



SAE Milwaukee Section Newsletter

March 2012

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ALLIS-CHALMERS

Hosted at Briggs & Stratton



THE POWER WITHIN™



Thursday April 19th, 2012
Wauwatosa, WI, 5:30PM

Dinner and Technical Presentation

ALLIS-CHALMERS first entered the manufacturing business as E.P. Allis of Milwaukee in the 1840s. They made waterwheels, sawmills and grindstones. While originally incorporated in Delaware, the company soon became a major manufacturer of steam engines and industrial equipment after merging with other firms—Fraser & Chalmers was a large steel and mining retort manufacturer. The company's presence in Milwaukee became so large that its plants were once used as a landmark there, and, in particular, its "west" plant may have lent its name to the city of West Allis.



Allis-Chalmers entered into the farm equipment business in 1914 at about the time of World War I. The company introduced a number of product lines including Agricultural Tractors, Implements, Industrial Tractors, Gleaner Combines, Hydro-turbines, Valves and Pumps, Compressors, Electric Motors, Crushing and screening equipment, Air Purification, Coal Gasification and Simplicity Garden Tractors.



Field Testing

A series of acquisitions were made by the company beginning in 1928 with the acquisition of Monarch Tractor Company. In 1931, the company acquired Advance-Rumely based in LaPorte, Indiana. Buda Engine Co., based in Harvey, Illinois was acquired in 1953. Two years later the company acquired Gleaner Harvester Co., and in 1959 it acquired the French company Vendevre. Also in 1959, Allis-Chalmers acquired Tractomotive Corporation located in Deerfield, IL. Allis-Chalmers also acquired Simplicity, which was later sold to its management in 1983. In 2004 Simplicity was purchased by Briggs & Stratton. It is now a part of their Products Group. In August, 2008, Briggs & Stratton announced that it would sell lawn tractors under the Allis-Chalmers brand name.

In 1978 a partnership between Siemens & Allis was formed, supplying electrical control equipment. Siemens bought Allis-Chalmers' interest in the company in 1985 and it was incorporated into Siemens' Energy and Automation division.

The company began to struggle in the 1980s in a climate of rapid economic change. It was forced amid financial struggles to sell its farm equipment division to K-H-D AG of Germany in 1985, the owners of Deutz-Fahr, which was renamed Deutz-Allis. Deutz-Allis later was sold to management and became what is now the AGCO Corporation (Allis-Gleaner Corporation), and tractors were sold under the AGCO-Allis name - though later this became just AGCO. What remained of the manufacturing businesses was dispersed in 1998 and the company officially closed its offices in Milwaukee in January 1999. The remaining service businesses became Allis-Chalmers Energy in Houston, Texas.

Larry Gruenberger (*our speaker*) started his career at Allis Chalmers in November 1963 as a test technician in the tractor lab working mostly with hydraulics. After getting his Engineering degree from the University of Wisconsin-Madison he continued his career at Allis Chalmers working at the Proving Grounds in Racine County as a Tractor Field Test Engineer. In the winter month Larry would work out of remote offices at field test sites primarily in Texas and Arizona. In November 1978 Larry was promoted to Chief Engineer – Test and Evaluation in charge of the Racine Proving



Grounds. Larry held that position until November 1985 when the Proving Grounds was closed down due to the purchase of the Farm Equipment Division by Deutz.

The Proving Grounds activities included parts fabrication, prototype tractor assembly as well as both endurance and field testing. All standard completed vehicle tests were done at the Proving Grounds. There were four vehicle dynamometers outside in addition to a test track. Inside one of the building was a test stand for a severe test called "the breakdown test". Some field test was done on Proving Grounds property but the majority was done on local farms as well as various locations around the country. .



Prototype tractor with fuel cell (1959)

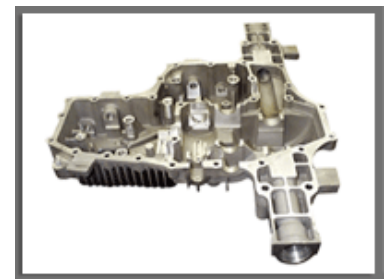
In March 1986 Larry joined Briggs and Stratton as an Engine Application Engineer specializing in Product Safety, Specialized Testing, Product Liability investigation and testifying at Product liability trials. Larry worked as an Application engineer for 20 years retiring in July 2006. Prior to retiring, Larry did field testing for Briggs & Stratton in the winter months at the same Texas location he tested the big machinery for Allis Chalmers. After retiring, Larry has continued to do Texas testing at various times of the year for Briggs & Stratton.

Larry will be putting on a presentation describing some of the testing he performed at Allis Chalmers and show pictures of some of the results of good and bad designs

Clinkenbeard

CLINKENBEARD is a continuing sponsor of the SAE Milwaukee Section. Reg Gustafson, Project Manager of Clinkenbeard, will give a brief presentation on their rapid prototyping process and manufacture of complex castings and machined parts.

Clinkenbeard is a worldwide leader in the rapid prototyping and production of complex cast and machined parts using a wide variety of metals and plastics. It serves companies large and small in a wide range of industries throughout the world, but specializes in the aerospace, auto racing, US government, heavy truck, industrial, power generation, marine and agricultural markets. It produces rapid delivery of machined castings and machined parts from solid stock as well as engineering and trade show quality product mockups for all these industries. Quantities range from prototype to low volume production.



Lawn tractor transmission machining

Clinkenbeard claims to have the shortest lead times on Earth for machined metal castings in the alloy of the customer's choice. The company's vision is to consistently meet and exceed the time-to-market requirements of its customers with the highest quality products designed and built to exact specifications. The company's slogan is "*Fasterestest!*"

Visit <http://clinkenbeard.com> for more information. Or contact Reg Gustafson at Reg@clinkenbeard.com

--- **EVENT AGENDA** ---

Registration / Museum: 5:00 – 5:30 pm
Clinkenbeard: 5:30 – 6:00 pm
Dinner: 6:00 - 6:30 pm
Presentation: 6:30 – 8:00 pm

--- **DINNER** ---

SAE Members/Spouses	\$10.00
Retirees	\$10.00
Guests/Non-members	\$15.00
SAE Students	\$5.00

*The Briggs & Stratton museum will be open prior to the meeting.
Come early to browse their fascinating history!*

Dinner Menu: 1/3 pound Angus beef patties, served with an assortment of gourmet rolls, sliced cheese plate, crisp lettuce, tomato, sautéed onions, peppers, and mushrooms. Sides of fruit and bagged chips.

Directions to Briggs & Stratton

Briggs & Stratton: 12301 W. Wirth Street, Wauwatosa, 53222

From North (Fond Du Lac)

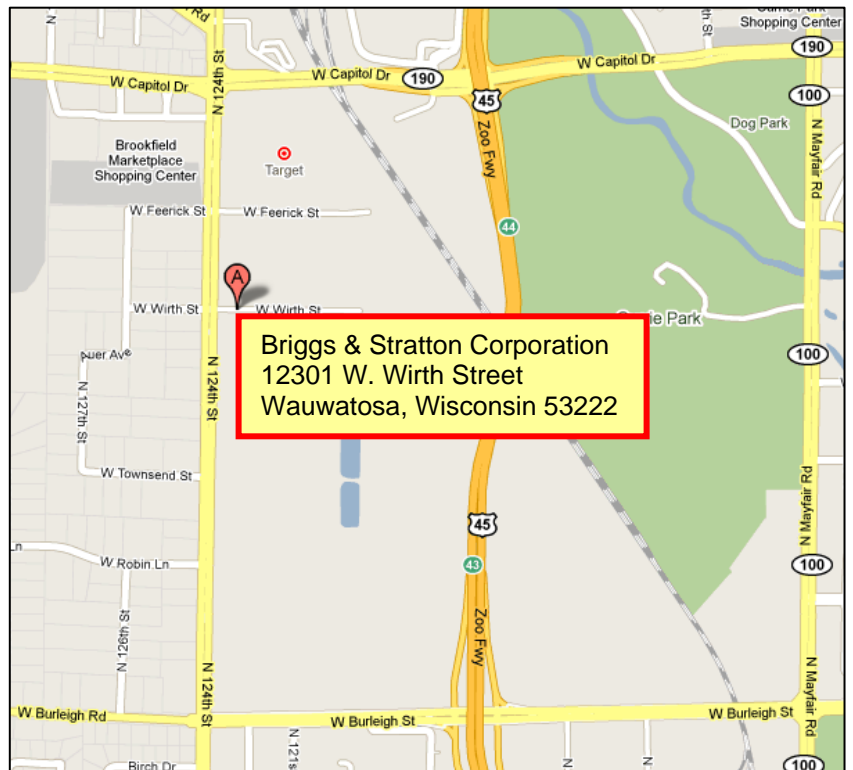
I-45 South;
Take exit #44 for WI-198/Capitol Dr.
Turn Left at N 124th St.
Turn left at W Wirth St

From West (Madison)

I-94 East
Take exit #305B onto US45N
Take exit #43 for Burleigh St
Turn left at W Burleigh St
Turn right at N 124th St
Turn right at W Wirth St

From South (Airport / Chicago)

I-94W towards exit 320
Take exit #316 onto I-43S / I-894W
towards Madison
Continue onto US-45N
Take exit #43 for Burleigh St.
Turn left at W Burleigh St.
Turn right at N 124th St.
Turn right at W Wirth St.



Registration:

Only pre-payments made with a charge card can be completed online via <http://www.milwaukee-sae.com>

Registration Deadline: Tuesday, April 17, 12:00PM

Maximum Attendance for this event is 150

Registration can be completed online via <http://milwaukee.sae.org> Or by phone at 414-587-8855 (Josh Rayeske)

Clean Snowmobile Challenge: March 5-10

The SAE Clean Snowmobile Challenge was held March 5-10th, at the Keweenaw Research Center of Michigan Technological University. Top finishers in the internal combustion class are Clarkson University, Kettering University, and University of Idaho, placing 1st, 2nd, 3rd respectively. UW-Madison won best emissions. Winners in the Zero emissions (electric) class were University of Alaska – Fairbanks, McGill University, and Michigan Tech placing 1st, 2nd, 3rd respectively. Congratulations to all teams participating, it was another fantastic event!



Find more information online at www.mtukrc.org

Oshkosh Corporation – May 23rd

MARK YOUR CALENDARS: On May 23rd, SAE Milwaukee Section will travel to Oshkosh Corporation for its May Tour-Dinner/Meeting. Oshkosh Corporation is a leading manufacturer and marketer of access equipment, specialty vehicles and truck bodies for the primary markets of defense, concrete placement, refuse hauling, access equipment and fire & emergency. SAE will also be inviting our friends at ASME.

- **No online registration or at-the-door registration allowed. Interested parties must register by phone as follows. Last names beginning with:**
 - A – I contact Josh Rayeske at 414-587-8855.**
 - J – S contact Wayne Wichter at 262-377-8145**
 - T – Z contact Frank Poradek at 262-343-4353**
- **The tour is restricted due to government and competitive limitations.**
- **All participants must provide current place of employment upon registration and a valid government issued ID such as a passport or driver's license upon arrival at Oshkosh Corporation facilities.**
- **The plant tour will be available only to U.S. citizens and lawful permanent residents.**
- **The tour will be wheelchair-friendly. Please indicate if you will require additional accommodations during registration.**
- **There will be a limit to the number of tour participants so plan to respond early.**
- **Dinner presentation topics to include Autonomous Tactical Vehicles.**

Please watch for more detail in next month's Newsletter!

Milwaukee Section 2011-2012 Governing Board

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Work: 414-807-9663

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STUDENT REPRESENTATIVE:

Marquette University: Joe Rehfus
UW-Milwaukee: Mitch Crawford
MSOE: Paul Gessler

Dear Members and Section Friends,

The March 22nd meeting at Case IH was a huge success! Over 120 attendees joined us for a fantastic tour and technical presentation. They demonstrated a great example of their World Class Manufacturing (WCM) production system. Case IH is experiencing tremendous growth. Anyone interested in employment opportunities should visit their website at: <http://www.cnh.com/Careers/Pages/home.aspx>. Many thanks to Case IH for sponsoring the meeting and providing great support for our Section.

Michigan Tech University hosted an outstanding Clean Snowmobile Challenge event this year. As in past years, the Milwaukee Section contributed a \$1,000 sponsorship to the competition. Recognition goes to Jay Meldrum for leading the event coordination.

Mark your calendars for the Baja SAE competition June 7-10th in Burlington, WI at the MGA Research Corporation proving grounds. Event details can be found at <http://www.baja.wisc.edu/index.htm>. Please contact Glenn Bower (grbower@facstaff.wisc.edu) if you'd like to be a volunteer for the event.

Milwaukee Section governing board officer nominations and elections will occur in March/April. Please send any nominations to Jim.Ryan@cat.com. The election committee will make a final selection and announce the 2012-2013 officers in the April newsletter.

Best regards,

Jim Ryan
Chairman – Milwaukee Section

Section Sponsors



SEE SPEED THE WAY WE DO.

We look at speed as much more than a popular buzz word. To Clinkenbeard it means that under the surface, there is a highly-skilled group of engineers and a whole bunch of highly-technical machinery and processes that work together to achieve real speed-to-market. Contact Clinkenbeard today and learn how our patented Clinkenbeard Process® can take your concepts to working prototypes faster than you ever thought possible.

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