

Excerpt

Steer Clear

Automakers are offering electronic stability control on more and more passenger vehicles to help prevent them from sliding, veering off the road, or even rolling over. The technology is a product of an ongoing evolution stemming from antilock brakes.

When a driver jams the brake pedal too hard, anti-lock hydraulic valves subtract brake pressure at a given wheel so the wheel does not lock up. As these systems proliferated in the 1990s, manufacturers tacked on traction-control valves that help a spinning drive wheel grip the road.

For stability control, engineers mounted more hydraulics that can apply pressure to any wheel, even if the driver is not braking. When sensors indicate the car is sliding forward instead of turning or is turning too sharply, the actuators momentarily brake certain wheels to correct the trajectory. “Going to electronic stability control was a big step,” says Scott Dahl, director of chassis-control strategy at supplier Robert Bosch in Farmington Hills, Michigan. “We had to add sensors that can determine what the driver intends to do and compare that with what the car is actually doing.” Most systems also petition the engine-control computer to reduce engine torque to dampen wayward movement.

Fischetti, Mark. “Working Knowledge: Electronic Stability Control.” *Scientific American* April 2007. (2007)
CCSS, [Appendix B](#), pg. 181