

TODAY



AUGUST 2010 ISSUE

Think NSK.

Going Green Benefits Bottom Line

Interest in sustainable manufacturing practices is growing. More and more, businesses are seeing the competitive advantages to be gained through cost savings, lower costs of health and environmental regulation compliance, and the increasing demand for sustainable products and services.

But how is «sustainable business» really defined? In simple terms, it is the creation of products and delivery of services that use processes that minimize negative environmental impacts; conserve energy and natural resources; are safe for employees, communities, and consumers; and are economically sound.

Manufacturing and processing practices that are environmentally and economically sound make good business sense. They can be achieved by most organizations by setting specific goals for sustainability, as NSK has done:

Reduce, Reuse, Recycle

By working to reduce, reuse, and recycle, NSK strives to achieve «zero emissions», which means reducing landfill disposal as much as possible. Our landfill target is 4%, while our zero emissions goal is a landfill disposal rate of no more than 1%, which we are aggressively pursuing.

The Benefit: Reduced scrap material through a recycling plan; reduced waste through the use of long-life products designed to decrease replacement cycles.

Reducing Negative Environmental Impact

NSK works to prevent pollution and reduce our overall environmental impact. In 2009, NSK Americas recycled the equivalent of 15,137 mature trees – enough timber resources to produce more than 187,089,000 sheets of newspaper! We also recycled 5,694,000 gallons of water – enough to meet the daily freshwater needs of 75,920 Americans. NSK's recycling efforts in saving 18,131 cubic yards of landfill airspace was enough to fulfill the municipal waste disposal needs of 23,240 Americans for a full year. In addition, due to our recycling efforts we also saved 986,000 KW hours of electricity - enough energy to fulfill the annual needs of 2,219 homes!

The Benefit: Reduced environmental impact through use of recycling and conservation measures that protect our natural resources.

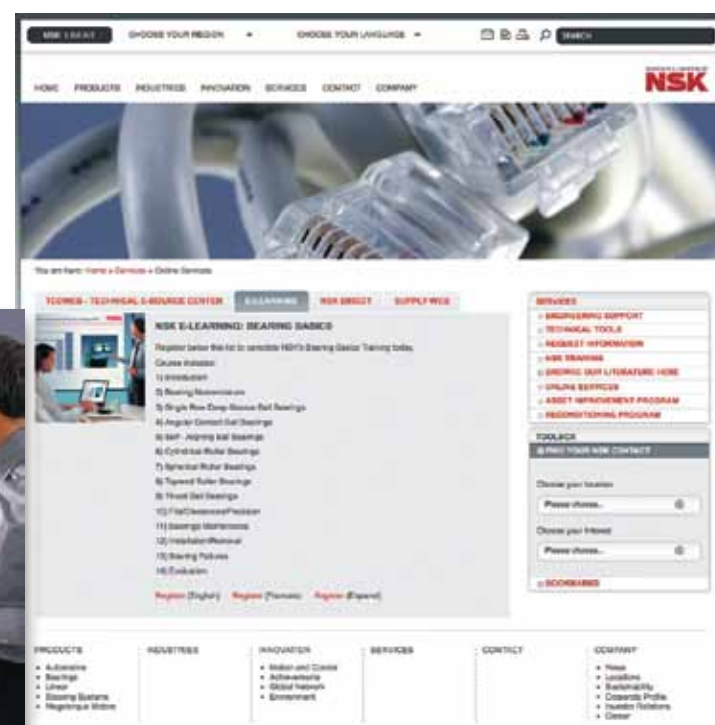
NSK's commitment to sustainable business means you can select from a range of sustainable product options as you work towards your facility's sustainability goals. Contact us for more information about NSK's sustainability initiatives and world-class products that increase efficiency and reduce maintenance costs. ■

More online options available to you!

NSK offers an E-Learning course that covers all the bearing basics you'll need to get you started. Some of the topics covered include bearing failures, fits/clearances, and an overview of the different NSK range of bearings. The course is available in English, French and Spanish. It is recommended that you use an internet browser other than Firefox as the latter has been a known cause of login problems. Do not hesitate to contact us if you need help with accessing the course login or the course itself.

We have also launched our new website in French and Spanish this past January

and March respectively, to better accommodate our customers throughout North America. We hope you find our site easier to navigate and always welcome your feedback and comments. ■



www.nskamericas.com Access Through Online Services



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www.aggregatesandminingtoday.com
Canadian Packaging
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Paper 360
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NSK Around the World

PSA Peugeot Citroën salutes NSK's excellence

On March 19 of this year, PSA Peugeot Citroën, second largest automotive manufacturer in Europe, held its suppliers' day in Poissy, France. This event brought together the group's 300 leading suppliers, representing around 90% of the total group suppliers.

As one of the only 14 awarded suppliers in five areas (quality, innovation, replacement parts, economical performance and sustainable development), NSK was honoured and received a prestigious award from PSA, rewarding outstanding performance in quality.

Mr Jean-Christophe Quémard, PSA Executive Vice President and Purchasing Manager, commented on NSK achievement during the ceremony: "A production quality award also goes to our Japanese supplier NSK, which has been supplying bearings since 2003. Its quality record is exceptional since its first part supplied: less than 1 PPM for 6 consecutive years. Whether in development or production, NSK performance is remarkable and recognised as a technical benchmark. Congratulations."

This award is the result of the strong relationship developed along the years with PSA together with NSK's continuous efforts in achieving the high quality standards set by the car manufacturer. In this particular instance, NSK performance in quality can largely be attributed to the close coordination with the manufacturing locations, Peterlee, England, for wheel hub units and Saitama, Japan, for tapered roller bearings for transmission applications.

NSK European Automotive Business Unit (EABU) started working with PSA in 1998. The first major project followed in 2000, and mass production deliveries in 2003. Currently, NSK

supplies bearings for chassis and drive train for various PSA car models as well as light commercial vehicles and is proud to be involved in the development of future vehicles.

As a strategic partner to top automakers and suppliers around the world, NSK provides solutions that offer higher performance in a compact space. Intelligent steering systems, rolling bearings for drive train, engines and accessories – our products ensure efficient fuel consumption and enhanced active and passive safety in vehicles.

Our goal: Being number one in Total Quality

Continuously optimising production processes, delivering innovative products in perfect quality, expanding the range of services, NSK strives every day towards continuous improvement, because as a leading supplier in the field of Motion & Control we are determined to achieve our goal: being number one in Total Quality. ■



PSA Award for Quality handed over to Ralf Dunning, NSK Europe Automotive Business Unit Director

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NSK Sponsors High School & Universities

University of Michigan
Baja Racing Team

Northern Alberta Institute of Technology -
Edmonton, AB -
Student Awards

Queen's University -
Kingston, ON -
Formula SAE Team



Sinclair Sprockets (Robotics Team)

Sinclair Secondary School -
Whitby, ON -
Sinclair Sprockets (Robotics Team)

University of Manitoba -
Winnipeg, MB -
Formula SAE Team

University of Ottawa -
Ottawa, ON -
Supermileage Project

University of Waterloo -
Waterloo, ON -
Formula SAE Team

University of Waterloo -
Waterloo, ON -
Midnight Sun Solar Race Team

University of Western Ontario -
London, ON -
Formula SAE Team



Supermileage Project

Counterfeit Bearings Can Break Your Business



Counterfeiting is one of the largest issues impacting the global bearing industry today - hundreds of thousands of counterfeit bearings were confiscated by authorities in 2009, and production of counterfeit components continues to increase. Counterfeit bearings are everywhere throughout the global supply chain including countries like China, India, Thailand, Brazil and UAE. While many assume that counterfeits are strictly smaller, easier to copy bearings, large-sized bearing counterfeits are increasingly common in the industrial aftermarket.

Bearing counterfeiters are becoming increasingly sophisticated. In some cases, manufacturers are unable to differentiate between genuine bearings and packaging and their knock-offs, which puts every purchaser at risk. Detections may include specific markings on bearings inconsistent with the real manufacturer and use of lower-quality greases.

The World Bearing Association (WBA) is now focusing on the global manufacturing supply chain to attack the issue of counterfeit bearings. Their current objective is to educate and create awareness of this growing critical issue.

Why should you care about counterfeits? First, they degrade faster and fail more quickly, and can bring a plant's production line to a halt. Second, they can cause catastrophic accidents, or endanger workplace safety. With any of these occurrences the possibility of expensive damage to capital equipment or injury to personnel is a major concern.

For example, one organization identified a counterfeit component that was assessed at having an operational life estimate of 600 hours - the genuine part would provide 20,000 hours.

Despite the disparity, the counterfeit component was complete with boxes, paperwork and labeling that were close enough to the original to escape detection by employees throughout the supply chain, until a vigilant mechanic discovered the deception.

The difference between the two life expectancies in this case is significant, and unfortunately common. The operating life disparity can impact the bottom line of businesses in more ways than one: More frequent replacement, costly maintenance, additional testing, unplanned failure, or machinery damage.

So, how can you ensure that you get what you pay for with your next bearing or component investment? Always purchase products from authorized sources. If you are suspicious of counterfeit activity please contact an NSK representative.

For more information about NSK's world-class bearings, and how they can contribute to the reliability and profitability of your business, visit www.nskamericas.com. When it comes to the quality components you can rely on, Think NSK. ■

NSK 2010 Tradeshow Schedule: Shows Already Attended

International Pump Users Symposium 2010



Where: March 15-18, 2010
Houston, TX



Semicon West

With an eye towards a stronger market and more competitive landscape, SEMICON West 2010 is positioned to be a milestone event for the micro-electronics industry.

NSK will feature linear motion and mechatronics products and moving demos. Visit our booth to learn more about the quality, performance and partnership that NSK can offer.

Where: San Francisco, CA
When: July 13-15, 2010

AISTech

AISTech 2010 featured international technologies from the world over, allowing steel producers to compete in today's global market.

Where: Pittsburgh, PA
When: May 3-6, 2010



Upcoming Shows

International Manufacturing and Technology Show

The International Manufacturing Technology Show (IMTS) is the place to see the latest in manufacturing technology, network with business colleagues, and find solutions to your current and future needs.

In our booth, NSK will feature linear motion and bearing solutions designed to increase performance.

Where: Chicago, IL
When: September 13-18, 2010

NSK Salutes Military Families At Michigan Speedway

On Sunday June, 13th, NSK Corporation paid tribute to American servicemen and women by giving them and their loved ones a NASCAR experience at the Michigan International Speedway (MIS). NSK has been involved in the Salute to Military Families Program at MIS since its inception four years ago, providing tickets and hospitality to special guests whose lives have been altered by military duty, both past and present. For the last two years NSK has cosponsored the event with the VFW and the program continues to grow year after year.

In total, VFW and NSK invited 350 guests to join in the excitement of the NASCAR Sprint Cup Series Heluva Good! Sour Cream Dips 400. Guests received grandstand seating on Turn one along with VIP hospitality and pit row access.

All 350 guests were asked to participate in the pre-race ceremonies which included an air show featuring military aircraft and a fireworks display. Participants were able to see drivers up close during driver introductions and also had the chance to see the race Grand Marshals, Adam Sandler and Kevin James. NSK's guests, Sheri Bedard and her nine year old son, had prime seats for the pre-race ceremonies. Sheri has been in the military for 19 years, and her husband recently retired from service after 24 years. According to Sheri, "My son and I were over the moon to be included in this event. It was the first time we had attended a race, and it is truly an experience that we'll remember and share forever. We wish that every member of the military serving overseas could have joined us, it is a priceless memory."



NSK is very proud to sponsor the Salute to Military Families Program at MIS. It is a chance to recognize military personnel, as well as their friends and family, for their time, dedication and personal sacrifices.

"NSK continues to support the MIS Salute to Military Families program as a tribute to the dedication of our military servicemen and women and their families," says Tony Martell, VP and GM of the Aftermarket Business unit at NSK. "This exciting NASCAR event allows our military guests and their families to have a day of fun and to show our appreciation for the contributions they have made to our country". ■



NSK Supports the Ann Arbor Relay for Life



Fighting cancer is a team effort. The impact we can make together is much greater than what any of us could do alone.

On June 26th and 27th NSK Corporation participated in the Ann Arbor Relay for Life. With 35 teams and 742 participants the Ann Arbor Relay was able to raise over

\$84,000, well over the \$70,000 goal. The walk kicked off with Opening Ceremonies and a Survivors lap. 73 survivors were registered for the 2010 event. The walk

People in the News

Recently, there have been some personnel changes within NSK that may be of interest to you...



Maria Langner has accepted the position of Customer Service Manager for the Canadian branches of NSK. Maria began her career with NSK in 1990, starting in an administrative role and earning her way up the Sales organization as Inside Salesperson, Senior Inside Salesperson, and her most recent role of Inside Sales Supervisor for the Mississauga branch.



Heather Meyer was hired as an Account Specialist in May at NSK Corporation in Ann Arbor. She interned with NSK for two years during college and has graduated from Valley State University with a Bachelor of Arts & Behavioral Sciences.



NSK Corporation welcomes **Christy Hall** as Application Engineer. Christy was previously employed by United States Steel Great Lakes as a Blast Furnace Operations Manager and Manager. She obtained her Mechanical Engineering Degree from the Michigan Technological University.



NSK Canada welcomes **Edward Toczko** as Technical Sales Representative for Atlantic Canada effective March 15, 2010. Edward has a Bachelor of Engineering degree from McGill University and brings many years of industry experience and knowledge. His employment history includes ABB Drying, NTN Bearings, and several years with Metso Paper North America.



Martin Simard has taken on a newly created position of Field Services Specialist in Montreal, QC. Martin has been with NSK Canada since 2002.



Martin Colleta joined NSK Canada's Montreal team as Technical Sales Representative. Martin began his career in sales as a Coordinator for Hall Smith Company. His most recent work experience includes sales for GE Capital, Machine Tool Systems, and Account Management for Rittal Systems. Martin studied Mechanical Engineering Technology and Pure and Applied Sciences at Dawson College.



Sam Hutchison has accepted the position of Territory Manager with NSK Corporation. Sam comes to NSK from IKO International where he managed a sales territory for the last 6 years.



Paul McKenzie joined the Marketing Team as Marketing Specialist/Segment Manager - General Industry. Paul's experience includes 5 years as Marketing Manager for Schaeffler Canada Inc. and 20 years with FAG Bearings Limited with various marketing and leadership responsibilities. We are very excited to have Paul join our team as his expertise will provide valuable support to the Sales Team.



Marco Bourque joined NSK Canada on May 31, 2010 as Regional Sales Manager for Eastern Canada. Marco has over 18 years of technical sales and territory management in the industrial market. He began his career as a technical sales representative at National Bearing and was Branch Manager at MBS Bearing Service. His recent experience includes employment with Barzel Industries, Gates Canada, and SEW Eurodrive. Marco's education includes the Human Sciences Program at Rosemont College.



Dan Porter will be assuming the Industry Specialist role in the Atlanta, GA area and will be responsible for covering the Southeastern US. Dan's experience includes 16 years at International Paper in Oswego, NY and 11 years in Syracuse, NY.



lasted 24 hours with different events and fund raising activities throughout. Lives were celebrated with a 9:00 Luminaria Ceremony.

NSK was proud to participate in such a rewarding event. Together we feel we made a difference in our community and elsewhere. ■



EXTEND BEARING LIFE!

Tips & Techniques for Mounting Bearings With Cylindrical Bores

Did you know that about 16% of premature bearing failures are caused by incorrect mounting tools and methods?

Bearings are high-precision machine parts – how they are mounted significantly affects accuracy, service life and performance. In fact, from initial handling to post-mounting inspection, in every industry and every application, bearings must be treated with care to achieve their full potential service life.

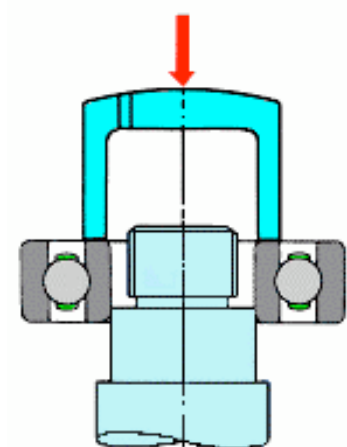
Before mounting bearings, operating conditions should be thoroughly studied so that bearings can be mounted accordingly - if necessary, consult a design engineer or industry specialist. Then, apply mounting techniques specific to the bearing's bore.

Mounting Techniques for Cylindrical Bores

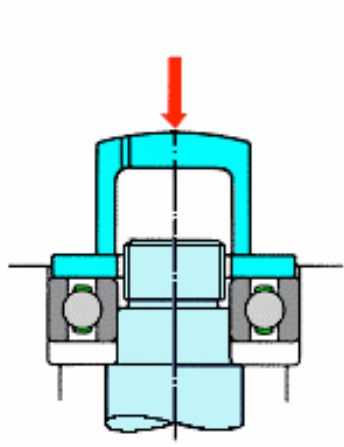
Press Fits

Press fitting is widely used for small bearings. A mounting tool is placed on the inner ring and the bearing is slowly pressed onto the shaft with a press until the side of the inner ring rests against the shoulder of the shaft. The mounting tool must not be placed on the outer ring for press mounting, as this can damage the bearing. Before mounting, applying oil to the shaft fitting surface is recommended for smooth insertion.

When both the inner and outer rings of non-separable bearings, such as deep groove ball bearings, require a tight fit, a mounting tool is placed on both rings, and they are fitted at the same time using a screw or hydraulic press. Since the outer ring of self-aligning ball bearings may be deflected, a mounting tool should always be used.



Press Fitting of Inner ring

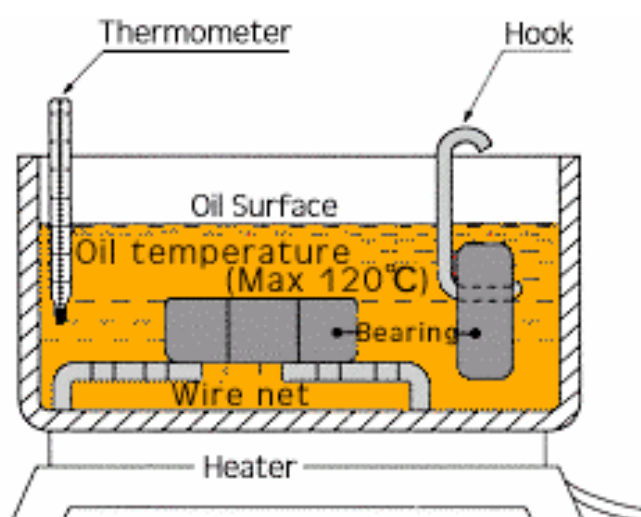


Simultaneous Press Fitting of Inner and Outer Rings

Shrink Fits

Since press fitting large bearings requires a great deal of force, the shrink fitting method is also widely used. The bearings are first heated to expand the inner ring before mounting. Use of a bearing induction heater is the preferred method to heat the inner ring; however, the oil bath method is also used. This expansion prevents excessive force from being imposed on the bearings and enables quicker and easier mounting.

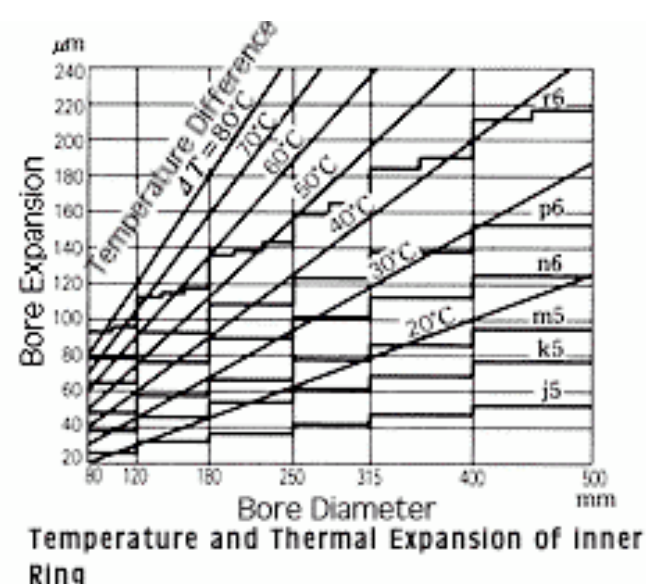
The expansion of the inner ring for various temperature differences and bearing sizes is shown at right.



Heating with Oil bath

When making shrink fits, be sure to take the following precautions:

1. Do not heat bearings to more than 120°C.
2. When using an oil bath put the bearings on a wire net or suspend them in an oil tank in order to prevent them from touching the tank's bottom as shown at right.
3. Heat the bearings to a temperature 20°C to 30°C higher than the lowest temperature required for mounting without interference since the inner ring will cool a little during mounting.
4. After mounting, the bearings will shrink in the axial direction as well as the radial direction while cooling. Therefore, press and hold the bearing firmly against the shaft shoulder to avoid a clearance between the bearing and shoulder.



Trivia

Answer the following question correctly and you could win a bundle of NSK goodies. Only one entry per person will be accepted. The deadline for entries is September 30th, 2010.

Fax your entries to:
IN CANADA : (905) 890-0750 (Attention: Marketing)
IN USA : (734) 913-7510 (Attention: Marketing)
or E-mail your answer to : editor@nsk-corp.com
 Be sure to completely fill out the form so we can send you your prize.

The winners of the January 2010 Trivia are **Jonathan Odd** of Kaman Industrial Technologies in Mississauga, ON and **Steve McCann** of Applied Industrial Technologies in Waynesboro, VA. The answer to the last Trivia question was: C) Central Park, NY.

On what island or group of islands did Babe Ruth hit his first professional home run ?

- A) Fiji Island
- B) Toronto Islands
- C) U.S. Virgin Islands
- D) Canary Islands
- E) Aleutian Islands



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