

Detroit Three's Partnership Researches Potential Use of Magnesium

by Jim Stickford

The United States Automotive Materials Partnership (USAMP) recently announced that they have completed phase two of their magnesium front-end research and development (MFERD) project.

Alan Luo, GM technical fellow at the automaker's research and development division in the chemical and materials systems laboratory, said USAMP is a joint effort between Ford, GM and Chrysler in researching ways to improve auto technology.

Phase one of the project indicated that it was possible to achieve great weight reductions in vehicle structures by using magnesium, Luo said, adding that phase two was building demonstration models based on what was learned in phase one.

"We built 200 demonstration structures," Luo said. "And then we performed corrosion tests and durability tests to determine the strengths and weaknesses of magnesium."

He said one of the strengths is that magnesium does greatly reduce weight in a vehicle, adding that current vehicles only have about .3 percent magnesium (a current weight of 12 pounds) as part of their makeup.

"The demonstration structures were not test vehicles," Luo said. "They looked like an automobile substructure, but they were not designed using any particular vehicle platform. Some of the things tested were construction processes

such as casting, extrusion and sheet forming. The structures were 100 percent magnesium."

Phase three of the project just got underway, Luo said, and will go until May of 2015. It is called "the development and demonstration of magnesium-intensive vehicle front-end substructure."

One of the things they learned, Luo said, was that while magnesium reduces weight by as much as 45 percent in a front-end unibody structure and 24 percent in

a body-on-frame architecture, there are difficulties in manufacturing when compared with steel, which is easier to process.

Magnesium is processed using methods that are similar to aluminum, so basically there isn't the infrastructure in place to produce the magnesium parts like there is for steel.

The test engineers also looked at corrosion issues and learned a lot about the crash worthiness of vehicles with magnesium sub-

structures, specifically that magnesium has limited energy absorption properties and magnesium also has higher costs when compared with aluminum.

While magnesium and aluminum production processes are similar, Luo said, there are still costs unique to magnesium that would have to be factored in when OEMs decide what to do with what they've learned from MFERD.

"The message is that we're not ready right now for magnesium,

but using more aluminum in the future could make magnesium more practical in the future," Luo said.

"I certainly expect the use of magnesium to increase over the next few years, but at what rate depends on how fast the technical issues of production and cost are overcome."

"Also, there is currently only one producer of magnesium in the U.S. right now. About 80 percent of magnesium produced worldwide comes from China."

Was the GM Orion Site Once an Airfield? Or Just a Black Lake?



Seagulls use the GM Orion Assembly parking lot as a landing site. Local resident and Auburn Hills councilman Henry Knight noted that an airport, possibly known as Allen Airfield, was once on the site of the GM

plant and its flat terrain. Amelia Earhart is said to have flown a glider from another airfield to the nearby former 3,000-acre Scripps Estate. Contact News@OaklandTechNews.com if you know more about this.

Theme of Urban Wheel Awards is About Honoring Auto Industry Women

by Irena Granaas

The 17th Annual Urban Wheel Awards will host its ceremony at the Sound Board Theater, MotorCity Casino Hotel in Detroit on Sunday, Jan. 13.

The awards show is the official multicultural event of the North American International Auto Show (NAIAS).

Celebrity presenters will be among those handing out numerous awards, this year recognizing the contributions of outstanding women to the automotive industry in design, engineering, management, manufacturing, marketing, human resources and communications.

Companies that prioritize the development and advancement of women in the auto industry are also slated for recognition.

Marjorie Staten, public relations

manager for Decisive Media, said diversity is a principle held even in selecting celebrity presenters for the 2013 awards ceremony.

Staten said Hispanic actor Edward James Olmos, and African-American actress Niecy Nash will present the 2013 awards.

"This year's theme is honoring women in the auto industry," Staten said, "and the majority of the awards will be presented to women who have made significant accomplishments in the auto industry, and that ranges from dealers, female dealers, to female suppliers."

"We also have new categories this year. We have designers and engineers at the automotive companies. We will also be selecting women from these categories as well. We will be acknowledging various automotive companies as it relates to their dealer devel-

opment, supplier development and other initiatives related to women within their own respective companies."

"Our mission is to ensure efforts in all aspects of diversity are honored and rewarded with the Urban Wheel Awards," said Randi Payton, UWA founder.

"For 17 years, this has been the only event held during the NAIAS promoting and celebrating diversity and inclusion in the auto industry. We are extremely honored to dedicate this year's event to women in recognition of their significant accomplishments and success in the automotive industry."

The evening starts at 4 p.m. with a vehicle exhibit, followed by the celebrity Red Carpet at 5 p.m., then the VIP and general reception at 5:30.

The awards show runs from 7 to 9 p.m., and an afterglow recep-

tion will round out the evening.

Awards will be given for: Dealer of the Year, Supplier of the Year, Executive of the Year, Companies of the Year, and the Urban Car, Truck and Green Vehicle of the Year. Two new awards to be presented are Designer of the Year and Engineer of the Year.

Proceeds from the UWA support the Emerging Diversity Education Fund, which provides scholarships, mentoring support and internships for ethnic minority college students who are pursuing careers in communications and the auto industry.

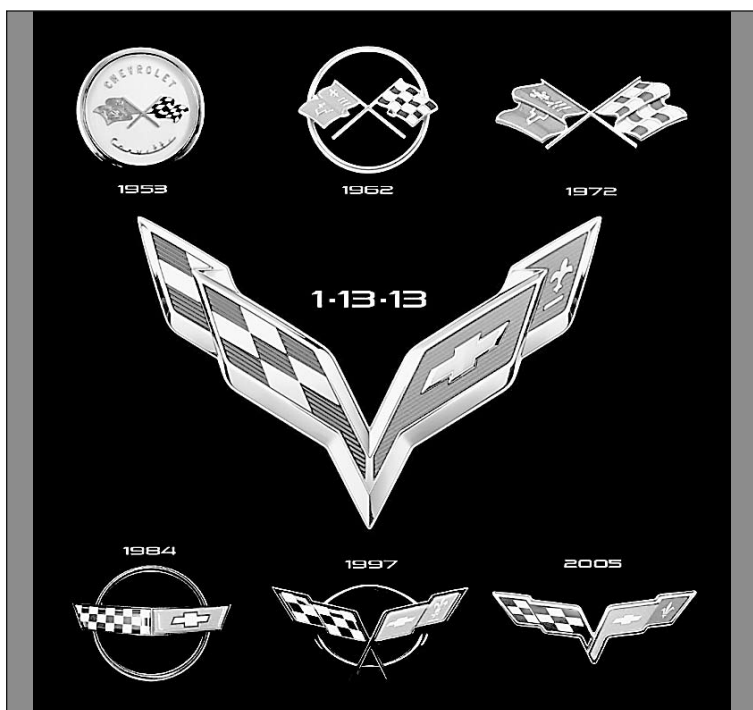
Staten praised the role of the Metro Detroit-based domestic automakers for their role in supporting and promoting diversity within their organizations, and this year is no exception.

"GM, Ford and Chrysler have always been recognized, and

with the information I have to date will continue to be recognized with this year's awards for their various initiatives, and they've also submitted nominations for various women executives in their respective companies, so I do intend that those companies will be heavily acknowledged at this year's show."

"I can tell you that General Motors is actually our top sponsor for this particular event, so that certainly comes with great acknowledgment and a promotion as well," she said.

Chevrolet is listed on the Urban Wheel Awards website as a gold sponsor. Ford Motor Co. and Chrysler also lend solid support this year as silver sponsors. Info on the awards night is available at www.UrbanWheelAwards.com, and sponsorship details are at events@urbanwheelawards.com.



How the new Corvette logo has evolved over the years.

'Vette will Get Crossed-Flags

The next-generation Corvette will debut on Sunday, Jan. 13, the night before the auto show kicks off in Detroit.

"The new crossed-flags design reflects the character of the next Corvette," he said. "The flags are much more modern, more technical, and more detailed than before, underscoring the comprehensive redesign of the entire car," explained Ed Welburn, GM vice president of Global Design.

Aside from giving the world design clues for the new Corvette, the updated logo, say GM officials, reflects just how "all-new" this Corvette will be.

According to Tadge Juechter, Corvette chief engineer, "There are only two carryover parts from the C6 used in the C7 - the cabin air filter and the rear latch for the removable roof panel."

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