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Improving the safety and environmental performance of vehicles

The European Commission proposes that all new cars from 2012 will have Electronic Stability Control (ESC) systems, to drastically improve vehicle safety. Furthermore lorries and other heavy vehicles should be fitted with Advanced Emergency Braking Systems (AEBS) and Lane Departure Warning (LDW) Systems as of 2013. Last year the Commission already proposed the obligatory fitting of passenger cars with Brake Assist Systems (BAS) to protect pedestrians. These measures will reduce fatal casualties in traffic by an estimated 5000 a year. At the same time the Commission proposes the obligatory introduction in 2012 of low rolling resistance tyres, which considerably save on fuel consumption and CO2 emissions and might also reduce noise, while maintaining high level safety. Low rolling resistance tyres will reduce up to 7 gram of CO2 per km, therefore contributing strongly to the CO2 reduction strategy for cars, adopted in February 2007. Fuel consumption and CO2 emissions will further be reduced by the proposed introduction of Tyre Pressure Monitoring Systems. The Commission proposal will also sweep away more than 150 existing Directives and replace them with one single Regulation, which is directly applicable in the EU and refers to harmonised UN standards.

European Commission Vice-President Günter Verheugen, responsible for Enterprise and Industry, stated: "We are simplifying legislation. We are improving road safety. We are promoting fuel efficiency. We are presenting a modern integrated policy approach beneficiary for citizens, for the environment and the industry."

1. The Commission proposes that the following safety requirements are introduced:

- Mandatory **Electronic Stability Control** (ESC) systems for new car series and commercial vehicles to be phased in from 2012, with all new cars being equipped by 2014. ESC acts on the braking or power systems of a vehicle to assist the driver in maintaining control of the vehicle in a critical situation (caused, for example, by poor road conditions or excessive speed during cornering). As well as saving casualties, the widespread use of ESC in vehicles could significantly reduce the traffic congestion caused by accidents involving large vehicles.
- **Advance Emergency Braking** (AEBS) on large vehicles employing sensors to alert the driver when a vehicle is too close to the vehicle in front and, in certain situations, apply emergency braking to prevent or reduce the consequences of a collision (from 2013).
- **Lane Departure Warning** (LDW) Systems on large vehicles to assist drivers by warning them when their vehicle is in danger of leaving the lane unintentionally, mainly due to lack of driver attention (from 2013).

- In addition, the Commission has proposed in October 2007, that passenger cars need to be fitted with **Brake Assist Systems** (BAS) as from 2009. If the complete European car fleet is fitted with BAS, as many as 1100 pedestrian lives may be saved every year. The use of BAS can considerably reduce the stopping distance of a vehicle in an emergency situation with the effect that a collision with a pedestrian could be avoided altogether or would occur at least at a far lower speed (see IP /07/1453).
- In line with the recommendation of the CARS 21 report, the **repeal of over 50 existing Directives** and more than 100 amending Directives to be replaced where possible by references to United Nations Regulations.

2. New requirements for tyres

- **Low Rolling Resistance Tyres** (LRRT), to be obligatory from 2012 , lead to lower fuel consumption by reducing the resistance to motion that occurs when the tyre rolls, caused mainly by the deformation of the wheel or tyre or the deformation of the road. Rolling resistance depends very much on the material of the wheel or tyre and can be reduced by, for example, the use of silica in the tread compound. In order to avoid any negative impact on safety, explicit safety requirements are introduced alongside new standards on noise.
- **Tyre Pressure Monitoring Systems** (TPMS), obligatory from 2012, warn the driver when the tyre is significantly below its optimum pressure. Maintaining proper tyre inflation is essential for both fuel efficiency and better tyre performance. Deflated tyres can cause up to 4% increase in fuel consumption while reducing tyre lifespan by 45%. Tyres can lose 3-6% of pressure per month, and this may not be noticed by the driver. Deflated tyres are also an important factor causing road accidents.

According to research by TNO in the Netherlands, the **fuel saving potential** of LRRT and TPMS in passenger cars is 3% and 2.5% respectively. For **new cars** with expected engine test cycle performance of 130 g CO2/km this would mean additional reductions of more than 7 g CO2/km (3.9 LRRT and 3.25 TPMS). The CO2 reduction potential of LRRT+TPMS on a current car (with a test cycle of, for instance, 160g) would be greater than 7kg/tonne.

Advanced Safety Systems

Preliminary estimates suggest that the new proposals for fitting advanced systems to heavy vehicles could ultimately save around 2500 lives per year (around 500 for ESC and 1000 each for AEBS and LDW) and many more lives outside the EU since the legislation will encourage manufacturers to fit ESC as standard for a wider range of markets. Fitting ESC on cars is likely to save around 2000/2500 lives per year. The proposal also allows for the optional fitting of AEBS and LDW on cars, provided certain standards are met.

More information

http://ec.europa.eu/enterprise/automotive/safety/new_package.htm