Transmitted by the expert from European Association of Automotive Suppliers - CLEPA

Informal Document **GRRF-75-17** (75th GRRF, 17-19 September 20 agenda item 3(c))

Regulation No. 13
(Braking)

Draft proposal of amendments to Regulation No. 13

I. Proposal

Annex 10:

Paragraph 1.1. amend to read:

1.1. Vehicles of categories M_2, M_3, N, O_2, O_3 and O_4 ~~which are not equipped with an anti-lock system as defined in Annex 13 to this Regulation~~ shall meet all the requirements of this annex. If a special device is used, this shall operate automatically [1/].

However, vehicles in the above categories ~~which are equipped with an anti-lock system as defined in Annex 13, shall also meet the requirements of paragraphs 7. and 8. of this annex if they are in addition fitted with a special automatic device which controls the distribution of braking among the axles. In the event of failure of its control, it shall be possible to stop the vehicle as stipulated under paragraph 6. of this annex.~~ **equipped with an anti-lock braking system, fulfilling the relevant requirements of Annex 13, shall also fulfil all the relevant requirements of this Annex with the following exceptions:**

a) Compliance with the adhesion utilization requirements associated with diagrams 1A, 1B or 1C, as appropriate, is not required.

b) In the case of towing vehicles and trailers, equipped with a compressed air braking system, compliance with the unladen compatibility requirements associated with diagrams 2, 3 or 4, as appropriate, is not required. However, for all load conditions, a braking rate shall be developed between a pressure of 20 kPa and 100 kPa or the equivalent digital demand value at the coupling head of the control line(s).

c) ~~Vehicles equipped with a special device which automatically controls the distribution of braking among the axles or controls the regulation of the braking force according to the load on the axles(s) the requirements of paragraphs 6 and 7 of this Annex shall apply.~~

Paragraph 1.3.1. amend to read:

1.3.1. At the time of type approval it shall be checked that the development of a braking on an axle of each independent axle group shall be within the following pressure ranges:

a) Laden vehicles:

At least one axle shall commence to develop a braking force when the pressure at the coupling head is within the pressure range 20 to 100kPa **or equivalent digital demand value**.

At least one axle of every other axle group shall commence to develop a braking force when the coupling head is at a pressure ≤ 120kPa **or equivalent digital demand value**.

b) Unladen vehicles:

At least one axle shall commence to develop a braking force when the pressure at the coupling head is within the pressure range 20 to 100kPa **or equivalent digital demand value**.

Annex 13

Paragraph 1.1 amend to read:

1.1. This annex defines the required braking performance for road vehicles **equipped** ~~fitted~~ with **an** anti-lock **braking** system**(s)**. ~~In addition, power-driven vehicles which are authorized to tow a trailer, and trailers equipped with compressed-air braking systems, shall, when the vehicles are laden, meet the requirements for compatibility set out in Annex 10 to this Regulation. However, for all load conditions, a braking rate shall be developed between a pressure of 20 kPa and 100 kPa (0.2 bar and 1 bar) or the equivalent digital demand value at the coupling head of the control line(s).~~

II. Justification:

The 10 Series of amendments to Regulation 13 were introduced following discussions within an Informal Working Group which was convened to consider defining requirements designed to improve the braking compatibility of towing and towed vehicles. One of the adopted amendments was to include at the time of type approval a physical check to ensure that a braking force was developed by a brake when the pressure/signal at the coupling head was with a specified range. Paragraph 1.3 of Annex 10 defines the requirements.

The current paragraph 1.1 of Annex 10 requires that vehicles of categories M_2, M_3, N, O_2, O_3 and O_4 not equipped with an anti-lock Braking system fulfil all the relevant requirements of Annex 10. This paragraph then goes on to define the requirements for vehicles in the above categories equipped with an anti-lock braking system where such vehicles are only required to fulfil the provisions of paragraphs 7 (markings) and 8 (vehicle testing). In addition where a vehicle is equipped with a device which automatically controls the distribution of braking among the axles in the event of a failure of its control it shall be possible to fulfil the requirements of paragraph 6 (defined braking performance).

Paragraph 1.1 of Annex 13 requires towing vehicles and trailers with an anti-lock braking system and a compressed air braking system to comply with:

- The laden compatibility requirements of Annex 10
- For all states of load a braking rate shall be developed when the coupling head pressure/signal is between 10kPa and 100kPa.

It can be seen that by combining the requirements for a vehicle equipped with an anti-lock braking system currently defined in Annex 10 and Annex 13 such vehicles are **not** required to comply with the requirements of paragraph 1.3 of Annex 10. This is an error as the requirements of paragraph 1.3 of Annex 10 were intended to be fulfilled by **all** towing and towed vehicles with compressed air braking systems. In consequence it is proposed to remove all reference to Annex 10 requirements from Annex 13 and amend Annex 10 to include in this Annex all associated provisions for vehicles with and without an anti-lock braking system.

It should be noted that currently the requirement for anti-lock equipped vehicles also equipped with a device which automatically controls the distribution of braking with respect to the failure of it control and marking only apply where this impacts on the distribution of braking. In the case of semi-trailers distribution of braking among the axles is not applicable therefore it has been clarified that the marking and control failure requirements also apply to these vehicles.

The amendments to paragraph 1.3.1. are purely editorial to include a reference to the electric control line signal.