

THE QUALIFIER



Official Newsletter of the U of A Formula SAE Student Vehicle Project

March 2009

Impact Attenuator Test Successful

ew Formula SAE rules have stipulated that all impact attenuators, an energy absorbing structure on the front of the car, must undergo physical testing.

In previous years, we have used a high density foam, but after the first test, it was apparent that a new material would be required. An extruded aluminum honeycomb donated by Plascore Inc. was chosen as the replacement.

honeycombs Aluminum are well suited to impact attenuation uses. After their first initial peak stress, the force required to crush the material is nearly constant.

conduct the 660lbs of steel was dropped from a height of 2.5m. An accelerometer mounted on the mass showed a peak deceleration of 20.8q's and an average deceleration of 13.2g's. This is well within the rule requirements of 40g's and 20g's respectively. The attenuator weighs a mere 1.1lbs; less than half the prior attenuator.



Before and after of an Impact Attenuator Test Crush.

Honda Continues FSAE Support

Honda Canada has contin- have ued to support the Univer- CBR600 F4i engine which sity of Alberta Formula SAE has proven to be extremely Project for the third consecu- reliable. This motor has active year. The assistance is celerated us to the top quarmuch appreciated as their ter of all teams. Last year, support is an essential factor this motor helped us place in the team's success.

For the past 3 years, we in fuel economy.

used the Honda 5th in acceleration and 2nd

Car Finally Taking Shape

The 2009 car is nearing its final assembly stage. The chassis is back from welding at Lockerbie and Hole and will soon be off for heat treating at R&R Stress Reliev-Nearly all machined parts are finished as well. The team is expecting to start final assembly of the car within the next 3 weeks.

Dynamometer tuning of the engine commenced this past week as well. We are hoping to produce 84hp and 44lb-ft of torque this year.

Grade 4's Get a Taste of Automotive Engineering

During reading week, a grade 4 class from Windsor Park Elementary ventured to the university for a close look at the engineering design process relating to cars and robots. The class received a demonstration of the car on a tilt table as well and also got to hear the car's mighty roar.





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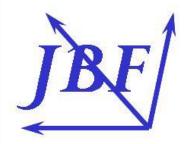


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