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<b>Data Module Code:</b>	SPARTAN-AAA-00-00-00-00A-0000-A
<b>Issue Number:</b>	000
<b>In Work Number:</b>	00
<b>Issue Date:</b>	08-March-2025

## SPARTAN-ST

### ZEROING Quick Start Guide

<b>Security Classification:</b>	NO SECURITY RESTRICTIONS
<b>Quality Assurance Status:</b>	First verification performed with drawings and on the component.

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**No References**

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## 1. 2-step weapon and thermal sight check before zeroing

### #1 Visual and Physical Inspection

- Before mounting the thermal sight on the weapon, please check the accuracy of the weapon.
- Ensure weapon mount adapter is tightly secured. •
- Power On the thermal sight and check the thermal image on the display.
- Ensure that the control buttons are responsive.

### #2 Cycle of Operation and Safety Inspection

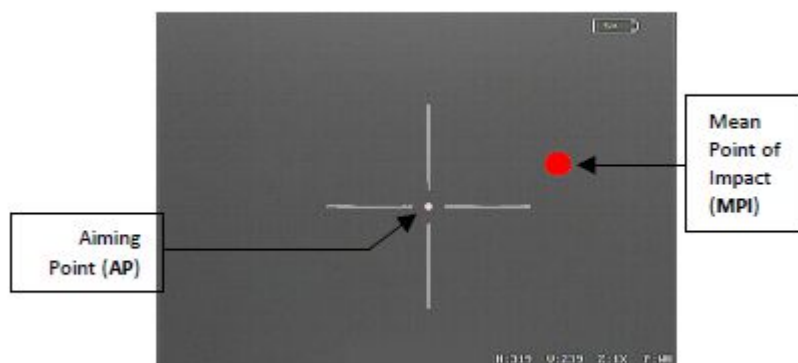
1. Stand at 25m from zeroing target. .
2. Check for MPI (Mean Point of Impact).
3. Ensure weapon produces a grouping as per your group size.
4. Move to 50m, 75m and 100m respectively from zeroing target and repeat steps 2 and 3.
5. At 50m, 75m and 100m, the weapon should produce a grouping as per your group size.

If weapon passes the 2-step verification test, then mount the thermal sight and begin zeroing procedure.

Zeroing is performed by moving the reticle towards the Mean Point of Impact.

The steps for zeroing are listed below:

1. Note the starting windage (H) and elevation (V) position of the reticle.
2. Stand at a distance of 25 / 50 / 75 / 100 Yards or Meters from the target.
3. Select one of the cross reticles to zero the sight to the weapon.
4. Aim at the target (Aiming Point or AP) and fire shots until you get an appropriate group size of the weapon.
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*Figure 1 - Aiming Point or AP*

5. Plot the center of the bullet spray (Mean Point of Impact or MPI) on the target..
6. Measure the vertical and horizontal distance (in inches or centimeters) of the MPI from the AP.
7. Refer to the zeroing table to find the values for reticle adjustment

Horizontal / Vertical Distance Between AP and MPI	Yards					Distance from the target
		25	50	75	100	
	1	2	1	1	0	Pixel movement for reticle
	2	3	2	1	1	
	3	5	3	2	1	
	4	7	3	2	2	
	5	9	4	3	2	
	6	10	5	3	3	
	7	12	6	4	3	

Figure 2 - zeroing table

8. Move the reticle towards the MPI. Follow the below formula to correct windage and elevation:

Reticle Movement	Windage / Elevation Calculation		
Left	Current Windage	-	Value in Chart
Right	Current Windage	+	Value in Chart
Up	Current Elevation	-	Value in Chart
Down	Current Elevation	+	Value in Chart

Figure 3 - windage and elevation

		MOA			
		1.7			
		Yards			
		25	50	75	100
Inches	1	2	1	1	1
	2	5	2	2	1
	3	7	3	2	2
	4	9	5	3	2
	5	11	6	4	3
	6	14	7	5	3
	7	16	8	5	4
	8	18	9	6	5
	9	21	10	7	5
	10	23	11	8	6
	11	25	13	8	6
	12	28	14	9	7
	13	30	15	10	7
	14	32	16	11	8
	15	34	17	11	9
	16	37	18	12	9
	17	39	20	13	10
	18	41	21	14	10
	19	44	22	15	11
	20	46	23	15	11
	21	48	24	16	12
	22	51	25	17	13
	23	53	26	18	13
	24	55	28	18	14
	25	57	29	19	14
	26	60	30	20	15
	27	62	31	21	16
	28	64	32	21	16
	29	67	33	22	17
	30	69	34	23	17

Figure 4 - MOA 1.7 — INCHES

		MOA			
		1.7			
		Meters			
		25	50	75	100
Centimeters	1	1	0	0	0
	2	2	1	1	0
	3	2	1	1	1
	4	3	2	1	1
	5	4	2	1	1
	6	5	2	2	1
	7	6	3	2	1
	8	7	3	2	2
	9	7	4	2	2
	10	8	4	3	2
	11	9	5	3	2
	12	10	5	3	2
	13	11	5	4	3
	14	12	6	4	3
	15	12	6	4	3
	16	13	7	4	3
	17	14	7	5	3
	18	15	7	5	4
	19	16	8	5	4
	20	16	8	5	4
	21	17	9	6	4
	22	18	9	6	5
	23	19	9	6	5
	24	20	10	7	5
	25	21	10	7	5
	26	21	11	7	5
	27	22	11	7	6
	28	23	12	8	6
	29	24	12	8	6
	30	25	12	8	6

Figure 5 - MOA 1.7 — CENTIMETERS

MOA for Clip-on Mode					
1.1					
Inches	Yards				
		25	50	75	100
	1	3	2	1	1
	2	7	3	2	2
	3	10	5	3	3
	4	14	7	5	3
	5	17	9	6	4
	6	21	10	7	5
	7	24	12	8	6
	8	28	14	9	7
	9	31	16	10	8
	10	35	17	12	9
	11	38	19	13	10
	12	42	21	14	10
	13	45	23	15	11
	14	49	24	16	12
	15	52	26	17	13
	16	56	28	19	14
	17	59	30	20	15
	18	63	31	21	16
	19	66	33	22	16
	20	69	35	23	17
	21	73	36	24	18
	22	76	38	25	19
	23	80	40	27	20
	24	83	42	28	21
	25	87	43	29	22
	26	90	45	30	23
	27	94	47	31	23
	28	97	49	32	24
	29	101	50	34	25
	30	104	52	35	26

Figure 6 - MOA 1.1 — YARDS

## MOA for Clip-on Mode

### 1.1

		Meters			
		25	50	75	100
Centimeters	1	1	1	0	0
	2	3	1	1	1
	3	4	2	1	1
	4	5	3	2	1
	5	6	3	2	2
	6	8	4	3	2
	7	9	4	3	2
	8	10	5	3	3
	9	11	6	4	3
	10	13	6	4	3
	11	14	7	5	3
	12	15	8	5	4
	13	16	8	5	4
	14	18	9	6	4
	15	19	9	6	5
	16	20	10	7	5
	17	21	11	7	5
	18	23	11	8	6
	19	24	12	8	6
	20	25	13	8	6
	21	26	13	9	7
	22	28	14	9	7
	23	29	14	10	7
	24	30	15	10	8
	25	31	16	10	8
	26	33	16	11	8
	27	34	17	11	8
	28	35	18	12	9
	29	36	18	12	9
	30	38	19	13	9

Figure 7 - MOA 1.1 — CENTIMETERS