

Ameridrives

Bauer Gear Motor

Bibby Turboflex

Boston Gear

Delroyd Worm Gear

Formsprag Clutch

Guardian Couplings

Huco

Industrial Clutch

Inertia Dynamics

Kilian

Lamiflex Couplings

Marland Clutch

Matrix

Nuttall Gear

Stieber

Stromag

Svendborg Brakes

TB Wood's

Twiflex

Warner Electric

Warner Linear

Wichita Clutch

Column Inches



Column Inches

Selecting the right steering column coupling can address reliability weaknesses in forklift trucks



Few vehicles do as much steering as a forklift truck. The combination of long working hours, continual maneuvering in tight warehouse environments or repeated loading and unloading operations means that forklift steering systems get a full workout on every shift.

Steering components are subject to high loads and sudden changes in the direction of applied force. Moreover, because space within the body is always at a premium, forklift truck designers are constrained in the size of the steering components they select.

These factors mean that broken or damaged steering column components can be a significant cause of unplanned downtime for forklifts. The financial impact of component failures is exacerbated by the fact that they can be time-consuming to replace, assuming appropriate spares are available.

The challenge of reliability issues means that forklift steering systems are now receiving increased attention from manufacturers. They are looking for cost-effective, readily available components that can deliver high reliability in tough operating conditions and which are easy to repair or replace if things go wrong.

For a number of OEMs, that search has brought them to the well-proven Oldham range of couplings, manufactured by Huco, part of the Altra Industrial Motion Corporation. The Oldham coupling is named after its inventor, the 19th century engineer John Oldham, who developed a simple, robust sliding coupling design for railway applications.

In the mid 1980s, Huco refined the design by introducing a plastic disc inside the metal body of the coupling. That innovation eliminated the backlash that characterized the original Oldham coupling, making the approach suitable for precision engineering applications.

The modern Huco Oldham coupling is precision engineered throughout and comprises two hubs with inward-facing tenons. These engage with matching slots spaced at 90° in a central lightweight torque disc. As the coupling rotates, the disc compensates for any parallel shaft offset by sliding the commensurate distance along each tenon in turn. A hard, low-friction face on the working surface guarantees long, trouble-free operation.

Over the years, Huco has continued to refine and improve the design of its Oldham couplings. One recent innovation is the development of a specially designed larger diameter disc that allows coupling models to handle 25 percent higher torque loads than their predecessors.

Oldham couplings don't just offer high levels of inherent reliability. They can also help to improve the overall maintainability of the mechanical system in which they operate. Because the disc at the center of the coupling is manufactured from high-grade engineering polymer, it can become a sacrificial element. In the event of very high loads, the disc will break, acting as a mechanical fuse to protect other components. Should this occur, replacement of a broken disc is a quick, inexpensive operation.

Huco's Oldham couplings are available in a wide variety of sizes and materials. For forklift steering applications, a common configuration uses aluminium alloy hubs and acetal torque discs. Importantly for OEMs and their customers, Huco uses the highest standards of manufacturing and quality control in its operations. An efficient, lean production system ensures short lead times and high levels of availability.



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About Altra Industrial Motion

Altra is a leading global designer and manufacturer of quality power transmission and motion control products utilized on a wide variety of industrial drivetrain applications. Altra clutches and brakes, couplings, gearing and PT component product lines are marketed under the industries' most well known manufacturing brands. Each brand is committed to the guiding principles of operational excellence, continuous improvement and customer satisfaction. Highly engineered Altra solutions are sold in over 70 countries and utilized in a variety of major industrial markets, including food processing, material handling, packaging machinery, mining, energy, automotive, primary metals, turf and garden and many others.

Altra's leading brands include Ameridrives, Bauer Gear Motor, Bibby Turboxflex, Boston Gear, Delroyd Worm Gear, Formsprag Clutch, Guardian Couplings, Huco, Industrial Clutch, Inertia Dynamics, Kilian, Lamiflex Couplings, Marland Clutch, Matrix, Nuttall Gear, Stieber, Stromag, Svendborg Brakes, TB Wood's, Twiflex, Warner Electric, Warner Linear and Wichita Clutch.



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