

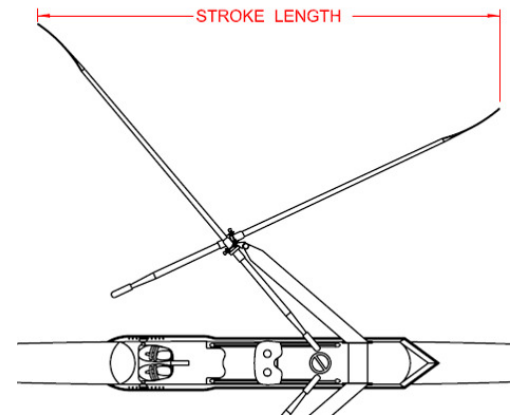
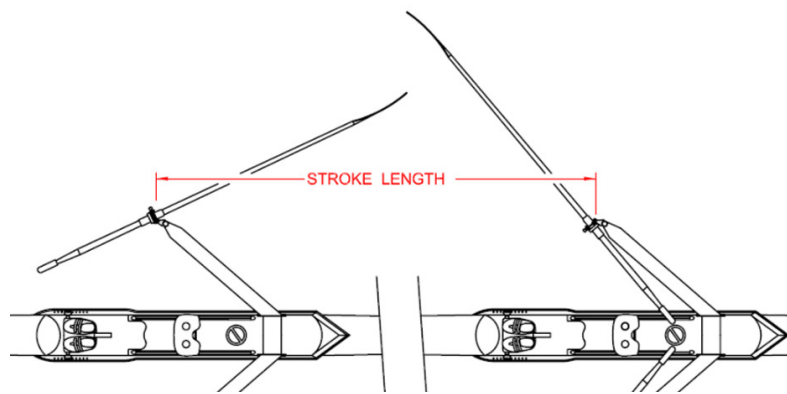
Effective Stroke Length

By: Mike Purcer

Effective Stroke Length is the sum of Stroke Length and Blade Slip. A longer effective stroke length moves the boat a greater distance during the drive and provides an opportunity for greater acceleration.

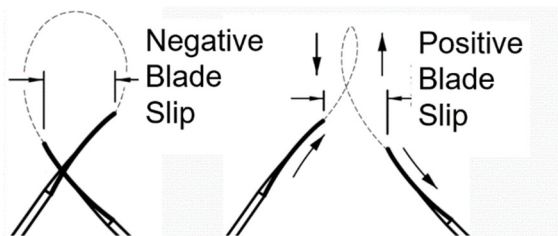
1. Stroke Length – is the distance the tip of the oar moves between the catch and finish measured relative to the boat and parallel to the boat.

Stroke length is easy to see when viewing the oar as a class one level with the fulcrum at the oarlock pin.



Stroke length, when the oar is viewed as a class two level as in the graphic to the left is more realistic with the blade acting as a fulcrum and the oarlock pin providing the load that is moved during the drive. The blade is acting as a fulcrum but also moves in the water

due to the rotation of the oar around the oarlock pin.



2. Blade Slip – is the distance the tip of the blade moves in the water between the catch and finish measured parallel to the boat. It is a product of work distance, rigging, rowing technique, bladework, power applied, boat speed and the environmental conditions.

Blade slip is negative when the tip of the blade moves in the opposite direction of the boat movement during the drive phase reducing the effective stroke length. Positive slip results in the blade tip moving in the same direction as the boat, extending the effective stroke length.

3. Effective Stroke Length – is the distance the boat moves during the drive phase of the stroke.

The graphic to the right shows the extended stroke length that includes positive blade slip in the water during the drive.

To increase effective stroke length, increase both stroke length (work distance, length ratio) and blade slip (rowing technique, bladework and power application).

Effective Stroke Length is the sum of Stroke Length and Blade Slip. My current 'limited' research (129 crews) is beginning to show that Effective Stroke Length is a performance factor. Not surprising.

