

WM. MALCOLM

The Wm. Malcolm 8X Vintage Sniper Competition (VSC) Scope (Gen II) Instruction Manual



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WARNING:

For safe usage of this scope, it is absolutely necessary that it must be securely mounted to your rifle. The front and rear scope mounts require installation using the special bases provided with the scope package for 1903 Springfield or equivalent bases. This should be done by a competent gunsmith and requires drilling and tapping of your barrel. Failure to follow this procedure can result in personal injury.

The Malcolm 8X Vintage Sniper Competition (VSC) Scope is a piece of history. One of the most recognized names in military sniping during the Vietnam conflict was Marine Corps marksman Carlos Hathcock.



The accompanying photo at the left shows an original Unertl 8X USMC Sniper Scope on a 50 caliber machine gun.

The Marine Corps employed these externally adjusted target scopes on sniper rifles during WWII, Korea and Vietnam. Some of the sniper rifles included the old WWI vintage .30-06 Springfield Model 1903 and match grade Model 70

Winchester rifles.

During the Vietnam conflict, some of the earlier snipers, such as Carlos Hathcock, continued to rely on the external adjustment "target scopes" the Corps had adopted during WWII.

Scopes of this design, with micrometer click external adjustment, are still favored by some precision long range shooters for their ruggedness and simplicity. Today, an original USMC marked scope in mint condition is very rare and expensive.

Hi-Lux Optics is now introducing the second generation Malcolm 8X VSC scope to the Wm. Malcolm vintage scope line. Most notably, the second generation features a CNC machined Unertl style precision micrometer mount. This mount has virtually zero backlash, ultra crisp clicks and super precise adjustment. In addition, the threads and hardware have been substantially improved.

The Wm. Malcolm 8X Vintage Sniper Competition model is constructed in the same manner as the originals with the same look and styling of the original scopes. It is far more affordable than a serviceable original from the 1940s, or even the 1970s when they were still in production.

To give modern performance to these old style scopes, we precision grind each lens to micron tolerances and fully multi-coat each lens with the highest quality DiamondTuff14 coating. The Malcolm 8X VSC scope offers the brightest, clearest, and sharpest optics ever in a riflescope of this design.

The scope will be marked with the Wm. Malcolm name and each will be individually serial numbered.

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Section 1: Malcolm 8X VSC Scope Specifications

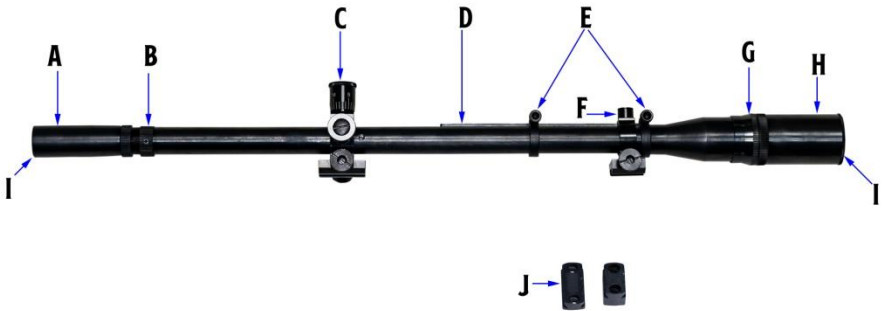
Model	Power	Obj. (mm)	F.O.V. @ 100 Yds (ft)	Eye Relief (in)	Length (in)	Weight (oz)	Exit Pupil Range (mm)	Tube Size (in)
M8VSC	8X	31	11	3.15	23	25.4	4.2	$\frac{3}{4}$

All lens surfaces are fully multi-coated with DiamondTuff14 for maximum light transmission and scratch resistance. The reticle is a fine crosshair.

The micrometer rear mount offers precise elevation and windage click adjustments. Each click offers $\frac{1}{4}$ MOA when the front and rear mounts are spaced 7.250" apart, center to center. One full turn has 25 clicks. The turrets can be reindexed after zeroing.

The Malcolm 8X Vintage Sniper Competition scope and mount has been approved for CMP Vintage Sniper Competition.

Section 2: Basic Definitions and Adjustments



A) Eyepiece

The eyepiece is located at the end of the scope. This is the part that you look through when using the Malcolm VSC scope. You can rotate the eyepiece clockwise and counterclockwise to adjust the diopter setting to your eyesight. Once the eyepiece has been adjusted for your

eyesight, you can use the knurled lock ring to secure the eyepiece in place. Tighten the lock ring to finger tight only. **DO NOT USE TOOLS TO TIGHTEN.**

B) Reticle Ring

The Reticle Ring is used to plumb the reticle within the scope tube. To rotate the reticle, first loosen the two set screws on the Reticle Ring. Rotate the Reticle Ring until the reticle is plumb and retighten the two set screws.

C) Rear Micrometer Mount



The Malcolm 8X VSC Scope comes with the Unertl style precision micrometer mount. This mount offers superbly crisp, precise adjustment clicks with zero backlash in between adjustments.

The rear mount bracket houses both the elevation and windage turrets. There are 25 clicks per rotation and the turrets can be reindexed by loosening the top slotted screw. We recommend tightening each turret's top screw to 7 – 8 in-lbs of torque.

The Malcolm Vintage Sniper Competition mounts are compatible with any $\frac{3}{4}$ " externally adjusted rifle telescope such as our Malcolm short scopes or Winchester A5s.

The Rear Micrometer mount offers 1/4 MOA (minute of angle) adjustment per click when the front and rear mount spacing measures 7.250" from center to center. The total adjustment of the rear mount will be over 125 MOA of elevation and windage, 60 MOA from the center in each direction.

D) Pope Rib

The Pope Rib is laser spot welded on the top of the scope tube. The Pope Rib prevents the scope from rotating within the mounts and facilitates sliding under recoil.

E) Knurled Slide Stop Ring

There are two slide stop rings. One is located before the front ring and one is located behind. The Slide Stop Ring positioned before the front ring (towards objective) is used to set the proper eye relief once the scope is pulled into battery. The second Slide Stop Ring behind the front mount (towards the eyepiece) limits the recoil travel of the tube and prevents the front mount from sliding off the pope rib.

F) Front Ring

The front mount provides a precise pivot system for the scope. The front ring slides on top of the pope rib. If you intend to use the Malcolm Vintage Sniper Competition mounts on a Malcolm Short Rifle Telescope, JW Fecker, Winchester A5 or other 3/4" Rifle Telescope without a pope rib, you will need to use a Sliding Lock Ring such as our 18SLR to enable the scope to slide.

G) Parallax Adjustment Ring

After the sunshade has been removed, you can use the Parallax Adjustment Ring to move the objective lens housing. The Parallax Adjustment Ring is indexed with numbers from 1-10. These numbers are index markers for turning the Parallax Adjustment Ring. These reference marks will allow you to reliably and repeatedly move the objective lens housing to the correct position to eliminate

all parallax at the distance you are shooting. We recommend that you make a reference mark on the Parallax Adjustment Ring once you have eliminated all parallax at distances you will frequently shooting.

H) Sunshade / Parallax Lock Ring

The Malcolm 8X VSC scope has parallax adjustment located on the objective lens. To access the Parallax Adjustment Ring, you will need completely unthread and remove the sunshade. The sunshade doubles as a lock ring for the Parallax Adjustment Ring and locks the objective lens housing in place.

I) Lens Covers

Threaded lens covers are provided for both the objective and eyepiece.

J) Scope Bases

The Malcolm Vintage Sniper Competition scope comes with two bases for the 03A1 Springfield rifle — the rear base and the front base. These bases are used to mount the Malcolm 8X Vintage Sniper competition scope on the M1903 or M1941A1 rifle. The hole spacing of the rear base measures 0.860" from center to center. The hole spacing of the front base measures 0.560" from center to center. The Malcolm Vintage Sniper Competition Micrometer Mount and Front Ring both use the crescent cut.

Section 3: Adjusting Malcolm 8X VSC Scope

Like the Unertl 8X, the Malcolm Vintage Sniper Competition Scope is an externally adjusted rifle scope. This means that all the adjustments made in the rear micrometer mount will physically move the position of the scope.

The benefit of this is that all adjustments can be seen in the rear mount. If the scope is not holding zero, there is usually a

malfunction that we can see visually, such as the scope not seating properly in the mount or the mounts coming loose on the bases.

Ocular/Diopter Adjustment

The ocular focus position needs to only be set once, and no change is required unless the vision of the user changes.

The diopter can be adjusted for the shooter's eyesight by rotating the eyepiece clockwise or counterclockwise.

Look through the eyepiece and adjust it until the reticle appears in sharp focus. Once the reticle is sharply defined, you may adjust the eyepiece lock ring so that it is flush with the eyepiece.

The lock ring will prevent the eyepiece from rotating, and secures the diopter setting.

Parallax Adjustment

Parallax is the apparent movement of the reticle on the field of view or target when viewed through the eyepiece from various head positions. Since the adjustment for parallax is very important, it is imperative that the rifle and scope be supported vibration free when setting the parallax, such as on a rifle vise or sandbags.

The following three steps are how to adjust the parallax setting:

- (1) Remove the objective sunshade completely
- (2) Adjust the position of the Objective Lens Housing using the Parallax Adjustment Ring.

For farther distances, rotate the Parallax Adjustment Ring clockwise. The Parallax Adjustment Ring will push the Objective Lens Housing out.

For close distances, rotate the Parallax Adjustment Ring counter clockwise. The Parallax Adjustment Ring will not pull the housing back in; you will need to press the

Objective Lens Housing in towards the Parallax Adjustment Ring to change the parallax setting.

Make sure that the Objective Lens Housing and the Parallax Adjustment Ring are flush.

- (3) Replace the threaded objective sunshade to lock the parallax setting in place.

For a Video Tutorial on Parallax and other adjustments on the Malcolm 8X scope, scan here with your smart phone camera:



Scope Adjustment

The **Rear Micrometer Mount** houses the elevation and windage adjustment turrets. The adjustment value will depend on the mounting distance between the front and the rear mounts.

For 1/4 MOA adjustments, the front and rear mounts should be spaced 7.25" from center to center. The adjustment values will be coarser when mounted closer, and become finer when mounted farther apart.

Front to Rear Mount Spacing (center to center)	Adjustment Value per Tickmark
5.40"	1/3 MOA
7.25"	1/4 MOA
9.00"	1/5 MOA
10.80"	1/6 MOA
12.60"	1/7 MOA
14.40"	1/8 MOA

When the **Windage Turret** is turned **COUNTER CLOCKWISE**, the point of impact will move to the **RIGHT**. When the **Windage Turret** is turned **CLOCKWISE**, the point of impact will be move to the **LEFT**.

When the **Elevation Turret** is turned **COUNTER CLOCKWISE**, the point of impact will move to the **UP**. When the **Elevation Turret** is turned **CLOCKWISE**, the point of impact will be move to the **DOWN**.

Reindexing the Turret

The Malcolm 8X Vintage Sniper Competition Mount's elevation and windage turrets can be reindexed after zeroing. Simply loosen the top screw on the elevation or windage turret. Once loosened, you can rotate the elevation or windage turret without making adjustments. Rotate the turret cap so that the 0 on the turret cap lines up with the adjustment index mark on the turret shaft.

Next, tighten the top screw down to 7-8 in-lbs of torque.

For a video tutorial about properly tightening the Top Screw in the rear mount, scan here with your smart phone camera:



Section 4: Mounting the Malcolm 8X VSC Scope

The front and rear mounts are designed to fit crescent cut scope bases. This type of base has been widely used for many traditional externally adjusted scopes, such as the Unertl, Lyman, and Fecker.

Mounting the Malcolm 8X Scope

The Rear and Front Mounts will slide directly on to the crescent cut scope bases.

Once the mounts are on the bases, position the mount so that the thumbnut will engage the crescent groove. We recommend tightening the thumbnut to finger tight first and rocking the mount back and forth to ensure that the thumbnut is properly seated in the crescent cut groove on the base.

Using the Malcolm thumbnut spanner, tighten the thumbnuts.

If the mounts are still loose when the thumbscrew is at the end of its travel, you may need to adjust the travel of the Mounting Thumbscrew.

Setting the Mounting Thumbscrew Travel

The mounting thumbscrew travel distance has been preset at the factory for the provided bases. However, there may be slight tolerances in the dimensions of the mounting blocks from different manufacturers. To overcome this, you can adjust the travel of mounting thumbscrew for the front and rear mounts. You will need to remove the mounts from the scope body.

There are set screws at the bottom of the front and rear mounts. These set screws act as a friction screw on the crossbolt of the mounting thumbscrew and limit the horizontal travel of the thumbnut.

To access this set screw on the rear mount, you will need to back out the elevation turret completely.

To access this set screw on the front mount, you will need to remove the top cap, coil spring and pope rib plunger.

To set the crossbolt travel, first loosen the set screw at the bottom of the base. This will free the crossbolt on the mounting thumbscrew.

Next, remove the locking thumbnut and crossbolt.

Feed the crossbolt of the locking thumbscrew into the base. Adjust the position of the thumbnut until you can just barely slide the base through the grooves on the bottom without catching on the thumbnut.

When the thumbnut is in position, use a small flat head screw driver to tighten the crossbolt that is housed in the thumbnut. Hold the thumbnut in place with your other hand to prevent it from traveling while the crossbolt is being tightened.

Lastly, tighten down the set screws. This set screw only requires a few in-lb of torque to engage.

For a Video Tutorial on Setting the Malcolm 8X Mounting Thumbscrew Travel, scan here with your smart phone camera:



Section 5: Sighting in the Malcolm 8X VSC Scope

- 1) Make sure that the mounts have been correctly and securely attached to the barrel and receiver using the proper bases. For the M1903, use the bases provided (this will require gunsmithing if rifle is not drilled and tapped). Make sure that the reticle in the scope has been leveled using the reticle frame locking collar.
- 2) Familiarize yourself with the adjustments on the scope. The elevation turret is located at the top of the rear mount. The windage adjustment is located at the right side of the rear mount.

- 3) Boresight the rifle and scope. Secure the rifle on sandbags or in a gun vise first. Remove the bolt and look through the barrel from the breech end. Center the barrel on a target at least 25 yards away. Look through the optic and try to get the crosshairs roughly lined up at the same target the barrel was pointing at.
- 4) We recommend sighting in at 25 yards. At this distance 1 MOA will move the point of impact $\frac{1}{4}$ ".

To move the point of impact to the **RIGHT**, turn the windage turret **COUNTER CLOCKWISE**.

To move the point of impact to the **LEFT**, turn the windage turret **CLOCKWISE**.

To move the point of impact **UP** turn the elevation turret **COUNTER CLOCKWISE**.

To move the point of impact **DOWN**, turn elevation turret **CLOCKWISE**.

- 5) Move target to 100 yards or your desired zeroing distance and repeat Step 4. At 100 yards, 1 MOA equates to roughly 1".

Section 6: Maintaining Your Riflescope

Your scope, though amazingly tough, is a precision instrument that deserves reasonable and cautious care. For normal maintenance:

- A. Do not attempt to disassemble or clean the scope internally.
- B. The external optical surfaces should occasionally be wiped with optical quality lens paper.
- C. Keep the protective lens covers in place when the scope is not in use.

- D. Remove any external dirt or sand with a soft brush so as to avoid scratching the finish.
- E. Wipe the scope with a damp cloth, followed by a dry cloth.
- F. Go over the metal portions of the scope with a silicon treated cloth in order to protect the scope against corrosion. DO NOT USE penetrating oils on this or any rifle scope.
- G. Store the scope in a moisture-free environment.
- H. Avoid storing the scope in a hot place. Never leave the scope where direct sunlight can enter either the objective or the eyepiece lens. Damage may result from the concentration of the sun's rays (burning glass effect).

WARNING: UNNECESSARY RUBBING OR USE OF A COARSE CLOTH MAY CAUSE PERMANENT DAMAGE TO LENS COATINGS.

For a video tutorial on cleaning your riflescope, scan here with your smart phone camera:



Section 7: DiamondTuff Lifetime Guarantee

Hi-Lux, Inc. warranties its products against defects arising from faulty workmanship, or materials, for the lifetime of the product. Any attempt to alter, dismantle or change the standard specifications of the products, will make this warranty null and void. This warranty is made to the original purchaser of the goods including all international sales, and applies only to the products purchased through our authorized distributors or dealers. The international warranty is subject to approval from

our authorized distributor or us directly. The warranty is transferable.

Warranty obligation is limited to the repair or replacement of any product returned to **Hi-Lux, Inc. that is determined by the manufacturer to have defects arising from faulty workmanship** or materials that adversely affect the satisfactory operation of the product. It should be noted that on items containing an etched glass reticle that the occasional appearance of some small particles is common and not a warrantable repair. We only have a one-year warranty for the electronic components that are contained on the products.

Hi-Lux, Inc. reserves the right to request proof of purchase and purchase date. To guarantee warranty service, the enclosed warranty form must be completed and returned within ten (10) days of purchase to establish all warranty rights between you, the original purchaser, and **Hi-Lux, Inc.** We assume no liability for any incidental or consequential damages, or incidental expenses. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you. No warranties are made, or are authorized to be made, other than those expressly contained herein.

To file a claim under this warranty, please contact the Customer Service Department of **Hi-Lux, Inc.** at (310) 257-8142 to obtain a Return Authorization number (RA number). Please write the RA# on the service request form. Please be sure to include your name, address and phone number. Failure to obtain a RA number may result in either refusal upon delivery, or lengthy delays for warranty repairs and service required for the item returned to us.

All returns are to be shipped prepaid direct to **Hi-Lux, Inc.** including a check or money order in the amount of \$21 to cover postage and handling. Additional fees will be applied to all returns from outside of the United States.

Attn.: Warranty & Service Dept.
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In the event of a non-warranty repair, you will receive an estimate prior to any work being done. This warranty gives you specific legal rights and you may have other rights, which vary from state to state. As defined by federal law, this is a limited warranty.



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