

## 2008 SAE Brake Colloquium – A Success!



Link was a major participant in the 2008 SAE Brake Colloquium held this year at the Grand Hyatt in San Antonio, Texas. The event welcomed over 550 key experts in the brake industry from around the world. Our President, Roy Link, chaired the conference which is held annually at varying sites throughout the US. A highlight of this year's conference was the presentation on the status of the emerging markets of Brazil, Russia, India and China (BRIC) by highly regarded representatives Mr. Zomar Antonio de Almeida Oliveira of Fras-le (Brazil), Ms. Natalia Usikova of TIIR (Russia), Mr. S. Viji of Brakes India (India) and Mr. Zhichao Hu of Xinyi (China). Their presentations are available from Link upon request.

### Roy Link Inducted into SAE Fellows

It was also announced at the conference that Roy Link has been inducted into the SAE Fellows. This distinction is a high honor reserved for a small number of SAE members and is due to Roy's tireless dedication to the betterment of SAE and all that it supports. This honor goes beyond being recognized by the brake industry, and honors Roy's significant impact on society's mobility technology through leadership, research, and innovation. It is a great honor for Roy and for the entire Link organization.



### Carlos Agudelo Receives Allen M. Lang Award

Another highlight was the honoring of our Mr. Carlos Agudelo, Chief Engineer of Link Testing Laboratories, Inc. Carlos received the Allen M. Lang award for providing the



“Best Presentation” given during the 2007 SAE Brake Colloquium with his presentation on the “Status and overview of the SAE J2784 – FMVSS 135 Inertia Dynamometer Test Procedure”. Carlos is not only an invaluable part of the Link team, he also provides significant contributions to the entire industry. With relentless dedication and attention to detail, Carlos participates on several SAE and ISO committees and manages inside certification programs for the Brake Manufacturers Council and the American Public Transportation Association. The award was well deserved.

#### INSIDE THIS ISSUE

2008 SAE Brake Colloquium.....	1
Matthew Link Promoted to VP.....	2
European Services Growth .....	2
Link Industries New Product .....	2
International Standards Development.....	2
Link-Radlinski Provides PBBT Workshop .....	3
New Transmission Specialist at Link Eng. ....	3
Link at the CASMI Spring Show.....	3
VSI2 Training in Korea .....	4
Link Europe Attains ISO Certification.....	4
New Sales Manager at Link China.....	4
Model 975L Lacer .....	5
Model 1640 Double-End Stator Lacer.....	5
Digital Slip Ring.....	5
Calendar of Events.....	5



## Matthew Link Promoted to Vice President




Matthew Link has been elevated to the position of Vice President and General Manager for Link Engineering. Matt has earned this promotion through many significant contributions. His initial work as a Project Engineer in both Link Testing Laboratories and Link Engineering began his career. After receiving an MBA at the University of North Carolina, he moved to Link West in Mesa, Arizona where he served as General Manager for five years. As of July 2007, Matt has moved back to Michigan and has worked in our headquarters as General Manager of Operations serving as Director of Purchasing and then Director of Sales. With his recent promotion, Matt will serve as Vice President and General Manager of administrative operations at Link Engineering. 

## European Services Growth

Link now offers a calibration service throughout Europe for all Link series 3801X compact data acquisition systems. Downtime can be reduced significantly by using our new calibration service. In order to support this service, and to improve vehicle testing capabilities, Link Europe announces the addition of Christian Schmidt to our staff in Europe. Christian comes to Link with a strong background in vehicle services for OEM's throughout Europe.




Link Europe also has a portable DTV and residual torque measure (Model 3378) available for demonstration. Please contact Link Europe at +49 261 57988-30. 

## Link Industries New Product




Link Industries announces a new product offering. These new Screw Machine Length Step Drills, for countersinking and counterboring, are designed for low heat and easier chip removal. This shorter length reduces chatter, run out, and breakage.

Visit our website for a full product listing at [www.centerdrills.com](http://www.centerdrills.com). 


## Major Milestone on International Standards Development

During October's Brake Colloquium in San Antonio TX, Harald Abendroth, Chairman of the ISO TC22-SC2-WG2-Brake Linings Committee, announced the official release and publication of ISO 15484 standard for road vehicles. The ISO 15484 provides the entire automotive industry with a robust protocol to base their product development, product specification, and manufacturing monitoring for passenger car and commercial vehicle brake friction materials. The test procedures and test plans cover physical, general, and inertia-dynamometer testing that allow the manufacturer and the customer to establish a test and validation plan that relies on international standards from SAE, ISO, and JIS-JASO as well as specifications difficult to find for physical property measurements.

Aside from being a comprehensive international standard with more than 30 test specifications, the ISO 15484 demonstrates the ability of the global automotive industry to collaborate — more than 100 engineers were involved in the almost 8 years of its development. Link Engineering and Link Testing Laboratories played key roles in global and regional coordination and were involved in the development or revision of almost 10 SAE and ISO standards. Many LINK customers were also very active through the different SAE and ISO Committees and task-forces that collaborated with this industry effort. 

## Link-Radlinski Provides PBBT Workshop for Michigan Public Transportation Association




Performance Based Brake Testers (PBBTs) are used by at least seven transit properties to improve the quality of preventive brake maintenance. Link-Radlinski was invited by Michigan Public Transportation Association (MPTA) to provide a brake maintenance workshop emphasizing the use of PBBT's. About 60 members attended one of four two-hour sessions that included classroom content in addition to the equipment demonstration. Rapid City Transit provided the bus. 



## Transmission Specialist Joins Link

We are pleased to introduce Mr. Wally Ogorek who has joined Link to share his automotive engineering knowledge and experience with Link and our customers. Wally spent the past 30 years at Ford Transmissions Driveline Engineering (TDE) in Livonia working on the development of advanced technologies related to Automatic Transmission Design and Wet Friction testing. He brings a wealth of knowledge to assist in developing Link Test Systems, interpreting test data and defining test solutions.




Wally will be working with our sales engineering and test lab personnel to further develop Link's wet friction testing capabilities, and to grow our business in the automotive powertrain testing arena. 

## Link at CASMI Spring Show

In October, Link participated in the 2008 SPRING WORLD® Trade Show in Rosemont, Illinois. This is the annual exhibition for manufacturers of springs and wireforms and is sponsored by the Chicago Association of Spring Manufacturers Inc.



The show was held at the Donald E. Stephens Convention Center, October 15-17, 2008. The popular T4B Spring Tester, T4A Spring Tester, 3700 Display Module and Win3700 Spring Tester software were on display.


Many of our customers, both current and prospective, visited us to see how LINK can provide a quality spring tester that will provide accurate data for their spring testing needs. 

## New Sales Manager at Link China

Link Engineering is pleased to announce the addition of Mr. Xu Xin to our staff at Link China. Xin will assume the responsibilities of Sales Manager for China, reporting to Mr. Aaron Li, our General Manager for Link China.




Xin comes to LINK with a wealth of valuable experience specifically related to the testing of brakes, friction materials, transmissions, and similar vehicle components. His ten years in dynamometer sales and application engineering allows him to immediately provide valuable assistance to LINK and our customers throughout China.

Following his Masters Degree in Automotive Engineering from the prestigious Tsinghua University Xin worked for their Automotive Engineering Department. He then spent nine years in dynamometer sales with Schenck. He will be available to assist our customers in understanding LINK products and solving testing needs through equipment implementation as well as through providing testing services. Xu's contact information is [x.xu@linkeng.com](mailto:x.xu@linkeng.com); Telephone: +86-2163901696; cell: +86-13901318602. 

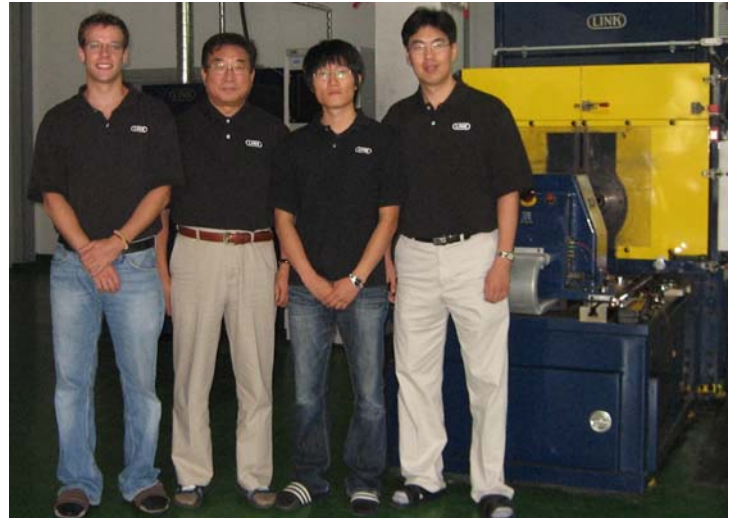
## Link Europe Attains ISO 9001:2000 Certification



Link Europe now has a new quality system in place. Officials certified Link Europe according to the high standard quality management system DIN EN ISO 9001:2000 in May 2008. Through this commitment, Link Europe improves the efficiency


of its quality management with the clear target to continuously increase customer satisfaction. This will not only affect the sales activities but also the growing requirements in providing testing services both on vehicles and dynamometers. 

## Visual Scripting Interface (VSI2) Training in Korea



Left to Right: Adam Link, Young Shin, Ho Chan Ki, Sun Mok

Sun Mok, Test Engineer at Link Testing Laboratories in Detroit, MI, visited South Korea in August to provide a 3 day training session for Link's customers in Korea. The training was a success, with 15 attendees participating, representing 8 of the major auto manufacturers or major parts suppliers in Korea. The training focused primarily on VSI2 script programming. Participants learned how to program themselves by practicing on full procedures that are commonly run at our laboratory. The training also included a quiz and a Q&A session.

Sun, and his colleagues in Detroit, have gained tremendous experience in their support of over 50 inertia brake dynamometers and additional test stands which operate at Link Testing Laboratories 24 hours a day and 7 days a week. Customer feedback from the training was very positive and reinforces our understanding of how valuable our knowledge base is through our testing service activities. It allows us to offer our customers support from engineers and technicians who support testing on dynamometers all day, every day. 


## New, Larger Model 975L Lacer

Link has developed an enhanced version of the model 975 Single-End Stator Lacing machine. This new Lacer, designated the model 975L, can lace larger stators than the standard version.



Major components, including the cam, arbor spindle and needle carriage, have been completely redesigned to accommodate the larger stators. Below is a comparison of key characteristics of the two machines:

Stator Characteristic	Model 975	Model 975L
Inside Diameter	3.6" (91 mm)	5.5" (140 mm)
Stack Height	10" (254 mm)	14" (356 mm)
Coil End Turn Height	4" (102 mm)	5.75" (146 mm)


The new model 975L Lacer allows manufacturers to lace a wider range of stators at a very affordable price. 

## Double-End Stator Lacer Update




Link has developed an Automatic Stack Height Adjustment subsystem for the large model 1640 Double-End Stator Lacing machine.

This new capability allows the operator to change three different machine settings without tools by simply pushing a button. A gear motor and belt system simultaneously adjusts the upper needle, the upper cord guide and the tooling carriage to the desired stack height. The new stack height is shown on a large, easy-to-read digital display.

This Automatic Stack Height Adjustment subsystem is ideal for high-volume manufacturers with frequent changeovers for different stack heights. 



## Digital Slip Ring

Link Engineering has developed a new digital slip ring assembly for transfer of rotating temperature and torque signals. The system consists of a circuit board directly integrated to a standard slip ring capable of digitizing signals. With digital technology the signal quality is improved by reducing electrical noise. This system allows for transfer of 8 temperatures and one strain gage channel across seven rings where a conventional slip ring would have required 20 rings. Fewer rings equates to fewer brushes resulting in reduced maintenance. Cost is significantly less than a telemetry-based digital system. 



### CALENDAR OF EVENTS

April 20-23, 2009—SAE 2009 World Congress; Cobo Center, Detroit, Michigan, USA [www.sae.org/congress](http://www.sae.org/congress)

May 6-8, 2008—Intl. Brake Colloquium SAE Brasil, Gramado, Brazil [www.saebrasil.org.br](http://www.saebrasil.org.br)

May 19-21, 2009—SAE 2009 Noise & Vibration Conference and Exhibition; Pheasant Run Resort, St. Charles, Illinois, USA [www.sae.org/events/nvc](http://www.sae.org/events/nvc)

June 6-8, 2009—Intl. Friction & Sealing Material Exhibition, Shanghai China; [www.cfsma.org.cn](http://www.cfsma.org.cn)

June 9-10, 2009—IMECHE Braking 2009; York, United Kingdom [www.imeche.org/events/c672](http://www.imeche.org/events/c672)

September 15-17, 2009—Automotive Testing Expo 2009 China, Shanghai China; Visit us at booth 2014 [www.testing-expochina.com](http://www.testing-expochina.com)

October 2009—B&K Sound & Vibration Conference Michigan

October 11-14, 2009—27th Annual Brake Colloquium and Exhibition; Tampa Marriott Waterside, Tampa, Florida USA [www.sae.org/events/bce/cfp.htm](http://www.sae.org/events/bce/cfp.htm)

October 27-29, 2009—Automotive Testing Expo 2009 North America; The Rock Financial Showplace, Novi, Michigan, USA; Visit us at booth 18030 [www.testing-expo.com/usa/visiting.php](http://www.testing-expo.com/usa/visiting.php)