

# THE GENERAL Concept

Newsletter of  
General Bearing  
Corporation  
An ISO/TS 16949  
Certified Company  
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"GENERAL BEARING WILL BE THE LEADER IN THE LOW-COST, HIGH-QUALITY SUPPLY OF PRECISION BEARING PRODUCTS. BY PROVIDING THIS VALUE, WE WILL HELP OUR CUSTOMERS REMAIN COMPETITIVE IN THE GLOBAL MARKETPLACE."

## GBC ENGINEERING TECHNICAL CENTER

The GBC Engineering Technical Center is located in the heart of General Bearing's several manufacturing facilities in Ningbo, China.

The ETC was cooperatively established by the manufacturing plants and GBC New York to supply product testing and metrology services to the plants. The ETC is staffed by engineers and technicians that work cooperatively to meet the goals of General Bearing's engineering



applications. Two machines simulate extreme mud bath environments; another features a dry dust simulation. Outer bearing ring rotation, as found in automotive

Measuring Machine, is employed to qualify production gauging used in the factories.

The Lab equipment includes several hardness testers covering all hardness scales. A Video microscope is used

CONTINUED ON PG. 6

team and our customers.

The test lab features endurance life testing with equipment that covers the full size range of products that General Bearing manufactures. All variables can be measured and the data collected for analysis. This equipment is used both in design validation and continuous reliability monitoring.

In addition, the test lab features several pieces of equipment that can simulate our customer's



accessory belt drive applications is also available. A specially designed rig that simulates automotive steering system movements and loads is also used.

On the metrology end, the latest technology, a Zeiss Coordinate

### WHAT'S INSIDE...

GBC's Presence in Brazil .....	2
OEM European Activity .....	3
Litens Timing Belt Pulley Application.....	4
New Dining Center in Ningbo ...	4
GBC New York Operations Re-certified.....	5
Noteworthy .....	6

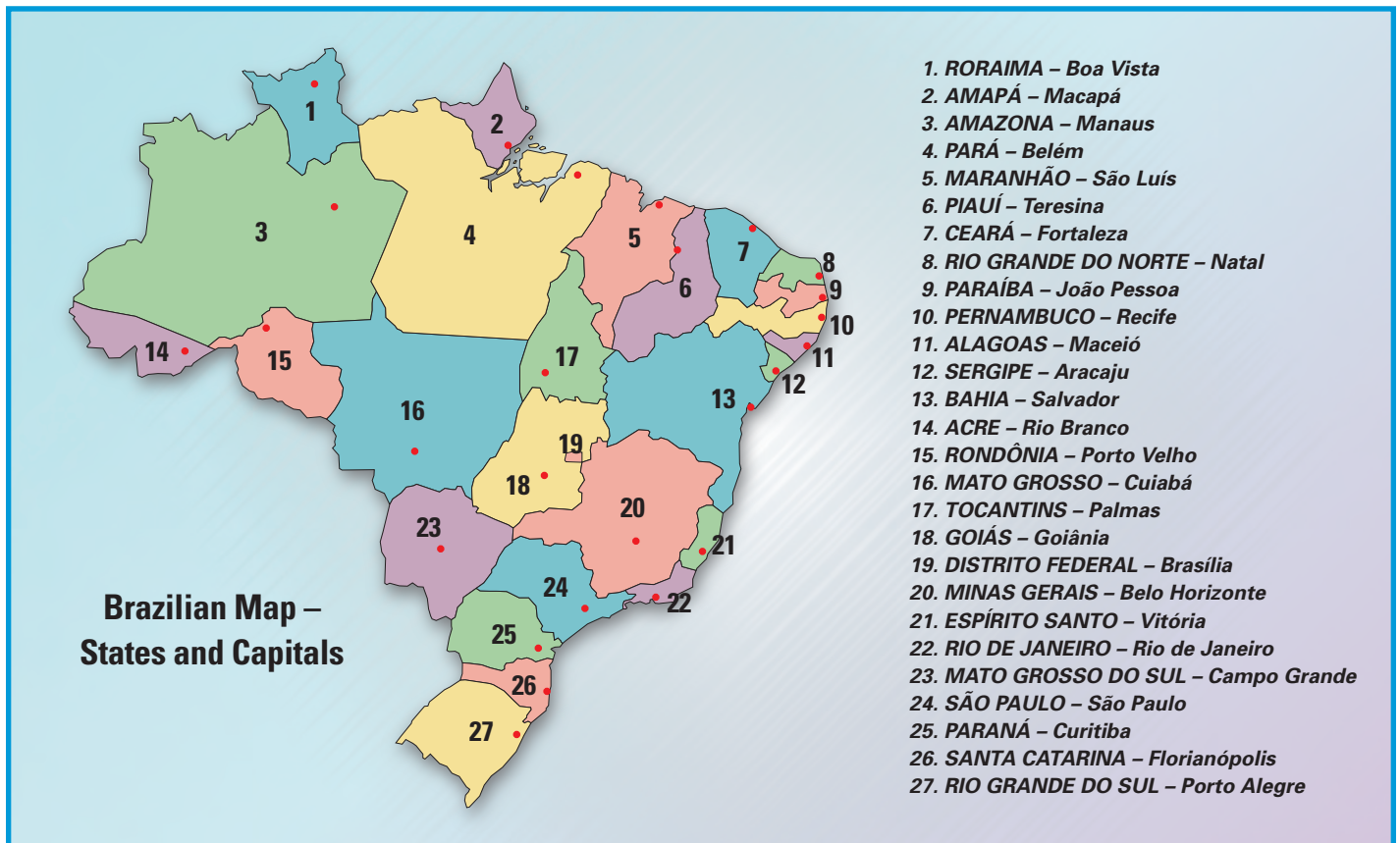


# GBC's PRESENCE IN BRAZIL

In South America the Mercado Comun del Sur (known as the Mercosur) was established in 1991. The Mercosur Region is the result of an economic treaty that includes the southern cone countries of Argentina, Brazil, Paraguay, and Uruguay which allows duty free inter-Mercosur trade. In 2005, General

include Randon, Fachini, Guerra, and Noma. A number of axle and hub manufacturers support the Brazilian Truck & Trailer market. After several years of working to gain a foothold in Brazil, GBC has become an approved supplier of wheel bearings to truck OEMs and the axle & hub manufacturers that support their

servicing the Brazilian Truck & Trailer market. Some of the challenges include logistical support and understanding the customs of trade in Brazil, while meeting or exceeding customer's application requirements. Brazil offers many opportunities for General Bearing. As the global economic crisis affected the world's



Bearing began actively pursuing the growing Truck & Trailer Market in the Mercosur Region, focusing on Brazil. General Bearing's goal was to replicate the success GBC has enjoyed with its North American Truck & Trailer customers.

Truck OEMs with a presence in Brazil include MAN (formerly Volkswagen), Mercedes, Iveco, Volvo, and Ford. Trailer OEMs

wheel end requirements. Other truck OEMs are in the process of validating GBC as a wheel bearing supplier.

GBC uses a similar business model in Brazil as in North America, delivering low cost/high quality wheel bearings to South American Truck & Trailer customers.

General Bearing has embraced both the challenges and opportunities associated with

largest economies in 2008 and 2009, Brazil was insulated from the crisis. Brazil was able to avoid an economic downturn by supporting domestic growth in its infrastructure and its natural resources. Internationally, Brazil exports its abundant raw materials. These positive economic factors translate to a growing Brazilian Truck & Trailer market that GBC is eager to serve.

CONTINUED ON PG. 6

# GBC OEM EUROPEAN ACTIVITY

Despite the enormous growth rates in Asia and especially in China, European Vehicle Production continues to be significantly important for Tier 1 Global bearing suppliers. Of the ten biggest vehicle manufacturers in the world, three are from Europe (OICA production statistics 2010). As the birthplace of the automobile, Germany has a very special position in the automotive world. This is not only true for the OEMs but also for their vibrant network of suppliers. It is a demanding market — and engineering is the key.

Many European automotive OEMs and their suppliers are already GBC customers. High product quality

at an attractive price and great customer support have brought them into the GBC fold. Asked what GBC could do better, one message stood out: local engineering support. Local support from Tier 1 suppliers is expected by the European Customers offering on-site bearing experience during the new program development concept phase.

GBC listened — and restructured our European sales/engineering approach: Peter Kelm has joined GBC as the field engineering representative for these markets. Peter Kelm is located in Herzogenaurach, Germany and brings in more than 14 years of experience in the automotive and

bearing industry. Before working for GBC, Peter held positions in product development and technical marketing at the Schaeffler Group.

The European activities are backed by increased engineering support for transmission applications in the US. GBC uses Romax bearing analysis software as a first design step. This ensures that bearing designs proposed by GBC, or our customers, perform as expected by product engineers.

Many of our current North American customers are also located in Europe. Peter Kelm's presence in Europe can be relied upon to support future NA Applications that originate in Europe. ●

## LITENS TIMING BELT PULLEY APPLICATION

Litens, a major global automotive supplier of accessory drive systems and timing drive systems has awarded GBC with a Purchase Order involving several different versions of a 6006 bearing. The special 6006 ball bearings offer various outer ring widths to accommodate the steel pulley engine timing belt application requirements. Overhead cam engines operate using Litens timing belt pulleys to drive the cam shaft from the engines crankshaft. The GBC 6006 ball bearing assembled into the Litens



steel pulley is a key component in meeting the engine operating performance.

Litens Automotive, in conjunction with Litens Aftermarket customers, approved GBC to supply a series of precision thin section ball

bearings for NA and European engine timing belt applications. GBC is also approved to supply a 6203 ball bearing for a General Motors accessory drive application.

GBC, offering “cost effective” special 6006 ball bearings, is also working with Litens to have GBC approved by VW along with other European engine suppliers for timing belt pulley applications.

Testing and validation is continuing at GBC Plants in New York and China, as well as Litens facilities in Canada and China. ●

# NGBC RECOGNIZED BY EATON WITH A PREMIER SUPPLIER AWARD

CLEVELAND — Diversified industrial manufacturer Eaton Corporation honored 35 of its suppliers with the company's prestigious Premier Supplier Award. This is the sixth year that Eaton has recognized a select group of its global suppliers with this award.

Among the award winners was Ningbo General Bearing Company,

receiving recognition from Eaton in the Direct Material supplier category for the Vehicle Group.

"We are proud to honor these suppliers for their outstanding service and commitment to excellence. The Premier Supplier Awards are reserved for Eaton's best suppliers," said Craig Reed, senior vice president—Supply Chain Management. "We thank and

congratulate each of our suppliers and look forward to working with them in the coming year".

This was the sixth time GBC, or one of the GBC plants, has been honored with an Eaton Supplier Award. In addition to this award from the Vehicle Group, prior awards have come from the Truck, Hydraulic and Automotive groups. ●

## NEW COMPANY CAFETERIA OPENS IN NINGBO

Earlier this year, a brand new cafeteria was opened in Ningbo. This centrally located facility caters to the needs of the Ningbo Hyatt Roller Co. (NHRC), Shanghai General Bearing Company's Ningbo plant (SGBC/N), and all three plants of Ningbo General Bearing Co. (NGBC). The new facility was designed to be a comfortable and spacious area, with glass windows placed around the dining area to



create a more open environment. The 22,600 square foot facility is capable of simultaneously serving up to 900 people with hot, delicious meals.

There are several food stations available in the new cafeteria, each offering different styles of cooking. A wide variety of dishes are provided, from more standard fare to

those offering food for a vegetarian diet. The larger space and new equipment enables every employee to pick from a wide variety of options.

There has been a great amount of activity, and employees are enjoying this new facility and the nutritious and diverse food service. ●



# GBC WEST NYACK OPERATION RE-CERTIFIED TO ISO/TS 16949: 2009

General Bearing has a long and rich tradition of deploying new and successful business models — the development of multiple world class manufacturing operations in China to name just one.

Making business models successful requires a sound and capable management system, and GBC recognized this concept years ago. The organization developed a solid foundation, which ensured an ever evolving management system to be certified to the toughest-at-the-time standards such as ISO 9001 and QS 9000. GBC was registered to the dual set of ISO/QS 9000 in January of 1998.

The business world doesn't stand still, and system requirements don't either. A few years later, the new system requirements standard, TS 16949, came along and adherence to it became the mandatory prerequisite for doing business with automotive and transportation customers. The real novelty of TS 16949 is the sharp and unwavering focus on the customer, and meeting that customer's business needs. The intensity of focus on customer satisfaction was elevated to the highest priority level for the entire organization; every component of the

business process, and every business function supports it.

Our TS certification journey began in September of 2003, and the efforts and enthusiasm of the GBC team saw

thorough review of key performance indicators identified excellent business performance in such areas as customer satisfaction (less than 5 ppm level for extended periods of time), favorable trend in cost of compromised quality over the last 18 months, and substantial improvement in the area of new product introduction and manufacturing feasibility processes. Thanks to the efforts of a multifunctional team led by Jim McDonald, Director of Business Processes, the organization developed a Lotus-Notes based system tool to initiate, track, and record product introduction and design/feasibility reviews. The system ensures effective and careful review of all the issues before proposals are submitted to the customers.

Also, the audit identified certain areas of GBC business processes which presented opportunities for improvement. One such area was FMEA process and records. The very process of general record keeping and disposal needed to be revisited and more clearly defined – especially records disposal after procedurally defined retention. The problem-solving team updated FMEA records, and established the schedule of on-going FMEA review.

The audit helped us to review



that important undertaking through to a successful implementation. General Bearing Corporation became registered to ISO 9001:2000/TS 16949:2002 in September of 2004, and successfully completed two 3-year registration cycles since then.

In May of 2010, GBC West Nyack Quality Management System was audited for the next 3-year cycle of certification...this time to the latest revision of the standard, ISO 9001/TS 16949:2009, 3rd Edition. A

CONTINUED ON PG. 6

## WEST NYACK RE-CERTIFIED

CONT'D FROM P.5

and improve the Layered Process Audit (LPA) which is aimed at on-going monitoring and functionality verification of all the production/manufacturing process control devices, gages, and procedures. The West Nyack, New York operation has been conducting those audits since 2008, and the process proved to be very effective.

The Registrar, Det Norske Veritas (DNV) has accepted GBC West Nyack's corrective actions, and re-certified the operation's management system to ISO 90001/TS16949:2009, 3rd Edition. ●

## GBC IN BRAZIL

CONT'D FROM P.2

As Brazil's economy continues to expand, the requirement for commercial trucks and trailers will increase, as well. Strategically, GBC is positioning itself to support the increasing demand for wheel bearings in Brazil and the entire Mercosur Region. ●

## NOTEWORTHY

Myron Bond has been the Midwest Regional Sales Manager for the Aftermarket Division since 2007. Myron came to General Bearing Corporation with a variety of work experiences that have helped him excel in his Regional Manager role. He had been responsible for hiring, training and managing multiple salesforces as well as turning an auto parts store chain into a profitable venture.

Myron manages our Industrial and Heavy Duty salesforces from Minnesota to Texas. He has the unique challenge of understanding the customer requirements in each market and working with our salesforce to address their needs.

The Sales Representatives describe him in the following manner; "Myron is always there when you need him, he is willing to travel and roll up his sleeves to help close new sales." He is an "exceptional manager with a strong work ethic" and "he is always thinking of ways to help us promote



MYRON BOND – MIDWEST  
REGIONAL SALES MANAGER

the GBC/Hyatt message of quality and value." "Myron is organized, a good listener and persistent, all of which are important to our efforts."

Myron resides in DeKalb, IL with his wife of twenty two years, Marie. Myron has four children and 5 grandchildren. Myron is a big sports fan who enjoys watching his beloved Bears, Bulls, Blackhawks and White Sox.

## GBC ENGINEERING TECHNICAL CENTER CONT'D FROM P. 1

in analysis work. Precision weight scales are used to monitor product cleanliness and lubrication fill weights.

The lab is equipped with a material spectrograph capable of detecting

elements within the bearing steel. Additionally, Infrared spectroscopy is used to qualify bearing lubricants.

This is a fully equipped facility that exceeds customer's requirement and

provides immediate feedback to the manufacturing plants.

The Engineering Technical Center is a key to future application success. ●



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