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AUTO COMPOSITES PIONEER, GARY LOWNSDALE WINS 2012 SPE AUTO INNOVATION LIFETIME ACHIEVEMENT AWARD

TROY, (DETROIT) MICH. — Automotive composites pioneer, Gary Lownsdale, P.E. — currently chief technology officer, Plasan Carbon Composites (Bennington, Vt.) — has been named the 2012 *Lifetime Achievement Award* winner by the Automotive Division of the *Society of Plastics Engineers (SPE®)*. Lownsdale will be honored for his role leading automotive plastics and composites innovations at the 42nd-annual *Automotive Innovation Awards Gala* on **November 7, 2012** at Burton Manor (www.burtonmanor.net) in Livonia, Mich.

First given in the year 2000, the Lifetime Achievement award recognizes the technical achievements of individuals whose work — in research, design, and engineering, etc. — has led to significant integration of polymeric materials on passenger vehicles. Past winners include:

- J.T. Battenberg III, former chairman and chief-executive officer of Delphi Corp.;
- Bernard Robertson, then executive vice-president of DaimlerChrysler;
- Robert Schaad, chairman of Husky Injection Molding Systems, Ltd.;
- Tom Moore, retired vice-president, Liberty and Technical Affairs at then DaimlerChrysler;
- Mr. Shigeki Suzuki, general manager - Materials Division, Toyota Motor Co.;
- Barbara A. Sanders, retired director - Advanced Development & Engineering Processes, Delphi Thermal Systems;
- Josh Madden, retired executive at General Motors Corp. & Volkswagen of America;
- Frank Macher, former CEO of Collins & Aikman Corp., Federal Mogul Corp., and ITT Automotive, who also spent 30 years at Ford Motor Co.;
- Irv Poston, retired head of the Plastics (Composites) Development-Technical Center, General Motors Corp.;
- Allan Murray, Ph.D., retired technology director at Ford Motor Co.;
- And David (Dave) B. Reed P.E., retired staff engineer, Product Engineering, General Motors Corp.

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Gary Lownsdale Named 2012 SPE Auto Innovation Lifetime Achievement Award Winner
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Gary Lownsdale has had a career-long interest in plastics and composites and has made significant contributions to the field in the last four-and-a-half decades. During his tenure as a joint University of Cincinnati / Chrysler Institute co-op student and after college graduation, Lownsdale worked on Chrysler teams that were charged with lightweighting the company's muscle cars (sport compacts) to help make them go faster. He was involved in the first use of SMC at Chrysler that debuted on the 1968MY *Dodge Dart* and 1969MY *440 6 Packs* hoods and hood scoops. He also was involved in specification of the first injection-molded thermoplastics for interior parts on the J car (1970MY *Barracuda* and *Challenger*).

After six years at Chrysler working to make muscle cars go faster, the 1970s Energy Crisis struck and Lownsdale was recruited away to Ford Motor Co. where his background in polymers and experience designing lightweight components were put to good use helping make '70s-era cars more energy efficient. He was soon enrolled in Ford's chief engineer training program, where engineers rotated into a new vehicle sub-area every 18 months. In the course of work in that program, Lownsdale was responsible for the first full-width instrument panels on late-1970s era *F Series* pickups switching from steel to polycarbonate – a first in the industry that was a major breakthrough for passenger safety. During his rotation in exterior body, he was part of the team that developed zinc-coated and one-side galvanized metals to deal with the terrible rust problem that plagued the recycled steel of that era. Late in the 1970s, he had the opportunity to work on carbon fiber drivelines as the principle design engineer on a team led by previous Lifetime Achievement winner, Tom Moore. They developed the world's first carbon fiber reinforced plastic (CFRP) driveshafts, which were installed on a fleet of demonstration vehicles for a year. Although the application never went commercial, Lownsdale was already hooked on carbon composites and would revisit this technology many times in the coming decades.

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The early 1980s brought new austerity programs to Ford and Lownsdale was recruited by automotive weather-seal supplier, Schlegel to develop flush-glass systems because aerodynamics were once again of considerable interest in the industry. At that time, nearly all automotive seals were ethylene-propylene diene monomer (EPDM) rubber, but under Lownsdale's leadership as executive director - Automotive Systems, the company developed and introduced the world's first non-EPDM seals in polypropylene-based vulcanizates for flush-glass sealing systems (a material later named *Santoprene* when Monsanto Co. bought the technology). Not only was the five-continent rollout of this new elastomer a success, but soon, Schlegel was one of the first suppliers to open an engineering center in the Detroit area to provide contract design services to automakers. In its first year, the design center brought in over \$1-million USD of direct revenue, and \$48-million USD in associated sales of sealing systems with automakers.

After five years at Schlegel, Lownsdale was recruited by then GE Plastics to set up another design center. Under his leadership, that design team worked on key vehicles with significant exterior thermoplastics applications, such as the Nissan BE1 door, which was the first use of modified-polyphenylene ether (M-PPE) on the vehicle exterior; and the front and rear fascias of a Hyundai vehicle, also in M-PPE. The group was the prime contractor on BMW's iconic Z1 roadster with thermoplastic body panels, providing all tooling, mold filling, and design analysis. With these successes under the design team's belt, GE asked Lownsdale to form a joint venture with Masco Corp. called Autopolymer Design where he became vice-president.

During this period, then General Motors Corp. (GM) was working on another innovative vehicle with thermoplastic body panels, but had run into challenges. An outside search firm identified Lownsdale as the ideal candidate to help solve this vehicle's problems, and he entered into a secrecy agreement and came to GM for a two-year assignment as an unclassified executive within the Saturn organization to lead exterior body programs for both design and manufacturing – a key decision since both functions had previously operated separately. Under his leadership, and by leveraging resources at Hughes Aircraft (then owned by GM), Dow Chemical, and GE Plastics, GM was able to do a recovery / reset on the program, launching on time with a body that proved to be Best in Class and an SPE Automotive Innovation Awards winner the following year. For his contributions to this critical program, GM awarded Lownsdale with an honorary chief engineer title afterward.

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Returning to GE Plastics after two years, Lownsdale found he really had no position waiting for him. He soon was recruited away by Hercules Aerospace to be an industry director-Automotive responsible for transferring declassified defense technology from seven Hercules business units and finding new homes for it in the auto industry. Lownsdale led efforts to take weapons-guidance systems and reverse engineer them into an early form of collision-avoidance systems. He also guided efforts to develop piezoelectric sensors to deploy airbags, smart cruise control, LADAR (laser radar) backup-warning systems – technology now on every car sold. This assignment also gave him the opportunity to return to his earlier interest in carbon composites, since Hercules had a division that produced carbon fiber. During this period he began work with Oak Ridge National Laboratory trying to find ways to help drive down the cost of producing carbon fiber precursor. After two years, a new company chairman made the decision to sell off all Hercules businesses involved in aerospace and automotive and Lownsdale was suddenly without a job.

What followed was a four-year period of consultancy where he worked on a joint U.S. / Japanese advanced body systems program trying to develop composite monocoque body structures for midsize cars. Other clients during this period included work in 1994 with APX International on resin-transfer molded (RTM'd) glass-reinforced urethane body panels for the first-generation *Dodge Viper* sports car. And he worked with a startup company then called Trans2 to design and produce a composite-bodied (hand-layup, glass-reinforced urethane) dual-purpose street-legal microcar that could also be driven on golf courses. The company was later purchased by DaimlerChrysler.

Next, Lownsdale was recruited to Tennessee to become president of Mastercraft Boats. His automotive and aerospace composites experience were put to use developing faster and more efficient ways to produce composite-bodied ski boats. He also led efforts to redesign boat propellers, which reduced mechanical vibration and “waking” of water skiers during towing. With a three-year contract, Lownsdale restructured the company, positioned it for sale, and returned positive equity to shareholders. After this assignment ended, he returned to consulting doing work with carbon nanotubes producers Hyperion Catalysis International and Nanocyl s.a., and continued his work on low-cost carbon fiber working for newly independent Conoco Inc. and Oak Ridge National Laboratory.

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In 2008, Lownsdale was hired by Plasan Carbon Composites to be engineering manager and head of R&D. Since joining the company, Plasan has been awarded contracts to produce CFRP body panels for the 2008MY *Corvette ZR1* and 2008MY *Dodge Viper ACR* supercars as well as numerous components on the recently introduced new-generation *Viper* sports car. As North America's largest automotive supplier of carbon composite body panels, the company has been able to drop the effective cycle time to produce these parts from 90 minutes to 17 minutes under Lownsdale's leadership. Additionally, Plasan has co-developed a new patent-pending out-of-autoclave molding process and pressure press with partner, Globe Machine Manufacturing Co. For the first time, this work allows carbon composites to be produced fast enough for use on medium-volume production vehicles. Lownsdale, who became vice-president-Technology and is now chief technology officer has also established new R&D centers in Bennington, Vt. and Wixom, Mich.

As he reflects on his career and considers what he wants to accomplish before retiring for the third time, Lownsdale says that his last major challenge and R&D focus will be to find a way to further increase production speeds and reduce costs so carbon composites can be used throughout the automobile – in interior as well as exterior, semi-structural as well as structural applications. He hopes to accomplish this through ongoing work on low-cost precursors as well as on resin chemistry and process manipulation so these materials will at last be practical on high-volume automotive production vehicles.

A true "car guy," Lownsdale says his hobbies are collecting and restoring classic cars. Also, he is the former president of the Austin Healey Club of America as well as the founding commodore of the Austin Healey Boat Club. Additionally, he is an adjunct professor at the University of Tennessee where he has taught classes in the school's graduate Business program. He holds seven issued patents and has four more pending. He has authored over 100 articles published on five continents, was named an Outstanding Young Engineer by Engineering Society of Detroit (ESD) in the mid-1970s, and is an active member of SPE, SAE International, and a former member of ASTM, ASME, and ASBE, and ESD. At least five applications he helped develop have been SPE Automotive Innovation Awards winners or finalists.

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On **November 7**, Lownsdale will be honored for his significant contributions to automotive composites and plastics at this year's ***SPE Automotive Innovation Awards Gala*** starting 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 600 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.

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 about the ***SPE Automotive Innovation Awards Competition and Gala*** or to download nomination forms and rules for this year's competition, please visit the ***SPE Automotive Division*** website at <http://speautomotive.com/inno> and <http://speautomotive.com/awa>, or contact the group at +1.248.244.8993, or write SPE Automotive Division, 1800 Crooks Road, Suite A, Troy, MI 48084, USA.

For more information on the ***Society of Plastics Engineers*** or other society events, visit the ***SPE*** website at www.4spe.org, or call +1.203.775.0471.

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Attn. Editors: High-resolution digital photography 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/>.