



FOR IMMEDIATE RELEASE: 29 October 2012

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**FIRST PUBLICLY ACCESSIBLE AIRBAG SYSTEMS ON GM VEHICLES
NAMED 2012 SPE[®] AUTOMOTIVE DIV. HALL OF FAME WINNER**

TROY, (DETROIT) MICH. – The first use of driver and front passenger airbags on mass-produced vehicles accessible to the general public – 1974 model year (MY) *Oldsmobile[®] Toronado[®]* luxury 2-door hardtops produced by then General Motors Corp. (GM) – has been named as the 2012 *Hall of Fame* winner of the *Automotive Division of the Society of Plastics Engineers[®]* (SPE[®]'s) 42nd-annual *Automotive Innovation Awards Competition*. To be considered for a *Hall of Fame* award, an automotive-plastic component must have been in continuous service in some form for at least 15 years and preferably have been widely adopted within the automotive or ground-transportation industries. These requirements certainly apply to airbags, which have evolved from a single unit designed to protect drivers in frontal crashes to a variety of front and side airbags and air curtains now mandated in many parts of the world to protect front, second-, and third-row occupants in passenger vehicles from many types of crashes.

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First Publicly Accessible Airbag System Named 2012 SPE Hall of Fame Winner
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The road to airbag systems was not quick or straightforward¹. Reportedly, patent applications for embryonic airbag systems were filed as early as 1951 by German and American inventors with the first patents issuing in 1953. In 1971, Ford Motor Co. built an experimental fleet fitted with airbags, and GM tested airbags on a select fleet of 1973 *Chevrolet® Impala®* vehicles. However, the first vehicles available to the general public with optional airbags were the 1974 MY *Toronado* coupes, which is why that application was selected for this year's SPE Automotive *Hall of Fame* award. Called the air cushion restraint system (ACRS) by GM, it consisted of both a driver-side airbag mounted in the steering wheel hub plus a front passenger-side airbag mounted in the instrument panel. Soon thereafter, GM expanded ACRS option to 1974 MY *Oldsmobile* full size sedans, 1974 MY *Buick® Electra®* and *Riviera®* vehicles, and on all 1974 MY *Cadillac®* models except for convertibles and limousines. Ford was back with airbags as an option on 1984 *Ford® Tempo®* sedans and in 1988, then Chrysler Corp. became the first automaker to offer airbag systems as standard equipment on all its passenger vehicles.

Airbag technologies have continued to evolve, with better sensors to prevent airbags triggering when no passenger occupies a given seat, and with less forceful deployments to better protect infants, children, and lower percentile (smaller) occupants. In 2006, Honda Motor Co. Ltd. was the first OEM to put airbags on motorcycles, and the first airbags that deploy out of second- and third-row shoulder belts made their debut as an option on 2011 MY *Ford® Explorer®* SUVs. A key selling point on GM's new *Chevrolet® Cruze®* compact sedan is that it is the first and only vehicle in its class to be equipped with 10 airbags. And last September, GM introduced the world's first front-center airbag, which (for left-hand drive vehicles) deploys out of the right side of the driver's seat and positions itself between the front row seats near the center of the vehicle to help protect front-row occupants during driver- or passenger-side impact crashes and possibly rollovers². The new front-center airbag system will be introduced as a standard feature on all 2013 MY *Buick Enclave®* and on power-seat equipped 2013 MY *GMC® Acadia®* and *Chevrolet Traverse®* midsize cross-over utility vehicles (CUVs).

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¹ See http://inventors.about.com/od/astartinventions/a/air_bags.htm/;
[http://wiki.answers.com/Q/What_was_the_first_car_to_have_safety_airbags](http://wiki.answers.com/Q/What_was_the_first_car_to_have_safety_airbags;);
<http://www.jonfry.com/2005/11/history-of-airbags.html>; <http://blogs.automotive.com/front-center-air-bag-gm-taking-volvos-place-as-car-safety-champion-58493.html>;
http://www.cars.com/go/advice/Story.jsp?section=safe&subject=safe_tech&story=techAir&referer=advice&year=&aff=cg ; <http://ae-plus.com/milestones/john-hetrick-inventor-of-the-airbag/page:2>

² See https://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2011/Sep/0929_airbag.html

First Publicly Accessible Airbag System Named 2012 SPE Hall of Fame Winner
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Nippani Rao, SPE Automotive Division *Hall of Fame* committee chair and president, Rao & Associates said, "Together with safety belts, airbag systems are the cornerstone of passenger protection for front and side crashes. Just in the U.S., the National Highway Transportation Safety Administration (NHTSA) estimates that the combination of seatbelts and airbags have saved more than 28,000 lives in frontal crashes since 1999³. The amazing success of this application makes it a great candidate for our annual *Hall of Fame* award."

Terrence Q. Cressy, SPE Automotive Division *Hall of Fame* committee member and OEM executive account manager, DuPont Automotive added, "And let's not forget that throughout the evolution of airbag systems, polymeric materials have played a major role – from airbag fabrics and coatings to trim, tethers, deployment canisters and doors, plus sensors and other electronics. Without plastics, this lifesaving safety feature would not be possible."

On behalf of the original team that developed the 1973 *Toronado* airbag systems, John Calabrese, vice president-Global Vehicle Engineering at General Motors will accept the *Hall of Fame* award on November 7, 2012 at **SPE Automotive Division's** 42nd-annual **Automotive Innovation Awards Gala** at Burton Manor (www.Burtonmanor.net) in Livonia, Mich.

This year's **Automotive Innovation Awards Gala** begins with the VIP Cocktail Reception at 4:30 p.m., generously sponsored by Ticona Engineering Polymers. At 5:00 p.m. the main exhibit area will open for general admission and guests can review this year's **Automotive Innovation Awards** part nominations, as well as enjoy the specialty and antique vehicles that are always a highlight of the show. Dinner will begin at 6:30 p.m. and the awards program itself will last from 7:00-9:00 p.m. For those who wish to extend merrymaking and networking activities, the ever-popular *Afterglow* – also sponsored by Ticona – will run from 9:00-11:00 p.m.

SPE's Automotive Innovation Awards Program is the oldest and largest competition of its kind in the world. Dozens of teams made up of OEMs, tier suppliers, and polymer producers submit nominations describing their part, system, or complete vehicle and why it merits the claim as the *Year's Most Innovative Use of Plastics*. This annual event typically draws 700 to 800 OEM engineers, automotive and plastics industry executives, and media. As is customary, funds raised from this event are used to support SPE educational efforts and technical seminars, which help educate and secure the role of plastics in the advancement of the automobile.

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³ <http://www.iihs.org/externaldata/srdata/docs/sr4501.pdf>

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The mission of SPE is to promote scientific and engineering knowledge relating to plastics worldwide and to educate industry, academia, and the public about these advances. SPE's Automotive Division is active in educating, promoting, recognizing, and communicating technical accomplishments for all phases of plastics and plastic based-composite developments in the global transportation industry. Topic areas include applications, materials, processing, equipment, tooling, design, and development.

For more information, see <http://speautomotive.com/inno> and <http://speautomotive.com/awa>.

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Attn. Editors: Photo courtesy of General Motors Co. Used with permission. High-resolution digital photography is available upon request. Numerous other formal and informal shots from prior years' **Automotive Innovation Awards Gala** are available for free download at <http://www.flickr.com/photos/speautomotive/collections/>.

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