



TRW Automotive Introduces Advanced Active and Passive Safety Technologies On 2004 Model Year Vehicles

Braking, Steering, Occupant Safety Products for N.A. and European Platforms

LIVONIA, Mich., March 20 /PRNewswire/ -- TRW Automotive announced today that it will launch production later this year for a number of advanced stability control, electric steering and occupant safety systems for late 2003 and 2004 model year platforms in both North America and Europe.

Commenting on the increasing application of the company's advanced safety products, TRW Automotive President and CEO John Plant said, "Bringing real world, safety-driven technologies to the market is what TRW Automotive is all about. As more and more systems and functionality are added to future vehicles, TRW looks forward to playing a leading role in the integration of active and passive safety."

Braking & Suspension Technology: Vehicle Stability Control Systems

TRW will launch Vehicle Stability Control (VSC) production this fall on five 2004 model year vehicles in Europe and a 2004 model year North American minivan. Annual VSC production for these vehicles is projected at 280,000 units per year.

Current platforms equipped with TRW VSC include the Fiat Lancia Thesis, the Saab 9-3 and GM's Opel Vectra. In North America, TRW VSC-equipped vehicles include Ford Windstar, Chevrolet Avalanche and GM's full-size SUVs, including the 2003 Cadillac Escalade, Chevrolet Tahoe, GMC Denali, Chevrolet Suburban and GMC Yukon.

TRW Automotive continues to build on the success of advances in VSC technology. TRW VSC provides stability and traction control capabilities along with ABS braking on a range of vehicles including 4x4 vehicles with open differential drivelines. TRW's industry-leading system was designed to provide quieter and smoother performance than previous generations.

Standard TRW VSC components include an electro-hydraulic control unit and a stability sensing inertial module. New features include "panic brake assist" and "hill hold," which are being introduced in Europe. Panic brake assist recognizes a panic stop by monitoring the speed and force the driver uses to apply the brakes, and augments that braking force to ensure ABS braking in the event of an emergency situation. The hill hold feature uses the Vehicle Stability Control System to maintain driver-generated brake pressure to prevent the vehicle from rolling backwards on a hill during the transition between releasing the brake and driving away -- an automatic transmission-style driving feature for manual transmission vehicles.

Steering Technology: Electrically Assisted Steering/Electrically Powered Steering

TRW Automotive will expand its world-leading position in Electrically Assisted Steering (EAS) systems as it launches production of its Electrically Powered Hydraulic Steering (EPHS) later this spring as standard equipment on a major 2004 model year European car. The company will add production of a new Electrically Powered Steering (EPS) system for an additional European vehicle later in the year.

TRW Automotive's EAS encompasses a range of innovative electric power-

assist systems that eliminate the connection between the powertrain and steering systems. TRW's EAS family of products includes several versions of EPS and EPHS.

Anticipated volumes for the two new EPHS and EPS programs are 110,000 and 240,000 units, respectively. TRW Automotive leads all automotive suppliers with sales and orders of more than \$4.5 billion in EAS systems.

TRW Automotive is the dominant supplier in the European EPS arena, with more than a third of an estimated \$1.5 billion market. In total, in Europe, TRW Automotive has EPS contracts with three automakers for 11 platforms. In Asia Pacific, the company has EPS contracts with two automakers for three platforms. TRW's sales for these products in 2003 are expected to more than double from 2002.

TRW Automotive's EPS on the Renault Megane 2 helped the vehicle earn "Car of the Year - 2003" accolades in Europe. The best-in-class EPS-plus technology also received specific mention as the GM Opel Vectra was presented the "Golden Steering Wheel" award in Germany.

TRW's EPHS can be found on vehicles in Europe, North America, Asia Pacific and South America. Electric steering systems offer numerous advantages including enhanced fuel efficiency because they consume power only when steering assist is required -- a power on demand system.

Advances in Occupant Safety

TRW is also launching a number of innovative passive safety technologies in 2003, including the North American debut of the TRW Active Control Retractor, now available on the Mercedes S-Class, and the introduction of TRW's occupant classification system later this year.

A milestone in the convergence of active and passive safety technologies, the Active Control Retractor is the first active seat belt system on the market. The new S-Class Mercedes, now available in both Europe and North America, uses braking and stability control sensor information to pre-tension the seatbelt should the system sense the advent of a potential accident. The system's electronic drive unit integrated into the seat belt system provides the pre-tensioning as part of the Mercedes "Pre-Safe" system and resets itself if the critical event is avoided.

Another new product from TRW Automotive's occupant safety systems business addresses the safety of front-seat passengers of different sizes, belted and unbelted. TRW's occupant classification system uses four sensors in the front passenger seat frame (one in each corner) to measure weight -- similar in concept to a bathroom scale. When occupants sit in the front passenger seat, they exert a downward force in the seat, resulting in a change of the sensor signals mounted in the seat frame. Ultimately, the sensor signals are converted electronically into a weight and occupant classification and the airbag is automatically enabled or suppressed accordingly.

Production of the TRW occupant classification system begins in September for a North American 2004 model year truck. Three additional platforms from the same automaker will be fitted with the occupant classification system beginning in mid-2004. TRW Automotive recently signed additional contracts with a German automaker for model year 2004 and Japanese and Korean automakers for model year 2006.

About TRW

TRW Automotive's sales place it eighth largest among the world's automotive suppliers. Headquartered in Livonia, Michigan, USA, the company employs approximately 64,000 people in 22 countries. Its products include integrated vehicle control and driver assist systems, braking systems, steering systems, suspension systems, occupant safety systems (seat belts and airbags), electronics, engine valves, fastening systems and aftermarket replacement parts and services. TRW Automotive news is available on the Internet at <http://www.trwauto.com>.

Web site: <http://www.trwauto.com>

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