

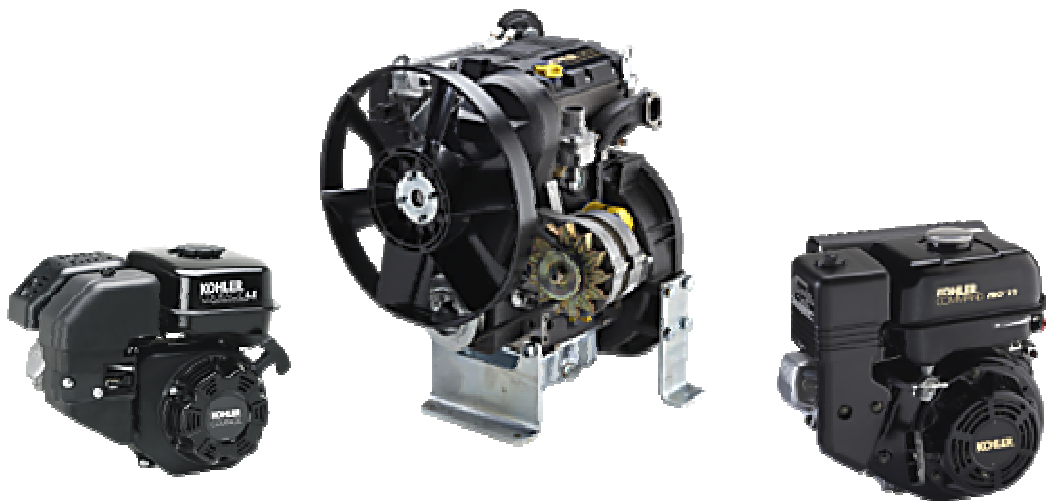


Milwaukee Section Newsletter

April 2010

www.milwaukeeesae.com

KOHLER® ENGINES



**Kohler, WI
Wednesday April 21st, 2010**

**Challenge of Emissions Certification for Small Engine
Manufacturers**

***TOUR THE TEST LAB &
TECHNICAL PRESENTATION***

Abstract:

Kohler Engines has been manufacturing small engines since 1920. In this long history, the industry has faced many technological challenges, but none may be as far reaching as the changes required on the road to green emissions. The base technology has largely been developed by the automotive industry (water cooled engines), but some of the technology is not directly applicable to the small engine industry for air cooled engines.

The regulatory emissions requirements for small engines read like the Federal Tax Code (or more recently, the Health Care Reform Act). The rules are different for the Environmental Protection Agency (EPA), the California Air Resource Board (CARB), the European Community and for fast developing markets in China and India. The regulations are also different by displacement, by horsepower and by type of applications. An overview of regulations will be discussed in the presentation.

Small engines, like automotive, are regulated to limit the exhaust emissions from the combination of hydrocarbons and oxides of nitrogen (HC +NOx). In most cases, emissions improvements are rooted in the details of the base engine design. Some of these impacted components will be discussed in this presentation.

Biography: **Steve Riese**

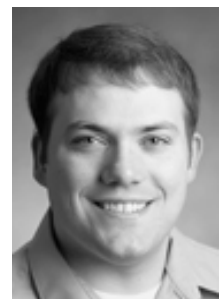
As Senior Staff Engineer at Kohler Engines, Steve leads the Emissions engineering team which is responsible for the development and execution of the strategic plans and tactical plans for emissions compliance. Steve has been in the engine business for over 30 years. Prior to Kohler, Steve worked for Mercury Marine in a range of roles including R&D Engineer, Base Powerhead Specialist, Project Engineer, Current Product Manager, and Program Manager. Notable were leading roles on the 3.0L V6 two-stroke outboard, the 1.5L L3 two-stroke outboard engine, and the Asia resourcing of the 995cc I4 and 747 cc I3 four-stroke outboard engines. In the last four years at Kohler Engines, Steve has been challenged to reduce the exhaust and evaporative emissions of air-cooled, four-stroke engines ranging from 200cc lawnmower engines to 999cc V-twin industrial engines.



Steve holds a BS in Mechanical Engineering from the University of Wisconsin and an MBA from the UW-Oshkosh.

Dennis Nitz

As a Mechanical Project Engineer in the emissions group at Kohler Engines, Dennis is responsible for helping to determine emission reduction technologies on several engine platforms, heads the emissions audit program and is responsible for analyzing and creating the strategic emissions plan for emissions compliance. Dennis came to Kohler 2 years ago from the Engine Research Center at UW Madison where his research focused on extending the HCCI (Homogeneous Charge Compression Ignition) operating range by exploring methods to control the rate and inception of spontaneous combustion. He also gained experience in small internal combustion engines as a Co-op in the Fuel Systems and Calibration



groups at Mercury Marine and Polaris Industries. He was a 4 year member on the Formula SAE team at UW Madison where he was active on the Suspension and Power train Teams. Over the last 2 years at Kohler, Dennis has rapidly learned the scope of emissions on small internal combustion engines including regulatory requirements and has lead the emissions effort to bring two new engine projects to emissions compliance. He has also completed a 6 month rotation as a Development Engineer in the New Product Engineering group at Kohler.

Dennis holds a BS in Mechanical Engineering from the UW Madison and an MS degree in Mechanical Engineering from the Engine Research Center at UW Madison.

--- EVENT AGENDA ---

Tour: 5:00 pm
Registration: 6:15 pm
Dinner: 6:30 pm
Presentation: 7:00 pm

--- DINNER ---

DINNER PRICES:

SAE Members / spouses: \$20.00
Retirees: \$15.00
Guests / Non-members: \$25.00
SAE Students w/ID \$10.00

--- MENU ---

Join us Wednesday, April 21st to experience Wisconsin cuisine at its finest. We will be enjoying an elegant buffet, done in true American Club style. Look forward to indulging in soup, salads, Beef Tenderloin, Marinated King Salmon, and don't forget The American Club's selection of famous desserts.

Chef's choice of soup

Spinach and Pear Salad, Spiced Almond Cracker, Creamy Boursin Cheese, Almond Vinaigrette.

Iceberg Lettuce Wedges, Wisconsin Sharp Cheddar Cheese, Crunchy Bacon Bits, Homemade Thousand Island Dressing.

Beef Tenderloin, Rosemary-Garlic Baked Potato, Cognac-Peppercorn Cream

Marinated King Salmon, Sesame Jasmine Rice, Julienne Vegetables, Pomegranate and Port Gastrique

Chef's Choice of Two Desserts

Registration:

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

Retirees, students and members without web access may register by phone on the SAE Registration Coordinator –

Jim Ryan (262) 636-1634. **MAX ATTENDANCE for this event is 150.**

[Registration deadline: Monday, April 19, 12:00 p.m.](#)

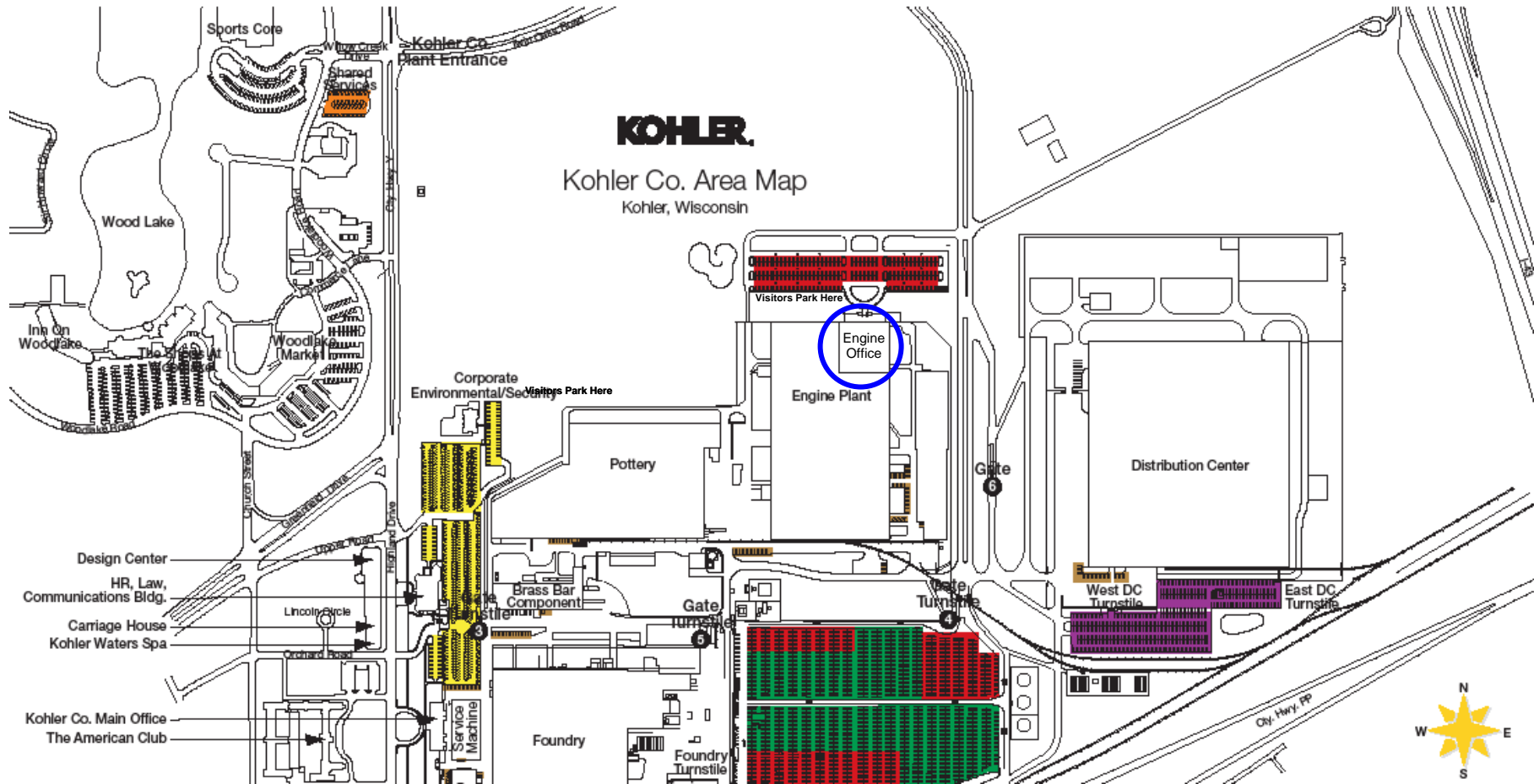
Directions to Kohler Co. Engine Lobby

From the South:

- Take I-43 N. to the Sheboygan/Kohler exit, which will be Exit 126 (Hwy 23 West).
- Take Hwy 23 West to Kohler for 2/3 of a mile and take the off ramp for Kohler (Hwy Y).
- Go South on Y (Highland Dr) for 3/10 of a mile.
- Turn left at the Kohler Medallion (first left) into the Plant Entrance.
- Stay in right lane. The Engine Office (circled in blue below) is the first parking lot on your right. Visitors parking in the front row, west side.

From the North:

- Take I-43 S. to the Sheboygan/Kohler exit, which will be Exit 126 (Hwy 23 West).
- Exit 126 branches off into two exits. Take the one that says Kohler and Plymouth. You are now on Hwy 23 and headed west.
- Take Hwy 23 West to Kohler for 2/3 of a mile and take the off ramp for Kohler (Hwy Y).
- Go South on Y (Highland Dr) for 3/10 of a mile.
- Turn left at the Kohler Medallion (first left) into the Plant Entrance.
- Stay in right lane. The Engine Office (circled in blue below) is the first parking lot on your right. Visitors parking in the front row, west side.



March 15th-20th Clean Snowmobile Challenge (Houghton, MI)



SAE's Clean Snowmobile Challenge and UW Madison were both again successful! Congratulations to UW for capturing both titles, and to the Michigan Tech team for taking second. The University of Wisconsin-Madison's internal combustion sled received the Gage Products Award for Best Fuel Economy, the AVL Award for Best Emissions, the Sensors Inc. Award for Lowest In-Service Emissions and the BlueRibbon Coalition Award for Most Practical Solution. Its battery-powered entry received the SAE Award for Best Design in the zero emissions category. Michigan Tech's snowmobile took second place in the internal combustion category, equaling last year's finish. It also received the SAE Award for Best Design in the internal combustion category, the Land and Sea Award for Best Performance and the Altair Engineering Award for Design Simulation. Clarkson University's zero emissions entry took second place in that category and also took the CH2M HILL Polar Service Range Event award And the Keweenaw Research Center Draw Bar Pull Award. The University of Idaho finished third in the internal combustion category, earning the International Engineering and Manufacturing (Woody's) Award for Best Acceleration, the Polaris Industries Award for Best Handling and the DENSO Corporation Award for Best Ride. The State University of New York at Buffalo finished fourth in the internal combustion category. The only diesel-powered sled in the Challenge, it took the PCB Group Award for Quietest Snowmobile, the Caterpillar Corporation Award for Innovation and the Aristo Catalysts Inc. Award for Most Improved Snowmobile. Kettering University took fifth place in the internal combustion category. McGill University finished third among the zero emissions sleds. The University of Minnesota-Duluth received the Hawk Technology Safety Award. The A&E Inc. Tools and Ken Cook Publications Award for Serviceability was given to the South Dakota School of Mines and Technology. Newcomer North Dakota State University received the Rookie of the Challenge Award. And the University of Wisconsin-Platteville team members were honored with the Bill Paddleford Founder's Award for Most Sportsmanlike Conduct for the help they provided to North Dakota State's team during its first year at the Challenge.

For details, videos and pics, go to <http://www.mtukrc.org/snowmobile.htm>

Future SAE-Milwaukee Programs:

May 6th - Family Night

Our May SAE Family Night meeting date has changed to May 6th. This same night, Hiller Ford is hosting a Ford Powerstroke Diesel training at Hiller Ford, which allows us to leverage our interests of Ford Racing and AWIM (A World In Motion) demonstration, along with some sponsorship by Ford. Please bring the kids, friends, and even invite Science, Math, or Technology teachers to participate with SAE's "A World In Motion" learning kits. Contact Dale Wiza if you or a friend wishes to display a vehicle, dale@engineeringplacements.com, or 414-807-9663.

Milwaukee Section 2010-2011 Governing Board

CHAIRMAN:

James Ryan
Modine Manufacturing Company
email: j.w.ryan@na.modine.com
Work: (262) 636-1634

VICE CHAIRMAN:

Josh Rayeske
Strattec Security Corporation
email: jrayeske@strattec.com

SECRETARY:

Wayne Richter
Heraeus GmbH – Catalysts (Retired)
email: richterway@sbcglobal.net
Phone: (262).377.8145

TREASURER:

Bernard Krauska
DRS Technologies
email: Krauska@execpc.com
Phone: (262) 442-7754

PAST CHAIRMAN:

Joe Sagat
Modine Manufacturing Company
email: j.g.saga@na.modine.com
Work: (262) 636-1362

AWIM / EDUCATION: OPEN POSITION

WEBMASTER:

Cara Kazda
Cummins Filtration
email: cara.r.kazda@cummins.com

MEMBERSHIP/ COMPANY REP:

Tony Grant
Hamlin
email: tony.grant@hamlin.com
Work: (920) 988-6895

COLLEGIATE RELATIONS:

Mike Krauski
UW-Milwaukee
email: krauski@uwm.edu

CAREER DEVELOPMENT

Dale Wiza
Professional Engineering Placements, Inc.
email: dale@engineeringplacements.com
Work: 414-807-9663

SENIOR ADVISOR

Amy Adams
Kohler – Engine Division

Kurt Person
HB Performance Systems

STUDENT REPRESENTATIVE

Cody Kreuger
UW-Milwaukee
email: cjk4@uwm.edu

AT-LARGE

Ken Traub
Bosch
email: ken.traub@boschrexroth-us.com
Work: 262-939-4332

Dear Members and Section Friends,

The winter snow lasted just long enough to complete the Clean Snowmobile Challenge. Congratulations to the Milwaukee Section chapters who participated in the competition.

Many thanks to Helmut Keidl and Midwest Composite Technologies for hosting a fantastic Section meeting. Their “Case Study” was a great example of how to create scale models based on full size designs. We appreciate Helmut’s support of the Milwaukee Section.

SAE World Congress will be held April 13th-15th in Detroit Michigan. Log onto the website at <http://www.sae.org/congress/> for more information.

It’s time to elect the operating officers for this coming year. The nominees are, Jim Ryan – Chairman, Josh Rayeske – Vice Chair, Bernard Krauska - Treasurer. The official vote will be cast during the April meeting to confirm the candidates to their positions. We are currently seeking a replacement Treasurer and Secretary positions. Contact any of the board members if you would like to take a leadership role.

Please join us in May as we conclude this year’s calendar of section meetings with the social Family Night meeting. AWIM activities will be provided for educational kid entertainment.

I thank you for your involvement with the Milwaukee Section this year, and wish you a fun and safe summer.

Best regards,

Jim Ryan
Chairman – Milwaukee Section

Job Posting



Mequon, WI

Job Description: Test Engineer HB Performance Systems Inc

General Summary: Plans, coordinates, implements, and maintains testing processes, methods, systems, controls and fixtures for mechanical and/or electromechanical products and systems. Conducts lab and field testing and documents, analyzes, and reports testing data. Responsible for designing new testing fixtures and controls for new or existing product, as well as assisting Product Engineers. May specialize in area of testing and design functions based on type of product.

Details regarding responsibilities, and requirements can be found at the HB Performance Inc Website www.hbpsi.com by navigating the website to: Employment Tab > Career Opportunities link

Qualified candidates can apply online



Meeting Sponsorship



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