



New Hampshire Ball Bearings, Inc.
— A Minebea Company —

inside track

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Repairs to Peterborough Facility Nearly Complete

Eight months after the explosion that damaged a large section of the building and injured 22 people, a tangible sense of normalcy has returned to the Peterborough facility. The building shows very few signs of the accident and production has returned to capacity within every department. Most importantly, the two employees who were seriously injured are making good progress as they continue with their physical therapy and rehabilitation, and one of the two has returned to work part-time.

NHBB has completed the required structural repairs to the east side of the building and the build-out and occupation of the interior spaces that were most affected by the blast. The remaining repair projects are minor and include re-landscaping along the east wall and repairing lighting in a small area as well as an intercom system. These projects are scheduled for completion by December of 2014.



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New CEROBEAR Facility Comes Online

The production capacity of NHBB's subsidiary CEROBEAR GmbH has nearly doubled after the specialized German bearing manufacturer completed construction of a new production facility adjacent to its existing building in Herzogenrath, Germany. At 24,750 sq. ft. (2,200 m²), the new space is slightly smaller than the original building, which is 26,000 sq. ft. (2,400 m²).

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The new facility was designed to adhere to CEROBEAR's philosophy of, "the most modern production technologies, excellent teamwork and communication, in the shortest possible distance." All departments that are integral to day-to-day production operations are joined together in an open-plan office on the first floor, and the building has a glass façade so all floors are bright and spacious.

Like the existing building, the new facility contains state-of-the-art production, metrology, and testing equipment, and it is staffed with highly skilled technical employees who manufacture rings, rolling elements, and cages utilizing sophisticated production technologies, such as ultra precision hard turning.

A significant amount of room in the original building is allocated to research and development, as this is an important part of CEROBEAR's growth strategy.

CEROBEAR held a grand opening of its new building in July, during which approximately 100 invited guests from Minebea, NHBB/myonic Business Unit, and the city of Herzogenrath participated in a ribbon cutting ceremony and toured the new facility.



Gary Yomantas

A Message from NHBB's President

At NHBB, we are constantly challenging ourselves to adopt better approaches to meeting the needs of our customers. This orientation extends from our product development activities through our customer-facing sales and product engineering teams, and beyond. Not every change is as noteworthy as a new product launch or an acquisition, but even seemingly modest structural adjustments will advance our objective of providing world class customer service.

The recent reorganization of the field sales team implemented by our VP of Sales, Jim Geary, will transform how we relate to our customers in the different industries we serve. In order to facilitate more specialized knowledge of markets and customers, the North American field sales team has reorganized into two groups - the Aerospace and Defense Group, and the Medical Device and Industrial Group.

The Aerospace and Defense Group is responsible for selling all of NHBB's high precision products to major aerospace manufacturers - aircraft and engine OEM's and Tier 1/2/3 customers - as well as defense contractors and subcontractors. The Medical Device and Industrial Group will continue to strengthen NHBB's relationships with leading companies in the medical industry as well as develop additional industrial markets.

As a whole, NHBB's North American field sales team represents the company's three brands - NHBB, myonic, and CEROBEAR - as well as NMB Rod End and Spherical products from our sister companies in Japan, Thailand, and the UK.

In outlining the reasons for this change, Jim Geary expressed it best when he wrote, "Our customer base deserves an approach based on *their* needs and that's what we intend to deliver with this reorganization. Creating an environment where our field sales personnel can engage with their customers on a more focused level enhances our ability to find the right solution for each of our customer's individual business and application requirements."



NHBB's Field Sales Team Welcomes Accomplished Bearing Sales Professional

The reorganization of the sales team created an opening in the Medical Device and Industrial Sales Group. That opportunity was filled by Steve Fancy, who joined NHBB in the summer of 2014 as a Senior Field Sales Engineer.

Steve has over 30 years experience within the bearing industry. He brings with him considerable knowledge and expertise with both bearing products and customers. As a specialist in medical, dental, and other high performance industrial applications, Steve will service customers along the entire east coast, offering bearing solutions from NHBB, myonic, and CEROBEAR.

"Steve will be a valuable asset to NHBB and, more importantly, his customers," says Jeff Schad, the newly appointed manager of the Medical Device and Industrial Sales Group. "His knowledge and experience will help us deliver the right solution to our customers in every case - we are thrilled to have him on our team."



Steve Fancy

NHBB Veterans Join the Medical Device and Industrial Sales Group

The newly formed Medical Device and Industrial Sales Group includes three other experienced professionals who were a part of the original NHBB/myonic sales organization, Jeff Schad, Josh King, and Wayne Vanderneut.

Jeff Schad, who was serving as District Manager of the Western region prior to the reorganization, was chosen to manage the group. Jeff started in the bearing industry in 1974, accumulating 20 years of experience working in the bearing distribution field before joining NHBB in 1994 as a Senior Field Sales Engineer. He holds a Bachelors Degree in Business Management from the University of Tulsa.

Even before the group's formation, **Joshua King** was a leading producer in the medical market, as he already services some of NHBB's largest medical manufacturers as Senior Field Sales Engineer in the Midwest. Josh has been a part of NHBB's sales team for over seventeen years and he holds a MBA from Notre Dame's Mendoza College of Business, Chicago Campus.

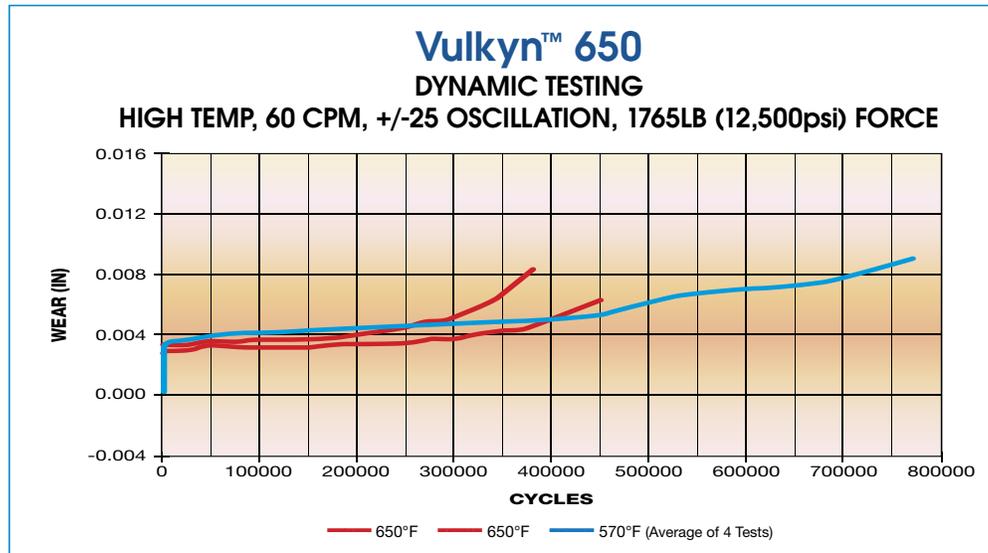
Wayne Vanderneut has joined the newly formed sales group after serving as Senior Product Specialist for myonic USA, a division of NHBB formed after myonic GmbH's acquisition in 2009. Prior to that, Wayne served as Sales Manager of myonic Inc., the previous US subsidiary of myonic GmbH. Thanks to his longstanding relationship with myonic and years of experience in the bearing industry, Wayne is well versed in a diverse range of medical, dental and high tech industrial applications.

Collectively, Jeff, Josh, Steve and Wayne are responsible for servicing customers in the medical, dental and industrial markets throughout North America, offering solutions from across the business unit, including the product brands NHBB, myonic, and CEROBEAR.

NHBB Launches High Temperature Liner Technology

NHBB is pleased to announce the launch of a new high temperature fabric liner technology, Vulkyn™ 650. This innovative fabric liner system for plain bushings and spherical bearings establishes a higher threshold for bearing performance within high temperature applications.

As the suffix 650 suggests, the new liner solution provides reduced wear of less than 0.006 in. after approximately 325,000 cycles at 650°F. When tested at 570°F, the cycle count increases to 500,000 before liner wear reaches 0.006 in.



Vulkyn™ 650 raises the maximum operating temperature of NHBB's high temperature solutions by 25°F, providing customers with an excellent alternative to NHBB's L1390 and L2625 high temperature liner products. These current solutions are rated to 625°F maximum operating temperature, but they perform best at 570°F.

Vulkyn™ 650 high temperature fabric liner technology is ideal for both military and commercial aero engine applications where bearings are exposed to sustained operating temperatures above 350°F. Good examples include engine mounts, oil cooler mounts, and variable stator vanes.

While longer bearing life under higher

temperatures is the primary benefit, Vulkyn™ 650 is also designed to be eco-friendly. The compounds that make up the fabric and bonding agents currently comply with REACH, which is an important benefit to many of NHBB's customers who supply product to European OEM's.

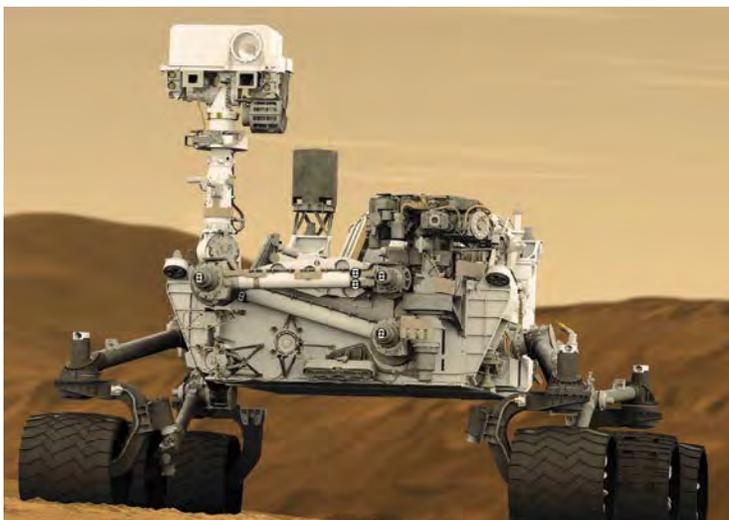
NHBB's New Product Development Center (NPDC) has been working on the development of this patented technology for close to two years. While 650°F is an important milestone, the NPDC is committed to raising this maximum operating temperature even further in the coming years.

Contact the Astro Division or your NHBB field sales engineer for more information.

Solutions for Space Applications

Engineers who work in the NHBB/myonic Business Unit enjoy a challenge, and nothing presents a greater one than designing solutions for space applications. Even though NASA's highly visible Space Shuttle program is no longer in service, there are ample opportunities for getting involved in space exploration, including everything from low earth orbiting satellites to rovers traversing the surface of Mars. Here is a summary of some of the recent space programs in which the NHBB/myonic Business Unit has participated:

Mars Exploration Rovers: Spirit and Opportunity (2004), and Curiosity (2012)



NASA's Rovers contain high precision miniature and instrument, thin section, and middle size ball bearings from NHBB and myonic. Full complement radial and angular contact ball bearings manufactured by NHBB are operating in actuator, gearbox, and motor applications. The bearings are between 0.1562 in. and 1.500 in. outer diameter and most are coated with molybdenum disulphide (MoS₂) dry film lubricant. myonic precision miniature ball bearings are working inside a cryogenic cooler for an infrared camera system on the Rover Curiosity. The Mars Exploration Rovers are part of the NASA Mars Science Laboratory's Mars Exploration Program. The twin robot geologists, Spirit and Opportunity, landed on Mars and began exploring the surface in January of 2004. Opportunity is still in operation today. The much larger rover, Curiosity, landed and began explorations in August of 2012.

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George Hobbs

A Brief Profile of Astro's Operations Manager

George Hobbs has faced and overcome many challenges as a manager of operations for leading companies in the aerospace and power industries. The divisions he has managed have all experienced improvements in productivity, on-time delivery, quality, and customer satisfaction.

From 1980 to 2004, George worked for various business units of Pratt & Whitney in Connecticut and Maine. Starting in 1995, he was assigned to lead Pratt & Whitney's Turbine Blade Unit after managing the General Machining, Blade Outer Seals, Aftermarket Service, and Commercial Engines divisions.

Just prior to joining NHBB in May, George was Vice President of Continuous Improvement for Westinghouse Electric in Pennsylvania.

Tradeshow Calendar

MD&M West

February 10 – 12, 2015

Anaheim
Convention Center

Anaheim, CA

Booth #3358

Heli Expo

March 3 – 5, 2015

Orange County
Convention Center

Orlando, FL

Booth #2328/2330

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NHBB Hires New Operations Manager for HiTech

David Smith has been chosen as the new Operations Manager of the HiTech Division in Peterborough, NH. He comes to NHBB with a transformational leadership style and over 20 years of manufacturing leadership experience in the aerospace industry.

Prior to joining NHBB, Dave was the General Manager for Pentair Valves and Controls in Mansfield, MA.

Before that, he spent over thirteen years with Hamilton Sundstrand (now UTAS) and over two years with Triumph Group.

Dave holds a MBA in General Management from Rensselaer Polytechnic Institute, and a BS in Mechanical Engineering with a minor in Metallurgy from the University of Connecticut.

Dave began his new assignment with NHBB on October 6, 2014.



David Smith

Repairs to Peterborough cont...

In response to the explosion, NHBB has completed a thorough review of all chemical storage and handling practices throughout the facilities in the NHBB/myonic Business Unit. NHBB is implementing procedural adjustments and additional ongoing employee training in order to further reduce the risks associated with the utilization of chemicals within the manufacturing process.

NHBB has also made a commitment to obtain the OHSAS 18001 certification, which is the international standard for safety and risk management. The company anticipates completing the process by October of 2015, a demonstration of NHBB's ongoing commitment to the continuous improvement of workplace safety and risk management and, above all, the health, safety, and well-being of our employees.

Solutions for Space Applications cont...

MAVEN Mars Atmospheric Satellite

CEROBEAR hybrid bearings are used in the NASA Maven Program. NASA's "Mars Atmosphere and Volatile Evolution" (MAVEN) spacecraft is designed to study the upper atmosphere of Mars. A part of the Mars Exploration Program, this satellite was launched in November 2013 and is now orbiting the planet after successfully entering its atmosphere on September 21, 2014.

Sentinel Reconnaissance Satellite

CEROBEAR Bearings are operating in a laser communication terminal (LCT) on The European Space Agency's (ESA) Sentinel reconnaissance satellites. The Sentinel satellites carry a range of technologies, such as radar and multi-spectral imaging instruments for land, ocean and atmospheric monitoring. The LCT subsystem is used for high speed transfer of data between satellite-pairs. The bearings are needed for a precise positioning of the optical system. ESA's first Sentinel reconnaissance satellite was launched April 2014; the next mission is scheduled for 2016.