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**COUNCIL DIRECTIVE**

**of 20 March 1970**

**on the approximation of the laws of the Member States relating to liquid fuel tanks and  
► C1 rear underrun protection ◀ for motor vehicles and their trailers**

(70/221/EEC)

(OJ L 76, 6.4.1970, p. 23)

Amended by:

	Official Journal		
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► <u>M1</u> Commission Directive 79/490/EEC of 18 April 1979	L 128	22	26.5.1979
► <u>M2</u> amended by Commission Directive 81/333/EEC of 13 April 1981	L 131	4	18.5.1981

Amended by:

► <u>A1</u> Act of Accession of Denmark, Ireland and the United Kingdom of Great Britain and Northern Ireland	L 73	14	27.3.1972
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Corrected by:

► C1 Corrigendum, OJ L 65, 15.3.1979, p. 42 (70/221/EEC)

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**COUNCIL DIRECTIVE**  
**of 20 March 1970**

**on the approximation of the laws of the Member States relating to liquid fuel tanks and ►C1 rear underrun protection ◀ for motor vehicles and their trailers**

(70/221/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community and in particular Article 100 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament <sup>(1)</sup>;

Having regard to the Opinion of the Economic and Social Committee <sup>(2)</sup>;

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate, *inter alia* to their liquid fuel tanks and ►C1 rear underrun protection ◀;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type approval procedure which was the subject of the Council Directive <sup>(3)</sup> 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 to be applied in respect of each type of vehicle;

HAS ADOPTED THIS DIRECTIVE:

*Article 1*

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 kilometres per hour, and its trailers, with the exception of vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

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*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.

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.

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.

<sup>(1)</sup> OJ No C 160, 18.12.1969, p. 7.

<sup>(2)</sup> OJ No C 48, 16.4.1969, p. 16.

<sup>(3)</sup> OJ No L 42, 23.2.1970, p. 1.

**▼M1***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.
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).

*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.

**▼B***Article 3*

The amendments necessary for adjusting the requirements of the Annex so as to take account of technical progress, with the exception of the requirements set out under item I, shall be adopted in accordance with the procedure laid down in Article 13 of the Council Directive of 6 February 1970 on the type approval of motor vehicles and their trailers.

*Article 4*

1. Member States shall put into force the provisions containing the requirements needed in order to comply with this Directive within eighteen months of its notification and shall forthwith inform the Commission thereof.
2. Member States shall ensure that the texts of the main provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

*Article 5*

This Directive is addressed to the Member States.

**▼B***ANNEX*

- I. Tanks and reserve tanks for liquid fuel
  - I.1. Fuel tanks must be made so as to be corrosion resistant. They must satisfy the leakage tests carried out by the manufacturer at a pressure equal to double the working pressure but in any event not less than 1.3 bars. Any excess pressure or any pressure exceeding the working pressure must be automatically compensated by suitable devices (vents, safety valves, etc.). The vents must be designed in such a way as to prevent any fire risks. The fuel must not escape through the fuel tank cap or through the devices provided to compensate excess pressure, even if the tank is completely overturned: a drip shall be tolerated.
  - I.2. Fuel tanks must be installed in such a way as to be protected from the consequences of an impact to the front or to the rear of the vehicle; there shall be no protruding parts, sharp edges, etc., near the tanks.

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- 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 M<sub>1</sub> and N<sub>1</sub> <sup>(1)</sup>.
  - 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 11.2.1, 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;

<sup>(1)</sup> 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.

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- 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.
- 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 M<sub>1</sub> and N<sub>1</sub> <sup>(1)</sup>.

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- II.5.2. Any vehicle in one of the categories M<sub>1</sub>, M<sub>2</sub>, M<sub>3</sub>, N<sub>1</sub>, O<sub>1</sub> or O<sub>2</sub> (categories under the international classification set out in note (b) of Annex I to Council Directive 70/156/EEC) will be deemed to satisfy the condition set out in item II.5.1:
- if it satisfies the conditions set out in item II.5.3, or
  - if the ground clearance of the rear part of the unladen vehicle does not exceed 55 cm over a width which is not shorter than that of the rear axle by more than 10 cm on either side (excluding any tyre bulging close to the ground).
- Where there is more than one rear axle, the width to be considered is that of the widest.
- This requirement must be satisfied at least on a line at a distance of not more than 45 cm from the rear extremity of the vehicle.

**▼ M1**

- II.5.3. Any vehicle in one of the categories N<sub>2</sub>, N<sub>3</sub>, O<sub>3</sub> or O<sub>4</sub> <sup>(1)</sup> 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.

<sup>(1)</sup> 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.

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- 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<sup>(1)</sup>, 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;
- 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  $2.5 \times 10^4$  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  $10 \times 10^4$  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

<sup>(1)</sup> As defined in item 2.6 of Annex I to Directive 70/156/EEC.

**▼M1**

± 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.

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APPENDIX I

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 <sup>(1)</sup> 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) .....

<sup>(1)</sup> Delete as appropriate.



▼M1

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 <sup>(1)</sup> 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) .....
- .....
- .....

<sup>(1)</sup> Delete as appropriate.