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Vector Optics SCOL-34

Vector Optics Sentinel 10-40x50 Riflescope User Manual

Brand: Vector Optics | Model: Sentinel X (SCOL-34)

1. Introduction

This manual provides comprehensive instructions for the Vector Optics Sentinel 10-40x50 Second Focal Plane Riflescope. Designed for precise adjustments and optimized for 25-meter benchrest target shooting, this riflescope features a turret lock system and a specialized reticle. Please read this manual thoroughly before use to ensure proper operation and maintenance.



Figure 1.1: The Vector Optics Sentinel 10-40x50 Riflescope, showcasing its robust design and optical components.

2. Key Features

- **Optimized Optics for 25m Benchrest Shooting:** Diopter compensation from -2 to +1.5 via fast-focus eyepiece. Exclusively designed for air gun benchrest shooting and 25m competition. Reticle used at 40x power, with a 1.5mm center dot perfectly matching a 2mm target diameter.
- **Precision Optics and Performance:** Features adjustable side parallax, 1/8 MOA click adjustments, and a 50mm multi-coated objective lens for accurate targeting and clear visuals. Offers 50 MOA elevation/windage adjustments and 60 clicks per rotation for fine-tuning.
- **Turret Lock System:** Safeguards against unintentional adjustments to the scope's windage and elevation, crucial for

maintaining accuracy in rugged conditions.

- **Durable Performance:** Shock tested to 750G. IPX4 water resistance. Constructed from 6061-T6 aluminum alloy.
- **Included Accessories:** User manual, plastic wrench, cleaning cloth, flip-up caps, hex keys, and a sunshade.

3. Setup and Installation

3.1 Mounting the Riflescope

Ensure you select suitable scope rings that match the product's adjustment range and shooting distance. The riflescope is designed for Weaver Mount systems. When mounting, apply even torque to the scope rings in a criss-cross pattern to secure the scope without causing stress to the tube. Torque to 25 inch-pounds.



Figure 3.1: Packaging contents, including 30mm Weaver Scope Rings, flip-up caps, and hex keys for mounting.

3.2 Diopter Adjustment

Adjust the diopter from -2 to +1.5 using the fast-focus eyepiece. This adjustment compensates for individual eyesight differences, ensuring a sharp reticle image.



Figure 3.2: The fast-focus eyepiece for diopter compensation, allowing adjustment from -2 to +1.5.

4. Operating the Riflescope

4.1 Magnification Adjustment

The Sentinel riflescope offers a magnification range from 10x to 40x. Rotate the power ring to adjust the magnification to your desired level. Higher magnification provides a more detailed view, while lower magnification offers a wider field of view.



Figure 4.1: Product usage diagram illustrating the magnification ring and turret controls.

4.2 Parallax Adjustment

The adjustable side parallax allows for precise focus from 10 yards to infinity, eliminating parallax error at various distances. Adjust the side focus knob until the target image and reticle appear sharp and in the same focal plane.

4.3 Windage and Elevation Adjustments

The riflescope features 1/8 MOA click adjustments for both windage and elevation, with a total adjustment range of 50 MOA. Each click provides a precise change in the point of impact. The turret lock system prevents accidental adjustments.



Figure 4.2: Close-up of the windage and elevation turrets, indicating 1/8 MOA click value and 50 MOA range.

4.4 Reticle Usage (COM-25M)

The custom-designed COM-25M reticle is exclusive for 25 meters benchrest target shooting. At 40x power, the 1.5mm center dot perfectly matches a 2mm target diameter, aiding in precise aiming for bullseye shots.

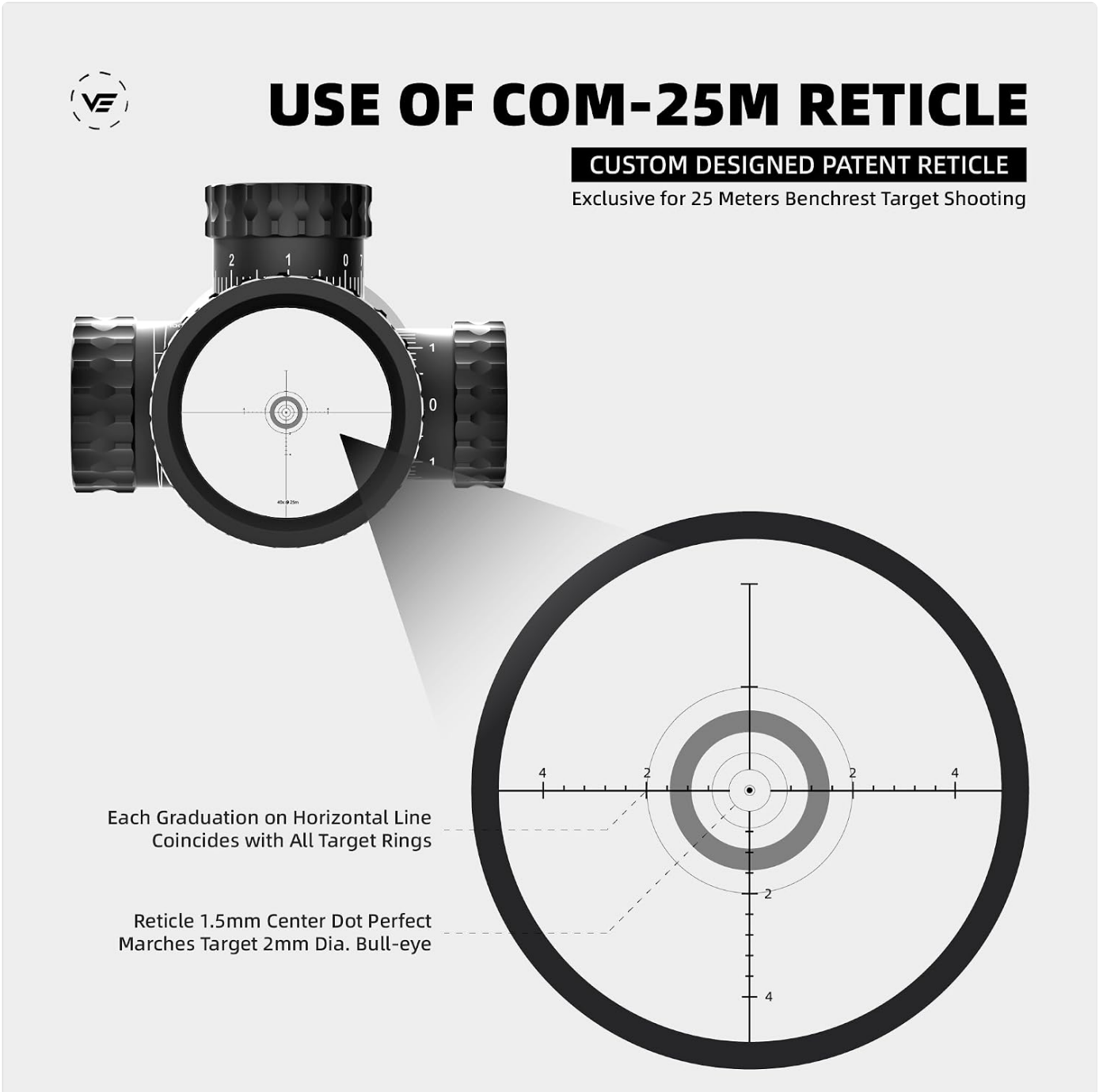


Figure 4.3: Detailed view of the COM-25M reticle, highlighting its design for 25-meter benchrest target shooting.

4.5 Image Performance

The fully multi-coated (FMC) blue lens provides greater light transmission, resulting in clear crosshairs, an excellent field of view, and edge-to-edge image clarity without a dark ring. This ensures optimal visual performance for target acquisition.



Figure 4.4: Comparison illustrating the superior image clarity and edge-to-edge performance of the Sentinel riflescope compared to others.

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Video 4.1: Official product video demonstrating the features and optical performance of the Vector Optics Sentinel X 10-40x50 riflescope.

5. Maintenance and Care

- **Storage:** Avoid storing the riflescope in hot places, such as car compartments, as high temperatures can affect lubricants and sealants.
- **Lubrication:** The internal parts are permanently lubricated, so no additional lubrication is needed.
- **Cleaning:** Clean the exterior surface with a soft cloth. For lenses, use a specialized lens cleaning cloth and solution. Always use lens covers when the riflescope is not in use to protect the optics.

- **Water Resistance:** The riflescope has an IPX4 water resistance rating, meaning it is protected against splashing water from any direction. However, it is not designed for submersion.

6. Troubleshooting

Problem	Possible Cause	Solution
Blurry Image / Difficulty Focusing	Incorrect diopter setting; Parallax not adjusted for distance.	Adjust the fast-focus eyepiece for reticle clarity. Adjust the side parallax knob until the target is sharp.
Point of Impact (POI) Issues / Difficulty Zeroing	Improper mounting; Insufficient adjustment range for distance; Turret lock engaged.	Ensure scope rings are properly torqued and aligned. Verify the scope's adjustment range is suitable for your shooting distance. Disengage the turret lock before making adjustments.
Dark Ring / Vignetting at Edges	Improper eye relief; Parallax not fully optimized.	Adjust your eye position relative to the eyepiece. Fine-tune the parallax adjustment.

7. Specifications

Feature	Detail
Brand	Vector Optics
Model Name	Sentinel X
Magnification	10-40x
Objective Lens Diameter	50 mm
Ocular Lens Diameter	44 mm
Ocular Length	67 mm
Exit Pupil	5.0-1.25 mm
Length	405 mm / 15.9 in
Weight (net)	775 g / 27.3 oz
Eye Relief	92-85 mm / 3.6-3.3 in
Field Of View (@100yds)	19.89 Feet (3.8-1.1°)
Click Value	1/8 MOA
Adjustment Range	50 MOA
Parallax Adjustment	10 yards to infinity
Reticle Type	Etched (COM-25M)
Shock Tested	750G
Water Resistance	IPX4
Material	6061-T6 Aluminum Alloy

SPECIFICATION



Magnification 10-40x	Objective Lens 50mm	Ocular Lens Dia 44mm / 1.7in	Ocular Length 67mm / 2.6in
Exit Pupil (mm) 5.0-1.25	Length (mm/in) 405/15.9	Weight (net,g/oz) 775/27.3	Eye Relief (mm/in) 92-85/3.6-3.3
Field of View (@100yds) 3.8-1.1°	Click Value 1/8MOA	Adjustment Range 50MOA	Parallax Adjustment 10-∞
Illumination N/A	Finish Black Matte		

Figure 7.1: Technical specifications and dimensions of the Sentinel riflescope.

8. Warranty and Support

For after-sale service and maintenance instructions not covered in this manual, please refer to the official Vector Optics support channels. The product includes a user manual in PDF format for further reference.

Official User Manual (PDF): Download PDF Manual

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