



MARCUS TACTICAL SOLUTIONS

OPERATING MANUAL

ADJUSTABLE WINDAGE SCOPE MOUNT

MODEL AWSM-AK



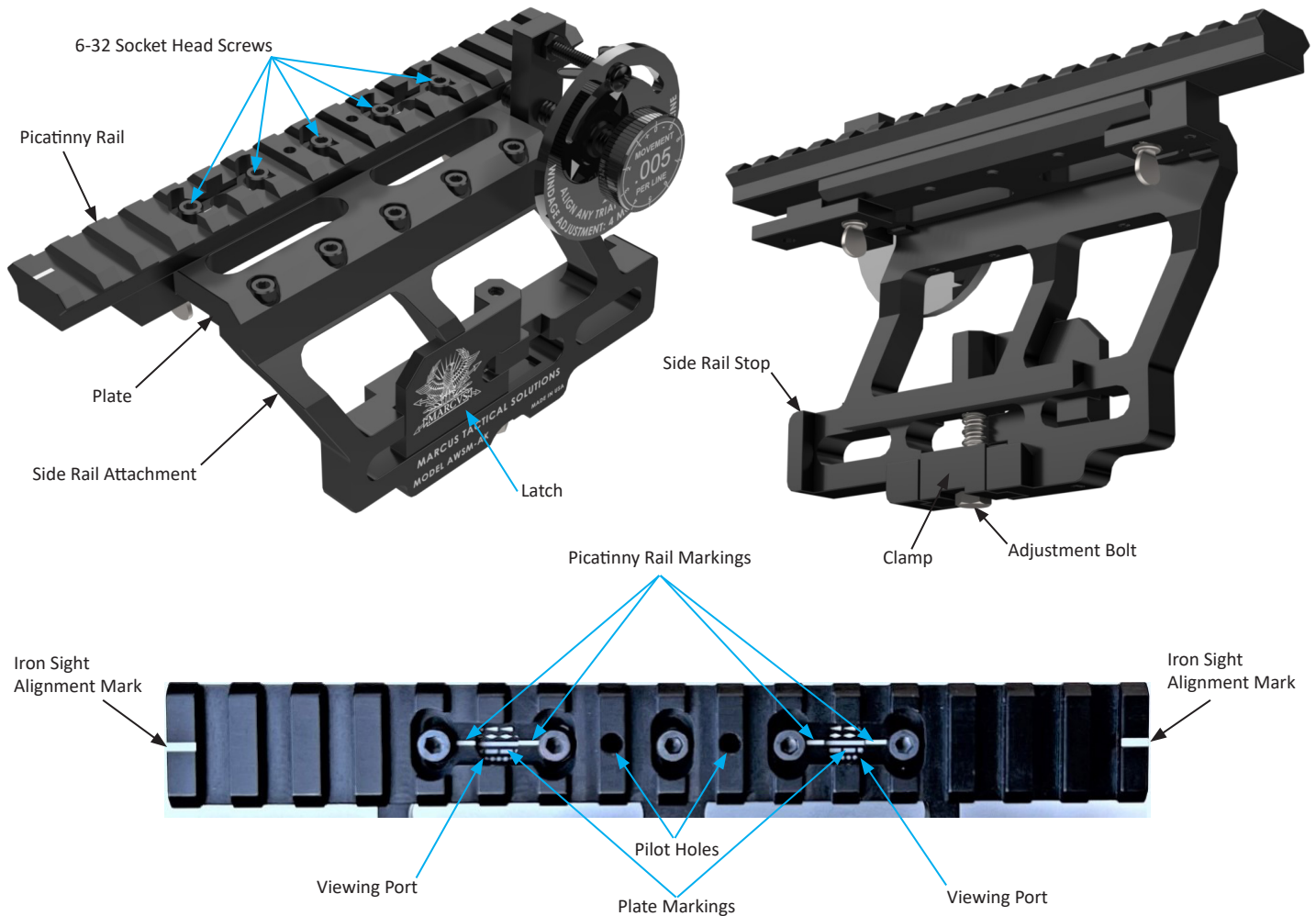
GENERAL DESCRIPTION



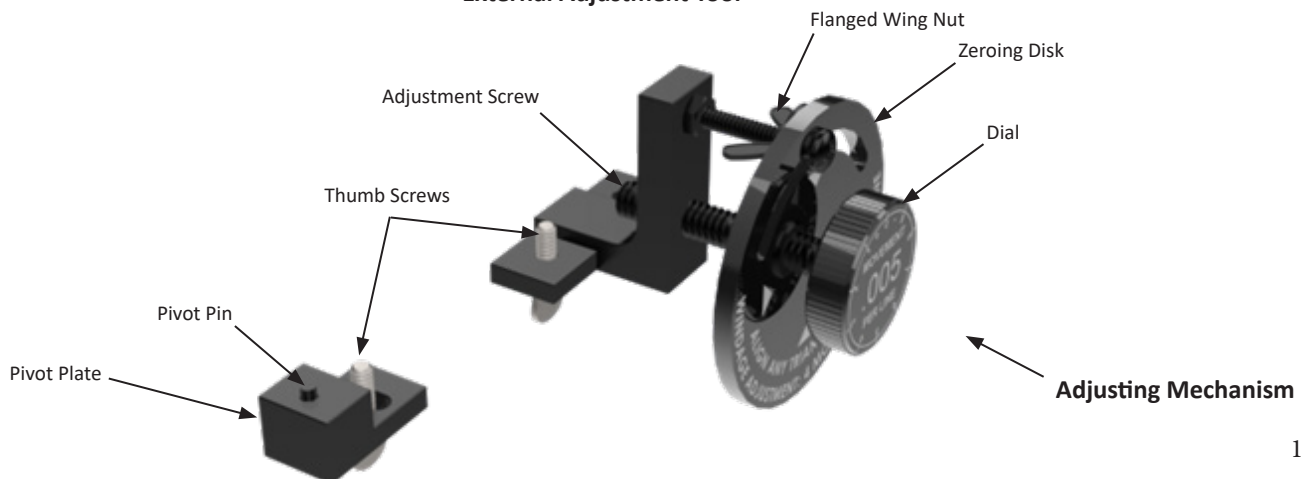
The AWSM-AK Adjustable Windage Scope Mount facilitates the attachment of modern electro-optic aiming devices to the AK rifle via a Picatinny rail and allows for the correction of horizontal misalignments between the receiver-mounted side rail and the barrel.

The External Windage Adjustment Tool enables zeroing the electro-optic aiming device with the reticle centered, thus preserving the whole capacity of the scope's internal windage adjusting mechanism and maintaining the accuracy of the optics.

Main Components



External Adjustment Tool



OPERATING INSTRUCTIONS



A. Adjusting the clamping force of the mount

1. Press the clamp against the spring to release the hex head of the adjustment bolt (*Fig. 1*).
2. Turn the adjustment bolt to the right to tighten the clamp and to increase the clamping force and turn to the left to loosen the clamp and to decrease the clamping force. Fine clamping force adjustments are obtained by turning the adjustment bolt one flat at a time.
3. With the latch in fully open position, slide the mount over the firearm's side rail until it stops. Do not force the mount over the side rail if the clamp is too tight. Instead, loosen the clamp by turning the adjustment bolt to the left one flat at the time until the mount can slide.
4. To lock the mount on the side rail, rotate the latch clockwise until it clicks over the ball spring plunger in fully closed position. Do not use excessive force to close the latch if the clamping force starts to build up immediately. Instead, loosen the clamp by turning the adjustment bolt to the left one flat at the time until the latch can be fully closed with moderate thumb pressure.
5. The scope mount must hold firmly against the side rail without sliding back when firing the gun. If necessary, increase the clamping force by turning the adjustment bolt to the right one flat at a time.



B. Aligning the Picatinny Rail with the rear iron sight

The AWSM-AK scope mount can be easily aligned with the rear iron sight of the AK rifle to provide a datum point for windage adjustments. A set of markings on the Picatinny rail and on the plate provide 0.200" alignment range relative to the notch on the rear iron sight, with five alternative positions engraved in 0.05" increments.

1. Without the scope installed, attach the mount to the rifle's side rail.
2. Check if the iron sight alignment mark on the front end of the Picatinny rail is lined up with the notch on the rifle's rear iron sight (*Fig. 2*).

If it isn't, align as follows:

- a. Using the supplied 7/64" hex key, loosen all five 6-32 socket head cap screws just enough to allow the Picatinny rail to slide laterally on the plate (*Fig. 3*). (*Loosen the cap screws more if the split washers from underneath the screw heads hung up into the slots and prevent the full travel*).
- b. Slide the Picatinny Rail laterally as needed and line up the iron sight alignment mark with the notch on the rifle's rear iron sight.
- c. While maintaining the iron sight alignment, look through the front and rear viewing ports of the Picatinny rail and align the pair of rail markings with the nearest pair of plate markings of the same line pattern (continuous, dashed, dotted, diamonds, triangles). The Picatinny rail is properly aligned when the iron sight mark is aligned with the notch on the rear iron sight and the pair of rail markings is aligned with a pair of plate markings of the same pattern. The blank spaces between the patterned plate markings can also be used for alignment, if needed (*Fig. 4a & 4b*).

- d. Secure the Picatinny rail by tightening the five 6-32 socket head cap screws to 10 in.-lbs. each.

Once the Picatinny Rail is aligned with the rear iron sight, the scope can be installed on the mount.

Fig. 2: Picatinny Rail aligned correctly with the rear iron sight

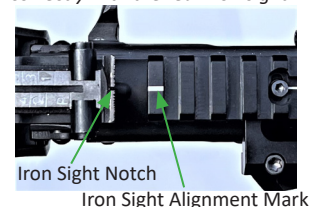


Fig. 3

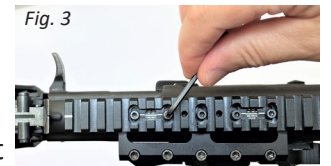


Fig. 4a: Picatinny Rail aligned correctly with the rear iron sight



Fig. 4b: Example of alternative correct Picatinny Rail alignment with the rear iron sight



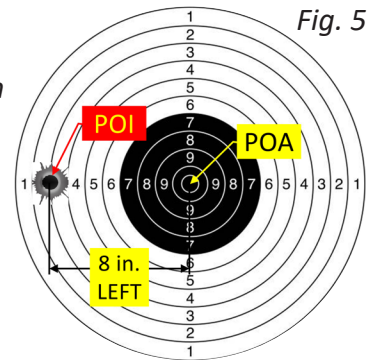
C. Windage adjustment using the AWSM-AK Scope Mount



1. Using scope's windage turret, center the reticle inside the tube for equal left - right windage adjustment range (right clicks count from center to stop equal to left clicks count from center to stop).
2. If not already done, install the scope on the AWSM-AK mount.
3. Fire the rifle at a suitable target from either 100 yards, 50 yards or 25 yards.
4. Measure the horizontal distance (in inches) between the point of aim (POA) and the point of impact (POI) on the target.

NOTE: The AWSM-AK scope mounts are calibrated for incremental adjustments in Minutes of Angle (MOA). The practical conversion rule is that 1 MOA equates to 1 inch of linear distance measured on the target per 100 yards of distance between firearm and target. For example, when the target is placed 50 yards away from the firearm, 1 MOA corresponds to a distance of 0.5 inches measured on the target between the POA and the POI. When the target is placed 100 yards away from the firearm, 1 MOA corresponds to a distance of 1 inch measured on the target between the POA and the POI. When the target is placed 200 yards away from the firearm, 1 MOA corresponds to a distance of 2 inches measured on the target between the POA and the POI.

Fig. 5 shows an example where the POI is 8" left from POA. If the target was shot at from 100 yards, the POI is 8 MOA left from POA. If the target was shot at from 50 yards, the POI is 16 MOA left from POA. If the target was shot at from 200 yards, the POI is 4 MOA left from POA.



5. Take note of the position of the POI on the target, either left or right, relative to the POA. If the POI is on the left side of the POA by a certain number of MOA, the windage must be adjusted to the right by the same number of MOA. Similarly, if the POI is on the right side of the POA by a certain number of MOA, the windage must be adjusted to the left by the same number of MOA.

6. Remove the scope from the scope mount and remove the scope mount from the firearm.

7. Attach the Pivot Plate to the front end of the scope mount by inserting the pivot pin into the Picatinny rail hole and fastening (hand-tight) to the Plate with the thumb screw (Fig. 6a).



Fig. 6a

8. Attach the Adjusting Mechanism to the rear end of the scope mount by fastening (hand-tight) to the Plate with the thumb screw (Fig. 6b).



Fig. 6b

9. To move the POI to the right, attach the adjusting mechanism to the left side of the scope mount (Fig. 7a).

10. To move the POI to the left, attach the adjusting mechanism to the right side of the scope mount (Fig. 7b).

Fig. 7a

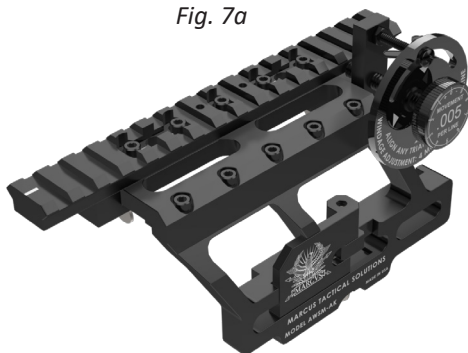
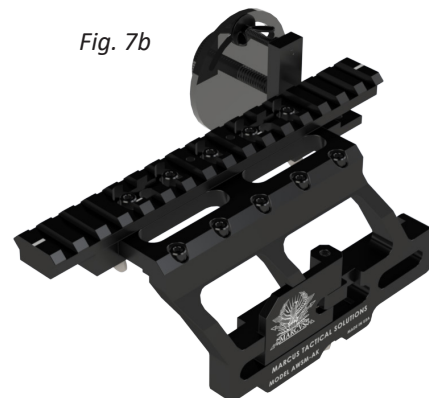


Fig. 7b



11. Turn the Dial clockwise until the Adjustment Screw contacts the Picatinny rail (Fig. 8).

12. Align any of the four triangles with the zero line on the Dial by turning the Zeroing Disk either left or right (Fig. 9).

13. Tighten the Flanged Wing Nut against the back side of the Zeroing Disk to lock the triangle alignment to the zero line (Figs. 8 & 9).

14. Using the supplied 7/64" hex key, slightly loosen the five 6-32 socket head cap screws just enough to allow the Picatinny rail to slide laterally on Plate. (Loosen the cap screws more if the ends of the split washers from underneath the screw heads hung up into the slots and prevent the rail from sliding) (Fig. 10).

15. Turn the Dial clockwise to make the required windage adjustment. Refer to Windage Adjustments Table for MOA adjustments based on the distance to target and the measured POA - POI deviation (Fig. 11).

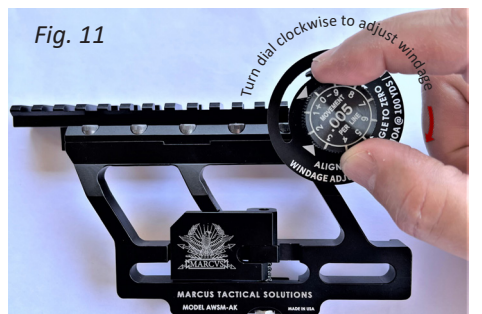
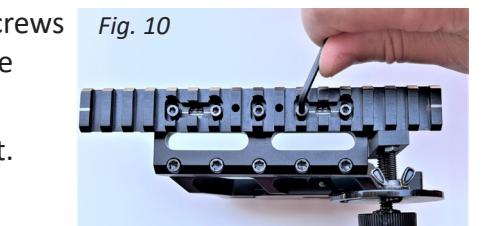
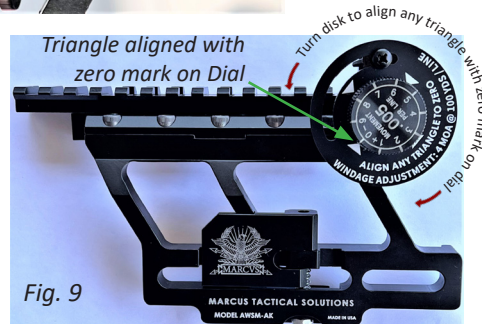
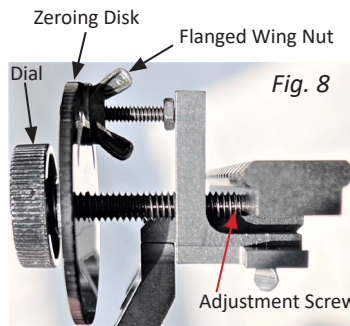
16. Secure the Picatinny rail by tightening the five 6-32 socket head cap screws to 10 in.-lbs. each. Ensure the Picatinny rail remains in contact with the Adjustment Screw while tightening the cap screws.

17. Remove the Adjusting Mechanism and the Pivot Plate from the mount.

18. Install the scope back on the Picatinny rail and attach to the rifle.

19. Fire the rifle at a suitable target and confirm the windage adjustment.

20. Use scope's turret for sub-MOA windage adjustments.



How to use the Windage Adjustment Table

The table is divided in three sections according to the distance between the shooting position and the target (i.e., 100 yards, 50 yards and 25 yards). The windage adjustment values are indicated in Lines on Dial, found on the bottom row, in the same columns showing the POI vs. POA windage deviation measured on the target.

The Dial is calibrated to provide incremental windage adjustments of 4 MOA per line at 100 yards.

In cases of extreme POI vs. POA windage divergence it is recommended to start the zeroing process at 50 yards, or even 25 yards to ensure the bullets land on target from the beginning.

Windage Adjustment Table

Target Distance (yards)	100																				50										25																			
Measured Deviation POI vs. POA on Target (inches)	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10
MOA Adjustment Needed to Zero Scope (Lines on Dial)	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	1	2	3	4	5	6	7	8	9	10

Windage adjustment examples

Windage adjustment example no. 1:

Distance to target: 100 yards.

POI vs. POA windage deviation measured on target: 20 inches.

AWSM-AK windage adjustment: 5 lines on the Dial (from 0 to 5, for example)



Windage adjustment example no. 2:

Distance to target: 50 yards.

POI vs. POA windage deviation measured on target: 8 inches.

AWSM-AK windage adjustment: 4 lines on the Dial (from 0 to 4, for example)

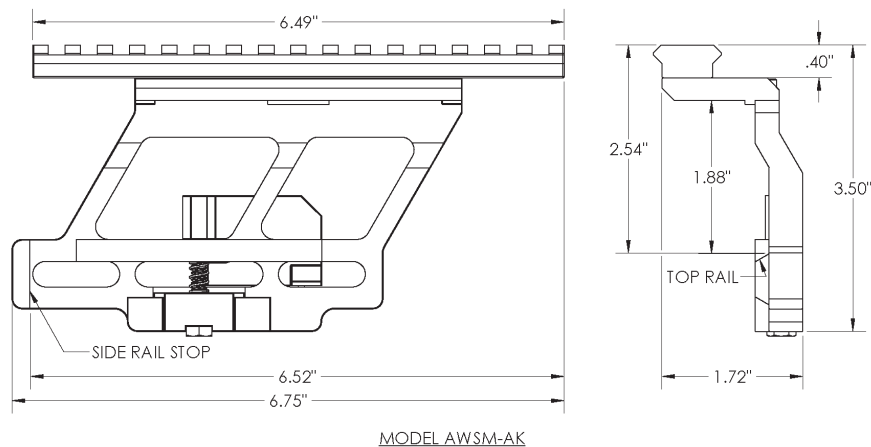
Windage adjustment example no. 3:

Distance to target: 25 yards.

POI vs. POA windage deviation measured on target: 3 inches.

AWSM-AK windage adjustment: 3 lines on the Dial (from 0 to 3, for example)

D. AWSM-AK technical specifications



- Windage adjustment range: 80 MOA Left / 80 MOA Right @ 100 yards
- Number of slots on the Picatinny rail: 16
- Height (without windage adjustment tool): 3.50"
- Length: 6.75"
- Distance from top of Picatinny rail to top of rifle's side rail: 2.54"
- Scope mount weight: 8.5 oz.
- Windage adjustment tool weight: 1.5 oz.
- Material: Aluminum 6061-T6
- Coating: Anodized, MIL-A-8625 T2C2 Black

E. Locking windage setting in position (*owner optional*)

The AWSM-AK Scope Mount provides the option to lock-in a selected windage adjustment by pinning the Picatinny Rail to the Plate.

1. Ensure the Picatinny Rail is tighten to the Plate with the desired windage adjustment.
2. Using the two 1/8" diameter holes adjacent to the center of the Picatinny Rail as pilot holes, drill through the Plate using 1/8" diameter drill bit (*drill bit not provided*) (Fig. 12).
3. Insert the provided 1/8" diameter x 5/8" long slotted spring pins into the drilled holes (Fig. 13).
4. Ensure the pins are driven all the way in, with the top ends flush with the top side of the Picatinny Rail.

The windage adjustment capability of the scope mount can be restored by removing the spring pins using a small hammer and a suitable diameter punch tool.

