

Chapter 1 : Supra SAE India 2k17 racing event by IITP Motorsports - Ketto

Baja Sae India Design Report. Preliminary Design Report. SUPRA SAE 1 Documents Similar To Design_Report (PDR) CFD SAE.

The decision of judges and organizers will be final and binding on all the teams. It will 10, during the registration Rs. Deadlines Details will be announced for the following in our website www. Organizers will, however, insure all the participants for an amount, as is done during such events. MMSC Race track in Chennai, is also fully equipped in terms of safety of the participants during the racing event. With students safety being paramount, stringent adherence to the rule book is mandatory. The decision of judges will be final and binding on the participants. Training of 3 compulsory student drivers will be organised for being able to race their cars on a Race track by the expert Race car drivers and race car tuning engineers. Workshop for Race car development and tuning features will be arranged possibly one in each zone. Prizes awarded are non transferable and no cash shall be given in lieu of any prize. All disputes are subject to exclusive jurisdiction of the competent courts at Chennai only. And the same will be borne by the winner. TDS will be applicable? This event provides a real world engineering challenge for the SAEINDIA Student members that reflects the steps involved in the entire process from design and engineering to production to marketing to racing and endurance. The prototype is to be evaluated for its potential as a racing car. The target marketing group for the race car is the non-professional weekend autocross racer. The project fuels the exuberance of the youth by providing teams a platform to test their mettle, giving them a pragmatic exposure to real world challenges as faced in the industry. Students realize their talent through such an experience, making them proven candidates for the future as technocrats, entrepreneurs, designers, innovators and leaders. This helps the objective of bringing out student talent to serve the nation for the years to come, in fulfillment of the Automotive Mission Plan AMP a dream to make India an International Automotive Hub. We invite you to come and kindle your innovative ideas and creativity to experience engineering at its best. Bharat Vedak - John Deere Mr. Srinivasan "Brakes India Mr.

Chapter 2 : SAE India Supra | Sharvin Ghodekar and Amit Fugare - www.nxgvision.com

The fifth edition of the SUPRA SAE India Formula student competition saw Team Kratos Racing from the PC College of Engineering, Pune, lift the trophy Team Interceptors V from Dr DY Patil Institute of Technology emerged as the runner-up and.

The report briefs about the various geometries and mechanisms opted. Our design motto After several adjustments considering rack and was to maintain the center of gravity low as much as pinion location to avoid the bump steer, suspension pick possible, feasible for production and high performance up points, pedals, steering column etc. The final rollcage and at the same time economical. The optimization in design is a number of iterations so as to keep the weight design was made without compromising on the factor of of vehicle minimum. Our chassis has been designed in safety. Simulating real world situation is difficult in the such a manner that all drivers will be able to exit in just design phase of the project. Thus in the overall process below 5 seconds. Pro-Engineer, Catia, Hypermesh, and Ansys softwares were used. So we of vehicular racing event. A deep survey highlighted designed the roll cage with it but later found two more some important facets such as optimal performance, alternatives to it. A brief comparison of the three materials is as under: For increasing the fuel economy we would be using AISI magnetic fuel saver. Thus we can achieve a better fuel E GPa - - " economy, reduce emission of toxic gases, and increase Sut MPa engine power. Knuckle, Hub, Suspension A-arms would be The frame is one of the largest and heaviest components manufactured by us. After comparing the factor of safety 1. This would not justify the extra cost incurred in As AISI would satisfy our requirements of strength, it was selected. Outer diameter of piping for Rollcage forms the skeleton of the Student primary member was selected The collision, by transmitting and distributing the forces Floor would be laid of plywood of thickness The rollcage supports the major subsystems of The final weight of the chassis was measured to be This would reduce the weight drastically and Design Methodology: Firewall made of aluminum sheet would be installed again to save weight. Factors affecting the driver position are: Body panels made of Fiber reinforce plastic would be commissioned once again to reduce weight. In comparison with Front tyres, Rear No. A through the suspension system. The suspension system honeycomb structure made of Aluminium composite was must therefore keep the largest contact tire patch at all selected for constructing the impact attenuator due to its times else the car will not perform up to its full potential. Varying Essential Improve vehicle camber handling by having an Better cornering stability and high heat upright tyre and max. After this it was found that the best suitable steering for our vehicle We have decided to use a push-rod suspension is centered rack and pinion. Due to the use of this system, we can position the non-aerodynamic Geometry: A Push-rod and Bell-Crank arrangement is used to Ackermann steering geometry is a geometric transmit the wheel motion to the shocks. The wheel is arrangement of linkages in the steering of the vehicle to attached to the chassis by means of two equal and non- solve the problem of wheels on the inside and outside of parallel control arms. The control arms are placed such turn needing to achieve to trace out circles of different that the Roll-centre of the vehicle is lowered effectively. The steering wheel is road level for optimum air flow. They also improve the air circular in geometry which is connected through quick flow because of all the non-aerodynamic components release hub. The bump steer is avoided by calculating tie being inside the vehicle body. Also the stiffness of a monocross suspension can be easily From geometry Fig 3 , adjusted. The anti-roll bar for the Engine is the Heart of a vehicle. Optimum vehicle will be designed keeping in mind these values. Also the ride frequency of the suspension system, like most race cars, is 2. The objective of the steering system is to control lateral movement while the vehicle is in longitudinal Comparison: Max torque 58Nm All the readings will be driven from the Engine Control Unit. Liquid Water cooled 4- stroke, Brake lights of red colour would be commissioned on the DOHC rear part of the vehicle as required by the rulebook. Power for the components would be driven from Exide Lead acid Transmission based battery pack. On a concluding note the Sprocket at gearbox output: Student Formula India vehicle design was strictly in Sprocket Size: To transfer drive to rear axle we are using chain drive which gives input to differential via rear sprocket. Makasare The main aim of braking system is to lock all the Head

of Department, Prof. Also the family for their assistance and encouragement on this system must poses the ability to decelerate the over the roads with different coefficient of friction. For case of our vehicle we have decided to use the front 1. Student Formula India Rulebook rear split braking system. We have selected two master 2. Fundamentals of Vehicle Dynamics- Thomas disc to be used we have selected two different types of Gillespie disc for front and rear respectively. Of diameter mm. This was done to overcome the problem of brake bleeding so that the bleeder is mounted on the top of caliper. The master cylinders used are same as that of Maruti with oil reservoir working on single pedal of the brake to actuate both of them. For lining we consider the metallic pressure lining.

Chapter 3 : SUPRA SAEINDIA-Home

"SUPRA SAEINDIA is a great event which gives a real platform to students to test their engineering skills and refine them by learning from their little mistakes."

Chapter 4 : SAE India - Wikipedia

Design Report will be of maximum 12 pages (including cover pages, pictures, charts etc). This should be a single file of maximum file size 5MB in Portable Document Format .pdf) only.

Chapter 5 : Home - SAEINDIA

**The amount for all /any award will be decided on the basis of the no. of teams qualifying after successful Inspection by expert judges during the static events and dynamic.*

Chapter 6 : Sample Cost Reports

Virtual SUPRA SAE is an initiative of SAEINDIA, recognizing the need for experiential learning and increased involvement of Indian engineering students in automotive industry. SAEINDIA launched SUPRA in , providing an opportunity to engineering students to plan, design, fabricate, analyze and test a proto-type Formula type race car.

Chapter 7 : Supra Sae India - [PDF Document]

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