

Drive begins to impose skid control

A campaign is under way to fit electronic stability control to all new vehicles, but will buyers of small cars be willing to pay?

Ray Hutton

MERCEDES, which has always taken pride in the safety of its vehicles, had a nasty surprise when the A-class, its first small car, rolled over while being evaluated by journalists.

That was 10 years ago and its failure in the “elk test” avoidance manoeuvre caused the A-class to be withdrawn from sale and sent back to the Mercedes boffins for rectification. Their most important modification was to fit a device called ESP (electronic stability program).

ESP was developed by Mercedes in conjunction with Bosch, the world’s largest supplier of automotive technology. It had appeared only two years before but, as a £1,500 extra, had been regarded as too expensive to be fitted to any but its most prestigious cars.

This device has been heralded as potentially the best car-safety feature since the seat belt. It can sense an impending loss of control before the driver even realises it and automatically make split-second corrections.

ESP is a computer system that uses a yaw sensor like those of guided missiles, and a steering sensor working with the car’s antilock braking (ABS) and traction-control systems to reduce engine power and juggle the brakes on individual wheels to bring a skidding car back to the driver’s intended path. It is especially valuable in treacherous conditions, like black ice – and it compensated for the A-class’s violent reaction in the elk test.

Long-serving Bosch engineers remember: “The A-class was the big breakthrough in the understanding and acceptance of ESP.”

Today, 42% of new cars sold in Europe have electronic stability control. It may not be called ESP or be made by Bosch, although its design and operation will owe something to the original. There are some 20 different acronyms for such devices, among them DSC, VSC, VDC, PCM.

Therein lies the first problem for a high-powered group that will, on Tuesday at an event in Rome, launch a campaign to persuade buyers to specify electronic stability control for their new cars.

A pressure group called eSafety Aware, which has as its patron Max Mosley, president of the FIA (Fédération Internationale de l'Automobile), the rule-maker for Formula One racing, proposes that the motor industry and safety organisations standardise and adopt the abbreviation ESC.

The Choose ESC campaign is seen as the first step towards making electronic stability control compulsory for all new cars.

The evidence is compelling. Mercedes, which has fitted ESP to all its cars since 1999, made a before-and-after comparison of accidents and concluded that ESP has reduced accidents where the driver loses control by 42%. Toyota estimates that electronic stability control prevents 50% of single-vehicle crashes.

A recent study by the Institute for Transport Economics at the University of Cologne calculated that, if it were made mandatory for new cars in the EU from next year, 1,800 road deaths and more than €4.4 billion (£3 billion) in accident costs would be saved over the first four years.

In America, the National Highway Safety and Traffic Administration (NHSTA) has announced that ESC will be mandatory for all new cars, 4x4s and light trucks sold from 2012. At the Rome conference, NHSTA administrator Nicole Nason will say that American research has shown that electronic stability control reduces single-vehicle accidents in 4x4s by 59% and could halve America's annual 10,000 death toll from roll-over accidents.

The NHSTA has proposed that its regulation on electronic stability control be adopted internationally. The European commissioner for enterprise and industry, Günther Verheugen, is in favour of a similar measure within the EU, covering cars, lorries, buses and coaches.

The German prestige-car makers are also in favour – Mercedes, BMW, Audi and Porsche already fit electronic stability controls to all their models. But the makers of small cars, mainly in France and Italy, are concerned about the costs involved at a time when markets might not stand a significant price rise.

The cost of electronic stability control has fallen with time and increased volume. In 1998, the A-class crisis ESP fitment cost Mercedes £500 per car; now the price to the manufacturer – in addition to ABS, which is already standard on European cars – is about £80.

The trend is to include electronic stability control as standard on cars and vans. The new Ford Mondeo, which goes on sale this month, has it on all versions. But where it is still optional – as on most smaller and cheaper cars – the average extra retail price is £300 and not many British buyers go for it. The current fitment rate for new cars in the UK is at the European average of 42% but in Sweden the figure is 90%.

Active safety measures, designed to avoid accidents, are not easy to sell. It took ABS antilock braking 20 years to achieve the market penetration that electronic stability control has today. Images of crumpled metal and air bags going off in crash tests have made it easier to convince car buyers of the value of passive safety – the protection of

car occupants in an accident. The Euro NCAP crash-test programme, which gives star ratings for vehicle protection, has proved influential with consumers, and the same team is now working on tests that would validate the electronic stability controls. These involve negotiating a twisting course on a test track at programmed speeds using a robot driver who would be, and be seen to be, more consistent than a fallible, human test driver.

Rule makers at the European Commission will need such a test if electronic stability controls are to be made compulsory, as vehicle-safety regulations must set performance standards rather than dictate technology.

The original ESP has undergone further developments and refinements for the most technically advanced cars. These include integration with radar-based collision-avoidance systems and automatic stop-go driving in city traffic. But the basic function of keeping the car on the driver's intended course in an emergency is the thing that will bring the improvement in accident statistics and justify making it compulsory.

The proponents of electronic stability control hope that it can be a standard feature on all new cars by 2012.

Mosley, who led the Euro NCAP crash-test programme, welcomes the Choose ESC campaign as a step in that direction.

"There is no doubt that ESC could contribute significantly to the European Union's goal of halving road-traffic fatalities by 2010. But to achieve this, much more needs to be done to inform consumers about why they should choose it when buying a new car," he said.

Whether car and component manufacturers will cooperate by agreeing to adopt ESC as a common name for this life-saving device remains to be seen. BMW, for one, is none too keen on the implication that its DSC is the same as rival Mercedes's ESP. And Bosch, the firm that started it all, says it has no plans to change from ESP to ESC.