



A life saver with the steering

If stability control was fitted to all cars, it could save 4,000 lives each year. Now there are calls for it to be mandatory for all new cars. **Paddy Comyn** reports

IN IRELAND, as car buyers, we are pretty good at picking the right colour. We like silver a lot. And black. And speak to the Irish distributors of vehicles and they will tell you that we now like higher spec models with things like air conditioning and leather upholstery. But ask any would-be buyer if they would covet ESC on their car and they stare blankly into space.

Yet a campaign at European level, which made a whistle-stop visit to Mondello park yesterday and is backed by Ford of Ireland, comes with the message that this piece of technology could save 4,000 lives on European roads each year and avoid countless accidents.

So what exactly is ESC? ESC is Electronic Stability Control, but it is also known by a number of different acronyms, such as ESP (Electronic Stability Control) or DSC (Dynamic Stability Control) depending on which manufacturer's car the technology is fitted to. Sadly, this lack of parity on what this life saving system is called does nothing to raise public awareness of its usefulness.

ESC is, simply, a technology which in the event of a driver losing control of their vehicle for some reason, helps to guide the vehicle back on the intended course, thus avoiding an accident. There are several ways in which a vehicle can lose control, but the main two ways are that car either understeers or oversteers.

Most of the time it is down to driver error. Understeer, as the name suggests, is when a car does not turn in as desired by the driver. The yaw rate of the vehicle is smaller than the intended yaw rate of the driver, and the front slip angle is great-

er than the rear slip angle.

This can be caused by going to fast into a bend, by too much steering input from the driver or if the front tyres are worn or don't have enough grip. Simply put, you go to turn a left-hand corner, and the car drifts across to the middle of the road.

The second way a car can lose control is by oversteer. Here, the rear slip angle of the car is greater than the front slip angle, meaning the back end of the car is coming around because of a lack of grip at the rear wheels. This can be caused by dramatic steering input, or by braking or lifting off the throttle mid-bend. On the same left-hand turn, the rear of the car would slide out across the centre line and a skid could occur.

Neither situation is pleasant, and we can't always rely on the skill of a driver to correct these incidents, which can occur in the blink of an eye. This is where ESC comes in. The technology, which was invented by Bosch and which is now standard across most of the Ford passenger car range, uses sensors to measure the steering and braking input of the driver and compares it to the yaw rate and wheel speed of the vehicle.

If the system detects an imbalance, as will happen when a car starts to go out of control, it can apply braking to individual wheels and reduce engine torque to get the car back in line. All in a matter of milliseconds, and all without the driver having to do a thing.

The merits of this system were demonstrated at Mondello using a selection of Ford Focus models, some with ESP, some without. The difference on a wet figure of eight circuit was staggering. Without ESP, once the limits of the car's tyres were

reached, it would understeer wildly and as the driver's natural instinct is either to brake hard or lift off, the car would slide and this would be almost impossible to control.

However, with ESP fitted, as it is to all new Ford Focus models, the electronic control unit detects that there is an imbalance between the steering input of the car and the direction the car is travelling, reduces power to the wheels and brakes individual wheels to correct the slide.

Speaking at the event, Jacob Bangsgaard, secretary general of the Choose ESC! Campaign, which is backed by the European Commission and the FIA (Federation Internationale de L'Automobile) commented: "It is unacceptable that so many people get killed on the roads and so many serious accidents take place when we have proven technology available on the market that can save lives and can avoid hundreds of thousands of accidents each year."

The Choose ESC! Campaign is calling on carmakers to standardise ESC in all cars they produce. In the US legislation has been passed which means that all cars on sale there will have to have ESC by 2012.

Eddie Murphy, the chairman and managing director of Ford Ireland echoed these sentiments. He called on legislators to make ESC mandatory on all cars across Europe. The majority of Ford models in Ireland have this feature as standard, where it is called ESP. "The price-conscious marketplace, makes it hard for a manufacturer to step out of line in this way. That VRT is levied on the technology makes it all the more difficult."

As it stands, VRT is charged on safety features such as extra

airbags, ABS brakes and ESC. ESC, when it isn't standard fit, is therefore an expensive option for some buyers.

However, some countries have started to make moves to change this. Denmark, a country known for its high taxation on cars, recently took the step of offering a VRT rebate on ESC, making a car cheaper if this technology is chosen.

The result has been a 99 per cent uptake of this offer. It is hoped that other countries will follow suit.



Above: A Ford Focus without ESP on the course in Mondello. Below: Jacob Bangsgaard, Choose ESC campaign; Peter Zegelaar, Ford of Europe; and Eddie Murphy, managing director Ford Ireland. Photographs: Finbarr O'Rourke

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