



Rejoice!
Monsoons are here!

Issue 8, July 2011

Sampark

SAEINDIA

NORTHERN SECTION

Celebrating a decade of Knowledge Enhancement

The Engineering Society
For Advancing Mobility
Land Sea Air and Space

From Ex-Chairman's desk



It is my privilege to reach out to the entire SAENIS fraternity through *Sampark*. This newsletter was started with the intent of being a regular communication channel between all members of SAENIS, and it has not only been fulfilling its purpose, but also doing an excellent job of bringing closer the Indian Auto-industry fraternity.

The Indian mobility industry has been growing at a fantastic pace, with a lot of twists and turns which is natural for any fast growing industry. And, as we forge ahead in the path to achieve world class manufacturing, bearing the onus of ballooning volumes, and ever increasing competition, the need to stay focused on component quality is more dire than ever, at this juncture, it is imperative for all of us to stay updated on all fronts, and scale to new levels. Today, developing indigenous technology has become the top notch necessity in any industry. And, at this time I would like to stress the necessity for the mobility component manufacturers to focus on their Research and Development capabilities, and here they can partner with SAEINDIA to explore new avenues to scale up their R&D activities.

In its relentless quest to spread knowledge sharing, SAENIS has been conducting a series of Top Tech Technical Seminars, to enlighten the mobility community on the latest technological advances and trends. I urge all of you, especially those manufacturers whose focus have recently intensified on Research and Development, to utilize this opportunity, and to and build the basic foundation, on which future research can thrive. I also take this opportunity to appeal to the CEOs of mobility component manufacturers to use SAEINDIA as a platform to increase engagement levels of their employees, and by partnering with SAENIS, to provide an opportunity for them to network and learn from each other.

S Maitra
Ex-Chairman, SAENIS



Seminar on Automotive Steel

This seminar covered the steel manufacturing process, various steel grades for automotive segment such as *Galvannealed* and High Tensile, their advantages and their applications. The seminar also discussed a collaborative process of working with automakers for vehicle product developments and existing vehicles.

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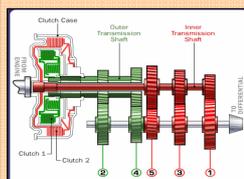


SUPRA SAEINDIA 2011

3 action packed days of SUPRA SAEINDIA were concluded recently. From evaluation of prototype on brake and acceleration to some tough marketing and cost analysis of the design to the final race on the tracks of Madras Motorsports Club, the event saw it all.

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TECH BUZZ



Dual Clutch Transmission

DCT is a fast and completely smooth gear shifting solution, free from any interruption in torque flow to the driving wheels.

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Upcoming events...

- Seminar on Engineering Simulation in Hybrid Electric Vehicles and Electric Vehicle, 12th July 2011, Gurgaon

Seminar on Automotive Steels, 15th June 2011, Gurgaon



Steel dominates the automotive industry where in spite of umpteen numbers of researches going on, it still remains the undisputed champion. The seminar on Automotive steel



was held on the 15th of June '11 at Japanese Hostel, Gurgaon. It witnessed a participation of over 40 participants from OEMs, automotive suppliers and academia. Mr. Prabhat Kumar – Chief Sales Manager, North, Tata Steel marked the beginning of the seminar. After an enlightening session on journey to the future, the audience were transported into the world of Steel manufacturing. Experts from Tata Steel gave a presentation on the steel manufacturing process, the likes of which are only privy to people who are intimated with steel at the deepest level. This accompanied by a short presentation on Early Vendor Involvement of Tata Steel, with global OEMs, was truly an exclusive peek into the world of steel.

SUPRA SAEINDIA 2011, 1st-3rd July 2011, Chennai

Madras sports club was roaring with action for straight three days. Large number of students from various colleges participated for the SUPRA SAEINDIA 2011 in Chennai.

The event started with the inauguration ceremony followed by the technical inspection. The next day began with some tough marketing and cost analysis of the designs created by the teams. Among these anxious moments, the teams gave their last minute touches to welding and few even made design changes on the spot to make it perfect. A thorough technical and design validation made sure that the best and safest teams hit the tracks. The technical inspection was so severe that only 5 teams came close to the panel expectation and teams were given extra time to gear up for the event.

Dual Clutch Transmission

The difference between the dual-clutch gearbox and the majority of automatic transmissions is how the gear-shifting process occurs. It operates with the ease of an automatic transmission but its innovative design offers a more dynamic, smoother acceleration that eliminates shift shock (jerkiness). In addition, since power interruption is eliminated, the engine is more efficient at driving the wheels.

The DCT has in effect two gearboxes operating in parallel. Each has its own clutch. One gearbox houses first, third, fifth and, if fitted, seventh gears; the other carries second, fourth, sixth and reverse. While the drive is going through one half of the gearbox – in third gear, for instance – the other half of the box preselects the next expected ratio – fourth, in this case – ready for the first clutch to disengage and the second to engage in a precisely-timed sequence.

The result is a very fast but completely smooth gearshift, free from any interruption in torque flow to the driving wheels. In terms of mechanical efficiency, a dual clutch transmission will never quite be able to match the theoretical efficiency of a standard six-speed manual transmission,

manufacturing.

This was followed by a session on *Galvannealed Steel* and its applications by Mr. Avtar Singh Saini, the Head of Product



Application group in Tata Steel, Jamshedpur. The session started with the manufacturing processes of *galvannealed steel*, and moved on to various feasibility and comparison studies between GI and steel, which was sprinkled with a lot of suggestions on the usage of *galvannealed* and cold rolled steel.

“Comparison study between GI and GA steel was carried out with suggestion on usage.”

The contents of the seminar were appreciated by all, and ended with a documentary on steel making from Tata Steel, which were a sumptuous feast to the eyes and the intellect.

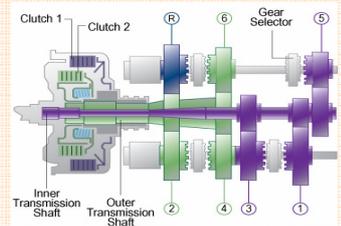
The prototypes were evaluated on the brake and acceleration capabilities on the track. Teams who qualified these rounds went ahead to compete in the AutoCross event later during that day and team AISSMS from Pune was adjudged the overall winner in the event.

“AISSMS, PSG College of Technology, SPCE College of Engineering were the overall winners.”



TECH BUZZ

as the necessary hydraulic systems will inevitably absorb some energy, especially on a wet clutch DCT.



Manuials have no such systems.

But where DCTs really score is in their wide range of abilities. Not only do they combine fuel economy (improvement of up to 15 percent compared with a conventional planetary automatic) with smoothness and driving refinement to match even the best automatics, they also provide the rapid responses and snappy shifts that sporting drivers demand

*Reference: <http://www.dctfacts.com/information/how-the-dual-clutch-transmission-works.aspx>
<http://auto.howstuffworks.com/dual-clutch-transmission1.htm>
<http://www.tc.gc.ca/eng/programs/environment-etv-techdct-eng-125.htm>

Fuel economy improvement of up to 15 percent compared with a conventional planetary automatic

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Newsletter*

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1. AISSMS, Pune
2. PSG College of Technology, Coimbatore
3. SPCE College of Engineering, Mumbai