



**ENHANCED COMBAT OPTIC**

**PATENT PENDING**

**OWNER'S MANUAL**

# ENHANCED COMBAT OPTIC (ECO)

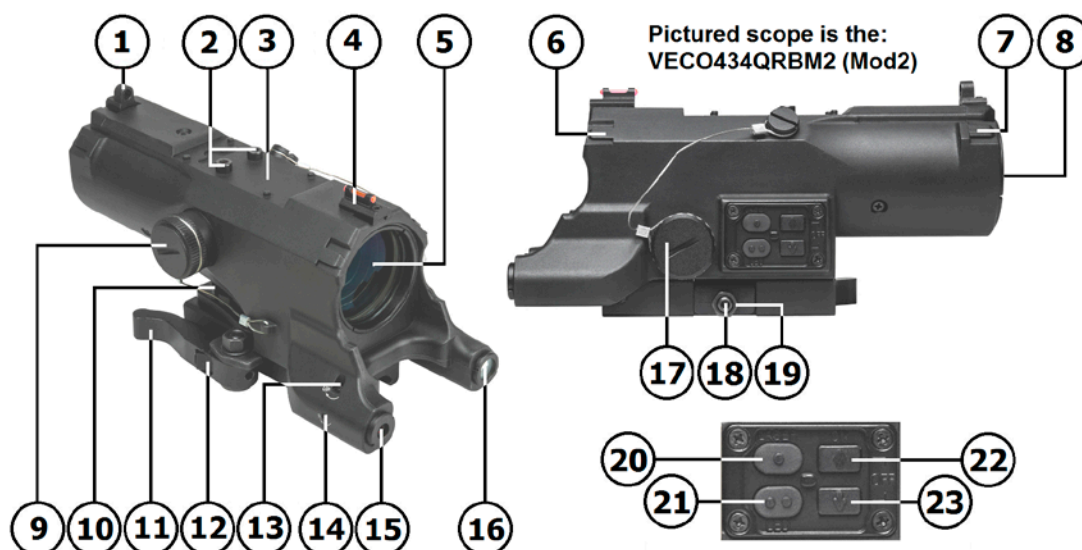
Congratulations on the purchase of your new VISM® Enhanced Combat Optic (ECO)! The ECO Series of Scopes gives you some very unique features not found in any other scope. Integrated into the front of the ECO Mod2 Scopes are two low mounted pods: the right pod is an adjustable Green Laser and the left pod is Red & White Navigation LEDs. For the shooters that don't require the Green Laser and LED NAV Light features, the ECO Mod3 Scope models do not have the Green Laser and NAV LED lights.

Other Features include: Locking Quick Release Mount, Electronic Control Panel for operating the Urban Tactical Reticle/ Green Laser/ NAV LEDs, Backup Iron Sight that can be mounted at three different angles, Micro Dot Base Mount, and bottom mounted Elevation Adjustment Dial.

Backed by a Lifetime Limited Warranty, your VISM® Scope will provide you with years of reliable service. This Owner's Manual will help you understand all of the features of your new scope.

Please follow all instructions carefully before initial use to experience the best performance.

## ECO Scope Features



1. Rear Aperture Backup Iron Sight
2. Micro Dot Base Mounting Screws
3. Micro Dot Base Pad
4. Front Post Backup Iron Sight with fiber optic insert
5. Objective Lens
6. Front Sight Alternate Base Slots
7. Rear Sight Alternate Base Slots
8. Ocular Lens
9. Windage Cap (Tethered) and Adjustment
10. Elevation Adjustment Dial
11. Quick Release Lever
12. Auto-Locking Latch for QR Lever

13. Green Laser Elevation Adjustment Screw (⤴UP)
14. Green Laser Windage Adjustment Screw (⤴R)
15. Green Laser Pod/ Aperture (Mod2 only)
16. White & Red Navigation LED Pod (Mod2 only)
17. Battery Cap (Tethered) and Battery Compartment
18. Allen Head Adjustment Screw (Mount rail tension)
19. Lock Nut
20. Green Laser On/OFF Switch (○)
21. NAV LED Light On/OFF and Color Switch (○○)
22. Up Arrow (⤴) Button for Illuminated Reticle
23. Down Arrow (⤵) Button for Illuminated Reticle

**CAUTION: BE SURE THAT YOUR FIREARM IS UNLOADED AND POINTED IN A SAFE DIRECTION. PRACTICE SAFE FIREARMS HANDLING PROCEDURES AT ALL TIMES.**

**NOTE: IF YOU ARE UNFAMILIAR WITH THE PROCESS OF MOUNTING A SCOPE, IT MAY BE NECESSARY TO EMPLOY THE SERVICE OF A QUALIFIED GUNSMITH.**

## **Mounting the ECO Scope**

The ECO Series Scopes are equipped with a Quick Release Mount with an Auto-Locking Latch. To mount the Scope to a Weaver/ Picatinny/ MIL-STD 1913 type rail, move the Auto-Locking Latch located within the Quick Release Lever away from the pivot point and swing the Quick Release Lever to the forward (Open) position. Place the Quick Release Mount onto the optics rail, with the Recoil Lug placed into one of the cross slots on the optics rail. Move the Quick Release Lever rearward (Closed position) to secure/tighten the Quick Release Mount to the optics rail.

On the Left side of the Quick Release Mount is a Lock Nut and Allen Head Adjustment Screw. The Allen Head Adjustment Screw is used to adjust the rail mount tension. To adjust the rail mount tension, you must first loosen the Lock Nut Counter-Clockwise (⤿). Once the Lock Nut is loosened or removed, you can then use an Allen wrench to turn the Allen Head Adjustment Screw.

Turn the Allen Head Adjustment Screw Clockwise (⤿) to make the rail mount tension Tighter, turn the Allen Head Adjustment Screw Counter-Clockwise (⤿) to make the rail mount tension Looser.

To test the rail mount tension, open and close the Quick Release Lever while mounted on the optics rail. Make adjustments to the Allen Head Adjustment Screw until you get the proper rail tension. Once you have the rail mount tension properly adjusted, turn the Lock Nut Clockwise (⤿) to Lock the Allen Head Adjustment Screw in place.

## **Dismounting the ECO Scope**

To remove the ECO Scope from a rail, slide the Auto-Locking Latch located within the Quick Release Lever away from the pivot point and swing the Quick Release Lever to the forward (Open) position. You can then remove the Scope from the rail.

**CAUTION: VIEWING THE SUN WITH THIS SCOPE OR ANY OTHER OPTICAL DEVICE CAN CAUSE PERMANENT INJURY TO THE EYE; INCLUDING BLINDNESS.**

## **Elevation and Windage Adjustment Dials**

The ECO Scope is equipped with Elevation and Windage Adjustment Dials, which changes your reticles point of aim, relative to your rifles point of impact.

The Elevation Adjustment Dial is located under the Scope Body between the Scope Body and the Mount Base, and is responsible for the Up and Down movement of the reticle. The orientation for the Clockwise and Counter-Clockwise movement of the dial is referenced from looking from above the Scope Body down towards the Mount Base. If access to the Elevation adjustment is difficult to reach, you can use an Allen Wrench or the tip of a Rifle Cartridge (FMJ Bullet) to turn the Elevation Adjustment Dial. Insert the Allen Wrench long end or the Tip of the Bullet into the recess of the Elevation Dial and turn the Dial with the Tool or Cartridge to adjust the Reticles Elevation Up or Down.

Turning the Elevation Adjustment Dial Clockwise (↻) will move the Reticle Down (↓), shifting the bullet point of impact Up (↑).

Turning the Elevation Adjustment Dial Counter-Clockwise (↺) will move the Reticle Up (↑), shifting the bullet point of impact Down (↓).

The Windage Adjustment Dial is located on the right side of the Turret Body, and is responsible for the Left and Right movement of the of the reticle. To access the Windage Adjustment Dial, you will have to remove the tethered Windage Adjustment Cap first. Turn the Windage Cap Counter-Clockwise (↺) for removal. You will now be able to rotate the Windage Adjustment Dial in either direction to adjust the Reticles Left and Right movement.

Turning the Windage Adjustment Dial Clockwise (↻) will move the Reticle Left (⇐), shifting the bullet point of impact Right (⇒).

Turning the Windage Adjustment Dial Counter-Clockwise (↺) will move the Reticle Right (⇒), shifting the bullet point of impact Left (⇐).

The Elevation and Windage Adjustment Dials also feature Audible and Tactile Clicks which not only can you see and hear the Click adjustments, but you can feel them as well. Each Click moves the reticle point of aim a ¼ MOA\* at 100 Yards. See the chart below to see the amount of movement of each click of the Adjustment Dials will move the reticle for your ECO Scope model at various distances.

Elevation/Windage movement per click				
100 yards	200 yards	300 yards	400 yards	500 yards
¼ MOA	½ MOA	¾ MOA	1 MOA	1 ¼ MOA

\*1 MOA = 1.047 Inches at 100 Yards

Your VISM® Scope is factory set with a Centered Reticle necessary for efficient sighting-in. If you have made any prior adjustments to the Elevation and Windage settings it may be necessary to re-center the reticle. Turn the Elevation Adjustment Dial in either direction until it comes to a complete stop. Next, turn the dial in the opposite direction, counting the number of clicks, until you have reached the limits of the adjustment range. Divide the number of clicks in half, and turn the dial that exact number of clicks back towards the center of the adjustment range. Repeat this procedure for the Windage Adjustment Dial. The reticle will now be centered.

## **Zeroing the Scope**

After you have completed the installation of your scope, it will be necessary to adjust the scopes point of aim to match the rifles point of impact. This can be accomplished by using several methods, but we recommend the use of a Bore Sighting Device to save time and ammunition. Using a Bore Sighting Device will ensure that your shots land “on paper”. Follow the Manufacturer’s Instructions for the Bore Sighting Device that you choose in order to achieve the best results. You are now ready to finalize your Zero.

**CAUTION: ALWAYS BE SURE TO REMOVE THE BORE SIGHTING DEVICE BEFORE SHOOTING LIVE AMMUNITION. FAILURE TO DO SO CAN CAUSE DAMAGE TO YOUR FIREARM OR INJURY TO YOURSELF AND THOSE AROUND YOU.**

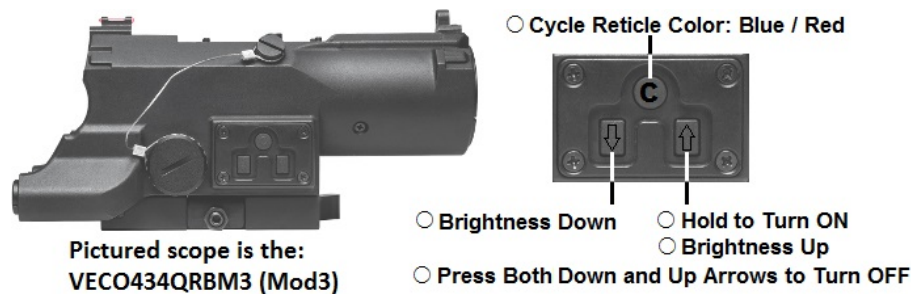
**CAUTION: WHEN OPERATING ANY TYPE OF FIREARM ALWAYS USE PROPER EYE AND EAR PROTECTION. BE SURE TO USE YOUR FIREARM IN AN AREA THAT IS PERMISSIBLE UNDER LOCAL, STATE, AND FEDERAL LAW.**

Bore Sighting alone is not sufficient enough to ensure an accurate Zero. You must shoot your firearm at the range in order to confirm a 100% accurate Zero. Follow these steps to fine tune your scope adjustments:

1. Secure your firearm using a steady platform such as a rifle bench rest or sand bags.
2. Fire 3 to 5 carefully aimed shots at a target that is set to your desired Zeroing distance (100 yards is recommended).
3. Observe where the bullet grouping has struck the target and make adjustments to the Elevation and Windage settings as necessary until your point of aim matches your point of impact.
4. Continue with this process until you have achieved your desired level of accuracy.
5. Your scope is now Zeroed to your firearm at the distance that you have chosen.

It is important to remember that many factors can affect the accuracy of your scopes zero including temperature, humidity, elevation, distance, angle, and other conditions. Changing ammunition brands can affect accuracy as well.

## **Illuminated Reticle**



The ECO Mod3 Scope is equipped with a Blue & Red Illuminated Reticle feature. The ECO Mod2 Scope is equipped with a Blue Illuminated Reticle feature. The Illuminated Reticle is used when exterior lighting conditions are less than optimal.

The Control Panel for the Illuminated Reticle is located on the left side of the scope bodies. There are 5 brightness levels for the Illuminated Reticle.

- Holding the Up Arrow  $\uparrow$  button for about a second will turn the Illuminated Reticle On.
- To adjust the brightness level of the Illuminated Reticle you simply press the Up Arrow  $\uparrow$  button to increase the brightness level of the reticle or press the Down Arrow  $\downarrow$  button to decrease the brightness level of the Illuminated Reticle.
- Pressing BOTH Up Arrow  $\uparrow$  and Down Arrow  $\downarrow$  buttons at the same time, will turn the Illuminated reticle Off.
- When the Illumination is turned back on, it will remember the last brightness setting used.
- The ECO Mod3 Scope has a round Button with the letter "C" on it to cycle between the Blue and Red Illuminated reticle colors.

Adjust the brightness level as needed in accordance with the surrounding conditions. The illumination will increase reticle visibility especially during dawn and dusk. This illuminated scope is not

intended for use in total darkness. When the illumination is turned OFF the reticle will appear as a normal Black Reticle.

Be sure that the Illuminated Reticle is turned Off when not in use to preserve battery life.

**DANGER: AVOID DIRECT EYE EXPOSURE TO LASER BEAM. LASER RADIATION IS EMITTED FROM THE APERTURE.**

## **Green Laser**

The ECO Mod 2 Scope model's right pod has an integrated Green Laser. To activate the Green Laser press the Top Oval Button with a single Dot ( ○ ), this will turn the Green Laser On. A second press will turn the Green Laser Off. The Green Laser will cycle On and Off with each press of the button.

### **Zeroing Your Green Laser Sight**

#### **Adjusting the Laser Windage and Elevation:**

The ECO Mod2 Green Laser pod is fully adjustable for both Elevation and Windage. The Laser Elevation Adjustment Set Screw is located on top of the right pod and the Laser Windage Adjustment Set Screw is located on the right side of the right pod, they both can be adjusted by using the provided 1.5mm Allen Wrench.

- To adjust the Laser Elevation Up (↑), turn the Laser Elevation Adjustment Set Screw Clockwise (↻).
- To adjust the Laser Elevation Down (↓) turn Laser Elevation Adjustment Set Screw Counter-Clockwise (↺).
- To adjust the Laser Windage Right (⇒), turn the Laser Windage Adjustment Set Screw Clockwise (↻).
- To adjust the Laser Windage Left (⇐), turn the Laser Windage Adjustment Set Screw Counter-Clockwise (↺).

**NOTE:** For zeroing/sighting in your Green Laser, please use the same instructions above titled Zeroing the Scope.

## **Navigation LED Lights**

The ECO Mod2 Scope model's left pod has an integrated White and Red Navigation (NAV) LEDs lights.

The NAV LEDs do not replace a weapons mounted Tactical Flashlight, they are meant to supplement it.

The Navigation LEDs allow the shooter the option to use the lower powered light to move around in the dark without bumping into obstacles, without giving the shooters position away to an adversary and also help maintain the shooters night vision to better see in the dark.

The Red LED provides just enough lighting to maneuver and avoid obstacles. The Red LED affects the shooter's eye the least in the darkness, preserving the shooter's night vision and their ability to see into the darkness with the naked eye. The shooter's pupils do not require as much time to recover/adjust to see into the darkness, compared to white lighting. The Red LED also limits the amount of light that an adversary can see from a distance compared to White lighting, avoiding detection for tactical purposes.

The White LED provides more lighting than the Red LED and helps with maneuvering and identifying targets in the dark in close confines/ indoors. They are used to see & identify obstacles and targets at closer ranges, without blinding the shooter.

The Navigation LEDs are controlled by the bottom Oval Button with Two Dots (○○) on the lower left corner of the Control Panel.

When you first press the Bottom Oval Button with Two Dots (○○) it will turn On the Red LED. A second press will turn On the White LED. One final press will turn Off the Navigation LEDs.

## **Integrated Micro Dot Base**

A Micro Dot Base located on top of the ECO scope. It is directly compatible with NcSTAR® DGAB Micro Dot Reflex Sights with the Auto Brightness Sensor that automatically turns On when the top cover is removed from the Micro Dot. The Micro Dot Base allows the user to mount the Micro Dot Reflex Sight lower and closer to the bore axis.

- Remove the two top Allen head screws from the Micro Dot Base on the ECO scope. These screws are not required to mount the Micro Dot to the ECO scope. Set these screws aside in a safe place. Reinstall these screws if you remove the Micro Dot from the top of the ECO scope.
- Next you need to separate the Micro Dot Optic from the lower Weaver/Picatinny rail Mount. Remove the two Allen head screws from the top of the Micro Dot Optic to separate the Optic half from the Mount half.
- Next you can mount the Micro Dot Optic directly to the Micro Dot Base using the same two top screws that you used to separate the Micro Dot from its Mount. Make sure that the Micro Dot Battery has the Positive “+” side of the battery facing down and make sure that the Micro Dot wiring is tucked into the wire channel of the Micro Dot as you tighten the two top Allen head screws to secure it to the Micro Dot Base on the ECO scope.

If you are using an NcSTAR® Micro Dot Reflex Sight with a mechanical On/Off switch (DDAB/ DDABL/ DDABG), located on the back, it will require the plastic spacer adapter and the longer screws that come with the Spacer Adapter. The black plastic spacer and two sets of mounting screws should be packed with your ECO scope manual.

The spacer will be placed between the upper Micro Dot Optic and with the Micro Dot Base of the ECO scope. The spacer has two recesses for the mechanical On/Off switch and the wiring. The On/Off switch can be located towards the back or left side of the spacer.

If you did not receive and need the Micro Dot Spacer Adapter, please contact our Tech Support Dept at 1-866-NcSTAR-8 (1-866-627-8278).

## **Backup Iron Sights**

Rear Aperture Sight and a Front Sight with a fiber optic insert are included with the ECO scope. These Iron Sights are removable and can be placed in three positions.

There are three sets of Iron Sight Base Slots machined into the ECO scope body. If you have a secondary optic mounted on top of the scope, the Iron Sights can be moved to the left or right side Base Slots so that they can still be used if a secondary optic is mounted on top.

There is a set screw securing the Iron Sights to the Base Slots. Loosen the set screws Counter-Clockwise for removal. Tighten the screws Clockwise to secure the Iron Sights in place. The use of thread locking compound is advised on the set screws.

## **Battery Installation**

On the left side of the Scope Body you will find the Tethered Battery Cap with a machined notch in the center. If the Battery Cap is too difficult to turn, you may use a small coin to break it loose. The Battery Cap is removed by turning the Battery Cap Counter-Clockwise (↺).



Remove the old battery and dispose of it properly. Replace it with a New 3-volt CR123A Lithium Battery, with the positive (+) side facing outward. Reinstall the Battery Cap by twisting it Clockwise (↻) until snug.

If after you replace the Battery and the Illuminated Reticle, Green Laser, or Navigation LED lights do not turn on, make sure you have installed the Battery orientation correctly or try another New Battery.

If the Illuminated Reticle turns On, but the Green Laser or Navigation LED lights do not turn On, the Battery may be near the end of its battery life and it's time for a New Battery. The Green Laser or Navigation LED lights require more energy from the battery to operate, so when these do not activate and yet the Illuminated Reticle still operates, it's an indication that the battery is nearly expired and it is time to replace the battery.

Make sure that the Illuminated Reticle, Green Laser, and the Navigation LED lights are turned OFF when not in use to preserve battery life. If you are going to store your scope for a prolonged period of time it is best to remove the battery to avoid leakage that can damage the scope.



## Care and Maintenance

Your VISM® Scope is shock proof, waterproof, and fog proof. However, you should never try to take it apart or clean it internally. The exposed optical lens surfaces will perform their best if they are routinely cleaned with a lens brush or a lens cloth. For a deep cleaning, you can also use high grade camera lens paper and camera lens cleaning solutions. Never use any other type of materials or solvents other than those designed specifically for optical lenses to avoid damaging your scope. Clean the outer portion of the lens cavity first with cotton swabs, clearing as much debris and dust as possible. Then, gently clean the lenses using a circular motion starting in the center and ending at the edges. Do not rub the lenses continually; simply wipe in short circular patterns. Maintain the exterior surfaces of the scope by removing dirt or sand by using a soft brush or a soft, dry cloth. You can also use a silicone treated cloth to restore luster and protect the scope against corrosion. Be careful not to touch any of the lenses with the silicone cloth. It is not necessary to lubricate any part of the scope as all of the moving parts, such as the turrets and the fast focus eyepiece, are permanently lubricated. When not in use, always store your scope in a dry place with the lens caps on to prevent scratches to the lenses.

**IF YOU ARE UNFAMILIAR WITH ANY OF THE PROCEDURES IN THIS MANUAL, ALWAYS SEEK THE HELP OF A QUALIFIED PROFESSIONAL TO AVOID DAMAGE TO YOUR SCOPE AND YOUR FIREARM.**

## VISM® ENHANCED COMBAT OPTIC (ECO) SPECIFICATIONS

Model Number	Model Type	Body Color	Green Laser & LED NAV Light	Reticle	Magnification	Objective Lens Diameter	Eye Relief	Field Of View Feet @ 100 yds	Exit Pupil Diameter	Turret Value Per Click	Max Windage & Elevation (MOA)	Lens Coating	Length Inches	Weight .oz
VECO434QRB2	Mod2	Black	YES	Urban Tactical	4	34 mm	2.3	29.2	8.5 mm	¼ MOA	±44	Green	6.3"	21
VECO434QRB3	Mod3		NO											
VECO434QRT2	Mod2	Tan	YES											
VECO434QRT3	Mod3		NO											

### **ECO Mod2 Scope models only:**

Laser Class: Class IIIa

Wavelength: 532 nm

Maximum Output Power: <5mW

Operating Voltage: 3V DC

Line Width: <0.1 nm

Beam Divergence: <1mrad

Beam Diameter: <1 mm

Operation Current: <300mA

Operating Temperature: 59 – 95 degrees Fahrenheit



# **VISM<sup>®</sup>**

**A DIVISION OF NcSTAR**



**FOR TECHNICAL ASSISTANCE  
PLEASE CALL:**

**1-866-NcSTAR-8  
(1-866-627-8278)**

**[www.ncstar.com](http://www.ncstar.com)**