

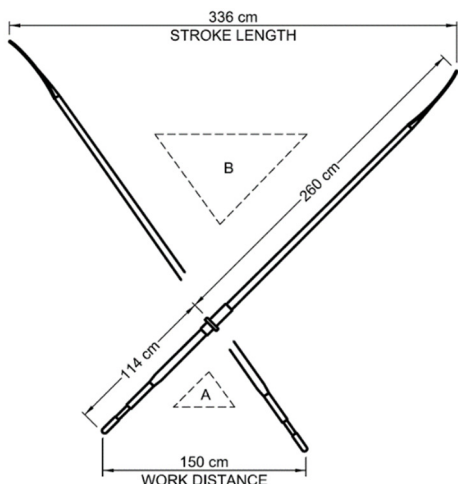
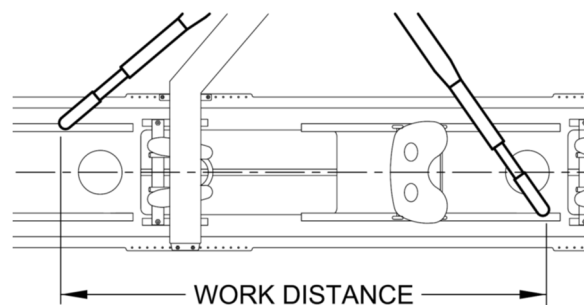
Stroke Length

By Mike Purcer

Stroke Length is a product of the dimensions of work distance, outboard, inboard and span or spread.

1. Work Distance – is the distance the end of the oarhandle moves from catch to finish.

The work distance is dependent upon the reach and flexibility of the athlete as well as rigging (inboard, span, footstop dimensions) and rowing technique.



2. Length Ratio – is the ratio of the outboard to the inboard dimensions of the oar.

The graphic shows that the inboard triangle A and outboard triangle B are similar and therefore proportional to the Length Ratio. This same ratio can be viewed as the relationship between the work distance and the stroke length. Increasing work distance increases stroke length and vice versa.

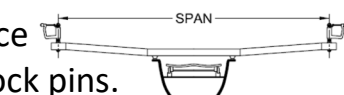
3. Outboard – is the distance from the collar to the tip of the blade measured along the center of the oar shaft.

Increasing the outboard distance will increase the stroke length while decreasing it reduces the stroke length.

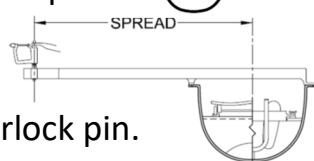
4. Inboard – is the distance from the end of the oarhandle to the outboard side of the collar.

The inboard length is related to the span/spread and provides an effective biomechanical position for the hands through the middle of the drive (overlap). In sculling the inboard setting is typically equal to one-half the span plus between 6 to 8 centimeters. In sweep rowing the inboard is equal to the spread plus 30 centimeters.

5a. Span (sculling) – is the distance between the centre of the oarlock pins.



5b. Spread (sweep) – is the distance from the centerline of the boat to the centre of the oarlock pin.



Adjusting the span/spread distance along with the inboard changes the total stroke arc angle. Increasing span/spread reduces the angle and decreases the stroke length. Conversely, decreasing the span/spread will increase the stroke length.

INCREASING THE STROKE LENGTH WILL INCREASE THE AMOUNT OF TIME THE ATHLETE IS PULLING THEREBY INCREASE THE EFFORT REQUIRED (LOAD).

