



Bosch ESP® with Integrated Inertial Sensors launched in new Suzuki Kizashi

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- ▶ Japan premiere for ESP® with integrated inertial sensors in new Suzuki Kizashi
- ▶ Reduced space requirements through integration of yaw-rate and lateral-acceleration sensor in the ESP® control unit
- ▶ Additional functions “Hill Hold Control” and “Dynamic Steering Torque Control” for enhanced comfort and safety

The ESP® with integrated inertial sensors will have its premiere in Japan in the new Suzuki Kizashi. In 2008, Bosch started the production of the world’s first ESP® with integrated sensors for yaw-rate measurement and lateral acceleration in the electronic control unit. This saves space and assembly effort compared to separately installed sensors, allowing a wider fitment of the life-saving system.

The ESP® with integrated inertial sensors for the Suzuki Kizashi was developed by Bosch’s Chassis System Control division Japan, the supplier’s largest engineering base for braking systems outside of Germany. Dr. Wolfgang Hiller, president of the Bosch Chassis Systems Control division Japan, comments: “We are offering our customers the advantage of local engineering and production, delivering the ESP® out of our Tochigi plant in Japan.”

The sensors integrated into the ESP® control unit have been adapted to fit the new installation position and overcome the higher temperature level in the engine compartment. A vibration-reduced and balance-optimized three-point mounting bracket of the hydraulic unit ensures that even high acceleration affecting the vehicle will not distort the sensor signal. The Bosch engineers have integrated two acceleration sensors into the sensor element which measure precisely at right angles to each other. As a result, the hydraulic modulator can be positioned around its vertical axis as desired, increasing flexibility of the installation position.

By using sensor information about the vehicle’s longitudinal acceleration, the new Suzuki Kizashi offers additional features, as for example “Hill Hold Control”. This ESP® function facilitates a hill start by keeping the vehicle brakes applied for about two seconds after the driver has already released the brake pedal. The driver has enough time for changing from brake to accelerator pedal without using the handbrake. The vehicle drives

off comfortably and without rolling backwards. Furthermore, the Kizashi features Bosch's "Dynamic Steering Torque Control" function: by networking the ESP® with the vehicle's steering system, the function helps the driver intuitively find the optimum steering angle. This especially helps in critical driving situations, for example allowing braking on surfaces with sharp traction coefficient differences between right and left wheels (μ -split braking) without the need for the driver to conduct an assist torque.

Bosch developed ESP®, and in 1995 was the first to manufacture it in series production. If the system detects a risk of skidding, it instantly brakes the appropriate wheel, and if necessary, reduces engine output in order to stabilize the vehicle and put it safely on track. Safety experts have declared ESP® as the most important life-saving technology after the seat belt. The very positive findings of many international studies investigating the effectiveness of ESP® have prompted several countries to introduce legal regulations. In the US, Australia and Europe ESP® has been mandated for all new passenger cars by September 2011, November 2013 and 2014 respectively.

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The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

Additional information can be accessed at www.bosch.com.