinland Berlin Brandenburg to the following Quality Management Standard: The TUV Cert Certification Body of TUV Anlagentechnik GmbH (Unternehmensgruppe TUV Rheinland Berlin Brandenburg) certifies in accordance with TUV Cert procedures that Schmidt & Bender GmbH & Co. KG, Am Grossacker 42, D- 35444 Biebertal has established and applies a quality management system for the design, production sales and service of fine mechanical optical instruments. Main product telescopic sights. Proof has been furnished that the requirements according to ISO 9001 – # Registration No. 01 100 67280 - are fulfilled. All parts have been thoroughly inspected in accordance with the afore-mentioned Quality Management System and correspond to the requirements of the specifications, drawings, test procedures and standards in all respects.

Guarantee clause:

Official legal guarantee period of 2 years (according to the directive of EU)

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