

Issue Highlights

Idaho, McGill Take the Golds in Clean Snowmobile Challenge.....1-4

Aero Design® East Update3

Flying With The Best At Aero Design® West5

Water, Water, Everywhere!!6

Engines Revving!7-8

Idaho, McGill Take the Golds in Clean Snowmobile Challenge

-Marcia Goodrich, Michigan Tech University PR Dept

MARCH 26, 2007—The University of Idaho is back on top in the SAE Clean Snowmobile Challenge.

The team’s combination of a two-stroke Ski-Doo engine and custom chassis earned them multiple honors in the Challenge’s internal combustion division: the Gage Products Award for Best Fuel Economy, the Polaris Industries Award for Best Handling, the Society of Automotive Engineers Award for Best Design, the Land and Sea Inc. Award for Best Performance and the Denso Corporation Award for Best Ride. In addition, they received the Founders’ Award for Most Sportsmanlike Conduct.

Idaho was number one in the Challenge in 2002 and 2003 but struggled during the following three years. Team leader Nick Harker said their 2007 showing was built on lessons learned. “We wanted to develop the technology we’ve been working on,” he said, including a direct injection system and a custom cylinder head. “We also paid attention to noise,” a special concern for two-stroke engines. In particular, the team designed the hood to allow cooling air to circulate while keeping engine noise at a minimum.

More than anything, he credited his fellow teammates. “We’ve been building a strong team, and we paid attention to detail,” he said.

The Idaho sled ran on E10, a 10 percent ethanol-gasoline blend. Next year, Challenge participants in the internal combustion division will be required to use E85 (85 percent ethanol) or biodiesel.

McGill University’s (Montreal, Canada) electric snowmobile took the National Science Foundation Veco Polar Resource Award for Best Overall in the Challenge’s zero-emissions category. It also received the Society of Automotive Engineers Award for Best Design in its class and the Caterpillar Corporation Innovation Award.

At 499 pounds, McGill entered the lightest sled in the competition, and team leader Simon Ouellette says he is looking forward to taking it to Greenland for further testing,

Continued on page 2



University of Idaho



Kettering University

Continued from page 1



a prize provided by the National Science Foundation. Like Idaho, McGill learned from its mistakes, Ouellette said.

"We did an electric sled last year, and everything wasn't going great, but it had potential, and we fixed the small things," he said. They also applied what they learned to a hybrid snowmobile entered this year in the internal combustion division. "Now that we have what we want in the electric, we plan to work on the hybrid," Ouellette said.

The University of Maine and Kettering University, in Flint, tied for second place. Maine also received the PCB Group Award for the Quietest Snowmobile and the River Valley State Bank Award for the Most Economical Solution. Kettering won the BlueRibbon Coalition Award for the Most Practical Solution.

The University of Wisconsin at Madison finished fourth, and the University of Minnesota at Duluth placed fifth. Duluth also earned the Emitec Award for Best Value.

Michigan Tech University

The University of Wisconsin at Platteville received the International Engineering and Manufacturing (Woody's) Award for Best Acceleration.

The State University of New York at Buffalo won the Lotus Engineering and Horiba Instruments Award for Lowest Emissions with their biodiesel-powered sled.

Jay Meldrum, lead organizer of the Challenge, said this year's participants had made an exceptional effort. "Most would have made the 'best available technology' standards for Yellowstone National Park, which are higher than the EPA's," he said. "And to have a diesel win best emissions is amazing."

Leon LaVigne, the recreation program manager for the USDA Forest Service Eastern Region, reminded the student engineers that their work has implications beyond the Challenge, particularly as open space disappears.

McGill University
(Hybrid)



"In the Eastern Region, public lands are becoming islands of green in a sea of people," he said. "It's important that we have clean, quiet snowmobiles, and that we take care of what we have." Both through their engineering and through responsible riding, they can help assure that snowmobiling has a healthy future, he said.

Held March 19-24 at Michigan Tech, the Clean Snowmobile Challenge is the Society of Automotive Engineers' newest Collegiate Design Competition. Teams of engineering students from participating schools take a stock snowmobile and reengineer it to reduce emissions and noise while maintaining or improving performance. The Challenge is hosted at Michigan Tech by the Keweenaw Research Center and the Department of Mechanical Engineering-Engineering Mechanics.

**Photos provided by MTU/KRC*

2007 SAE Clean Snowmobile Challenge Award Winners

Internal Combustion Class

- 1st Place – University of Idaho
- 2nd Place (tie) – Kettering University and University of Maine
- 4th Place – University of Wisconsin-Madison
- 5th Place – University of Minnesota – Duluth

Zero Emissions Class Overall Winner

McGill University

SAE International Award for Best Design

University of Idaho

SAE International Award for Best Design, Zero Emissions Class

McGill University

Caterpillar Innovation Award

McGill University

Lowest Emissions

SUNY-Buffalo, with the first ever diesel powered engine using B10 fuel entered in a CSC or CDS competition.

Best Fuel Economy

University of Idaho with 19.61 mpg

Most Economical

University of Maine

Most Practical

University of Maine

Most Improved

University of Idaho

Quietest Snowmobile

University of Maine

Best Acceleration

University of Wisconsin-Platteville

Best Performance

University of Idaho

Zero Emissions Draw Bar Pull

South Dakota School of Mines & Technology

Thank You to the 2007 SAE Clean Snowmobile Challenge Sponsors

Gold Level Sponsors



International Snowmobile Manufacturers Association (ISMA)



Gage Products



PCB Group, Inc.

Aristo
National Science Foundation
River Valley State Bank

Silver Level Sponsors



Denso



EMITEC, Inc.



Lotus Engineering

HORIBA Automotive Test Systems
NGK Spark Plugs/NTK Sensors
SAE Milwaukee Section

Bronze Level Sponsors



American Council of Snowmobile Associations (ACSA)



BlueRibbon Coalition (BRC)



Colder Products Company



ThermoAnalytics



Michigan Snowmobile Association



Woody's International Engineering and Manufacturing, Inc.

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| AmericInn | Dan's Polaris & Victory Houghton | Pettibone |
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| Association of Wisconsin Snowmobile Clubs | Gates Corporation | Super 8 Houghton |
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| Copper Country Mall Houghton | Land and Sea, Inc. | Yamaha |
| Corn Marketing Program of Michigan | M&M Powersports | Yellowstone National Park |
| Country Inn Suites by Carlson | Moyle Real Estate and Development, LLC | |
| | Pasty.Net | |

FLYING WITH THE BEST AT AERO DESIGN® WEST

The annual Aero Design® West competition was held on March 23 – 25, 2007 at the Apollo XI Field in Van Nuys, California. The men and women of the San Fernando Valley Radio Control Flyers, as well as several sponsors and volunteers, once again managed to ensure that the event went off without a hitch. With clear and sunny skies each day, the 36 teams managed to get 7 flight rounds completed. Teams traveled to the event all the way from Mexico, Canada and Australia.

There were several different awards presented at this event; Jason Goetz of Autodesk® presented the Autodesk Communication Award to the University of California – Irvine who came in first place, South Dakota School of Mines & Technology who placed second, and San Jose State University who placed third. SAE's Scott Klavon presented the SAE Design Innovation Award to Saint Louis University whose innovation was the Ducted Fan Design. Elliott Green, Jr. was also in attendance to present the Regular Class awards on behalf of his father, Elliott Green, Sr. He and his wife, Dorothy, have sponsored the Regular Class awards since 1986. Below is a complete listing of all Aero Design West Awards:

Heaviest Payload Lifted: #028 Georgia Institute of Technology (20.75 lbs)

Lightest Weight: #312 Queen's University Ontario, Canada (.65 lbs)

Highest Payload Fraction: #304 University of California – Davis (.402)

Best Oral Presentation: #019 University of British Columbia

Best Technical Report: #013 Kansas State University

Best Crash: #004 University of California – Davis

SAE Design Innovation Award: #211 Saint Louis University

....Innovation – Ducted Fan Design

Autodesk Communication Award:

- 1st #025 University of California – Irvine
- 2nd #001 South Dakota School of Mines & Technology
- 3rd #018 San Jose State University

Regular Class Overall / Elliott Green Award:

- 1st #013 Kansas State University
- 2nd #028 Georgia Institute of Technology
- 3rd #012 Michigan Tech University

Open Class Overall:

- 1st #212 California State University – Long Beach
- 2nd #211 Saint Louis University
- 3rd #204 San Jose state University

Micro Class Overall:

- 1st #312 Queen's University Ontario, Canada
- 2nd #304 University of California – Davis
- 3rd #313 Polytechnic University - Brooklyn

Thank You to the 2007 SAE Aero Design West Corporate Sponsorships

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NASA Ames Research Center

Bronze Sponsors



RCAT Systems

AERO DESIGN® EAST UPDATE

We are less than a month away from the start of the Aero Design East Competition. The event will be taking place on May 4-6, 2007 in Fort Worth, Texas. This competition will challenge engineering students to conceive, design, fabricate and test a radio controlled aircraft that can take off and land while carrying the maximum cargo. Teams from Poland, Brazil, Venezuela, Canada, Mexico and Morocco will be in attendance and will all be up for the challenge. To review the competition rules as well as other important documents, please visit the following website:

<http://students.sae.org/competitions/aerodesign/rules/>

Water, Water, Everywhere!!

Baja SAE UCF Just Around The Corner

It's that time of year again, the Baja SAE Water Event is almost here!! This year's event will be held on April 12-15, 2007 at the Hard Rock Cycle Park in Ocala, Florida. The event will be hosted by the University of Central Florida. There are 75 teams that are ready to take on the dynamic events designed to test their vehicles to their limits and beyond. They will compete against one another to have their design accepted for manufacture by a fictitious firm. All vehicles are powered by a ten-horsepower Intek Model 20 engine donated by Briggs & Stratton Corporation. Several teams will be traveling in from Mexico, Canada and Russia. Each student will receive a complimentary competition hat and T-shirt at registration. Some important dates and times for this event are as follows:

Thursday, April 12, 2007

5:00 PM – 8:00 PM..... Early Registration at E-One

Friday, April 13, 2007 – Hard Rock Cycle Park

6:30 AM Gate Opens at Track

8:30 AM – 4:00 PM..... Registration

9:00 AM Safety / Design Inspection Begins: See Design schedule for your time

12:00 PM – 1:00 PM..... Lunch Provided by Timken

4:30 PM..... Design Judging Final

4:00 PM..... Last Call for Safety Inspections

5:00 PM..... End Safety / Design Inspection

Saturday, April 14, 2007 – Hard Rock Cycle Park

8:00 AM – 12:00 PM..... Acceleration / Top Speed
Deep Water Maneuverability
Sled Pull
Mud Boggs

12:00 PM – 1:00 PM..... Lunch Provided by Honda R&D

1:00 PM – 2:00 PM..... Acceleration / Top Speed
Deep Water Maneuverability
Sled Pull
Mud Boggs

2:00 PM – 6:00 PM..... Suspension Traction and Land Maneuverability

Sunday, April 15, 2007 – Hard Rock Cycle Park

8:00 AM – 8:30 AM Any necessary flotation re-inspections
(Retention Pond)

9:00 AM Endurance Race Griding Closed

10:00 AM – 2:00 PM..... Endurance Event

4:00 PM – 6:00 PM..... Awards Banquet (On Site) Provided by E-One

For further information on this event, please visit www.bajasaeucf.com. We anticipate that this competition will be a huge success. See you there!

The Educational Relations Business Unit is happy to welcome one of their newest members to the group. **Samantha Jeswald** is the new Collegiate Program Coordinator who will be coordinating the program administration of all Aero Design, Baja SAE and Supermileage events. Aside from organizing team registration, Samantha is also responsible for coordinating with competition organizers, students, faculty and corporate sponsors to ensure that events run smoothly, as well as supporting CDS rules committees.

Prior to joining the Educational Relations team, Samantha worked for SAE's affiliate corporation, Performance Review Institute, for 2 ½ years. She was a Committee Service Representative for the Heat Treating, Welding and Nondestructive Testing Task Groups providing administrative support to the Staff Engineers, Task Groups, Suppliers, Committees and Councils. Samantha received her Bachelor of Science Degree from Indiana University of Pennsylvania where she majored in Child Development / Family Relations with a minor in Psychology. She is very excited to be working with such a great group.

For any inquires in regards to any of the above mentioned competitions, please feel free to contact Samantha at samanthajeswald@sae.org or 724-772-4079.

Engines Revving!

Formula SAE Michigan in May

Formula SAE is only one month away and is approaching fast! This year's event will be returning to the Ford Michigan Proving Grounds on May 16 – 20, 2007. Ready to take on the challenge of competing to be the best of the best are 130 teams from across the world. We'll see who can claim the 1st place and the Formula SAE champion title in a little over a month, but for now please note a few but IMPORTANT NOTICES:

1. Fuel Deadline

All ordered must be into Kathleen McDonald no later than April 15, 2007. Please email to katklauz@aol.com.

2. Team Paddocks

Teams are permitted to park a maximum of two (2) vehicles in their paddock PROVIDED that both vehicles can fit within the standard 17' x 34.5' allotted space.

Tractor Trailers are absolutely prohibited!

As part of registration, teams will be given two (2) parking permits that must remain on the vehicle windshields at all times.

If your team has any special needs please notify SAE by April 15, 2007 by emailing katklauz@aol.com.

3. Site Access

On Wednesday, May 16, 2007, the MPG gates will open at 8am to 11am for "Easy Entrance" to **ONLY** those teams who completed early registration on Tuesday evening at the Holiday Inn. Teams who have registered and received their wrist bands may drive their transporters directly to paddock assembly area. Teams who have not registered early will be asked to wait until 11 a.m. Entry caravans run to 4:30 p.m.

SAE staff and event site coordinators ask that teams please do not show up early than 7:45 am and wait in line to enter the site, especially if your team has not completed early registration. MPG has been gracious enough to allow an "open window" for easy access to eliminate any road blocks. Please respect the official's requests.

Site will open Thursday through Saturday at 6:30 a.m. for all teams. Buses will run continuously to shuttle teams from the main gate to event site and back.

This year the event site will be closing at 8pm with all teams having to be offsite by 8pm; meaning exit caravans will start forming at 7pm.

continued on page 8



DAIMLERCHRYSLER

 Ford Motor Company

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2008 Formula SAE

SAE International is pleased to announce that the 2008 Formula SAE is making a move to Michigan International Speedway (MIS), Brooklyn, Michigan. The competition will be held Tuesday, May 13th through Saturday, May 17th. Moving Formula SAE to MIS will give the teams the opportunity to compete at a first class, dedicated motor sports venue. Further information on MIS is available on their website <http://www.mispeedway.com/>

continued from page 7

A second addition to the Educational Relations Business Unit is Mary Beth Ament as the Manager of CDS Business Development. Mary Beth is responsible for managing key relationships associated with Collegiate Design Series events, including internal as well as external relationships with sponsors, event organizers, product developers and relevant in-house units. She has responsibility for acting as a liaison to ensure the development and maintenance of a proper funding model for each event, including contract management, to ensure all required contracts with event consultants and suppliers are in place and executed.

Prior to joining the Educational Relations Business Unit, Mary Beth was the Manager, Executive Programs and Services for five years with direct responsibility for the administrative support for the SAE Board of Directors. Her duties included Assistant Secretary to the Board, managing the Executive Office staff, being a stakeholder of the SAE Staff Leadership Team, as well as a member of the internal SAE Organizational Council. Mary Beth was a member of the SAE Executive Office team since 1996. Mary Beth joined the SAE staff team in 1994 as the A World in Motion Coordinator. Mary Beth has a bachelor's degree in Business Administration from the University of Phoenix.

Mary Beth can be contacted at ament@sae.org or 724-772-4032.

The Educational Relations Business Unit is happy to welcome Mary Beth to the Collegiate Design Series group.

4. Early Registration — Very Important!

SAE staff seriously encourages all teams to attend the early registration session from 6pm – 11pm at the Holiday Inn, Auburn Hills. Registration will begin promptly at 6pm and will close promptly at 11pm; staff will register teams up to 11pm.

Early registration is open to all teams who have submitted their pre-registration forms via email/mail to SAE staff. Teams who have not submitted these forms can still register early providing they come prepared with the required documents.

At early registration, SAE staff will check all required documents and provide team members with needed wristbands, name badges and vehicle window shield decals that will allow them to enter the MPG site on Wednesday during the 8a.m. – 11a.m. "Easy Entrance Window".

5. Awards Ceremony

The award ceremony will be returning to the GM VEC Tower-Warren Tech Center located on 30001 Van Dyke Avenue in Warren, MI.

This year's ceremony will begin at 12pm. Doors open to participants at 11am. There will be no food served this year however sponsorship of snacks & beverages is being explored.

Each team will receive a total of 10 tickets at registration as part of their team registration, along with the 10 event programs. Though SAE understands many teams will want more tickets; the facility only holds 1400 maximum occupancy and we need to make an effort to have at least some representatives from all teams.

At the registration table there will be an opportunity to register for extra tickets as SAE encourages those teams who do not plan to attend to please return the tickets to the student registration/information desk. Registration for extra tickets will start on Thursday, May 17, 2007.

6. Event T-shirts

Commemorative FSAE long sleeve t-shirts will be offered for sale at the SAE Bookstore onsite. Shirts will be sold for \$15.00. This year's design is pictured on the right.

Also the SAE Bookstore will be selling other Formula SAE items and engineering books. Watch for the bookstore's new location onsite!



7. Transponders

Under the 2007 rules, teams must provide their own transponders. See Rule 38, SAE staff and event volunteers want to remind students to be sure to charge their transponders so they are fully charged on the dynamic days.

If you plan to charge your transponders onsite, please note that the power will be shut down every night at 8:00 p.m. SAE encourages all participants to charge their transponders at the hotel.

Please remember to take transponders to Technical Inspection onsite. The inspectors will record the transponder numbers..