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UNITED NATIONS CONFERENCE ON ROAD AND MOTOR TRANSPORT

COMMITTEE II ON TECHNICAL CONDITIONS TO BE FULFILLED
BY VEHICLES

SUMMARY RECORD OF THE EIGHTH MEETING

Held at the Palais des Nations, Geneva,
on Monday, 29 August 1949, at 2.30 p.m.

CHAIRMAN:

Mr. TRIFER (Czechoslovakia)

SECRETARY:

Mr. MATTER

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CONSIDERATION OF DRAFT PROVISIONS FOR INSERTION IN THE CONVENTION ON ROAD AND MOTOR TRANSPORT PREPARED BY THE ECONOMIC COMMISSION FOR EUROPE (Item 4 of the Conference agenda) (Document E/CONF.8/3)
(Continued).

Annex 8 (Continued)

Mr. CHARLOTEAUX (Belgium), Rapporteur, drew the attention of the Committee to the draft (Document WRT/2/49), prepared by the Working Group, of Section I (Braking) of Annex 8, and suggested that it might be examined paragraph by paragraph.

Clause (a): Braking of single motor vehicles other than motor cycles.

First paragraph.

Mr. CHARLOTEAUX (Belgium), Rapporteur, pointed out that the first paragraph was identical with the original draft, except that it introduced the condition that brakes should be efficient under any conditions of loading on any up-gradient or down-gradient.

Mr. W.G. HUNT (United Kingdom) suggested that, in the interest of simplification, the paragraph might end at the words "any conditions", the words deleted being understood, by implication, by the expression "in any conditions".

Mr. LAURENCE (France) pointed out that such a general formula might give rise to misunderstanding, and was in favour of the more precise wording proposed by the Working Group.

Mr. CHARLOTEAUX (Belgium), Rapporteur, asked whether the United Kingdom representative would be prepared to withdraw his proposal in view of the fact that a number of representatives in the Working Group had expressed the desire for a more precise text.

Mr. W.G. HUNT (United Kingdom) agreed to withdraw his amendment.

The first paragraph was adopted in principle without amendment.

/Second paragraph

Second paragraph.

Mr. DAUVERGHE (France) preferred the original text of the ECE draft, because he considered that the wording proposed by the Working Group was confused. The word "devices" included all three elements of the braking system: control, transmission and the brake itself. It was therefore inappropriate to speak of braking devices operating on brakes. The original text had received the approval of the International Standardisation Organisation, and seemed to him to be much clearer.

Mr. V.G. HUNT (United Kingdom) explained that the Working Group had drafted that paragraph, in accordance with his suggestion, with the object of rendering the second half of the paragraph consistent with the first. It was necessary to indicate that it was the brakes, and not the device, which must be capable of stopping the vehicle.

Mr. DAUVERGHE (France) re-affirmed that the device, which included the brakes, could not operate on the latter. He could not therefore accept the United Kingdom representative's argument.

After some discussion, the United Kingdom representative withdrew his amendment which had been incorporated in the draft presented by the Working Group.

Mr. CHARLOTEAUX (Belgium), Rapporteur, suggested that the difficulty might be met by substituting the words "must be" for the words "operate on brakes".

The second paragraph, as amended by the proposal of the Rapporteur, was adopted.

Third paragraph.

The third paragraph was adopted in principle.

Fourth paragraph.

Mr. CHARLOTEAUX (Belgium), Rapporteur, invited representatives to give their views as to whether the figure for the percentage gradient should be raised from 15 to 20, or whether, indeed, any

/figure should be

figure should be included at all.

Mr. von NEMMICH (Netherlands) observed that tests on emergency brakes had been carried out in Belgium by Belgian and Netherlands technicians. It had been found that a new motor lorry of United States manufacture could not be held by its brakes on a gradient of more than 15 per cent when carrying its maximum load, and the quarterly inspection of Dutch buses showed that the emergency brakes of machines in service could only be guaranteed on gradients not exceeding 10 per cent. The powerful emergency brakes of Austrian and Swiss motor buses were exceptional. In the case of heavy motor vehicles in regular service, the efficiency of the emergency brakes could not be counted on on up-gradients of over 15 per cent. In practice, it had been found impossible to make such brakes efficient on gradients of more than 10-12 per cent.

Mr. RAUFLAIB (Switzerland) appreciated that the whole matter was one of considerable difficulty, since countries with mountain roads had somewhat different problems. In Switzerland it was compulsory for the brakes to be capable of stopping a vehicle on an up-gradient of 15 per cent. During 1948, more than 500,000 foreign vehicles had entered Switzerland including over 50,000 motor buses and lorries, the latter keeping mainly to the mountain roads. His Government would, therefore, prefer a provision which made it compulsory for the brakes of motor vehicles in international traffic to be capable of preventing the rotation of the wheels of the vehicle on a gradient, up or down, of 20 per cent, and of being capable of bringing the vehicle to a standstill on a gradient, up or down, of 15 per cent.

Mr. VESCANI (Italy) considered that, in the interests of safety, a figure of 20 per cent should be adopted.

Mr. BOBERTUS (Austria) felt it was not desirable to make any reference to the percentage gradient. He could not even accept the proposed figure of 20 per cent, since a number of secondary roads in Austria had gradients exceeding that figure, and there was no way of obliging motor vehicles to keep to roads with less steep gradients.

/Mr. DAUVERGNE

Mr. DAUVIERGNE (France) stated that, although in France it was laid down that the brakes must be capable of holding a vehicle on a gradient, up or down, of 20 per cent, he could accept the figure of 15 per cent in the interest of reaching unanimity.

Mr. VILJOEN (Union of South Africa) considered that no reference should be made to the percentage gradient in the fourth paragraph, particularly as no similar stipulation was made in the first paragraph, which merely required brakes to be efficient on steep roads, whatever their gradient.

Mr. W.G. HUNT (United Kingdom) strongly supported the view expressed by the South African representative.

Mr. CHARLOTEAUX (Belgium), Rapporteur, agreed that, as the general conditions relative to brakes were included in the first paragraph, the fourth paragraph might be brought to an end at the words "mechanical action", the remainder of the sentence being deleted.

Mr. ECHERTON (Austria) asked whether the provisions of the fourth paragraph were intended to apply to both up and down gradients; alternative sections of some Austrian roads had up-gradients of 15 per cent and down gradients of 32 per cent.

Mr. CHARLOTEAUX (Belgium), Rapporteur, pointed out that the provisions of the first paragraph were intended to apply to both up and down gradients.

The Committee agreed to adopt the fourth paragraph in principle, with the deletion of the words "and shall be capable of preventing the rotation of the wheels of the vehicle under any conditions of loading on a gradient up or down of 15 per cent".

Fifth paragraph.

The Committee adopted the fifth paragraph in principle without comment, subject to the deletion of the words in the brackets, in accordance with the decision of that issue taken at the previous meeting.

/Sixth paragraph.

Sixth paragraph.

Mr. CHARLOTEAUX (Belgium), Rapporteur, drew the attention of the Committee to the proposal made by the Czechoslovak representative, that some reference should be made to the fact that braking surfaces must be permanently connected with the wheels of the vehicle in such a way as to prevent their being disconnected by means of a clutch, gear-box or free-wheel. The reason for that proposal was that some vehicles used an AR-axle gear system which could be disconnected by the driver, but which immediately renewed contact when the gear lever was released.

Mr. DAUVERGHE (France) did not consider that the addition of the word "permanently" improved the text to any extent. All that was necessary was to indicate that there should be no possibility of disconnecting the braking surfaces and the wheels of the vehicle.

The CHAIRMAN speaking as the representative of his country replied that he did not insist on his amendment.

Mr. W.G. HUNT (United Kingdom) and Mr. J.H. HUNT (United States of America) were in favour of deleting the whole of the sixth paragraph.

Mr. von HEMERT (Netherlands) observed that when the problem had been discussed by a conference of designers of motor vehicles and by the International Standardization Organization such a provision had been regarded as essential, as there would otherwise be a danger of motor vehicles being built with brakes which could be disconnected.

Mr. EGERTON (Austria) was anxious that the paragraph should be retained in the interests of road safety.

Mr. J.H. HUNT (United States of America) pointed out that some vehicles were fitted with an over-drive in the rear axle, and could not therefore conform strictly with the provisions of such a requirement.

The CHAIRMAN observed that a type of car might be designed in which whenever two wheels were disconnected from the braking surfaces, the other two were immediately connected therewith.

/Mr. CHARLOTEAUX

Mr. CHARLOTTEAUX (Belgium), Rapporteur, suggested that the sixth paragraph might be specifically applied to service brakes only, it being recognized that they might be disconnected momentarily.

Mr. J.H. HUNT (United States of America) pointed out that service brakes were the very brakes which could not be disconnected, because they were directly attached to the wheels of the vehicle. A parking brake on the other hand, which worked on the transmission could be so disconnected. The seventh paragraph dealt with braking surfaces. Some means of rendering the two paragraphs mutually consistent was therefore necessary.

Mr. CHARLOTTEAUX (Belgium), Rapporteur, pointed out that it was possible to mount the braking surfaces at the inner ends of the driving axle next to the differential ('sortie du différentiel'). That method was used in order to reduce the weight of the wheel. In future, however, the point selected might be at the point where the cardan shaft entered the differential, in which case the possibility of disconnection could not be allowed.

Mr. BRENNER (Austria) pointed out that if the sixth paragraph were to be made applicable only to service brakes, it might happen that at the time of failure of the service brakes the parking brakes were disconnected, which would constitute a danger to traffic.

Mr. von HEBERT (Netherlands) suggested that the sixth paragraph should be re-worded so as to indicate that braking surfaces should always be connected with the vehicles in such a way that they could not be disconnected, except momentarily.

Mr. J.H. HUNT (United States of America) accepted Mr. von HEBERT's proposal.

The Committee then adopted the following wording in principle for the sixth paragraph: "The braking surfaces must always be connected with the wheels of the vehicle in such a way that it is not possible to disconnect them otherwise than momentarily".

Seventh paragraph

Mr. W.G. HUNT (United Kingdom) suggested that the seventh paragraph be deleted in its entirety, since the words "or attached through parts not liable to failure" rendered it almost meaningless, since it was impossible to guarantee such infallibility.

Mr. DAUVERGNE (France) was in favour of retaining the seventh paragraph, particularly as the words quoted by the United Kingdom representative somewhat evidenced the scope of its application, and allowed the possibility of the use of braking devices other than those directly attached to the wheels, a proviso which he felt to be entirely necessary.

Mr. CHARLOTEAUX (Belgium), Rapporteur, asked the United Kingdom representative to which category of brakes he would assign those whose braking surfaces were at the inner end of the driving axle next to the differential ('sortie du différentiel').

Mr. W.G. HUNT (United Kingdom) replied that such a system was known as a transmission brake.

Mr. CHARLOTEAUX (Belgium), Rapporteur, asked whether it would be desirable to withhold from vehicles with transmission brakes the right to circulate in international traffic.

Mr. W.G. HUNT (United Kingdom) stated that he did not wish to penalise vehicles with brakes at the inner end of the driving axle, and which therefore complied only with that part of the seventh paragraph to which he had raised objections in his first intervention. However he was still in favour of deleting the whole paragraph.

Mr. CHARLOTEAUX (Belgium), Rapporteur, asked why, if the United Kingdom representative did not desire to penalise such vehicles, he was unable to accept the latter part of the paragraph, which had been specifically inserted in recognition of the fact that certain vehicles were fitted with such a braking system.

Mr. W.G. HUNT (United Kingdom) explained that transmission brakes were prone to fail. The retention of the latter part of the paragraph would irremediably weaken the conditions laid down in the first part.

/Mr. KOEHLIN

Mr. NICHOLS (AUS/PIA) pointed out that for some five years certain motor vehicles of United Kingdom manufacture had been constructed with braking surfaces at the outer end of the driving axle.

Mr. W.G. BENT (United Kingdom) replied that such braking surfaces were virtually attached directly to the wheels of the vehicle.

Mr. CHARLOTEAUX (Belgium), Rapporteur, observed that if that were so he failed to understand the reluctance of the United Kingdom representative to accept the text as it stood. As far as he could see, there should be no difficulty in adopting it.

The Committee then adopted the Seventh paragraph in principle.

Clause (b): Braking of trailers and semi-trailers

First paragraph.

Mr. DAUVERGNE (France) was unable to understand why semi-trailers should have been included in the clause dealing with trailers. They were of quite a different character, and should come under the heading of "articulated vehicles".

Mr. van HEMERT (Netherlands) agreed with the French representative that provisions relative to semi-trailers should be transferred to clause (c). So far as brakes for trailers were concerned, he considered that they should act on at least two wheels.

Mr. BLUM-ANDERSEN (Denmark) was in favour of retaining in clause (b) the provisions relating to semi-trailers.

Mr. van HEMERT (Netherlands) stated that, according to the definition of an articulated vehicle, a semi-trailer with one wheel and attached at two points to its drawing vehicle came within that category. He could not agree with that definition, since such a semi-trailer was very rigid, and tended to sweep the road. Its connecting device had no flexibility.

Mr. BLUM-ANDERSEN (Denmark) agreed that such vehicles might prove dangerous, but pointed out that there was no technical reason why such semi-trailers should be fitted with brakes at all.

/Mr. DAUVERGNE

Mr. DAUBERNE (France) stated that he could agree to exempting semi-trailers of less than 750 kgs. from the obligation of having automatic brakes, on condition that their laden weight did not exceed half the unladen weight of the drawing vehicle so that the braking force was exerted on two-thirds of their combined weight.

Mr. J.H. HUNT (United States of America) said that the French proposal created certain difficulties for him. The control of motor vehicles was a matter for the authorities of each of the States of the Union. Thirty-six had so far agreed upon a uniform code, whereby only trailers of 1,500 lbs. and under were exempt from carrying brakes. It was possible that the Senate might accept the 10 per cent increase in that figure which the adoption of the permissible maximum weight of 750 kgs. involved. He doubted, however, whether it would be prepared to accept the figure of 1,000 kgs. If the higher figure were adopted, he feared that he might be obliged to request that adherence to Annex 8 be permissive.

Mr. DAUBERNE (France) asked whether United States legislation laid down any fixed ratio between the weight of the trailer and that of the drawing vehicle.

Mr. J.H. HUNT (United States of America) stated that there was no legal stipulation of that sort in his country. In view of the average weight of American motor vehicles, the maximum laden weight of small trailers and semi-trailers attached to passenger cars of 1,500 lbs. and under did not in practice exceed two-thirds of the unladen weight of the drawing vehicle.

Mr. DAUBERNE (France) pointed out that from the safety angle the only important point was the ratio between the total weight of the combination and the weight on the wheels on which the braking effort was exerted.

Mr. W.G. HUNT (United Kingdom) stated that in his country every trailer the unladen weight of which exceeded 22½ lbs., that was, approximately 100 kgs., had to be fitted with brakes. In accepting the figure of 750 kgs., his Government had made a concession, beyond which it was not prepared to go.

/Mr. von HEMERT

Mr. von HERTZ (Netherlands) was in favour of the figure of 750 kgs., since the higher figure would make it difficult for a number of countries to adhere to Annex 8.

Mr. SAFFIANS (Switzerland) accepted the figure of 750 kgs., and was also in favour of a provision making brakes essential where the maximum laden weight exceeded two-thirds of the unladen weight of the drawing vehicle.

Mr. J.H. HUNT (United States of America) accepted the figure of 750 kgs. on condition that the laden weight of the semi-trailer did not exceed half the unladen weight of the drawing vehicle.

The Committee agreed that semi-trailers having a permissible maximum weight exceeding 750 kgs. should be fitted with brakes if their maximum laden weight exceeded half the unladen weight of the drawing vehicle.

Accordingly, the Working Group was instructed to submit a new text for the first and second paragraphs of clause (b), deleting reference to the French proposal for a 1,000 kgs. permissible maximum weight.

Third paragraph (1)

Mr. CHARLOTTEUX (Belgium), Rapporteur, recalled that the Czechoslovak representative had suggested the maximum a figure of 4,000 kgs. as the lower limit of the permissible weight of trailers for the purposes of this paragraph.

Mr. W.G. HUNT (United Kingdom) preferred the original figure of 3,500 kgs. Even that figure went further than the relevant United Kingdom regulations, in which the permissible weight of trailers was 2 1/2 tons, that was, roughly, 2,500 kgs. He felt that it would be dangerous to increase the figure. The important thing was that trailer fitted with overrun brakes was always dependent on the brake performance of the drawing vehicle.

Mr. von HERTZ (Netherlands) pointed out that the figure of 3,500 kgs. had been reached as a result of mutual concessions. It was a compromise solution, and it would therefore be unrealistic to expect Governments to accept the higher figure of 4,000 kgs.; his own could

certainly not do so. The maximum weight of 3,500 kgs. was already a considerable one for an overrun brake to resist.

Mr. D. JVERONE (France) was also anxious that a mutually acceptable figure should be selected.

Mr. CHARLOTEAUX (Belgium), Rapporteur, suggested that, since no suggestion had been made that the proposed figure of 3,500 kgs. should be reduced, and few representatives supported the figure of 4,000 kgs., the Committee might in principle adopt the former.

It was so agreed.

Fourth paragraph

The Committee adopted the fourth paragraph in principle.

Fifth paragraph

Mr. CHARLOTEAUX (Belgium), Rapporteur, asked whether the Committee could endorse the suggestion of the United States representative that trailers or semi-trailers should be fitted with a device capable of automatically applying the brake if they became detached while in motion.

Mr. HAFLAUB (Switzerland) asked whether there were many instances of trailers and semi-trailers having become detached while in motion.

Mr. DAUVERGNE (France) stated that although the use of semi-trailers was widely prevalent in France, he had not heard of any cases of such accidents.

Mr. CHARLOTEAUX (Belgium), Rapporteur, pointed out that the connecting device of semi-trailers was in every case fitted with a safety lock, and total detachment was very rare. There was less danger of such an eventuality than of the failure of any other part of a motor vehicle.

Mr. J.H. HUFF (United States of America) said that although the Rapporteur had raised a valid point against his amendment, he was compelled to point out that according to the regulation laid down in

/the United

the United States of America, by the Inter-State Commerce Commission, to which authority had been delegated to legislate for vehicles in inter-state traffic, trailers of over 3,000 lbs. gross weight had to carry such braking devices. Unless the Commission could be convinced that such a regulation was unnecessary, he doubted whether Annex B could secure the approval of the United States Senate.

The axle-fittings for semi-trailers were identical with those for trailers proper. He did not, therefore, think that such a requirement would involve manufacturers in any difficulty.

Mr. von HEMERT (Netherlands) observed that such a provision would entail considerable expense. He did not know the exact number of pre-war trailers and semi-trailers at present on the road, but he did know that such vehicles did not carry automatic braking appliances. If the latter were to be made compulsory, owners would be involved in heavy expenditure, a factor which must be taken into account, since it would probably render immediate compliance with the regulation proposed by the United States representative difficult, although he agreed that that regulation would certainly contribute to road safety.

Mr. CHARLOTTEAU (Belgium), Rapporteur, considered that the safety aspect should not be subordinated to considerations of cost or of ease of implementation. If in fact any question of danger was involved, that was the first thing which must be taken into account. All were agreed that a trailer which became disconnected while in motion would be dangerous. In 1947 braking devices had been made obligatory, in Belgium, for both trailers and semi-trailers, and it had been proved, by means of bi-annual inspections which were held in his country, that within one year, all such vehicles had been satisfactorily equipped in accordance with the new legislation. However, in the interests of international agreement, his Government was prepared to agree that semi-trailers should be exempted from the obligation to carry automatic brakes.

The Committee would recall that the original proposal in the ECE draft had been to the effect that automatic braking should be made obligatory for trailers in the event of their becoming detached, which might prove acceptable. At the same time, it would perhaps be desirable at the present stage to exempt semi-trailers from such an obligation.

Mr. J.H. HUNT (United States of America) stated that he could not give an opinion on the matter without prior consultation with other experts on his delegation. Their views would no doubt be influenced by existing regulations in Canada, since it was chiefly Canadian trailers and semi-trailers which entered the United States of America.

Mr. W.G. HUNT (United Kingdom) pointed out that no reference was made in the Working Group draft to the amendment submitted by the United Kingdom delegation (document MRT/26/49) to the effect that automatic braking devices should not be made obligatory for caravans and light luggage-trailers. He hoped that in the revised text reference would be made to that amendment so that it could be discussed at a later stage.

It was agreed to defer further discussion on the fifth paragraph.

Clause (c) Braking of articulated vehicles and combinations of motor-vehicles and trailers.

No comment.

Clause (d) Braking of motor-cycles.

Mr. von HEMERT (Netherlands) pointed out that, contrary to the draft proposal of the Working Group, he considered that motor-cycles should be equipped with two brakes, one acting on each wheel.

The meeting rose at 6 p.m.