국토해양부 Ministry of Land, Transport and Maritime Affairs	□ □ □ □		희망의 땅 기회의 바다 국토해양부
	□□□□	**2010. 7. 12(□)** **□ 7 □(□□ 4, □□ 3)**	
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Automobile ESC/TPMS becomes mandatory

Use of LED in all lighting becomes possible...expected to reduce traffic accidents and enhance competitiveness

□ Equipping automobiles with cutting-edge safety systems, the **Electronic Stability Control (ESC)** system and the **Tire Pressure Monitoring System (TPMS)** going forward will become **mandatory**, and the use of **light emitting diode (LED) in all lighting system** of the automobile will become possible.

○ The Ministry of Land, Transport and Maritime Affairs (Minister Chung Jong-hwan) announced on July 13, 2010, the notice for pending partial revision to the □Korea Motor Vehicle Safety Standards (KMVSS)□drafted in order to **reduce traffic accidents and enhance global competitiveness of the auto industry** by improving the inherent safety of automobiles**.**

□ As **safety systems that employ new technology and others** are already being installed in high-end models at home and abroad, the draft revision adjusts and introduces newly **strengthened international standards as appropriate to domestic circumstances**. The key points of the draft revision are as follows.

□ **Mandate the installation of the Electronic Stability Control (ESC)** system that is effective in reducing single-vehicle accidents by enhancing driving safety

- All **passenger vehicles, and vans, trucks and special vehicles with gross vehicle weight (GVW) below 4.5 tons** that are newly manufactured as of January 1, 2012 are required to make the installations that conforms with the safety standards (Application to existing cars deferred until June, 2014)

* The U.S. introduced the system in September 2008, and plans to enforce the system on all vehicles below 4.5 tons starting September 2011. The system will be phased in between November 2011 and November 2014 for the E.U.

- The installation of the system is expected to contribute greatly to reducing traffic accidents as **driving more safely becomes possible even in dangerous traffic situations** (Mandatory installation is being pursued globally)

* The installation of the Electronic Stability Control (ESC) system **reduces accident rates by 34% compared to cars without the installation** (Source: Korea Insurance Development Institute)

 Electronic Stability Control (ESC): A system that provides stability to vehicles when a car is about to skid off the road due to sudden loss of steering control or others while in drive, by automatically controlling the brake pressure and engine power

(It may be called **the most effective safety device since the seatbelt**)

 Mandate the installation of the Tire Pressure Monitoring System (TPMS) that is effective in preventing tire related safety accidents, and ECO drive

- All **passenger vehicles, and vans, trucks and special vehicles with gross vehicle weight (GVW) below 3.5 tons** that are newly manufactured as of January 1, 2013 are required to make the installations that conforms with the safety standards (Application to existing cars deferred until June, 2014)

* The U.S. introduced the system in September 2007. The system will be phased in between November 2012 and November 2014 for the E.U.

- The installation of the system is expected to contribute greatly not only to **preventing traffic accidents that may occur due to insufficient air pressure in tires**, but also to preventing waste of

additional fuel by allowing drive with optimal air pressure in turn contributing to **reduction of greenhouse gases**.

* Survey shows that in the case of the U.S., mandating the installation of the Tire Pressure Monitoring System (TPMS) had the effect of reducing 124 deaths, and 8,500 injuries per year.

* Survey in Europe revealed that the installation of TPMS reduces approximately 3.2g/km of greenhouse gases (Average greenhouse gas emission of cars sold in 2008 in Korea: 190.5g/km)

 Tire Pressure Monitoring System (TMPS): A system that monitors the air pressure inside pneumatic tires on automobiles, and reports the tire-pressure information to the driver of the vehicle

 Allow wider use of **light emitting diode (LED)** that is superior in energy saving and durability in all lighting system of the automobile

- **Allow the use of LED** in not only the headlights that was allowed last year, but also in **fog lights, tail lights, day time running lights and lights in motorcycles**

- As it becomes possible to develop and supply lighting systems that utilize LED, it is anticipated to lead to enhanced global competitiveness of the auto industry

- **Installation rules regarding Adaptive Forward Lighting (AFL) and Day Time Running Lights**, that employ new technology and enhances traffic safety are laid down

  - Standards that have to be met when installing the Adaptive Forward Lighting which allows **appropriate adaptation to diverse traffic environment**, and Day Time Running Lights that enables **effective day-time visibility** has been laid out

  - As it becomes possible to develop and supply lighting systems that leverage new technology with high level of safety, it is anticipated to lead to reduction in traffic accidents and enhanced global competitiveness of the auto industry

- Furthermore, **safety standards regarding the steering system, electromagnetic wave protection, braking system, side view mirror and auxiliary turn signal lamps have been harmonized with international standards,** in order to resolve issues of having to manufacture separate cars for domestic use and export due to differences with international standards, and potential international trade conflicts

  - Following the comment period to solicit public opinion, and internal government procedures to revise the regulation, the proposed

revision to the □Korean Motor Vehicle Safety Standards□ with the above key points is expected to be promulgated in September, 2010 at the earliest.

□ The Ministry of Land, Transport and Maritime Affairs will not only continue to protect the lives and property of the people by **improving the inherent safety of automobiles** going forward, but also work towards **harmonization with new international standards in a timely fashion** so as to further enhance the global competitiveness of the auto industry.

< Submission of Comments regarding the notice on pending revision>

- **Submit to:** Ministry of Land, Transport and Maritime Affairs, Auto Policy Division (Telephone 02-2110-8697, Fax 02-504-9156, Address: Jungang-Dong, Gwacheon-city, Gyeonggi-do, Republic of Korea)
- **Submit by:** August 3, 2010
- **View revised draft:** MLTM website (www.mltm.go.kr)
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Attached: Reference materials

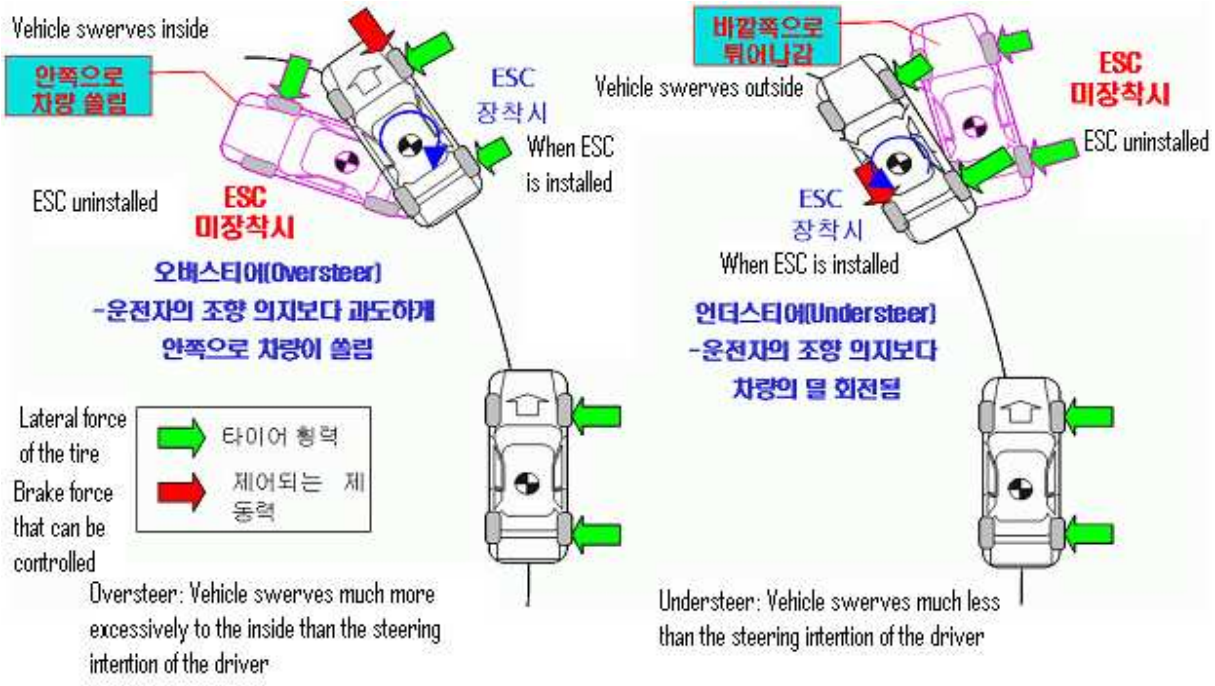
Reference 1	**Electronic Stability Control (ESC)**

□ Key functions of ESC

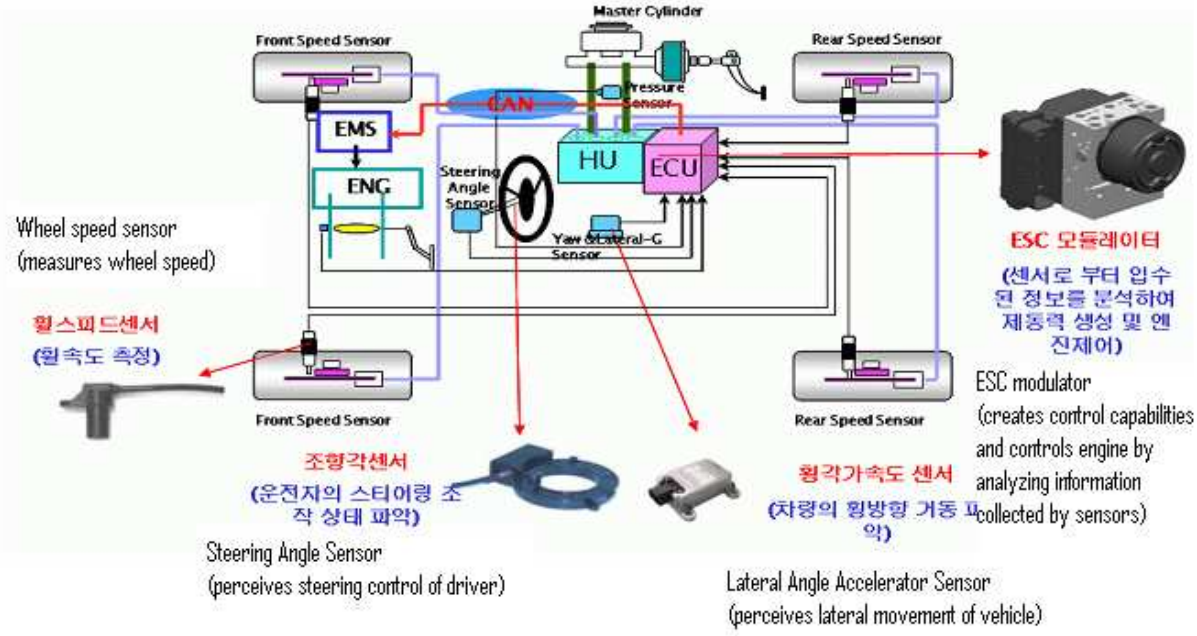
• Maintain steering control by preventing the tires from skidding when braking (ABS function)

• Enhance the ability to accelerate, and maintain steering stability by controlling drive wheel slippage on a slippery road surface when starting suddenly or accelerating (TCS function)

• Secure stable steering control when vehicle makes turns (refer to diagram below)



□ ESC Configuration (example)



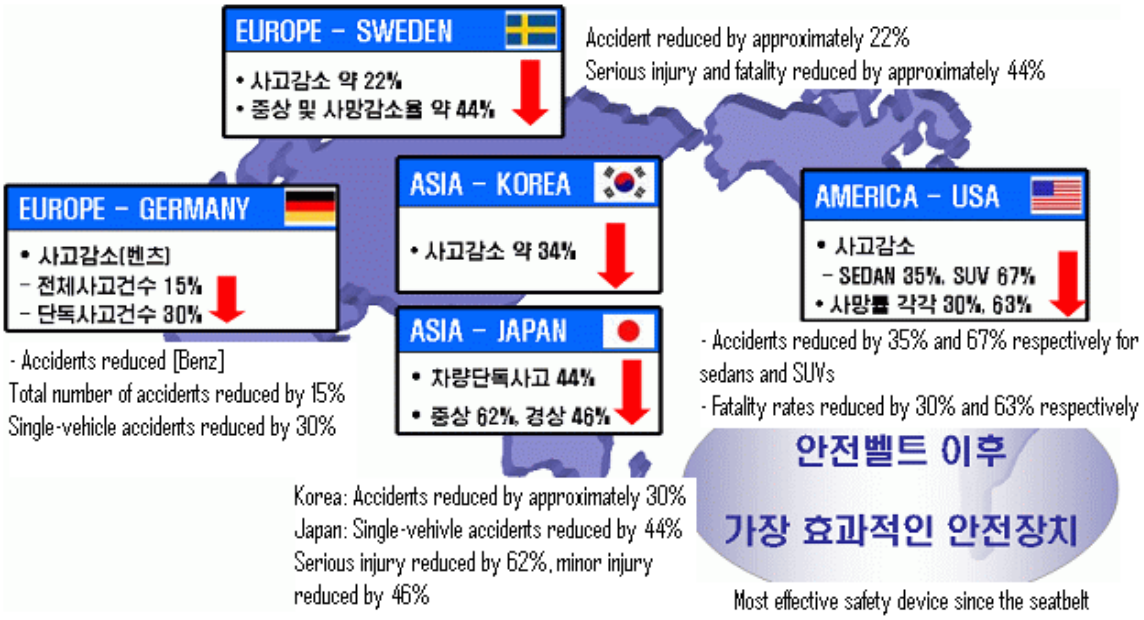
□ Effects of ESC

○ **(Traffic accident status)** Single-vehicle accidents account for 4% of all domestic traffic accidents, and fatality rate reaches 15.5%

 Fatality rate of single-vehicle accident is much higher than that for vehicle-to-vehicle and vehicle-to-person accidents

 Fatality rate (%) = (Number of traffic accident fatalities/ Number of traffic accidents) × 100

○ **(Analysis on the accident reducing effects of ESC at home and abroad)**



Reference 2 Tire Pressure Monitoring System (TPMS)

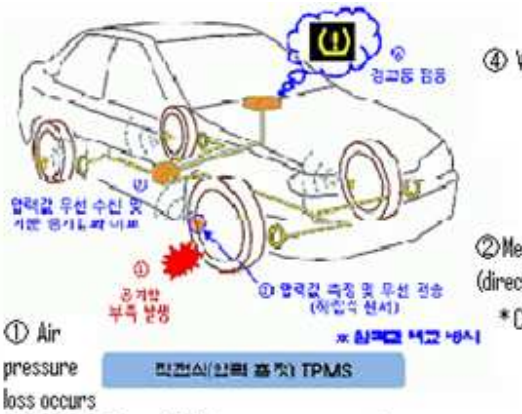
□ Direct TPMS

□ Outline

Notifies driver through low tire pressure warning lamp display if tire air pressure is detected as being lost, by utilizing the air pressure sensor installed within the tire valve

□ System configuration

Consists of four (or five) wireless transmitters installed within the tires, and one (or four) receiver(s), display device such as warning lamp installed within the vehicle



④ Warning light blinks

② Measure pressuve value and transmit over wireless (direct sensor)

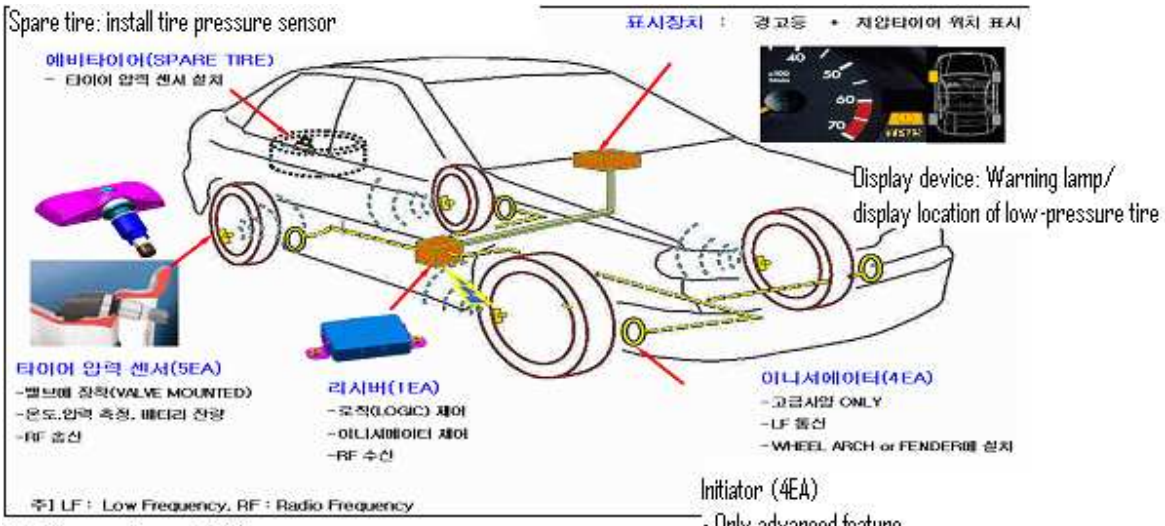
* Compares pressuve value

① Air pressure loss occurs

Direct TPMS (measures pressure)

③ Receive pressuve value over wireless/
Compare value with standard air pressure

Air pressure sensor



[Direct TMPS Configuration]

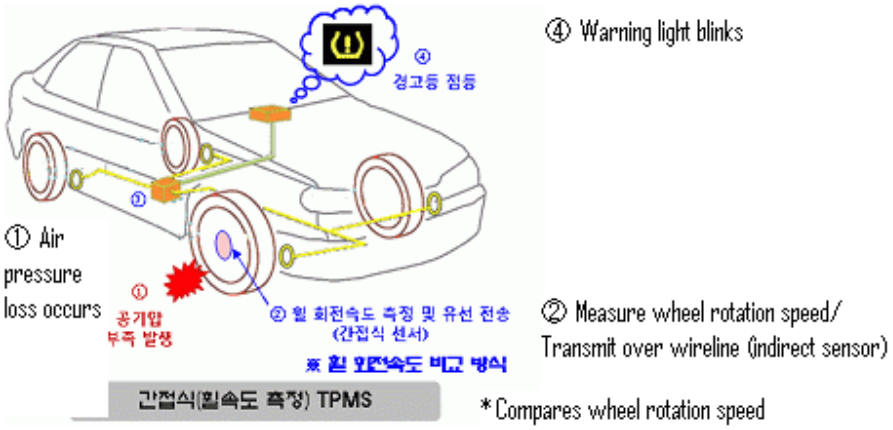
□ Indirect TPMS

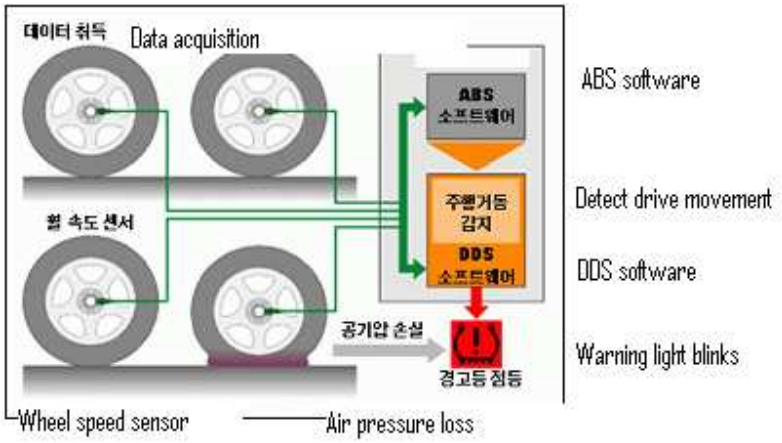
□ Outline

Notifies driver of decreasing air pressure if ABS sensor detects increased driving speed due to smaller tire rolling radius that accompanies loss of air pressure.

□ System configuration

Consists of four ABS sensors on each tire, ABS ECU (including TPMS ECU), display device such as warning lamp installed within the vehicle





[Indirect TMPS Configuration]