



SAE Milwaukee Section Newsletter

February 2012

www.milwaukeesae.com

CASE IH



**Thursday March 22nd, 2012
Racine, WI, 5:30PM**

Tour Dinner, and Technical Presentation

Case IH is a global leader in agricultural equipment. With headquarters in the United States, Case IH has a network of more than 4,900 dealers and distributors that operates in over 160 countries. Case IH is a brand of CNH (NYSE: CNH), a majority-owned subsidiary of Fiat Group (FIA: MI).

Case IH has powered agriculture for more than 160 years. It began in 1842, when Jerome Increase Case founded Case in Racine, WI to build threshing machines. About the same time, Cyrus McCormick invented the mechanical reaper, and formed McCormick Harvester Company in 1847 in Chicago. His firm became International Harvester in 1902. In 1923, International Harvester introduced the first Farmall tractor. In 1995 Case acquired selected assets of International Harvester's agricultural equipment operations, making Case IH the second largest agricultural equipment manufacturer in North America. In 1999, Case IH became part of CNH.

Case IH is committed to collaborating with its customers to develop the most powerful, productive, reliable equipment - designed to meet today's agricultural challenges - like feeding an expanding global population on less land, meeting ever-changing government regulations and managing input costs.

Case IH - Racine Plant

Stephen Tyler (our speaker) is Plant Manager of the massive facility. He started as an industrial engineer with International Harvester at the combine plant in East Moline, IL in 1972. In 1988 he moved to Racine to manage the one-million-square-foot Case IH Plant on the shores of Lake Michigan. Case IH moved the tractor production to Sturtevant in 2002.



While there are 39 CNH plants around the world, this is the only plant where the transmission and tractor are built in the same building. “It’s given us nice benefits not only in cost, but in quality” says Tyler. The plant is so busy; they added a second shift to tractor assembly last spring.

Another unique feature of the plant is it does a “mix build” meaning the tractors are built by order so at any time you look at the production line you’ll see a combination of red and blue tractors of varying horsepower and options. Tyler says it takes about five days to make a tractor, “If the order starts on Monday morning, the tractor will be on the truck to the dealer by Friday night.” 40% of the tractors

built in the plant are exported; Tyler says some of their biggest customers are the countries of the former Soviet Union. No matter where you are in the world, “If you are driving a Magnum tractor, it came from Racine.”

The facility is constantly being updated, as Tyler states: “We are proud of the tractor, proud of our Magnum tradition and proud of our employees that build them.”

Besides the two tractor lines, the plant also makes transmissions, final drives and pto boxes for combines built in Grand Island, Nebraska, front and rear axles for Steiger tractors built in Fargo, North Dakota, and remote valves for Steiger and the Puma tractors built in Antwerp, Belgium. About 4,000 people from around the world visit the facility each year, including farmers who can watch their tractor being built.

CUSTOMER DRIVEN DESIGN

PRODUCTS PRODUCED BY PRODUCERS FOR PRODUCERS

At Case IH, our customers are working directly with our design engineers to develop, improve and innovate red equipment, and help growers meet today's agricultural challenges - like feeding a growing population, less available land and government mandates - while still earning a decent return. Our Customer Driven Product Design (CDPD) Process is the first and most critical step in the Case IH Global Product Design Process. We ask customers to tell us exactly what they need from equipment.

Throughout the design and development process, we bring customers back to touch base, check on our progress to help us ensure we're on the right track, and eventually field-test prototypes. The CDPD process is responsible for countless Case IH product features and innovations designed to keep farmers moving, comfortable and in the field longer - features like the new MultiControl Armrest on the next generation [Steiger](#), [Magnum](#) and [Puma](#) tractors, which brings 80% of the functions you use all day, every day at your fingertips.

About That Power...

The latest Case IH 12.9L, 8.7L and 6.7L engines represent the **next level of performance and fuel efficiency**. Developed with the needs of producers like you in mind, they'll make your job **more productive, more efficient and more profitable**. Case IH high-horsepower diesel engines feature the world-class design innovation of [FPT Powertrain Technologies](#), a global company that **makes more than 2.6 million engines every year and sister company of Case IH**.

12.9L ENGINE (their largest)

First introduced in 2006 Steiger Tractors, this engine is also in the largest Axial-Flow combines. It provides up to 10% Power Growth for logging the heaviest loads. Two versions are available: a single-stage turbocharger with electronic high-pressure unit injectors in Steiger tractors from 400-500 HP, and a new two-stage turbocharger with common rail fuel system in Steiger tractors 550 HP and above.



Engine Applications

- 6-cylinder, 24-valve, Turbocharged/Aftercooled
- Four valve per cylinder design increases air flow and improves throttle response while improving combustion for better fuel efficiency
- Single Overhead Camshaft w/ Roller Rocker Arms
- Single Turbocharger with Electronic High-Pressure Unit Injector Fuel System (400– 500hp)
- Two Stage Turbocharger w/ Electronic High-Pressure Common-Rail Fuel System (550– 600hp)
- Extended oil-change intervals save time/reduce maintenance costs
- Selective Catalytic Reduction (SCR) System for higher fuel efficiency, lower operating cost
- [Tier 4A compliant](#) with NO internal or external Exhaust Gas Recirculation (EGR)

--- EVENT AGENDA ---

Bus pick-up / Reg. / Tour: 4:00 - 5:30 pm
Dinner: 6:00 - 7:00 pm
Presentation: 7:00 – 8:00 pm

--- DINNER ---

DINNER PRICES

SAE Members/Spouses	\$15.00
Retirees	\$15.00
Guests/Non-members	\$20.00
SAE Students	\$10.00

Please arrive between 4:00-5:00 p.m. at the Walmart at 3049 S. Oakes Rd. for a shuttle ride to the plant, due to parking limitations.

Be prepared to show government issued I.D.

For appreciated security reasons, please share your company's name when registering. Competitors of Case are welcome to attend the presentation but will be restricted from the tour.

No cameras or cell phones allowed.

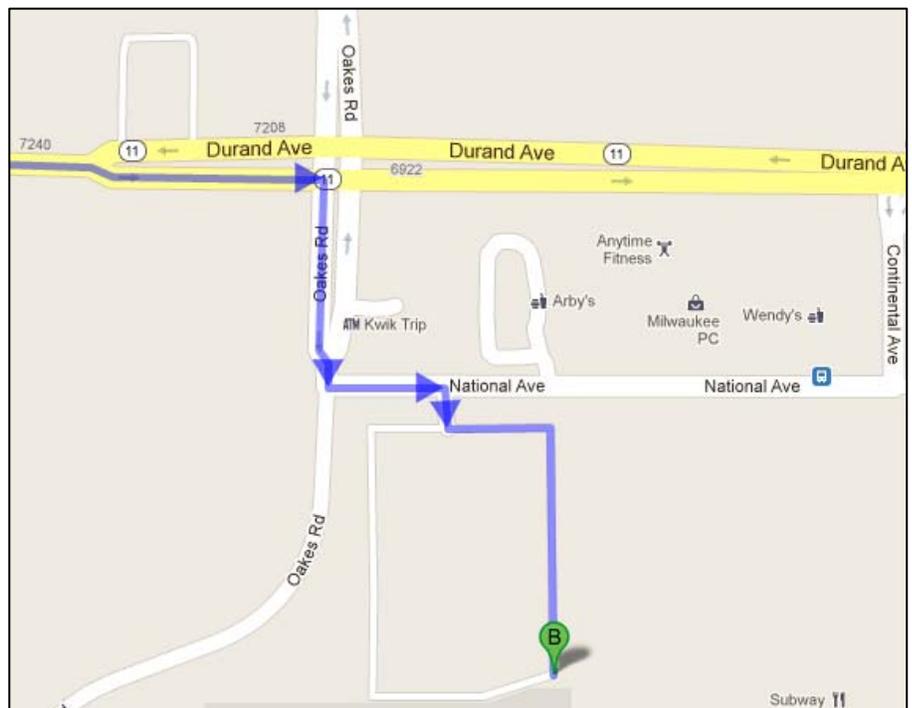
Dinner Menu: Catering by CNH

Directions: Walmart Racine (for shuttle):

3049 S. Oakes Rd.
Racine, WI 53403

- I-94 to Hwy. 11
- Go east 4 ½ miles to Oakes Rd.
- Walmart will be on the south

Case IH **Address:** 2701 Oakes Rd.



Registration:

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

Registration Deadline: Monday, March 19, 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 will be held March 5-10, 2012 at the Keweenaw Research Center of Michigan Technological University. This is the tenth anniversary of the Challenge at Michigan Tech and the 13th event overall. The first three years of CSC were held in and around Yellowstone National Park. So far 13 teams have entered the Challenge with a few more expected. Notable entries this year are the University of Buffalo as well as North Dakota State who have indicated they will enter diesel engine snowmobiles. Fuel for this year's challenge will be in the range of E10 to E39 or B10 to B39. Teams will have to engineer their IC sled to run on any version we give them in this range. In the Zero Emissions or electric category, the rules have been fine tuned to be consistent with other SAE electric competitions like Formula Hybrid and Formula Electric. The goal is to be safe and consistent in the electrical requirements across all SAE Collegiate Design Series Competitions.



Other changes are the inclusion of the new Hayes Trailtrac 1.0™ Controlled Braking system into the competition. Hayes will assist any team that wants to add this new feature to their sled.

You can learn more about this year's Challenge and how you can help by contacting Jay Meldrum at jmeldrum@mtu.edu 906-487-3178 www.mtukrc.org or <http://students.sae.org/competitions/snowmobile/>

Contact Dale Wiza (dale@engineeringplacements.com) to coordinate carpool rides.

Reliability Engineering – Special Interest Group *NEW*

There is a **SPECIAL INTEREST GROUP** (SIG) being formed in the Milwaukee (Area or Section) for the discipline of Reliability Engineering. The mission of this group is to bring together Reliability Practitioners to identify common areas of need and share best practices in order to learn together. An inaugural meeting is being planned for March /April 2012. Details for this meeting will follow in an upcoming SAE Newsletter. For additional information on this group, contact Jim Hollern at 414-465-6387 or Dave Boyles at 414-358-6639.

SAE – Milwaukee Chairman Jim Ryan to be honored as UW-Milwaukee College of Engineering & Applied Science Young Alumnus of the Year

On March 10th Jim Ryan, Chairman SAE – Milwaukee Section, will be honored at the UW-Milwaukee College of Engineering & Applied Science (CEAS) “Celebrating Excellence with CEAS” alumni awards event. Jim’s selection as this year’s Young Alumnus award recipient was based on his strong record of achievement over the early phase of his professional career since receiving his BS Mechanical Engineering Degree in May of 2007. Another significant factor weighing in Jim’s favor was his dedication and leadership in SAE – Milwaukee.

Congratulations Jim!

Any SAE – Milwaukee members interested in attending the “Celebrating Excellence with CEAS” alumni awards event should contact Mike Krauski (krauski@uwm.edu) before March 6th for further information.

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 contact Josh Rayeske at jrayeske@gmail.com or 414-587-8855.**
- **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!



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Dear Members and Section Friends,

Our Section momentum continues to accelerate, as shown by increased monthly meeting attendance and a boost in volunteer leadership. Many thanks to board member Dale Wiza for coordinating our March meeting at Case IH. Join us for this memorable event and showcase of this world class business.

Thanks again for joining us at the January section meeting on Toyota hybrid systems. SAE represented over 60 of the 100 attendees in collaboration with ASME. As a thank you to ASME for inviting us to their event, we will reciprocate and invite their membership to join us in May at the Oshkosh Corp. meeting. Their engagement provides additional networking opportunities to you!

The Baja SAE competition will be hosted by the Milwaukee Section in May 2012, at the MGA proving grounds in Burlington, WI. This event set a new record in Collegiate Design Series competition registration by selling out all 100 positions in less than 18 minutes. Formula SAE still holds the record for selling out in less than 12 minutes however this is a new record for the Baja SAE series which usually sells out in a span of hours. Please contact Glenn Bower (grbower@facstaff.wisc.edu) if you'd like to become a volunteer for the Baja event.

It's promising to hear positive news of record financials coming from America's automakers. I hope this opens opportunities for you, your companies, and our Milwaukee Section. Please contact a board member if you'd like to host a meeting at your company.

Best regards,

Jim Ryan
Chairman – Milwaukee Section

Section Sponsors

CASE IH



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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