

## **Driving Dynamics Control Systems**

Resolution of the Executive Board of 07.11.2005 based on the recommendation of the Committee of Vehicle Engineering

## **Explanation**

Driving dynamics control systems (e.g. ESP) help the driver controlling their vehicle in critical situations or preventing the vehicle from skidding, which is of definite consequence in the event of an accident.

The use of driving dynamics control systems contributes to cutting the number of accidents, and to reducing the severity of injuries suffered in accidents. This was proven though various studies. Automotive manufacturers now fitting vehicle dynamics control systems in their vehicles confirm that the effect is a massive reduction of up to 42 % (and up to 80 % when skidding would occur) of driving accidents or single-vehicle crashes. A Swedish study concludes that 22 % is a fair estimate of the effectiveness of vehicle dynamics control systems in the event of accidents involving bodily harm, in which ESP can play a role. The effect on wet or slippery road surfaces was shown to be significantly higher than that figure. Furthermore, published studies particularly emphasize the positive effect of vehicle dynamics control in SUVs.

## Recommendation

"The German Road Safety Council demands the installation of driving dynamics control systems in all new multitrack vehicles. Just like airbags, driving dynamics control systems should be seen as indispensable safety equipment even in small cars. Therefore we ask the Federal Minister for Transport, Construction and Housing to take effective measures to promote on a Europe-wide level the installation of such control systems."

For the board:

signed

Dr. Walter Eichendorf Präsident

## Literature

- [1] Papelis, Y. Brown, T. Watson, G., Holtz, D. and Pan, W.: "Study of ESC assisted driver performance using a driving simulator", Report no. N04-003-PR. University of Iowa, Iowa City, 2004
- [2] Tingvall, C., Kraft, M., Kullgren, A., and Lie, A.: "The effectiveness of ESP (electronic stability program) in reducing real-life accidents", Traffic Injury Prevention, 5, 2004, S. 37-41
- [3] Dang, J. N.: "Preliminary results analyzing the effectiveness of electronic stability control (ESC) systems", Report no. DOT-HS-809-664. U.S. Department of Transportation, Washington, DC, 2004
- [4] Farmer, C. M.: "Effect of electronic stability control on automobile crash risk", Traffic Injury Prevention, 5, 2004, S. 317-325
- [5] "Electronic stability control reduces deaths, especially in single-vehicle crashes", Insurance Institute for Highway Safety Status Report, Vol. 40, No. 1, January 3, 2005
- [6] Sferco, R., Page, Y., Le Coz, J.-Y., Fay, P.: "Potential effectiveness of Electronic stability programme (ESP) what European field studies tell us" ESV paper No. 2001-S2-O-327, Amsterdam 2001
- [7] Langwieder, K., Gwehenberger, J., Hummel. T.: "Sicherheitsgewinn durch ESP Internationale Erfahrung aus Realunfällen", Tagungsband "Aktive Sicherheit durch Fahrerassistenzsysteme", TÜV-Akademie, München, 2004
- [8] Langwieder, K., Gwehenberger, J., Hummel. T.: "Benefit Potential of ESP in Real Accident Situations Involving Cars and Trucks", 18. International ESV-Conference, Nagoya, 2003
- [9] "ESP macht das Fahren sicherer", Zeitschrift für Verkehrssicherheit 2/2005, S. 61
- [10] "ESP senkt Unfallopferzahlen drastisch", Auto Motor Sport 15 / 2004, S. 8
- [11] "ESP bringt was", Auto Motor Sport 19 / 2003, S. 180
- [12] Kreiss, J.-P., Schüler, L., Langwieder, K.: "The effectiveness of primary safety features in passenger cars in Germany", ESV, 2005
- [13] Unselt, Breuer, Eckstein, Frank: "Avoidance of loss of control accidents through the benefits of ESP": FISITA-paper F2004V295, FISITA conference, Barcelona, 2004
- [14] Grömping, U. et al.: "Split study: A new method for estimating the impact of rare exposure on population accident risk, based on accident register data", ESAR conference, Hannover, September 2004
- [15] Becker, H. et al.: "Methods for the evaluation of primary safety measures by means of accident research", FISITA conference, Barcelona 2004
- [16] Aga, M. and Okada, A.: "Analysis of vehicle stability control (VSC)'s effectiveness from accident data", Proceedings of the 18<sup>th</sup> International Technical Conference on the Enhanced Safety of Vehicles, Nagoya, Japan, May 2003, ESV paper 541, NHTSA, DOT HS 809 543