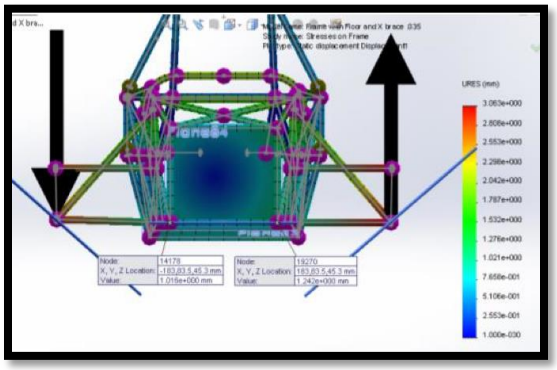
Monday, February 10, 2014

Greetings from the Crimson Racing Team,

Thank you for your support of the University of Alabama Formula SAE team. We would not have been able to support our project without your help and/or the help of your organization. That being said, we realize that an update is long overdue.

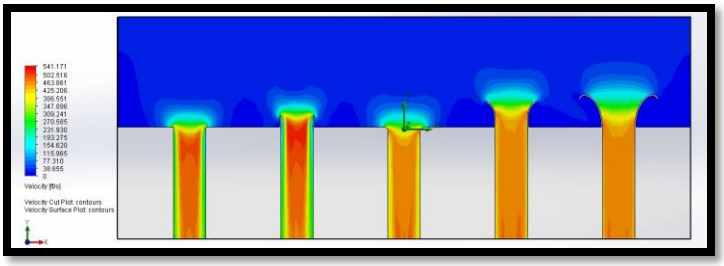
Though we recently had to repair the differential mounting in the car and make adjustments in the suspension, but we are proud to say that the car is now successfully running. We have had a few short drives and are using a university parking lot for full testing. From the drives so far, we were able to prove that our data acquisition system was working properly. We look forward to collecting more dynamic data to aid us in tuning and improving the car. Because we currently only have a few sensors, we are on the hunt for affordable sensors to better understand what the car is doing in different situations.



A Finite Element Analysis (FEA) of the current frame on the car is near completion. The FEA is used to model how certain stresses will impact the frame of the car. With the knowledge gained from doing the FEA on the car's current frame, we hope to design and build a better frame. Unfortunately, we are not sure if we currently have the funds to pursue the task of producing a new frame. Along with performing a FEA, we are also in the process of building a stand to tune engine on a water dynamometer with which we can hopefully collect more data on the engine.

The car is still using a Performance Electronics Engine Control Unit. We have been preparing for a switch to the smaller, cheaper MicroSquirt ECU, but we felt that leaving the current PE in for the first few drives was preferred. The MicroSquirt is an open-source unit that should give us the best opportunity to customize the ECU for a smaller price.

Last semester, we redesigned and implemented both new steering and rear suspension, as well fabricating a new professionally painted fiberglass body. Not yet fabricated, the intake has also been redesigned, in addition to the rear box that holds the ECU and the differential. Although it is slightly heavier than the current rear box, it works better with the differential and offers better serviceability.



The best part about the entire process has been forming the team. We have grown closer and there are more committed members this late in the school year than in years past. Coming from varying levels of experience, we are able to learn from and help each other finish jobs. The team is young (leaders are sophomores and juniors), so most of our learning is done as a group, the knowledge from which we are investing into future years.

We still have a lot of work to do, but we look forward to the challenge. We hope that you are just as enthusiastic about the success of the car as we are. Thank you once again for your support of our program and we hope that you will continue to support us in the future. If you have any questions or would like to know more about a certain area of this update, please send us an email.

Sincerely,
Crimson Racing Team
alabamafsae@gmail.com