



TEAM DEFIANZ RACING

NEWSLETTER

DEC 2019



THINK. DREAM. RACE

SNAP OF THE MONTH



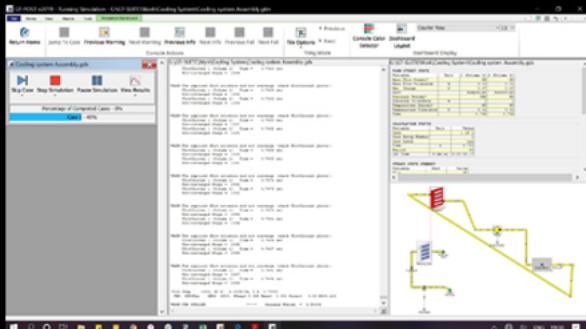
DR 18 at the **droom**
Track Day at Buddh International Circuit

TEAM UPDATES

- The Corporate and Powertrain departments are working together towards the procurement of a custom-made radiator.
- The car is being prepared for ECU tuning.
- Chassis measurement was done according to the drivers.
- The Corporate department attended the Droom Track Day event held at Buddh International Circuit and DR 18 was put on display. Talks were held with potential sponsors.

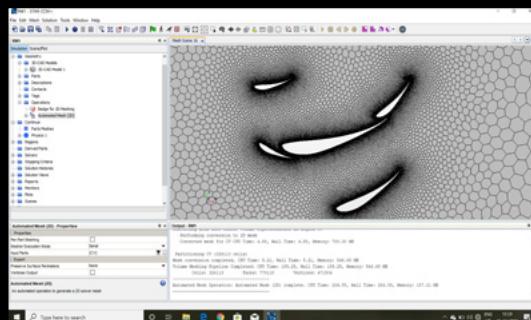
DEPARTMENTAL UPDATES

POWERTRAIN



The team studied and iterated multiple cooling system models on **GT Suite** and radiator orientation iterations on DR18. The team searched for a radiator manufacturer for their needs. It also searched for a suitable engine dynamometer for ECU tuning. Wiring was made for the **DTA S80pro** tuneable ECU.

AERODYNAMICS



For the month of December, optimization studies and simulations for the rear wing and front wing were carried out for better dynamic balance and stability. Manufacturing studies and techniques were developed to manufacture lightweight and high quality parts.

CHASSIS



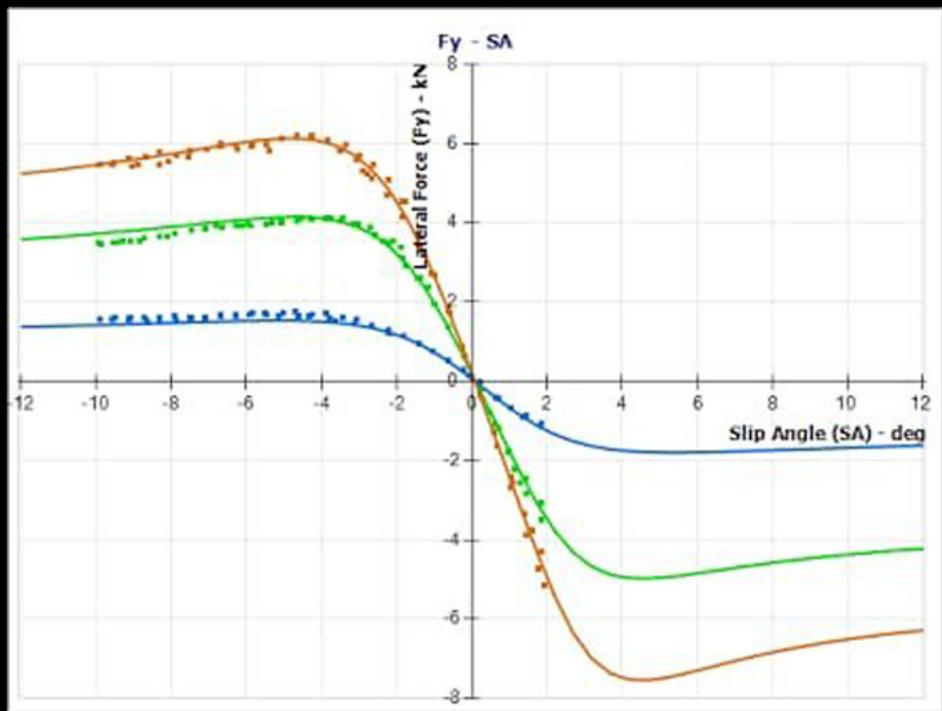
The team did multiple iterations of ergonomics, considering all 4 drivers, using the ergonomics jig and decided the seat recline angle, front hoop and main hoop position based on driver comfort and rule feasibility. Currently, the team is working on the chassis modelling on **SolidWorks**. The objective is to have minimum chassis weight and a high torsional stiffness. Work will now be done on stiffness and fatigue stress testing of chassis model in **Ansys**, and develop multiple improved iterations of chassis for an optimum result.

SOFTWARE & ELECTRONICS



The team is working on refining the telemetry, for which new team members are learning node.js and CAN protocol to retrieve data from sensors. The team is using **Motec** data-logger to display all the data which is retrieved from the ECU.

VEHICLE DYNAMICS



The team designed suspension geometry for DR19 using *Lotus* shark. Various kinematic graphs were plotted like camber gain, ride height, roll centre migration, bump steer curves, etc

Work on Spring and ARB calculations was done. Mathematical formulas and assumptions were feeded into one spreadsheet aiming to find anti-roll bar stiffness and percentage.

Study on preparing tire model for steering geometry was done. Various tire models were looked up and implemented on **MATLAB** to find various tire curves related to F_y , F_x , and M_z .

KNOW THE MEMBERS



NOEL SURIN COE- 1ST YEAR

I'm a part of Software & Electronics Dept. at Team Defianz Racing. I like gaming, playing guitar, and of course, I love cars; fast cars.

I've always been fond of cars. As I grew up, I developed a keen interest in various Motorsports like Rally, Formula-D, Formula-1 etc.

After getting into DTU, I found Team Defianz Racing. It filled me with excitement that I could finally be able to work so closely on a race car and be part of a culture that I hold so dear to myself.

In the coming years, I see TDR helping me achieve my life long dream of being a part of a Motorsports team by giving me the needed experience, and also help me to grow as a better person altogether.

ROLLING BACK THE DAYS...



SIDDHARTH BATRA M.E.(2017)

Siddharth Batra was the Team Captain for the 2016 FSUK competition. He joined the team in his second semester. He was a part of the team for 3.5 years and he still is!. Currently, he is the Managing Director of Shakti Pulley. It is an engineering company manufacturing rotational mechanical components.

"Defianz Racing will always hold a special place in my heart. Defianz has been instrumental in shaping my personality and outlook. Joining TDR gave me a sense of purpose in my college life. It taught me how to face and overcome any difficulty life throws at me. I still remember all those sleepless nights spent at Wind T, working tirelessly on the car. My message to the current team would be that there is immense learning in the entire process. Not only do you become a better engineer, you also learn the importance of management, planning, team spirit and delegation. Good luck for all your endeavours!"



#CANDID



THANKING OUR SPONSORS

FEATURED



We're really glad to have Gramma Technologies on our board of sponsors for the first time. A big thanks to them for providing us a power-packed and complete engine simulation tool, the *GT-SUITE*.



REKLUSE



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