

Measuring Benchrest Group Sizes Using the Sweany Reticle Rule

When target shooting your bullet prints a hole 0.005" -0.015" smaller than its actual diameter in the paper. So, a 243WIN bullet hole will measure about 0.228-0.238" in diameter even though the bullet is actually 0.243" in diameter.

In benchrest target shooting, group size is measured between the centre points of the widest 2 holes. A group consists of either 5 or 10 shots. If you measured the group size across the outside of widest 2 holes and then deducted the actual bullet diameter, then the group would incorrectly measure smaller than it is.

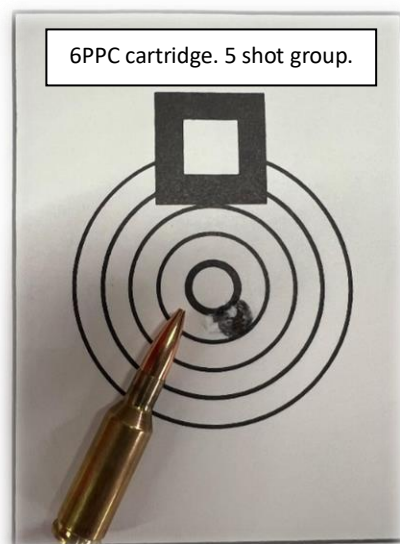
There are several ways to measure group size including using your smart phone camera and an App. Probably the most common way is to measure the printed bullet hole diameter and then subtract this from the overall width of the 2 widest holes. However printed bullet holes are usually ragged and not always perfectly round either, so while this method will give a good indication of group size it will not be the most accurate measurement.

When measuring group size repeatedly and with precision as required in competitions, a Sweany Reticle Rule is used. The Sweany Reticle Rule centres a circular reticle over one bullet hole and is then drawn out to the farthest hole (centre to centre). The measurement can then be read off the rule. The Sweany Reticle Rule is incorporated into a set of engineering vernier calipers which will read in 0.001" (0.02mm) increments.

The 100 yard, 5 shot small group, WBSF benchrest world record for the Light Varmint rifle class is 0.065" (1.65mm). This would almost look like 5 shots through 1 hole. So it can be appreciated that an accurate measuring device is required.

From September 2022 we will have a digital Sweany Reticle Rule in use at the club benchrest shooting days and will begin recording club records.

Attached are some CAD renders of the Mark 1 tool before CNC machining.



Acknowledgement is given to Kelblys Inc. for elements of the device design.

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