



SPE/ACA Golf Outing

The 2nd-annual SPE / ACA golf outing returns to the Fieldstone Golf Club in Auburn Hills on September 14th -- the day before the 9th-Annual SPE Automotive Composites Conference & Exhibition. Once again we're teaming up with the Automotive Composites Alliance (ACA) for the event, which we're hoping will be twice as much fun and half as much work.



To keep things lively and interesting, there are a number of sponsorship opportunities for various contests and holes. The sponsorship packages include a foursome, outing recognition, and prize awards. Please see below for more information.

The order of events will be:

- 10:00 am - shotgun start (Box lunch at turn)
- 3:30 pm - buffet dinner
- 4:00 pm - award prizes

"This year's outing will be held at Fieldstone Golf Club. The course is in excellent condition," states Mark Lapain, Assistant Chairman - Golf Outing. "Of course there will be awards and prizes."

This year we are adding sponsorship opportunities for various contests and holes. The sponsorship packages include a foursome, outing recognition, and prize awards. Teri Chouinard, Sponsorship Chairperson is coordinating this year's sponsorship program. Contact her for registration and sponsorship information - call 810.797.7242 or email teri@intuitgroup.com; or go to www.speautomotive.com/golf

"The SPE/ACA golf outing has always been a "feel good" event. This year, we are going to make an even better "feel good" event," states Fred Deans, Golf Outing Chairman.

There are a number of promotional opportunities for interested companies. These include:

- ◆ Contest Hole Sponsorships \$1,000.00 includes a foursome, signage, commemorative prize and more.
- ◆ Hole Sponsorships \$750.00 includes a foursome and signage.
- ◆ Lunch Sponsorship \$2,000.00 includes two foursomes, signage and 100 flyers printed and distributed at the event to promote your company and/or products.
- ◆ Dinner Sponsorship \$3,000.00 includes three foursomes, signage and 100 flyers printed and distributed at the event to promote your company and/or products. Also includes your company advertisement and/or message as a centerpiece on the dinner tables.
- ◆ Hole in One and Shootout Sponsorships are also available.

Details on registration are:

Registration Fee - \$500.00/foursome (\$125.00 each)

Registration & Sponsorship Contacts:

Teri Chouinard, Sponsorship
810.797.7242; teri@intuitgroup.com

Fred Deans, Golf Outing Chairman
248.760.7717; fdeans@alliedcomptech.com

Contact us and we will send you a registration form. Register soon!

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Treasurer's Report

Yvonne Bankowski

I have taken over as treasurer as of June 1, 2009.

The SPE Automotive Division bank account balance is in good standing with \$102K in checking and \$27K in savings. The 2008 Awards Program was a success with excellent attendance and sponsorship. The income for the 2008 Awards was \$172K. Expenses were \$161K with a net proceeds of \$11K.

Proceeds from this event supports scholarship and education outreach programs. In 2009 the Automotive Division has donated \$13,750 to the Plastivan and \$2500 to the SPE Education Award in memory of Fred Schwab.

Automotive Division Meeting Schedule and Special-Events Calendar

Automotive Division BOD meeting American Chemistry Council-Troy	August 3, 2009
SPE/ACA Golf Outing Fieldstone Golf Club, Auburn Hills	September 14, 2009
9 th -Annual SPE Automotive Composites Conference & Exposition, MSU Management Education Center, Troy, MI	September 15-16, 2009
11 th -Annual Auto TPO Conference Sterling Inn, Sterling Heights, MI	October 4-7, 2009
Automotive Division BOD meeting American Chemistry Council-Troy	October 12, 2009
39 th -Annual SPE Automotive Innovation Awards Program & Gala	November 2009
Automotive Division BOD meeting American Chemistry Council-Troy	November 30, 2009

Automotive Division Board of Directors meetings are open to all SPE members, and are usually held at the **American Chemistry Council (ACC)** in Troy, MI. Call Maria Ciliberti at (248) 337-6851 for more information.

Board of Directors Meeting Minutes

Jay Raisoni

Minutes from the June 23rd 2009 Automotive Division Members Business meeting, NPE/ ANTEC Chicago.

Tom Pickett, Chair of the Automotive Division 2008-2009 called the meeting to order at 4:30 pm following the ANTEC sessions of Automotive Division.

Present: Norm Kakarala, Ron Price, Jay Raisoni, Johanne Wilson, Tricia McKnight of SPE, Dr. Parminder Walia of Dow Chemical Co.

Tom discussed the different activities the SPE Automotive Division offers throughout the year for the members. Tom discussed the various conferences sponsored by the Automotive Division. He mentioned that the Auto EPCON is a 1 day conference held in April with focus on engineering plastics. The ACCE conference to be held in September is condensed to two days to make it easier for attendees and sponsoring companies in the face of tough economic conditions. This would be followed by the Automotive Innovation Awards in November. The Detroit Section also offers a TPO conference in October that is has been quite successful for the past ten years.

Tom opened up the meeting to questions from attendees. There was also a discussion of how to increase membership. We talked about plans to get younger members involved. Johanne Wilson talked about the Job Fair. She also brought up how networking among the SPE professionals in Detroit Metro could be further increased. We talked about getting more OEM companies and tier suppliers involved in SPE events by targeting key executives in the company.

Tom adjourned the meeting at 5:05 pm.

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RIGHT FROM THE START

Chair's Message

Maria Ciliberti

A new fiscal year has begun at the Society of Plastics Engineers Automotive Division. I am excited and feel privileged to be the Chair of the Automotive Division this year.

While our industry is changing in ways previously unimaginable, the volunteers of SPE's Automotive Division continue to be an incredible constant force. This year we have many returning leaders as well as several new ones.

On the Executive Committee, Tom Miller is the Automotive Division's Chair-Elect. We are fortunate to have Tom's time and talent for he brings with him many years of experience from SPE's Detroit Section for which is he was formerly its President. Returning as the Division's Council is Nippani Rao as well as Jay Raisonni as Division Secretary.

John Fialka, the Automotive Division's Treasurer for the past 3 years, is stepping down. While we are saddened to see him leave we are nonetheless happy to announce that Yvonne Bankowski of Ford Motor Company has been named the Division's new Treasurer. Yvonne is no stranger to SPE's Automotive Division. She was involved in last year's Innovation Awards, leading various activities including serving as liaison with local universities and student ushers for the gala. We look forward to Yvonne's many future contributions to the Society on a bigger and broader level.

We are also fortunate in our strong leadership of the Automotive Division Committee chairs. Here again, we have several returning volunteers including: Dr.

Norm Kakarala, Technical Programs; Monica Prokopyshen, Education; Peggy Malnati, Communications; Fred Deans, Golf Outing; Kevin Pageau, Newsletter Editor; Teri Chouinard, Newsletter Sponsorship; Jackie Rehkopf, Inter Society; and Joanne Wilson, Membership.

At our last board meeting on June 1st, the creation of a new committee was approved, that is, Social. The objective of the Social Committee is to enable additional networking opportunities for plastics automotive professionals. In today's times, networking is even more critical as many displaced professionals seek new opportunities. The Social Committee will arrange frequent, informal get-togethers in different venues around the metro area. By board vote, it was approved that Bill Pippine will chair Social. Announcements of upcoming events will be forthcoming. And thanks to Bill for suggesting this committee and volunteering to lead it.

Numerous annual events are ahead that we'd like to make sure everyone keeps in mind. Certain to draw many attendees will be the Automotive Composites Conference and Exposition (ACCE) which will take place on September 15 through 16, 2009 at the Michigan State University Management Education Center in Troy, MI. Many volunteers from the Automotive Division as well as the Composites Division have been working hard to ensure a technically informative conference. Thanks to Cedric Ball for leading this.

The Automotive Division's Innovation Awards Gala will take place the second week of November (date to be finalized). Irv Poston, a long time volunteer for the Detroit Section and the Automotive Division, will be honored with the Lifetime Achievement Award. Of course, the highly contested Vehicle Engineering Team Award will be presented to one of numerous candidate teams under consideration. This is certainly an event to attend.

The goals of the division are to promote the use and benefits of plastics in automotive; to educate future generations of automotive plastics engineers and to serve its members' continually changing needs. Please feel free to make suggestions on how the society can do better any of these areas. And again, thanks to all the volunteers of the Automotive Division. You make it what it is.



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Education Report

Monica Prokopyshen

The education activities for fiscal year 2008-2009 wrapped up with a Plastivan™ visit to Clintondale middle school and an Explorathon™ career day for middle and high school students of southeast Michigan.

As part of its mission, the SPE AD sponsors a number of education initiatives for members, professionals and students of all ages, including the much requested Plastivan mobile lab. This school-on-wheels brings hands-on polymer science education and experiments to schools throughout the U.S. and supports the Automotive Division's goals of creating interest and awareness for education and career opportunities in STEM (science, technology, engineering and mathematics) subjects. Designed to be engaging, fun, and stimulating, the program is customized for each appropriate grade.

The Detroit section, Mid-Michigan section and Automotive Division sponsored schools throughout Michigan. This year the energetic and knowledgeable Marjorie Weiner, Plastivan Program Director and developer, personally conducted the Michigan sessions.

EXPLORATHON

The AAUW (American Association of University Women), Birmingham branch, had the foresight, over 30 years ago, to develop Explorathon, a program of workshops to expose students to professionals working in health sciences, engineering and other STEM occupations and to introduce

students to career possibilities they may not have otherwise considered. This program is open to students in grades eight through twelve, including home-schooled children.

The Automotive Division has been a sponsor of the "Designing with Plastics" Explorathon sessions for over ten years. These sessions combine hands-on chemistry experiments with examples of current automotive polymer innovations. Thanks to support from the Ford Motor Company's Mike Whitens and Deborah Mielewski, the 2009 "Most Innovative use of Plastics" Environmental award winner (soy-based foam) was this year's highlight. Deborah provided a video, bio-fabric samples, raw material, foam samples and technical information geared perfectly to the audience. Marjorie Weiner was my co-presenter and demonstrated the production of PUR foam to complement this topic. The samples were well-received. Shown are students who participated in one of three "Designing with Plastics" sessions.

NEXT YEAR'S PROGRAMS

The annual planning meeting for the SPE AD will be held in July. If you are interested in volunteering for the education committee or an event, would like to nominate or sponsor a school or have suggestions for our education programs, please contact me through the SPE AD web site, <http://speautomotive.com>, "contact us" button.





SPE'S Automotive Composites Show Returns for Ninth Year

The SPE Automotive Composites Conference & Exhibition (ACCE) - a jointly event between SPE's Automotive and Composites Divisions now in its ninth year - returns to Michigan State University's Management Education Center in Troy, Mich. on September 15 and 16 amidst a grueling global automotive downturn and restructuring. This year's conference theme is Plug in to Composites, and in keeping with that, a number of keynotes and technical presentations will address the environmental as well as cost, performance, and safety benefits of composites.

"With all the interest we saw last year in improving fuel economy, reducing dependency on petroleum fuels, and providing cleaner, greener transportation options," said Cedric Ball, marketing projects leader, Ashland Performance Materials and the 2009 SPE ACCE event chair, "we felt this year's ACCE should highlight the tremendous environmental benefits composites offer for reducing mass and creating more aerodynamic styling, while also lowering cost, improving aesthetics and fuel economy, lowering emissions, and maintaining safety."

CONFERENCE ORGANIZERS WORK TO MAKE EVENT MORE AFFORDABLE

With record sales losses throughout the industry, and severe budget and travel restrictions in place at most companies, conference organizers have been working to find ways to make the conference more affordable for more people. One big change is that the third day of the show (with approximately six hours of programming and networking opportunities) was dropped in June. Organizers will compress the program into two days instead, hoping this will help reduce travel expenses and time away from the office for attendees, encouraging more to come.

"Clearly, this industry is going through a very difficult time and we're in the midst of a necessary period of adjustment," notes Ball. "By packing our conference into a shorter but

denser two-day schedule, we hope to make it easier for more people to attend." As an additional cost-cutting measure, SPE is offering a special day rate this year and hopes to be able to offer several hours of webinar coverage of key talks during the event.

Despite a compressed schedule, the show - widely touted as the world's leading automotive composites forum - still offers the same strong technical programming for which it is known and an unmatched opportunity to network with those working in the global transportation composites arena. The SPE ACCE typically draws over 400 attendees from 14 countries on 4 continents. Of those, roughly one-third say they are employed by an automotive, heavy-truck, agricultural, off-highway, or aviation/aerospace OEM, and another 20 percent indicate they work for one of these industries' tier suppliers.

STRONG GREEN FOCUS FOR KEYNOTES

Given the strong interest in more sustainable transportation and better fuel economy, this year's ACCE show features a number of keynote speakers whose talks will have a green emphasis. In fact, three speakers are from startup automakers who are already producing all-electric/composite bodied vehicles or are close to launching them. The keynotes confirmed at this time include:

Barrie Dickinson, director, Roadster Programs at Tesla Motors (San Carlos, Calif.) will speak about Plastics & Composites Solutions for the '10MY Tesla Roadster.

Dana Myers, president, Myers Motors (Tallmadge, Ohio), the manufacturer of the 75 mph/121 kmph NmG (No More Gas) three-wheel commuter electric vehicle, is giving a talk entitled Composites Help Electrify Transportation and has promised to bring an NmG vehicle to the show.

Hadrian Rori, vice-president, Vehicle Engineering, Bright Automotive (Anderson, Ind.) a manufacturer working on a composite-bodied all-electric delivery truck set to launch in 2012, will speak about Development of the 100 MPG Bright Automotive Plug-in Hybrid Vehicle.

Deborah Mielewski, technical leader of Plastics Research, Research & Innovation Laboratory, Ford Motor Co. (Dearborn, Mich.): Can You Be-Leaf It? Ford Motor Company's Research in Bio-based Materials.

Mike Shinedling, Viper Program manager, SRT Engineering at Chrysler and Gary Lownsdale, engineering manager at Plasan Carbon Composites (Bennington, Vt.) will co-present a talk entitled Aerodynamic Breakthroughs on the '69MY Dodge Daytona & the '08MY Dodge Viper ACR.

Kalyan Sehanobish, Sr. Scientist, Dow Chemical (Midland, Mich.) will give a talk on A Vision for Carbon Fiber Composites in Automotive.

Eann Patterson, director-Composite Vehicle Research Center, Michigan State Univ. (East Lansing, Mich.), will discuss his university's new automotive composites research center with a talk entitled: An Innovative Process for Composite Structures from the Nano- to Macro-Scale: A Vision for a New Center.

TECHNICAL PROGRAM LOOKS STRONG DESPITE ECONOMY

In addition, the conference's technical program presents an equally diverse look at the world of composites. Sessions currently planned include:

- ◆ Advances in Thermoplastic Composites;
- ◆ Advances in Thermoset Composites;
- ◆ Bio- & Natural Fiber Composites;
- ◆ Emerging Technologies; and
- ◆ Virtual Prototyping & Testing of Composites.

Among the speakers presenting at this year's conference will be the second winners of the SPE ACCE graduate-level scholarships, who were given awards in 2008 to help fund composites research with applicability to ground transportation.

Tobias Potyra of University of Karlsruhe and Fraunhofer ICT (both in Pfinztal, Germany) has focused his research on developing a direct processing technology to produce SMC with Class A surface that is suitable for use in the automotive industry, with resultant benefits of more consistent quality and lower costs.

Uday Sharma of University of Michigan-Dearborn (Dearborn, Mich.) has focused his research on analysis of thermoplastic woven composites at high strain rates in order to develop better data for use in predicting mechanical behavior and potentially validating FEA models.

Several presentations are planned on the new direct-SMC process that is being developed in Germany through cooperation of Dieffenbacher GmbH & Co. KG (Eppingen, Germany) and Fraunhofer Institute of Chemical Technology (Pfinztal, Germany).

At least one panel discussion entitled The New Automotive Landscape is also planned for this year's show. See the conference's website (www.speautomotive.com/comp) for the most current listing of presentations and event activities scheduled for the two-day conference.

SPONSORSHIP

Despite the economic hardship most companies are enduring, we are happy to welcome back many long-time SPE ACCE sponsors and exhibitors, who are vital partners in underwriting the cost of putting on this valuable industry event.

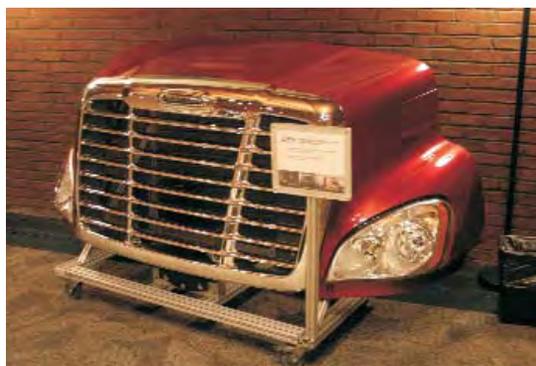
Premier Sponsors for the 2009 show include Ticona Engineering Polymers (Florence, Ky.), and Dieffenbacher GmbH & Co. KG (Eppingen, Germany), both of whom are also exhibiting.

Associate Sponsors include Addcomp Holland BV (Nijverdal, The Netherlands), AOC Resins (Collierville, Tenn.), Ashland Performance Materials (Dublin, Ohio), Automotive Composites Alliance (ACA, Arlington, Va.), BASF (Ludwigshafen am Rhein, Germany), BMC Inc. (West Chicago, Ill.), PlastiComp LLC (Winona, Minn.), PPG Industries (Pittsburgh, Pa.), and Williams, White & Co. (Moline, Ill.). (Addcomp, AOC, Ashland, BMC, Williams White, PlastiComp, and BASF will all be exhibiting.)

RTP Company (Winona, Minn.) is a lunch sponsor, exhibitor, and will also supply conference pens. Quadrant Plastic Composites (Lenzburg, Switzerland) is sponsoring the first night's networking reception, and Ticona has returned as the sponsor of the conference registration bags.

Additionally, Media/Association Sponsors include: Automotive Design & Production magazine, Automotive NewsWire, AVK (German Federation of Reinforced Plastics), Composites Technology and High-Performance Composites magazines, Injection Molding magazine, Journal of Automobile Engineering, Modern Plastics Worldwide, Omnexus / SpecialChem, Polymotive, Plastics Engineering magazine, Plastics Technology magazine, and Ward's AutoWorld.

Those interested in attending the show are encouraged to register early to help organizers more effectively plan meals and other conference logistics. A new online registration form can be found by following the link at www.speautomotive.com/comp. We hope to see you there.



Dave Cole, Neil De Koker to Give Keynotes at 2009 SPE® Automotive TPO Global Conference.

Dr. David Cole, chairman of the Center for Automotive Research (CAR) in Ann Arbor, Mich. and Neil De Koker, founding president and CEO of the Original Equipment Suppliers Association (OESA) in Troy, Mich. will be keynote speakers for the eleventh-annual SPE Automotive TPO Global Conference, October 4-7, 2009 at the Sterling Inn, Sterling Heights, Mich. Cole, an internationally renowned speaker, writer, and expert on the automotive industry, will give a talk entitled "The Auto Future: A New Beginning?" De Koker, an industry expert on issues facing the automotive industry with a particular emphasis on customer-supplier relations, will present his speech, "The Automotive Industry in Transition: A New Beginning."

DR. DAVID COLE

David Cole was formerly director of the Office for the Study of Automotive Transportation (OSAT) at the University of Michigan's Transportation Research Institute. He has worked extensively on internal-combustion engines, vehicle design, and overall automotive industry trends. His recent research has focused



on strategic issues related to restructuring of the North American industry and trends in globalization, technology, market factors, and human-resource requirements. Cole was previously a member of the Energy Engineering Board of the National Research Council and the U.S.-Canada Free Trade Pact Select Panel.

He is also a director of the Original Equipment Suppliers Association, as well as a director of six automotive supplier companies. In addition, he is a member of the Executive Committee of the Michigan Economic Development Corporation (MEDC) and was recently appointed by Michigan's governor to the Strategic Economic Investment and Commercialization Board and the Michigan Renewable Fuels Commission. At the University of Michigan, Cole is a member of the Energy Research Council and Mechanical Engineering External Advisory Board. He is also a member of the Denso Foundation Board and a former director of the Automotive Hall of Fame.



Cole is also very active with engineering societies. He has served two terms on the board of the Society of Automotive Engineers (SAE) International and in February 1986 was named a fellow of SAE. He is also active with the Engineering Society of Detroit (ESD) and was elected to fellow status in 1990. In 2000, he received the Engineering Society's highest award, the Horace H. Rackham medal. In 1993, he received the National Automobile Dealers Association Foundation's International Freedom of Mobility Award.

In 1994, Design News selected Cole as one of eight engineering leaders, and he was also selected to receive Sweden's Order of the Polar Star. Cole has also been named Marketing Educator of the Year by the Society of Marketing Executives in 1998, and that same year received the Rene Dubos Environmental Award for his contributions to the industrial ecology of the automobile. In 1999, Cole was honored as Chevalier of the National Order of Merit from France. In addition, he received the 2008 Mechanical Engineering Distinguished Alumni Award from the University of Michigan.

In addition, Cole also has been actively involved in the start-up of five different Ann Arbor-based companies. His technical and policy-consulting experience includes a variety of assignments for industry, labor, and government, and he has spoken to more than 1,000 different groups on automotive issues.

He received B.S. degrees in Mechanical Engineering and Mathematics, and M.S. and doctorate degrees in Mechanical Engineering - all from the University of Michigan.

Commenting on David Cole's upcoming keynote address, William Windscheif, president, Advanced Innovative Solutions, Ltd. and returning co-chair for the 2009 SPE Automotive TPO Global Conference said, "We're extremely pleased to have Dr. Cole as a keynote speaker at this year's conference. At a time when the auto industry is in the midst of unprecedented change, we're sure our conference attendees will be very interested to hear what he has to say."

Paula Fasulo, retired, General Motors Corp. and returning conference co-chair added, "Given the breadth of David Cole's knowledge and the respect with which his opinions are accorded in the global automotive industry, we consider ourselves quite fortunate to have him speak at our event this October. His presence underscores the excellent networking opportunities this event always provides."

NEIL DEKOKER

Neil De Koker has spent his entire 46-year career in the automotive industry, including 23 years with General Motors Corp., where he played a lead role in the development and organization of Saturn Corp. Additionally, De Koker spent four years at Magna International serving as senior vice-president, helping to organize and manage the formation of the automotive-systems groups. He has also served as senior vice-president for Tier 2 supplier companies, The Woodbridge Group and MascoTech Inc., and he has also co-owned a corporate communications company focused on automotive customers.



De Koker serves on a number of industry boards, including those of the Automotive Hall of Fame, Kettering University (formerly the General Motors Institute (GMI)), the Center for Automotive Research, and the Japan America Society of Greater Detroit and Windsor. Additionally, DeKoker is a fellow of The Engineering Society of Detroit (ESD), an organization that honored him as an "Outstanding Young Engineer" in 1978. He is also a member of Tau Beta Pi where he was honored as Eminent Engineer in 1990. In 2004, De Koker was awarded the Executive Leadership Award from the Marketing and Sales Executives of Detroit. He received the 2004 Outstanding Alumni Award from the Michigan State University's Broad College of Business. In addition, he received the 2007 Visionary Leadership Award from the SAE Foundation.

Neil De Koker holds a bachelor's degree in Electrical Engineering from then General Motors Institute and an executive master's degree in Business Administration from Michigan State University. He also attended the executive development program at Northwestern University.

Bob Eller, president, Robert Eller Associates, Inc. and an Automotive TPO Global Conference planning committee member said, "The rapid changes, supply-chain consolidation, and challenging conditions our industry has endured over the last 14 months have made it especially

difficult for the entire automotive supply community but has also provided wonderful opportunities for TPO compounds and fabrication methods to get the attention they deserve. Neil De Koker has been quite outspoken on behalf of automotive suppliers regarding the U.S. government's decision not to extend TARP loans to tier suppliers, so we're sure his speech is going to be both interesting and lively."

Ron Price, president, Global Polymer Solutions and another long-time TPO Global Conference planning committee member added, "We're very excited to be able to offer conference attendees the chance to hear two outstanding keynote speakers - Neil De Koker and Dr. David Cole - at this year's show. Both men are widely acclaimed as industry experts and their predictions about the future shape of the automotive industry will carry a lot of weight, particularly while we're still in the midst of such a turbulent period."

SPE AUTOMOTIVE TPO GLOBAL CONFERENCE

Since 1998, the SPE Automotive TPO Global Conference has highlighted the importance of rigid and flexible polyolefins throughout the automobile - in applications ranging from semi-structural composite underbody shields and front-end modules to soft-touch interior skins and bumper fascia. Polyolefins have been the fastest-growing segment of the global plastics industry for a decade owing to their excellent cost / performance ratio. The polyolefin supply chain has experienced major changes in recent years, which are providing both challenges and opportunities for OEMs and the entire supply community. A special session has been developed this year on Advanced Process Control and Troubleshooting for Injection Molding to help olefin molders better achieve competitive advantages in the global marketplace.

More information about the SPE Automotive TPO Global Conference, to view the conference's schedule of presentations, or to register to attend the event, please visit <http://auto-tpo.com/> or www.speautomotive.com/tpo

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Since 1998, the **Detroit Section of the Society of Plastics Engineers (SPE®) International** has organized the **SPE Automotive TPO Global Conference** to help keep attendees up-to-date on the latest developments in thermoplastic olefins (TPOs). Now in its 11th year, the show has become the *world's leading automotive olefins forum*. It regularly features over 40 technical presentations, panel discussions, keynote speakers, networking receptions, & exhibits highlighting advances in materials, processes, and applications technologies for this versatile polymer family, along with a growing range of thermoplastic elastomers (TPEs) and thermoplastic vulcanizates (TPVs).

This year's show, which will be held at the Sterling Inn, Sterling Heights (Detroit), Mich. on **October 4–7, 2009**, will feature a special session on *Advanced Process Control & Troubleshooting for Injection Molding* that has been designed to help molders improve their competitive advantage in the global market. Additionally, Dr. David Cole, chairman of the Center for Automotive Research, and himself a renowned author, speaker, and expert on the automotive industry, will present a keynote address entitled: *"The Auto Future: A New Beginning?"*

ENJOY EXCEPTIONAL GLOBAL NETWORKING OPPORTUNITIES

The **SPE Automotive TPO Global Conference** typically draws over 400 attendees from 20 countries on 4 continents who are vitally interested in learning about the latest in rigid and elastomeric TPO as well as TPE and TPV technologies. Fully a third of conference attendees work for a transportation OEM, and roughly 20% work for a tier integrator. Few conferences of any size can provide this type of networking opportunity with global leaders in materials, processing, and application development.

OLEFINS: AMONG THE MOST VERSATILE & FASTEST GROWING POLYMER FAMILIES

For more than a decade, polyolefins have been the fastest growing segment of the global plastics industry. Their excellent cost / performance ratio have led to wide adaption in the automobile in applications ranging from semi-structural composite underbody shields and front-end modules to soft-touch interior skins and bumper fascia. In recent years, the olefin supply chain has experienced major restructuring, which is now providing both challenges and opportunities for OEMs and the entire supply community. Attending the **SPE Automotive TPO Global Conference** is an excellent way to keep up-to-date on these rapidly changing market and technology offerings. To learn more about the show, see the latest conference updates, or to register, please visit www.auto-TPO.com or www.speautomotive.com/tpo.htm.

2008 SPE AUTOMOTIVE TPO GLOBAL CONFERENCE SPONSORS:

Platinum: LyondellBasell Industries, ExxonMobil Chemical, The Dow Chemical Company, Washington Penn Plastic;

Gold: Advanced Composites, Inteva Products LLC, Flint Hills Resources, JSP, Mytex Polymers, Nyco Minerals Inc., PMC, Rio Tinto Minerals, Phillips Sumika, Robert Eller Associates LLC, Specialty Minerals Inc., Sumitomo Chemical America Inc.;

Exhibitors: A. Schulman Inc., Advanced Plastics Consultants, BASF, Brown Machine LLC, Ciba Specialty Chemicals, CMT Materials Inc., IMI Fabi, JSR America, Noble Polymers, Parker Tooling & Design Inc., Reliable Analysis, Southtech Plastics;

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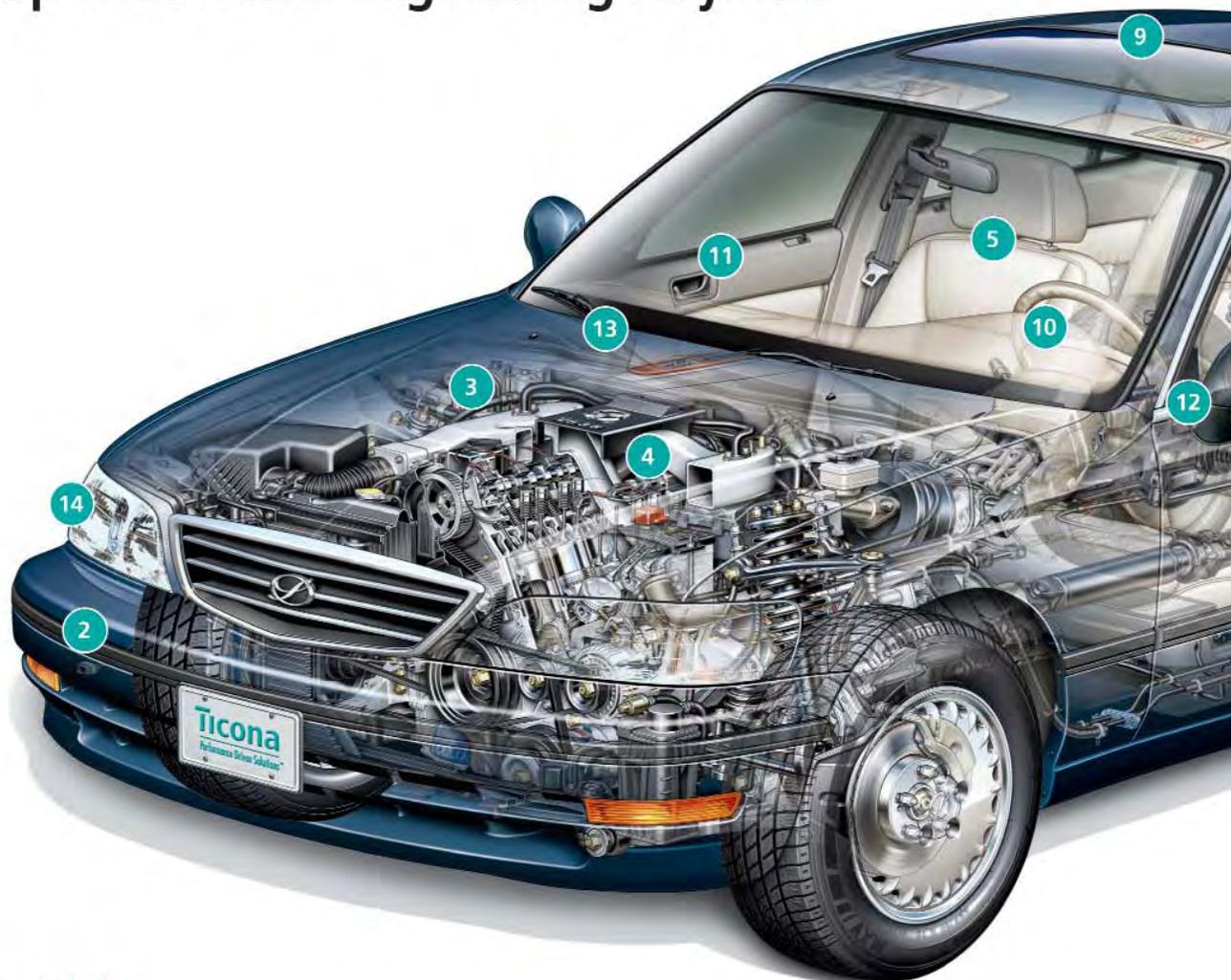
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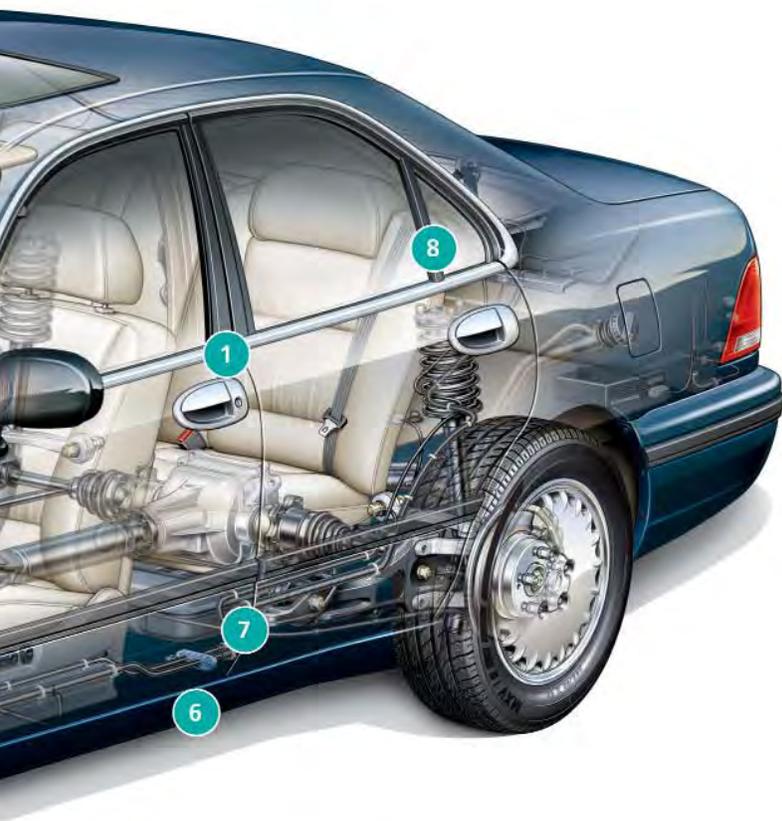
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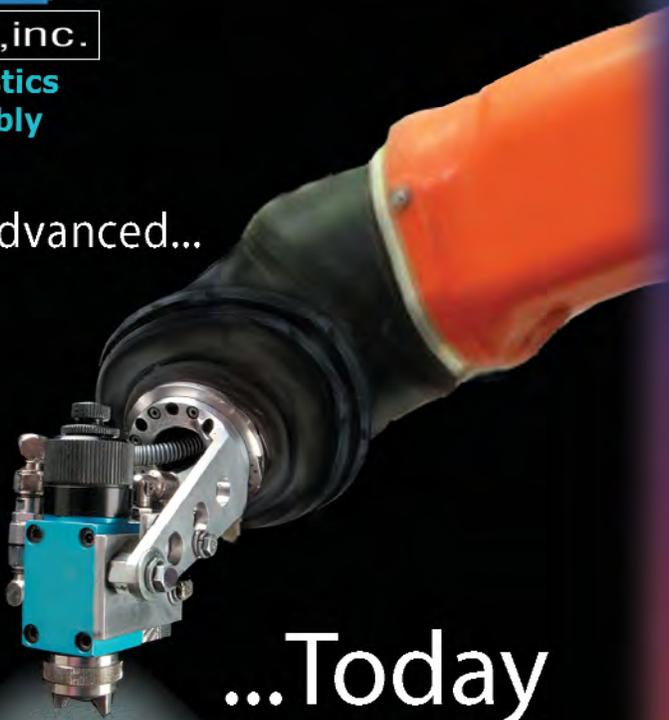


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Membership Report - SPE Job Fair Spring 2009

Johanne Wilson

Ever mindful of the impact of the economic crisis on the automotive industry and specifically the Detroit area, the SPE Automotive Division and SPE Detroit Section got together to plan a job fair as a service to our community. We wanted to try something new, beyond our regular events, to help members who have recently found themselves out of work to network and locate those jobs specific to their skill set.

Getting employers to commit to attending the job fair was a challenge - we contacted over 50 companies, and had much more success in getting recruiters to attend. This is understandable - recruiters have dozens of jobs to fill while individual companies at this time do not. We targeted recruiters who are associated with SPE (for example those who post jobs at the SPE LinkedIn forum), and also recruiters who we knew were looking for engineers. The seven recruiters who attended were: Adecco Engineering, Aerotek Engineering, ASG Renaissance, Delta Staffing, Global Technology Associates, G-Tech Professional Staffing and Landmark Search Group.

Delta Staffing also offered resume advice, but in the future we need to promote this service more. Those who did take advantage of the service found it to be extremely useful.

We had about 50 participants. This was a good number as everyone got a chance to speak with each of the recruiters without too long of a wait. About 1/3 of registered participants were SPE members - we did not limit it to SPE members this time around. We required pre-registration so we could be prepared for the number of people attending,

and limit it if necessary. Pre-registration also allowed us to make up resume books and CDs for the recruiters which they appreciated.

Of the attendees we surveyed, 99% were extremely pleased with the event. We asked what other job resource events would be preferred in the future and the top two chosen were other job fairs, and networking events. We will therefore plan at least one job fair in the fall, and will be organizing networking events throughout the summer. Feedback from the recruiters was also favorable - they found the level and quality of experience to exceed other more general job fairs they had attended.

A big thank you goes to the volunteers who worked with me on this project. This event was pulled off with minimum budget, and lots of volunteer time. Thank you Vineet Kapila, Barry Boyce, Monica Prokopyshen, Bill Pippine, Nidhi Shah, Jim Keeler and Pat Levine.

More information can be found at our website (www.speautomotive.com). Also, we are always looking for ways to increase the value of your membership so if you have any ideas please forward them to me at membership@speautomotive.com.

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BENEFITS OF PARTICIPATION



BENEFITS OF PARTICIPATION

There are numerous benefits to be gained by participating in the *SPE Automotive Innovation Awards Program* including:

- The **prestige** of placing or winning in the automotive and plastics industries' largest, longest-running, and oldest recognition event;
- The free **publicity** for OEMs, processors/tier integrators, and materials/tooling suppliers owing to heavy international media coverage for 6-9 months following announcement of winning nominations;
- Opportunity for industry **acknowledgement** of teams and key contributors; and
- Better North American **brand recognition** of vehicles, materials, and technologies driving automotive innovation.

Additionally, because the SPE Automotive Division tracks OEM wins over time, submitting winning nominations improves an OEM's historical standing in this competition, which is now entering its fourth decade.

There is no fee required to submit vehicle team or part nominations. The only "cost" of entering is the time required to fill out the nomination form, to prepare and then present an application's benefits or a vehicle's innovations before one or potentially, two panels of judges, depending on success of the nomination. We also recommend (but don't require) attendance at our annual *SPE Automotive Innovation Awards Gala* when all nominations are on display and when category and Grand Award winners are announced.



Automakers interested in nominating vehicles and teams for the current year's *SPE Automotive Innovation Awards Program* should fill out the special nomination form found at www.speautomotive.com/inno.htm. Vehicles must be in commercial production by November 1 of the year in which they are nominated.



FOR MORE INFORMATION

For more information on the SPE Automotive Division's *Automotive Innovation Awards Competition & Gala* or any of our other programs, please see our website at www.speautomotive.com, or call us at +1.248.244.8993, or write or visit us at SPE Automotive Division, 1800 Crooks Road, Suite A, Troy, MI 48084 USA.





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SPE® Announces Call for Part Nominations for the 39th Automotive Innovation Awards Competition

The Automotive Division of the Society of Plastics Engineers (SPE®) International today issued a Call for Part Nominations for its 39th-annual **Automotive Innovation Awards Competition & Gala**. For almost four decades, this event has honored the "Most Innovative Use of Plastics" in automotive applications, becoming the largest competition of its kind in the world and the oldest and largest recognition event in the automotive and plastics industries. The part nomination form and competition rules are available at www.speautomotive.com/inno. Nominations are due September 1, 2009 for applications that will appear on vehicles in commercial production no later than by November 1, 2009.

During the competition phase of the event, dozens of teams made up of OEMs, tier suppliers, consultants, and polymer producers work for months to hone submission forms and presentations describing their part, system, or complete vehicle module and why it merits the claim as the year's "Most Innovative Use of Plastics." To win, teams must survive a pre-competition review and two rounds of presentations before industry and media judges. Winners are announced at the Automotive Innovation Awards Gala, an annual event that typically draws 600-800 OEM engineers, automotive- and plastics-industry executives, and media. This glittering evening of celebration honors innovation and the hardworking teams that bring it to market.

Since 1970, the SPE Automotive Innovation Awards Competition has highlighted the positive changes that polymeric materials have brought to the automotive industry, such as weight reduction, parts consolidation, and enhanced aesthetics and design freedom. At the time the competition started, many OEM designers and engineers thought of plastics as inexpensive replacements for more "traditional" materials. To help communicate that plastics were capable of far more functionality than their typical use as decorative knobs and ashtrays indicated, members of SPE's Automotive Division Board of Directors created the Automotive Innovation Awards Competition to recognize

successful and innovative plastics applications and to communicate their benefits to OEMs, media, and the public. Over the years, the competition has drawn attention to plastics as an underutilized design tool and made industry aware of more progressive ways of designing, engineering, and manufacturing automotive components.

From its humble beginnings, the competition has grown to be one of the most fiercely contested recognition events in the plastics and automotive industries. Today, polymeric materials are no longer substitutes for more expensive materials, but rather are the materials of choice in hundreds of different applications throughout the vehicle. Without plastics, many of the auto industry's most common comfort, control, and safety applications would not be possible.

Current competition categories include:

Body Exterior,
Body Interior,
Chassis / Hardware,
Environmental,
Hall of Fame,
Materials,
Performance & Customization (Automotive Aftermarket),
Process / Assembly / Enabling Technologies,
Powertrain, and
Safety.

For more information about the Automotive Innovation Awards Competition and Gala or to download nomination forms and rules, visit the SPE Automotive Division's website at www.speautomotive.com/inno.htm.

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Rapid Manufacturing Application: Motorbike dash assembly made of WINDFORM® XT and SLS Technology

Ing. Livia Cevolini, Mr. Giampiero Testoni, Mr. Stewart Davis
CRP Technology S.r.l, CRP Racing, CRP USA

Abstract

The follow paper illustrates one of the latest high-tech RP and RM applications, made by Laser Sintering Technology and WINDFORM® materials, on 125GP Honda racing motorbikes.

In particular it describes the benefits coming from the use of WINDFORM material and the Rapid Manufacturing technology to produce a special Dashboard to host the motorbike's electronic system developed internally by CRP Racing (the racing department of CRP Technology), which had to be light and stiff at the same time, and above all, the new design of the Dashboard support, developed for the 2008 season in order to ease its substitution when crashed and saving some money as well.

Introduction

Key elements in producing parts for Motorsport racing is how the part performs and the possibility to produce a new high quality component in a very short time. When modifications are needed, Rapid Manufacturing gives the advantage of saving time, weight and cost even when only few parts are produced; thus allowing the shape to be more complex. This is a big step ahead compared to the aluminium and magnesium parts used in the past which needed to be welded and machined.

It was necessary to produce a special Dashboard (light and strong) to contain the motorbike's new electronic system developed internally by CRP Racing and it was also necessary to study a fairing support which had to be modular, in order to allow easy substitution after a crash. CRP Technology's RP Department developed the project of a motorbike dashboard and its support made with selective laser sintering technology in collaboration with CRP Racing.



Figure 1 - The rider of 2008 season Riccardo Moretti on track

CRP Racing Department

CRP Racing was founded in December 2006, as CRP Technology's Racing Department. Its first goal is to bring its innovative way of working into a very conservative world - the Motorcycling Racing World - as already done in other top categories, from F1 to Rally Raid and from Le Mans Series to WRC. More than 30 years of experience in Motorsport at the top levels allows CRP Racing the chance to jump the boundaries of the motorcycles sector, and test its engineering staff to try new solutions.



Figure 2 - CRP Racing logo and team

The Racing department can utilize the technical and logistic support of CRP Technology and is taking advantage of its Hi-Technology for the racing market.

The competitive spirit of this team started with the 2007 Road Racing Italian Championship (CIV). The bikes were first tested and set up on the CIV tracks and then on RS 125GP Honda Trophy tracks, utilizing two Honda RS 125GP bikes, developed inside the Italian factory. This included designing and testing these motorbikes on the dyno.

Developments: The Dashboard

The new dashboard made by SLS has been big news for the CRP Racing team: it is an all-in-one ECU, DATALOGGER and CONTROLLER box!

The Goals

The dash board must be water proof and must resist vibrations, crashes, high and low temperatures as well as speeds of 240km/h (150mph). The component has to be stiff enough to protect the internal fragile components. Moreover, its shape is optimized to fit the small space inside the upper fairing and not obstruct the rider's view.

All these characteristics are important for the final part performance: if the electronic components of the motorbike don't work, then neither does the motorbike!



Figure 3 - The new Windform XT dashboard made by SLS on the bike: it is an all-in-one ECU, Datalogger and Controller Box

One of the projects followed by CRP Technology's RP Department in collaboration with CRP Racing has been the dashboard and support for the 125GP Honda to race in the above-mentioned championships with excellent results.

The new dashboard used on the CRP Racing's 125GP Honda has a data logger for recording the operations of the vehicle, and has an integrated engine control unit completely "open" for tuning. It was necessary to have a very powerful system for the calculations and a large quantity of channels at the teams' disposal in order to ensure the development of the whole system (bike/engine/electronics) which is why this solution was chosen.

The dimensions and the weight of the system are very important. Normally, the boxes are made of Aluminium or Magnesium alloy for racing and in ABS or other plastics for production motorcycles.

In order to minimize its weight and reduce its influence on



Figure 4 - Dashboard and support



Figure 5 - Details of the CRP ECU

the bike's balance, the characteristics of the Windform XT material were employed to create the ECU/DASHBOARD box and its support that mounts to the frame of the vehicle.

In detail the box has been designed with a of 1,2 - 1,5 mm thickness and "wraps" tightly to the electronic boards. The first designs consisted of 4 parts: the container, the cover, the tachometer support and the internal cap.

The Manufacturing Technique

The Dashboard was made by the same SLS (Selective Laser Sintering) Technology used to manufacture Rapid prototypes in many industries.

The SLS manufacturing process utilizes a layer additive system. A powder is rolled out in a gas inert chamber at 0.10mm (0.004") layers. After the layer of powdered material is applied a CO2 laser is used to melt or sinter a Two dimensional cross section of the part. This process continues layer upon layer with each successive layer of powder being sintered on to the next creating a Three dimensional part. The non sintered powder areas of the chamber support the part being built and are removed from around the component when the build is complete.

The Material

The choice of the Windform® XT for this type of application is the best one, considering the results.

The high performance carbon composite SLS material allows the components:

- To obtain an extremely light part in a very shorter time, as only RM can offer;
- To realize a more complex shape when compared to metal fabrication; and
- To save money and avoid tooling costs of moulding the part in plastic.

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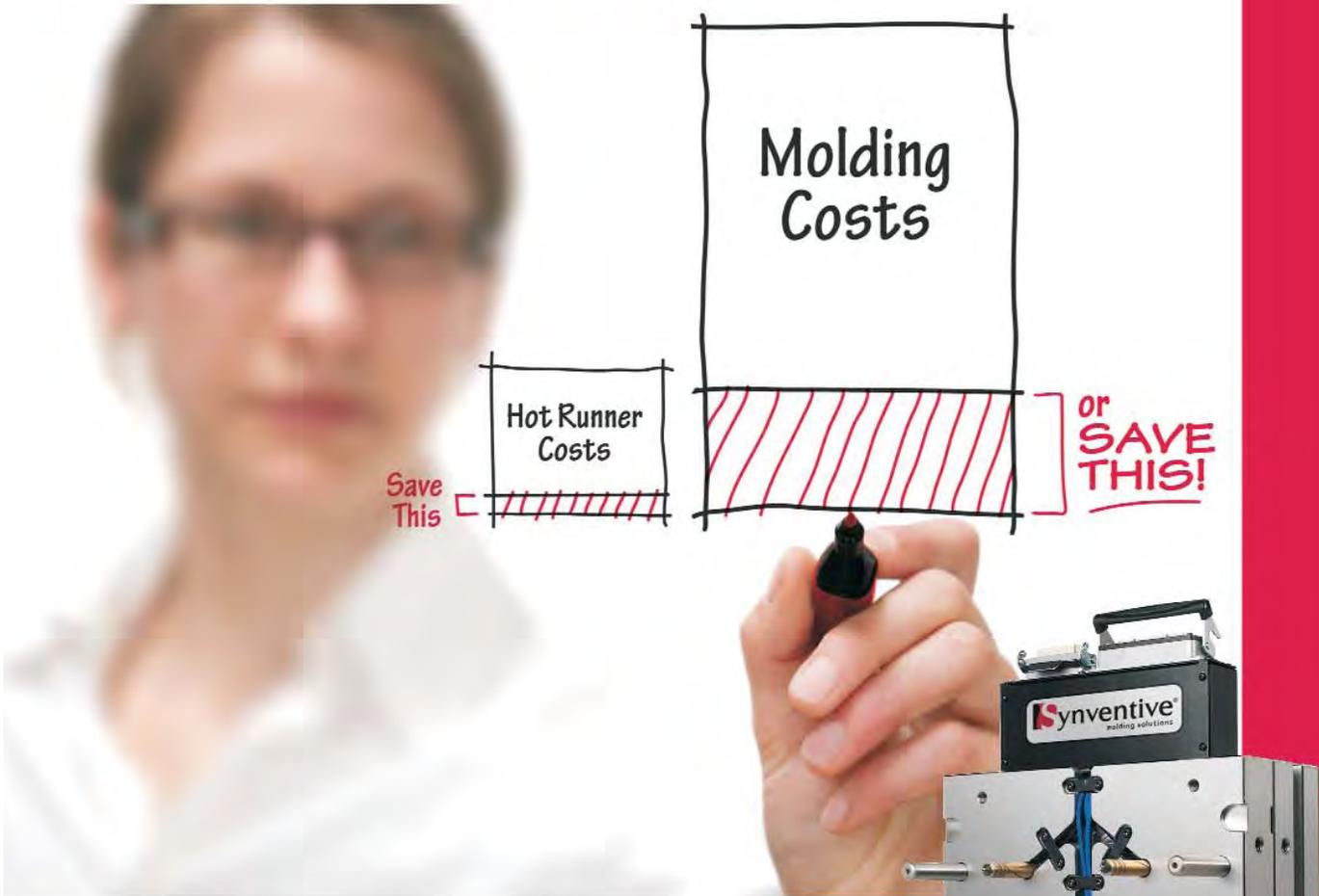
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Rapid Manufacturing Application: WINDFORM® XT and SLS Technology

Continued from Page 19

The material comparison and testing show that it can perform in the varied environment, where ambient temperatures can range from 2 to 35 degrees Celsius, and track temperatures can reach as high as 46 °C.

<http://www.windform.it/sito/en/windform-xt-technical-sheet.html>

<http://www.windform.it/sito/en/wf-xt-behaviour-at-high-temperature.html>

Many RP Technology solutions have permeability issues. As a precaution the external box and the cap are impregnated by resin, so that the Dashboard becomes waterproof.

To finish the product, it is necessary to install the clear plastic on the cover: it reduces glare and covers the gauges in the Dashboard.



Figure 6 - CRP ECU ready to be assembled

During the 2007 Road Racing Italian Championship's race at Monza, the weather conditions were quite poor during the race weekend. This was a test of the waterproof qualities of the Dashboard.

On one motorcycle, there were small water leaks during a practice session made under heavy rain. After further examination, it became clear the water was penetrating around the instrument faces and not through the mounting cover.

The weak point was the clear plastic sheet, especially the adhesive. An incorrect choice had been made in using a generic glue and in high humidity it failed and allowed the water to infiltrate inside the dashboard. (Despite some water inside the ECU, the official practice session was completed). The solution was to add additional screen covers integrated into the face plate.

In the first cover, the clear plastic sheet was bonded with a specific adhesive for the composite material, while in the second a housing modification was created to allow a Plexiglas to be sealed from the inside of the cover. Both solutions gave positive results.



First Solution

Second Solution

Figure 7 - ECU/Dashboard covers

The Support

The dimensions of the dashboard were different compared to the standard ones and this is why we had to use a special support, made using SLS and then fixed to an aluminium pipe utilizing 4 screws.

In combination with the dashboard made by the CRP carbon composite material, CRP Racing has studied and developed the support connecting the dashboard to the bike (see the images below).



Dashboard Support
(front view)

Dashboard Support
(side view)

Figure 8 - Dashboard support

The support is fixed to the pipe by a "clamp" system, and a small pin was studied to avoid the rotation of the whole system along the axle. This small shear pin, in case of a crash, breaks and allows the dashboard to move and minimizes the risk of damage.

The efficiency of this system was checked during the winter tests, when the rider violently crashed as he was busy forcing the rhythm to verify the set up of the bike. In this case, the small pin broke itself allowing a rotation of the dashboard as predicted. The related damage was limited to the perforation of the external serigraphy without any damage to the internal hardware.

The New 2008 Support Design

For the 2008 season of the Italian Champ (CIV) and the Honda Trophy series, CRP Racing has further improved the support in order to optimize the design. This continued development is showing excellent results.

After some tests and a race where the rider crashed (see the images above), even though the damage was not bad, and while the pin described above saved the Dashboard,

Continued Page 22

Rapid Manufacturing Application: WINDFORM® XT and SLS Technology

Continued from Page 21



Figure 9 - Crash during 2007 Honda Trophy

the fairing support was broken and they were forced to change out the full Dashboard system. In the last race of 2007, Riccardo had a very bad crash and even if the support's damage was limited to only a small area it had to be replaced and being a one-piece part they had to change the entire support. It was decided to optimize its design in order to ease its substitution when crashed and saving some money as well (Not needing to replace the entire Dashboard unit).



Figure 11 - Support and fixing system

At the beginning of the 2008 season, CRP's CAD and R&D Departments, in cooperation with the CRP Racing staff, tested a new design, made of more than 1 piece, to allow easier assembly and disassembly on the bike. In the future, when a crash occurs it will require replacing only individual parts and not the whole Dashboard system, both a time and cost savings.

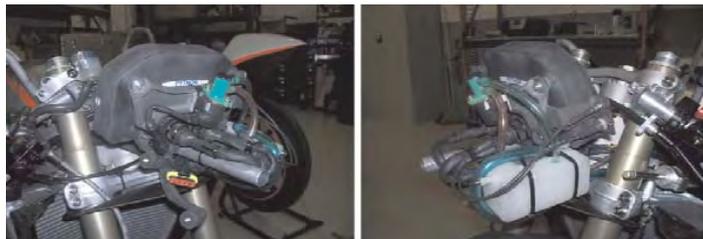


Figure 12 - Complete assembly

Below, the CAD images of the new 2008 support made of multiple parts.

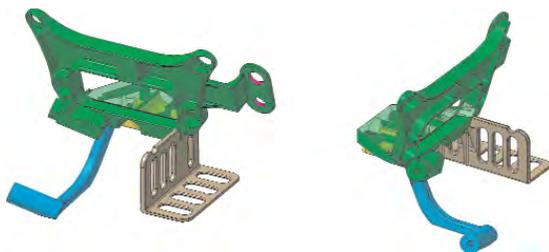


Figure 10 - New Dashboard support 2008 revisited

The support is made of 3 parts assembled together creating a perfectly stiff and stable support.

As it can be seen in the pictures both the Dashboard and the support are assembled mechanically through the use of screws and helicoils. This guarantees the disassembly and re-assembly of the various components again and again. The Dashboard support also holds the exhaust servo motor and the fuel tank solenoid valve. In spite of the violent accelerations and decelerations, the support always goes on working in the right way and can even resist the vibrations transmitted to the ECU.

Conclusion

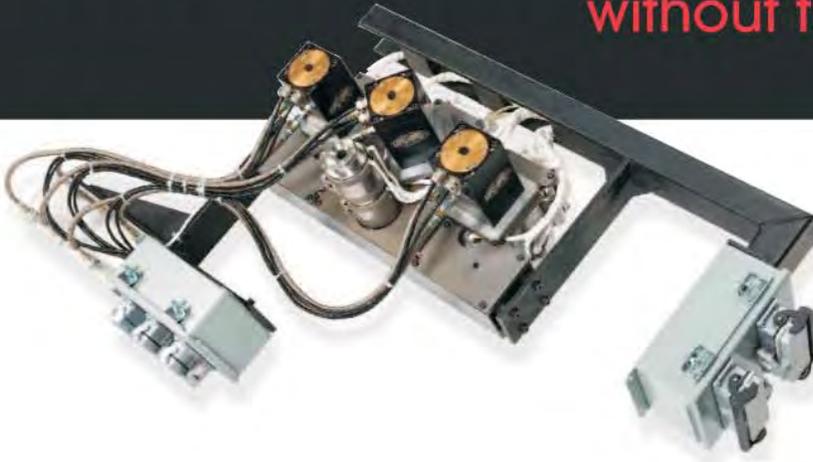
One of the most important things in Motorsport racing is the final performance. The possibility to produce a high quality functional component in a very short time is the key to moving toward Rapid Manufacturing. The use of advanced materials coupled with Rapid Prototyping machines is allowing the creation of complex shapes that are durable and perform to the level of a production part: a step forward when compared to the aluminium and magnesium parts used in the past, which needed to be fabricated and machined. The testing of these materials in conjunction with racing helps to expand the knowledge of the material capability and to build confidence in what can be done in the expanding area of Rapid Manufacturing. This Dashboard is only a beginning.

We mounted a camera to the dashboard and invite you to a test lap with CRP Racing:

<http://www.youtube.com/watch?v=14pnYP3G9qQ>

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