During Spring Break you can find many college students littering white sand beaches and powder covered ski towns, that is, as long as you’re not looking for most of the students on the FSAE team. This one week in March free of classes, tests, and homework results in great progress toward a running car, even if some students end up living in the machine shop.

### Progress

We have finished one of the most important components that varies to a large degree between different schools: the design and assembly of the intake system. This includes the restrictor, plenum, trumpets, runners and injector seats. Our plenum is made out of aluminum and we opted to use trumpets that protrude into the plenum. The radius on the inlet of the trumpet smoothes the air flow into the engine thus increasing the amount of air/fuel mixture; end result – more power. The fuel injector seats have been changed from last year in that they now point directly down into the intake port rather than at an angle which can adversely affect the fuel’s ability to remain a vapor.

All that time in the machine shop paid off as evident in the rear powertrain. It has not been assembled yet, but all of the pieces are complete including the differential, pillow blocks, all adapters and sleeves, and driveshafts. Also the front uprights are finished and the spindles have been post-machined. Front and rear bellcranks and A-arms are complete and mounted on the chassis.
Sometimes the static events are overlooked in the competition but FSAE is about more than just racing. The design review is a thorough presentation of design elements, goals and predictions about the car before it is even completed. The due date was March 1st and we feel we submitted a detailed and well developed design review. Another aspect of the competition, the cost report, is due April 1st and we have been working on it for a couple weeks. Last year we created an impressive report with only a few minute problems that one of the judges found. So this year we have fixed those errors and expect to score high in this event.

We hope to have the car sprung and rolling by the 4th of April and progress should speed up considerably. The engine is on the dynamometer, ready to be fired up and tested with the new intake plenum. Once the front uprights are mounted the steering tabs can be attached, allowing us to install the steering rack and wheel. The dash will follow because it is dependent on the mounting of the steering wheel. The wiring of the car is extensive but we have already made the main harness from the ECU to the engine, so it is expected to be a quick process. Body work will be one of the last items to get attention. However, we will have some time to dedicate toward laying up the molds while the frame is being powder-coated. Driving time in the new car will probably be very limited; however the team is ready and willing to put forth whatever effort it will take to complete a quick, competitive, and durable car.

In the future…
Every year the University holds Explore UT, a campus wide event advertised as the “biggest open house in Texas.” SAE takes part by displaying different projects including recent year’s formula cars. Also on display are the restored ’37 Chevy, the hotrod ’37 project, and the Chevy Silverado that won the Ethanol vehicle challenge in ’99. FSAE members are on hand to talk about who we are and what we do and answer any questions. This year saw most likely the best turnout, with great weather and one bright orange racecar. Several hundred people stopped to look and ask questions, including a 1943 graduate of mechanical engineering at UT.

UTFSAE entered its first ever contestant into the Alec Building Contest sponsored by the Friends of Alec and College of Engineering. Alec is the patron saint for engineering at UT, a sort of mascot for the college. The contest is decided by student votes and has a cash prize that goes to the organization. Hopefully FSAE will continue to participate in the event as it is a great promotional tool and allows us to demonstrate our creative skills.

2004 FSAE Alec

Specs:
1.00 x .065” 4130 Steel Tube
.040” 6061 Aluminum Sheet
Kevlar fabric
Breather Fabric
Spray Paint
Wax Cup
Hose Clamps
12 gage electrical wire
Recently UT opened a new website called UTOPIA designed to display all the great things about the University of Texas. We were fortunate enough to have an article written about us including a video that really embodies the FSAE program. These can be viewed at:

http://utopia.utexas.edu/features/scenes/sae/index.html

As competition gets closer everyday we would like to thank a few people that help make all this possible.

*Our machine shop supervisor Don for allowing us to work evenings and weekends and for the assistance he has provided*

*The machine shop crew, Curtis, Danny and John for their wisdom and guidance*

*Dr. Mathews and Dr. Hall, our faculty advisors*

*All of our sponsors, as always, for their support*