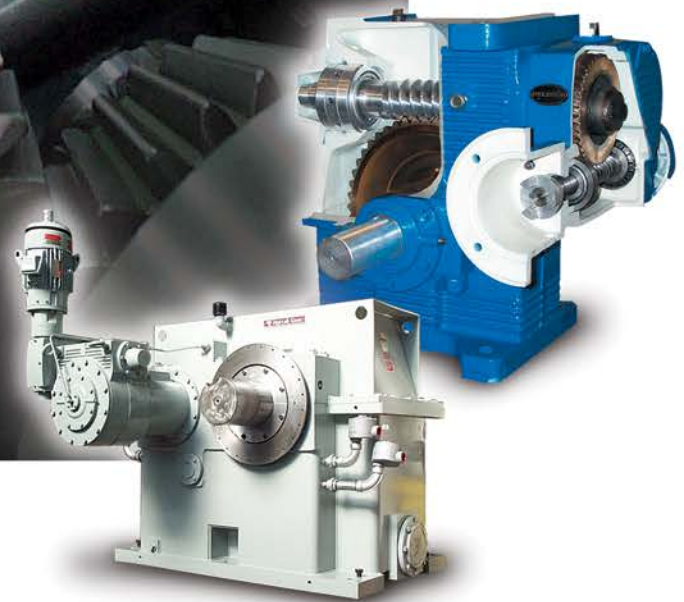


Repair and Rebuild Services



 **Nuttall Gear**[®]
Altra Industrial Motion

 **Delroyd Worm Gear**[®]
Altra Industrial Motion

Innovation and Excellence...

The Tradition Continues

Our History

The RD Nuttall Company was founded by Mr. RD. Nuttall in 1887 with one gear cutter, five men and a combined capital of \$500.

From this modest beginning, the company grew and prospered, and over the next 42 years made numerous contributions to the gear industry. It was Nuttall that developed flexible gearing for transportation applications, forced feed lubrication for large industrial enclosed gear drives, and manufactured the first integral type gearmotor. And it was Nuttall that made one of the most significant contributions to the field of gear engineering single helical gears.

In 1928, Westinghouse Electric Corporation purchased the business from Mr. Nuttall. Although the name changed, the original commitment to excellence did not. Nuttall was known for its innovation and engineering, for it was our company that developed the modern form of the gearmotor which is used by gear manufacturers all over the world today.

February 1983 signified yet another step forward in Nuttall Gear's history. At that time, we once again became a privately held corporation, continuing the tradition of leading the industry in technology - such as pioneering the use of ion-nitriding for heat treating, and the use of our M^v\G SP-1 60, the ultimate machine available to confirm gear quality.

In 2004, Nuttall Gear became part of the Altra Industrial Motion group of companies.

While there have been corporate changes over the years, some things never change, like your need for durable, dependable gears, and our commitment to excellence in both product and service.



THE SERVICE DIVISION OF NUTTALL GEAR / DELROYD WORM GEAR...

PROVIDES COMPREHENSIVE SERVICES

designed to keep your rotating machinery in operation. Our extensive experience in gear drive applications, combined with the total manufacturing and design capabilities of Nuttall/Delroyd, enables us to provide you with a single, comprehensive source for improving your productivity, and offers you a cost-effective repair solution for

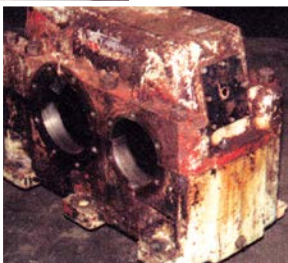
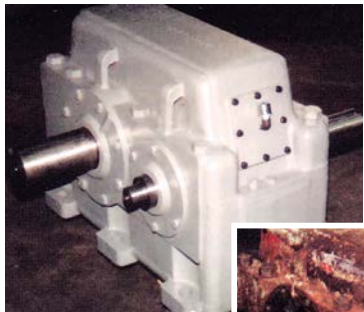
Any manufacturer's gear drive:

- Allen Gear
- Amarillo
- Brad Foote
- Chemineer
- Cleveland Gear
- Cone Drive
- D.O. James
- David Brown
- Delaval
- Delroyd Worm Gear
- Falk
- Farrel
- Foote-Jones
- General Electric
- Holroyd
- Flender
- Hansen
- Horsburg & Scott
- Lightning
- Link-Belt
- Lufkin
- Maag
- Marley
- Mixco
- Nuttall Gear
- Philadelphia Gear
- Renk
- Renold
- Rexnord
- Sterling
- Sumitomo
- Western
- Westinghouse*
- WestTech
- Wilson Gear
- Winsmith



** Nuttall Gear is the sole authorized repair center for Westinghouse gear drives. We maintain all original drawings and specifications.*

Over 100 Years of Excellence in Products and Service



REPAIR AND REBUILD

Comprehensive services include the inspection, remanufacturing and repair of all manufacturers' helical and worm gear drives. With our Maag SP160 gear checker, gears are measured and charted for lead, profile, spacing, runout, and composite accuracy. Precise measurements of housings are achievable with use of computer controlled coordinate measuring machine. Contact checks of mating gears can be verified in the housing, or on our precision contact checking stand. In addition to our general machining capabilities, we have in-house heat treatment facilities, spray welding and dynamic balancing equipment.

ALL COMPLETE REBUILDS INCLUDE NEW FACTORY WARRANTY

REDESIGN AND RERATE

Nuttall's strong application and design engineering experience has earned us a reputation for producing high-quality and unique helical and worm gear drives. Reverse engineering, ratio changes and drive configuration changes are available for all manufacturers' gear drives. Increased ratings are often achieved with changes in gear geometry, heat-treating processes, improved gear accuracy, or thermal capacity.

SYSTEM ANALYSIS

Nuttall's engineers can develop mathematical models to perform a torsional system study. This system study can be used to determine the natural frequencies of the system for comparison to the forcing frequencies of the components. Coincident frequencies can produce system resonance resulting in severe overload. A change in components can often eliminate system resonance.

QUALITY ASSURANCE

From inspection and teardown to reassembly and complete unit testing, each step is planned and executed within the requirements of our Quality Management System. Our program was designed to meet the strict requirements of the nuclear industry as well as the world recognized standards established by ISO9001:2000. Documented traceability for materials, processes, and testing is part of the Quality Management System that applies to all service work.

FIELD SERVICE

Nuttall field service engineers can be provided for a wide range of services:

MAINTENANCE

Such as routine lubrication service or end-play adjustments.

INSPECTIONS

Evaluate the condition of the gears, shafts, bearings and seals.

TROUBLE SHOOTING

Root cause analysis for vibration, noise, premature gear wear and oil leaks.

REPAIRS

Short-term emergency repairs and long-term, permanent repairs can be made on site.

REBUILDS

Replace or upgrade original components.

TORQUE MEASUREMENTS

Record actual torque under actual operating conditions using telemetry (transmitter & receiver).

TRAINING SEMINARS

Covers all phases of repair and rebuild in a hands-on program: inspection, teardown, reassembly and testing.

Nuttall Gear and Delroyd Worm Gear Facilities

North America

USA

2221 Niagara Falls Boulevard
Niagara Falls, NY 14304 - USA
716-298-4100

*Worm Gear and
Helical Speed Reducers*

The Brands of Altra Industrial Motion

Couplings

Ameridrives
www.ameridrives.com

Bibby Turboflex
www.bibbyturboflex.com

Guardian Couplings
www.guardiancouplings.com

Huco
www.huco.com

Lamiflex Couplings
www.lamiflexcouplings.com

Stromag
www.stromag.com

TB Wood's
www.tbwoods.com

Gear Cam Limit Switches

Stromag
www.stromag.com

Electric Clutches & Brakes

Inertia Dynamics
www.idicb.com

Matrix
www.matrix-international.com

Stromag
www.stromag.com

Warner Electric
www.warnerelectric.com

Linear Products

Warner Linear
www.warnerlinear.com

Engineered Bearing Assemblies

Kilian
www.kilianbearings.com

Heavy Duty Clutches & Brakes

Industrial Clutch
www.indclutch.com

Twiflex
www.twiflex.com

Stromag
www.stromag.com

Svendborg Brakes
www.svendborg-brakes.com

Wichita Clutch
www.wichitaclutch.com

Belted Drives

TB Wood's
www.tbwoods.com

Gearing

Bauer Gear Motor
www.bauergears.com

Boston Gear
www.bostongear.com

Delroyd Worm Gear
www.delroyd.com

Nuttall Gear
www.nuttallgear.com

Overrunning Clutches

Formsprag Clutch
www.formsprag.com

Marland Clutch
www.marland.com

Stieber
www.stieberclutch.com

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