

The Bowlsline[®] measuring system



Measuring has always been a topic for debate in bowls games and many matches have been won or lost on the outcome of a close measure.

Some years ago a method of measuring was devised for Flat and Crown Green Bowls which overcame many of the difficulties and accuracy of carrying out this critical operation. Bowlsline was tested and approved by World Bowls, Bowls Australia and the British Crown Green Bowling Association.

The distances of the bowls from the jack are measured in turn and a comparison is made, the object being to determine the shortest distance between the bowl and jack (remembering that the bowls are not perfectly round).

The Bowlsline system uses the horizontal distance between two vertical planes set against the bowl and jack.

This can be achieved either by using a special indexing device on the free end of the string of a modified box measure, with both ends

positioned firmly on the ground or, alternatively, by using a vertical target plate for the horizontal ray from a laser measure.

This is straightforward and repeatable and as a standardised method, allows less-experienced measurers to achieve the same result and accuracy.

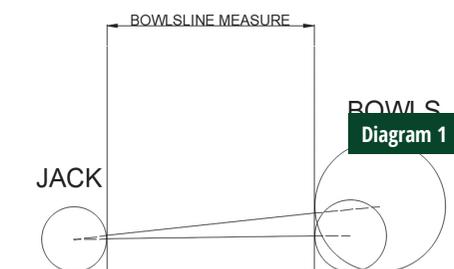
This Bowlsline method attracted criticism from a few, the argument being that the horizontal distance is not a fair comparison when bowls of different sizes at the same horizontal distance are in fact different distances from the jack. Whilst this is true, distances cannot be measured accurately by a freely held line and only distances up to 200 mm can be measured in practice with calipers.

Furthermore, the conventional box string measure is inexact, for reasons explained below.

Diagram 1 shows three circles representing, in simplified form, a jack and two bowls and two verticals.

The bowls touching the vertical represent bowls of different sizes or shapes, either upright or leaning.

Only if the smaller bowl touches the vertical at the same distance from the floor as the jack would the measure be horizontal. Any other situation and the lines would be at an angle.

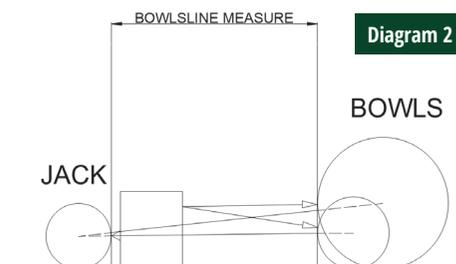


At 200mm separation the two circles on the right represent bowls (not to scale, the small bowl is depicted smaller to see the problem more clearly), one large 127 mm dia (size 5) and one small 116 mm dia (size 0), separated by 200 mm from a jack 63.5 mm dia.

Measured with the Bowlsline string or laser measures these bowls would be at the same distance. Checking the geometry of this, the large bowl is 201.70 mm from the jack and the small bowl is 200.64 mm from the jack. The small bowl is therefore closer by 1.06 mm.

DRAWING COMPARISONS

Diagram 2 shows the bowls measured with a



conventional box string measure.

The outlet from the box, 60 mm from the floor and 70 mm nearer the bowls, is now the fixed point from which the measures are made.

Again using simple geometry the distances are now 30.03 mm for the large bowl and 30.13 mm for the small bowl. The large bowl is now shown to be closer by 0.10 mm, which is incorrect.

At 300 mm between jack and bowls, using the same calculations the large bowl would be a true 301.27 mm from the jack, the small bowl 300.47 mm, the small bowl being closer by 0.80 mm.

Measured with the box string measure the distances would be large bowl 230.02 mm and the small bowl 230.15 mm, the large being closer by 0.13 mm, which is incorrect.

The conventional string box measure is, therefore, inaccurate and can award shot to the wrong bowl.

Furthermore, there is no standard size and the height at which the string leaves the box can vary between 35 mm and 60 mm, so different box measures will give different results.

For measures over 200 mm, the range for calipers, where positioning of the pointer, straightness and tension in the line are important, the Bowlsline measuring system is more reliable and consistent as a standardised method.

For long measures the laser measure must be preferable with a straight line and no line tension.

However, the laser measuring devices are sometimes said to be of insufficient accuracy quoting +/- 1.5 mm or +/- 3 mm. These numbers refer to the accuracy of measuring distance and not the precision or resolution of the laser which will be normally be within 1 mm.

As only a comparison is being made, not an accurate distance measurement, providing the vertical flat target plates have, importantly, the same surface and colour, the measurements will be accurate and repeatable.