II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DIRECTIVE

of 23 December 1985

adapting to technical progress Council Directive 71/320/EEC on the approximation of the laws of the Member States relating to the braking devices of certain categories of motor vehicles and their trailers

(85/647/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (1), as last amended by Directive 78/547/EEC (2), and in particular Articles 11, 12 and 13 thereof,

Having regard to Council Directive 71/320/EEC of 26 July 1971 on the approximation of the laws of the Member States relating to the braking devices of certain categories of motor vehicles and their trailers (3), as last amended by Commission Directive 79/489/EEC (4),

Whereas, in view of experience gained and of the state of the art, it is now possible to make requirements more stringent and to match them more closely to actual test conditions;

Whereas it is now also possible to adopt provisions relating to braking systems with anti-lock devices; where such devices are fitted compliance with the corresponding provisions of this Directive is required;

Whereas the provisions of this Directive are in accordance with the opinion of the Committee on the Adaptation to Technical Progress of the Directives Aimed at the Removal of Technical Barriers to Trade in the Motor Vehicle Sector;

Whereas the Commission in its two communications to the Council on Road Safety Year 1986 (5) has included in its programme for legislative actions 'Improvements to the existing braking Directive' and whereas the provisions of this new Directive will contribute to the improvement of road safety,

HAS ADOPTED THIS DIRECTIVE

Article 1

Directive 71/320/EEC is amended as follows:

1. Article 2 is replaced by the following:

'*Article 2*

No Member State may refuse to grant EEC type-approval or national type-approval of a vehicle on grounds relating to its braking device if that vehicle is fitted with the devices specified in Annexes I to VIII and X to XII and if these devices satisfy the requirements set out therein.

(1) OJ No L 42, 23. 2. 1970, p. 1.
(2) OJ No L 168, 26. 6. 1978, p. 39.
(3) OJ No L 202, 6. 9. 1971, p. 37.
(4) OJ No L 128, 26. 5. 1979, p. 12.
(5) COM(84) 704 final, 13. 12. 1984; COM(85) 239 final, 22. 5. 1985.

2. Annexes I, II, III, IV, V, VII, VIII and IX to Directive 71/320/EEC are hereby amended and new Annexes X, XI and XII are added in accordance with the Annex to this Directive.'

Article 2

1. As from 1 October 1986 no Member State may, on grounds relating to braking devices:

— refuse, in respect of a type of vehicle, to grant EEC type-approval, or to issue the copy of the certificate provided for in the last indent of Article 10 (1) of Directive 70/156/EEC, or to grant national type-approval, or

— prohibit the entry into service of vehicles

where the braking devices of such type of vehicle or of such vehicles comply with the provisions of Directive 71/320/EEC, as last amended by this Directive.

2. As from 1 April 1987, Member States:

— shall no longer issue the copy of the certificate provided for in the last indent of Article 10 (1) of Directive 70/156/EEC in respect of a type of vehicle of which the braking devices do not comply with the provisions of Directive 71/320/EEC, as last amended by this Directive,

— may refuse to grant national type-approval of a type of vehicle of which the braking devices do not comply with the provisions of Directive 71/320/EEC, as last amended by this Directive.

3. As from 1 October 1988 Member States may prohibit the entry into service of vehicles of which the braking devices do not comply with the provisions of Directive 71/320/EEC, as last amended by this Directive.

Article 3

Before 1 October 1986, Member Stares shall bring into force the provisions necessary in order to comply with this Directive, and shall forthwith inform the Commission thereof.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 23 December 1985.

For the Commission

COCKFIELD

Vice-President

ANNEX

Amendments to the Annexes to Directive 71/320/EEC, as amended by Directives 74/132/EEC, 75/524/EEC and 79/489/EEC

ANNEX I: DEFINITIONS, REQUIREMENTS, CONSTRUCTION AND FITTING

Item 1 shall read:

'1. DEFINITIONS

For the purpose of this Directive:'

After item 1.14 the following new items 1.15, 1.16 and 1.17 shall be added:

'1.15. **Hydraulic braking device with stored energy**

"Hydraulic braking device with stored energy" means a braking system where energy is supplied by a hydraulic fluid under pressure, stored in one or more accumulators fed from one or more pressure pumps each fitted with a means of limiting the pressure to a maximum value. This value shall be specified by the manufacturer.

1.16. **Category O_3 and O_4 trailer types**

1.16.1. *Semi-trailer*

"Semi-trailer" means a towed vehicle in which the axle(s) is (are) positioned behind the centre of gravity of the vehicle (when uniformly loaded) and which is equipped with a connecting device permitting horizontal and vertical forces to be transmitted to the drawing vehicle.

1.16.2. *Full trailer*

"Full trailer" means a towed vehicle having at least two axles, and equipped with a towing device which can move vertically (in relation to the trailer) and controls the direction of the front axle(s), but which transmits no significant static load to the drawing vehicle.

1.16.3. *Centre-axle trailer*

"Centre-axle trailer" means a towed vehicle equipped with a towing device which cannot move vertically (in relation to the trailer), and in which the axle(s) is (are) positioned close to the centre of gravity of the vehicle (when uniformly loaded) such that only a small static vertical load, not exceeding 10 % of the maximum mass of the trailer or 1 000 kg (whichever is the lesser) is transmitted to the drawing vehicle.

The maximum mass to be taken into consideration when classifying a centre-axle trailer shall be the mass transmitted to the ground by the axle(s) of the centre-axle trailer when coupled to the drawing vehicle and laden with a maximum load.

1.17. **Retarder** (1)

"Retarder" means an additional braking system having the capability to provide and to maintain a braking effect over a long period of time without a significant reduction in performance. The term "retarder" covers the complete system including the control device.

1.17.1. *Independent retarder*

"Independent retarder" means a retarder whose control device is separate from that of the service and other braking systems.

1.17.2. *Integrated retarder* (2)

"Integrated retarder" means a retarder whose control device is integrated with that of the service braking system in such a way that both retarder and service braking systems are applied simultaneously or suitably phased by operation of the combined control device.

1.17.3. *Combined retarder*

"Combined retarder" means an integrated retarder which in addition has a cut-out device, which allows the combined control to apply the service braking system alone.

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(1) Until uniform procedures have been agreed to calculate the effects of retarders on the provisions in the Appendix to item 1.1.4.2 of Annex II, this definition does not cover vehicles fitted with regenerative braking systems.

(2) Until uniform procedures have been agreed to calculate the effects of retarders on the provisions in the Appendix to item 1.1.4.2 of Annex II, vehicles equipped with an integrated retarder must also be equipped with an anti-lock device, acting on at least the service brakes of the axle controlled by the retarder, and on the retarder, and complying with the requirements specified in Annex X.'

After item 2.1.2.3 the following new item 2.1.3 shall be added:

'2.1.3. *Pneumatic connections between motor vehicles and trailers*

2.1.3.1. In the case of a braking device operated by compressed air, the pneumatic link with the trailer must be of the type with two or more lines. However, in all cases, all the requirements of this Directive must be satisfied by the use of only two lines. Shut-off devices which are not automatically actuated shall not be permitted. In the case of articulated vehicle combinations, the flexible hoses shall be a part of the drawing vehicle. In all other cases, the flexible hoses shall be a part of the trailer.'

Item 2.2.1.2.1 shall read:

'2.2.1.2.1. there must be at least two controls, independent of each other and readily accessible to the driver from his normal driving position. For all categories of vehicles, except M_2 and M_3, every brake control (excluding a retarder control) shall be designed such that it returns to the fully-off position when released. This requirement shall not apply to a parking brake control (or that part of a combined control) when it is mechanically locked in an applied position;'.

Item 2.2.1.2.7 shall read:

2.2.1.2.7. certain parts, such as the pedal and its bearing, the master cylinder and its piston(s) (hydraulic systems), the control valve (hydraulic and/or pneumatic systems), the linkage between the pedal and the master cylinder or the control valve, the brake cylinders and their pistons (hydraulic and/or pneumatic systems), and the lever-and-cam assemblies of brakes, shall not be regarded as liable to breakage if they are amply dimensioned, are readily accessible for maintenance, and exhibit safety features at least equal to those prescribed for other essential components (such as the steering linkage) of the vehicle. Where the failure of any such part would make it impossible to brake the vehicle with a performance at least equal to that prescribed for the secondary braking, that part must be made of metal or of a material with equivalent characteristics and must not be subject to significant distortion in the normal operation of the braking devices.'

Item 2.2.1.4.2 shall read:

'2.2.1.4.2. these wheels must be so selected that the residual performance of the service braking device satisfies the requirements laid down in item 2.1.4 of Annex II;'.

Item 2.2.1.5 shall read:

'2.2.1.5. Where use is made of energy other than the muscular energy of the driver, there need not be more than one source of such other energy (hydraulic pump, air compressor, etc.), but the means by which the device constituting that source is driven must be as safe as practicable.'

After item 2.2.1.5 the following new items 2.2.1.5.1, 2.2.1.5.2 and 2.2.1.5.3 shall be added:

'2.2.1.5.1. In the event of failure in any part of the transmission of a vehicle's braking devices, the supply to the part not affected by the failure must continue to be ensured where this is required for the purpose of

halting the vehicle with the degree of effectiveness prescribed for residual and/or for secondary braking. This condition must be met by means of devices which can be easily actuated when the vehicle is stationary, or by automatic means.

2.2.1.5.2. In addition, storage devices located down-circuit of this device must be such that in the event of a failure in the energy supply, after four full-stroke actuations of the service brake control under the conditions prescribed in item 1.2 of Annex IV it is still possible to halt the vehicle at the fifth application with the degree of effectiveness prescribed for secondary braking.

2.2.1.5.3. However, for hydraulic braking devices with stored energy, these provisions can be considered to be met, provided that the requirements of item 1.2.2 of Annex IV, section C, are satisfied.'

Item 2.2.1.11 shall read:

'2.2.1.11. Wear on the brakes must be easily compensated by means of a system of manual or automatic adjustment. In addition, the control and the components of the transmission and of the brakes must possess a reserve of travel and, if necessary, suitable means of compensation such that, when the brakes become heated or when the brake linings have reached a certain degree of wear, effective braking is ensured without immediate adjustment being necessary.'

Item 2.2.1.12.2 shall read:

'2.2.1.12.2. the failure of a part of a hydraulic transmission system shall be signalled to the driver by a device comprising a red tell-tale lamp lighting up not later than on actuation of the control and remaining lit as long as the failure persists and the ignition (start) switch is in the "on" (run) position. However a device comprising a red tell-tale lamp lighting up when the level of the fluid in its reservoirs falls below the value specified by the manufacturer is admissible. The tell-tale lamp shall be visible even by daylight; the satisfactory condition of the lamp must be easily verifiable by the driver from the driver's seat. The failure of a component of the device shall not entail total loss of effectiveness of the braking device in question.'

After item 2.2.1.13 the following new items 2.2.1.13.1 and 2.2.1.13.2 shall be added:

'2.2.1.13.1. However, in the case of vehicles which are only considered to comply with the requirements of item 2.2.1.5.1 by virtue of meeting the requirements of item 1.2.2 of Annex IV, section C, the alarm device shall consist of an acoustic signal in addition to an optical signal. These devices need not operate simultaneously, provided that each of them meets the above requirements and the acoustic signal is not actuated before the optical signal.

2.2.1.13.2. This acoustic device may be rendered inoperative while the handbrake is applied and/or, at the choice of the manufacturer, in the case of automatic transmission the selector is in the "park" position.'

Item 2.2.1.14 shall read:

'2.2.1.14. Without prejudice to the requirements of item 2.1.2.3, where the use of an auxiliary energy source is essential for the operation of a braking device, the energy reserve must be such as to ensure that, should the engine stop, or in the event of a failure of the means by which the energy source is driven, the braking performance remains sufficient to bring the vehicle to a halt in the prescribed conditions. In addition, if the muscular energy applied by the driver to the parking brake device is reinforced by some aid, the actuation of the parking braking must be ensured in the event of failure of that aid, if necessary a reserve of energy independent of that normally supplying such aid. This reserve of energy may be that indended for the service braking. The expression "actuation" also covers the action of releasing.'

The former item 2.2.1.17 shall be deleted and the subsequent paragraphs shall be renumbered.

After item 2.2.1.18.3 (new numbering) the following new item 2.2.1.18.4 shall be added:

'2.2.1.18.4. in the case of a two-line air supply system, the requirement in item 2.2.1.18.3 above shall be considered to be met if the following conditions are fulfilled:

2.2.1.18.4.1. when the service brake control of the drawing vehicle is fully actuated, the pressure in the supply line must fall to 1,5 bar within the following two seconds;