McGILL®

EXPERIENCE THE DIFFERENCE

AEROSPACE AND SPECIALTY BEARINGS

REGAL®

60+ Years of Innovation in Custom Aerospace Bearings

Global competition drives technology innovation, and McGill® bearing innovations have played a pivotal role in aerospace applications for more than 60 years. Regal® has provided significant "lift" for our customers' bottom lines by reducing weight to increase payload, improving performance, reducing size, and increasing resistance to corrosion, wear and heat. We are eager to do it for you, too.

Regal has extensive experience processing aerospace materials for custom bearing applications. Specialty steels are used for high temperatures, additional corrosion resistance, extended operating life and other customer-specific application conditions. Other McGill bearing material innovations include use of PEEK (polyetherketone) as a weight reducing alternative for retainers in transmissions. Challenges demand innovations. Bring your bearing challenges to Regal.

Geared outer race spherical roller bearing for planetary gearbox

McGill bearing categories

- Cylindrical Roller
- Needle Roller
- Spherical Roller
- Ball Bearings
- Track Rollers and Cam Followers
- Cylindrical Thrust
- Roller Sets

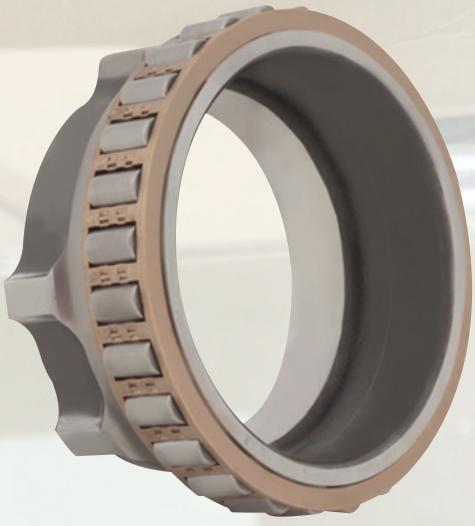
Needle bearing track rollers and cam followers for flaps, slats and seat applications

Integrated engineering and design support, start to finish

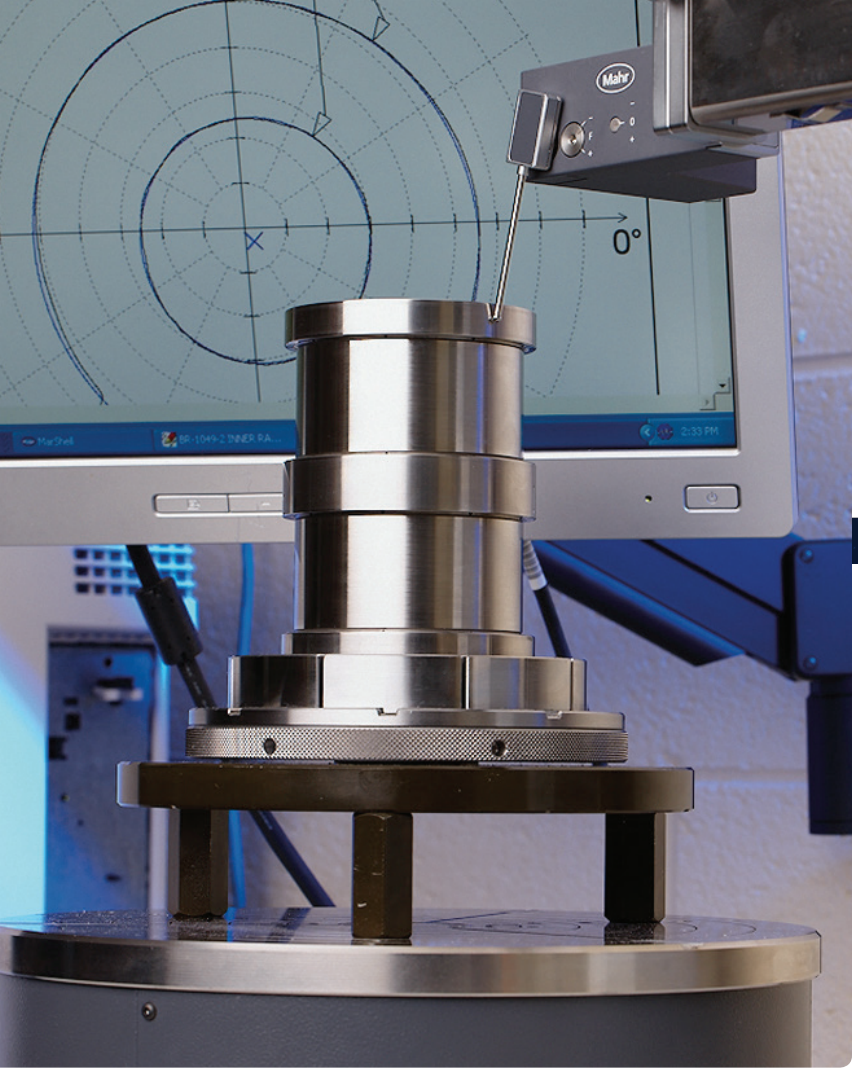
All aerospace and specialty bearing applications introduce new challenges. They demand innovation and Regal consistently delivers. Challenge us with your concepts and performance goals for bearings. Our engineering and manufacturing teams always aim to exceed expectations.

Customer Care

Critical bearing applications require customer service that is "above and beyond," and that is what you'll experience with Regal®. We strive to anticipate your needs. We understand there is no room for second place. Our sales and service team sets the industry standard for professionalism when it counts most.



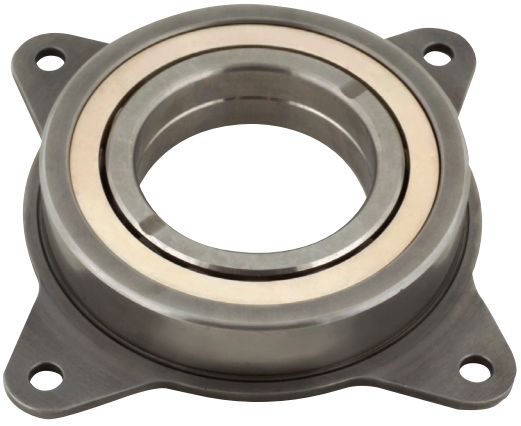
Cylindrical roller bearing for hydraulic pump application



Precision measuring capabilities

The manufacturing of McGill® bearings is strictly monitored under an AS9100 Rev C-certified quality management system. Our facility is Nadcap-accredited for heat treating, chemical processing and nondestructive testing. In-house heat treating allows us to control the scheduling and quality of this critical process. And as your project and budget dictate, we can easily meet all conditions for U.S-government specialty metals and made-in-USA requirements.

Accredited Nadcap™



Gothic-arch ball bearing for helicopter gearbox applications

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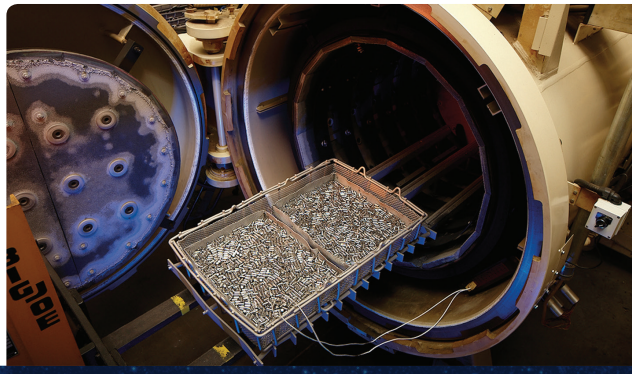
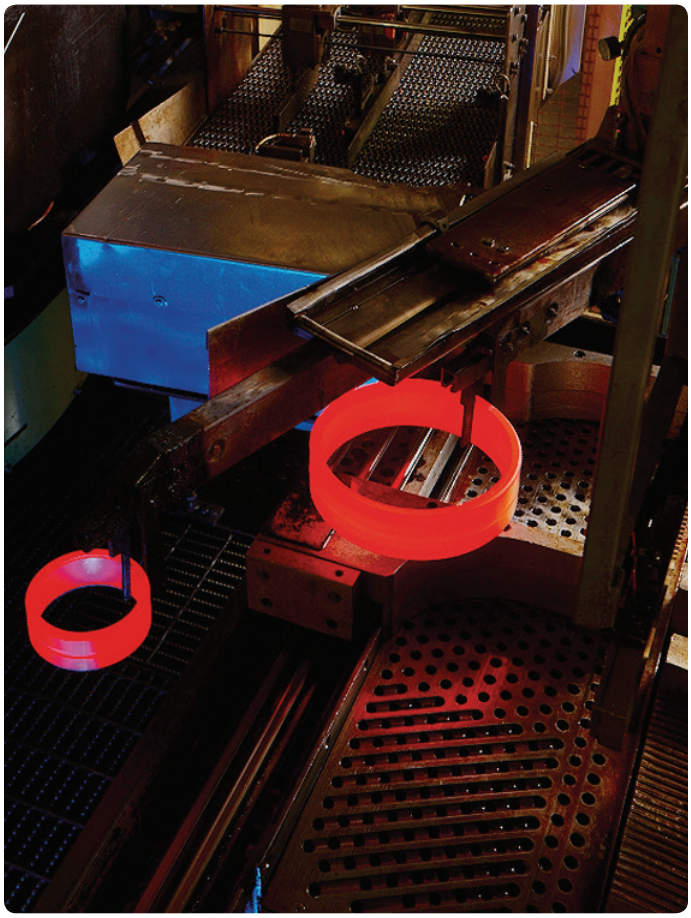
End-to-end quality



Vacuum heat-treat furnace

The manufacturing process control of McGill® bearings begins with the arrival of raw materials at our plant. Adherence to specifications is stressed from beginning to end. We utilize industry leading inspection technology, whether in-process or offline. Our fully equipped metrology and metallurgical labs help ensure that materials, components and finished assemblies meet all project requirements.

Precision grinding



Heat-treat process

Custom bearings: A history of making history

Many of today's custom bearing solutions for commercial passenger jets are the result of innovations in McGill® bearings. Just a few include:

- Ball and roller bearings for auxiliary pumps.
- Thin-section, corrosion-resistant ball bearings for control systems.
- Track rollers for seats, flaps and slats.

McGill products have advanced the performance of helicopters, too, with lightweight designs that allow increased payload, without sacrificing durability. Examples include:

- Spherical roller planetary bearings for transmissions.
- Ball and roller bearings with various integral anti-rotation devices, such as flanges, slots and tabs.

Specialty industrial bearings demand a special partner who listens to your requirements and delivers solutions that take technology to a new level. That special partner is Regal®. Whether you need a new design, a unique geometry, extra-precision or unusual materials/processes, we are ready to meet the challenge.

Precision Rollers

Applications include:

Helicopter

- Hydraulic Systems
- Gearboxes
- Rotor Heads
- Seats and Doors

Fixed-wing

- Auxiliary Power Units
- Control Mechanisms
- Flaps and Slats
- Gearboxes
- Hydraulic Systems
- Seats and Doors
- Starters

Industrial and Military

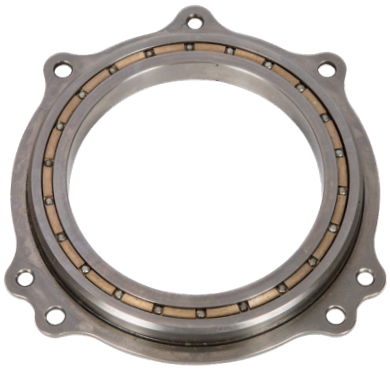
- Can Making Machinery
- Missile Systems
- Paper-Converting Machinery
- Precision Positioning Equipment
- Specialty Corrosion Resistant
- Specialty Gearboxes
- Specialty Non Lubrication
- Weapon Systems

Application and Technical Expertise

Manufacturing facility in Valparaiso, Indiana USA

Simulate, prototype, validate – these are core functions in Regal's custom products manufacturing operations. Our staff of experts in metallurgy, heat treating and tribology is complemented with a comprehensive test laboratory where we can simulate many types of aerospace and industrial environments. Just a few include chemical exposure, extreme temperatures and accelerated-life. Our engineers analyze the interaction of lubrication, surface finishes and contamination, all to provide compliance with project requirements.

Cost reduction and improved product performance go hand in hand in today's competitive global market. It drives innovation. Your customers demand it of you, We accept nothing less from ourselves. The result? Around the world, our customers' market successes continue to achieve new heights.



Ball bearing for helicopter gearbox

Let McGill products help you reach new heights, too, with innovative solutions in custom bearings that rise to meet your technical and commercial challenges. Regal® invites you to experience the difference of working with our team to achieve next-level performance.

To learn more, contact a bearing specialist at **mcgillaerospace@regalbeloit.com**

McGILL®

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APPLICATION CONSIDERATIONS

The proper selection and application of products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Regal Beloit America, Inc. and/or its affiliates ("Regal") with respect to the use of products and components is given in good faith and without charge, and Regal assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

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