

Warner Electric

Boston Gear

TB Wood's

Formsprag Clutch

Wichita Clutch

Marland Clutch

Industrial Clutch

Bauer Gear Motor

Svendborg Brakes

Nuttall Gear

Warner Linear

Delroyd Worm Gear

Stieber Clutch

Ameridrives Couplings

Inertia Dynamics

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Twiflex Limited

Lamiflex Couplings

Kilian Manufacturing

Guardian Couplings

Ameridrives Power  
Transmission

# Mobility Steps Into the Future



 **Stieber**<sup>®</sup>  
Clutch

An Altra Industrial Motion Company

# Mobility Steps Into the Future

**Stieber® Clutch provides a critical motion control solution for a revolutionary new transport device**



The Me-Mover step-driven transport vehicle provides users with a fun, active and energizing way to get to their destination. Riders use stepping motion, an oscillating movement of the pedal (up/down), instead of a rotating movement.



The Stieber Model CSK30 PP overrunning clutch features ultra-hard Formchrome® sprags which provide extra-long life, maximum wear resistance and lower maintenance costs. Formchrome sprags – exclusive to Stieber/Formsprag – are made by diffusing chromium into the surface of hardened high carbon alloy steel to form a chromium-carbide alloy.

Physical inactivity is on the rise across the globe and has become the fourth leading risk factor for global mortality. Approximately 31% of adults over the age of 15 are not active enough to maintain optimal health and well-being. In high-income countries, the number of physically inactive people jumps to an astounding 41% of women and 48% of men. This trend of decreasing physical activity can be attributed to sedentary behavior at home and on the job, as well as mechanized modes of transportation. The complexity of today's urban life, often filled with long working days, hi-density traffic and fewer parks and recreational facilities discourages physical pursuits.

An entrepreneurial team based in Denmark has developed a simple solution to reverse this trend by designing a device that offers healthy mobility. The Me-Mover is a step-driven transport “vehicle” that combines fitness with an efficient, affordable and sustainable mode of transportation. The Me-Mover provides a cardio workout that is just as effective as running. The apparatus is ergonomically designed to deliver a natural, balanced and fluid movement, resulting in minimal joint impact and no back, knee or ankle strain. This smooth movement is achieved with a stepping motion (an oscillating movement of the pedal; up/down) instead of a rotating movement.

Jonas Eliasson, CEO and founder of Me-Mover explains, “Riders use stepping motion, an oscillating movement of the pedal (up/down), instead of a rotating movement. The force 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 as on a bicycle. The difference between the freewheel on the Me-Mover and the freewheel on a bike is that the freewheel on a bike is overrunning only occasionally, whereas on the Me-Mover it is constantly shifting from overrunning to fixed (sometimes up to 100 cycles per minute). This puts extremely high demand on the freewheel.”

The revolutionary design of the step-driven device required a compact overrunning clutch solution with instant locking/engagement (when the clutch shifts from overrunning to engaged). The clutch needed a long service life, resistance to wear and tear, and the ability to function in all weather and environmental conditions.

The Me-Mover team initially experimented with a couple relatively inexpensive clutches imported from Asia. However, according to Eliasson, “The service life was too short and the internal resistance was too high on these units.”

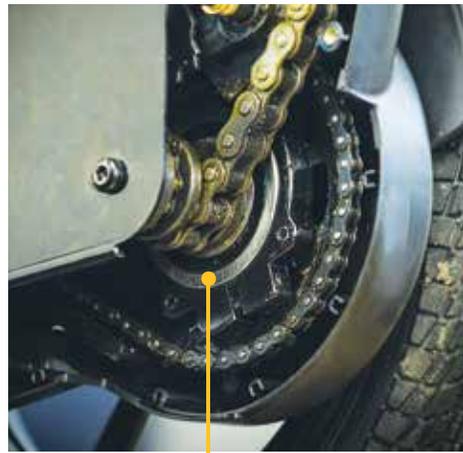
Eliasson eventually contacted Stieber® Clutch, an Altra Industrial Motion Company, seeking a clutch solution that could meet the demanding application requirements. Ultimately, the Stieber Model CSK30 PP overrunning clutch was selected due to its long service life and exceptional durability.

The CSK30 PP is a sprag-type clutch integrated into a 62 series ball bearing. It is bearing supported, delivered grease-lubricated and protected against dust of more than 0.3 mm diameter. It provides instant locking/engagement when the clutch shifts from overrunning to engagement, with a maximum overrunning speed of 4,200 RPM and a 133 lb.ft. (180 Nm) 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. All CSK clutches feature Formchrome® sprags with chromium infused steel that produces an ultra-hard, long-wearing surface and provides extra long life, maximum wear resistance and lower maintenance costs.

“The CSK PP is robust yet inexpensive, perfect for this application. Special low-temperature grease was specified, as proper lubrication is essential to sprag retainer life,” said Paul Hedlund, area sales manager for Altra Industrial Motion.

Since the launch of the Me-Mover vehicle in early 2014, support has been phenomenal. With orders pouring in from around the world, early adopters are excited about how easily the Me-Mover adapts to their needs and enables fun, energizing fitness anywhere, anytime.



The drive wheel rotates in one direction only, so a freewheel (clutch) is needed to connect the transmission and the drive wheel – just as on a bicycle.



The Stieber CSK30 PP has a 133 lb.ft. (180 Nm) torque capacity and a 4,200 RPM maximum overrunning speed.

## About Altra Industrial Motion

Altra Industrial Motion (NASDAQ:AIMC) is a leading multi-national designer, producer and marketer of a wide range of electromechanical power transmission products. The company brings together strong brands covering over 40 product lines with production facilities in nine countries.

Altra's leading brands include Boston Gear, Warner Electric, TB Wood's, Formsprag Clutch, Wichita Clutch, Industrial Clutch, Ameridrives Couplings, Kilian Manufacturing, Marland Clutch, Nuttall Gear, Bauer Gear Motor, Svendborg Brakes, Stieber Clutch, Twiflex Limited, Bibby Turboflex, Matrix International, Inertia Dynamics, Huco Dynatork, Lamiflex Couplings, Ameridrives Power Transmission, Guardian Couplings, Delroyd Worm Gear and Warner Linear. For information on any of these technology leaders, visit [www.AltraMotion.com](http://www.AltraMotion.com) or call 815-389-3771.



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