

Warner Electric

Boston Gear

TB Wood's

Formsprag Clutch

Wichita Clutch

Marland Clutch

Industrial Clutch

Bauer Gear Motor

Nuttall Gear

Warner Linear

Delroyd Worm Gear

Stieber Clutch

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Transmission

Behind the Scenes: 2000 Series Gear Motors



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An Altra Industrial Motion Company

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*A New Equipment Digest Q&A Session with
Mike Stegmann, Product Manager at Boston Gear*



Why did Boston Gear decide to market this product?

Boston Gear already manufactures some of the most efficient Worm gear drives on the market today. The development and launch of 2000 Series was an extension into the Helical gear drive and gearmotor market of our belief that energy-efficient and prolonged-life products are in high demand and present the user with tangible value. A detailed Voice of Customer study preceding development uncovered gaps between customer needs / wants and the market offering. The 2000 Series Helical Inline and Helical Bevel product offering integrates design features that drive enhanced performance, quick-and-easy installation, and prolonged product life at a cost-effective market price.

How is this gear drive different from similar products?

With decades of experience in gear and gear drive analysis and design, our engineering team was able to maximize critical tooth-tooth contact surfaces to maximize torque throughput. We also introduced two NEW features that are unique to the marketplace. The first is the machining of Mounting Registers into the housing. By banking these reference surfaces up against the machined framework of the user's equipment, the installer will be able to quickly and accurately align their equipment with the centerline of the output shaft. The second is the incorporation of rare earth magnets into the natural oil churn of the gear train. Through the normal operation of the gear drive, any metallic wear debris is automatically removed which prolongs the life of all gear and bearing elements.



What problems did you encounter during the development process?

Much of the dilemmas we faced were centered around the size and scope of the project. For this reason, we decided to divide the project into two sequential phases which focused on a Helical Bevel and a Helical Inline design respectively.

How long did it take from conception to final production?

The project included a total of 10 frame sizes with thousands of possible configurations. The full development process took over 2 years. Boston Gear was careful and deliberate about how we proceeded throughout the project. Along the way, we had cross-functional team involvement and employed lean principles to maximize productivity.

Did cost factors play a role in changing the final design of this product?

Global supply chain management has been an area of strength for Boston Gear over the last 20 years. Several practices we have adopted over the years (such as Value Engineering with our vendors) have allowed us to drive cost out while still ensuring traditional Boston Gear Quality Standards (ISO 9001:2008) and meeting or exceeding market availability expectations. To this end, we worked together with our supply partners and our internal manufacturing production team to engineer out unnecessary cost and at the same time making sure not to sacrifice quality.

Who do you consider your target audience to be and what benefits will they realize from using this product?

One of the nice aspects of the 2000 Series is that it is suitable for use across industries and has thus become our general-industry Helical Product Platform. That being said, we have had particular success in the food and beverage market. Part of this is attributed to the lessons learned from prior NPD projects. Strong demand for our revolutionary housing features (ie domed crown, rounded edges) and o-ring mounting interfaces drove the integration of these features into the 2000 Series design. The benefits of these features include superior 'cleanability' (better water run-off to prevent pooling and bacteria formation) and effective sealing. The recent launch of a stainless exterior model of the 2000 Series Helical Bevel has driven further customer value and demand by enhancing protection against aggressive washdown chemicals.

Please add any other interesting sidelights that you think our readers would enjoy knowing.

In addition, these products are designed as dimensional 'drop-in' replacements for common European models, to provide North American customers with an alternative domestic manufacturing source.

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, Stieber Clutch, Twiflex Limited, Bibby Turboflex, Matrix International, Inertia Dynamics, Huco Dynatork, Lamiflex Couplings, Ameridrives Power Transmission, Delroyd Worm Gear and Warner Linear. For information on any of these technology leaders, visit www.AltraMotion.com or call 815-389-3771.



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Asia Pacific

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