PADDLEPRO

Explaining the Myth about instability platforms on Kayak ergometers.

We often get asked “Why not make an instability base to your Kayak Ergometer”

“Then I can practice my stability” or

“It will feel more like paddling”**.**

The reality is however that in order to be of any value for the kayaker or athlete an “instability platform” has actually to replicate what happens in a boat.

To-date there has been a couple of iterations of instability platform designs – but sadly they are simply that – just instability designs – they don’t actually replicate the mechanics and forces that are involved in kayaking or kayak Paddling.

In fact, all instability platforms to date encourage **the reverse** of what is trying to be achieved in replicating the positive biomechanics involved in Kayaking.

One particular instability design features a “U” shaped sliding base under the Ergometer boat platform – the kayaking platform or boat is mounted on runners or wheels within the “U”.

Another design involves the complete Ergometer –being mounted on a pendulum style swing.

So let’s discuss what the ideal mechanics to generate forces on the paddle are, in order to maximize those forces and thereby propel the kayak forward through the water.

Imagine for the sake of this example, the right hand paddle blade being fully immersed [in the water] at the beginning of the stroke. [The Catch]

The best possible scenario is a clean entry of the blade with minimal water disturbance which [and this is the important part] then almost simultaneously allows the blade to be fully weighted. It is this ability to weight [and increase the force on] the blade which provides the force necessary to propel the boat.

In a real kayak, the mechanism of the weighted paddle is critical. This weighted paddle must be braced and supported through the right leg - via the footrest when paddling on the right hand side.

This applied force on the blade has a few effects and targets:

1. It must allow the connection of the boat and athlete, providing a braced and supported structure. This process of weighting the paddle forces the boat hull both forward and very importantly - **laterally.** During this process the kayak is held horizontally [parallel to the water -**no roll**]
   For the sake of this example - imagine the lateral [sideways] kayak movement as the hull being forced into a lateral "wall of resistive water" the result of which is to then further squeeze the hull forward.

2. The other beneficial effect of this bracing trough the leg is to allow rotation; through the legs during the course of the stroke, following on and ultimately followed through with trunk rotation.
   Rotation not only recruits the larger torso musculature to be used but also increases weighting and stroke length. It is essential to paddling fast and paddling efficiently.

   As a negative proof of the above principles – imagine not using the legs or pushing on a footrest at all – it serves to illustrate the result is a weak, non-connected or unsupported stroke, minimal or no rotation – actually leading to an inability to weight the paddle blade at all.

   So now imagine the above two examples of an instability platform introduced into this model where we are trying to weight the paddle blade and induce rotation

   Example 1.
   As the athlete attempts to weight the paddle in the U shaped support design - the Kayak-boat either is forced to roll around the U shaped supports – tipping the hull [with paddler on seat] over.

   Or:
   Example 2
   In the case of the pendulum example, causing the complete swinging pendulum to kick to one side, again rolling the paddling platform, causing the boat platform to lean over.

   Both the above scenarios result in the paddler needing to actually un-weight the paddle blade in order for the "boat platform" to stay upright-ish. This of course does not happen in real kayaking – in fact the reverse.
   Paddling for extended periods on these types of instability platform examples highlighted above encourages the athlete to disconnect from the paddling platform to remain upright, and further encourages the athlete to paddle over the top of the non engaged shoulder to "windmill" the paddles in effect – This discourages the use of the lateral "wall-of-water" and rotation entirely.

So for these reasons, the use of instability platforms is in fact totally counter-productive.

We hope these notes help clarify the effects of the presently available instability platforms.

All our present Kayak Ergometer models offer athletes a viable mechanism to promote rotation, support, and connectivity.