

Case study: Sprenger KK Ultra D-ring snaffle

Objective: To find the key angles of operation of the Sprenger KK Ultra snaffle bit attached to a sliphead on a lungeing cavesson, with and without rein tension.

Equipment and methods: A KK Ultra D-ring snaffle bit was photographed for determination of the Initial Angle and Working Angle with the horse at halt but under rein tension. The tongue line is assumed to be at an angle of -10° from an approximated line of the horse's forehead, as shown in the photos 1 and 2. The working angle (WA) is measured from photo 2, and the tongue angle (TA) calculated. The bit was classified according to the Neue Schule classification scheme.

Analysis of the Initial and Working Angle

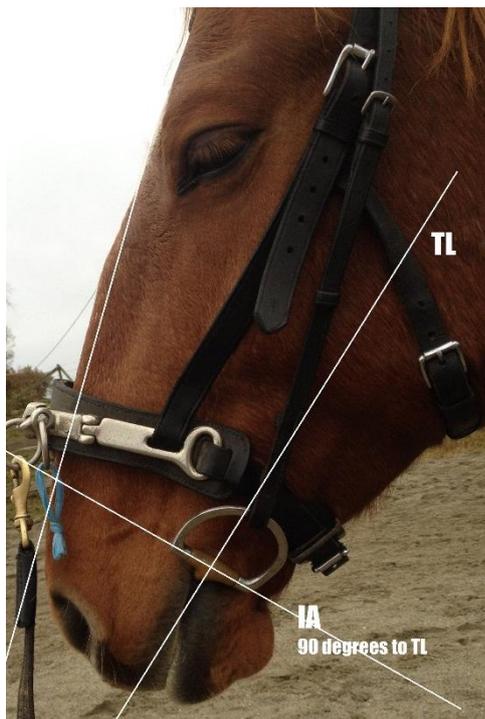


Photo 1 (left) shows the bit without reins. The Initial angle is measured with a protractor and is -90° from the tongue line, seen from the left side.

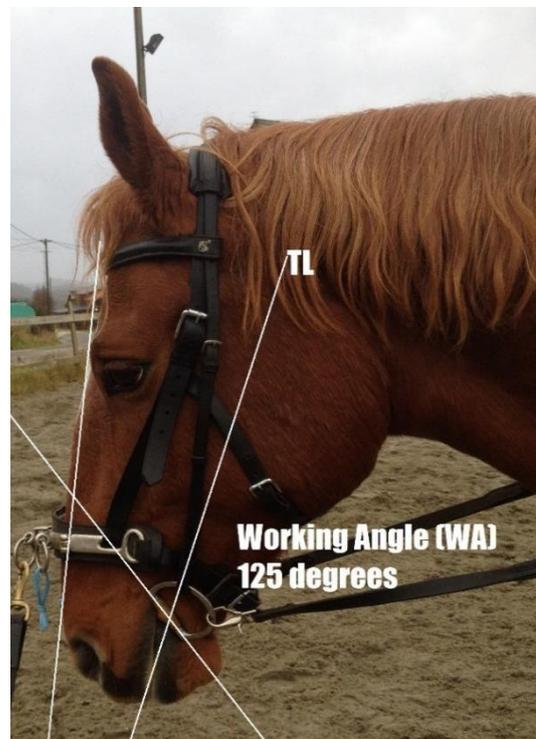


Photo 2 (right)

shows the bit with side reins attached at the height of the horse's wither. Upon contact on the side reins the bit rotated clockwise to a working angle (WA) of 125° from the Tongue Line. The WA was the same with very light contact ("slack" side-rein), and with a more firm contact. This indicates that the weight of the side rein alone was enough to rotate the bit.



The Feature Angle between BA and the Loop Plane Axis is 45° . The Tongue Angle (TA), Loop Plane axis to Tongue Line, is $125 - 45 = 80^{\circ}$.

The bit is a Class I double jointed snaffle with fixed cheeks, classified as A1N1. It showed a clockwise rotation of the cheek shank around the mouthpiece axis on tensioning of the reins. The mouthpiece is double jointed i.e. there is a small nutcracker effect.

Conclusion: With even very little contact on the reins the bit rotated to a working angle (WA) of 125° . The "chain links" of the loop planes protruded down into the tongue at an angle of 80° to the tongue line. Due to the Chain-Link principle the middle lozenge was oriented along the tongue at an angle of -10° .