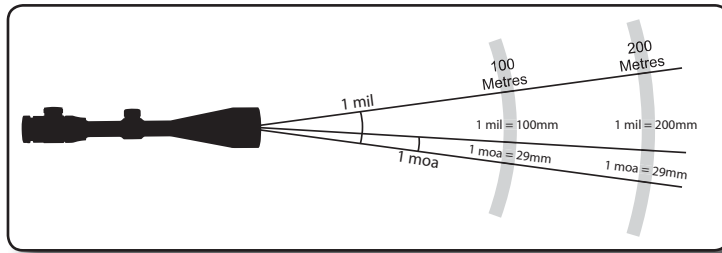


Instruction Supplement for Lynx MIL-Step Graticules

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Like a degree or minute of arc (MOA) a mil is an angular measurement representing a given size at a given distance except the mil is wider: Where 1 MOA represents 29mm at 100 metres, 58mm at 200 metres etc., 1 MIL represents 100mm at 100 metres, 200mm at 200 metres etc. There are 6400 mils in

a circle, which simplifies range-determination because 1 mil represents 1 metre at 1000 metres. Doubling the distance halves the number of mils measured against a target, halving the distance doubles the mil measure.

Mil width equivalents at specific distances									
100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
100mm	200mm	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1 metre

To determine range in metres multiply your target size in metres by a thousand (i.e. take the target size in millimetres)

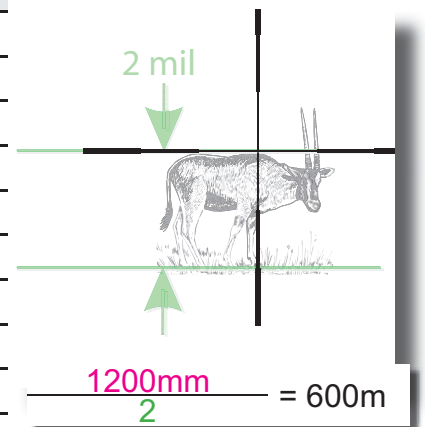
Formula
$\frac{\text{target size in millimetres}}{\text{mils}} = \text{range}$

and divide the result by the mil figure you get when sizing the target against the mil-graduated graticule. Mils are measured from one step edge to the next. Figure 1 on the left indicates the exact figures for step edges and halfway points.

The table below lists the average shoulder height (the highest point above the shoulder) of some common South African game animals in millimetres, dividing this number by the number of mils the animal measures at the shoulder will give you its distance:

Highest point above the shoulder	
Warthog	650mm
Springbok	750mm
Bosbok	800mm
Rooibok / Impala	900mm
Blesbok	950mm
Nyala	1,120mm
Waterbuck	1,200mm
Gemsbok	1,200mm
Common Zebra	1,300mm
Sable	1,350mm
Koedoe	1,400mm
Blouwildebees	1,500mm
Eland	1,700mm

Example pictured



above: Looking through your riflescope you see a gemsbok that measures 2-mils to the highest point above its shoulder. Knowing that the average shoulder height of a gemsbok is 1200 millimetres, you divide 1200 by the mil reading as read off the mil-graduated graticule (2-mils in this example), which tells you that your target is 600m away.

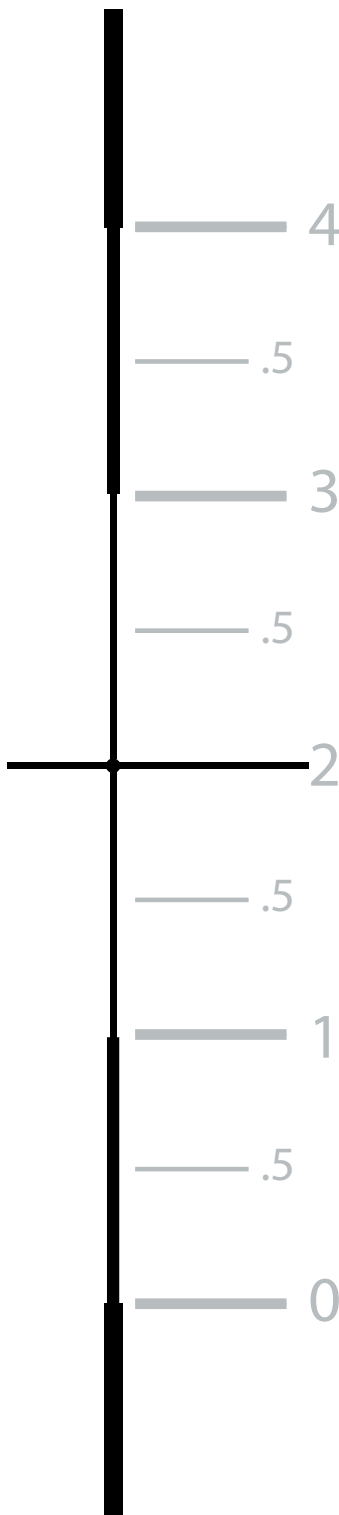
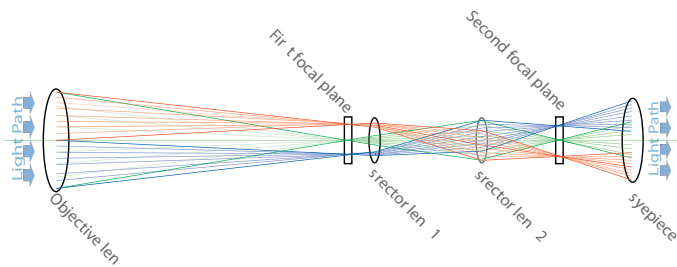


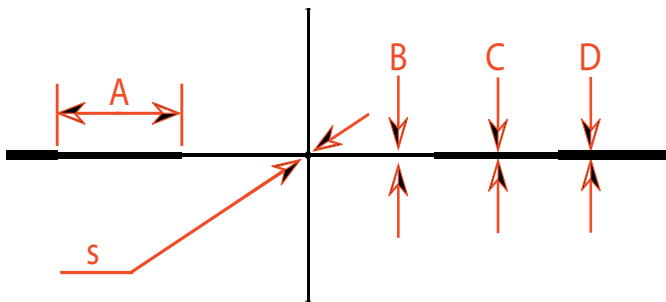
Figure 1: Step edges and halfway points in MILS at 24x magnification



A riflescope graticule is typically mounted in one of two places, both of which fall onto the focal plane of the objective lens. First plane graticules are mounted on the first focal point of the objective lens and maintain their dimensions in ratio to the size of the image (i.e. when magnification is increased, the size of the graticule increases as well); second plane graticules remain fixed in size regardless of the riflescope's magnification, in other words when magnification is increased the graticule remains unchanged to the eye.

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Because Lynx variable power riflescopes have the graticule mounted in the second plane the MIL-Step reticle is proportioned for a specific scope magnification and the scope must be set for that magnification when range finding using 1 mil spacing.



The table below shows subtended angles of the Lynx MIL-Step graticule at various commonly used magnifications. Refer to the diagram at left for reference figures A to E. To convert these figures for any other magnification, use the figure given in the 1x column of the 1x to 10x table and divide by the desired magnification.

		Angular measurement at given magnification										Lynx MIL-Step Reticle
Figure given		1x	2x	3x	4x	5x	6x	7x	8x	9x	10x	
mil	A	24	12	8	6	4.8	4	3.4	3	2.67	2.4	
moa	B	1.9	0.95	0.633	0.475	0.38	0.317	0.271	0.238	0.211	0.19	
moa	C	3.8	1.9	1.267	0.95	0.76	0.633	0.543	0.475	0.422	0.38	
moa	D	5.8	2.9	1.933	1.45	1.16	0.967	0.829	0.725	0.644	0.58	
moa	E	4.6	2.3	1.533	1.15	0.92	0.767	0.657	0.575	0.511	0.46	

		Angular measurement at given magnification										Lynx MIL-Step Reticle
Figure given		4x	6x	8x	10x	12x	14x	16x	20x	22x	24x	
mil	A	6	4	3	2.4	2	1.71	1.5	1.2	1.1	1	
moa	B	0.474	0.316	0.237	0.19	0.158	0.135	0.119	0.095	0.086	0.079	
moa	C	0.96	0.64	0.48	0.38	0.32	0.27	0.24	0.19	0.18	0.16	
moa	D	1.44	0.96	0.72	0.58	0.48	0.41	0.36	0.29	0.26	0.24	
moa	E	1.14	0.76	0.57	0.46	0.38	0.33	0.29	0.23	0.21	0.19	

Zeroing the Target Windage and Elevation Controls



Remove the cap by rotating anti-clockwise and adjust for windage and elevation by rotating the turret.

Once the scope is zeroed loosen and remove the locking knob atop the turret, lift the turret to disengage it from the scope's adjustment mechanism and replace with the turret zero mark aligned to the scope zero index.

Make a note of how many revolution indicators are visible to facilitate return to zero at any time.

This procedure should be followed for both windage & elevation.

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