



TTU Motorsports: FSAE Michigan 2017

May 10-13, 2017

Michigan International Speedway, Brooklyn, MI

Background

For 36 years, collegiate teams have been competing in formula SAE, whereas this year had 120 international teams take on the competition at the Michigan International Speedway. The universities compete in both Static and Dynamic events that make up points for an overall score. Static events include: Cost Report, Design Report, and Business Logic Presentation. Dynamic events include: Acceleration, Skid Pad, Autocross, and Endurance.

To win the races at this competition is not the same as winning the competition. The static events are half the battle. TTU Motorsports takes into consideration and optimizes the business logic, costing, and design effectiveness when planning the car. TTU Motorsports is never less than impressive when it comes to how they have something great to deliver at each event.

Preparation

During the 2016-2017 season, TTU Motorsports took on the endeavors of planning, designing, building, and racing a formula car. Between 20 team members and a year of work, the car was a tangible reality. This car, nicknamed 'Jinx', was made to pass the technical and safety rules provided and surmount the quality of cars from the past three years. Very importantly, the car was completed early so that the team could use it for race testing, driver training, and identifying fundamental problems.

TTU Motorsports splits up its members into sub-teams for each static event and unique pair of drivers for each race. During the year, each of these sub-teams had their own meetings to discuss operations, and they did not interfere with the other sub-teams. The business team would set up sessions with experts in the area to judge their presentation and provide constructive feedback. The design team members would work on their specialized area's data and simulations. Not surprisingly, the ambitious efforts of each sub-team did not only stimulate the others to do better, but awed other universities.



Competition

Once again, TTU Motorsports was pulling the attention from many other teams during their time at Michigan. They had a very nice and innovative car, with perforated aluminum for the body, vinyl with a carbon fiber-mimicking appearance to surface the perforation, and a split sway bar to provide a solution to using a solid rear axle. No other team could compete with the fit and finish of TTU Motorsports. On top of that, the team was awarded first place for the Altair William R. Adam Award due to the innovative technique of using the perforated aluminum.

The competition began with the Static Events. Keeping the same placement as last year, the Cost Report placed first of 120 schools. The business logic presentation showed many advancements on their STEM package, starting up the Hands-on-by-Design organization and actually making successful deliveries through it. The design report displayed the characteristics of the car in a more compelling way than before, and that team did accomplish a great amount of their expectations. Although these two events weren't scored as highly as the previous year, they have expanded their skills and established plans for how to do better than they ever have next year.



When it came to the dynamic events, this car wouldn't let the technical inspections hold it from what it knows best, racing. This car passed all of the technical and safety rules, and was permitted to enter the events, just like the last two years. Each event gave two drivers the opportunity to complete two runs, scoring the team's fastest lap time. The drivers did all they could to compete the car at its utmost potential, and for the first time, the car was able to complete endurance, placing it among the top tier of cars. With that accomplishment, the team placed 38th overall, being the highest the team has ever placed. There were many new ideas the team developed while finishing these races, leading to the likelihood of next year's car having the best quality of performance yet.



Thank You to our Sponsors

TTU Motorsports would like to give special thanks to all of our sponsors who supported us throughout the year. With the support of our sponsors, we were able to extend our fabrication capabilities with new equipment and tooling. Our sponsors provided us with encouraging remarks and reassurance that we are taking steps in the right direction towards quality manufacturing. All in all, we were able to use quality products and provide our team with enough funding to support ourselves and our success.

