

Electronic Stability Control



What is Electronic Stability Control?

Electronic Stability Control (ESC) is an active safety system that reduces the risk of a driver losing control of the vehicle when it skids, swerves suddenly or when road conditions change. ESC builds upon features such as Anti-lock Braking Systems (ABS) and traction control to stabilise the vehicle when it deviates from the driver's steered direction.

ESC considerably reduces the risk of single vehicle crashes by:

- Correcting impending over steering or under steering
- Stabilising the vehicle during sudden evasive maneuvers e.g. swerving
- Improving handling on gravel and unmade roads e.g. road shoulders
- Improving traction on slippery or icy roads.

Different manufacturers call ESC by different names, some include:

- Electronic Stability Program (ESP)
- Dynamic Stability Control (DSC)
- Vehicle Dynamic Control (VDC)
- Vehicle Stability Control (VSC)
- Dynamic Stability & Traction Control (DSTC)
- Active Stability & Traction Control (ASTC)



How does it work?

Using a number of intelligent sensors, ESC immediately identifies when a car has deviated from the driver's steered direction and the driver has lost control of the vehicle.

As soon as impending instability, over steering or under steering are registered, ESC stabilises the vehicle by selectively braking individual wheels and reducing engine torque to bring it back on course.

ESC uses components of ABS and traction control to stabilise the vehicle, but unlike ABS and traction control which only operate in the driving direction, ESC also helps the driver control sideways movements which create instability. This makes ESC a total, holistic system that controls a car's entire movements.

The facts

An Australasian study conducted by the Monash University Accident Research Centre (MUARC) has confirmed ESC systems reduce the risk of single vehicle crashes by up to 50%. With the current level of road trauma in Western Australia this would save around 50 lives each year and a further 310 serious injuries.

The MUARC study found a reduction in the risk of single vehicle crashes of:

- 25% for ESC equipped cars
- 51% for ESC equipped 4WDs
- 28% across all vehicle types equipped with ESC.

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What if I drive a 4WD?

The MUARC study found that ESC was more effective in preventing single vehicle crashes in 4WDs than in passenger vehicles. ESC reduced the risk of single vehicle crashes for 4WDs in which the driver was injured by 68%.

The same research also shows that WA had the highest number of drivers of 4WDs in Australasia who were injured in single vehicle crashes in the period 2001-2005. As a result, the long term benefits of the fitment of ESC to 4WDs would be expected to be greater in WA.



What can you do?

Before you buy your next car, whether it's a personal or fleet vehicle, look for models with ESC (as well as other safety features). To find out more about safety ratings and which vehicles have ESC, visit www.ancap.com.au.

For vehicles to now be awarded the maximum 5-star ANCAP rating, they must be equipped with ESC (amongst other requirements). This mandatory inclusion further emphasises both the safety value and importance of electronic stability control in reducing road trauma.



What is the government doing?

ESC is now mandatory in all new passenger cars, with all new vehicles requiring the technology from November 2013 onwards. The regulations mandating ESC brings Australian into line with international standards.

For more information

For further information about Electronic Stability Control visit:

www.ors.wa.gov.au

www.rac.com.au

www.ancap.com.au

References

Scully, J.E. and Newstead S.V. 2007, 'Preliminary Evaluation of Electronic Stability Control Effectiveness in Australasia.'

Available from: <http://monash.edu.au/muarc/reports/muarc271.pdf>

<http://www.ors.wa.gov.au/TopicsRoadSafety/Pages/SaferCars.aspx>

<http://www.ancap.com.au/media/protocolpapers/2/>

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