



MIL DOT RIFLESCOPE INSTRUCTION MANUAL

USING MIL DOTS

Your new Bushnell rifle scope contains a mil-dot reticle, the most accurate means of range estimation using a manual optical device. These mil dots also allow precise leads for moving targets and exact compensation for shooting in a crosswind. The zoom ring 9x marking is red instead of white because this is the synchronized magnification for ranging on these mil dots.

RETICLE DESCRIPTION

The middle of this reticle contains four evenly spaced mil dots arrayed outward vertically and horizontally from the center. Actually, because the very center dot was left out to allow clear aiming, the reticle represents five mils in any direction -- ten vertical mils -- as shown in the illustration. Note that the most outward dot is replaced by the edge of the heavier reticle line.

One mil is the space from center-dot to center-dot. One-half and one-quarter mils are easy to estimate mentally; with practice, you can measure tenths of mils for the most exact ranging.

RANGING WITH YOUR MIL-DOT RETICLE

The mil is an angular measurement -- 1/6400th of a circle -- which equals almost precisely one yard at 1000 yards, or one meter at 1000 meters. This proportional relationship makes possible a simple formula to compute distances:

$$\frac{\text{The Measured Object's Width Or Height In Yards x 1000}}{\text{Object's Width Or Height In Mils}} = \text{Range In Yards}$$

This formula works equally well with meters, but don't mix meters and yards: Measure the object in yards to find the distance in yards, use meters to yield distances in meters.

Looking through your scope, set at 9x, select an object at the distance you want to range -- an object whose width or height you know or can estimate accurately. Man-made objects of uniform size, such as fenceposts, are best, but any object of known dimensions will do. Measure the object's height or width carefully in mils, compute it according to the formula and you will find its range. Support your rifle and be precise when measuring objects; any measuring error causes an error in the computed range. Equally, mis-estimating the object size results in a proportional range error.

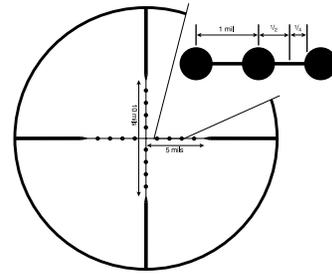
Here's an example: A coyote is sunning himself in a snowfield beside a fencepost; having crossed the fence earlier, you know that the post is four feet high, or 1.33 yards. The fencepost measures 2.5 mils in your reticle.

$$\frac{1.33 \text{ yards x } 1000}{2.5 \text{ mils}} = \frac{1330}{2.5} = 532 \text{ Yards}$$

Since this is a variable power scope and the reticle stays the same size no matter the magnification, it must be set at the 9x index dot to synchronize the mil-dot size for ranging

CALCULATING HOLDS FOR WIND AND MOVING TARGETS

Your horizontal mil dots provide a precise way of holding for crosswinds and target movement. Just look in your cartridge's wind drift and moving target tables to determine the exact holds for different distances. The accompanying table lists one-mil widths from 100 to 600 yards, so you can calculate how many mils to hold right or left when firing in a crosswind, or engaging a moving target.



One mil is the distance between center of dots. It's easy to measure in half-mils or even quarter-mils but with practice you can measure tenths of a mil.

MIL WIDTH FOR WIND AND MOVING TARGET LEADS

Distance	One Mil At This Distance (Inches)
100 Yards	3.6" (0.1 Yard)
200 Yards	7.2" (0.2 Yard)
300 Yards	10.8" (0.3 Yard)
400 Yards	14.4" (0.4 Yard)
500 Yards	18.0" (0.5 Yard)
600 Yards	21.6" (0.6 Yard)

LIFETIME LIMITED WARRANTY*

Your Bushnell® product is warranted to be free of defects in materials and workmanship for the lifetime of the original owner. The Lifetime Limited Warranty is an expression of our confidence in the materials and mechanical workmanship of our products and is your assurance of a lifetime of dependable service. In the event of a defect under this warranty, we will, at our option, repair or replace the product, provided that you return the product postage prepaid. This warranty does not cover damages caused by misuse, improper handling, installation, or maintenance provided by someone other than a Bushnell Authorized Service Department.

Any return in the U.S. or Canada made under this warranty must be accompanied by the items listed below:

- 1) A check/money order in the amount of \$10.00 to cover the cost of postage and handling
- 2) Name and address for product return
- 3) An explanation of the defect
- 4) Proof of Purchase
- 5) Product should be well packed in a sturdy outside shipping carton, to prevent damage in transit, with return postage prepaid to the address listed below:

IN U.S.A. Send To:
 Bushnell Performance Optics
 Attn.: Repairs
 8500 Marshall Drive
 Lenexa, Kansas 66214

IN CANADA Send To:
 Bushnell Performance Optics
 Attn.: Repairs
 25A East Pearce Street, Unit 1
 Richmond Hill, Ontario L4B 2M9

For products purchased outside the United States or Canada please contact your local dealer for applicable warranty information. In Europe you may also contact Bushnell at:

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 European Service Centre
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 GERMANY
 Tél: +49 (0) 221 709 939 3
 Fax: +49 (0) 221 709 939 8

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