

# Ray-Vin AR Sight Verifier

The AR sight verifier allows you to quickly and easily test the rear sight on AR15 & M16 type rifles for consistent distance between clicks as well as return to zero from both directions.

Instructions:

**1. Clear the weapon! Remove magazine, lock bolt to the rear and put the safety on. Visually check the chamber and verify the absence of ammunition.**

2. Rest the rifle in a cleaning cradle.

3. Mount the Verifier on the carry handle using the mounting screw.

4. Use the adjusting screws to position the dial indicator against the rear aperture. For elevation measurements, position the indicator vertically and put the point on the center of the aperture. For windage measurements, position the indicator horizontally and put the disk between the sight base and the aperture so the disk contacts the aperture, but the indicator shaft does not contact the sight base.

5. Loosen the indicator bezel lock and rotate the bezel so that zero aligns with the indicator needle.

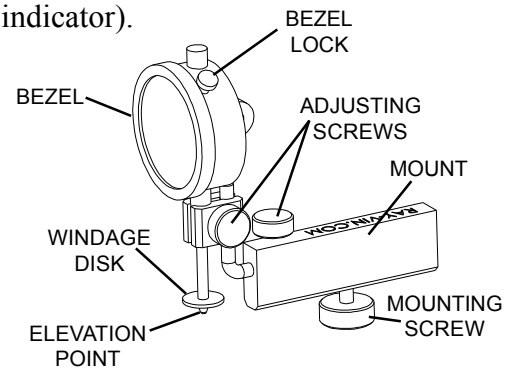
6. Move the windage or elevation knob five clicks in one direction. Then come back the same number of clicks. The needle should be on zero or very close to it. The sight should move with each click. Repeat test in opposite direction.

1/4 MOA sights will move about 0.0015" per click (one and one half lines on the indicator).

1/2 MOA sights will move about 0.003" per click (three lines on the indicator).

1 MOA sights will move about 0.006" per click (six lines on the indicator).

If your sight does not move exactly the same amount on each click, don't be alarmed. What you are testing for is return to zero from each direction and you are looking for dead spots on the screws where the sight may not move at all for several clicks and then make a big jump.



Sight Radius = The distance between the front post and the rear aperture

MOA = Minutes of angle (60 minutes = 1 degree)

Click = Distance the rear sight moves between detents

When calculating MOA, use the average of ten clicks, rather than just one click.

Example:

Click / Sight Radius = .006 / 20.0625 = 2.9906

Tangent of 2.9906 = .0171

.0171 x 60 = 1.028 MOA

$$\text{MOA} = \text{TANGENT} \times \frac{\text{Click}}{\text{Sight Radius}} \times 60$$

(Calculations are the same for front sight changes.)



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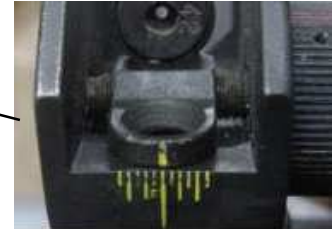
# Ray-Vin AR Windage Adjuster (Front Sight Tool)

The AR Windage Adjuster eliminates the guess work and takes the trial and error out of zeroing your AR windage adjustable front sight or your M1A. Windage adjustable front sights allow you to set the rear sight at mechanical zero and then move the front sight to center your group.

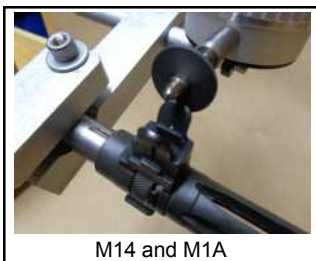


Instructions: For AR type front sights, 20" service rifle configuration (based on placing the indicator on the left side of the sight.)

1. On a calm day at the range, set your rear sight to windage mechanical zero.
2. Fire a group from sandbags or a bench rest to eliminate as much outside error as possible.
- 3. CLEAR THE WEAPON!**
4. Measure the distance left or right from the aiming black to the center of your group.
5. Determine the minutes of angle of the error. Example: at 100 yards 1" is approximately one minute of angle (MOA).
6. Multiply the MOA error by 0.006" to determine how much to move the front sight.
7. Rest the rifle in a cleaning cradle.
8. Clamp the adjuster to the barrel and position the indicator disk against the front sight ear.
9. Make sure everything is tight!



10. Rotate the indicator dial so the needle is pointing to zero.
  11. You will be moving the front sight in the direction of the fired group.
  12. If the group is left, the needle will move clockwise and vice-versa.
  13. Carefully loosen the sight base set screws and adjust the sight base towards the group by the calculated correction.
  14. Retighten the set screws gradually while maintaining the indicator reading.
- At this point you can proceed to loctite the setscrews one by one, or test fire to confirm the correction.



M14 and M1A

**In this example, the group is 2-1/2" to the left at 100 yards. This equates to 2.5 MOA or 0.015" at the front sight. The front sight is moved to the left 0.015" to align it with the test group.**



To Loctite the screws:

1. use blue loctite #242.
2. Clamp the adjuster to the barrel (see step 8 above) and set the needle to zero.
3. Remove the rear right setscrew, apply loctite and replace the screw, tightening it to maintain the indicator reading.
4. Repeat with the front left setscrew.
5. Repeat with the rear left setscrew.
6. Repeat with the front right setscrew.



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