

Personal fitness Step-driven fitness tool provides a full-body workout

Me-Mover takes a step forward

Across Europe there is a growing trend of people searching for interesting workouts that keep them fit yet escape the confines of the gym. As fitness becomes a more important focus for many people, they want to find new and enjoyable ways of integrating fitness into their daily lives. One product that has tapped into this emerging market is the Me-Mover, which simulates a stepping movement to generate forward momentum.

A team based in Denmark has developed this new, step-driven fitness tool, which is perfect for a full-body, outdoor workout. The Me-Mover is a three wheeled hybrid between a bike and a scooter, allowing its rider to generate power using a chain-driven drive system while remaining in an upright position which is more stable and less prone to accidents than that of a bike. The pedals of the Me-Mover have an oscillating movement rather than a rotating movement which allows power to be generated using a stepping motion.

The force from each step is transferred from the pedals to another oscillating mechanism that, in turn, is connected to a rotating drive wheel. The drive wheel rotates in one direction only, so a freewheel is needed to connect the transmission and the drive wheel – just like on a bicycle. However, unlike the freewheel on a bicycle which only overruns occasionally, the Me-Mover will constantly shift from overrunning to fixed, sometimes up to 100 cycles per minute. This puts a high demand on the freewheel making the quality of the component vital to the overall reliability of the Me-Mover.

Jonas Eliasson, CEO and founder of Me-Mover, explains: “The Me-Mover has been ergonomically designed to deliver natural, balanced and fluid movement which offers the user the same fitness benefits as running, without the danger of injury through joint impact or back, knee or ankle strain. The oscillating movement is key to the design of the product so it was vital that we found a

free wheel which could cope with the demands. We initially tested components imported from Asia; however, the service life was always too short and the internal resistance was too high. Instead we turned to Stieber Clutch who we knew had a reputation for quality.”

The requirements of the Me-Mover meant that a compact overrunning clutch with instant locking/engagement was preferable to a traditional bike freewheel. The clutch needed to offer a long service life with high resistance to wear and tear and the ability to function in all weather and environmental conditions. Having been approached to offer a solution, the sales engineers at Stieber Clutch were quick to suggest the CSK30 PP overrunning clutch due to its long service life and exceptional durability.

The CSK30 PP is a sprag-type clutch integrated into a 62 series ball bearing. It is bearing supported, grease-lubricated and protected against dust particles of more than 0.3mm diameter. It provides instant locking/engagement when the clutch shifts from overrunning to engaged, with a maximum overrunning speed of 4,200rpm and a 138Nm torque capacity.

The sprag-type clutch keeps the drive wheel shaft from turning backwards and keyways on both the inner and outer race prevent the bearing from rotating on the shaft. Just like all CSK clutches from Stieber, the clutch features



ultra-hard Formchrome sprags which provide extra-long life, maximum wear resistance and lower maintenance costs. Formchrome sprags are made by diffusing chromium into the surface of hardened high carbon alloy steel to form a chromium-carbide alloy.

Jonas continues: “The Stieber solution is robust yet inexpensive, which is an important commercial consideration for us. For our application, Stieber recommended a special low-temperature grease to make sure they can be used year round in Denmark and other cold countries. Since we launched the Me-Mover in early 2014 we’ve had a lot of interest within Europe and further afield. Everyone who tries one loves it, I’m proud that we have managed to find a smooth power transmission solution that is both cost effective and durable.”

www.stieber.de

Golf Bonding the club head to the shaft

PING sees the reliability of adhesives

A professional golfer’s swing can reach speeds of over 190 kmh. That puts tremendous pressure on the club face, the club head and the bond between the club head and shaft. Now imagine what would happen if that bond failed during a shot – the golf ball would be flying in one direction, the club head in another, both at high speed.

That is why PING, one of the world’s leading designers and manufacturers of golf equipment, relies on Loctite adhesives. For over 30 years, the company has been using Loctite products to make sure PING clubs do not fail on the Loctite epoxy adhesive that is easily stored, cures at room temperature and can withstand severe environments.

Ask any average golfer about some of his or her most challenging shots and they will tell stories of great recoveries from long grass, weeds, thickets, woodland and other difficult golf course surfaces. With this in mind, golf clubs must be durable and robust. “The amount of force that is created on the face of golf clubs is exponentially large, so durability is a very key attribute of our products,” says John Solheim, PING’s executive vice president “For this reason, adhesives are extremely important in our production process.”

Should a golfer want to replace a shaft but maintain the components, there is the flexibility to do this using Loctite adhesives. Clearly, PING values the combination of strength



and flexibility that Loctite adhesives provide. “Loctite allows us to deliver a quality product to our consumers that’s not going to fail in the field, and gives them flexibility to make changes in the future,” concludes Solheim.

www.loctite-success.com