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**ECONOMIC COMMISSION FOR EUROPE**

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Working Party on Brakes and Running Gear (GRRF)  
(Fifty-eighth session, 20-23 September 2005,  
agenda item 1.1.)

PROPOSAL FOR DRAFT AMENDMENT TO REGULATION No. 13

(Braking)

Transmitted by the expert from the European Association of Automotive Suppliers (CLEPA)

Note: The text reproduced below was prepared by the expert from CLEPA in order to make mandatory anti-lock braking systems of Category A for vehicles of category O<sub>4</sub>. This document supersedes TRANS/WP.29/2004/19. The modifications to the existing text of the Regulation are marked in **bold** characters.

**A. PROPOSAL**

Insert a new paragraph 4.7., to read:

"4.7. **However, if a vehicle of category O<sub>4</sub> has been approved pursuant to the provisions of paragraph 5.2.2.13. of this Regulation, the number of the Regulation shall be followed by the letter A.**"

Paragraphs 4.7. to 4.9. (former), renumber as paragraphs 4.8. to 4.10.

Paragraph 5.2.2.13., amend to read:

"5.2.2.13. Trailers of category O<sub>3</sub> shall be equipped with an anti-lock **braking** system in accordance with the requirements of Annex 13 to this Regulation. **Trailers of category O<sub>4</sub> shall be equipped with an anti-lock braking system in accordance with the category A requirements of Annex 13 to this Regulation.**"

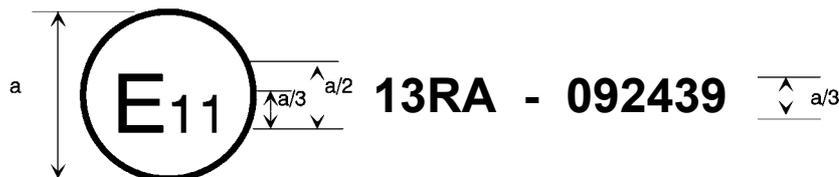
Insert a new paragraph 12.1.1.4., to read:

"12.1.1.4. **As from the official date of entry into force of Supplement 12 to the 09 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approvals under this Regulation as amended by Supplement 12 to the 09 series of amendments.**"

Annex 3.

Add at the end a new model, to read:

**"Model D  
(See paragraph 4.7. of this Regulation)**



**a = 8 mm min**

**The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to braking, been approved in the United Kingdom (E 11) pursuant to Regulation No. 13. For vehicles of categories O<sub>4</sub>, this mark means that the type of vehicle fulfils the category A anti-lock braking requirements defined within Annex 13 to this Regulation."**

## **B. JUSTIFICATION**

Since 1991 heavy commercial towing and towed vehicles have been required to be installed with anti-lock braking systems. This has subsequently been extended to cover all vehicles with the exception of M<sub>1</sub>, N<sub>1</sub> motor vehicles and O<sub>1</sub> (when braked) and O<sub>2</sub> trailers. For motor vehicles, the anti-lock braking performance requirements have been defined as category 1, providing optimum performance and control under extreme operating conditions. In the case of trailers, while different categories of anti-lock braking performance have been defined (categories A and B), it is not required to install an anti-lock braking system of a specific category. The exception to this being ADR vehicles, where it is necessary to install a system of category A (see Annex 5 of Regulation No. 13) which produces a performance comparable to that of the towing vehicle.

Generally, the performance tests required for a trailer equipped with an anti-lock braking system are much less onerous than those prescribed for the motor vehicle. However, to ensure that minimum performance criteria can be achieved without excessive testing, design requirements are defined by the specification of the minimum number of directly controlled wheels and pressure modulators. Failure to recognize the special needs of the trailer industry would have placed an extreme cost penalty on the industry in general by requiring low adhesion testing to be carried out when such test facilities were not widely available.

Over recent years, the method by which trailer anti-lock braking systems are now assessed for performance has changed, initially by the introduction of Annex XIV in the Braking Directive 98/12/EC and, more recently, the addition of Annexes 19 and 20 to Regulation No. 13. This change in practice has meant that the onus for assessing the anti-lock braking system performance of the trailer has moved from the individual trailer manufacturer at the time of trailer type approval to the system manufacturer. Extensive testing is now carried out by the system manufacturer with a recognized Technical Service and a test report issued which is then used by the trailer manufacturer for approval purposes. The test report is submitted to the Technical Service approving the trailer and, in this case, no tests are required that necessitate low adhesion test facilities.

There are recognized performance benefits by demanding that the heavy O<sub>4</sub> trailers must be installed with an anti-lock braking system conforming to category A and as all of the system manufacturers are able to provide such systems, combined with the change in type approval practice, there is no longer a justification not to demand similar levels of anti-lock braking performance on towing vehicle and trailer.

While it has been required that heavy O<sub>4</sub> trailers must be equipped with an anti-lock braking system since 1991, the prescription on category O<sub>3</sub> trailers was only introduced relatively recently. It is considered that there is minimal benefit in demanding that O<sub>3</sub> trailers also conform to category A due to the much lower weights and the potential on-cost of updating not only the braking system, but also the foundation brakes as many of these trailers utilize a common brake chamber for each axle. This practice would prevent the category A performance requirements from being fulfilled, as it must be possible to control left and right wheels independently. Therefore O<sub>3</sub> trailers are omitted from the scope of this proposal.

As the new proposal effectively represents a change to the specification of O<sub>4</sub> trailers, it is appropriate that time should be given to enable both the system manufacturer and trailer manufacturer to adapt to the new requirements; therefore transitional provisions are considered

necessary. In this case, it is proposed that the new requirements would apply to type approvals issued after 4 April 2008 and to all vehicles registered from 4 April 2009. This latter date aligns with the introduction date specified in the 10 series of amendments for new vehicle registrations so as to remove the need for re-approval of the associated trailers.

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