2013_Vol. 3

SCHENCK
Balancing & Diagnostic Systems

balancing news

Information on the quality and performance of rotating equipment - From the Schenck Balancing & Diagnostic Systems Group

Schenck Welcomes Mark Salak as District Manager for the Southeast Region

Schenck Trebel Corporation welcomes Mark Salak as District Sales Manager (DSM) for the Southeast region. Mark will be reporting to recently appointed National Sales Manager (NSM) and former Southeast DSM, Peter Ehlers.

Mark is a veteran of the Balancing Industry with over 18 years of experience, and extensive applications engineering and tooling knowledge. Mark is also a long-time resident of the Southeast with intimate knowledge of the Industry in the region.

Prior to joining Schenck, Mark worked for Carolina Resource Corporation, managing their Southeast accounts. As the new Southeast DSM, Mark will be representing Schenck from our newly established sales and service office in Greenville, South Carolina.

In addition to providing Sales and Service to our customers of the southeast, the office will provide balancing seminars/workshops, along with application troubleshooting assistance - on-site or at your facility.

"We are excited to have Mark on the Schenck team and are confident that his background and work ethic will contribute to our goals of supporting and partnering with our customers in the Southeast. ." – *Peter Ehlers, NSM - Schenck Trebel Corporation*

IN THIS ISSUE:

The Schenck Southeast office is located in the heart of its core customer base and will share its location with sister company, Agramkow. Agramkow is a leading manufacturer of fluid fill and test systems for the appliance and automotive industries. Schenck and Agramkow are a part of The Dürr Group.

Dürr is a mechanical and plant engineering group that holds leading position in the world market in its areas of operation.

Schenck Southeast and Agramkow are located at:
1 Marcus Drive, Suite 301
Greenville, SC 29615

You can reach Mark or one of his colleagues by contacting: sales@schenck–usa.com or by visiting our website: www.schenck-usa.com

The DÜRR Group

Schenck RoTec Has Facility Open House and Showcases the new: x-wheel truck *d*

Ben Giacona, Product Manager at Schenck RoTec Corporation (Auburn Hills, MI) leads a facility open house for top truck manufacturers in the Americas. The open house showcased their newest product offering - the x-wheel truck *d,* a wheel alignment system for heavy trucks and buses. Amongst the attendees, five class 8 heavy duty trucks were the headliners. The representatives from several truck manufacturers used these trucks to test the x-wheel truck *d* wheel alignment system.

This innovative x-wheel truck *d*, developed by parent company, Dürr Assembly Products, uses the patented measurement sensors x-3Dprofile that allows high-precision, repeatable measurement of toe and camber angles even under difficult lighting conditions.

The result: The x-wheel truck *d* has the ability to deliver a cost-effective solution to measure all relevant parameters such as toe, camber, and castor at all axles.

Due to the newly developed chassis geometry test stand for trucks, we are able to deliver a cost-effective measuring test stand. Even the measurement of steering inclination at the front axle and a steered rear axle is possible.

The toe and camber angle can be determined independently from the condition of the tires (markings, grooves, burls). The applied rotation of the wheel allows a complete compensation of tire, rim and bearing run-out. Thereby, achieving reproducible accuracies of less than 1 minute in toe angle measurement, and all this with a machine-cycle time of less than 5 minutes.

With the x-wheel truck *d* the requirements to the determination of the driving axle which have increased because of driver assistance systems, can now be fulfilled and reproduced.

x-wheel truck *d* is an investment that pays off, allowing customers to realize their initial investment within less than 12 months.

Benefits of the x-wheel truck *d*

- Fuel costs are reduced up to 10% because of lower tire resistance force or during the road-driving cycle
- Tire abrasion reduced up to 50%
- Low space requirement and compact design
- Flexibility by modular design
- Wide measuring range available with a single unit

Truck manufacturer Peterbilt has already made x-wheel truck *d* an integral part of its production process. The long-established company based in Denton, Texas, has been using two systems since January 2013. Two further systems were put into operation this past June.

How the x-wheel truck *d* works:

Unique Features

- Traceable back to national standards
- Non-contact measurement with x-3Dprofile sensor
- Wheel runout compensation

Tasks

- Setting of the horizontal steering wheel position when driving straight ahead
- Setting of parallelism of several steerable axles when driving straight ahead
- Quality control of the chassis geometry values
- Optional setting of headlamps, distance sensor (ACC) and lane departure warning (LDW)

Measuring possibilities

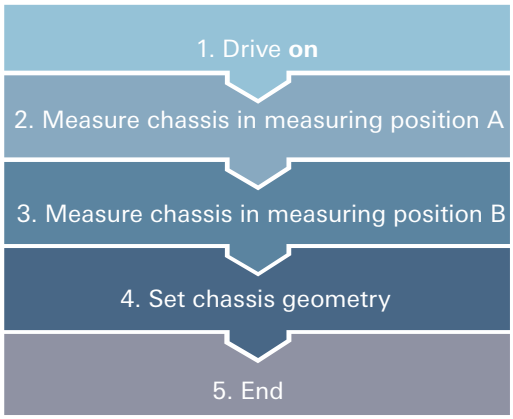
- Individual and total toe angle at all axles
- Camber angle at all axles
- Driving direction of all axles
- Steering wheel angle
- Measuring the position of the fifth-wheel

Cycle Times

< 4 minutes with an availability of > 98% (2-axle-vehicle without setting times). For each additional axle we require approximately 1 minute.

The chassis geometry is measured in 2 different vehicle positions for the compensation of the wheel runout.

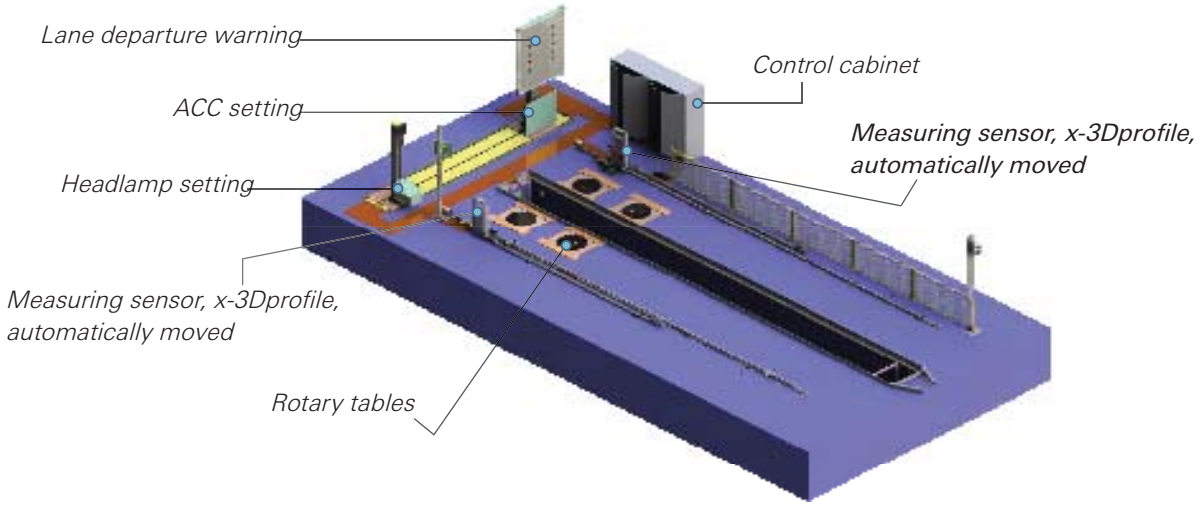
Example: 2-Axle Vehicle



Technical data x-wheel truck *d*	
Wheelbase range	2.300 mm to 9.000 mm, can be expanded on request
Tire diameter	800 - 1.250 mm
Toe accuracy	< 2' (master gauge)
Camber accuracy	< 6' (master gauge)

Measuring and Setting Sequence

The test stand can be built up on an existing, even hall floor or be installed beside an existing pit.



For more information about the x-wheel truck *d* including specs and pricing, or to request a tour of Schenck RoTec in Auburn Hills, contact Ben Giacona at: 1-248-377-2100 Ext. 4885 or email Ben at: bgiacona@schenckrotec.com

* The photos or figures of the assembly and testing systems in the flyer are not showing the complete installation. The requirements of the machinery directive (2006/42/EG) will only be met by other supplementary scope of supply or - on delivery of uncompleted machines - those requirements must be fulfilled by the manufacturer of the (complete) machine.

Schenck Cultural Immersion

By: Patrise Heins, Human Resources Manager – Schenck Trebel

Germany and Beyond...

For 15 US teenagers, the summer of 2013 was one they will surely never forget.

This past July, Schenck Corporation (Schenck Trebel Corporation in Deer Park, NY and Schenck RoTec Corporation in Auburn Hills, MI) participated in its first Student Cultural Immersion. In coordination with Schenck RoTec GmbH in Darmstadt, Germany, teens between the ages of 15 and 19 of current employees were given the opportunity to spend 2 weeks with a host family of our German colleagues. During the Spring, 6 students from NY and 9 from MI were carefully matched up by age and common interests with families from the Darmstadt, Püttlingen and Stollberg offices. They were then provided introduction letters, so they could communicate and get to know each other in the weeks prior the trip.

Then on July 13, they departed for their long-awaited journey. The Cultural Immersion lasted two weeks.

While in Germany, the teens did what most teens do on vacation. They went to the malls, museums and restaurants, spent time by the pool and did some horseback riding. Quality time was also spent with the host teens and their families – getting to know them and their culture better.

There were several exciting group excursions as well. These included a day of go-karting, a breathtaking climb up the Eiffel Tower in France, and a trip to Heidelberg, where they visited ancient castles and toured the cobblestone city on bicycles.

They even went on a tour of our affiliate facility, Schenck RoTec GmbH to see the manufacturing process in person.

Before returning to the US, 2 teens, Nicole Kaplan and Michelle Krupa, commented on their experiences: Nicole shared: "This trip has showed me so much about myself, other people and the world in general. I am so thankful for the people I met, and most importantly my host family for taking me in as one of their own. I wouldn't change the experience for anything."

Michelle added: "I'm leaving tomorrow with a great experience, unforgettable memories, new friends, my first sister and a new family that will always have a place in my heart."

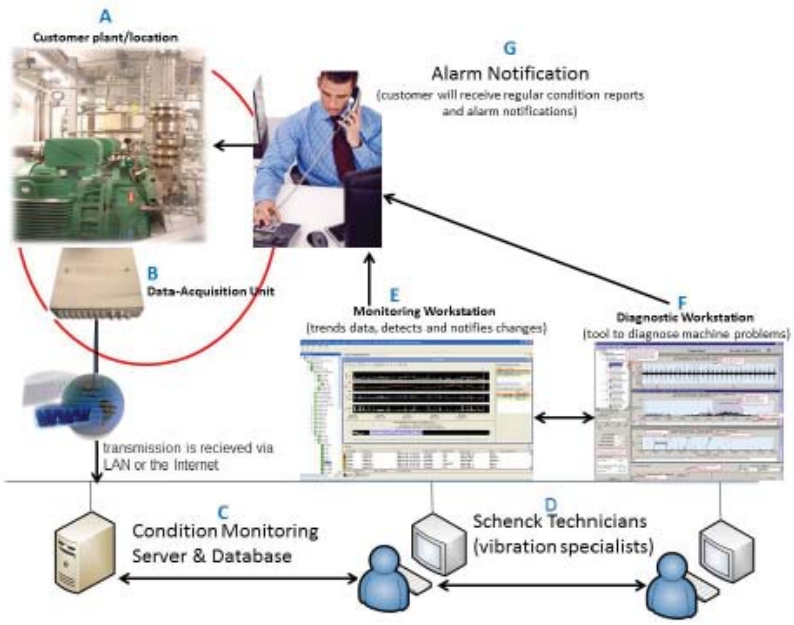
We would like to extend a warm "Thank You" to our German colleagues for coordinating this program with us; it would not have been a success without the generosity of the host families who welcomed our children into their families and lives. Life-long friendships have surely been formed, and the teens look forward to hosting their new German friends next summer.

Teens pictured with Dr. Ralf-Michael Fuchs (On Right) CEO of Carl Schenck AG and Head of the Measuring and Process Systems Division

Remote Condition Monitoring

By: Yulian Filler, Applications Engineer – Schenck Trebel

The goal of a condition based maintenance strategy is to detect a fault long before it turns into a machine failure, so that an adequate amount of time is given to schedule the appropriate maintenance. Monitoring a machine often involves finding the appropriate balance between complexity, cost and efficiency of fault detection. Schenck's remote monitoring solution provides that balance along with vibration experts to perform the analysis and diagnostics when a fault occurs. These systems are currently installed in thousands of wind turbines, proving its ability to reliably operate in a wide variety of environmental conditions.



Monitoring Concept:

One of the simplest, fastest and most effective methods for monitoring machines without the need for special expertise is to use scalar measurements techniques. Scalar values are based on band pass filters that span the frequencies of interest and correspond to specific machine faults. The measurements are setup ahead of time and lend themselves to a fully automated operation. Scalar measurements are typically setup to detect standard fault mechanisms such as unbalance, misalignment, bearing faults, or gear faults… A tracking filter is used to follow the speed of the machine.

Adaptive Monitoring:

Adaptive monitoring makes it possible to monitor and compare vibration of a machine operating under different modes (load speed…). The operational modes of the machine can be broken into a maximum of 6 different modes. Therefore when the machine is in full power mode, the vibration that corresponds to that load will be processed and trended discretely. This way the trended measurements can be normalized or compared to the operational mode of the machine.

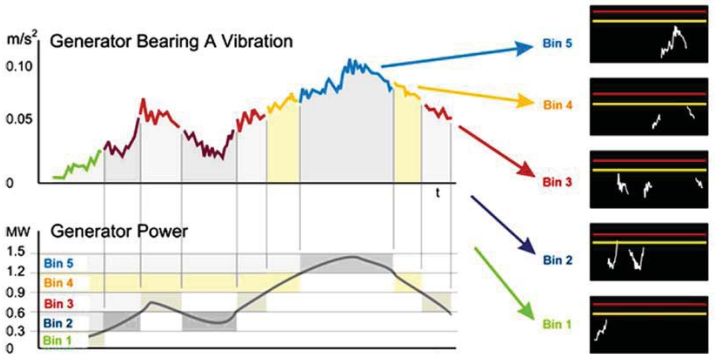


Figure 1. Adaptive Monitoring Concept

Monitoring Workstation:

The scalar measurements are monitored and trended by the Monitoring Workstation software. The Monitoring Workstation software displays all monitored data in easy to use plots together with event and alarm information. It provides an at-a-glance overview of all the machines being monitored and is easy enough for any operator to use. The intuitive and user friendly navigation allows the user to find specific events through tags, alarm lists and screen views.

Diagnostic Concept:

In the event that one or more of the scalar values exceed the set points an alarm will activate. One of Schenck's vibration experts will then verify the alarm and request a time signal for further in-depth analysis. Our **Diagnostic Workstation** has all the tools needed to analyze and perform a diagnosis. We can request the time signals of all channels simultaneously, record and save them for post processing. Our analysis tool kit is capable of generating diagnostic information such as FFT, envelope spectrum, and cepstrum…

Conclusion:

Our remote monitoring solution allows machines to be continuously monitored with scalars. It is well suited for high and low speed applications as well as fixed and variable speed machines. When an alarm or significant event occurs, our team of experts will perform an in-depth analysis and provide you with a diagnosis and recommendation for follow up actions.

Schenck Academy - Onsite Seminars / Workshops

Designed for the balancing professional by the balancing experts.

Schenck Academy is designed to give maintenance and manufacturing personnel the opportunity to learn new concepts, and improve skills. "Universal theories," applicable to all balancing machines are presented in an interactive environment where students can discuss particular problems and experiences. Hands-on sessions are used frequently to reinforce theory and practice the skills that are learned.

Schenck Academy On-site Seminars and Workshops

Did you know all Schenck Academy seminars and workshops are available on-site at your company facilities? Many companies feel on-site seminars fit more with their company's needs and logistic requirements. Schenck on-site seminars also provide the added value of allowing customers to use their own facility's balancing machines for hands-on practical demonstrations and training.

Topics include: Types of Unbalance, Balancing Tolerances, Machine and Rotor Setup, Types of Rotors, Design of Machine Types, Causes of Errors in Balancing and Vibration Analysis

Specialized Seminars

Industry specific seminars are also offered. These seminars provide a unique opportunity to explore the key aspects of balancing within a certain industry and include the following topics:

Fundamentals of Jet Engine Balancing, Advanced Jet Engine Balancing, Pump & Impeller Balancing, and Flexible Rotor Balancing

For information on Schenck Academy On-Site Training, visit our website: www.schenck-usa.com, or contact us directly via e-mail at: sales@schenck-usa.com *(Subject Line: Schenck On-site Training)* or via phone at: 631-242-4010 Extension: 219

First Quarter Seminar and Workshop Schedule

January 2014

Fundamentals of Balancing	**Jan. 28-30**	**Houston, TX**
Certification Level 1 Exam	**Jan. 30**	**Houston, TX**

February - *There are no seminars or workshops for this month*

March

Fundamentals of Balancing	**Mar. 4-6**	**Deer Park, NY**
Certification Level 1 Exam	**Mar. 6**	**Deer Park, NY**
Balancing Workshop III	**Mar. 7**	**Houston, TX**
Balancing Workshop I	**Mar. 14**	**Chicago, IL**
Fundamentals of Jet Engine Balancing	**Mar. 18-20**	**Deer Park, NY**
Balancing Workshop II	**Mar. 21**	**Santa Ana, CA**

April

Advanced Bal. Theory & Applications	**Apr. 8-10**	**Deer Park, NY**
Certification Level 3 Exam Deer Park, NY	**Apr. 10**	**Deer Park, NY**
Pump & Impeller Balancing	**Apr. 22-24**	**Houston, TX**

After 40 Years of Service, Ron Berbig Retires

In May of 2013, Ron Berbig announced his retirement after almost 41 years of service.

Ron began his career at Schenck in December of 1972. Ron's dedication and committment to his various roles consistently yielded positive results. Schenck management and staff wishes Ron all the best in this next chapter of his life.

The Parts Department is now managed by Tom Sohn, longtime Manager of the Equipment Order Planning & Processing Group. Tom promises to bring his expertise to the Parts Department with emphasis on product availability and customer responsiveness.

2014 Schenck Trade Show Schedule

SHOW	DATES	LOCATION	BOOTH
MRO	April 8-10	Phoenix Convention Center Phoenix, AZ	2259
EASA	June 29-July 1	Sheraton Boston & Hynes Conv. Ctr. Boston, MA	816
ADS	August 5-9	Wynn Hotel Las Vegas, NV	TBD
IMTS	September 8-13	McCormick Place Chicago, IL	E-5366
Pump/Turbo Symposium	September 22-25	George R. Brown Conv. Ctr. Houston, TX	1130
Powergen	December 9-11	Orange County Conv. Ctr. Orlando, FL	3559