



Brilliant Aiming Solutions™

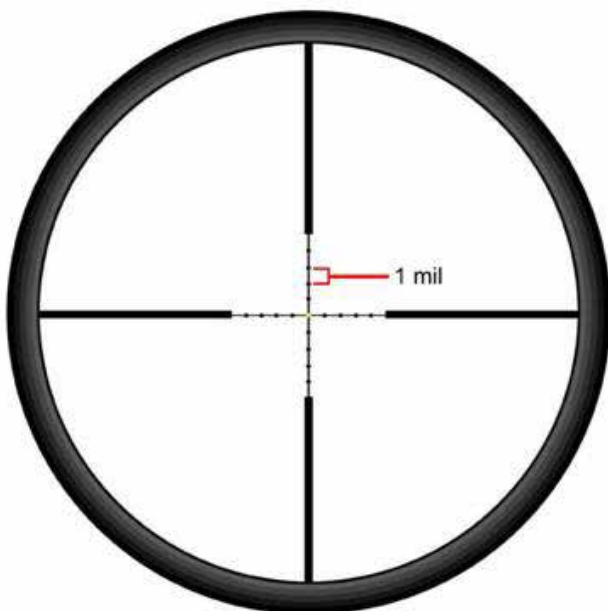
HOW TO USE TRIJICON ACCUPOINT MIL-DOT RIFLESCOPES

A MIL-Dot reticle refers to a standard, specific pattern of duplex crosshair reticles with four small 0.25 MIL diameter dots placed along each axis. These dots are arranged to allow for range estimation. A trained user can measure the range to objects of known size, determine the size of objects at known distances, and compensate for both bullet drop and wind drifts at known ranges with a MIL-Dot reticle-equipped scope.

A MIL-Dot reticle is not to be confused with a Bullet Drop Compensating (BDC) reticle, which compensates for the effect of gravity on the bullet at given distances. However, a MIL-Dot reticle can be used to estimate an approximate hold-over, or perform an elevation adjustment of the scope, if the weapon and ammunition ballistics are also known.

A “MIL” relates to the U.S. military variation of a unit of angle known as a milliradian. The distance between the centers of any two adjacent dots on a MIL-Dot reticle scope equals 1 Mil, which is about 36” (or 1 yard) @ 1000 yards, or 3.6 inches at 100 yards. Trijicon MIL-Dot reticle is based off of the U.S. Army round mil dot version. The table below lists the distance subtended by one MIL at various ranges.

It is important to note that the MIL-Dot reticle is designed to be used at the highest magnification on Trijicon MIL-Dot second focal plane scopes. Therefore, the scope must be set at the maximum magnification setting (i.e. 9x for TR20-2, 10x for TR22-2) to utilize the reticle for range estimation.



Range (Yards)	One MIL in Inches	Range (Yards)	One MIL in Inches
100	3.6	Continued	
150	5.4	600	21.6
200	7.2	650	23.4
250	9.0	700	25.2
300	10.8	750	27.0
350	12.6	800	28.8
400	14.4	850	30.6
450	16.2	900	32.4
500	18.0	950	34.2
550	19.8	1000	36.0



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Once the scope is set to high magnification, the easiest way to range a target is to take the height (or width) of the target in yards or meters multiplied by 1000, then divide by the height (or width) of the target in MILs to determine the range to target. Of course the measurements can be taken in inches. The following examples illustrate this point:

Example 1: Prairie Dog – Cross Hair Method (measurement starts at horizontal cross hair, scope at the highest magnification).

A 10" tall prairie dog fits in between the vertical crosshair and the bottom of the first MIL-Dot which equals 0.875 MILs. How many yards is it out?



$$\frac{\text{Target Size} \times 27.778}{\text{MIL Size}} = \text{Yards to Target}$$

$$\frac{10 \text{ " } \times 27.778}{.875} = 317.5 \text{ yards}$$

Example 2: Deer – Cross Hair Method (measurement starts at horizontal cross hair, scope at highest magnification).

A buck in the field and the estimated girth of his body is 18". The body fits within 2.5 MILs of the reticle. How many yards is he out?

$$\frac{\text{Target Size} \times 27.778}{\text{MIL Size}} = \text{Yards to Target}$$

$$\frac{18 \text{ " } \times 27.778}{2.5} = 200 \text{ yards}$$





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Example 3: - Heavy Post Method (measurement starts at the bottom vertical heavy post, scope at highest magnification).

Suppose a target, estimated at 6 ft (2 yards) tall, fits between the bottom heavy post and top heavy post on the MIL-Dot reticle which equals a total of 10 MILs. Then $(2 \times 1000) / 10 = 200$ yards.

$$\frac{\text{Target Size} \times 1000}{\text{MIL Size}} = \text{Yards to Target} \qquad \frac{2 \times 1000}{10} = 200 \text{ yards}$$

Example 4: MIL-Dot Method (measurement starts at any MIL-Dot, scope at highest magnification).

If the same 6 ft target fits between any 4 dots on the reticle, then $(2 \times 1000) / 4 = 500$ yards is the distance to the target. If it is known that the weapon and ammunition combination being used results in a 36" (1 yard) drop at 500 yards with the present zero, then the shooter can hold 2 MILs high (recalling that 1 MIL = 36" (1 yard) at 1000 yards, and therefore 1 MIL = 18" (1/2 yard) at 500 yards) to achieve the desired point of impact on the target.

$$\frac{\text{Target Size} \times 1000}{\text{MIL Size}} = \text{Yards to Target} \qquad \frac{2 \times 1000}{4} = 500 \text{ yards}$$



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The MIL-Dot reticle can be most easily and quickly used if the shooter takes time before their hunting or shooting session to do the required math and create a table using the specific target size expected, and incorporating the ballistic information of the weapon and ammunition combination that will be used. An appropriate MIL hold-over or scope adjustment can then be made immediately after measuring the target in MILs. Following are two examples:

Varmint - 10" tall, .223 40 gr, 200 yard zero (Ballistics are for example only)				Deer - 18" girth, .30-06 180 gr, 100 yard zero (Ballistics are for example only)			
Range (Yards)	Target Height (MILS)	Bullet Drop (Inches)	Hold-Over (MILS)	Range (Yards)	Target Height (MILS)	Bullet Drop (Inches)	Hold-Over (MILS)
100	2.75	-1.6	-0.4	100	5.00	0.0	0.0
150	1.85	-1.5	-0.3	150	3.33	1.1	0.2
200	1.39	0.0	0.0	200	5.00	3.7	0.5
250	1.11	3.2	3.2	250	2.00	7.8	0.9
300	0.93	8.3	8.3	300	1.67	13.4	1.2
350	0.79	16.0	16.0	350	1.43	20.9	1.7
400	0.69	26.6	26.6	400	1.25	30.3	2.1
450	0.62	40.9	40.9	450	1.11	41.9	2.6
500	0.56	59.7	59.7	500	1.00	55.8	3.1
550	0.51	84.0	84.0	550	0.91	72.0	3.6
600	0.46	114.7	114.7	600	0.83	91.1	4.2

Additional Target Calculations based on units:

Yards

(Target Size (yds) x 1000) / MILs read = yards to target

(Target Size (in) x 27.778) / MILs read = yards to target

Meters

(Target Size (mtr)x1000) / MILs read = meters to target

(Target Size (in) x 25.4) / MILs read = meters to target