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**RANGE  
ESTIMATING  
SCOPE**

**RETICLE  
INTENSIFIED  
SCOPE**

in the following series



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# RANGE ESTIMATING / RETICLE INTENSIFIED/ ADJUSTABLE OBJECTIVE SCOPE

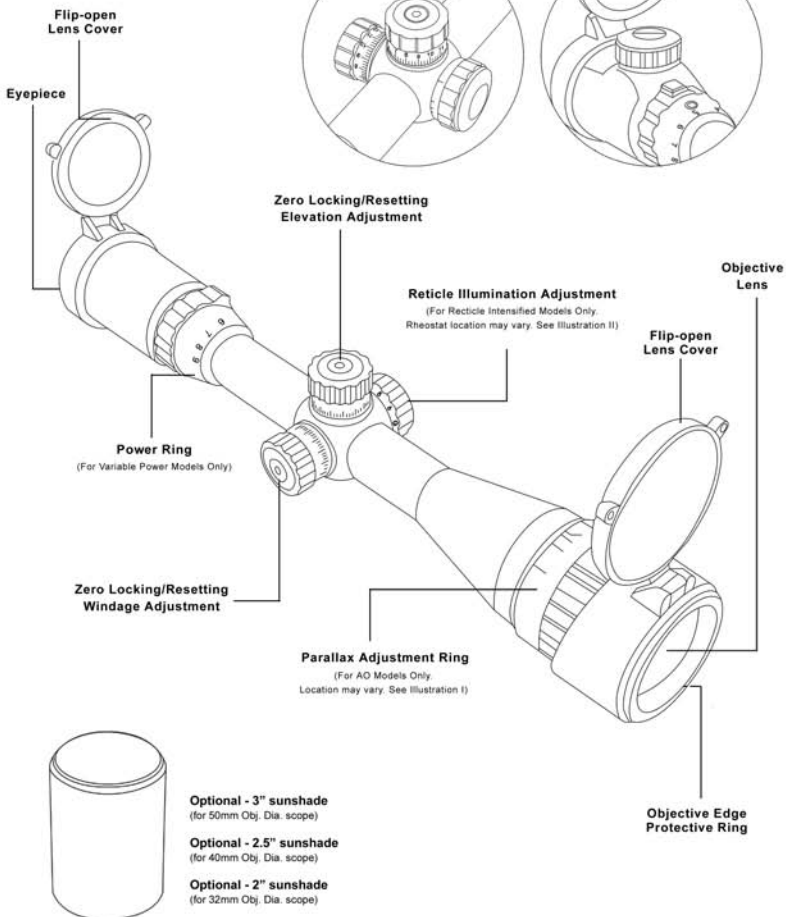
**Illustration I**

Parallax Adjustment Ring  
location may vary -  
either as a third side wheel  
or on the objective tube.



**Illustration II**

Illumination Rheostat  
location may vary -  
either as a third side wheel  
or on the ocular tube.



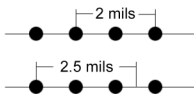
## Major Features:

- **Rugged One Piece Tube Construction for All Terrains/Weather**
  - Precision machined to exact tolerances from aircraft-grade aluminum alloy.
  - Completely sealed and nitrogen filled to stop moisture ingress.
  - Perfect for all terrains and all weather conditions.
- **Sealed Windage and Elevation Housing and Turrets**
  - Windage and elevation housing features machine plate controlled seals, to eliminate risk of water ingress and fogging.
  - Turrets are manufactured with easy to grip finger adjusting design, making adjustments simple even whilst wearing gloves.
  - Positive and precise 1/4 MOA for accurate and consistent shooting.
- **Multi Layer Lens Coating for Optimum Light Transmission**
  - Unique high tech coatings applied to lens elements ensure much better light transmission to optimize optical performance.
  - Multi layer coatings ensure maximum utilization of all ambient light to optimize resolution and clarity.
- **Target Turrets with Unique Zero Locking and Zero Resetting Features**
  - Most ingenious design to offer user friendly functions.
  - Easy and repeatable Zero Locking and Zero Resetting provides the most needed protection and convenience.
- **Wide Field of View with Tactical Mil-Dot Reticle (For Range Estimating Models Only)**
  - Wide field of view and edge to edge lens clarity allow for clearly picking up quarry on the peripheral edge of the sight picture.
  - The precise Tactical Mil-Dot reticle allows the shooter to estimate ranges and enhance accuracy.
- **High Quality Precision Machined Parts**
  - Guarantees smooth and accurate operation, and deliver consistent and reliable performance.
- **Illuminated Reticle with Red or Red/Green Dual Illumination (For Reticle Intensified Models Only)**
  - Adjustable intensity of the illuminated reticle gives optimum reticle clarity in variable light conditions, increasing accuracy in daylight and twilight environments.

### A. Range Estimating:

Regular mil-dot reticle found on the market usually has 4 dots on each direction of the cross hair, giving you 9 different aiming points for either windage or elevation. If you count the 2 inner tips of the opposite duplex cross hairs, you get 11 aiming points. **Our own 24 Mil-Dot Reticle (TRE)** has 6 dots on each direction of the cross hair, giving you 13 aiming points or 15 including the inner tips of the duplex cross hairs.

- Range estimating requires common knowledge/experience about your target's actual width or height.
- 1 mil in a scope reticle is the distance from the center of one dot to the center of the next dot.
- Set your scope at the highest power. View the target through the scope. Place the center of the dot against one edge of the target and measure to the opposite edge of the target.
- Once the target has been measured in mils, depending on the scope model, a formula is available to estimate the distance of the target. An example formula for 3-9X50 Full Size Scope is provided here for your reference:



$$\frac{\text{Height or Width of Target in Meters} \times 900}{\text{Height or Width of Target in Mils}} = \text{Range in Meters (1M} = 1.0936 \text{ Yards)}$$

- For accurate range estimating the size of the target must be known.
- Each model comes with its own formula and a pre-calculated mil-dot table of most used distance estimates to aid the user.

## B. Mounting the Scope:

**CAUTION:** Always ensure your rifle is UNLOADED, UNCOCKED and, where fitted, the safety catch is applied before fitting the scope. Practice safe handling procedures at all times.

1. Ensure you have top quality rings from us, buying cheap rings is a false economy and can result in poor performance from your combo.
2. Fit the ring bases to the mount rail of the rifle.
3. Remove the top piece of the ring and place the scope on the exposed fitted ring bases. Replace the top piece of the ring and finger tighten.
4. Put the rifle to your shoulder in your natural shooting position and adjust the scopes eye relief until you achieve a full field of view.
5. When you have found the ideal eye relief rotate the scope so the reticle cross hairs are vertical and perpendicular to the rifle.
6. Tighten the screws on the ring to ensure a firm grip on the scope.  
**WARNING:** Do not over tighten the screws as you could cause damage to the scope body.
7. The scope is now ready to be zeroed.



## C. Zeroing the Scope:

1. The purpose of zeroing the scope is to ensure that the scope is aligned with the impact point of the pellet or bullet from the rifle. **Before zeroing the scope, read the following adjustment knob instructions carefully.**
2. The Windage and Elevation Adjustment knobs have a unique Locking Screw design. An Allen wrench is provided with the scope. **IMPORTANT: Refer to Figure 1 for the correct way to hold down the outer rim of the adjustment knob whenever you use the Allen wrench to tighten/loosen the locking screw.**



### 3. ZERO LOCKING

Firmly hold down the windage or elevation adjustment knob as shown in Fig 1. Use the Allen wrench to turn the Locking Screw clockwise until tight. Do not over-tighten. When the Locking Screw is completely tightened down, the windage or elevation adjustment knob is "locked". The knob will not rotate, preventing any accidental movement to lose zero. (W/E knobs are at "locked" position for a new scope.)



### 4. ZEROING

Firmly holding down the windage or elevation knob as shown on Fig. 1, use the Allen wrench to turn the Locking Screw counter-clockwise until the "Adjustment Line" appears (Fig. 2-2). When the knob base sits at this Adjustment Line, windage and elevation can be rotated for zeroing

- 1) Place a target 100 yards away. (35 yards for airgun scopes)
- 2) Ideally use a steadying device such as a bipod or shooting stand, set the scope at the highest magnification, aim at the center of the target and fire a test shot, if safe to do so.
- 3) If the impact point of the pellet or bullet is exactly in the center of the target then the scope is zeroed. If it is not, you will need to adjust the reticle using the elevation and / or windage adjusters as follows:
  - a. Vertical Adjustment (Elevation) - Use your fingers to turn the adjusting knob as required. One click in either direction equals approximately 1/4 inch at 100 yards.
  - b. Horizontal Adjustment (Windage) - Use your fingers to rotate the adjusting knob as required. One click in either direction equals approximately 1/4 inch at 100 yards.
- 4) Having adjusted the windage and elevation as required, fire, if safe to do so, another test shot. Keep adjusting and test firing until the test shot impacts on the center of the target when the reticle is on the center of the target. This is vital for accurate shooting.

**Note:** Each click of adjustment moves the impact point by the amount shown in the table below

Inches of Movement per Click in Windage/Elevation Models with 1/4 in. Per Click @ 100 Yards				
25yds	35yds	50yds	100yds	200yds
1/16	7/80	1/8	1/4	1/2

**Note:** Since climatic conditions such as altitude, temperature, wind and rain can affect the pellets or bullets trajectory, you may experience some deviation in the exact settings during different shooting sessions.

#### 5. ZERO RESETTING

Once your scope is zeroed, the "0" marking may not be facing you at the original center position. Optionally, you can rotate "0" to the centerline using the following steps. Firmly holding down the W/E knob as shown in Fig. 1, use the Allen wrench to turn the Locking Screw counter-clockwise until the "Zero Resetting Line" appears (Fig. 2-3). When the knob base sits at this "Zero Resetting Line", the W/E knob has been dis-engaged and rotating the knob will not affect zero. You can re-position the "0" mark to the centerline.

6. When complete with scope zeroing, followed by optional zero resetting, be sure to LOCK ZERO by following the steps in ZERO LOCKING.

#### D. Adjusting Parallax and Focus:

1. Aim the scope at your target.
2. Adjust the eyepiece until both the crosshair and the target are in sharpest focus.
3. Rotate the Parallax Adjustment Ring (or Side AO Turret; see Illustration I on p. 1) to the desired distance setting until the target is in the sharpest focus and the center of the crosshair stays on the target while you examine the image by slightly moving your head.



(Parallax adjustment for AO models only. Location of AO ring may vary. See Illustration I on p.1.)

**Note:** Different individuals will have different eye focus which will result in different diopter setting. A person will use different diopter settings with or without eye glasses.

#### E. Installing Sunshade (Optional):

1. Remove the front objective edge protective ring.
2. Screw on the proper sunshade to the front of the objective.



#### F. Adjusting Reticle Illumination: (For Reticle Intensified Models Only)

Turn the illumination adjustment control to adjust the intensity of illumination. The battery (included with the scope) is a coin style lithium battery. When replacing battery, insert it with the positive (+) side uppermost in the battery compartment.



(Location of the rheostat may vary. See Illustration II on p.1.)

#### G. Care and Maintenance:

1. Take care not to drop or knock the scope once it is zeroed.
2. Keep the protective lens covers in place when the scope is not being used.
3. Maintain the metal surface of the scope by removing any dirt or sand with a soft brush so as to avoid scratching the finish.
4. Wipe the lens with a clean flannel cloth to keep it clean and dry. In order to avoid scratching the glass, ensure both the lens and cloth are clean. Do not use finger or finger nail to touch/clean lenses.
5. Store the scope in a cool dry place when not in use. Be careful to avoid contact with acid, alkaline or corrosive chemicals.
6. Do not attempt to lubricate any part of the scope.
7. Do not disassemble the scope. Do not loosen or remove screws or parts. Any such or similar actions will void the warranty.

**CAUTION:** Viewing the sun can cause serious eye injury. Never look directly into the sun with this or any scope.

#### **H. Limited Lifetime Manufacturer's Warranty**

Warranty against material or workmanship defects applies based on the following conditions -

- Scope was purchased new. Evidence of purchase is required for warranty service.
- Scope was not disassembled, parts / screws not removed or loosened, and the scope was not tampered with in any way. Any evidence of such interference will void the warranty.
- Scope has not been abused, maliciously damaged or treated in a manner not in keeping with the purpose it was designed for.

For Warranty service, please contact the scope distributor and provide a written problem description to obtain a Return Authorization Number before returning the product for repair or replacement.

W W W . L E A P E R S . C O M

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