IN THIS ISSUE:

UB Motorsports is off to a great start for the 2009 season. The team has many returning, as well as new members that are eager to get designing and working on the UBMS09. Recent participation in the University of Toronto Shootout has increased this excitement, which leads to high spirits of team members who have already been working hard sense the summer designing the vehicle. Enjoy!

Toronto Shootout

On Saturday September 20, 2008 the University at Buffalo Formula SAE team took a trip to Mosport International Raceway just outside of Toronto for an event called the University of Toronto Shootout. This event is one that the University of Toronto has held for a few years now, an event that allows teams from the northeast region to have a day of racing in order to collect data about their current vehicles. For the University at Buffalo the trip was a great success, allowing testing of various set ups with suspension, brakes, and transmission. This trip also gave six new team members the opportunity to see the car in action as well as work with the senior members of the team. There were 18 teams that showed up to this event, including RIT, University of Toronto, McMaster University and many more. After the completion of this event, the University at Buffalo Formula SAE team is eager and ready to build the 2009 vehicle.

The 2008-2009 Team

There seems to be a law written into the makeup of a student run design project such as SAE: There will be member turnover from one year to the next. This year is no exception to the law. With graduation in May, the University at Buffalo had lost valuable Senior Leaders who played a key role on the team for many years. Though it is difficult to keep information flowing through the years, the 2009 season looks promising. We have a new set of eager leaders growing into great roles, and fresh team members ready to learn. With over 25 new members and a great start to the year, our team is
stronger than ever. Be sure to keep tuned in to our progress as we work towards our ultimate goal of competition in Michigan this coming May!

System Updates

Electrical
The electrical team has planned many improvements for the 2009 car in order to increase performance as well as ergonomics of the vehicle. The implementation of a launch control system will ensure proper acceleration from dead starts and the use of sequential fuel injection will allow for proper fuel consumption along with better throttle response. The team is also planning on creating driver friendly dashboard with important vehicle information for the driver to easily read.

Suspension
The suspension team leadership has changed for the 2008 season and the new members are quickly bringing themselves up to par. Through the summer extensive research was done into various types of suspension design as well as taking a detailed look at tire behaviors. The team plans to do a nearly complete redesign of the front end, achieving improve handling and mechanical grip during racing. The team leadership has been using a variety of commercial and team created software to determine the optimum camber and steering angles for the tires during cornering. The combination of software is allowing for an iterative design process, optimizing ultimate cornering power and drivability, while not sacrificing braking or acceleration. The front suspension redesign is also a capstone project for two seniors at UB.

Engine and Drivetrain
Keeping with the design philosophy of simple, the team will again be using the Briggs & Stratton V-Twin engine as the vehicles power source. The design of components however, will differ greatly from the previous designs. The intake and exhaust system will be completely optimized for more torque as well as greater power generation. The drivetrain will also remain the same in terms of using a CVT (continuously variable transmission). Currently, there is a team devoted to the understanding of how a CVT works in order to better tune it for our application. Great strides are being made in order to have a more efficient engine/ drivetrain system.

2009 Rules Changes
As the University at Buffalo Formula SAE Team prepares for competition next spring, there are many changes in the rules that will be affecting the team. There are three rules in particular that the team would like to share, giving an idea of the design process. These three rules are “The Percy Rule,” changes to the cost report, and changes in the grading point system between endurance and fuel economy.

“The Percy Rule” refers to the penalty for not obeying the rules pertaining to the main roll
hoop for the frame of the car. This penalty goes in effect if a team fails to meet the requirements on the dimensions of the roll hoop. The importance of this rule is very prominent considering the size of the driver in the car will often vary during and out of competition. The dimension standards are related to the size of a 95th percentile male. It is very important that the Formula SAE Team considers this rule during the design process for the car.

Prior to competition, each team must submit a cost report of their vehicle for that competition. The specifications for submitting and creating this cost report will vary greatly from past years. For the 2009 season, teams will be electronically submitting the cost of their vehicle via an electronic library of common parts and their related costs. This will require the Formula SAE Team to be vigilant on knowing everything about each part that is going to be a part of the new car.

Each part of the car gets graded in different part of competition such as acceleration and endurance. Some are graded much more heavily than others but all are important to consider when creating a winning car. Endurance and Fuel Economy are two that have changed point values sense the last competition. The available points for Fuel Economy have increased to 100 while the available points for Endurance have decreased to 300. The 50 points that was given to Fuel Economy from Endurance shows a movement for conservation of energy, which is a crisis our National Economy faces. These changes in points will hopefully affect the way the team will try to optimize the car’s performance.

To Our Sponsors
The team would like to take an opportunity to once again thank all the sponsors and supports of our program. It is certainly because of your help that we are able to complete and compete in such an undertaking. The last two pages of this newsletter consist of the logos of all the sponsors who have helped us complete the 2008 vehicle. In upcoming issued the 2009 sponsors will be featured in the same place. If we have not already done so, the team will be contacting you or your business concerning sponsorship for the 2009 season. We hope that all of you are as excited and eager as we are about this upcoming year, and would like to stay on as sponsors. If you do have any comments, please feel free to contact Greg Robbins whose information is at the end of this newsletter.

In our Next Issue...
- Final Design information
- Solid model snapshots of the UBMS09

Thanks again!

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“Percy”
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