



ELECTRONIC STABILITY CONTROL

NHTSA's Notice of Proposed
Rulemaking

Briefing for WP.29

November, 2006

ESC Briefing Outline

■ TECHNICAL:

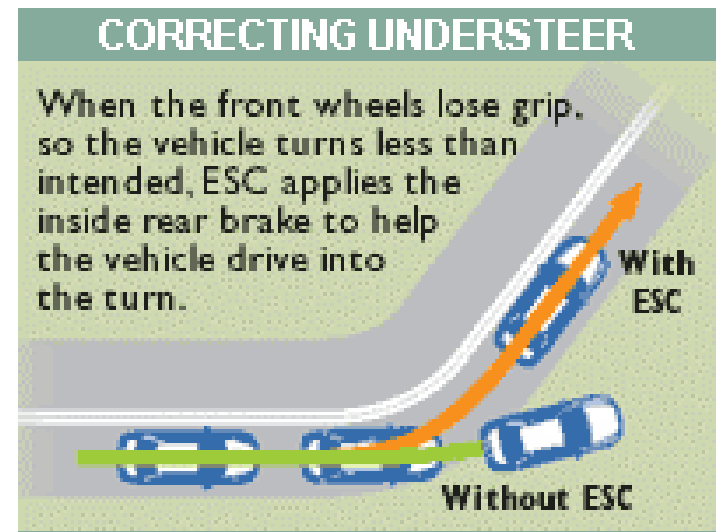
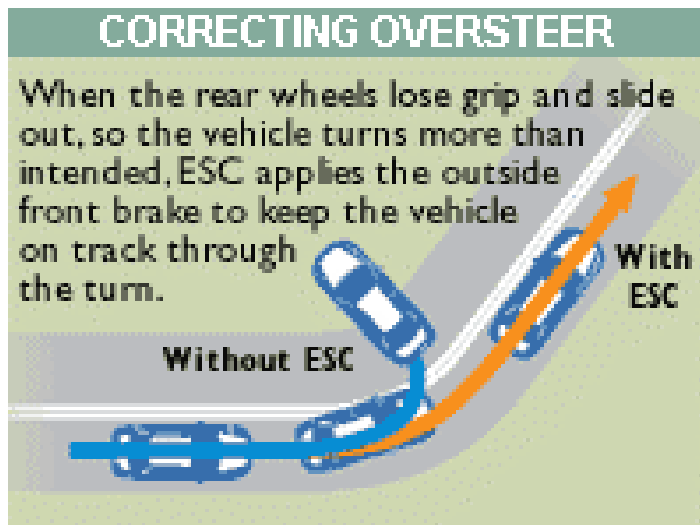
- . What is it and how does it work?
- . What vehicles have it now?
- . What has been industry involvement?

■ NPRM:

- . What are the requirements?
- . What is the scope - vehicles covered?
- . What are the cost and benefits?
- . What is the proposed Phase-In?

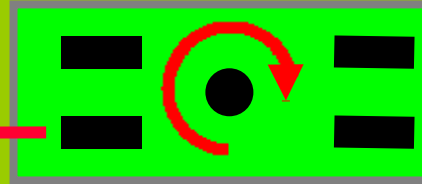
What is ESC?

- System of sensors, actuators, and computers to enhance vehicle directional stability – prevent loss of control due to oversteer (spin-out) or understeer (plow-out)



How Does ESC Work

Under-steer Correction



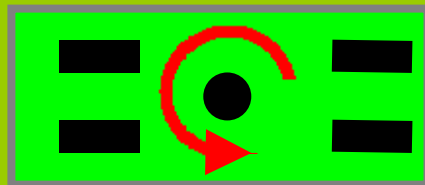
Under-steer Path

Desired Path

Obstacle

Over-steer Path

Over-steer Correction



Current State of ESC Implementation

- Available as standard equipment on many SUVs, luxury vehicles, and a limited number of small size sedans.
- Optional on a small number of other make/models.
- In 2006 we estimate the ESC penetration at about 29 percent.

International Studies on the Effectiveness of ESC

- Eight studies of ESC effectiveness have been conducted since 2003 - Japan, Germany, Sweden, and US
- Studies show consistently that ESC is highly effective in reducing all single vehicle crashes
- Typical reductions in fatal crashes for passenger vehicles are 30-40% and 50-63% for SUVs

ESC Effectiveness

NHTSA Evaluation of Effectiveness---

NHTSA estimates that ESC will reduce single-vehicle crashes by 34 percent for passenger cars and by 59 percent for SUVs.

Insurance Institute for Highway Safety---

“If all vehicles were equipped with ESC, as many as 10,000 Fatal crashes could be avoided each year.” IIHS News Release June 13, 2006.

General Motors---

“It looks like Electronic Stability Control is the most significant safety advancement since safety belts”, Robert Lange, Executive Director of GM Safety Center, June 12, 2006

Industry Cooperation In Pre-Regulatory Test Program

- Global auto industry contributed vehicle test data to NHTSA's ESC testing program – data is available in the public docket
- Of the 50 vehicles NHTSA desired to obtain test data on, 26 were provided by auto industry members

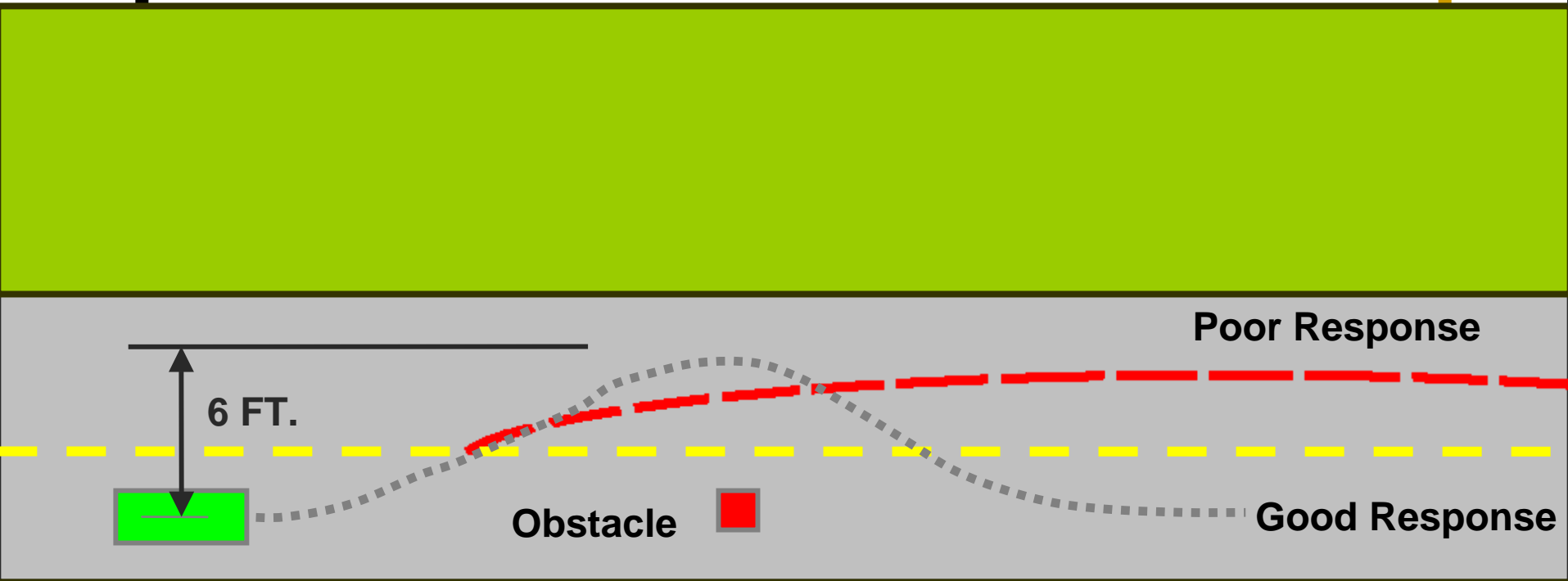
ESC Rule Scope

- All Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses with a GVWR of 4,536 Kilograms(10,000 pounds) or less.

What are the Requirements?

- Vehicle with ESC must execute a specified collision avoidance maneuver.
- Vehicles with ESC must also meet an equipment definition.

Test Maneuver



Baseline Data for Estimating Costs and Benefits

- 29 Percent of 2006 MY passenger vehicles will be equipped with ESC compared to 10 percent in MY 2003.
- Manufacturer's product plans provided to NHTSA indicate that at least 59 percent of MY 2011 light vehicles will have ESC.
- MY 2011 ESC will meet NHTSA proposed requirements.
- Projected MY 2011 installation rates serve as baseline for voluntary compliance.
- Our cost-benefit analysis estimates the incremental benefits and costs required to increase compliance from 59 to 100 percent .

Projected Gross Benefits

- We project that 100 percent ESC installation on all light vehicles would...
 - Prevent 5,300 to 10,300 fatalities annually.
 - Prevent 168,000 to 252,000 injuries (AIS 1-5).

Projected Net Benefits

- We estimate the incremental benefits that can be attributed to this rulemaking to be...
 - 1,536 to 2,211 lives saved annually.
 - The prevention of 50,594 to 69,630 injuries per year (AIS 1-5).

NHTSA Cost Tear Down Study

- Consumer Cost of ABS - \$368/Unit
- Consumer Cost of ESC - \$111/Unit
- Based on 8 Vehicles

Vehicle Costs for ESC Proposal (2005 \$)

	Ave. Vehicle Costs	Total Costs
Passenger Cars	\$90.3	\$728 M
Light Trucks/Vans	\$29.2	\$257 M
Total	\$58	\$985 M

ESC Systems Are Cost Effective

- \$0.19 to \$0.32 million per equivalent life saved (at a 3 percent discount rate).

What Is the Phase-In?

- **Sept. 1, 2008** **30% of fleet - with carryover credit**
- **Sept. 1, 2009** **60% of fleet - with carryover credit**
- **Sept. 1, 2010** **90% of fleet - with carryover credit**
- **Sept. 1, 2011** **All light vehicles**

- **Exemption from Phase-in**
 - ➔ Multi-stage vehicle manufacturers and alterers are allowed to fully comply with the standard on September 1, 2012.
 - ➔ Small Volume (< 5,000/Year) are allowed to fully comply with the standard on September 1, 2011.



Thank You

For more information please see

<http://dms.dot.gov>

Docket No. NHTSA-2006-25801