

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(78) 728 final

Brussels, 4 January 1979.

PROPOSAL FOR A COUNCIL DIRECTIVE

on the weights and certain other characteristics
(not including dimensions) of road vehicles
used for the carriage of goods

(submitted to the Council by the Commission)

COM(78) 728 final

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II. PROPOSAL FOR A COUNCIL DIRECTIVE

EXPLANATORY NOTE

1. Introduction

In December 1975 after continuing difficulties over the adoption of the draft directive presented in 1971⁽¹⁾, the Council invited the Committee of Permanent Representatives, with the assistance of the Commission, to develop a practical solution to the problem of vehicle weights and dimensions in the Community.

The Commission presented the main points of a recommended new approach in a working paper to the Council in December 1975⁽²⁾ and was invited to prepare proposals for legislation.

The attached proposal for a Council directive on vehicle weights and other technical characteristics has been developed from the Commission's working paper after consultations with hauliers, motor manufacturers, environmentalists and other interested groups.

Rather than attempting to harmonize the technical characteristics of the entire vehicle fleet, this proposal aims to define the characteristics of certain vehicles, which could be allowed to circulate freely in the Community, in particular the heavier combinations commonly used in international traffic. National legislation would be adjusted to permit the use of these vehicles, but existing national vehicle types could continue to be used under the same conditions as at present.

At recent Council meetings, Member Governments have emphasized the need to:

(1) O.J. No. C 90/25 11.09.1971

(2) Doc. No. R/2876/76 (TRANS 138) 22.11.1976

- keep down transport costs and conserve scarce energy resources,
- minimize damage to the infrastructure and the environment,
- improve the methods for controlling and supervising commercial vehicle traffic,
- move towards a Community scheme for whole vehicle type approval in the commercial field.

The main difficulty is to find a balance between operating economy and protection of the infrastructure acceptable to all Member States. The Commission believes that this proposal offers a practical solution to this problem, will facilitate the control of commercial vehicle traffic in the Community and will provide a basis for the growth of a common market for commercial vehicle manufacturers.

The Commission also believes that vehicles authorized by this decision should be required to conform with the most recent Community legislation on braking, noise, emissions and other essential environmental and safety matters.

The elements of the original draft directive which relate to the dimensions of vehicles have already been presented separately to the Council and are omitted from this proposal which only amends that part of the original draft directive which relates to weights.

Gross vehicle weight (Articulated vehicles and road trains)

Permitted gross vehicle weights in the Community range from 32.5 tonnes in the United Kingdom to 50 tonnes in the Netherlands. Since the provisional agreement in 1972 between the six original Member States on a 40-tonne universal maximum GVW in the Community and the discussions following the enlargement in the Community in 1973, Italy and Denmark have increased their maximum GVW to more than 40 tonnes.

The Commission shares the view that higher gross vehicle weights are acceptable under certain conditions and is proposing a maximum GVW of 44 tonnes for certain combinations with favourable stability and road damage characteristics. These vehicles will permit the safe carriage of standard ISO containers at their maximum permitted weight of 30 tonnes. The proportion of vehicles needed to transport this high payload, at least in international traffic, is estimated from the statistics available to be quite small. In general, hauliers can be expected to select the most economical vehicle types with a GVW up to about 40 tonnes, in particular articulated vehicles and road trains with four or five axles.

The most economical vehicle arrangement from the hauliers' point of view is the two-axle towing vehicle or tractor with a two- or three-axle trailer or semi-trailer. Two-axle tractors have a lower deadweight and first cost than 3-axle tractors (particularly those with drive on both rear axles) and are more economical in use. However, to ensure good stability, adhesion and braking characteristics, the proposal limits the GVW of combinations incorporating a 2-axle tractor or towing vehicle to a maximum of 40 tonnes.

In view of the widespread use of combinations incorporating a 2-axle tractor with a 2- or 3-axle trailer, the Commission considers an agreement between Member States on acceptable standards for these combinations as essential to the success of the proposal.

The range of GVW currently permitted by Member States for the 4-axle combination in particular is very wide, with a correspondingly wide margin in the tolerated levels of road damage. The Commission proposes a maximum GVW of 35 tonnes for this combination, which is considerably less than the GVW allowed in some Member States, but represents a compromise between the extreme positions. Even at this moderate GVW, the

road damage characteristics of this combination are worse than those of other recommended vehicle types. In fact, a GVW limit of 35 tonnes could provide an incentive for hauliers to select a 5-axle vehicle, suitable for operation up to 40 tonnes GVW at very little additional operating cost and with more favourable road damage characteristics.

3. Axle weight and road damage

Difficulty in agreeing a uniform maximum axle weight has been one of the main obstacles to the adoption of a Community solution to the problem of vehicle weights and dimensions.

The relationship between axle weight and road damage was established by the American AASHO tests and has been widely employed in numerous subsequent investigations. However, recent studies in the USA and elsewhere have shown that increases in GVW and axle weight can be justified in terms of overall benefit to the economy, in spite of the additional infrastructure costs. This principle can probably be applied to heavily trafficked routes where a small increase in the pavement thickness allows far heavier axle weights to be supported for the same pavement life. But some Member States have expressed concern at the prospect of substantial additional expenditure over the whole of their extensive network of primary and secondary roads under present economic conditions. For the present, therefore, moderate axle weights are being proposed combined, in the interests of operating economy, with reasonably high gross vehicle weights.

4. Calculating road damage

In order to compare the road damage characteristics of different vehicles and combinations and to ensure that the combinations proposed compare satisfactorily with those already in use, the Commission has

adopted a theoretical road damage number based on the application of the fourth power relationship between axle weight and road damage. The damage caused by a particular

vehicle or combination is measured in standard 10-tonne axles, calculated by dividing the sum of the fourth powers of the axle weights by 10^4 . There is no significance in the number 10 except its convenience. The passage of a vehicle with many standard axles is relatively more damaging to the infrastructure, so to compare the characteristics of vehicles with different payloads, an adjustment is made for the number of passages necessary to transport a given tonnage of goods.

The damage numbers calculated by this method and expressed as standard axles per 100 tonnes transported, are shown in Annex A

to this note for the combinations proposed by the Commission as compared with a number of combinations currently permitted in the Community. It can be seen that in general the combinations proposed by the Commission have relatively low damage numbers in relation to most currently permitted combinations and the damage number is reduced for the heavier vehicles proposed.

A number of amendments to the simple fourth power law have recently been proposed to take account of additional factors, such as:

- the different damage characteristics of single, super-single and double tyres,
- the influence of tyre inflation pressure on road damage,
- the correction to be applied to tandem axles,
- the dynamic loading which results from the inter-action between the vehicle suspension and the road surface.

At the beginning of 1978, the Commission invited a joint working party representing the major motor manufacturers and the hauliers to study and report on a number of factors relating to vehicle weights and dimensions, including a suitable formula for calculating road damage. The results of the work on road damage were presented in a report which has been issued by the Commission's Directorate General for Transport (1).

It was not possible in the time available to establish conclusively the ratios to be applied to single, super-single and double tyres or to differences in tyre inflation pressure, but a range of figures was given for these factors.

The ratios to be applied to tandem axles were originally given by the AASHO test as follows:

- on flexible surfaces, a 10-tonne single axle is equivalent to an 18-tonne tandem axle
- on rigid surfaces, a 10-tonne single axle is equivalent to a 16-tonne tandem axle.

A direct application of the 4th power relationship to each axle provides a reasonable average between these figures, since it derives a ratio of 10 to 17. It also derives a ratio of 10 to 23 for a tri-axle, which conforms closely to the ratio normally allowed.

It was recognized that although some valuable work has been done on the subject of dynamic loading, it is not yet sufficiently widely accepted to be incorporated into legislation.

In order to estimate the possible influence of the revised damage formula proposed by the industry on the selection of suitable vehicle combinations, the Commission has re-calculated the original damage numbers (shown in Annex B, Column A) using the more extreme figures given by the industry for comparing single, super-single and double tyres and relating the factors to a standard double tyre with an inflation pressure of 8.5 bar. The results are shown in column G1 of the table in Annex B.

One effect of this change is to increase the theoretical damage caused by the 6-tonne steering axle from 0.13 to 0.57 standard axles, but this scarcely influences the relationship between the damage numbers of the different combinations. However, a large proportion of tri-axles are fitted with super-single rather than double tyres and, in this case, a significant alignment can be seen in the relationship between the damage numbers of the 4-axle and 5-axle vehicle types. The optimum distribution of GVW between the axles also changes in favour of a higher load on the single driving axle.

Column G2 of Annex B shows the result, based on the average of the figures given by the industry of reducing the tyre inflation pressure on the most heavily laden axles by 1 bar. A valuable reduction in damage number is achieved, but with no significant change in relative damage numbers as compared with column G1.

The Commission has based its selection of proposed vehicle combinations mainly on the results shown in column A of the table in Annex B, but some account has been taken of the effects of adopting a formula similar to that proposed by the industry and yielding the results presented in columns G1 and G2.

On this basis, the Commission recommends that an 11-tonne axle weight should be permitted for the single driving axle of a combination, which allows an adhesion ratio of 25 % for vehicles with a GVW up to 44 tonnes. The Commission considers that vehicles intended for for general use in the Community should be able to achieve this adhesion ratio. The remaining axles are limited to a maximum of 10 tonnes.

The tandem axle weight is limited to 18 tonnes in all cases and the tri-axle to 24 tonnes.

Widely spaced tandem axles (more than 2 metres apart) are permitted in most Member States at twice the single axle load, but can be seen to have unfavourable road damage characteristics and are not called for in the proposal.

5. Rigid vehicles, 3-axle articulated vehicles and passenger vehicles

The Commission's proposal also includes rigid vehicles with 3 axles and with 4 axles including two steered axles. These vehicles have moderate road damage numbers comparable with the larger combinations.

The two-axle vehicle always has a high road damage number for a given axle weight and the Commission sees little prospect of agreement at present on a vehicle with a GVW in excess of 16 tonnes. It may be possible to reach agreement at a later stage on the basis of improved suspension or reduced tyre pressures. Three-axle articulated vehicles also have high damage numbers and have been excluded for similar reasons.

Passenger vehicles have also been excluded, mainly because the majority are of the two-axle type and because further detailed study of these specialized vehicles is required before practical proposals can be made.

6. Supervision of GVW and axle weight

Overloading can render vehicles dangerous, cause offensive noise and pollution and, with the heavier types, make a disproportionate contribution to road and infrastructure damage. It also gives an unfair competitive advantage to irresponsible operators.

The authorities in all Member States apply checks on the GVW of vehicles and sanction offenders. Some authorities also check axle weights. These checks are costly in administrative terms, represent a charge to the economy, and are only partially effective. It is well known that overloading continues to occur.

The present diversity of construction and use regulations in the Community aggravates the problem. A vehicle designed for use in one Member State may be quite unsuitable for use in another. To conform with the law when travelling from one Member State to another, vehicles may have to be partially unloaded, or the load may have to be re-distributed to obtain acceptable axle weights, or to achieve the required adhesion ratio.

The Commission believes that the introduction of a fleet of vehicles subject to common weight regulations would render the supervision of vehicles much simpler and more cost-effective, while reducing the temptation to overload.

As a further aid to more rapid and effective supervision, the vehicles authorized by this proposal would carry a readily accessible plate showing the GVW and axle weights permitted by the proposal. For lighter vehicles, the loads shown would be those technically admissible for the vehicle. By comparing measured GVW and axle weights with those shown on the plate, the authorities would be able to check that the vehicle was neither technically nor legally overloaded.

A problem could arise for Member States who continued to authorize GVW or axle weight limits in excess of those allowed by this proposal. It would be necessary for the authorities in these States to check whether a vehicle authorized by this proposal was technically capable of carrying the heavier loads. The Commission prefers to study this problem in greater detail with the authorities concerned before recommending that information on technically admissible GVW and axle loads in excess of those permitted by this proposal be added to the plate.

The Commission considers that the operator should always be aware of the actual GVW of the vehicle and, if necessary, leave a margin to ensure that the permitted maximum is not exceeded. Accordingly, no tolerance is specified in the proposal for GVW, although it is recognized that the authorities will normally allow a small margin for error before sanctioning offenders.

A 5 % tolerance over the limits specified on the plate has, however, been proposed for individual axle weights, provided that the permitted GVW is not exceeded. This is because it is impossible in practice to ensure optimum distribution of GVW over the axles at all times, however carefully the vehicle is loaded. This tolerance is intended to apply only to vehicles in use and not to be built into the design of the vehicle.

An additional reason for a tolerance on driving axles in particular is to allow operators to load this axle near the permitted limit in order to improve traction, stability and braking. These advantages must be offset against an increase in the damage number shown in Annex A of about 8 % if the full tolerance is used.

The use of more than one maximum axle weight slightly complicates the supervision of vehicles, but as far as static weight checks are concerned, showing the permitted maximum for each axle on the plate will largely overcome the difficulty. The problem of dynamic weight checks will be examined in Section 9.

7. Environmental and safety aspects

The Commission has had numerous contacts with environmental groups in the Community who have drawn attention to the nuisance and damage caused by heavy road vehicles and called for restrictive measures on road transport. These groups see the Commission's proposal to move towards common limits for vehicle weights and dimensions in the Community as a threat to the environment or at least as an affront to public opinion.

The Commission nevertheless believes that the environmental problem of road transport must be treated with the same objectivity as the road damage and other technical aspects.

Fair competition between modes of transport and within the road transport industry itself are recognized as essential objectives of the Community's Common Transport Policy. The Community's legislation on drivers' hours and the tachograph is intended to ensure fair competition, improve conditions of work for drivers and protect the public by reducing road accidents. The recent directive which requires an annual roadworthiness test for both goods and passenger vehicles is also intended to promote fairer competition, improved safety and a reduction of vehicle noise and pollution. The Commission has also made proposals for an equitable system of infrastructure charging, including an element of social cost.

A substantial body of Community legislation has already been adopted on new vehicle type approval including standards for noise, emissions, braking, lighting and other safety features. These standards are continually being reviewed and updated and new standards are being introduced.

Maximum permitted dimensions of road vehicles are already very similar throughout the Community, the largest load permitted on an articulated vehicle being the 40-ft ISO container. There are no proposals to increase these dimensions or the maximum length of 18 metres for vehicle-trailer combinations, currently applied in eight of the nine Member States.

The Commission also recognizes that much lower limits on size, GVW or axle weight have to be applied on certain routes and in environmentally sensitive areas, such as the centres of old towns. These limits must be established by the authorities most closely concerned after a careful assessment of the economic, environmental, safety and other factors involved. They may be as low as 3-5 tonnes GVW with corresponding restrictions on size and have very little to do with the maxima set for vehicles in general use.

All vehicles admitted to free circulation in the Community under this proposal, whatever their date of registration, would have to conform with the main environmental and safety standards applicable at the entry into force of the proposal. They would also be subject to the measures to facilitate the enforcement of maximum GVW and axle weight described in Section 6.

The Commission therefore believes that there are good reasons, on environmental grounds alone, for setting common standards in the Community for the construction and use of heavy motor vehicles.

8. Energy aspects

Road vehicles powered by internal combustion engines are likely to account for a substantial proportion of the volume of goods and passenger transport for the foreseeable future. Member Governments recognize the need to conserve scarce resources of petroleum products and the Commission has been urged to take account of this problem in proposing maximum weights and dimensions for commercial road vehicles.

Apart from technical improvements in engines, transmission and the aerodynamics of vehicle construction, energy economies in the vehicle can be achieved by :

- increasing GVW
- or by increasing the ratio of payload to GVW by permitting increases in axle weight and hence reducing the number of axles required for a given GVW.

The second alternative involves an increase in road maintenance with associated energy costs and additional consumption of petroleum products. In principle, increases in axle weight should substantially improve the ratio of payload to GVW, but in practice the improvement, as far as the heavier vehicles are concerned, is quite small, as can be seen in the last column of the tables in Annex A.

A reasonably high GVW combined with moderate axle weights is therefore proposed as the best approach on energy conservation in relation to other factors.

9. Possible future measures

The present proposal is intended to establish norms for commercial vehicles which will be applicable for several years and will be commercially attractive to operators and vehicle manufacturers while limiting damage to the infrastructure and ensuring high standards of road safety and of noise and pollution control.

The Commission recognizes that the method used for assessing road damage will probably be reviewed in the next few years and the effects of dynamic loading, on which some valuable scientific work is being done, should probably be incorporated, particularly in assessing weight limits appropriate to both primary and secondary roads. Technical developments in vehicles including improved suspension will also have to be taken into account.

The adoption of uniform criteria on GVW and axle weight will also permit further progress on Community whole-vehicle type approval for commercial vehicles and open a more attractive home market for Community vehicle manufacturers.

The testing of vehicles under their normal load at the type approval stage will also help to ensure, before the vehicles are put into service, that axle weight limits are less likely to be exceeded in normal use. Combined with effective methods of control, this should yield a valuable reduction in road damage with no loss of operating economy.

It should also be possible to take advantage of technical progress in the detection of overloading and to provide a "first filter" for moving vehicles from which they could be directed, if necessary to an accurate weighbridge. The filter would have to be able to distinguish combinations in which one axle weight of 11 tonnes is permitted, but this would not appear to be an insuperable problem. If the chance of detection of overloading can be increased to a near certainty, a further reduction in road damage could be achieved, with no loss to the majority of responsible operators.

10.
5. Comments on the articles in the proposal

Article 1 limits the scope of the Directive to certain vehicles and combinations.

Article 2 defines the terms "combined vehicles" and "motor vehicles".

Article 3 stipulates that vehicles and combinations in conformity with the Directive can be sold and used in any Member State.

Article 4 requires every authorized vehicle to be fitted with a plate showing the maximum permitted GVW and the weights on each axle. The plate also serves to identify the vehicle as one approved under this directive. The loads shown on the plate will be those technically admissible up to the limits prescribed in Annexes I and II.

Article 5 requires that vehicles in use shall conform with the GVW and axle weight limits shown on the plate. Both parts of a combination must conform individually, and the combination as whole must also conform to the permitted maximum, where this is less than the sum of the individual maxima. A 5 % tolerance is allowed on axle weights for the reasons explained in Section 6. This article also establishes a minimum adhesion ratio of 20 % for all vehicles and combinations and allows Member States to fix a ratio of up to 25 % for vehicles on their territory.



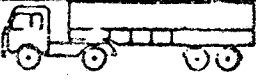
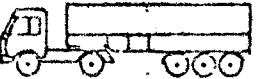
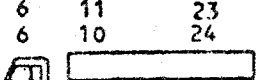
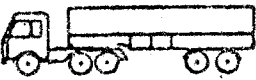
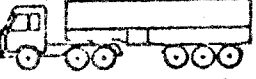

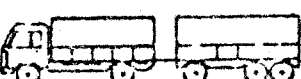
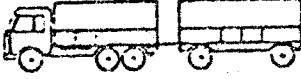
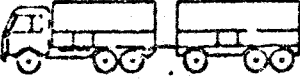
Article 6 ensures that vehicles authorized by this Directive shall conform with Community standards on noise, emissions, braking and steering established at the date of entry into force of the Directive, even if they are put into circulation at an earlier date.

Article 7 allows Member States to limit the scope of this Directive in relation to particularly dangerous goods and to exclude approved vehicles from certain routes or structures.

Articles 8
and 9 are self-explanatory.

DAMAGE NUMBERS OF PROPOSED VEHICLES

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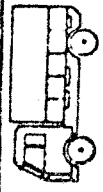

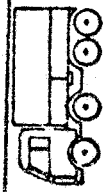
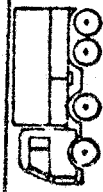
GVW tonnes	Payload tonnes (1)	CONFIGURATION	10 t standard axles	damage no. (2)	PL/GVW %
24	15.2	 6 18	1.45	9.6	63
30	20.0	 12 18	1.58	7.9	67
35	24.0	 6 11 18	2.90	12.1	69
40	28.0	 6 11 23	2.63	9.4	70
		 6 10 24	2.36	8.5	70
42	29.6	 6 18 18 (single drive)	3.14	10.6	71
		(double drive)	2.55	8.6	71
44	31.2	 6 18 20 (single drive)	2.43	7.8	71
		6 15 23 (double drive)	1.81	5.8	71
35	24.0	 6 11 9 9	2.90	12.1	69
40	28.0	 6 11 8 15	2.64	9.4	70
		6 10 8 16	2.36	8.5	70
42	29.6	 6 18 9 9 (single drive)	3.14	10.6	71
		(double drive)	2.55	8.6	71
44	31.2	 6 18 8 12 (single drive)	2.50	8.0	71
		6 15 8 15 (double drive)	1.82	5.8	71

(1) Payload calculated from formula in Doc. VII/263/78

(2) No. of Standard axles per 100 tonnes of payload carried.

DAMAGE NUMBERS OF EXISTING VEHICLES

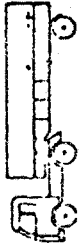

I. RIGID VEHICLES

Country	Payload		CONFIGURATION	No of 10t Standard axles	Damage No SA's per 100t PL	PL/GVM %	
	GVM	tonnes					
D	16	8.9	 6 10	1.13	12.7	56	
		9.2					6.1 10.2
		11.6					6 13
GB	16.3	9.2	 6 16	0.95	6.9	62	
							17.1
F	19.0	11.6	 12.2 18.3	2.98	25.8	61	
D	22	13.7	 12.2 18.3	1.70	8.3	67	
		17.1					
F	26	17.1					
GB	30.5	20.5					

DAMAGE NUMBERS OF EXISTING VEHICLES

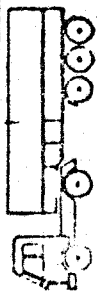

(iii)

II.a ARTICULATED VEHICLES (3 and 4 axles)

Country	GVW tonnes	Payload tonnes	CONFIGURATION	No of 10 t standard axles	Damage No. SA's per 100t PL	No PL/GW %					
D	26	16.8	 6 10 10	2.13	12.7	65					
I	30	20.0	6 12 12	4.27	21.4	67					
F	32	21.6	6 13 13	5.83	27.0	67					
GB	32.5	22.0	 6 10.2 16.3	2.09	9.5	68					
GB	32.5	22.0	5 7.1 20.4 (2m)	2.46	11.2	68					
D	36	24.8	6 10 20 (2m)	3.13	12.6	69					
F	38	26.4	6 12 20	4.21	17.6	70					
I	40	28.0	6 12 22 (2m)	5.13	18.3	70					








DAMAGE NUMBERS OF EXISTING VEHICLES

II.b ARTICULATED VEHICLES (5 and 6 axles)

Country	GVW	Payload	CONFIGURATION	No of 10t standard axles	Damage No. SA's per 100 t PL	PL/GVM %						
	tonnes											
D	38	26.4	 6 10 22	2.00	7.6	70						
							F	26.4	6 12 20	2.81	11.6	70
							I	31.2	6 12 26	3.89	12.5	71
DK	44	31.2	 6 16 22	2.13	6.8	71						
							NL	36.0	6 18 26	3.12	8.6	72

DAMAGE NUMBERS OF EXISTING VEHICLES

III. ROAD TRAINS

Country	GVW	Payload	CONFIGURATION	No. of 10t Standard axles	No. of Damage SA's per 100t PL	PL/GVW %
	tonnes					
D	32	21.6	 6 10 8 8	1.95	9.0	68
	40	28.0	 6 12 11 11	5.13	18.3	70
I	38	26.4	 6 10 6 16	2.08	7.9	70
	44	31.2	 6 12 7 19	4.08	13.1	71
D	38	26.4	 6 16 8 8	2.08	7.9	70
	44	31.2	 6 18 10 10	3.54	11.4	71
NL	50	36.0	 6 18 8 18	3.27	9.1	72

Influence of road damage factors proposed by the industry

Country Proposed	GVW tonnes	Payload tonnes	Configuration	Damage No. SAs/100 t PL			PL/ GVW %
				A	G ₁	G ₂	
F	38.0	26.4	6 12 20	16.0	17.6	15.6	70
D	36.0	24.8	6 10 20 (> 2m)	12.6	14.4	12.8	69
I	40.0	28.0	5 12 22 (> 2m)	18.3	19.8	17.6	70
GB	32.5	22.0	6 10.2 16.3	9.5	11.5	10.9	68
GB	32.5	22.0	5 7.1 20.4 (> 2m)	11.2	12.1	10.8	68
Pr.	35.0	24.0	6 11 18	12.1	13.9	12.4	69
F	38.0	26.4	6 12 20	11.6	15.2	13.5	70
D	38.0	26.4	6 10 22	7.6	13.4	12.3	70
I	44.0	31.2	6 12 26	12.5	20.7	18.2	71
Pr.	40.0	28.0	6 11 23	9.4	16.1	14.2	70
Pr.	42.0	29.6	6 11/7 18	10.6	12.1	10.4	71
Pr.	42.0	29.6	18	9.3	10.8	9.6	71
NL	50.0	36.0	6 18 25	8.6	15.7	14.0	72
Pr.	44.0	31.2	6 11/7 20	7.8	11.7	10.4	71
Pr.	44.0	31.2	18	7.3	11.1	9.7	71

- ⊙ Axle with twin tyres
- Driven axle (twin tyres)

An explanation of the damage numbers A, G₁, and G₂ is given in Section 4 of this note.

II.

PROPOSAL FOR A COUNCIL DIRECTIVE

on the weights and certain other characteristics (not including dimensions) of road vehicles used for the carriage of goods

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and, in particular Article 75 thereof;

Having regard to the proposal from the Commission;

Having regard to the opinion of the European Parliament;

Having regard to the opinion of the Economic and Social Committee;

Whereas it is necessary, in the framework of the common transport policy, to establish maximum standards for the weights and other characteristics of certain vehicles which will permit these vehicles to be used in every Member State;

Whereas the establishment of maximum limits for vehicle weight will also permit the development of a more homogeneous market for heavy motor vehicles;

Whereas it is desirable that motor vehicles which are to be permitted free circulation in the Community should conform to the latest Community standards on noise, emissions, steering and braking;

Whereas the requirements of safety or the protection of the infrastructure or the environment may necessitate Member States' excluding the heavier motor vehicles from certain routes or structures or restricting the carriage of dangerous goods to certain vehicles,

HAS ADOPTED THIS DIRECTIVE :

Article 1

This Directive applies to the weights and certain other characteristics (not including dimensions) of the goods vehicles and trailers referred to in Annex I. These vehicles are intended to be used on the road and have at least four wheels, a maximum laden weight exceeding 3.5 tonnes and a maximum design speed exceeding 25 km/h.

Article 2

In this Directive,

- a "combined vehicle" means either a rigid motor vehicle coupled to a drawbar trailer or an articulated vehicle consisting of a tractive unit coupled to a semi-trailer,
- a "motor vehicle" means either a rigid motor vehicle or a tractive unit for an articulated vehicle.

Article 3

Member States shall not refuse or prohibit the sale, the registration, the putting into circulation or the use of vehicles on grounds relating to the characteristics dealt with in this Directive and its Annexes if the vehicles conform with the requirements specified herein.

Article 4

1. To conform with this Directive: -

- a) a vehicle must be equipped in an easily accessible position with a plate on which are entered:

- (i) the unladen weight of the vehicle,
 - (ii) the maximum authorized weight of the vehicle,
 - (iii) the maximum weight for each axle of the vehicle,
 - (iv) a symbol identifying the vehicle as being in conformity with this Directive,
 - (v) for motor vehicles only, the maximum train weight if greater than the maximum authorized weight in (ii) above;
- b) the maximum authorized weight, the maximum weight for each axle and the maximum train weight entered on the plate shall not exceed the limits specified in Annexes I and II.
2. On the basis of a proposal from the Commission, the Council shall, before 1 January 1980, adopt measures on the form of the plate referred to in this Article.

Article 5

1. A vehicle when in use shall be regarded as conforming with this Directive if: -
- a) The total laden weight of the vehicle does not exceed the maximum authorized weight entered on the plate,
 - b) The total laden weight of a combined vehicle does not exceed the limits specified in Annex I,
 - c) no axle weight exceeds the limit entered on the plate by more than 5 %,
 - d) the weight borne by the driving axle or driving axles of a vehicle or combined vehicle is not less than 20 % of the total laden weight of the vehicle or combined vehicle,
 - e) the distance between the centres of the rear axle of the motor vehicle and the front axle of any trailer or semi-trailer is not less than 3.0 metres.

2. After consulting the Commission, a Member State may fix the ratio specified in paragraph 1(d) at up to 25 % for vehicles used on its territory.

Article 6

Member States shall take the necessary measures to ensure that any vehicle fitted with a plate as specified in Article 4 conforms with the technical provisions of the Community Directives on type approval listed in Annex III.

Article 7

The Member States may, after consulting the Commission on the general nature of the measures proposed: -

- a) derogate from the provisions of Article 3 in the case of vehicles used for the carriage of dangerous goods,
- b) exclude vehicles conforming to this Directive from certain routes or structures for reasons of safety or of protection of the infrastructure or the environment. Such measures shall apply to all vehicles with the same weight or other characteristics.

Article 8

1. The Member States shall, after consulting the Commission, adopt the measures necessary to ensure compliance with this Directive within eighteen months from its notification and shall forthwith inform the Commission thereof.
2. They shall apply such measures from 1 January 1983.

Article 9

This Directive is addressed to the Member States.

Maximum weights of vehicles and
combined vehicles

1. Maximum authorized weight of a vehicle

1.1. Rigid motor vehicles

- vehicle with three axles 24 tonnes
- vehicles with four axles 30 tonnes
(two steered axles)

1.2. Vehicles forming part of a combined vehicle

- motor vehicle with two axles 17 tonnes
- motor vehicle with three axles 24 tonnes
- trailer with two axles 18 tonnes
- trailer with three axles 24 tonnes
- semi-trailer (axle loading)
 - with two axles 18 tonnes
 - with three axles 24 tonnes

1.3. Combined vehicles (articulated vehicles and road trains)

- motor vehicle with two axles
 - + trailer or semi-trailer
 - with two axles 35 tonnes
 - with three axles 40 tonnes
- motor vehicle with three axles
 - + trailer or semi-trailer
 - with two axles 42 tonnes
 - with three axles 44 tonnes

(ii)

2. Maximum train weight of a motor vehicle

The maximum train weight entered on the plate of a motor vehicle designed to tow a trailer or a semi-trailer shall be determined by the competent authorities of the Member States after consulting the manufacturer and taking account of all appropriate factors including braking, stability and available power. The maximum train weight in tonnes shall not exceed one fifth of the available power of the engine measured in kilowatts.

3. Maximum weight technically admissible

Where the vehicle is not constructed to carry the maximum authorized weight specified in section 1 of this Annex, or where the axle spacing could cause overloading of bridges, the maximum authorized weight shown on the plate specified in Article 4 shall be reduced accordingly.

Axle spacings and maximum weight per axle

1. The maximum axle weight of the sole driving axle of a combined vehicle shall not exceed 11 tonnes
2. The maximum axle weight of any other single axle shall not exceed 10 tonnes
3. Where the axle spacing is less than 2.0 metres, the sum of the maximum axle weights of a tandem axle shall not exceed 18 tonnes
4. The sum of the axle weights of a tri-axle shall not exceed 24 tonnes
5. The maximum axle spacing of a tri-axle shall not exceed 2.8 metres
6. The competent authorities in the Member States may fix lower limits for the axle weights of steered axles or those fitted with single or super-single tyres, or for other axles where the vehicle is unsuitable for the full axle weight to be permitted.

(ii)

b) Measures to be taken against the emission of pollutants from diesel engines for use in motor vehicles.

<u>Directive</u>	<u>Official Journal Reference</u>	
Council Directive 72/306/EEC	L 190/1	20.08.1972
Corrigendum	L 215/20	06.08.1974

3. BRAKING

Braking devices of certain categories of motor vehicles and their trailers.

<u>Directives</u>		
Council Directive 71/320/EEC	L 202/37	06.09.1971
Commission Directives 74/132/EEC	L 74 7	19.03.1974
75/524/EEC	L 236/3	08.09.1975

4. STEERING

Steering equipment for motor vehicles and their trailers.

<u>Directives</u>		
Council Directive 70/311/EEC	L 133/10	18.06.1970

Community type-approval legislation to which vehicles authorized by this Directive, whether new or already in service, shall conform

1. NOISE

The permissible sound level and the exhaust system motor vehicles.

<u>Directive</u>	<u>Official Journal Reference</u>	
Council Directive 70/157/EEC	L 42/16	23.02.1970
Commission Directive 73/350/EEC	L 321/33	22.11.1973
Council Directive 77/212/EEC	L 66/33	12.03.1977

2. EMISSIONS

a) Measures to be taken against air pollution by gases from positive ignition engines of motor vehicles.

<u>Directive</u>		
Council Directives 70/220/EEC	L 76/23	06.04.1970
74/290/EEC	L 159/61	15.06.1974
Commission Directives 77/102/EEC	L 32/32	03.02.1977
78/665/EEC	L 223/48	14.08.1978