

Basic Wind Reading

Simple things to watch for and
assist you in getting better
scores

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The Perfect Shot

- The flight path of a projectile is influenced by a number of factors such as;
- Bullet shape (Ballistic Coefficient)
- Cross range winds
- Atmospheric Conditions
- Gravity
- Distance to target
- Muzzle Velocity
- Accuracy of discharged shot

A good source of further reference for in depth information on these factors is available in reference books on target shooting and reloading or via bullet makers web sites such as the Sierra website;

<http://www.exteriorballistics.com/>

For those with modern phones you can also download the ballistics tables on a number of Apps as well.

Wind Reading 101

- In simple terms the wind factors that will influence the projectile are:

- Wind Speed
- Wind Direction

How to measure speed.

For ease of reference shooters use 5 basic speeds which are:

- Gentle (4 mph or 6kph)
- Moderate (8 mph or 13kph)
- Fresh (12 mph or 19kph)
- Strong (16 mph or 25 kph)
- Very Strong (20 mph or 32 kph)

Flag Patterns of wind speed



4mph.



8mph.



12mph



16mph.

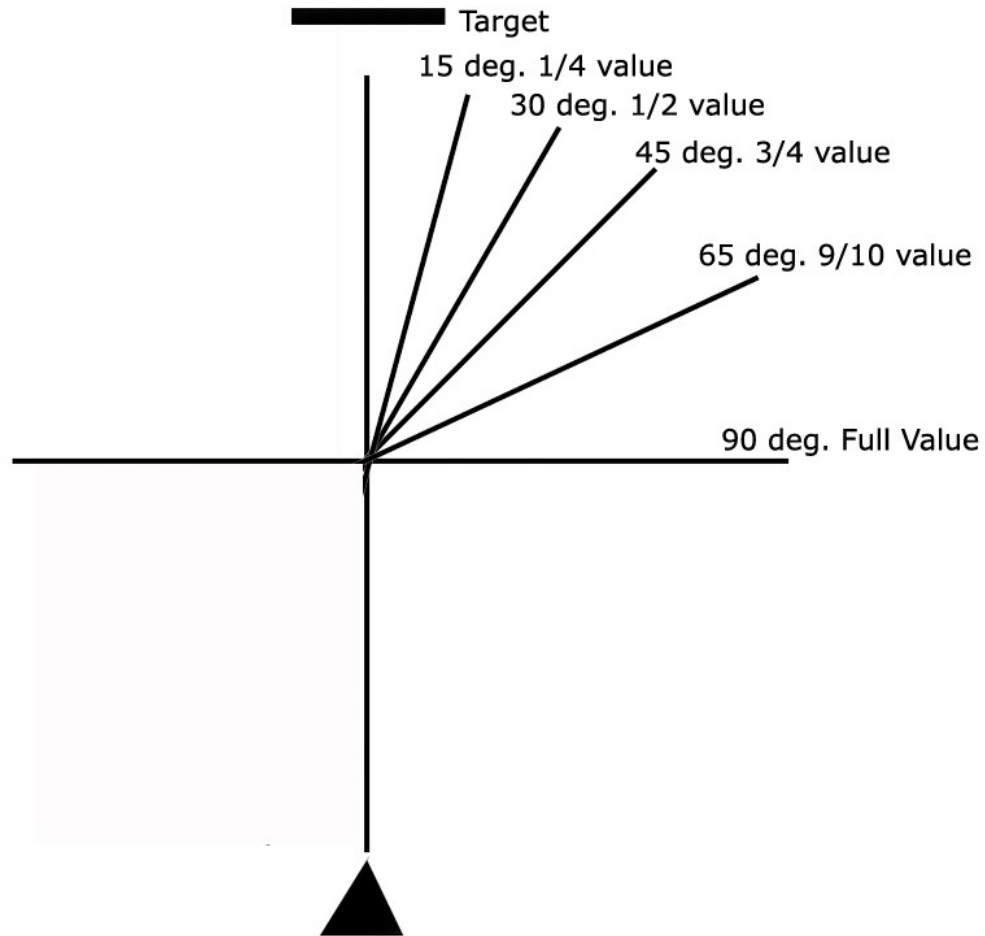


20mph

Wind Direction Effects

- Wind can vary in direction over 360 degrees
- You only need to understand the effects of a 90 degree quadrant as these wind speed calculations can then be used for any direction of wind
- For easy reference shooters refer to wind similar to the time on a clock face.
- So a 3 o'clock wind has the same effect as a 9 o'clock wind just as a 7 o'clock wind has the same effect as its opposite a 1 o'clock wind
- Wind speed effects on a bullet are NOT uniform at varying angles i.e. a 45 degree angle does NOT equal a 50% wind effect.
- Wind Directions can impact on elevations as well.
- At Ripley this is one of the important things that shooters need to keep in mind due to the high incidence of fish tailing winds.

Wind Direction Effects

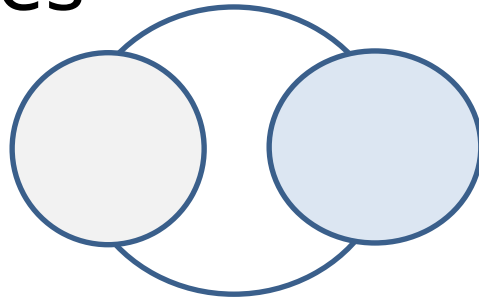


Wind direction and grouping

- You need to look for the predominate PATCH of wind to try and shoot in so that minimal impact is made to your groups.
- Generally in a wind that is “Fresh and above” and blowing up range its best to watch the flags closest to the targets
- In a “Fresh wind and above” blowing down range its best to watch the flags closest to the shooters.
- For Cross winds and winds angling between 30 degrees and 90 degrees its better to watch the flags closest to the shooter
- On some ranges like Ripley with it gullies and ridges you may need to add and subtract wind readings due to cross winds i.e. the flags at the firing point may be going one way whilst those at the butts are opposite. You need to break the range up into its component parts and go with the net wind result.
- It is easier to get better scores in squarer winds than fishtailing winds due to this effect that directional changes can have on groups

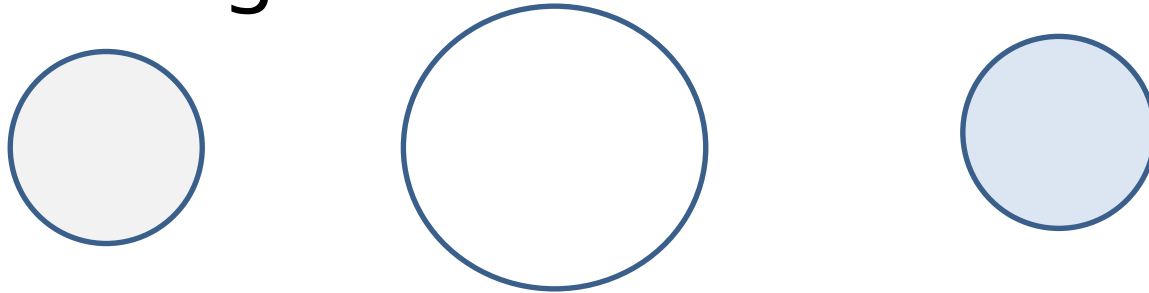
Wind direction and grouping

- Grouping in squarer winds is easier due to the impact of only $1/10^{\text{th}}$ wind variation required between 65 degrees and 90 degrees



Wind direction and grouping

- Grouping in fishtailing winds is harder due to the impact of up to 9/10th wind variation required between 0 degrees and 65 degrees



Rules of Thumb

- On all targets the scoring rings up to the 4 line are generally at $\frac{1}{2}$ minute increments from centre on all ranges
 - So the V bull is $\frac{1}{2}$ minute from centre to bull line
 - The Bull is $\frac{1}{2}$ minute from v to 4 line
 - The total bullseye is about 2 minutes across
 - The 4 line is about another $\frac{1}{2}$ minute to the 3 line
- But all minutes are not the same. Just to confuse us when most TR shooters using a CENTRAL sight and other TR shooters talk minutes they may have different calibrations on the sights.
- The Australian Central sight requires an extra 22% adjustment to the minutes that English Sights (and their plotting tables) produce. So be careful when comparing notes with others.
- I now have both English and Australian Central sights in use and to adjust I think of my English $\frac{1}{4}$'s as $\frac{1}{3}$'s in Australian adjustments.
- There are easy to use wind charts readily available and are a good reference point when you get a little lost in the wind. I still take my tables down with me sometimes in big winds for a little security.