

Electronic Stability Control *made simple* – 1

By Allan Lamb and Bob McHugh

Buying a vehicle can be both an exciting and an intimidating experience. Whether it is your first compact or the latest luxury SUV you should always be aware of the safety features on your vehicle. It could save your life.

There's a soaring interest in Electronic Stability Control (ESC) systems by safety advocates due to very positive research results from Europe, Japan, and the USA. These show a 30 - 40% reduction in vehicle collisions and up to an 80% reduction in fatal SUV rollovers.

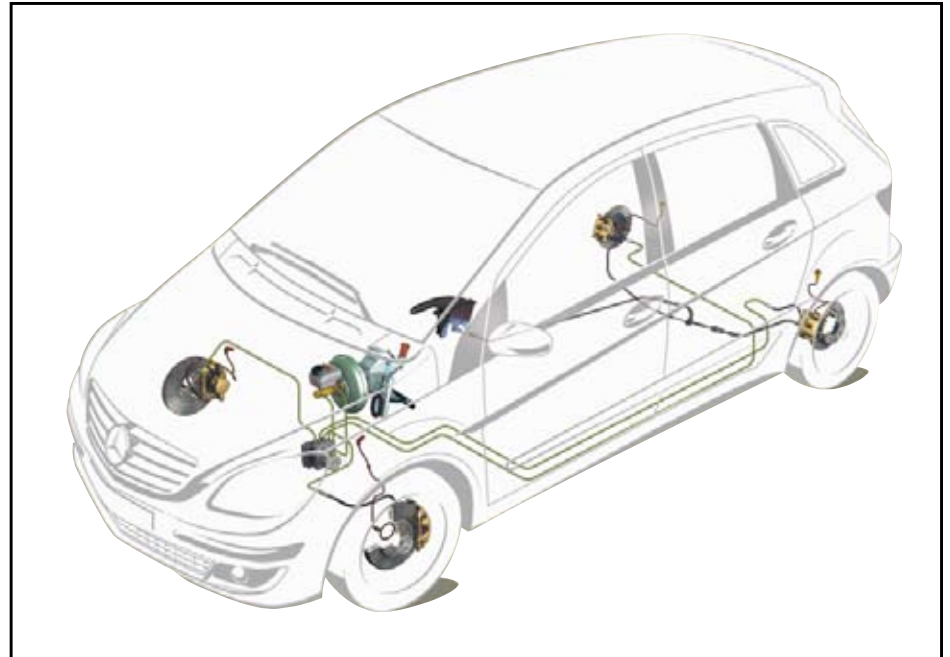
What is Electronic Stability Control?

Unlike seat belts, air bags, or head restraints ESC is an active safety system that helps prevent crashes. In slippery conditions or when a radical avoidance maneuver is necessary, it assists a driver to maintain or regain steering control.

How does it work?

The ESC system in a vehicle typically works in collaboration with both the anti-lock braking system and the traction control system to offer an additional layer of active safety. And every ESC system includes a relatively new little device called a "yaw" sensor.

The yaw sensor measures "yaw rate," which is rotary motion around an axle. This information is sent to a computer, which also gets



Components of the Mercedes-Benz B-Class Electronic Stability Program (ESP) system.

steering angle and other inputs. If the computer decides, "Uh-oh, this vehicle is not going in the intended direction," it instantly starts taking corrective action.

The yaw rate threshold at which this takes place and the type of corrective action varies from system to system, but the intention is the same – get the vehicle back under control! A brake will likely be applied on a specific wheel, engine power may be reduced, a transmission shift may also occur, or all of the above.

More sophisticated ESC systems will actually make steering corrections (like BMW's Active Steer) and

Honda's Super Handling All-Wheel Drive system can accelerate a specific wheel, instead of braking.

There are limits to the assist a driver can get from ESC and the laws of physics still apply. It also helps if the driver stays calm in a skid situation and simply points the steering wheel in the direct that he/she wishes the vehicle to go. Wild flailing motions with the steering wheel will confuse the ESC system.

How do I get ESC?

Do not confuse ESC with different features like ABS or traction control. All major automakers sell ESC and use various trade names such as StabiliTrak, Advance Trac, VSC (Vehicle Stability Control), or ESP (Electronic Stability Program). Make sure you ask for "stability control."

ESC is standard or optional in about 200 vehicle models and availability is

Drive to Save Lives

If you are buying a new vehicle, consider getting one that is equipped with Electronic Stability Control (ESC).

A safety tip from the BCAA Traffic Safety Foundation



rapidly increasing. Sometimes ESC is bundled with other expensive packages. As a stand-alone option, it costs as little as \$450 and is well worth the extra investment.

Allan Lamb is the Executive Director of the BCAA Traffic Safety Foundation and Bob McHugh is a freelance automotive journalist. This article was originally published in The Province newspaper.



Two Mercedes-Benz trucks on a test track. The truck on the left does not have ESP and spins out of control while braking on a wet track.