Since 2007

RED STAR MOUNTAIN

1903-A4 Springfield Sniper Rifle M73B1 Scope

*Note; it has come to our attention that many consumers believe that all "reproduction" optics emanate from one Asian manufacturer but are sold by a variety of companies. This is **not** the case at all, in fact there are several manufacturers of these optics located in the same geographical area of the world. Subsequently, not all reproduction optics are made the same or to the same quality. Red Star Mountain (RSM) uses known vendors and stringently controls the quality of all of its products to ensure consistency. Our products are manufactured as close to the originals as possible. Keep in mind that we do not have the original manufacturing drawings; rather we use original samples as models for our products. At times this can lead to missteps but we try our best to make our products as accurate and authentic as we possibly can.*

As the US entered WWII, there came a cry from the battlefield for a need for snipers and the related sniping equipment to combat the highly efficient Axis snipers currently operating in the European theater. The standard issue battle rifle of the time was the 1903A3 Springfield which was an improved version of the 1903 Springfield. Subsequently the War Department issued a directive to develop a solution to this issue which ultimately became the 1903A4 Springfield. This was a bolt action internally magazine fed rifle chambered in the hard hitting caliber of 30-06. At this particular time in history, optics and their adaptation to rifles was not a standard practice and subsequently the US military had little to choose from. It was decided to press into service the 2.5X Weaver 330-C hunting scope and combine it with a Redfield Jr. mount for application to the 1903A3. Early versions of this combination were effective but it was discovered that the 330-C was difficult to use especially with gloves on, subsequently the M73B1 was developed which allowed for easier adjustment.

Consequently their opponents (specifically Germany) had been scoping rifles for many years for hunting and military use, the result of which was that the Axis powers had much more to choose from and far better optics of the time.

We highly recommend that the purchasers of our product fully research the M73B1 scope in any number of publications or online sources to learn more about how the optic functions, is mounted, zeroed and used. This document will provide a modicum of relevant information concerning our product for informational purposes.

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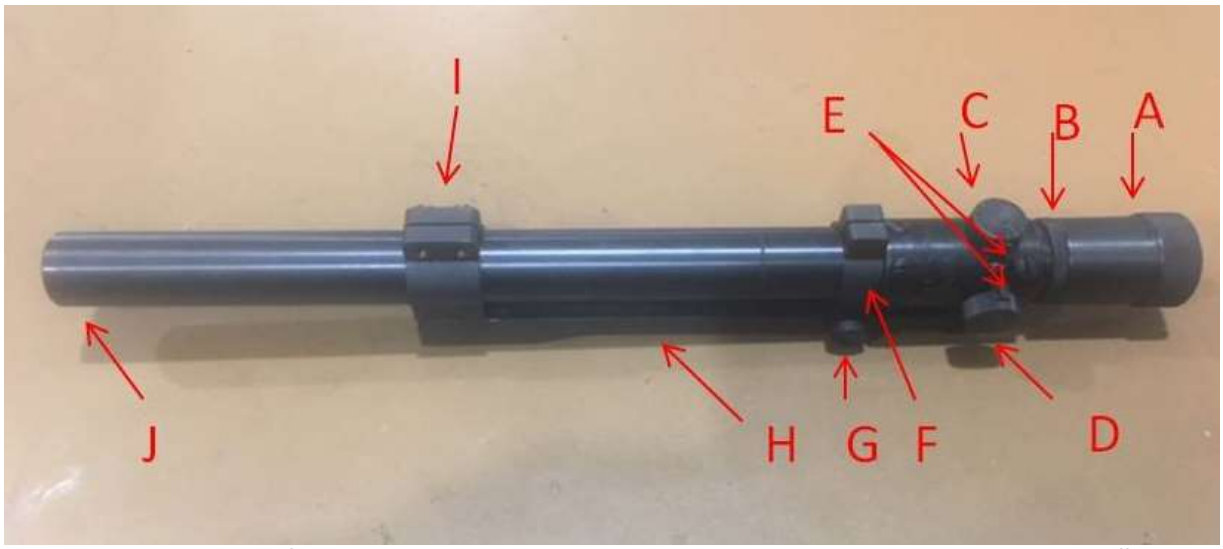
DESCRIPTION OF PARTS



***Note; pictured optic is for demonstration purposes only, the current production model may be slightly different*

ITEM	DESCRIPTION	COMMENTS
A	Ocular Lens	Also known as the “eyepiece”
B	Ocular locking ring	Used to lock the eyepiece after focusing
C	Elevation Turret	See “Mounting and Adjustment” below
D	Windage Turret	See “Mounting and Adjustment” below
E	Elevation and windage knob retention tabs	Used to keep the adjustment knobs from moving
F	Rear scope ring	
G	Rear scope ring retention screws (2)	Used to hold the rear scope ring and to grossly adjust windage on the optic
I	Front scope ring	
J	Objective lens	

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SPECIFICATIONS

ITEM	SPECIFICATION
Model	1903-A4 Springfield Sniper Rifle M73B1 Scope & Mount ¾ Inch Repro
Part Number	3001
Markings	SCOPE M73B1 RSM (Similar to the original but unique to RSM)
Material/s	Steel main tube (Same as the original)
Coating	Black (Similar to the original)
Magnification	2.5x (Same as Original)
Ocular size (diameter)	.75in / 19mm (Same as the original)
Objective size (diameter	.62in / 16mm (Same as the original)
Eye relief	3.5 in / 88.9mm (Similar to the original)
Field of view (FOV)@100 yds	24.1' (Similar to the original)
Tube diameter	.75on / 19mm (Same as the original)
Weight (scope only)	8.3oz / 235.3g (Similar to the original)
Elevation (range) adjustment value	1/2 Minute Of Angle (MOA) (Same as the original)
Windage (Deflection) adjustment value	1/2 Minute Of Angle (MOA) (Same as the original)
Amount of elevation (range) adjustment	~30 minutes total (once zeroed, an amount of the total adjustment will be used and unavailable, additionally manufacturing processes and tolerance stack may reduce this amount) (Same as the original)
Amount of windage (deflection) adjustment	~30 minutes total (manufacturing processes and tolerance stack may reduce this amount) (Same as the original)
Front scope base screw size	#8 (5/32) x 40NS x .510"
Rear scope base screw size	#8 (5/32) x 40NS x .250

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MOUNTING AND ADJUSTMENTS

The adjustments of the RSM M73B1 are identical to the original optic. We highly encourage buyers of this product to research these precision optical sighting devices prior to making any adjustments on the product to avoid damage and to ensure proper function. This document is not intended to be historical in nature, nor is it a complete instruction manual for the installation or use of the optic as those directions may be found in a wide variety of historical books and publications. That said, we do feel that some information should be provided to allow our customers to develop a basic understanding of how the product functions and how it can be used.

NOTE: RSM is not liable for misuse or incorrect adjustment of its products; users MUST understand how to correctly mount, adjust and use the product prior to doing so. Given that this product is an accurate reproduction of an historical device, we feel that the information is readily available and should be consulted prior to using the product.

MOUNTING

It is highly recommended that the mount for this optic and the optic itself be mounted by a competent gunsmith especially if mounting to a rifle not originally configured for the mount. Attempting to mount this optic and its mount by an inexperienced person is at the risk of the owner of the product and not the responsibility of RSM.

Installation of the mount and subsequently the optic must be in line with the bore of the rifle. Incorrect or “off axis” mounting of the optic and/or its mount will result in poor accuracy and/or the inability to make the necessary corrections for sighting and/or wind conditions.

All mounting must be secure and tight prior to making any adjustments and/or firing the weapon. Specific torque values for the optic rings and the mount to rifle screws should be researched and applied, however care must be taken not to over tighten and subsequently damage either the mount and/or the optic.

Mounting the base to the rifle (1903A3) requires that the rear sight be removed first. Then the base must be correctly positioned on the rifle receiver and 2 holes must be drilled into the receiver. Using the included #8-40 machine screws (long one in the front and the short one in the rear) the base is secured to the rifle receiver.

The optic rings are “split ring” design in that only the tops of the rings are separated; they should be spread slightly and carefully, then the rear ring can be slid over the optic after which the front ring can be slid over the optic as well (once spread open). **Note; a small flat tip screw driver can be pressed into the ring top slots to spring them enough to slide over the optic tube.*

Mounting the optic into the mount is relatively straightforward, the rear ring retention screws should be removed, then the optic is placed sideways across the base with the front ring’s bayonet (piece on the bottom) inserted into the corresponding slot on the front of the base. Once the front base bayonet is inserted, the optic can be rotated into position and the retention screws can be replaced.

OPTIC ADJUSTMENT

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There are essentially 3 adjustment activities that users of this product will experience; initial optic windage centering, proper zeroing of the optic and adjustments for range and/or wind.

Centering the optic windage: Once the base has been correctly mounted to the rifle and the optic is mounted onto the base, the optic can be centered on the rifle. This is done as follows;

1. Ensure the weapon is unloaded
2. Ensure the optic is securely mounted onto the rifle
3. Loosen the left and right rear base retention screws
4. Remove the bolt
5. Secure the rifle on a bench or table
6. Rotate the windage in either direction until it stops
7. Count the clicks as the windage knob is rotated in the opposite direction
8. Go back the other way ½ the number of clicks as counted in step #7
9. Look through the bore and find a distant object
10. Look through the optic and see which direction it has to move
11. Using the rear base retention screws; tighten the opposite screw until the optic is near the distant object from a windage prospective
12. Tighten the other screw

Zeroing the optic:

**NOTE 1: All instructions are relative to properly mounted pads and mounts; they must be centric to the bore of the rifle.*

***NOTE 2: Please observe all firearms safe handling procedures while using this product on a weapon. RSM is not responsible for any accidental or negligent firing of a weapon while attempting to use its products.*

PREEQUISITES

- Unloaded firearm in good working condition (consult a competent professional to determine if your weapon is capable of firing live ammunition).
- A quantity of the appropriate ammunition (please research the caliber and ballistics of the ammunition to determine the ballistic specifics as there are many choices)
- The optic securely mounted to the weapon
- An applicable range supporting center fire rifle fire out to 100 yards minimum
- Applicable target/s
- Appropriate hearing and sight protection

Procedures

1. Load the rifle
2. Using appropriate marksmanship techniques, fire at a distinct distant aiming point (Point of Aim – POA)
3. After the recoil cycle, operate the bolt and reload the weapon
4. Repeat #2 (disregard the first point of impact unless it is not on the target at all)
5. Repeat #3
6. Repeat #2
7. Unload the weapon
8. Move to the target (or use optics) and determine the distance and direction that the shots (Point of Impact – POI) struck the target in reference to the aiming point
9. Using the elevation (ranging) and the windage (deflection) knobs adjust the aiming point in desired direction to the desired amount as indicated by center of the POI

10. Repeat steps 1 – 9 as many times as necessary to ensure that the POA and POI are the same.
11. Confirm zero (readjust if necessary)

Note: it is ideal to zero the rifle in "no wind" conditions so as not to induce a consistent error into the optic adjustments. Zeroing at a near target (such as 25 or 50 yards) will essentially negate the effect of wind, thus providing a better zero as it relates to wind however this may not yield the desired results at distant targets.

Adjustments for firing conditions:

While using the optic/rifle it may become necessary to make adjustments to compensate for range (distance) and wind (deflection). With the M73B1 this is relatively straight forward assuming the optic has been properly zeroed. Note: changes in ammunition type, bullet weight, and/or velocity will have a direct affect on the value of the adjustments of this optic. Additionally, users may see changes in the adjustment value as a result of environmental conditions and/or induced human error. In short, just because the elevation drum reads a specific range, do not essentially mean that the round will hit dead center each and every time. Users must understand that this optic was designed to be used by trained marksman who compensated for a wide variety of factors constantly.

The M73B1 was not designed to be adjusted frequently; rather it was the shooter's experience and training that allowed him to hold off the target enough to allow the round to hit the intended target. This has been referred to as "Kentucky windage", however with practice will yield very successful results. Shooters should understand that sniping in WWII or precision shooting in that era was not as it is today.

Procedures (elevation)

1. Determine the range to the distant target in yards
2. Determine how much to hold above/below the intended impact point
3. Position the reticle at this point (up, down, left, right or any combo thereof)
4. Engage the target
5. Repeat as necessary

Procedures (windage)

1. Determine the range
2. Determine the wind value and direction
3. Using ballistic charts or software, determine the correction in minutes of angle (MOA)
4. Convert to inches (1 MOA = 1 inch @ 100 yards, 2 inches @ 200 yards, etc.)
5. Place the reticle the distance into the wind the amount determined from step #4
6. Engage the target
7. Repeat as necessary

*Note; the elevation and windage dials may be adjusted for consistent conditions or if the zero has changed for some reason (shooter's ability, inadvertent movement of the knobs, etc.). Therefore should this condition be present, the rifle should be re-zeroed, however if the rifle is grouping (shooting) predominately in one direction, the knobs may be used to bring the center of the group back to the desired location.