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II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DIRECTIVE

of 18 April 1979

adapting to technical progress Council Directive 74/483/EEC on the approximation of the laws of the Member States relating to the external projections of motor vehicles

(79/488/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 74/483/EEC of 17 September 1974 on the approximation of the laws of the Member States relating to the external projections of motor vehicles ⁽³⁾,

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 luggage racks, ski racks and radio receiving or transmitting aerials are already marketed both separately and after being fitted to a vehicle; whereas if

it is possible to check them before they are fitted to a vehicle their free movement may be facilitated by the introduction of EEC type-approval for such systems considered as separate technical units within the meaning of Article 9a of Directive 70/156/EEC;

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,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 74/483/EEC is amended as follows:

1. Articles 2, 3 and 4 are replaced by the following:

'Article 2

No Member State may, on grounds relating to external projections, refuse to grant EEC type-approval or national type-approval for a motor vehicle, or for luggage racks, ski racks or radio receiving or transmitting aerials considered as separate technical units, if:

— the vehicle complies with the provisions of Annexes I and II as regards external projections,

⁽¹⁾ OJ No L 42, 23. 2. 1970, p. 1.

⁽²⁾ OJ No L 168, 26. 6. 1978, p. 39.

⁽³⁾ OJ No L 266, 2. 10. 1974, p. 4.

- the luggage racks, ski racks or radio receiving or transmitting aerials considered as separate technical units within the meaning of Article 9a of Directive 70/156/EEC comply with the provisions of Annex I.

Article 3

1. No Member State may, on grounds relating to external projections, refuse to register or prohibit the sale, entry into service or use of any vehicle provided that the external projections comply with the provisions of Annexes I and II.
2. No Member State may, on grounds relating to external projections, prohibit the placing on the market of any luggage rack, ski rack or radio receiving or transmitting aerial considered as separate technical units within the meaning of Article 9a of Directive 70/156/EEC if it conforms to a type for which type-approval has been granted within the meaning of Article 2.

Article 4

A Member State which has granted type-approval shall take the measures necessary to ensure that it is informed of any modification to a part or characteristic referred to in item 2.2 of Annex I. The competent authorities of that Member State shall determine whether fresh tests should be carried out on the modified type and a fresh report drawn up. Where such tests reveal that the requirements of this Directive have not been complied with, the modification shall not be authorized.'

2. Annexes I, II and III to Directive 74/483/EEC are hereby amended in accordance with the Annex to this Directive.

Article 2

1. As from 1 January 1980, Member States shall not, on grounds relating to external projections :
 - refuse, in respect of a type of motor 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
 - refuse to grant EEC type-approval for luggage racks, ski racks or radio receiving or transmitting

aerials considered as separate technical units within the meaning of Article 9a of Directive 70/156/EEC, or

- prohibit the entry into service of vehicles,

where the external projections of such type of vehicle or of such vehicles or of the aforementioned separate technical units comply with the provisions of Directive 74/483/EEC, as last amended by this Directive.

2. As from 1 October 1981 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 if its external projections do not comply with the provisions of Directive 74/483/EEC, as last amended by this Directive,
- may refuse national type-approval of a type of motor vehicle if its external projections do not comply with the provisions of Directive 74/483/EEC, as last amended by this Directive.

3. As from 1 October 1983, Member States may prohibit the entry into service of any vehicle if its external projections do not comply with the provisions of Directive 74/483/EEC, as last amended by this Directive.

4. Before 1 January 1980, Member States shall bring into force the provisions necessary in order to comply with this Directive, and shall forthwith inform the Commission thereof.

Article 3

This Directive is addressed to the Member States.

Done at Brussels, 18 April 1979.

For the Commission

Étienne DAVIGNON

Member of the Commission

ANNEX

Amendments to the Annexes to Directive 74/483/EEC

ANNEX I:

GENERAL DEFINITIONS, APPLICATIONS FOR EEC TYPE-APPROVAL, EEC TYPE-APPROVAL, GENERAL SPECIFICATIONS, PARTICULAR SPECIFICATIONS, CONFORMITY OF PRODUCTION

Item 1.1 is to be re-worded as follows:

- '1.1. The provisions of this Annex do not apply to exterior rear-view mirrors or to the ball of towing devices.'

Item 1.2 add the following sentence:

- 'This is valid both when the vehicle is stationary and in motion.'

Item 2.3 is to be re-worded as follows:

- '2.3. "external surface" means the outside of the vehicle including the bonnet, the lid of the luggage compartment, the doors, the wings, the roof, the lighting and light-signalling devices and the visible strengthening components;'

Item 2.4 is to be re-worded as follows:

- '2.4. "floor line" means the line determined as follows:

successively position round a laden vehicle a cone with a vertical axis the height of which is not defined, and with a half angle of 30° in such a way that it contacts, constantly and as low as possible, the external surface of the vehicle. The floor line is the geometric trace of these points of contact. In determining the floor line, the jacking points, exhaust pipes or wheels shall not be taken into consideration. The gaps of the wheel arches are assumed to be filled in by an imaginary surface forming a smooth continuation of the surrounding external surface. At both ends of the vehicle the bumper shall be taken into consideration when establishing the floor line. Dependent upon the particular vehicle the floor line trace may occur at the bumper section extremity or at the body panel below the bumper. Where two or more points of contact occur simultaneously, the lower point of contact shall be used to determine the floor line;'

Item 2.5 is to be re-worded as follows:

- '2.5. "radius of curvature" means the radius of the arc of a circle which comes closest to the rounded form of the component under consideration;'

After item 2.5 the following new items 2.6, 2.7, 2.8 and 2.9 shall be added:

- '2.6. "Laden vehicle" means the vehicle laden to the maximum permitted technical mass. Vehicles equipped with hydropneumatic, hydraulic or pneumatic suspension or a device for automatic levelling according to load shall be tested with the vehicle in the most adverse normal running condition specified by the manufacturer.
- 2.7. "Extreme outer edge" of the vehicle means, in relation to the sides of the vehicle, the plane parallel to the median longitudinal plane of the vehicle coinciding with its outer lateral edge, and, in relation to the front and rear ends, the perpendicular transverse plane of the vehicle coinciding with its outer front and rear edges, account not being taken of the projection:
- 2.7.1. of tyres near their point of contact with the ground, and connections for tyre pressure gauges;
- 2.7.2. of any anti-skid devices which may be mounted on the wheels;
- 2.7.3. of rear-view mirrors;
- 2.7.4. of side direction indicator lamps, end outline marker lamps, front and rear position (side) lamps and parking lamps;
- 2.7.5. in relation to the front and rear ends, of parts mounted on the bumpers, of towing devices and of exhaust pipes;

- 2.8. "The dimension of the projection" of a component mounted on a panel means the dimension determined by the method described in Annex II, item 2.
- 2.9. "The nominal line of a panel" means the line passing through the two points represented by the position of the centre of a sphere when its surface makes its first and last contact with a component during the measuring procedure described in Annex II, item 2.2.'

Item 3 is to be re-worded as follows:

3. APPLICATION FOR EEC TYPE-APPROVAL

3.1. Application for EEC type-approval of a vehicle type in respect of its external projections

- 3.1.1. The application for EEC type-approval of a vehicle type in respect of its external projections shall be submitted by the vehicle manufacturer or by his authorized representative.
- 3.1.2. It shall be accompanied by the undermentioned documents in triplicate:
 - 3.1.2.1. photographs of the front, rear, and side parts of the vehicle taken at an angle of 30° to 45° to the vertical longitudinal median plane of the vehicle;
 - 3.1.2.2. drawings of the bumpers;
 - 3.1.2.3. where appropriate, drawings of specific external projections and, if necessary, of certain sections of the external surface referred to in item 6.9.1.
- 3.1.3. A vehicle representative of the type of vehicle to be approved shall be submitted to the technical service responsible for type-approval. At the request of the technical service, the specific components or samples of the materials used shall likewise be submitted.

3.2. Application for EEC type-approval in respect of luggage racks, ski racks or radio receiving or transmitting aerials considered to be separate technical units

- 3.2.1. Applications for EEC type-approval in respect of luggage racks, ski racks or radio receiving or transmitting aerials considered to be separate technical units within the meaning of Article 9a of Directive 70/156/EEC shall be submitted by the vehicle manufacturer or the manufacturer of the aforementioned separate technical units, or by their authorized representative.
- 3.2.2. For every type of any one of the devices referred to in item 3.2.1 above, the application shall be accompanied by the following:
 - 3.2.2.1. triplicate copies of documents specifying the technical characteristics of the separate technical unit and the assembly instructions to be supplied with every separate technical unit sold;
 - 3.2.2.2. a specimen of the type of separate technical unit. Should the responsible authority consider it necessary, it may request a further specimen. The specimens shall be clearly and indelibly inscribed with the mark specified in Article 9a (3) of Directive 70/156/EEC. As far as luggage racks and ski racks are concerned, provision shall be made for the subsequent compulsory display of the EEC type-approval number. The type-approval number shall be preceded by the international registration letter(s) of the country granting such approval ⁽¹⁾.

Item 4.6 is to be re-worded as follows:

- 4.6.1. When approval is granted for an application under item 3.1, a form conforming to the model in Annex III shall be attached to the type-approval certificate.
- 4.6.2. When approval is granted for an application under item 3.2, a form conforming to the model in Annex IV shall be issued.
- 4.6.3. Where reference is made in an application under item 3.1 to a form of the type illustrated in Annex IV, the scope of the vehicle test shall be reduced accordingly in respect of the external projections. In such cases, the type-approval certificate for the vehicle shall be accompanied by a copy of the type-approval certificate for the separate technical unit.'

⁽¹⁾ B = Belgium, D = Germany, DK = Denmark, F = France, GB = United Kingdom, I = Italy, IRL = Ireland, L = Luxembourg, NL = Netherlands.

Item 5.1.3 is to be re-worded as follows:

'5.1.3. so located that, in their static condition as well as when in operation, they cannot be contacted by a sphere 100 mm in diameter.'

Item 5.4 is to be re-worded as follows:

'5.4. No protruding part of the external surface shall have a radius of curvature less than 2.5 mm. This requirement shall not apply to parts of the external surface which protrude less than 5 mm, but the outward facing angles of such parts shall be blunted, save where such parts protrude less than 1.5 mm.'

Item 5.5 the following sentences shall be added:

'The hardness measurement shall be taken with the component as installed on the vehicle. Where it is impossible to carry out a hardness measurement by the Shore A procedure, comparable measurements shall be used for evaluation.'

After item 5.5, the following new item 5.6 shall be added:

'5.6. The provisions of the above items 5.1 to 5.5 shall apply in addition to the particular specifications of the following item 6, except where these particular specifications expressly provide otherwise.'

Item 6.1.1 the following sentences shall be added:

'To apply the 10 daN force a flat-ended ram of not more than 50 mm diameter shall be used. Where this is not possible, an equivalent method shall be used. After the ornaments are retracted, detached or bent over, the remaining projections shall not project more than 10 mm. These projections shall in any case satisfy the provisions of item 5.2. If the ornament is mounted on a base, this base is regarded as belonging to the ornament and not to the supporting surface.'

Item 6.1.3 shall be deleted.

Item 6.2.1 shall be completed as follows:

'In the case of a headlight mounted behind an additional transparent surface, the projection shall be measured from the outermost transparent surface. The projections shall be determined according to the method described in item 3 of Annex II.'

After item 6.2.2, the following new item 6.2.3 shall be added:

'6.2.3. The provisions of item 6.2.1 above do not apply to headlights which are sunk into the bodywork or which are "overhung" by the bodywork, if the latter complies with the requirements of item 6.9.1.'

Item 6.3.1 is to be re-worded as follows:

'6.3.1. The requirements of item 5.4 shall not apply to gaps between fixed or movable elements, including those forming part of air intake or outlet grilles and radiator grilles, provided that the distance between consecutive elements does not exceed 40 mm and provided that the grilles and gaps have a functional purpose. For gaps of between 40 mm and 25 mm the radii of curvature shall be 1 mm or more. However, if the distance between two consecutive elements is equal to or less than 25 mm, the radii of curvature of external faces of the elements shall not be less than 0.5 mm. The distance between two consecutive elements of grilles and gaps shall be determined according to the method described in item 4 of Annex II.'

Item 6.4.1 is to be re-worded as follows:

'6.4.1. The windscreen wiper fittings shall be such that the wiper shaft is furnished with a protective casing which has a radius of curvature meeting the requirements of item 5.4 above and an end surface area of not less than 150 mm². In the case of rounded covers, these shall have a minimum projected area of 150 mm² when measured not more than 6.5 mm from the point projecting furthest. These requirements shall also be met by rear window wipers and headlight wipers.'

Item 6.4.2 is to be re-worded as follows:

'6.4.2. Item 5.4 shall not apply to the wiper blades or to any supporting members. However, these units shall be so made as to have no sharp angles or pointed or cutting parts.'

Item 6.5.1 is to be re-worded as follows:

- '6.5.1. The ends of the bumpers shall be turned in towards the external surface in order to minimize the risk of fouling. This requirement is considered to be satisfied if either the bumper is recessed or integrated within the bodywork or the end of the bumper is turned in so that it is not contactable by a 100 mm sphere and the gap between the bumper end and the surrounding bodywork does not exceed 20 mm.'

After item 6.5.2 the following new item 6.5.3 shall be added:

- '6.5.3. The requirement of item 6.5.2 shall not apply to parts on or of the bumper or to bumper insets which have a projection of less than 5 mm, with special reference to joint covers and jets for headlight washers; but the outward facing angles of such parts shall be blunted, save where such parts protrude less than 1.5 mm.'

Item 6.6 is to be re-worded as follows:

- '6.6. **Handles, hinges and push-buttons of doors, luggage compartments and bonnets; fuel tank filler caps and covers**

- 6.6.1. The projection shall not exceed 40 mm in the case of door or luggage compartment handles and 30 mm in all other cases.

- 6.6.2. If lateral door handles rotate to operate, they shall meet one or other of the following requirements:

- 6.6.2.1. In the case of handles which rotate parallel to the plane of the door the open end of handles must be directed towards the rear. The end of such handles shall be turned back towards the plane of the door and fitted into a protective surround or be recessed.

- 6.6.2.2. Handles which pivot outwards in any direction which is not parallel to the plane of the door shall, when in the closed position, be enclosed in a protective surround or be recessed. The open end shall face either rearwards or downwards.

Nevertheless, handles which do not comply with this last condition may be accepted if:

- they have an independent return mechanism,
- should the return mechanisms fail, they cannot project more than 15 mm,
- they comply, in such opened position, with the provisions of item 5.4, and
- their end surface area, when measured not more than 6.5 mm from the point projecting furthest, is not less than 150 mm².

Item 6.7 is to be re-worded as follows:

- '6.7. **Wheels, wheel nuts, hub caps and wheel discs**

Item 6.7.2 is to be re-worded as follows:

- '6.7.2. The wheels, wheel nuts, hub caps and wheel discs shall not exhibit any pointed or sharp projections that extend beyond the external plane of the wheel rim. Wing nuts shall not be allowed.'

Item 6.8.1 the following new sentence shall be added:

- 'An unprotected edge shall be considered to be folded back either if it is folded back by approximately 180°, or if it is folded towards the bodywork in such a manner that it cannot be contacted by a sphere having a diameter of 100 mm.'

Item 6.9.1 last line shall read:

- '... Annex II, item 1.' instead of '... Annex II.'

Item 6.11 is to be re-worded as follows:

- '6.11. **Jacking brackets and exhaust pipes**

- 6.11.1. The jacking brackets and exhaust pipe(s) shall not project more than 10 mm beyond the vertical projection of the floor line lying vertically above them. As an exception to this requirement an exhaust pipe may project more than 10 mm beyond the vertical projection of the floor line, so long as it terminates in rounded edges, the minimum radius of curvature being 2.5 mm.'

After item 6.11 the following new items 6.12 to 6.18 shall be added:

6.12. Air intake and outlet flaps

- 6.12.1. Air intake and outlet flaps shall meet the requirements of items 5.2, 5.3 and 5.4 in all positions of use.

6.13. Roof

- 6.13.1. Opening roofs shall be considered only in the closed position.
- 6.13.2. Convertible vehicles shall be examined with the hood in both the raised and lowered positions.
- 6.13.2.1. With the hood lowered, no examination shall be made of the vehicle inside an imaginary surface formed by the hood when in the raised position.
- 6.13.2.2. Where a cover for the linkage of the hood when folded is provided as standard equipment, the examination shall be made with the cover in position.

6.14. Windows

- 6.14.1. Windows which move outwards from the external surface of the vehicle shall comply with the following provisions in all positions of use:
- 6.14.1.1. no exposed edge shall face forwards;
- 6.14.1.2. no part of the window shall project beyond the extreme outer edge of the vehicle.

6.15. Registration plate brackets

- 6.15.1. Supporting brackets provided by the vehicle manufacturer for registration plates shall comply with the requirements of item 5.4 of this Annex if they are contactable by a 100 mm diameter sphere when a registration plate is fitted in accordance with the vehicle manufacturer's recommendation.

6.16. Luggage racks and ski racks

- 6.16.1. Luggage racks and ski racks shall be so attached to the vehicle that positive locking exists in at least one direction and that horizontal, longitudinal and transverse forces can be transmitted which are at least equal to the vertical load-bearing capacity of the rack as specified by its manufacturer. For the test of the luggage rack or ski rack fixed to the vehicle according to the manufacturer's instructions, the test loads shall not be applied at one point only.
- 6.16.2. Surfaces which, after installation of the rack, can be contacted by a sphere of 165 mm diameter shall not have parts with a radius of curvature less than 2.5 mm, unless the provisions of 6.3 can be applied.
- 6.16.3. Fastening elements such as bolts that are tightened or loosened without tools shall not project more than 40 mm beyond the surfaces referred to in 6.16.2, the projection being determined according to the method prescribed in Annex II, item 2, but using a sphere of 165 mm diameter in those cases where the method prescribed in item 2.2 of that Annex is employed.

6.17. Radio receiving or transmitting aerials

- 6.17.1. Radio receiving or transmitting aerials shall be fitted to the vehicle in such a way that if their unattached end is less than 2 m from the road surface in any position of use specified by the manufacturer of the aerial, it shall be inside the zone bounded by the vertical planes which are 10 cm inside the extreme outer edge of the vehicle as defined in item 2.7.
- 6.17.2. Furthermore, aerials shall be so fitted to the vehicle, and if necessary their unattached ends so restricted, that no part of the aerials protrude beyond the extreme outer edge of the vehicle as defined in item 2.7.
- 6.17.3. Shafts of aerials may have radii of curvature of less than 2.5 mm. However, the unattached ends shall be fitted with fixed cappings, the radii of curvature of which are not less than 2.5 mm.
- 6.17.4. The bases of aerials shall not project more than 30 mm when determined according to the procedure of Annex II, item 2. However, in the case of aerials with amplifiers built into the base, these bases may project up to 40 mm.

6.18. Assembly instructions

- 6.18.1. Luggage racks, ski racks and radio receiving or transmitting aerials that have been type-approved as separate technical units may not be offered for sale, sold or purchased unless accompanied by assembly instructions. The assembly instructions shall contain sufficient information to enable the approved components to be mounted on the vehicle in a manner that complies with the relevant provisions of items 5 and 6. In particular, the positions of use must be indicated for telescopic aerials.'

ANNEX II: The title is to be re-worded as follows:

'METHODS OF DETERMINING THE DIMENSIONS OF PROJECTIONS AND GAPS'

Item 1 is to be re-worded as follows:

- '1. METHOD OF DETERMINING THE HEIGHT OF THE PROJECTION OF FOLDS IN BODY PANELS'

The present items 1, 2, 3 and 4 are renumbered and become items 1.1, 1.2, 1.3 and 1.4.

After item 1, the following new items 2, 3 and 4 shall be added:

- '2. METHOD OF DETERMINING THE DIMENSION OF THE PROJECTION OF A COMPONENT MOUNTED ON THE EXTERNAL SURFACE
- 2.1. The dimension of the projection of a component which is mounted on a convex surface may be determined either directly or by reference to a drawing of an appropriate section of this component in its installed condition.
- 2.2. If the dimension of the projection of a component which is mounted on a surface other than convex cannot be determined by simple measurement, it shall be determined by the maximum variation of the distance of the centre of a 100 mm diameter sphere from the nominal line of the panel when the sphere is moved over and is in constant contact with that component. Figure 3 shows an example of the use of this procedure.
3. METHOD OF DETERMINING THE PROJECTION OF HEADLIGHT VISORS AND RIMS
- 3.1. The projection from the external surface of the headlight shall be measured horizontally from the point of contact of a 100 mm diameter sphere as shown in Figure 4.
4. METHOD OF DETERMINING THE DIMENSION OF A GAP OR THE SPACE BETWEEN ELEMENTS OF A GRILLE
- 4.1. The dimension of a gap or space between elements of a grille shall be determined by the distance between two planes passing through the points of contact of the sphere and perpendicular to the line joining those points of contact. Figures 5 and 6 show examples of the use of this procedure.'

After Figure 2 add Figures 3 to 6.

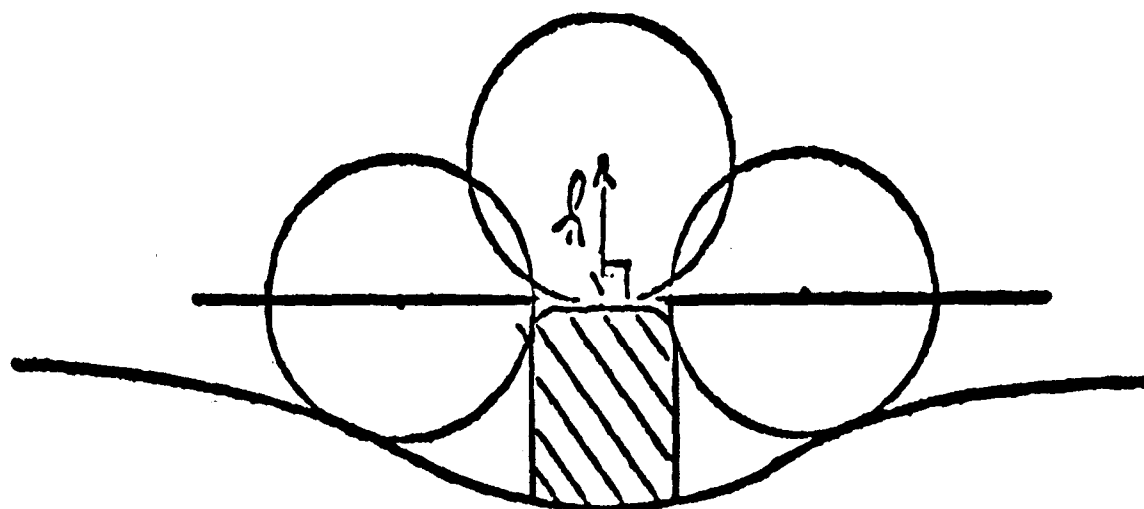


Figure 3

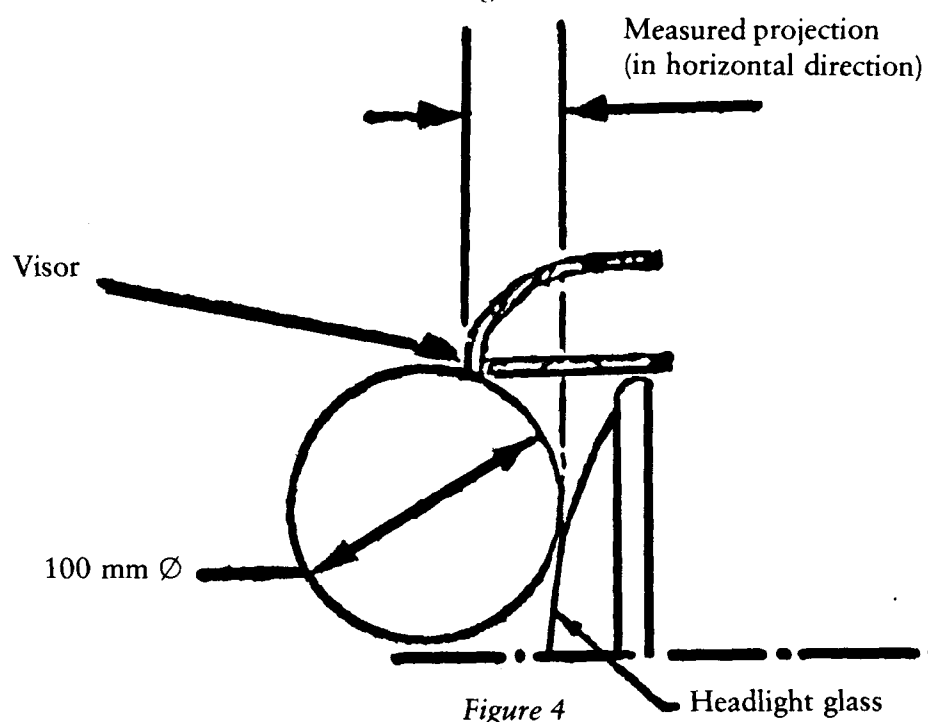


Figure 4

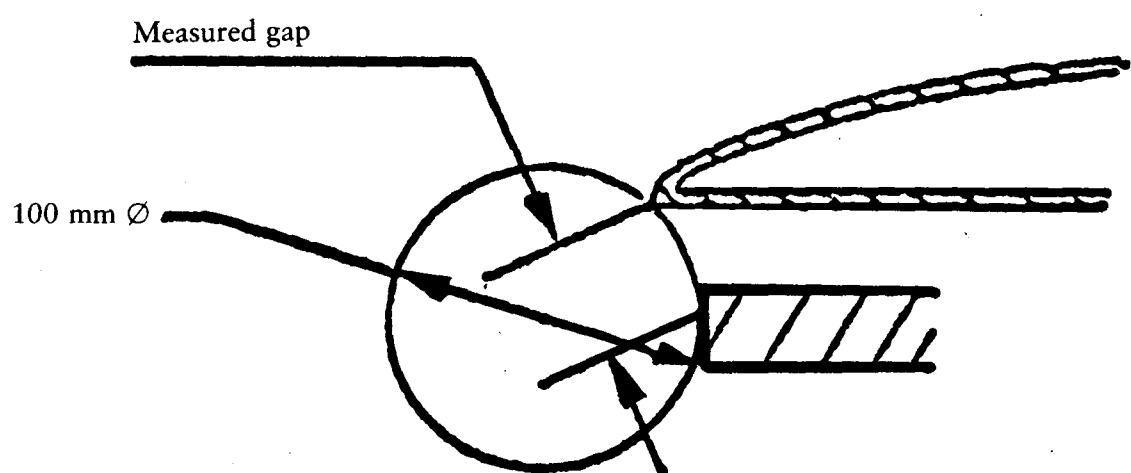


Figure 5

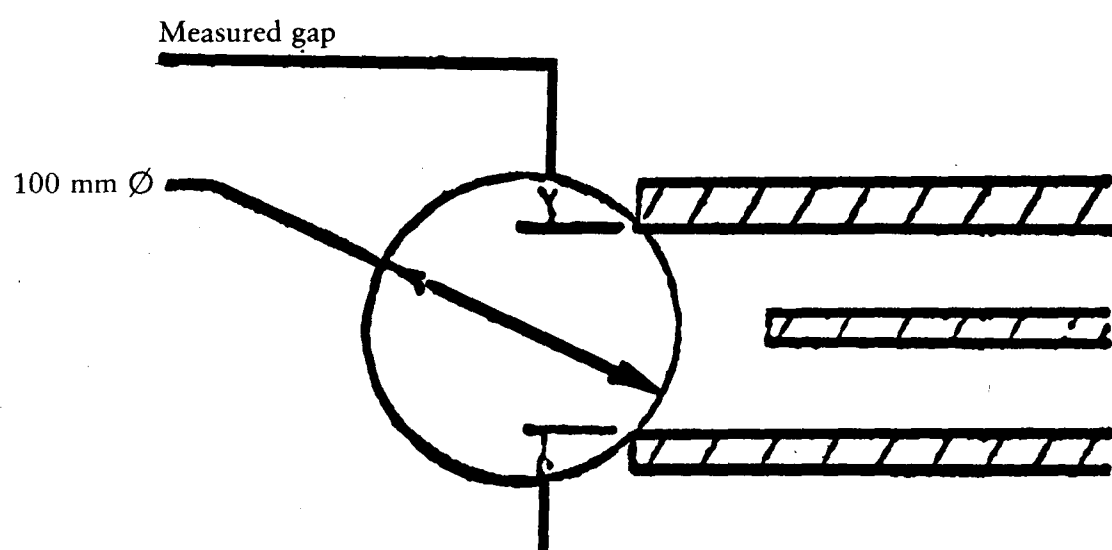


Figure 6

ANNEX III: The title is to be re-worded as follows:

‘ANNEX III

MODEL

Name of administration

ANNEX TO THE EEC TYPE-APPROVAL CERTIFICATE WITH REGARD TO EXTERNAL PROJECTIONS

(Articles 4 (2) and 10 of the Council Directive 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)

Having regard to the amendments in accordance with Directive 79/488/EEC’

After Annex III the following new Annex IV shall be added:

‘ANNEX IV

MODEL

(Maximum format: A4 (210 × 297 mm)

Name of administration

EEC TYPE-APPROVAL CERTIFICATE FOR A SEPARATE TECHNICAL UNIT

(Article 9a of 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)

Separate technical unit: type of luggage rack, ski rack, radio receiving or transmitting aerial ⁽¹⁾

EEC type-approval number for the separate technical unit

1. Trade name or mark
2. Type
3. Manufacturer's name and address
.....
4. Name and address of manufacturer's authorized representative, if any
.....
5. Characteristics of the separate technical unit
.....
6. Limitations of use, if any, and assembly instructions
.....
7. Specimen required for EEC type-approval of a separate technical unit submitted on
8. Technical service
9. Date of test report issued by that service
10. Number of test report issued by that service
11. EEC type-approval for separate technical units has been granted/refused ⁽¹⁾ in respect of the luggage rack(s), ski rack(s), radio receiving or transmitting aerial(s) ⁽¹⁾
12. Place
13. Date
14. Signature
15. The following documents, bearing the abovementioned EEC type-approval number for a separate technical unit, are annexed to this certificate: (give details where appropriate)
16. Remarks

⁽¹⁾ Delete as appropriate.

COMMISSION DIRECTIVE

of 18 April 1979

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

(79/489/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 75/524/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 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,

HAS ADOPTED THIS DIRECTIVE :

Article 1

1. Annexes I, II, III, IV, V, VI and IX to Directive 71/320/EEC are hereby amended in accordance with the Annex to this Directive.

⁽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 236, 8. 9. 1975, p. 3.

2. Pending the entry into force of special provisions concerning wheel anti-locking systems, vehicles of categories M₁, M₂, M₃, N₁, N₂, N₃, O₃ and O₄ which are fitted with these systems shall be subject to the provisions of Directive 71/320/EEC, as last amended by this Directive.

Article 2

1. As from 1 January 1980, 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 October 1980, 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,

— shall 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 1981, 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.

4. Notwithstanding paragraphs 1 to 3, Member States shall implement the provisions of item 1.2.1 of Annex IV to Directive 71/320/EEC, as amended by this Directive, only with effect from 1 October 1983.

5. Before 1 January 1980, Member States shall bring into force the provisions necessary in order to comply with this Directive, and shall forthwith inform the Commission thereof.

Done at Brussels, 18 April 1979.

Article 3

This Directive is addressed to the Member States.

For the Commission

Étienne DAVIGNON

Member of the Commission

ANNEX

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

I. GENERAL PROVISIONS RELATING TO UNITS OF MEASUREMENT

The specifications of Directive 71/320/EEC and of its amending Directives shall be amended in accordance with the provisions of Directive 71/354/EEC as last amended by Directive 76/770/EEC relating to units of measurement.

For this purpose, in the Annexes to Directives 71/320/EEC, 74/132/EEC and 75/524/EEC:

- the word 'weight' shall be replaced by the word 'mass' and the words 'maximum weight' and 'total weight' shall be replaced by the words 'maximum mass',
- the values of force, torque and moment and pressure shall be expressed in the following units:
 - force: Newton (N),
 - torque and moment: Newton metre (Nm),
 - pressure: bar (bar).

The following rounded values shall be used to convert the units used before this Directive took effect into the abovementioned units:

force: 1 kgf or 1 kg = 10 N,
torque and moment: 1 mkgf or 1 mkg = 10 Nm,
pressure: 1 kgf/cm² or 1 kg/cm² = 1 bar.

Where appropriate, the forces corresponding to the vehicle mass or to parts of this mass (e.g. axle loads) must be used in the calculations prescribed in these Annexes.

II. SPECIAL PROVISIONS

ANNEX I: DEFINITIONS, REQUIREMENTS, CONSTRUCTION AND FITTING

Item 2.2.1.2.4 add at the end:

'this provision shall not apply where an auxiliary control permits at least partial actuation of the service braking system, as provided for in Annex II, item 2.1.3.6.'

Item 2.2.1.2.7 the first sentence shall read:

'Certain parts, such as the pedal and its bearing, the master cylinder and its piston or pistons (hydraulic systems), the control valve (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.'

Item 2.2.1.13 shall read:

'2.2.1.13. Any vehicle fitted with a service brake actuated by an energy reservoir must, where the prescribed secondary braking performance cannot be obtained by means of this brake without the use of stored energy, be provided with a warning device — in addition to a pressure gauge, where fitted — giving an optical or acoustic signal when the stored energy in any part of the system falls to a value at which, without recharging of the reservoir and irrespective of the load conditions of the vehicle, it is possible to apply the service brake control a fifth time after four full-stroke actuations and obtain the prescribed secondary braking performance (without faults in the service-brake transmission device and with the brakes adjusted as closely as possible). The warning device must be directly and permanently connected to the circuit. When the engine is running under normal operating conditions and there are no faults in the braking system, the warning device must give no signal except during the time required for charging the energy reservoir(s) after start-up of the engine.'

Item 2.2.1.19.2 add at the end:

'if this operation is achieved by a valve which is normally at rest, then such a valve may only be incorporated if its correct functioning can easily be checked by the driver, either from within the cab or from outside the vehicle, without the use of tools.'

ANNEX II: BRAKING TESTS AND PERFORMANCE OF BRAKING DEVICES

Item 1.3.2.1 the first line shall read:

'The service brakes of trailers of categories O₂, O₃ and O₄ shall be tested in such a manner that ...'

After item 2.1.3.5 a new item 2.1.3.6 shall be added:

'2.1.3.6. To check compliance with the requirements of Annex I, item 2.2.1.2.4, a type O test must be carried out, with the engine disengaged, at the test speed specified in item 2.1.1 for the relevant vehicle category. The mean fully developed deceleration on application of either the parking brake or the auxiliary control of the service brake, and the deceleration immediately before the vehicle stops, shall be not less than 1.5 m/s². The test shall be carried out with the vehicle laden, and compliance with the requirements shall be deemed to be met if the braking performance has been achieved once. The force exerted on the braking control shall not exceed the specified values. In the case of vehicles of category M₁ or N₁, fitted with a parking brake using friction linings other than those for the service braking system, the test may be carried out from 60 km/h at the request of the manufacturer. In this case, the mean fully-developed deceleration must be not less than 2.0 m/s²; deceleration immediately before the vehicle stops must not be less than 1.5 m/s².'

Item 2.2.1.3 shall read:

'2.2.1.3. Requirements relating to the testing of category O₃ vehicles. The same requirements apply as to category O₂.'

Item 2.2.1.4.1 shall read:

'2.2.1.4.1. The same requirements apply as apply to category O₂; in addition, these vehicles must be subjected to the Type II test.'

Item 2.3.2 shall read:

'2.3.2. In the case of vehicles fitted with compressed air braking devices, the requirements of item 2.3.1 are considered to be satisfied if the vehicle complies with the provisions of Annex III.'

ANNEX III

The title shall read:

'METHOD OF MEASURING THE REACTION TIME FOR VEHICLES FITTED WITH COMPRESSED AIR BRAKING DEVICES'

Item 1.3 shall read:

'1.3. The times determined in implementing the provisions of this Annex shall be rounded to the nearest 10th of a second. If the figure representing the 100ths is five or more, the reaction time shall be rounded up to the next higher 10th.'

The former item 1.4 shall be deleted.

Item 2.4 the last sentence shall be deleted.

Item 2.5 shall read:

'2.5. In the case of motor vehicles having a brake coupling for trailers, in addition to the requirements of item 1.1 the reaction time must be measured at the extremity of a pipe 2.5 m long with an internal diameter of 13 mm which shall be joined to the coupling head of the control line of the service brake. During this test a volume of $385 \pm 5 \text{ cm}^3$ (which is deemed

to be equivalent to the volume of a pipe 2.5 m long with an internal diameter of 13 mm and under a pressure of 6.5 bar) shall be connected to the coupling head of the supply line.

Tractive units for semi-trailers must be equipped with flexible pipes for making the connection to semi-trailers. The coupling heads will therefore be at the extremity of those flexible pipes. The length and internal diameter of the pipes shall be entered at item 14.6 of the document corresponding to the model described in Annex IX.'

Item 3.2 the second sentence shall be deleted.

Item 3.3.1 shall read:

'3.3.1. It must have a reservoir with a capacity of 30 litres which shall be charged to a pressure of 6.5 bar before each test and which must not be recharged during each test. At the outlet of the braking control device the simulator must incorporate an orifice with a diameter of from 4.0 to 4.3 mm inclusive. The volume of the pipe measured from the orifice up to and including the coupling head shall be $385 \pm 5 \text{ cm}^3$ (which is deemed to be equivalent to the volume of a pipe 2.5 m long with an internal diameter of 13 mm and under a pressure of 6.5 bar). The control line pressures referred to in item 3.3.3 shall be measured immediately downstream of the orifice.'

Item 3.3.2 shall read:

'3.3.2. The braking control device must be so designed that its performance in use is not affected by the tester.'

After item 3.3.2 the following new items 3.3.3 and 3.3.4 shall be added:

'3.3.3. The simulator must be set, e.g. through the choice of orifice in accordance with item 3.3.1, in such a way that, if a reservoir of $385 \pm 5 \text{ cm}^3$ is joined to it, the time taken for the pressure to increase from 0.65 to 4.9 bar (10 and 75% respectively of the nominal pressure of 6.5 bar), shall be 0.2 ± 0.01 second. If a reservoir of $1\,155 \pm 15 \text{ cm}^3$ is substituted for the abovementioned reservoir, the time taken for the pressure to increase from 0.65 to 4.9 bar without further adjustment shall be 0.38 ± 0.02 second. Between these two pressure values the pressure must increase in an approximately linear way. These reservoirs shall be connected to the coupling head without using flexible pipes and shall have an internal diameter of not less than 10 mm.

3.3.4. The diagram in the Appendix to this Annex gives an example of the correct configuration and use of the simulator.'

Item 3.4 shall read:

'3.4. The time elapsing between the moment when the pressure produced in the control line by the simulator reaches 0.65 bar and the moment when the pressure in the brake actuator of the trailer reaches 75% of its asymptotic value must not exceed 0.4 second.'

After item 3.4 the following new item 4 shall be added:

'4. PRESSURE TEST CONNECTIONS

4.1. On each independent circuit of the braking system a pressure test connection shall be fitted as closely as possible to the brake cylinder which is the least favourably placed as far as reaction time is concerned.

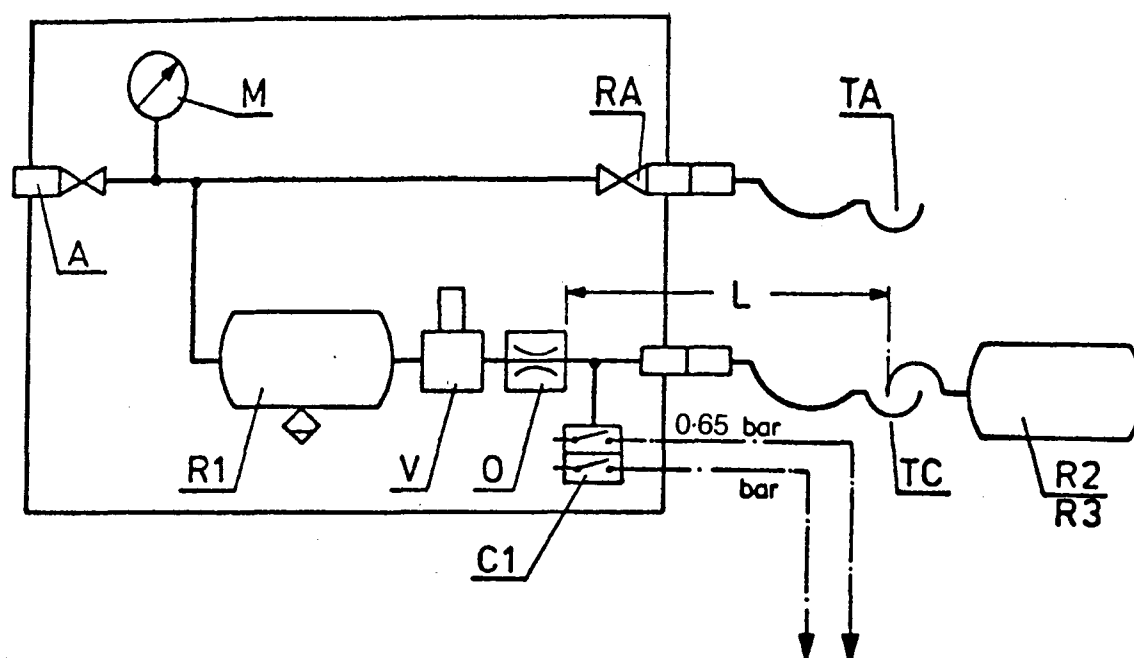
4.2. The pressure test connections shall comply with ISO Standard 3583/1975.'

APPENDIX: The simulator sketch shall be replaced by the following:

APPENDIX

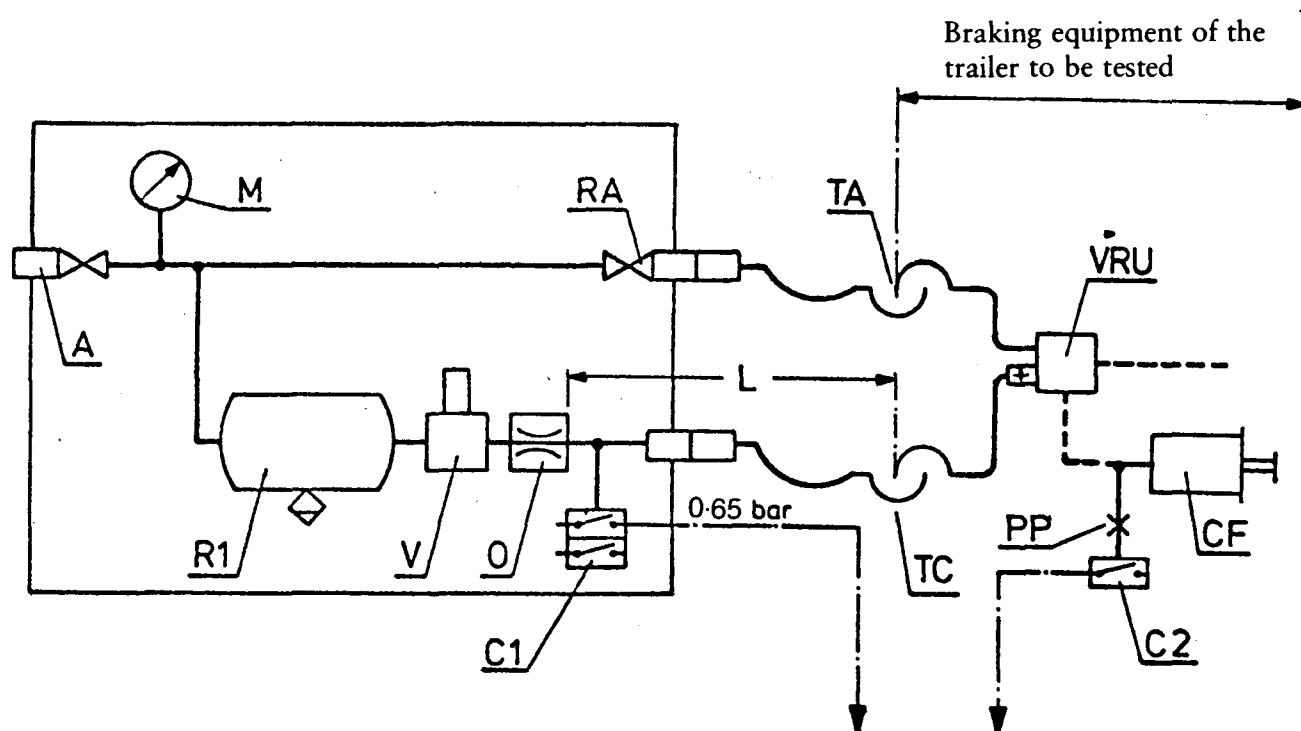
EXAMPLE OF A SIMULATOR (SEE ANNEX III, ITEM 3)

1. Setting the simulator



To the electric chronometer

2. Testing the trailer



To the electric chronometer

A	= supply connection with shut-off valve
C1	= pressure switch in the simulator, set at 0.65 bar and at 4.9 bar
C2	= pressure switch to be connected to the brake actuator of the trailer, to operate at 75% of the asymptotic pressure in the brake actuator CF
CF	= brake actuator
L	= line from orifice O up to and including its coupling head TC, having an inner volume of $385 \pm 5 \text{ cm}^3$ under a pressure of 6.5 bar
M	= pressure gauge
O	= orifice with a diameter of not less than 4 mm and not more than 4.3 mm
PP	= pressure test connection
R1	= 30 litre air reservoir with drain valve
R2	= calibrating reservoir, including its coupling head TC, to be $385 \pm 5 \text{ cm}^3$
R3	= calibrating reservoir, including its coupling head TC, to be $1\,155 \pm 15 \text{ cm}^3$
RA	= shut-off valve
TA	= coupling head, supply line
TC	= coupling head, control line
V	= braking control device
VRU	= emergency relay valve

ANNEX IV: ENERGY RESERVOIRS AND SOURCES OF ENERGY FOR COMPRESSED AIR BRAKES

Item 1.2.1 shall read:

- '1.2.1. The air brake reservoirs of motor vehicles shall be so designed that after eight full-stroke actuations of the service brake control the pressure remaining in the air brake reservoir shall be not less than the pressure required to obtain the specified secondary braking performance.'

After item 2.5 the following new item 3 shall be added:

- '3. PRESSURE TEST CONNECTIONS
- 3.1. A pressure test connection must be fitted close to the least favourably placed reservoir within the meaning of item 2.4 of this Annex.
- 3.2. The pressure test connections must comply with ISO Standard 3583/1975.'

ANNEX V: SPRING BRAKES

Item 2.3 add at the end:

'This item does not apply to trailers.'

Item 2.4 shall read:

- '2.4. In motor vehicles, the system must be so designed that it is possible to apply and release the brakes at least three times if the initial pressure in the spring compression chamber is equal to the maximum design pressure. In the case of trailers, it must be possible to release the brakes at least three times after the trailer has been uncoupled, the pressure in the supply line being 6.5 bar before the uncoupling. These conditions must be satisfied when the brakes are adjusted as closely as possible. In addition, it must be possible to apply and release the parking brake as specified in Annex I, item 2.2.2.10, when the trailer is coupled to the towing vehicle.'

Item 2.5 add at the end:

'In the case of trailers, this pressure level (pm) is the pressure which is obtained after four full-stroke actuations of the service brake in accordance with Annex IV, item 1.3. The initial pressure is fixed at 6.5 bar.'

Item 2.6 add at the end:

'This provision does not apply to trailers.'

ANNEX VI: PARKING BRAKING BY MECHANICAL LOCKING OF THE BRAKE CYLINDERS

Item 2.1 add at the end:

'This provision shall not apply to trailers. In the case of trailers the pressure corresponding to mechanical locking must not exceed 4 bar. It must be possible to achieve parking brake performance after any single failure of the trailer service braking system. In addition, it must be possible to release the brakes at least three times after the trailer has been uncoupled, the pressure in the supply line being 6.5 bar before the uncoupling. These conditions must be satisfied when the brakes are adjusted as closely as possible. It must also be possible to apply and release the parking brake as specified in Annex I, item 2.2.2.10, when the trailer is coupled to the towing vehicle.'

After item 2.4 the following new item 2.5 shall be added:

'2.5. The control must be such that, when actuated, it performs the following operations in sequence: it applies the brakes so as to provide the degree of efficiency required for parking braking, locks the brakes in that position and then cancels out the brake-application force.'

ANNEX IX

The title shall read:

'MODEL

ANNEX TO THE EEC VEHICLE TYPE-APPROVAL CERTIFICATE CONCERNING BRAKING DEVICES

(Articles 4 (2) and 10 of 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

Taking into account the amendments introduced pursuant to Directive 79/489/EEC'

Footnote ⁽³⁾ concerning item 14.3 shall read:

'⁽³⁾ Applies only to vehicles of categories O₂, O₃ and O₄.'

Item 14.6 shall read:

- '14.6. Response time and dimensions of flexible pipes
- 14.6.1. Response time at the brake actuator s
- 14.6.2. Response time at the control line coupling head s
- 14.6.3. Flexible pipes of tractive units for semi-trailers:
 - length: m,
 - internal diameter .. mm.'

In item 17 a new item 17 (a) 2 shall be added:

'17 (a) 2 Information required in item 7.3 of the Appendix to item 1.1.4.2 of Annex II.'

Annex to Commission Directive 75/524/EEC of 25 July 1975

Appendix to item 1.1.4.2 (Annex II): DISTRIBUTION OF BRAKING EFFORT AMONG VEHICLE AXLES.

Item 3.1.2 shall read:

- '3.1.2. In the case of a vehicle authorized to draw trailers of category O₃ or O₄ fitted with air brakes, the pressure at full application of the braking control must be between 6.5 and 8 bar at the coupling head of the supply line and between 6 and 7.5 bar at the coupling head of the control line, irrespective of the load condition of the vehicle. These pressures must be demonstrably present in the drawing vehicle when uncoupled from the trailer.'

Item 6 shall read:

- '6. CONDITIONS TO BE FULFILLED IN THE CASE OF FAILURE OF THE BRAKING DISTRIBUTION SYSTEM

When the requirements of this Appendix are fulfilled by means of a special device (e.g. controlled mechanically by the suspension of the vehicle), it shall be possible, in the event of the failure of this device or its means of control, to stop the vehicle under the conditions specified for secondary braking in the case of motor vehicles; for those vehicles authorized to draw a trailer fitted with air brakes, it must be possible to achieve a pressure at the coupling head of the control line within the range specified in item 3.1.2 of this Appendix. In the event of failure of the means of controlling the device in trailers and semi-trailers, a braking rate of at least 30% of the service brake performance prescribed for the vehicle in question shall be attained.'

Item 7 shall read:

- '7. MARKINGS

- 7.1. Vehicles, other than those of category M₁, which meet the requirements of this Appendix by means of a device mechanically controlled by the suspension of the vehicle, shall be marked to show the useful travel of the device between the positions corresponding to vehicle unladen und laden states respectively and any further information to enable the setting of the device to be checked.

- 7.1.1. When a brake load sensing device is controlled via the suspension of the vehicle by any other means, the vehicle must be marked with information to enable the setting of the device to be checked.

- 7.2. When the requirements of this Appendix are met by means of a device which modulates the air pressure in the brake transmission, the vehicle must be marked to show a mass corresponding to the axle loads at the ground, the nominal outlet pressures of the device and an inlet pressure of not less than 80% of the maximum design inlet pressure, as declared by the vehicle manufacturer, for the following states of load:

- 7.2.1. Technically permissible maximum load on the axle(s) which control(s) the device.

- 7.2.2. Axle load(s) corresponding to the mass of the vehicle in running order as defined in item 2.6 of Annex I to Directive 70/156/EEC.

- 7.2.3. The axle load(s) approximating to the vehicle with proposed bodywork in running order where the axle load(s) mentioned in item 7.2.2 relate(s) to the vehicle chassis with cab.

- 7.2.4. The axle load(s) designated by the manufacturer to enable the setting of the device to be checked in service if this is (these are) different from the loads specified in items 7.2.1, 7.2.2 and 7.2.3.

- 7.3. Item 17 (a) 2 of Annex IX must include information to enable compliance with the requirements of items 7.1 and 7.2 to be checked.

- 7.4. The markings referred to under items 7.1 and 7.2 must be affixed in a visible position in indelible form. An example of the markings for a mechanically controlled device in a vehicle fitted with compressed air braking is shown in Diagram 5.'

Item 8 shall read:

- '8. PRESSURE TEST CONNECTIONS

Braking systems incorporating the devices referred to in item 7.2 shall be fitted with pressure test connections which conform with ISO Standard 3583/1975 in the pressure line upstream and downstream of the device.'

The former item 8 becomes item 9.

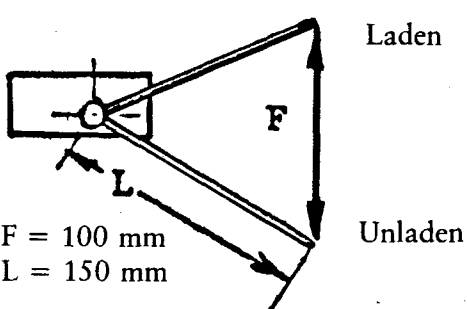
In Diagrams 2 and 4A, $\frac{TR}{PM}$ shall be replaced by $\frac{TR}{PR}$ in the ordinate.

After Diagram 4B, a new Diagram 5 shall be added as follows:

DIAGRAM 5

BRAKE LOAD SENSING DEVICE

(see item 7.4)

Control data	Vehicle loading	Axle No 2 -load at the ground (kg)	Inlet pressure (bar)	Nominal outlet pressure (bar)
 F = 100 mm L = 150 mm	Laden	10 000	6	6
	Unladen	1 500	6	2.4
				
				

COMMISSION DIRECTIVE

of 18 April 1979

adapting to technical progress Council Directive 70/221/EEC on the approximation of the laws of the Member States relating to the liquid fuel tanks and rear underrun protection of motor vehicles and their trailers

(79/490/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

HAS ADOPTED THIS DIRECTIVE:

Having regard to the Treaty establishing the European Economic Community,

Article 1

Directive 70/221/EEC is amended as follows:

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,

1. Articles 2 and 2a are replaced by the following:

Article 2

1. No Member State may, on grounds relating to its liquid fuel tanks, refuse to grant EEC type-approval or national type-approval for a vehicle if such vehicle satisfies the requirements set out in the Annex concerning liquid fuel tanks.

Having regard to Council Directive 70/221/EEC of 20 March 1970 on the approximation of the laws of the Member States relating to the liquid fuel tanks and rear underrun protection of motor vehicles and their trailers ⁽³⁾,

2. No Member State may, on grounds relating to rear underrun protection, refuse to grant EEC type-approval or national type-approval for a vehicle if such vehicle satisfies the requirements set out in the Annex concerning rear underrun protection or if such vehicle is fitted with a rear underrun protective device which has been granted type-approval as a technical unit within the meaning of Article 9a of Directive 70/156/EEC and installed in accordance with the requirements of item II.5 of the Annex.

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 devices for rear underrun protection are already marketed both separately and after being fitted to a vehicle; whereas if it is possible to check them before they are fitted to a vehicle, their free movement may be facilitated by the introduction of EEC type-approval for such devices considered as separate technical units within the meaning of Article 9a of Directive 70/156/EEC;

3. No Member State may refuse to grant EEC type-approval or national type-approval for a rear underrun protective device if such device, considered as a technical unit within the meaning of Article 9a of Directive 70/156/EEC, satisfies the relevant requirements set out in the Annex.

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,

Article 2a

1. No Member State may, on grounds relating to its liquid fuel tanks, refuse or prohibit the sale, registration, entry into service or use of a vehicle if such a vehicle satisfies the requirements set out in the Annex concerning liquid fuel tanks.

⁽¹⁾ OJ No L 42, 23. 2. 1970, p. 1.

⁽²⁾ OJ No L 168, 26. 6. 1978, p. 39.

⁽³⁾ OJ No L 76, 6. 4. 1970, p. 23 and OJ No L 65, 15. 3. 1979, p. 42.

2. No Member State may, on grounds relating to its rear underrun protection, refuse or prohibit the sale, registration, entry into service or use of a vehicle if such a vehicle satisfies the requirements set out in the Annex concerning rear underrun protection or if the vehicle is fitted with a rear underrun protective device which has been granted type-approval as a technical unit within the meaning of Article 9a of Directive 70/156/EEC and installed in accordance with the requirements set out in item II.5 of the Annex.

3. No Member State may prohibit the placing on the market of any rear underrun protective device considered as a technical unit within the meaning of Article 9a of Directive 70/156/EEC if it conforms to a type which has been granted type-approval within the meaning of Article 2 (3).'

2. The following Article is inserted:

'Article 2b

A Member State which carries out type-approval shall take the measures necessary to ensure that it is informed of any modification to a part or characteristic referred to in items II.2.1 and II.2.2 of the Annex. The competent authorities of that Member State shall determine whether fresh tests should be carried out on the modified type and a fresh report drawn up. Where such tests reveal that the requirements of this Directive have not been complied with, the modification shall not be authorized.'

3. The Annex to Council Directive 70/221/EEC shall be amended in accordance with the Annex to this Directive.

Article 2

1. As from 1 January 1980, no Member State may, on grounds relating to the rear underrun protection of vehicles:

— refuse, in respect of a type of vehicle, to grant EEC type-approval, or 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,

if the parts providing rear underrun protection for such type of vehicle or such vehicles comply with the provisions of Directive 70/221/EEC, as last amended by this Directive.

2. With effect from 1 October 1980, a Member State:

— shall no longer issue the copy of the certificate provided for in the last indent of Article 10 (1) of Directive 70/156/EEC of 6 February 1970 in respect of a type of vehicle of which the parts providing rear underrun protection do not comply with the provisions of Directive 70/221/EEC, as last amended by this Directive,

— shall refuse to grant national type-approval of a type of vehicle of which the parts providing rear underrun protection do not comply with the provisions of Directive 70/221/EEC, as last amended by this Directive.

3. As from 1 October 1981, Member States may prohibit the entry into service of vehicles of which the parts providing rear underrun protection do not comply with the provisions of Directive 70/221/EEC, as last amended by this Directive.

Article 3

Before 1 January 1980, Member States shall bring into force the provisions necessary 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, 18 April 1979.

For the Commission

Étienne DAVIGNON

Member of the Commission

ANNEX

The wording of item II is replaced by the following:

II. REAR UNDERRUN PROTECTION

II.1. General

Vehicles covered by this Directive must be designed so as to provide effective protection against underrunning from the rear by vehicles of categories M₁ and N₁ ⁽¹⁾.

II.2. Definitions

II.2.1. *Vehicle type for the purposes of rear underrun protection*

The term "vehicle type for the purposes of rear underrun protection" means vehicles which do not differ with respect to the following main characteristics:

II.2.1.1. Width of the rear axle, structure, dimensions, shape and materials of the rear part of the vehicle in so far as they have a bearing on the requirements of items II.5.1 to II.5.4.5.5;

II.2.1.2. Suspension characteristics in so far as they have a bearing on the requirements of items II.5.1 to II.5.4.5.5.

II.2.2. *Type of rear underrun protective device*

The term "type of rear underrun protective device" means devices which do not differ with respect to the following main characteristics:

II.2.2.1. shape,

II.2.2.2. dimensions,

II.2.2.3. attachment,

II.2.2.4. materials.

II.3. Application for EEC type-approval

II.3.1. Application for EEC type-approval of a vehicle type with respect to rear underrun protection.

II.3.1.1. The application for EEC type-approval of a vehicle type with respect to the rear underrun protection must be submitted by the vehicle manufacturer or his authorized representative.

II.3.1.2. It must be accompanied by the undermentioned documents in triplicate and the following information:

II.3.1.2.1. A description of the vehicle from the standpoint of the criteria referred to in item II.2.1, together with dimensional drawings and either a photograph or an exploded view of the rear of the vehicle. The numbers and/or symbols identifying the vehicle type must be quoted;

II.3.1.2.2. A technical description of the parts providing rear underrun protection together with sufficiently detailed information.

II.3.1.2.3. A vehicle representative of the type to be approved must be submitted to the technical service responsible for the type-approval tests.

II.3.2. Application for EEC type-approval in respect of a rear underrun protective device considered to be a technical unit.

⁽¹⁾ Categories under the international classification set out in Note (b) of Annex I 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.

- II.3.2.1. The application for EEC type-approval in respect of a rear underrun protective device considered to be a technical unit within the meaning of Article 9a of Directive 70/156/EEC must be submitted by the vehicle manufacturer or the manufacturer of the rear underrun protective device or by their respective authorized representatives.
- II.3.2.2. For each type of rear underrun protective device, the application must be accompanied by:
- II.3.2.2.1. Documentation in triplicate giving a description of the technical characteristics of the device;
- II.3.2.2.2. A sample of the type of device. If the competent authority deems it to be necessary, it may request a further sample. The samples must be clearly and indelibly marked with the applicant's trade name or mark and the type designation.
- II.4. **EEC type-approval**
- II.4.1. The EEC type-approval certificate for a vehicle type must be provided with an Annex drawn up in conformity with one of the following models:
- II.4.1.1. In the case of the application referred to in item II.3.1, the model shown in Appendix 1;
- II.4.1.2. In the case of the application referred to in item II.3.2, the model shown in Appendix 2.
- II.5. **Specifications**
- II.5.1. All vehicles must be so constructed and/or equipped as to offer effective protection over their whole width against underrunning from the rear by vehicles of categories M₁ and N₁ ⁽¹⁾.
- II.5.2. Any vehicle in one of the categories M₁, M₂, M₃, N₁, O₁ or O₂ ⁽¹⁾ will be deemed to satisfy the condition set out in item II.5.1 if the ground clearance of the entire rear width of the chassis or the main parts of the body does not exceed 55 cm.
- This requirement must be satisfied over a distance of 45 cm measured from the rear extremity of the vehicle.
- II.5.3. Any vehicle in one of the categories N₂, N₃, O₃ or O₄ ⁽¹⁾ will be deemed to satisfy the condition set out in item II.5.1 provided that:
- the vehicle is equipped with a special rear underrun protective device in accordance with the requirements of item II.5.4, or
 - the vehicle is so designed and/or equipped at the rear that, by virtue of their shape and characteristics, its component parts can be regarded as replacing the rear underrun protective device. Components whose combined function satisfies the requirements set out in item II.5.4 are considered to form a rear underrun protective device.
- II.5.4. A device for protection against underrunning from the rear, hereinafter referred to as 'device', generally consists of a cross-member and linking components connected to the chassis side-members or to whatever replaces them.
- It must have the following characteristics:
- II.5.4.1. The device must be fitted as close to the rear of the vehicle as possible. When the vehicle is unladen ⁽²⁾, the lower edge of the device must at no point be more than 55 cm above the ground;
- II.5.4.2. The width of the device must at no point exceed the width of the rear axle measured at the outermost points of the wheels, excluding the bulging of the tyres close to the ground, nor must it be more than 10 cm shorter on either side. Where there is more than one rear axle, the width to be considered is that of the widest rear axle;

⁽¹⁾ Categories under the international classification set out in Note (b) of Annex I 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.

⁽²⁾ As defined in item 2.6 of Annex I to Directive 70/156/EEC.

- II.5.4.3. The section height of the cross-member must be not less than 10 cm. The lateral extremities of the cross-member must not bend to the rear or have a sharp outer edge; this condition is fulfilled when the lateral extremities of the cross-member are rounded on the outside and have a radius of curvature of not less than 2.5 mm
- II.5.4.4. The device may be so designed that its position at the rear of the vehicle can be varied. In this event, there must be a guaranteed method of securing it in the service position so that any unintentional change of position is precluded. It must be possible for the operator to vary the position of the device by applying a force not exceeding 40 daN;
- II.5.4.5. The device must offer adequate resistance to forces applied parallel to the longitudinal axis of the vehicle, and be connected, when in the service position, with the chassis side-members or whatever replaces them.
- This requirement will be satisfied if it is shown that both during and after the application the horizontal distance between the rear of the device and the rear extremity of the vehicle does not exceed 40 cm at any of the points P1, P2 and P3. In measuring this distance, any part of the vehicle which is more than 3 m above the ground when the vehicle is unladen must be excluded;
- II.5.4.5.1. Points P1 are located 30 cm from the longitudinal planes tangential to the outer edges of the wheels on the rear axle; points P2, which are located on the line joining points P1, are symmetrical to the median longitudinal plane of the vehicle at a distance from each other of 70 to 100 cm inclusive, the exact position being specified by the manufacturer. The height above the ground of points P1 and P2 must be defined by the vehicle manufacturer within the lines that bound the device horizontally. The height must not, however, exceed 60 cm when the vehicle is unladen. P3 is the centre-point of the straight line joining points P2 ;
- II.5.4.5.2. A horizontal force equal to 12.5% of the maximum technically permissible weight of the vehicle but not exceeding 2.5×10^4 N must be applied successively to both points P1 and to point P3;
- II.5.4.5.3. A horizontal force equal to 50% of the maximum technically permissible weight of the vehicle but not exceeding 10×10^4 N must be applied successively to both points P2;
- II.5.4.5.4. The forces specified in items II.5.4.5.2 and II.5.4.5.3 above must be applied separately. The order in which the forces are applied may be specified by the manufacturer ;
- II.5.4.5.5. Whenever a practical test is performed to verify compliance with the abovementioned requirements, the following conditions must be fulfilled:
- II.5.4.5.5.1. The device must be connected to the chassis side-members of the vehicle or to whatever replaces them;
- II.5.4.5.5.2. The specified forces must be applied by rams which are suitably articulated (e.g. by means of universal joints) and must be parallel to the median longitudinal plane of the vehicle via a surface not more than 25 cm in height (the exact height must be indicated by the manufacturer) and 20 cm wide, with a radius of curvature of 5 ± 1 mm at the vertical edges; the centre of the surface is placed successively at points P1, P2 and P3.
- II.5.5. By way of derogation from the abovementioned requirements, vehicles of the following categories need not comply with the requirements of this Annex as regards rear underrun protection :
- tractors for semi-trailers;
 - 'slung' trailers and other similar trailers for the transport of logs or other very long items;
 - vehicles for which rear underrun protection is incompatible with their use.

APPENDIX 1

MODEL

(Maximum format: A4 (210 × 297 mm))

Name of administration

ANNEX TO THE EEC TYPE-APPROVAL CERTIFICATE FOR A MOTOR VEHICLE: REAR UNDERRUN PROTECTION (DIRECTIVE 79/490/EEC AMENDING DIRECTIVE 70/221/EEC)

(Articles 4 (2) and 10 of 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)

EEC type-approval number

1. Trade mark or name of vehicle

2. Type of vehicle

3. Name and address of manufacturer

4. Name and address of manufacturer's authorized representative (if any)

5. Characteristics of the parts providing rear underrun protection

6. Vehicle submitted for type-approval on

7. Technical service responsible for type-approval tests

8. Date of test report issued by the technical service

9. Number of test report issued by the technical service

10. Type approval has been granted/refused ⁽¹⁾ in respect of the rear underrun protection

11. Place

12. Date

13. Signature

14. The following documents, bearing the type-approval number referred to above, are appended to this Annex:

..... dimensional drawings

..... exploded view or photograph of the rear part of the vehicle

15. Remarks (if any)

⁽¹⁾ Delete as appropriate.

APPENDIX 2

MODEL

(Maximum format: A4 (210 × 297 mm))

Name of administration

EEC TYPE-APPROVAL CERTIFICATE FOR A TECHNICAL UNIT (DIRECTIVE 79/490/EEC AMENDING DIRECTIVE 70/221/EEC)

(Article 9a of 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)

Technical unit: type of rear underrun protective device

EEC type-approval number for the technical unit

1. Trade mark or name of device
2. Type of device
3. Name and address of manufacturer
.....
4. Name and address of manufacturer's authorized representative (if any)
.....
5. Characteristics of the device
.....
6. Restrictions on use and mounting specifications (if any)
.....
7. Date on which the device was submitted for EEC type-approval as a technical unit
8. Technical service responsible for carrying out the EEC type-approval tests on technical units
.....
9. Date of test report issued by the technical service
10. Number of test report issued by the technical service
11. EEC type-approval has been granted/refused ⁽¹⁾ in respect of the rear underrun protective device considered as a technical unit
12. Place
13. Date
14. Signature
15. The following documents bearing the EEC type-approval number referred to above are appended to this note
..... (to be completed, where necessary)
16. Remarks (if any)
.....
.....

⁽¹⁾ Delete as appropriate.