



New Hampshire Ball Bearings, Inc.

A Minebea Company

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inside track

NHBB Honored for Keeping Marine Helicopters Flying

NHBB's Astro Division was recognized in July by the U.S. Marine Corps and Bell Helicopter for its role in keeping helicopters in service, flying missions in Afghanistan.

Lieutenant Colonel Eldon E. Metzger from the U.S. Marine Corps and representatives from Bell Helicopter visited the Astro Division to personally thank NHBB for expediting critical spherical bearings for Bell's UH-1Y Helicopter. By shipping parts six weeks ahead of schedule, NHBB was able to help Bell and the Marine Corps alleviate the problem of Aircraft on the Ground (AOG).

Kevin Kett, Bell Helicopter's UH-1Y Upgrade program manager, described the operating theatre as an extremely harsh environment



Bell UH-1Y Marine Light Attack Helicopter. Image courtesy of Lance Cpl. Benjamin Crilly, USMC

for a helicopter. The UH-1Y Helicopters deployed in Afghanistan operate in a hot and dusty climate. During take-offs and landings, the air fills with a fine talc-like

powder, which has caused bearings and other components to wear out more quickly than originally estimated.

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myonic Earns Another Supplier Honor from Rockwell Collins

The rotating equipment purchasing group of Rockwell Collins recently named myonic GmbH Supplier of the Year for the sixth consecutive year, and for the eighth time, overall.

"We are honored to be recognized once again by Rockwell Collins," said Wayne Vanderneut, Senior Product Specialist with myonic USA. "The award is a testament to the commitment of our employees, and to the excellent systems we've put in place to meet all of our customers' needs."

This year marks the first time myonic has earned the award as a subsidiary of Minebea Co., Ltd., which purchased the European manufacturer in 2009. After the acquisition, myonic closed its New Jersey office and transferred U.S. sales and marketing responsibilities to myonic USA, a new division of NHBB. Two of myonic's employees in the U.S. accepted positions with NHBB and relocated to California.

According to Wayne, Rockwell Collins has an extraordinarily difficult supplier rating system, which is one of the toughest in any industry. "It is difficult to win an award from Rockwell Collins, even under ordinary circumstances," he said. "Earning top honors during a time of major change to our business makes this year's award especially gratifying."



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NHBB Repeats as CSI Circle of Champions Supplier

Cardiovascular Systems Inc. (CSI) presented NHBB's Precision Division with a Circle of Champions Supplier Award for 2009.

According to Janine Seils, a senior buyer with CSI, NHBB achieved 100% on-time delivery, 100% quality, and an excellent customer service record.



"NHBB is the kind of supplier we love," said Seils. "NHBB has come up with creative ways to significantly reduce lead times, which has led to a big improvement on inventory turns for CSI. Congratulations to NHBB on a job well done."

"We are proud to be a valued supplier to CSI," said Mary Beth MacKenzie, Sales Manager for the Precision Division. "Furthermore, we are pleased and honored once

again to accept CSI's Circle of Champions Supplier Award."

Based in Saint Paul, MN, CSI is a leader in providing clinically proven, safe and effective vascular solutions. It is focused on the assessment, development and commercialization of medical devices for treating peripheral arterial disease. ●

NHBB and myonic's Partnership on Display at MD&M East

NHBB and myonic continued to build awareness of its partnership and strength as leading suppliers to the medical device manufacturing industry by exhibiting at the MD&M East tradeshow held June 8th through 10th at the Jacob K. Javits Center in New York City.

NHBB and myonic promoted their full line of miniature and instrument bearings, emphasizing recent technological advances for ultra-high-speed applications, including machined retainers, ceramic balls, high-performance steels, and NHBB's patented composite metal-polymer retainer.

Additionally, myonic showcased its core strength as a manufacturer of precision mechanical subassemblies for various medical procedures such as arthroscopic surgery, blood analysis, cardiovascular diagnosis and treatment, and laser surgery.

All told, over 3,000 manufacturers participated in this year's show; NHBB and myonic were two of only three bearing manufacturers to exhibit. ●



Working the booth were (l to r): John Leger, Senior Sales Engineer, Eastern Region; Wayne Vanderneut, Senior Product Specialist, myonic USA; Mary Beth MacKenzie, Product Sales Manager, Precision Div. and myonic USA; Mike Katra, Regional Sales Manager, Central Region; Alex Garcia, Applications Engineering Manager, Precision Division.

Mark Your Calendar

The 2011 show dates for MD&M East and West are:

MD&M West	MD&M East
February 8-10	June 7-9
Anaheim	Jacob K. Javits
Convention Center	Convention Center
Anaheim, CA	NYC
Booth #3281	Booth #1931

NHBB Honored

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Speaking at an outdoor ceremony, Kett thanked every employee for doing a phenomenal job of expediting badly-needed parts. "We want you all to know that your efforts did not go unnoticed," said Kett. "We appreciate everything you have done to keep the UH-1Y in service."



Lieutenant Colonel Metzger, in a rare and highly symbolic gesture of thanks, presented Gus Gingrich, a senior machine operator, with a pair of his aviator wings. "Very few individuals who are not aviators are privileged to wear these wings," said Metzger.

Lieutenant Colonel Metzger expressed gratitude on behalf of the flight crews and other military personnel who are supported by UH-1Y sorties. "These helicopters are flying an extreme number of missions, approximately three times more than originally planned," said Metzger. "I can't say enough about NHBB's response to our need for essential helicopter parts."

Metzger added that the UH-1Y is flying well, despite the conditions and amount of use. He said, "It basically gets up and goes to work every day." ●

Rockwell Award

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Rockwell Collins (NYSE: COL) is a pioneer in the development and deployment of innovative communication and aviation electronic solutions for both commercial and government applications, including flight deck avionics, cabin electronics, mission communications, information management, and simulation and training. ●

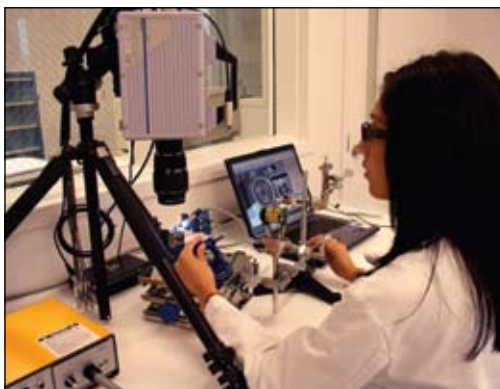
Precision's R&D/Test Lab Finds Source of Gyro "Chirping"

The Precision Division recently solved a problem that has baffled the bearing industry for decades: Why do gyros, the devices that help orient airplanes and missiles, make an occasional "chirping" sound when they operate? As a result of their research, the Precision Division has developed a bearing modification that eliminates chirping and is now in use in customers' gyros.

The chirping could occur in gyros from any manufacturer. It stemmed from excessive vibration in the bearing system; and OEMs knew that the condition compromised the expected life and performance of the gyro in the field. But no one knew exactly why or precisely where the vibration was occurring.

By using the latest video and computer technology, NHBB's Precision Division overcame that barrier. They filmed different gyros in operation, using a high-speed camera that captures up to 150,000 frames per second, with a global shutter speed of up to one microsecond. (Consumer video cameras take about 30 frames per second.) After filming gyros and bearings at their actual operational speeds, the Lab downloaded the video to a computer. A software program slowed down the motion, allowing Precision's R&D team to trace the cause of chirping under simulated operating conditions.

According to Alex Metrikin, R&D/Test Lab Engineering Supervisor, "The industry had many theories on what was taking place. We



could speculate but you need to physically see the motion to analyze it. With the high-speed camera, we could finally see it for ourselves." By analyzing the data, the Lab identified the exact modifications that would stop the chirping. Says Metrikin, "The gyro is a perfect example of how we utilize the Lab to meet the bearing performance objectives our customers desire."

Alex Garcia, Applications Engineering Manager, explains that Precision's R&D/

Test Lab has many similar investigations underway. For example, the high-speed camera is also helping the Lab analyze and improve the wear rate of bearings in dental handpieces that revolve close to half a million times per minute.

Yet another investigation focuses on excessive vibration in a dentist's drill. A state-of-the-art vibration analyzer has segregated the frequencies generated, isolated the different parts of the equipment and allowed the Lab to locate the part that vibrates the most. In this case, the guilty component is the shaft. Garcia says, "It isn't always the bearing's fault. We'll troubleshoot the entire assembly to find the potential trouble."

NHBB's Precision Division in Chatsworth, California, is at the forefront of materials and design research for high-speed bearings. Their innovative lab testing helps customers to improve performance in products where precision tolerances are critical. ●

NHBB's Roller Bearings—From Zero to \$100 Million

The HiTech Division achieved a significant milestone this summer by reaching \$100 million in sales of roller bearings. HiTech officially entered this market in the mid-nineties. Since then, growth has been steady.



"On behalf of NHBB and the HiTech Division, we thank our customers who have provided us the opportunity to make this achievement possible,"

says Jim Geary, HiTech's Sales Manager. "And we look forward to supporting your aerospace bearing needs in the future as we more rapidly reach the next milestone." ●

CRES Rod End Brochure Now Available

NHBB just published a mini catalog for its corrosion resistant self-lubricating rod end bearings, which are qualified to the new industry standard, AS81935/6, /7, /8 and /9. The series offers equivalent dimensions and performance to cadmium-plated products without the potential risks and regulatory burdens—including European Union environmental regulations—associated with cadmium.

To receive a copy of the new brochure, contact your NHBB Field Sales Engineer, or visit the catalog request page on our website—nhbb.com/contact/catalog.aspx. ●



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Late-Breaking News! NHBB Qualifies to New Boeing Specification

NHBB was first to qualify and is currently the sole source on Boeing's new BACB10JV standard. Released Friday, August 8, 2010, the new standard specifies a copper-nickel-tin ball as a replacement to beryllium-copper. From an environmental standpoint, copper-nickel-tin is a cleaner, safer alternative to beryllium-copper.

In addition to the Boeing spec., NHBB offers greased bearings containing copper-nickel-tin balls for a wide range of aerospace applications, including landing gear, flight control, and actuator systems. If you are looking for a substitute to beryllium-copper in your application, please contact the Product Engineering group at the Astro Division.



Tracy Cathcart

Inside Sales Representative
Astro Division
Laconia, NH
Years at NHBB: 10

NHBB In Person

July, 2010 marked the tenth year Tracy Cathcart has been a member of Astro's inside sales team and a full-time employee of the company.

Tracy is primarily responsible for R&S sales to the US Government, although she does handle some foreign accounts in Canada, Japan, Singapore, Hong Kong, Australia and Israel.

Her day-to-day activities include handling all customer inquiries, retrieving quotations from all government websites, issuing the quotations, processing purchase orders and monitoring those orders from the start of manufacture to the final delivery to the customer. In addition, she also assists with the coordination of government source inspection and preparing the shipping and invoice documents for all US Government contracts.

What she enjoys most about her work is the people with whom she comes in contact. "I really enjoy building relationships with my customers. They appreciate my personalized service, and to hear them say 'thank you' really makes my day." ●

Swinehart Assumes New Role as HiTech's Quality Manager



Scott Swinehart

Scott Swinehart has accepted the position of Quality Manager at the HiTech Division, effective immediately. He now oversees both aspects of quality, quality assurance and quality control. Scott joined NHBB in 2000 after receiving his Bachelor of Science degree in Mechanical Engineering from Worcester Polytechnic Institute.

Since joining the company, Scott has served as an Applications Engineer and has grown to become the go-to person for some of NHBB's top customers, including Honeywell, Rolls-Royce, Hamilton Sundstrand and Williams International.

Scott was promoted to Senior Engineer in 2005. In 2007, he began pursuing a master's degree in Operations and Project Management from Southern NH University. He is expected to complete this program in 2010. ●

NHBB's FY 2009 Honor Roll



During its annual sales meeting in May, NHBB recognized five employees for their outstanding service to customers in FY 2009. Four of the five honorees were present to receive their awards (shown above from left to right): Terrie Maddox, Senior Sales Engineer from the Central Region, was named Sales Engineer of the Year. The Extra Mile Award was given to both Carroll Purvis, Product Specialist for the Precision Division, and Ida Seow, Precision's Inside Sales Supervisor. Josh King, Senior Sales Engineer from the Central Region, earned the Outstanding Achievement Award. Absent was Laura Lavigne from the HiTech Division, who was named Customer Service Representative of the Year.