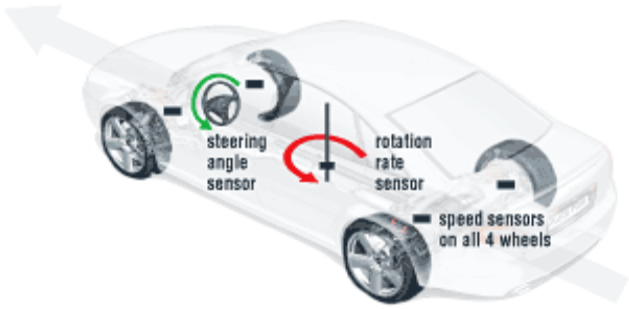
FACT SHEET

Module 9 Electronic Stability Control (ESC)

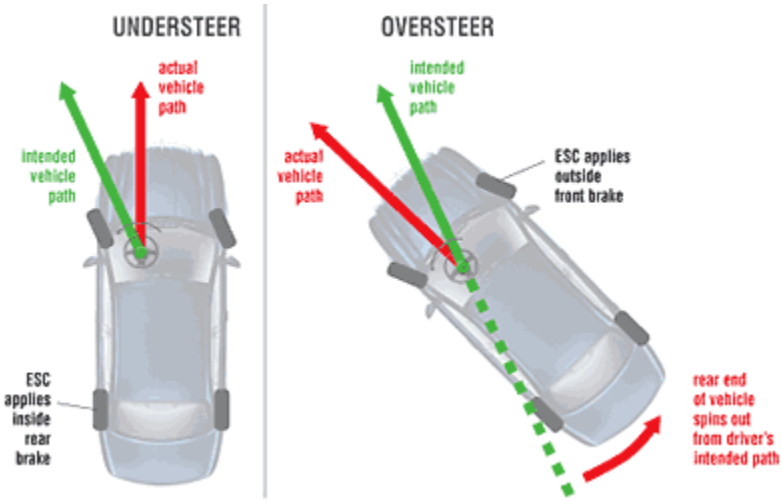
ESC AND HOW IT HELPS DRIVERS MAINTAIN CONTROL

WHAT IS ESC? Electronic stability control, or ESC, uses the speed sensors on each wheel and the ability to brake individual wheels that are the basis of antilock brakes. ESC adds a steering angle sensor, a vehicle rotation rate sensor that measures rotation around the vehicle's vertical axis, and a control unit. The control unit monitors when the steering and rotation sensors detect that the vehicle is about to travel in a direction different from the one indicated by the steering wheel position. Then ESC automatically brakes the appropriate wheel to help the driver maintain control. In many cases engine throttle also is reduced.



HOW ESC HELPS DRIVERS MAINTAIN CONTROL: A driver loses control when the vehicle goes in a direction different from the one indicated by the position of the steering wheel. This typically occurs when a driver tries to turn very hard (swerve) or to turn on a slippery road. Then the vehicle may understeer or oversteer.

When it OVERSTEERS it turns more than the driver intended because the rear end is spinning or sliding out. When a vehicle UNDERSTEERS it turns less than the driver intended and continues in a forward direction because the front wheels have insufficient traction. ESC can prevent understeering and oversteering by briefly braking the appropriate wheel. In many cases engine throttle also is reduced



©1996-2004, Insurance Institute for Highway Safety, Highway Loss Data Institute
Last modified: 27-Oct-2004

2005 MODEL CARS & SUVS WITH ELECTRONIC STABILITY CONTROL

Make	Model	Electronic Stability Control
ACURA	TL, RL, MDX, TSX	standard
AUDI	all models	standard
BMW	all models	standard
BUICK	LaCrosse, LeSabre	optional
	Park Avenue, Terraza	optional
CADILLAC	all except CTS, DeVille	standard
	CTS, DeVille	optional
CHEVROLET	Corvette	standard
	Suburban	optional
	Tahoe, Uplander	optional
CHRYSLER	300	optional
	Crossfire	standard
DODGE	Magnum	optional
FORD	Expedition	optional
	Explorer	standard
	Freestar	optional
GMC	Yukon, Yukon XL	optional
HONDA	CR-V, Odyssey	standard
	Pilot	optional
HYUNDAI	Tuscon	standard
INFINITI	all models	standard
JAGUAR	all models	standard
JEEP	Grand Cherokee	optional
KIA	Amanti, Sportage	optional
LAND ROVER	LR3, Range Rover	standard
LEXUS	all except ES 330, IS 300	standard
	ES 330, IS 300	optional
LINCOLN	Aviator	standard
	LS	optional
	Navigator	standard
MAZDA	RX-8	optional
MERCEDES	all models	standard
MERCURY	Monterey	optional
	Mountaineer	standard
MINI	Cooper	optional
MITSUBISHI	Endeavor	optional

NISSAN	350Z, Maxima, Murano	optional
	Pathfinder, Pathfinder Armada	standard
	Quest, Xterra	optional
PONTIAC	Bonneville, Grand Prix	optional
	Montana SV6, Vibe	optional
PORSCHE	all models	standard
SAAB	9-3, 9-5, 9-7X	standard
SATURN	RELAY	optional
SCION	xB	standard
SUBARU	Outback	optional
TOYOTA	4Runner, RAV4	standard
	Avalon	optional
	Camry, Camry Solara	optional
	Corolla	optional
	Highlander, Land Cruiser	standard
	Matrix, Prius	optional
	Sequoia	standard
	Sienna	optional
VOLKSWAGEN	all models	optional
VOLVO	all except XC90	optional

Source: The Insurance Institute for Highway Safety

http://www.highwaysafety.org/

Last modified: 28 Oct-2004