COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 10.10.2003
COM(2003) 586 final

2003/0226 (COD)

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

relating to the use of frontal protection systems on motor vehicles and amending Council Directive 70/156/EEC

(presented by the Commission)

EXPLANATORY MEMORANDUM

1. SCOPE

Systems providing additional frontal protection of motor vehicles ("frontal protection systems") have been increasingly used in recent years. Some of these systems constitute a risk to the safety of pedestrians and other road users in the case of a collision with a motor vehicle. This proposal aims to provide added protection to pedestrians and other vulnerable road users in the event of a collision with a motor vehicle fitted with a frontal protection system. The proposal lays down requirements that must be complied with by frontal protection systems either as originally fitted to a vehicle or put on the market as separate technical units. As the construction of motor vehicles is covered by framework Directive 70/156/EEC establishing the EC type-approval system for vehicles, components and separate technical units, the proposed requirements will also be part of that system.

2. LEGAL BASIS

This proposal lays down harmonised technical requirements for the type approval of motor vehicles with regard to any frontal protection systems that might be fitted as original equipment to a vehicle as well as for type approval of frontal protection systems distributed as separate technical units, within the meaning of Directive 70/156/EEC. Harmonised rules are necessary to avoid the adoption of different requirements among Member States and to ensure the proper functioning of the internal market. This proposal is based on Article 95 of the Treaty establishing the European Community.

3. CONTENTS

Road accident statistics indicate that a significant proportion of casualties involve pedestrians and cyclists who are injured as a result of contact with a moving vehicle and notably the frontal structures of passenger cars. Most accidents take place in urban areas where serious or fatal injuries can be sustained at relatively low speeds, particularly in the case of children.

Although there is a clear case for the implementation of measures to separate pedestrians from vehicular traffic and, where this is not feasible, to reduce the speed of traffic, there is nevertheless scope to mitigate the severity of injuries to pedestrians by improving the frontal structures of vehicles. Obviously, above certain speeds the scope to reduce such injuries is limited but, at speeds below approximately 40 km/h, the possibility exists to reduce significantly the levels of injury sustained by pedestrians involved in frontal impacts with passenger cars and light vans, particularly those which are fitted with frontal protection systems.

The Commission has successfully concluded negotiations with the European, Japanese and Korean automobile industries, concerning a commitment by the industry to carry out measures to increase pedestrian protection. This commitment would constitute a decisive and progressive contribution to the achievement of the Community's priorities on EU road safety and includes a commitment not to install so called "rigid bull bars" as frontal protection

systems on new vehicles from 2002. In its Communication of 11 July 2001[1] the Commission stated that the commitment by the European Cars Manufacturers Association (ACEA) corresponded to the mandate given by the Commission in the Communication of 21 December 2000[2]. Corresponding commitments to the commitment undertaken by ACEA have been made by JAMA and KAMA on behalf of the Japanese and Korean manufacturers.

However, before taking a decision on whether to accept the Commitment, the Commission decided to consult the European Parliament and the Council about the content of the Commitment and the Commission's assessment, and give them the opportunity to express their views. The Council, in its Communication of 26 November 2001[3], stated the view that the use of rigid bull bars should be banned for all M1 and N1 type vehicles and that the Commission should propose a means to do so. The Parliament, in its report of June 2002[4], invited the Commission to propose legislation banning rigid bull bars supplied as after market equipment.

Consequently, this proposal lays down requirements to be complied with by frontal protection systems either as originally fitted to a vehicle or put on the market as separate technical units. In parallel, the Commission has presented a proposal for a Directive relating to the protection of pedestrians and other vulnerable users in the event of a collision with a motor vehicle. The proposal for a Directive on pedestrian protection[5], which has been adopted by the Commission on 19 February 2003, is currently being examined in co-decision.

Clearly the maximum benefit from making vehicles pedestrian friendly would occur if all types of vehicle comply with these requirements but it is recognised that their application to heavier vehicles (trucks and buses) would be of limited value and may not be technically appropriate. For this reason the scope of this Directive has been limited to vehicles of categories M1 and N1 up to 3.5 tonnes: since these vehicle categories represent the vast majority of vehicles currently in use, the proposed measures will have the widest practicable effect in reducing pedestrian injuries.

The prescribed requirements for frontal protection systems are laid down in the form of tests, which are described in Section 4 of Annex I to this proposal. It is proposed that as of 1 July 2005, Member States could no longer grant EC type-approval for a type of vehicle on grounds relating to the fitting of frontal protection systems, or for a type of frontal protection system as separate technical unit, if the requirements of the Annexes of this Directive are not fulfilled. As of 1 January 2006 all new vehicles which are fitted with frontal protection

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1 COM(2001) 389 final.

2 Communication to the Commission on pedestrian protection of 21 December 2000, SEC(2000) 2283.

3 Conclusions of the Internal Market Council of 26.11.2001.

4 Resolution of 13.6.2002.

5 Proposal for a Directive of the European Parliament and of the Council relating to the protection of pedestrians and other vulnerable road users in the event of a collision with a motor vehicle and amending Directive 70/156/EEC, COM(2003) 67 final.

systems and all new frontal protection systems put on the market will have to comply with the proposed requirements.

The proposed requirements will be tested according to detailed technical prescriptions which will be set out by the Commission in accordance with Article 13 of Directive 70/156/EEC. With this approach, the Directive will not have to be encumbered with elaborated technical details.

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relating to the use of frontal protection systems on motor vehicles and amending Council Directive 70/156/EEC

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof;

Having regard to the proposal from the Commission[6],

Having regard to the Opinion of the European Economic and Social Committee[7],

Acting in accordance with the procedure laid down in Article 251 of the Treaty[8],

Whereas:

(1) Systems providing additional frontal protection for motor vehicles have been increasingly used in recent years. Some of these systems constitute a risk to the safety of pedestrians and other road users in the event of a collision. Measures are therefore required in order to safeguard the public against such risks.

(2) Frontal protection systems can be provided as original equipment fitted to a vehicle or marketed as separate technical units. The technical requirements for the type approval of motor vehicles with regard to any frontal protection systems that might be fitted to a vehicle should be harmonised in order to prevent the adoption of requirements that vary from one Member State to another and to ensure the proper functioning of the internal market. For the same reasons, it is necessary to harmonise the technical requirements for the type approval of frontal protection systems as separate technical units within the meaning 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[9].

(3) It is necessary to establish the test, construction and installation requirements to be complied with by any frontal protection system either supplied as original equipment fitted to a vehicle or placed on the market as a separate technical unit.

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6 OJ L …

7 OJ L …

8 OJ L …

9 OJ L 42, 23.2.1970, p. 1, as last amended by Regulation (EC) No 807/2003 (OJ L 122, 16.5.2003, p. 36).

(4) The measures necessary for the implementation of this Directive and for its adaptation to scientific and technical progress should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission[10].

(5) This Directive is one of the separate Directives within the framework of the EC type-approval procedure established by Directive 70/156/EEC.

(6) Since the objectives of the action to be taken, namely to promote the safety of pedestrians and other vulnerable road users, cannot be sufficiently achieved by the Member States acting alone and can therefore, by reason of the scale and effects of the action, be better achieved at Community level, the Community may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve those objectives.

(7) Directive 70/156/EEC should therefore be amended accordingly,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Subject matter

This Directive lays down technical requirements for the type-approval of motor vehicles as regards frontal protection systems supplied as original equipment fitted to vehicles or as separate technical units.

Article 2

Definitions

For the purposes of this Directive the following definitions shall apply:

(1) "vehicle" means any motor vehicle of class M1 as defined in Article 2 of Directive 70/156/EEC and in Annex II thereto, of a total permissible mass not exceeding 3.5 tonnes and any motor vehicle of class N1 as defined in Article 2 of Directive 70/156/EEC and in Annex II thereto;

(2) "separate technical unit" means any device as defined in Article 2 of Directive 70/156/EEC and intended for installation and use on vehicles.

[10] OJ L 184, 17.7.1999, p. 23.

Article 3

Type-approval provisions

1. With effect from 1 October 2004, in respect of a new type of vehicle fitted with a frontal protection system which complies with the requirements laid down in Annex I and Annex II, Member States may not, on grounds relating to frontal protection systems:

   (a) refuse to grant EC type-approval or national type-approval;

   (b) prohibit registration, sale or entry into service.

2. With effect from 1 October 2004, in respect of a new type of frontal protection system, which is made available as a separate technical unit, and which complies with the requirements laid down in Annex I and Annex II, Member States may not:

   (a) refuse to grant EC type-approval or national type-approval;

   (b) prohibit sale or entry into service.

3. With effect from 1 July 2005, in respect of a type of vehicle fitted with a frontal protection system, or a type of frontal protection system supplied as a separate technical unit, which does not comply with the requirements laid down in Annex I and Annex II, Member States shall refuse to grant EC type-approval or national type-approval.

4. With effect from 1 January 2006, in respect of vehicles which do not comply with the requirements laid down in Annex I and Annex II to this Directive, Member States shall, on grounds relating to frontal protection systems:

   (a) consider certificates of conformity which accompany new vehicles in accordance with the provisions of Directive 70/156/EEC to be no longer valid for the purposes of Article 7(1) of that Directive;

   (b) refuse the registration, sale or entry into service of new vehicles which are not accompanied by a certificate of conformity in accordance with Directive 70/156/EEC.

5. With effect from 1 January 2006, the requirements under Annex I and Annex II of this Directive, in relation to frontal protection systems made available as separate technical units, shall apply for the purposes of Article 7(2) of Directive 70/156/EEC.

Article 4

Implementation measures and amendments

1. Detailed technical requirements for the test provisions laid down in section 3 of Annex I to this Directive shall be adopted by the Commission, assisted by the Committee established by Article 13(1) of Directive 70/156/EEC, in accordance with the procedure referred to in Article 13(3) of that Directive.

2. Amendments necessary for adapting this Directive shall be adopted by the Commission, in accordance with Article 13 of Directive 70/156/EEC.

Article 5

Amendments to Directive 70/156/EEC

Annexes I, III, IV and XI to Directive 70/156/EEC are amended in accordance with Annex III to this Directive.

Article 6

Transposition

1. Member States shall adopt and publish, by 30 June 2004 at the latest, the laws, regulations and administrative provisions necessary to comply with this Directive. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

   They shall apply those provisions from 1 July 2004.

   When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

Article 7

Entry into force

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 8

Addressees

This Directive is addressed to the Member States.

Done at Brussels, […]

For the European Parliament
The President
[…]

For the Council
The President
[…]

ANNEXES

LIST OF ANNEXES

ANNEX I

TECHNICAL PROVISIONS

1. DEFINITIONS

For the purposes of this Directive the following definitions shall apply.

1.1. '**Vehicle type**' means a category of motor vehicle which, forward of the A-pillars, does not differ in such essential respects as:

– the structure,

– the main dimensions,

– the materials of the outer surfaces of the vehicle,

– the component arrangement (external or internal),

– the method of fixing a frontal protection system,

insofar as they may be considered to have a negative effect on the results of the impact tests prescribed in this Directive.

For purposes of consideration of frontal protection systems to be approved as separate technical units, any reference to vehicle may be interpreted to refer to the frame on which the system is mounted for testing and which is intended to represent the front end outer dimensions of the particular vehicle for which the system is being approved.

1.2. '**Normal ride attitude**' is the attitude of the vehicle as positioned on the ground in running order (as defined in Item 2.6 of Annex 1 to Directive 70/156/EEC), the tyres inflated to the recommended pressures, the front wheels in the straight-ahead position and with a 75 kg mass placed on the front passenger seat. If the vehicle has an active suspension or a device for height adjustment, then the suspension should be set at the height recommended by the manufacturer for normal road use.

1.3. '**External surface**' means the outside of the vehicle, forward of the A-pillars, including the bonnet, the wings, the lighting and light-signalling devices and the visible strengthening components.

1.4. '**Radius of curvature**' means the radius of the arc of a circle which comes closest to the rounded form of the component under consideration.

1.5. '**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:

– of tyres near their point of contact with the ground, and connections for tyre pressure gauges,

– of any anti-skid devices which may be mounted on the wheels,

– of rear-view mirrors,

– of side direction indicator lamps, end outline marker lamps, front and rear position (side) lamps and parking lamps,

– in relation to the front and rear ends, of parts mounted on the bumpers, of towing devices and of exhaust pipes.

1.6. '**Bumper**' is a part of the vehicle at the front or rear intended to protect the vehicle from damage in the event of a low speed collision. Any item protruding by more than 50mm forward of the front bumper shall be deemed to form part of a frontal Protection System.

1.7. '**Frontal protection system**' means a separate structure or structures, such as a bull bar, which may be fitted to the front of the vehicle and is intended to protect the external surface, above and/or below the bumper, from damage in the event of a collision with an object. Structures, with a maximum mass of less than 0.5 kg, intended to protect only the lights, are excluded from this definition.

1.8. '**Integral frontal protection system**' means a structure or structures which may be considered to be part of the bumper or other part of the front of the vehicle and intended to provide additional protection to the external surface, above and/or below the bumper, in the event of a collision with an object. Such a structure may be considered to be an integral part of the vehicle front-end construction and removal would normally create discontinuities in the frontal surface of the vehicle.

1.9. '**The Upper Frontal Protection System "Bumper" Reference Line**' identifies the upper limit to significant points of pedestrian contact with the bumper area of the frontal protection system or the vehicle. It is defined as the geometric trace of the uppermost points of contact between a straight edge 700 mm long and the frontal protection system or the vehicle front (whichever is contacted), when the straight edge, held parallel to the vertical longitudinal plane of the vehicle and inclined rearwards by 20°, is traversed across the front of the vehicle, while maintaining contact with the ground and with the surface of the frontal protection system or vehicle.

1.10. '**The Lower Frontal Protection System "Bumper" Reference Line**' identifies the lower limit to significant points of pedestrian contact with the bumper area of the frontal protection system or the vehicle. It is defined as the geometric trace of the lowermost points of contact between a straight edge 700 mm long and the frontal protection system, when the straight edge, held parallel to the vertical longitudinal plane of the vehicle and inclined forwards by 25°, is traversed across the front of the vehicle, while maintaining contact with the ground and with the surface of the frontal protection system or the vehicle.

1.11. '**The Upper Frontal Protection System "Bumper" Height**' is the vertical distance between the ground and the Upper Frontal Protection System "Bumper" Reference Line, defined in paragraph 1.9 with the vehicle positioned in its normal ride attitude.

1.12. '**The Lower Frontal Protection System "Bumper" Height**' is the vertical distance between the ground and the Lower Frontal Protection System "Bumper" Reference Line, defined in paragraph 1.10 with the vehicle positioned in its normal ride attitude.

1.13. '**Head performance criterion (HPC)**' shall be calculated using the expression:

$$HPC = (t_2 - t_1)\left[\frac{1}{t_2 - t_1}\int_{t_1}^{t_2} a\,dt\right]^{2.5}$$

where 'a' is the resultant acceleration at the centre of gravity of the head (m/s^2) as a multiple of 'g', recorded versus time and filtered at a channel frequency class 1000Hz; t_1 and t_2 are two times defining the beginning and the end of the relevant recording period for which the value of HPC is a maximum between the first and last instants of contact. Values of HPC for which the time interval (t_1 - t_2) is greater than 15 ms are ignored for the purposes of calculating the maximum value.

2. CONSTRUCTION AND INSTALLATION PROVISIONS

2.1. Frontal protection systems

The following apply equally to frontal protection systems as supplied fitted to new vehicles, to frontal protection systems supplied as separate technical units for fitting to specified vehicles and to frontal protection systems which are an integral part of the vehicle front end construction.

2.1.1. The components of the frontal protection system shall be so designed that all rigid surfaces facing outwards have a minimum radius of curvature of 5 mm.

2.1.2. The total mass of the frontal protection system, including all brackets and fixings, shall not exceed 1.2% of the mass of the vehicle for which it is designed, subject to a maximum of 18 kg.

2.1.3. The height of the frontal protection system, when fitted to a vehicle, shall be no more than 100 mm above a plane defined by a horizontal line joining the highest parts of the head light lenses.

2.1.4. The frontal protection system shall not increase the width of the vehicle to which it is fitted. If the overall width of the frontal protection system is more than 75% of the width of the vehicle, the ends of the system shall be turned in towards the external surface in order to minimise the risk of fouling. This requirement is considered to be satisfied if either the frontal protection system is recessed or integrated within the bodywork (an integral system) or the end of the system is turned so that it is not contactable by a 100 mm sphere and the gap between the end of the system and the surrounding bodywork does not exceed 20 mm.

2.1.5. Subject to Item 2.1.4, the gap between the components of the frontal protection system and the underlying external surface shall not exceed 80 mm. Local discontinuities in the general contour of the underlying body (such as apertures in grilles, air intakes, etc.) shall be ignored.

2.1.6. At any lateral position across the vehicle, the longitudinal distance between the most forward part of the bumper and the most forward part of the frontal protection system shall not exceed 50 mm unless the material used for those parts which are more forward than this have a compressive strength less than 0.35 MPa.

2.1.7. The frontal protection system shall not reduce significantly the effectiveness of the bumper. This requirement shall be considered to be satisfied if there are no more than two vertical components and no horizontal components of the frontal protection system overlapping the bumper.

2.1.8. The frontal protection system shall not be inclined forward of the vertical. The top parts of the frontal protection system shall not extend upwards or rearwards (towards the windscreen) more than 50 mm from the bonnet leading edge reference line of the vehicle, as determined with the frontal protection system removed.

2.1.9. The requirements of Directive 76/756/EEC, as regards vehicle lighting and light signalling, shall not be compromised by the fitting of the frontal protection systems.

2.2. Frontal protection systems as separate technical units may not be distributed, offered for sale or sold unless accompanied by clear assembly instructions. The assembly instructions shall contain clear and complete information to identify the vehicles for which the unit has been approved and to enable the approved components to be mounted on that vehicle in a manner that complies with the relevant provisions of paragraph 2.1. The instructions shall also contain details of torque settings to be applied for all fixings.

3. TEST PROVISIONS

3.1. The following tests are required to be carried out.

3.1.1. **Lower Legform to Frontal Protection System "Bumper".** This test is carried out at an impact speed of 40 km/h.The maximum dynamic knee bending angle shall not exceed 15.0°, the maximum dynamic knee shearing displacement shall not exceed 6.0 mm, and the acceleration measured at the upper end of the tibia shall not exceed 150 g. This test may be substituted by the Upper Legform to Frontal Protection System "Bumper" test under specified conditions.

3.1.2. **Upper Legform to Frontal Protection System "Bumper"**. This test is carried out at an impact speed of 40 km/h. The instantaneous sum of the impact forces with respect to time, to the top and the bottom of the impactor, shall not exceed 5.0 kN and the bending moment on the impactor shall not exceed 300 Nm.

The Upper Legform to Frontal Protection System "Bumper" test shall be carried out if the Frontal Protection System Lower "Bumper" Height at the test position is more than 500 mm.

3.1.3. **Upper Legform to Frontal Protection System**. This test is carried out at an impact speed of up to 40 km/h.The instantaneous sum of the impact forces with respect to time, to the top and the bottom of the impactor, shall not exceed 5.0 kN and the bending moment on the impactor shall not exceed 300 Nm.

3.1.4. **Child and/or Adult headform to Frontal Protection System**. These tests are carried out at speeds of 40km/h.The Headform Performance Criterion (HPC), calculated from the resultant of the accelerometer time histories, in accordance with paragraph 1.13, shall not exceed 1000 in all cases.

ANNEX II

ADMINISTRATIVE PROVISIONS FOR TYPE-APPROVAL

1. APPLICATION FOR EC TYPE-APPROVAL

1.1. Application for EC type-approval of a vehicle type in respect of it being fitted with a frontal protection system

1.1.1. A model of the information document required, pursuant to Article 3(1) of Directive 70/156/EEC, is given in Appendix 1.

1.1.2. A vehicle representative of the type of vehicle, fitted with a frontal protection system, for which the approval is required, shall be submitted to the technical service responsible for type-approval. At the request of the technical service, specific components or samples of materials used shall likewise be submitted.

1.2. Application for EC type-approval in respect of frontal protection systems considered to be separate technical units

1.2.1. A model of the information document required, pursuant to Article 3(4) of Directive 70/156/EEC, is given in Appendix 2.

1.2.2. One sample of the type of frontal protection system to be approved shall be submitted to the technical service responsible for the type-approval tests. Should the service consider it necessary, it may request further samples. The samples shall be clearly and indelibly marked with the applicant's trade name or mark and the type designation. Provision shall be made for the subsequent compulsory display of the EC type-approval mark.

2. GRANTING OF EC TYPE-APPROVAL

2.1. Models of the EC type-approval certificates, pursuant to Article 4(3) and, if applicable, 4(4) of Directive 70/156/EEC, are provided in:

– Appendix 3 for applications referred to in Item 1.1,

– Appendix 4 for applications referred to in Item 1.2.

3. EC TYPE-APPROVAL MARK

3.1. Every frontal protection system conforming to the type approved pursuant to this Directive shall bear an EC type-approval mark.

3.2. This mark shall consist of:

3.2.1. A rectangle surrounding the letter “e” followed by the distinguishing number or letters of the Member State which has granted type-approval:

1 for Germany
2 for France
3 for Italy

4 for the Netherlands
5 for Sweden
6 for Belgium
9 for Spain
11 for United Kingdom
12 for Austria
13 for Luxembourg
17 for Finland
18 for Denmark
21 for Portugal
23 for Greece
IRL for Ireland.

3.2.2. In the vicinity of the rectangle the “base approval number” contained in section 4 of the type-approval number referred to in Annex VII of Directive 70/156/EEC, preceded by the two figures indicating the sequence number assigned to the most recent major technical amendment to this Directive on the date EC type-approval was granted. In this Directive the sequence number is 01.

3.3. The EC type-approval mark shall be affixed to the frontal protection system in such a way as to be indelible and clearly legible even when the system is fitted to the vehicle.

3.4. An example of the EC type-approval mark is given in Appendix 5.

Appendix 1 to ANNEX II

INFORMATION DOCUMENT No. […]

PURSUANT TO ANNEX I OF COUNCIL DIRECTIVE 70/156/EEC RELATING TO EC TYPE-APPROVAL OF A VEHICLE WITH RESPECT TO THE PROVISION OF FRONTAL PROTECTION SYSTEMS

The following information, if applicable, must be supplied in triplicate and include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or folder of A4 format. Photographs, if any, must show sufficient detail.

If the systems, components or separate technical units make use of specialist materials, information concerning their performance must be supplied.

0. GENERAL

0.1 Make (trade name of manufacturer):

0.2 Type and general commercial description(s):

0.3 Means of identification of type, if marked on the vehicle:

0.3.1 Location of that marking:

0.4 Category of vehicle:

0.5 Name and address of manufacturer:

0.8 Address(es) of assembly plant(s):

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

1.1 Photographs and/or drawings of a representative vehicle:

2. MASSES AND DIMENSIONS (in kg and mm)

(Refer to drawings where applicable)

2.8 Technically permissible maximum laden mass stated by the manufacturer

(max. and min.):

2.8.1. Distribution of this mass among the axles (max. and min.):

9. BODYWORK

9.1. Type of bodywork:

9.[11]. Frontal Protection System

9.[11].1. General arrangement (drawings or photographs) indicating the position and attachment of the frontal protection systems:

9.[11].2. Drawings and/or photographs, where relevant, of air intake grilles, radiator grille, decorative trim, badges, emblems and recesses and any other external projections and parts of the exterior surface which can be regarded as critical (e.g. lighting equipment,). If the parts listed in the previous sentence are not critical, for documentation purposes they may be replaced by photographs, accompanied if necessary by dimensional details and/or text:

9.[11].3. Complete details of fittings required and full instructions, including torque requirements, for fitting:

9.[11].4. Drawing of bumpers:

9.[11].5 Drawing of the floor line at the vehicle front end:

Date:

Appendix 2 to ANNEX II

INFORMATION DOCUMENT No. […]

RELATING TO EC TYPE-APPROVAL OF FRONTAL PROTECTION SYSTEMS AS SEPARATE TECHNICAL UNIT ([2003/…/EC])

The following information, if applicable, must be supplied in triplicate and include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or folder of A4 format. Photographs, if any, must show sufficient detail.

If the systems, components or separate technical units make use of specialist materials, information concerning their performance must be supplied.

0. GENERAL

0.1 Make (trade name of manufacturer):

0.2 Type and general commercial description(s):

0.5 Name and address of manufacturer:

0.7. Location and method of affixing of the EC type-approval mark:

1. DESCRIPTION OF THE DEVICE

1.1 Detailed technical description (including photographs or drawings):

1.2. Assembly and mounting instructions, including required torques:

1.3. Listing of vehicle types to which it may be fitted.

1.4 Any restrictions of use and conditions for fitting:

Appendix 3 to ANNEX II

(MODEL)

(maximum format: A4 (210 x 297 mm))

EC TYPE-APPROVAL CERTIFICATE

STAMP OF ADMINISTRATION

Communication concerning the

– type-approval

– extension of type-approval

– refusal of type-approval

– withdrawal of type-approval

of a type of a vehicle with frontal protection system fitted with regard to Directive .../.../EC.

Type-approval number:

Reason for extension:

SECTION I

0.1 Make (trade name of manufacturer):

0.2 Type and general commercial description(s):

0.3 Means of identification of type if marked on the vehicle:

0.3.1 Location of that marking:

0.4 Category of vehicle:

0.5 Name and address of manufacturer:

0.7 In the case of the frontal protection system, the location and method of the affixing of the EC approval mark:

0.8 Address(es) of assembly plant(s):

SECTION II

1. Additional information (where applicable): See Addendum

2. Technical service responsible for carrying out the tests:

3. Date of test report:

4. Number of test report:

5. Remarks (if any): See Addendum

6. Place:

7. Date:

8. Signature:

9. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

Addendum

to EC type-approval certificate No […]

concerning the type approval of a vehicle with regard to the fitting of a frontal protection system.

1. Additional information, if any:

2. Remarks:

3. Annex I Section 4 test results

Test	Values recorded		Pass/Fail*
Lower legform to Frontal Protection System "Bumper" - 3 test positions where performed)	Bending angle	…… …… Degrees ……	
	Shear displacement	…… …… mm ……	
	Acceleration at tibia	…… …… g ……	
Upper legform to Frontal Protection System "Bumper" - 3 test positions (where performed)	Sum of impact forces	…… …… kN ……	
	Bending moment	…… …… Nm ……	
Upper legform to Frontal Protection System - 3 test positions	Sum of impact forces	…… …… kN ……	
	Bending moment	…… …… Nm ……	
Child headform (2.5 kg) to Frontal Protection System	HPC values (at least 3 values)	…… …… ……	
Adult headform (4.8 kg) to Frontal Protection System	HPC values (at least 3 values)	…… …… ……	

* According to the values specified in Annex I, section 4 of Directive .../.../EC relating to the use of frontal protection systems on motor vehicles.

Appendix 4 to ANNEX II

(MODEL)

(maximum format: A4 (210 x 297 mm))

EC TYPE-APPROVAL CERTIFICATE

STAMP OF ADMINISTRATION

Communication concerning the

– type-approval

– extension of type-approval

– refusal of type-approval

– withdrawal of type-approval

of a type of frontal protection system as a separate technical unit(1) with regard to Directive [2003/.../EC].

Type-approval number:

Reason for extension:

SECTION I

0.1 Make (trade name of manufacturer):

0.2 Type and general commercial description(s):

0.3 Means of identification of type if marked on the frontal protection system:

0.3.1 Location of that marking:

0.5 Name and address of manufacturer:

0.7 Location and method of the affixing of the EC approval mark:

SECTION II

1. Additional information (where applicable): See Addendum

2. Technical service responsible for carrying out the tests:

3. Date of test report:

4. Number of test report:

5. Remarks (if any): See Addendum

6. Place:

7. Date:

8. Signature:

9. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

Addendum

to EC type-approval certificate No […]

concerning the type approval of a frontal protection system with regard to Directive [2003/../EC]

1. Additional information:

1.1. Method of attachment:

1.2. Assembly and mounting instructions:

1.5. Any restrictions of use and conditions for fitting:

5. Remarks:

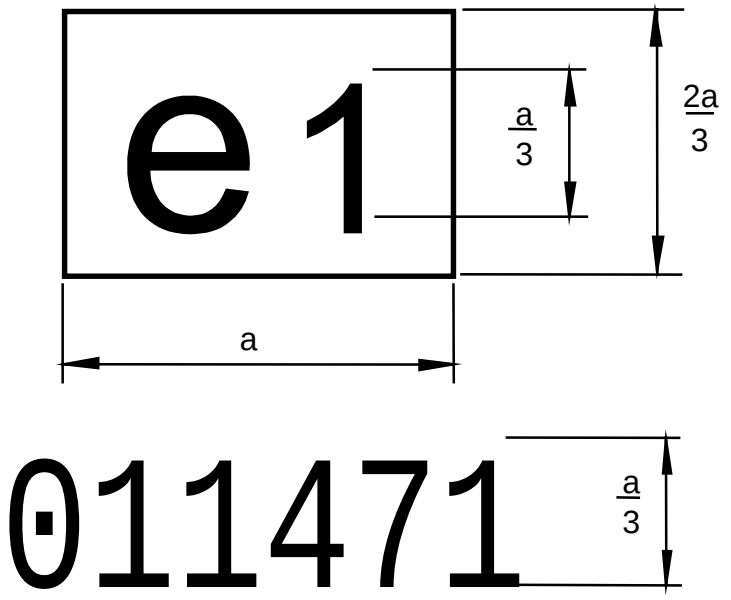
6. Annex I Section 4 test results

Test	Values recorded		Pass/Fail*
Lower legform to Frontal Protection System "Bumper" - 3 test positions (where performed)	Bending angle	…… …… Degrees ……	
	Shear displacement	…… …… mm ……	
	Acceleration at tibia	…… …… g ……	
Upper legform to Frontal Protection System "Bumper" - 3 test positions (where performed)	Sum of impact forces	…… …… kN ……	
	Bending moment	…… …… Nm ……	
Upper legform to Frontal Protection System - 3 test positions	Sum of impact forces	…… …… kN ……	
	Bending moment	…… …… Nm ……	
Child headform (2.5 kg) to Frontal Protection System	HPC values (at least 3 values)	…… …… ……	
Adult headform (4.8 kg) to Frontal Protection System	HPC values (at least 3 values)	…… …… ……	

* According to the values specified in Annex I, section 4 of Directive .../.../EC relating to the use of frontal protection systems on motor vehicles.

Appendix 5 to ANNEX II

Example of the EC Type-Approval Mark



(a ≥ 12mm)

The device bearing the EC type-approval mark shown above is for a frontal protection system type-approved in Germany (e1) pursuant to this Directive (01) under the base approval number 1471.

ANNEX III

AMENDMENTS TO DIRECTIVE 70/156/EEC

The Annexes to Directive 70/156/EEC are amended as follows:

1. In Annex I the following points are inserted:

‘9.[24] Frontal protection systems

9.[24].1 A detailed description, including photographs and/or drawings, of the vehicle with respect to the structure, the dimensions, the relevant reference lines and the constituent materials of the frontal protection system and the frontal part of the vehicle shall be provided.

9.[24].2 A detailed description, including photographs and/or drawings, of the method of fitting the frontal protection system to the vehicle shall be provided. This description shall include all bolt dimensions and required torques.’

2. In Annex III, Part I, Section A, the following points are inserted:

‘9.[24]

9.[24].1 A detailed description, including photographs and/or drawings, of the vehicle with respect to the structure, the dimensions, the relevant reference lines and the constituent materials of the frontal protection system and the frontal part of the vehicle shall be provided.

9.[24].2 A detailed description, including photographs and/or drawings, of the method of fitting the frontal protection system to the vehicle shall be provided. This description shall include all bolt dimensions and required torques.’

3. In Annex IV, Part I, the following item is added:

Subject	**Directive number**	**Official journal reference**	**Applicability**									
			M_1	**M_2**	**M_3**	**N_1**	**N_2**	**N_3**	**O_1**	**O_2**	**O_3**	**O_4**
“[60]. Frontal protection system	[…./…/EC]	L .., …, p. ..	X(*)	-	-	X(*)	-	-				

* not exceeding 3.5 tonnes total permissible mass.”

4. Annex XI is amended as follows:

(a) In Appendix 1, the following item is added:

Item	**Subject**	**Directive number**	**$M_1 \leq 2\,500$ ([1]) kg**	**$M_1 > 2\,500$ ([1]) kg**	**M_2**	**M_3**
"[60]	Frontal protection system	[…/…/EC]	X	X(*)	-	-

_____

* not exceeding 3.5 tonnes total permissible mass."

(b) In Appendix 2, the following item is added:

Item	**Subject**	**Directive number**	**M_1**	**M_2**	**M_3**	**N_1**	**N_2**	**N_3**	**O_1**	**O_2**	**O_3**	**O_4**
"[60]	Frontal protection system	[…/…/EC]	-	-	-	-	-	-	-	-	-	-"

(c) In Appendix 3, the following item] is added:

Item	**Subject**	**Directive number**	**M_2**	**M_3**	**N_1**	**N_2**	**N_3**	**O_1**	**O_2**	**O_3**	**O_4**
"[60]	Frontal protection system	[.../…/EC]	-	-	-	-	-	-	-	-	-"

IMPACT ASSESSMENT FORM

THE IMPACT OF THE PROPOSAL ON BUSINESS WITH SPECIAL REFERENCE TO SMALL AND MEDIUM-SIZED ENTERPRISES(SMEs)

TITLE OF PROPOSAL

Proposal for a Directive of the European Parliament and of the Council relating to the use of frontal protection systems on motor vehicles and amending Directive 70/156/EEC

DOCUMENT REFERENCE NUMBER

ENTR/2003/…

THE PROPOSAL

Why is Community legislation necessary in this area and what are the main aims of the proposal?

Road accident statistics indicate that a significant proportion of casualties involve pedestrians and cyclists who are injured as a result of contact with a moving vehicle, notably with the frontal structures of passenger cars. In addition there is a growing trend to install frontal protection systems, on the fronts of vehicles, which were intended for other specific purposes and which have the potential to cause injury to pedestrians and vulnerable road users. The purpose of this proposal is to lay down requirements for the construction and installation methods of these frontal protection systems in order to improve the protection of pedestrians and mitigate the severity of injuries to pedestrians and other vulnerable road users in the event of a collision with a vehicle fitted with a system.

Harmonised rules at Community level are necessary in this area to ensure the proper functioning of the Internal Market. Since the proposed measures mainly concern the construction of these systems for use installed on passenger cars, which are covered by European Community legislation under the EC type-approval system, the proposed measures will also become part of this system.

THE IMPACT ON BUSINESS

Who will be affected by the proposal?

The proposal, which concerns the design of the frontal protection systems intended as original equipment with a vehicle and as an after market item for fitting to the fronts of motor vehicles, will primarily affect manufacturers producing these systems. At present, some of the affected operators could fall under the category of small or medium sized firms.

What is required to be done to comply with the proposal?

In order to comply with the proposal, frontal protection systems will have to pass a number of tests with regard to aggressiveness towards pedestrians and vulnerable road users. The requirements, starting in 2005, consist of four tests (based on the recommendations of the European Enhanced Vehicle safety Committee, or EEVC) which will be required to be carried out on these systems in order for them to be acceptable for use.

What economic effects is the proposal likely to have?

It is estimated that "pedestrian-friendly" car designs could avoid up to 2 000 pedestrian and cyclist deaths in the EU and, on the basis that some of these fatalities are caused by vehicles fitted with frontal protection systems, it is essential that the use of these systems should not adversely affect this expectation. In addition, the numbers of directly injured would be reduced and the effects of frontal and lateral collisions involving vehicles fitted with these systems shall be reduced. It is also to be considered that the incorrect fitting of such systems can interfere with the proper operation of safety systems in the vehicle.

Compliance with the proposed measures will involve no foreseeable design costs for the automotive industry as they have already agreed not to install rigid bull bars as original equipment nor to sell them as after market items. The situation for the motor accessories industry, which supplies these devices as after market items, will be different, as they may have to redesign their products as a consequence of this Directive.

There will be some additional costs for both the automotive industry and the motor accessories industry, related to the testing and type approval of frontal protection systems.

There would also be some costs for the national authorities in approving the frontal protection systems and in implementing the Directive. However, the benefits in terms of reduced fatalities and injuries to pedestrians and other vulnerable road users will far outweigh any increased costs of design, material change, testing and administration required.

Does the proposal contain measures to take account of the specific situation of small and medium-sized firms (reduced or different requirements etc)?

The proposal does not provide for specific measures addressed to SMEs but requires that the method of construction for these devices should undergo a testing procedure to prove their acceptability. This may require that these manufacturers will need to revise their manufacturing techniques and apply the required testing regime with the consequent costs associated.

CONSULTATION

In a Communication of December 2000, the Commission presented the possibility of using a voluntary industry commitment in order to introduce measures to improve the designs of vehicles with regard to pedestrian protection. Included in the proposal from industry was a voluntary ban on the supply and fitting of frontal protection

systems (“bull bars”). This question and other possible measures were discussed at a hearing organised by the Commission on 6 February 2001, at which all interested parties, including motor vehicle manufacturers (European Automobile Manufacturers Association, Japan Automobile Manufacturers Association and Korea Automobile Manufacturers Association), and consumer associations (European Transport Safety Council, Bureau Européen des Unions de Consommateurs and Fédération Internationale de l'Automobile) were represented.

As a result of this hearing, the Commission started discussions with the European, the Japanese and the Korean manufacturers associations, in order to agree on the terms of a voluntary industry commitment in the area of pedestrian protection. Following agreement on a commitment by the European industry, in July 2001 the Commission adopted a Communication to the European Parliament and the Council, in which it presented the contents of the industry commitment to the legislators, and asked for their views.

Both the European Parliament and the Council expressed a positive opinion regarding the substance of the commitment. However, with respect to the subject of frontal protection systems, the Parliament invited the Commission to propose legislation which would also ban frontal protection systems as after market equipment. The Council requested that the scope of vehicles from which these systems would be banned should be widened to cater for all M1 and N1 category vehicles.

The present proposal corresponds, with regard to the use of frontal protection systems, to the commitment undertaken by the European, Japanese and Korean manufacturers in 2001, as modified to take account of the requests from Parliament and Council. Note should finally be taken that for the vast majority of vehicles in use today there is actually no specific need to have a frontal protection system fitted to a vehicle.