



Case study

Design of cycle sprint trainer

THE CHALLENGE

Although commercially available ergometers can provide many benefits to athletes in training, they do not accurately replicate the same sensation of inertia and dynamic loading otherwise experienced on a real bicycle. This means that when the rider of an ergometer stops pedalling, the machine quickly comes to a halt, whereas a real bicycle would decelerate over a much longer period. It also means that a sprint cyclist using the same equipment would be able to accelerate in an unrealistically short time.

It soon became clear that new equipment needed to be developed which considered the factors of inertia and dynamic loading, to offer a much more realistic cycling experience.

OUR SOLUTION

Frazer-Nash has been a technical innovation partner to UK Sport in the run up to both the Beijing 2008 and London 2012 Olympic Games. We have been involved in researching, analysing, advising, designing, developing and applying various technologies within numerous sporting disciplines, with the collective aim of improving the overall performance of the British athletes in these highly competitive events.

Addressing the ergometer issue, we designed and produced an innovative new system which included an adjustable pitch fan to put a speed dependent aerodynamic loading on the rider together with a representative flywheel and gearing system to simulate the inertia of the athlete giving the desired realistic riding experience.

BENEFITS

The Elite GB Cycling Team are now using the equipment on a regular basis and feedback from the athletes, coaches and sports scientists has been extremely positive.

Client

UK Sport.

Business need

Design of an ergometer training bike that offers a realistic cycling experience.

Why Frazer-Nash?

We are a technical innovation partner to UK Sport, working with them to develop technology that will improve the performance of UK athletes.



Fly Wheel fan Assembly to simulate inertia and drag



Complete Ergometer

For more information, please contact customercontact@fnc.co.uk or visit www.fnc.co.uk