



SUPRA SAEINDIA'11

FROM EDITOR'S DESK

We take immense pleasure in bringing out the first edition of the newsletter of SUPRA SAEINDIA-11. With completion of registration process we hope teams are gearing up for the event. In this edition we bring you with an insight of the event, the MMSC race track, an inspiring journey of IIT-DELHI students to FORMULA SAE, driving tips by Mr Rayomand Banajee (8 time Champion in Formula Racing & go-karting) and highlights of the SUPRA SAEINDIA workshop held at SRM University, Chennai.

It has been our earnest Endeavour to bring a complete overview about the event which would keep you updated in your dream journey SUPRA SAEINDIA-2011'.

For contributions, suggestions, feedback and queries regarding the newsletter, please mail us.

This issue:

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- STEP TOWARDS SUPRA SAE
 - MMSC
 - A JOURNEY TO HEAVEN
 - DRIVING TIPS
 - WORKSHOP AT SRM,
CHENNAI
 - IMPORTANT DATES
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STEP TOWARDS SUPRA SAEINDIA'11..!!

Let this be a formal introduction of SUPRA SAEINDIA-2011 to you through the first newsletter.

It must be quite interesting to know from where this engineer's game originated and how it evolved over years. It is rightly said as an engineer's game because —it is an engineering design event and not just a test of driver's skills”.

SUPRA SAEINDIA derives its roots from formula SAE. Let us first know how FSAE evolved. In **1978** the University of Houston (Texas), took the initial step to bring such an event through **SAE Educational research department**. Consequently the first **SAE MINI INDY** was held in **1979** in university campus. It was decided that the teams use 5-hp B&S engines and same was provided to all competitors. Thirteen schools entered, and eleven competed —with the overall winner being team from the University of Texas at El Paso.

It was first in 1985, that the rules were laid for the cost of manufacturing the vehicle and engine displacement was restricted to 610cc with a air restrictor of 23 mm.1991 was the year when significant use of wings to the car was seen and subsequently the rules were formulated for the span of the wings. Then there was no looking back, more teams started to participate.

With increase in number of teams participating more stringent rules were formulated.

At present more than 10 editions of formula SAE are held every year all over the globe.

With the intention of providing a track for the young Indian brains to prove themselves SAEINDIA came up with the FSAEINDIA Design Challenge in 2009 and now the SUPRA SAEINDIA 2011.

Platform is set let momentum go on and **SUPRA SAEINDIA-2011** be a great success!!!



MMSC...

Madras motor sports club or MMSC gets the privilege of hosting the first ever formula style race cars built by Indian students in July-11. MMSC itself has its own history to speak about. It is the first ever racing track in India and is considered the heart of Indian racing fraternity.

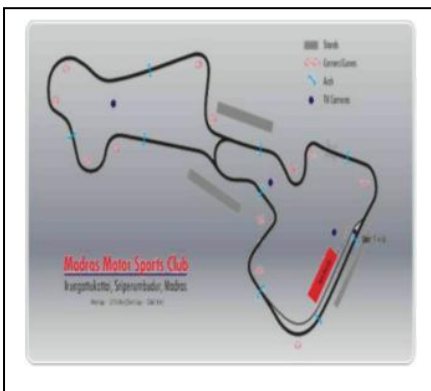
Year and after MMSC has been a host for various racing championships ranging from all super bike championships under different categories to Formula LGB, Formula Maruti and many more.

The Irungattukottai race track or MMSC was inaugurated in 1990. The circuit conforms to the two international bodies - the Federation Internationale de Automobile and the Federation Internationale de Motocycliste, who lay down the norms for racing and racing circuits.

The track is 11 meters wide and has 10 major curves, apart from a number of minor ones. A smaller club circuit of 2.1 km is also available for shorter events. The main track has three straights, with the longest one being 250 meters. The main circuit is about 3.717 km long, while the club circuit is 2.067 km long.

Let's have an insight of the track:

- **Length Full track:** 3.74 km (12 curves/turns)
- **Short (Club) track:** 2.1 km (7 curves/turns)
- **Width:** 11 metres, 12 metres at start line
- **Direction:** Clockwise
- **First race:** 1990
- **Fully resurfaced:** 2007





A JOURNEY TO HEAVEN... “AXLR8R”

Formula SAE Club of IIT-Delhi began its journey in 2006 when a group of 5 engineers came out of the textbook world and thought of doing which no one has tried in the history of any IIT. The dream was to design and fabricate a formula style autocross racing car and to compete with other prestigious universities of world.

With the dream of achieving success, we have started the design work which was followed by a wooden prototype of the car and then we began real fabrication in our IIT Delhi workshop. We have gone through many car design books and contacted many foreign universities for clearing our doubts

In few months, our group has become a team, AXLR8R (read as “accelerator”), of 15 students from different departments. A diverse team of talented engineering students was determined to get the most of their educational experience. Each member was contributing his skills in a specialized area of interest, such as engine, chassis, suspension, controls etc. The daily routine was to attend regular classes from morning 8:00 am to 5:00 pm and then assemble in the workshop where we used to work till 3-4 am in the morning. During those days, we hardly used to have 3-4 hours daily sleep. While fabricating the car, we won accolades and heaps of praise from the institutes and media for our efforts. A hearty thanks to Mr Vishnu Dusad, CEO, Nucleus Software and Maruti Udyog Ltd for their support during the financial crunch.

After lots of hard work, the dream was turned into the reality and that was the happiest moment of our lives. I still remember the night when we ran the car first time on track. In 2007, AXLR8R competed for the first time in FSAE West at California Speedway, US. In our first attempt, we secured 24th in sales presentation, 56th in design and cost event and overall 58th rank out of 80 international teams. But major achievement was that we qualified all the tests like Technical Inspection, Tilt Table and Noise. Being a first Indian team, our efforts gained special praise from the design judges, members of other teams, and the American Media.

AXLR8R continued its journey and participated in Formula Students at Silverstone Circuit, UK in 2008 and 2009. In four years, the working hands have changed, the minds have changed but the motive is still same i.e. gain hands on experience. Preparation and participation in the event has continued to transform students into efficient innovative engineers and all round team players



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DRIVING TIPS...

A key part of any motorsport team is the driver. A fantastic driver can make a mediocre car look astounding, while a bad driver can make a good car look pathetic. There are numerous attributes which are part of a good driver & in this article we shall focus on the basics of driving on a race track.

To start with, the three broad areas on which a driver needs to focus should be

1. Line
2. Braking
3. Acceleration

1. Line: It can be defined as an imaginary line around a race track. It is the fastest way around the track. In order to find the ideal line around a corner, one can break up the line for a corner into 3 parts – The Entry, The Apex & The Exit.

Before entering a corner, your car should be as wide as possible, before turning in. For example – For a right corner, your car must be on the extreme left before you turn in. After turning in, you need to touch the apex.

An apex is again an imaginary point. It is usually (not necessarily) the geometric centre of the corner, but on the inside. Thereafter you must head to the exit, which like the entry, should be as wide as possible. (Extreme left, for a right corner) The line through the entire corner must be smooth (no abrupt changes in direction) & should have the maximum possible radius. The diagram illustrates an ideal racing line. As a driver you need to keep in mind, that this is not a hard & fast method of finding the racing line. It can change due to factors like the distance from & to the corners before & after, type of car, grip on surface, etc.

2. Braking: Many drivers suffer from the misconception that the less you use the brakes, the better. The fastest lap time can be achieved by using the brakes & the accelerator in the correct proportion. Not using the brakes enough, means that you take longer to slow down & thereby you are not able to accelerate early enough. Ideally braking should be done in a straight line (front wheels should not be turning). This allows you to maximize your braking efficiency. It is best to hit the brakes with maximum pressure at the first instant & gradually release pressure as you come closer to the corner. Do not let the wheels lock up. Ideally your braking pressure should be such that you are just under the point of your wheels locking. In case your wheels do lock up, release the pressure brake pedal pressure just a little bit & that will be enough to unlock the wheels.



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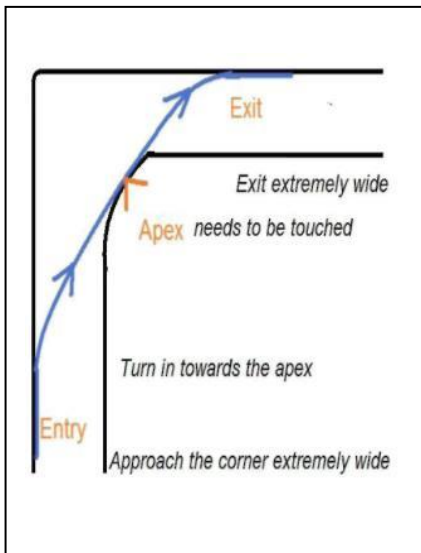
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3. Acceleration: Press the accelerator pedal smoothly. Do not slam the pedal to the floor. Ideally, when accelerating out of a corner, you should have a constantly increasing pressure on the pedal. You must avoid a pressing & leaving, pressing & leaving action on the accelerator pedal. This would lead to the car getting unsettled in the middle of the corner.

Some other basic rules of driving:

- Better to be slower into a corner & faster out of the corner.
- Corners which are before long straights are the most important & it is crucial to achieve good speed out of these corners.
- The less you turn the faster you go.
- The more your car is sideways, the slower you will be. Sliding is bad for lap times.

In order to finish first - you must first, finish. Do not forget this important aspect. Never over drive & push beyond your limits or the cars capabilities. It will only end in disaster. It would do you a lot of good to get your car ready well in time & practice in the same car in advance. It will help you understand & setup your car well & also identify potential problems in time. Good Luck!





WORKSHOP AT SRM, CHENNAI...

A One day Workshop of SUPRA SAEINDIA-2011 was held at SRM University Campus on 25th July 2010 between 9.00 A.M to 5.30 P.M

Workshop was conducted for registered teams of SUPRA SAEINDIA 2011. 35 teams & more than 180 participants attended this workshop.

Workshop was inaugurated by Dr. Arvind S Bharadwaj, CEO, Automotive Infotronics. Dr. C. Muthamizhchelvan, Director, SRM University, was the guest of honor.

Mr. M. Nataraj, Chief Advisor, SAEINDIA welcomed the gathering. Dr. K. C. Vora, Dy. Director & head ARAI academy gave introduction to SUPRA SAEINDIA 2011 and Prof. Sudhir K Gupte, Convener; SUPRA SAEINDIA 2011 gave a special address.

The entire gamut was as given below:

- Mr. Rajesh Mirajker - Design aspects of race car.
Mirajker Designs.
- Mr. C. D. Vivekanandhan - Fabrication and Manufacturing.
Rams Racing.
- Mr. K. Krishnamoorthy - Safety
Chairman Technical Committee,
SUPRA SAEINDIA.
- Mr. Subash Chandra Bose - Drivers Discipline.
DGM (R&D), UCAL.
- Mr. S. Srinivasan - Composite Materials for Race
car.
Dy. Manager, Brakes India.



UPDATES...

Important Points arrived at Workshop.

- All teams should use only sponsored Maruti 800 cc BS 3 Fuel Injected engine. No other engine is permitted.
- Teams which are not willing to use the Sponsored engine can withdraw from the event. SAEINDIA will reimburse the registration fee paid.
- All teams should sign the declaration form for engine which will be uploaded in the website and send the duly signed hard copy to SUPRA SAEINDIA office on or before 16th August 2010.
- Tires will be sponsored by JK Tires.
- New updated rule book for SUPRA SAEINDIA 2011 will be launched by first week of August 2010.
- Virtual SUPRA SAEINDIA 2011 Scrutiny & Selection dates 21st and 22nd August 2010 at Ansys office, Pune.
- Minimum of 44 teams and Maximum of 50 teams will be selected from the scrutiny process.
- Last date for submission of Preliminary design report is 16th August 2010.
- Maruti Power train workshop at Gurgaon on 25th and 26th September 2010.
- Simulated Drivers training at Hyderabad on 1st week of November 2010.
- SUPRA SAEINDIA Drivers Training at Coimbatore or Chennai in the 1st week of December 2010.



IMPORTANT DATES

DATES	EVENTS	VENUE
23 rd March 2010	Launch	ARAI, Pune
24 th to 28 th March 2010	Vehicle Dynamics Workshop	ARAI, Pune
24 th March to 30 th April 2010	Registration of 74 Teams	SAEINDIA Website
25 th July 2010	Workshop	SRM Univ, Chennai
16 th Aug 2010	Receipt of Preliminary Design Report	SAEINDIA
20 th to 22 nd Aug 2010	Virtual Supra Scrutiny & Selection	Ansys, Pune
25 th to 26 th Sept 2010	Maruti Powertrain Workshop	Gurgaon
1 st Week Nov 2010	Simulated Driver's Training	Hyderabad
3 rd Week December 2010	FSAE Driver's Training	Coimbatore or Chennai

Note:

- Dates for Virtual SUPRA SAEINDIA 2011 Scrutiny & Selection are confirmed. Teams are requested to plan accordingly.
- Teams will get penalty points for late submission of preliminary design report.
- Teams which are not sending the engine declaration form on the due date will be considered as Withdrawn from the event and team slot will not be provided for the Virtual SUPRA SAEINDIA.
- Drivers training date may get altered and the same will be informed shortly.

Have fun lead learning experience in upcoming days. Will be back with further updates and details in the next edition of the newsletter.