How to Use Your Mil Dot Riflescope

The Mil Dot reticle is primarily a range finding device that uses the optics of a riflescope and the known dimensions of a grid (the reticle) at unknown distances to estimate the sighted distance to a target. As a secondary function, the Mil Dots on the reticle can be set up as aiming points to compensate for holdover and wind drift. We'll address the range finding system first. Most Mil Dot scopes are set up to range find at 10X magnification. However, some scopes do it at whatever particular magnification the manufacturer has set the scope up for. Please note: Every Mil Dot scope has to be set at a specific magnification when you are using the reticle to estimate range. **Be sure to set your scope for the proper magnification when ranging**.

	MOA -Inches at 100yds	Mils - Increments c-t-c
A	36 inches	10 increments
B	18 inches	5 increments
C	3.6 inches	1 increment
D	Scope Dependent	Scope Dependent
E	0.75 inches	1 Dot
F	Scope Dependent	Scope Dependent

These Numbers Are Accurate for Mil Dot Reticles at 100 Yards
MOA means Minutes of Angle... which is approximately equal to INCHES at 100 yards. Mils are the increments measured between the centers of the Mil Dots (c-t-c means center to center).

Chest Height Mil Dots	Antelope or Deer Distance
5	100 yds
2.5	200 yds
1.66	300 yds
1.25	400 yds
1	500 yds

1 Mil Increment
100 yds - 3.6"
200 yds - 7.2"
300 yds -12"
400 yds - 14.4"
500 yds - 18"

KISS - Keep It Simple Stupid... The idea is to read distance by simply looking thru your scope while aiming. No complicated calculations... Just look and know the distance. Explaining how it works makes it seem more complicated than it is, so please bear with me as we go thru the numbers.

Look at the "C" dimension in the chart and on the reticle above. 1 Mil at 100 yards is 3.6 inches or 1/10th of what it is at 1,000 yards (1/10th of 36 inches). At 200, 300, 400, etc... it is 2/10, 3/10, 4/10, etc. So, if you know the size in inches of a target, you can tell how far it is by the number of mildot increments it spans in your scope.

Looking through the scope at a target 100 yards away, the distance between centers of two mil dots is 3.6 inches. If you figure the chest of a deer or antelope to be 18 inches high, at 100 yards the number of Mil dots it spans is 18 ÷ 3.6 = 5 Mil Dots. So, if you look at a deer through the scope and the chest spans 5 Mil Dots, that deer is 100 yards away. If the chest spans 2.5 Mil Dots, then the deer is 200 yards away... and so forth. See the charts at left. You should make your own chart for the dimensions of your target. This is the easiest way to estimate distances with Mil dots.

For more in-depth Mil Dot range finding techniques we recommend our Ultimate Sniper Manual.

Using Mil Dots as Aiming Points for Distance Compensation - There are many "Apps" nowadays that you can download to your smart phone and use for calculating hit points on your reticle. For a few dollars you can let your app figure it all out in seconds... With extreme accuracy.

The distance between mil dots is 3.6 MOA at 10X magnification, right? That means it's 3.6 inches at 100 yards, 7.2 inches at 200 yards, and about 12 inches at 300 yards. That actually conforms pretty closely to some standard bullet trajectories (6.5mm BRM for example)... BUT, you can change the MOA between dots by changing the magnification (some scopes go higher than 10X). If you reduce the magnification the distance spanned between two dots increases. If you increase the magnification, the distance spanned between two dots decreases. So, the right magnification setting for each distance, you can have an exact mil dot aiming point.