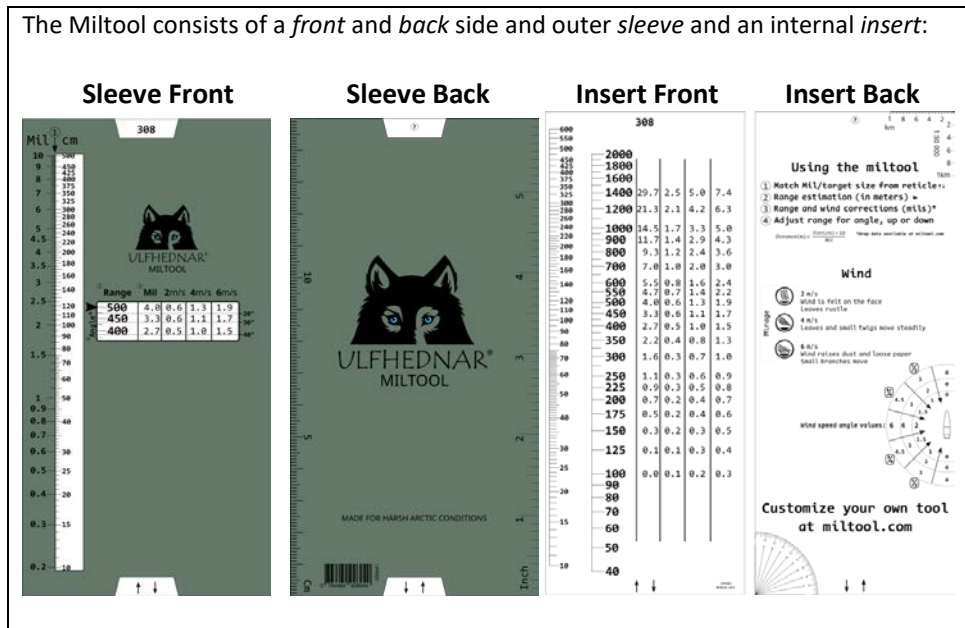


Miltool Manual

The Miltool is a tool for converting the milliradian reticle markings, measured on a known or estimated target size to a range. Also called “milling” a target. And for finding the scope adjustments to this range, and compensate for wind and incline/decline deviation.

The insert is set up for adjustments for a standard 308 caliber, but using the template from miltool.com, you can customize it this for your own caliber.



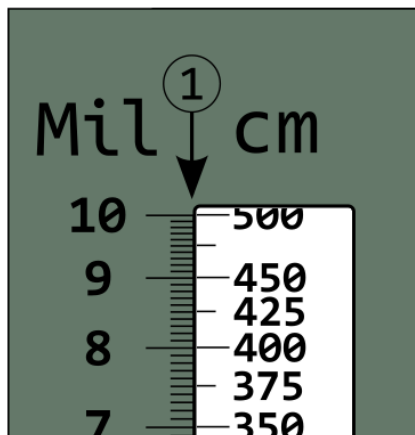
A short guide on the back of the insert, describes the basic functions of the Miltool.

Using the miltool

- ① Match Mil/target size from reticle↕
- ② Range estimation (in meters) ▶
- ③ Range and wind corrections (mils)*
- ④ Adjust range for angle, up or down

The numbers on this guide, corresponds to the numbers on the two transparent windows on the front of the sleeve.

In this first window ① there is a ruler on the left, in milliradians (Mil) and a ruler on the right in centimeters (cm).

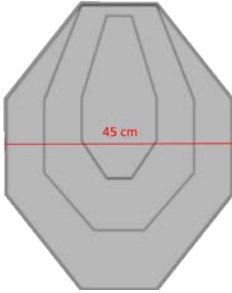


To find a range we need a optic with a milliradian reticle scale and a target to measure.

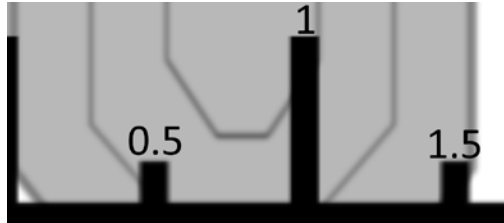
To find a range from us to the target. We slide the internal insert so that the measurement in milliradians, matches the estimated size in centimeters.

Example 1

We know that his target is 45 cm wide:

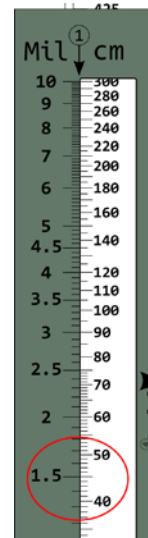


And then we measure the target:



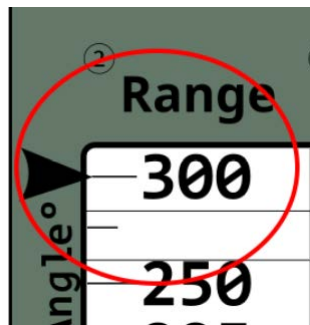
The target measures to be 1.5 Mil's wide in a scope reticle.

We then slide the insert:



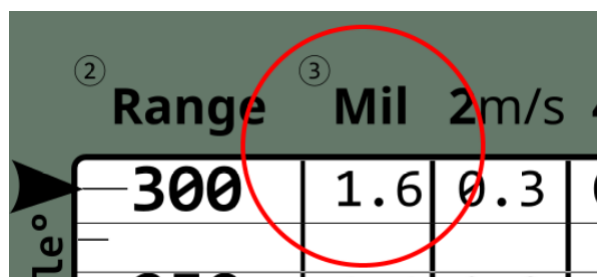
And find 45 cm on the right scale and match it to 1.5 Mils on the left

We can now read the range, from us to the target in the window marked ②



The arrow points to distance, from us to this target, and in this example it is 300 meters.

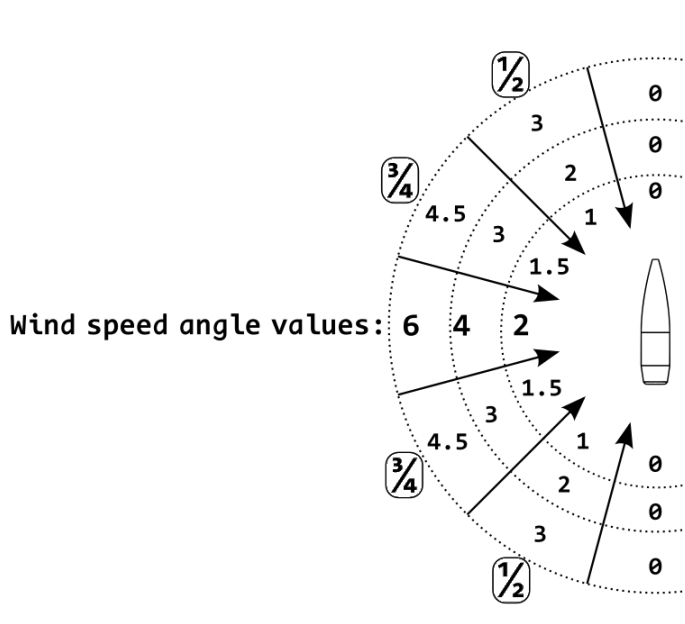
We can now see what to adjust our scope to hit at 300 meters ③, if we are using a 308 caliber bullet, matching the ballistics you can find on miltool.com. **Your ballistics will differ from this estimate**, so please use your own data.



The next three columns represent the wind drift 90° at the shooter.

③ Mil	2m/s	4m/s	6m/s
1.6	0.3	0.7	1.0

To see how the wind affects differ depending on the angle of the wind, you can use the guide on the back of the insert, the rings represent wind values changing according to direction:



The wind value you use for correcting your hit, changes with the angle the wind blows at the shooter.

Wind at 1, 5, 7 and 11 o'clock gives 1/2 value wind.

2, 4, 8 and 10 o'clock gives 3/4 value.

9 and 3, o'clock full value and Wind directly in your back or front gives (12 and 6 o'clock) no wind value.

Examples:

4m/s wind at 1 o'clock = half value wind = 2 m/s

6m/s at 10 o'clock = 3/4 value wind = 4.5 m/s

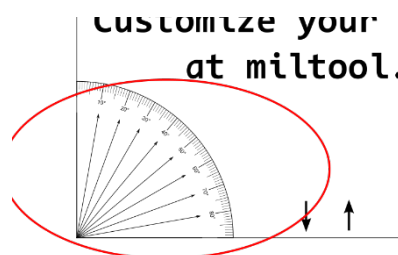
You can also compensate your shot for the angle of the target, this works while shooting up or down hill.

Here a target at 300 meters, but at a 20° angle, is only about just over 275 meters away.

② Range	③ Mil	2m/s	4m/s	6m/s
300	1.6	0.3	0.7	1.0
250	1.1	0.3	0.6	0.9
225	0.9	0.3	0.5	0.8

The guide on the back also can be used as a protractor.




It has markings per 10th degrees: from 0 to 90



Reading mirrage

If you set your optics focus to a distance shorter of the target you can sometimes see mirrage, depending on the weather conditions.

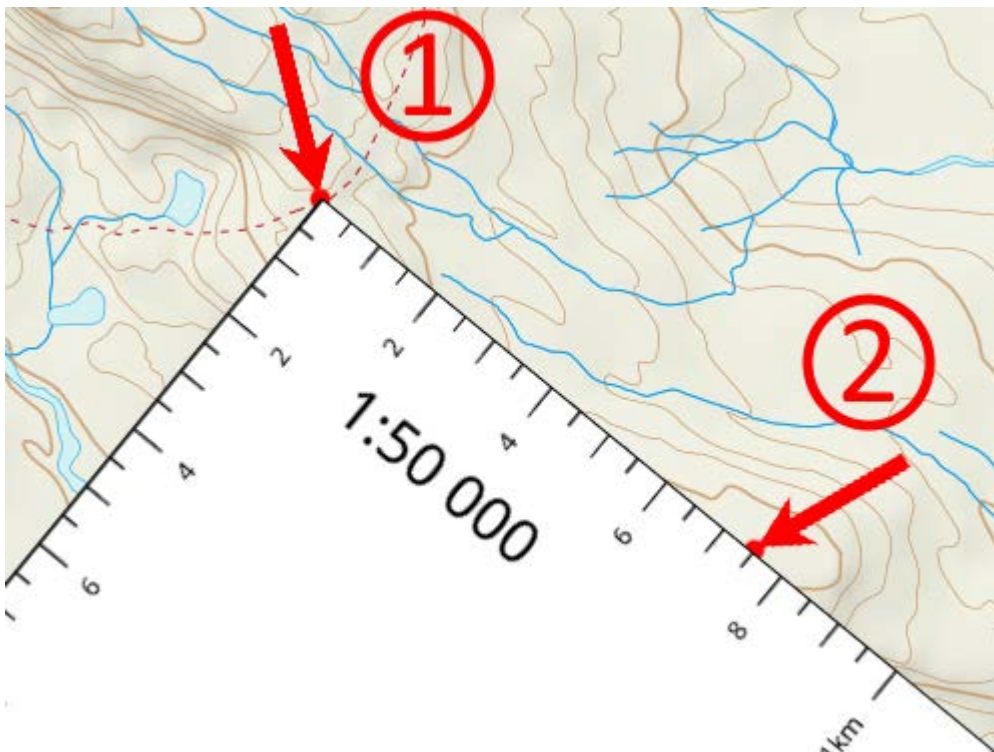
And this guide on the back of the insert, gives you a rough guide on what mirrage looks like, depending on the wind:

Mirrage		2 m/s Wind is felt on the face Leaves rustle
		4 m/s Leaves and small twigs move steadily
		6 m/s Wind raises dust and loose paper Small branches move

Using the map ruler

On the insert of your Miltool, there is also a map ruler for 1:50 000 maps.

This can be used as a map grid reference tool or a distance measuring tool



From point 1 to point 2 the distance is 750 meters

If your map is in the 1:25000 scale, then use half values. In this example the distance is $(750/2)$ 375 meters

Tips for an accurate range estimation.

Always try to measure the target to at least one hundredth of a decimal mil, so not 5.2 mils, but 5.27 or 5.28.

Try to use the same side of the reticle markings to measure a target (the left side in this example):



Remember that the markings of the reticle itself also has a width, so using the same side of the reticle will get a better result.