

# Telemetry

The R•I•T Formula SAE Newsletter

Fall Edition  
October 2007



Vol. 16 No. 1

## Design News

This summer, while simultaneously preparing for the Formula Student Germany competition in August, the team completed an aggressive dynamic testing and driver training program. The annual summer design meeting was held on July 20th – 22nd on the RIT campus, where many design issues were discussed, and a preliminary timeline was established. Fourteen team members attended the meeting, many of whom got to drive an RIT Formula SAE race car for the first time.



Clad with a see-through fiberglass body, F15 rounds a skidpad course for suspension testing prior to competition in Detroit.



RITchie the Tiger poses beside F15 at the unveiling of F15 while Anthony Capobianco and former RIT President Dr. Albert Simone talk in the background.

## Competition Results

### Formula SAE East

The R•I•T Formula SAE Racing Team once again finished in the top ten percent of competitors at the Formula SAE competition in Michigan, with a 7th overall result out of 130 schools from around the world. This was the first time in the last eight years that RIT finished in the top ten overall at the extremely competitive Michigan race, the last time being in 1999 with F7. 2007 was also the second year the Formula SAE competition was held at Ford's Michigan Proving Grounds in Romeo, MI, where the facilities for both static and dynamic events are superb. The team improved their performance in both static and dynamic events in comparison to the previous year, with 6th in the endurance-economy event and 3rd in cost. Performance in the skid pad and acceleration events was affected by problems with the starter clutch on the race motor which necessitated that the spare race motor be used for both these events Friday morning. Fortunately the race motor could be fixed that same morning, and installed before the autocross event that afternoon. This would not have been possible without the help of alumni Fernando Fiore and Eric Sheen who retrieved the necessary parts from an engine back in Rochester, so that Eric could drive the parts from Rochester to Detroit that same night!



Todd Mangiagli shows off F15 at unveiling in front of the Student Alumni Union.

### DETROIT RESULTS

Event	Points	Points	Rank
	Available	Scored	
Presentation	75	59	30
Cost	100	90	3
Design	150	100	14
Skid-Pad	50	39	15
Acceleration	75	52	32
Autocross	150	108	22
Endurance	400	305	6
Overall	1000	752	7

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## Formula Student Germany

To further our international presence, R•I•T accepted an invitation to the second annual Formula Student competition in Germany from August 9th to 12th. The competition was held at the beautiful Hockenheimring race track, where Formula One, DTM, and European Lemans events also take place every year. This was the site of RIT's impressive return to international competition, finishing 5th overall out of 80 schools from 13 different countries. The level of competition at the German event was noticeably higher than in Detroit, but the R•I•T Formula SAE Racing Team was up for the challenge, especially in dynamic events, with 1st place in skidpad and 4th in endurance. The team arrived in Germany well prepared for the static events, but did not improve much over their Detroit scores, largely due to the language barrier and a judging criteria that was slightly different than in Detroit. During the endurance event the announcer, Pat Clark, recognized the RIT Formula Racing Team as "a well respected team from upstate NY who has competed in Formula competitions all over the world...They have a lot of experience and are definitely a team to watch." RIT also stood out from its competitors by having a female driver in the acceleration event, Laurie Underhill, who was one of only a handful of female drivers at the German competition.



Ryan Baldi driving the endurance event at Formula Student Germany,

## GERMANY RESULTS

Event	Points	Points	Rank
	Available	Scored	
Presentation	75	54	26
Cost	100	80	20
Design	150	100	11
Skid-Pad	50	50	1
Acceleration	75	56	16
Autocross	150	110	14
Endurance	400	339	4
Overall	1000	790	5

## News • Events

### Shop Addition

This spring the team began using the additional area which has been added to the Mechanical Engineering machine shop. It includes lathes, mills, and CNC equipment, along with a new team room for manufacturing and assembling race cars. The team made full use of these additional resources while testing and modifying F15 before competing in Detroit, and it really helped out. The glass walls are a wonderful feature, which allows everyday passers by to see how much time is required to design and build a competitive Formula SAE Race Car. Many thanks go to Dave Hathaway for making the transition from the old to new facility as transparent as possible.

## Management Notes

As we begin the 2007/2008 Formula season, we say goodbye to the senior class that led F15 to so much success, and look to the future. The changing of the guard has already taken place, with Lawrence Litchfield and Jonathan Pickard assuming the Project Manager and Chief Engineer positions, respectively. This year a new leadership position, Manufacturing Director, has been created for Ryan Baldi, who will oversee the fabrication and integration of all the car's subsystems. Group Leaders have also been elected for the new season, and have begun work on their parts of the F16 chassis. Anthony Salvo remains the drivetrain group leader, while taking on additional administrative duties as Associate Project Manager. Fourth year mechanical engineer Charles Thomas takes over from Jon as Chassis and Suspension group leader, and leaves his previous role of composites group leader in the capable hands of Bibhu Shah. Bart Lettenberger will be heading up the brake group again, and assisting Charles with the design of outboard suspension components. This year the chassis and suspension design is supported by the efforts of Martin Iwanowicz, head of the newly formed vehicle dynamics group. Tom Giuffre will be heading up the engine group for his first year, and will benefit from his background in electrical engineering. Tim Monahan is in charge of fabrication group, and Andy Cervoni is responsible for CNC fabrication. With a diverse and multi-talented assortment of group leaders and administrators, this season promises to be one of R•I•T Formula SAE's best yet.

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This year's alumni will be greatly missed. Robert Hammond has begun full time work in Rochester at Delphi Corporation, and Laurie Underhill is returning to Moog in Buffalo, where she previously Co-oped. Anthony Capobianco will be returning to Magna Powertrain in Syracuse where he was on coop last fall. Todd Mangiagli will be working for KBE+ Inc. in Syracuse.

Speaking of R-I-T Formula alumni, we would like to recognize Phil Mather and Ken Flory for their performance at the SCCA Runoffs in Topeka, KS earlier in October. This event is the pinnacle of amateur road racing in the United States, and can be viewed on the SPEED channel. Competing in the Spec Miata class, Phill finished on the lead lap in 25th, while Ken won the Showroom Stock B class and took home his first National Championship driving a Pontiac Solstice. Great job guys!



Team picture in front of the man-made lake at Ford's Michigan Proving Grounds. Pictured (L-R): Ed Gliss, Bibhu Shah, Andy Cervoni, Martin Iwanowicz, David Donohue, Ryan Baldi, Ted Kusnierz, Robert Hammond, Laurie Underhill, Dave Holland, Tim Monahan, Anthony Capobianco, Lawrence Litchfield, Matt Ball, Charles Thomas, Sergey Chiripko, Matt Smith, Bryan Reinheimer, Todd Mangiagli, Joe Corea, Anthony Salvo, Rachel Belter, Tom Giuffre, Jon Pickard, Japheth Learn, Alana Soehartono, Dr. Alan Nye.

## *The R-I-T Formula SAE Racing Team Thanks Our 2006/2007 Sponsors*

We would like to thank all of our sponsors and Checkered Flag members for your continued support throughout this season. Media exposure and branding on the race car has allowed our partners to leverage the global name and reputation that the R-I-T Formula SAE Racing Team has established in the cutting-edge technology sport of Formula SAE. Our hard work and dedication to this valuable engineering experience would not be possible without your contribution. Thank you for all that you do. The team is looking forward to another successful year with your support.



Team pictured at the Formula Student Germany awards ceremony. Pictured (L-R): Jon Pickard, Dr. Alan Nye, Bart Lettenberger, Lawrence Litchfield, Robert Hammond, Laurie Underhill, Anthony Capobianco, Martin Iwanowicz, Ted Kusnierz, Ryan Baldi, Charles Thomas.



Ryan Baldi bears down on Western Washington University at the Formula SAE East Competition.

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The Pickard Family  
Dr. Rebecca Johnson  
The Salvo Family  
Dr. William Destler

Team picture in front of the Student Alumni Union during the unveiling of F15. Pictured (L-R): Ed Gliss, Jon Pickard, Martin Iwanowicz, Tom Giuffre, Joe Core, Todd Mangiagli, Dave Hathaway, Bart Lettenberger, Andy Cervoni, Japheth Learn, David Donohue, Anthony Capobianco, Bryan Reinheimer, Ted Kusnierz, Dr. Albert Simone, Charles Thomas, Lawrence Litchfield, Dr. Alan Nye, Robert Hammond, Laurie Underhill, Rachel Belter, Ryan Baldi, Alana Soehartono, Dave Holland, Tim Monahan, Anthony Salvo, Matt Ball.