

## The Technology of FlowForce™ Cut Blades in Paddle Design



Approved by the International Canoe Federation, the development of FlowForce cut blade technology in paddle design represents a significant advancement in water sports equipment. Incorporating strategic cuts or slits into paddle blades can enhance hydrodynamic performance, increase efficiency, and reduce physical strain on users. This technology has been backed by scientific research and validated through user feedback, demonstrating its potential to revolutionise paddling experiences.

### Hydrodynamic Efficiency

#### Reduced Drag and Turbulence

One of the primary benefits of FlowForce cut blades is their ability to reduce drag and turbulence. Traditional solid blades can create significant resistance when moving through the water, requiring more effort from the paddler. Cuts allow water to pass through the blade, minimising the formation of vortices and turbulence behind the blade. This results in a smoother and more stable flow of water, reducing drag and making each stroke more efficient.

#### Enhanced Flow Dynamics

The cuts help manage water flow around the blade more effectively. By allowing controlled passage of water, the blade maintains a high-pressure difference between the front and back surfaces, which is crucial for generating driving force. This optimised flow dynamics ensure that the paddle moves through the water with minimal resistance, enhancing propulsion.

## **Reduced Physiological Impact**

### **Lower Muscle Strain**

The reduced drag and optimised flow dynamics of cut blades translate to lower physical strain on the paddler. Traditional blades can exert significant pressure on the shoulders, elbows, and wrists, leading to fatigue and overuse injuries. Cut blades distribute forces more evenly and reduce peak pressures, easing the workload on the muscles and joints.

### **Decreased Fatigue**

With FlowForce cut blades, paddlers experience less fatigue during long sessions. The efficiency of each stroke means that paddlers can maintain their pace for longer periods without tiring as quickly. This is particularly beneficial for endurance paddling and competitive scenarios where sustained performance is crucial.

## **Improved Control and Stability**

### **Balanced Force Distribution**

The cuts in the blades help in distributing the forces acting on the paddle more evenly. This balance reduces the likelihood of fluttering and instability during strokes, providing a smoother and more controlled paddling experience. Paddlers can achieve consistent strokes, which is essential for maintaining speed and direction.

### **Enhanced Manoeuvrability**

By reducing drag and turbulence, cut blades improve the paddle's responsiveness. This enhanced manoeuvrability allows paddlers to make quicker and more precise movements, which is particularly advantageous in technical paddling situations.

## **Practical and User-Validated Benefits**

### **Positive User Feedback**

Real-world testing and user feedback have overwhelmingly supported the benefits of cut blade technology. Paddlers from various backgrounds, including recreational users and competitive athletes, have reported significant improvements in efficiency, comfort, and performance. Users have noted less fatigue, reduced muscle strain, and enhanced control, making cut blades a preferred choice for many.

### **Versatility and Adaptability**

Cut blades have been found to be effective in various paddling conditions, from calm waters to rough seas. Their ability to adapt to different environments and paddling styles makes them a versatile option for a wide range of users. Whether for leisure paddling, long-distance touring, or competitive racing, cut blades offer advantages that enhance the overall paddling experience.

## Conclusion

Cut blade technology represents a major innovation in paddle design, offering numerous benefits that improve hydrodynamic efficiency, increase propulsion, reduce physiological impact, and enhance control and stability. Backed by scientific research and validated by user feedback, cut blades ensure comfort and reduce the risk of injury. As this technology continues to evolve, it holds the potential to become a standard in paddle sports equipment, offering paddlers of all levels an improved and more enjoyable experience on the water.

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## Quotes

### KAYAKS

#### **Tobias - Instructor:**

“The first time I heard about Oscar Propulsion, I was immediately intrigued by their cut paddles. When I tried them in Poole Harbour, they were an instant game-changer for my paddling. The cuts in the blade made each stroke smoother and quieter, with less strain on my body. I noticed a significant reduction in strain on my shoulders and arms, which is a huge plus for long paddles in strong tides and high winds. The performance was excellent. The paddle provided great stability and control, making my strokes more efficient and powerful. I also appreciated how it offered a softer catch, reducing the usual resistance and making the overall paddling experience more enjoyable. I am planning some longer multi-day kayak trips and can't wait to use these paddles, as I believe they will significantly reduce the risk of injury and fatigue. For anyone looking for a paddle that combines comfort with performance, especially for endurance paddling, I couldn't recommend them enough. It would be great to see more companies adopt this technology in their paddles and bring it to a wider audience.”

#### **Charlotte - Instructor**

“I used the aqua bound paddles on a trip from Milford on sea to the Isle of Wight and back which was just over ten miles. I felt that the paddles were a lot nicer to use than any I've tried before as they were a lot lighter and glided through the water really well. When trying another paddle against these I could really feel the difference. These paddles have been the best I have used and made it so much easier whilst paddling which made my trip even better. This paddle is better than any others I've used before. Great product!!”

#### **Mel – Senior Instructor**

The cut technology used for these paddles greatly reduces strains on the body. After a

paddle with these blades I have no pains or strains on my wrists or elbows. The paddles themselves don't flutter and you pull them through the water giving a very stable stroke with no loss of power every time. Using these cut paddles in strong winds reduces the buffeting that you feel with other paddles as you paddle in to or across the wind."

## SUP

### **David Haze – The Nomadic Paddler – 8 World SUP Records**

"The more I am using the paddle the more I am impressed. With regards to the time trial, I set a benchmark with the uncut blade and ran 6 trials. The cut blade was faster on each run, on average 3 seconds faster. My next plan is to take it with me on a much

longer paddle to get a true feel for the performance."

"I have done a couple of long paddles since we last spoke. After doing a couple of 20km paddles I could definitely feel the differences as the blade went through the water, which also seemed to relieve the stress in my shoulders and forearms when digging deep. Putting the blades through its paces when I do the Thames challenge will be an interesting test. Something else that struck me is the stability when going against the elements such as the current/tide and wind."

Lough Corrib (43km) in Ireland proved to be a great test whilst paddling against strong winds for the majority of my time. I found the paddle locked onto the water much better than an uncut blade making my experience on the board much more stable and helped me move through the water with more ease. I honestly believe the cut blade aided a faster recovery for me in the following days, by providing less stress on my body whilst fighting the conditions out on the water."

"I have personally tested the cut blade in many different ways in many different conditions and the results are there!"

### **Sarah SUPJunkie Thornly – SUP woman of the year 2024**

"I was handed this slitted blade paddle a month ago and immediately used it for the @planetpatrol #RaceForRivers event on the River Wey, Godalming and beyond for two straight days – from the first stroke the words that came to my mind were "it feels easy!"

"From the first catch, it feels different, there is a fizz as the blade cuts through the water and the 'lock' is stable. The power phase is super stable and there is no fluttering at all – usually when I try out a new paddle there is a certain amount of 'settling in' until you get used to the different size and shape of blade but here, and I go back to those words, it feels easy to use."

"There is absolutely no loss of performance with this paddle compared to others, and the power is there – I handed it to my husband who had not been on a board for at least 18

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# SPORT

months due to a neck injury. He is rehabilitating currently but felt able to join me for a paddle – he just loved the ease of this paddle, certainly felt no after-effects from an 8km trip and loved everything about it from the catch and power to the immediate glide of the board with just one stroke. We swapped paddles around, but he insisted on having the Oscar back as his favoured paddle!”

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