



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 19.2.2003  
COM(2003) 67 final

2003/0033 (COD)

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**

(presented by the Commission)

## EXPLANATORY MEMORANDUM

### 1. OBJECTIVE OF THE PROPOSAL

As many as 8,000 pedestrians and cyclists are killed and a further 300,000 injured in the Community each year in road accidents. This proposal aims to reduce deaths and injuries that occur in accidents involving pedestrians through changes to the front of vehicles. The proposal lays down requirements for the construction of motor vehicles in order to improve the protection of pedestrians and other road users by mitigating the severity of injuries in the event of a collision with a motor vehicle. The frontal parts of motor vehicles will have to be constructed in such a way that, when impacted, certain limit values are not exceeded.

The proposed measures apply to passenger cars and light vans. As the construction of passenger cars is covered by Community legislation under the EC whole vehicle type-approval system set up by Directive 70/156/EEC, as amended, the proposed requirements will also be incorporated into this system.

### 2. LEGAL BASIS

This proposal lays down harmonised technical requirements for the type-approval of motor vehicles with regard to pedestrian protection. Harmonised rules are necessary to ensure the proper functioning of the Internal Market in this area. Therefore this proposal is based on Article 95 of the Treaty establishing the European Community.

### 3. REGULATORY APPROACH

During 2001 the Commission successfully concluded negotiations with the associations representing the European, Japanese and Korean automobile manufacturers (ACEA, JAMA and KAMA), concerning a commitment by the industry to introduce measures to increase pedestrian protection. Also US vehicles sold in the Community are covered by the ACEA commitment. The industry commitment was presented by the Commission by means of a Communication to the Council and the European Parliament on 11 July 2001 for their opinion<sup>1</sup>.

The Commission deferred the final decision on whether to acknowledge the industry commitment or to propose legislation based on the contents of the commitment until the European Parliament and Council had expressed their views.

Following the results of the consultation of the European Parliament<sup>2</sup> and the Council<sup>3</sup> the Commission decided in June 2002 that legislation should be proposed, which establishes the major aims and the fundamental technical provisions to be fulfilled.

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<sup>1</sup> COM(2001)389 final.

<sup>2</sup> Resolution of 13.06.2002.

<sup>3</sup> Conclusions of the Internal Market Council of 26.11.2001.

Consequently, this proposal lays down the basic requirements to be fulfilled in the design of the frontal structures of motor vehicles with regard to pedestrian protection. They will apply to all new cars and light vans placed on the market within the Community. The requirements, which are based on the industry commitment, are provided in the form of various tests and limit values, described in Annex I.

The proposal gives a formal framework to the relevant parts of the commitment undertaken by the industry, thereby ensuring legal certainty concerning the implementation of measures to increase the protection of pedestrians in case of accidents with cars. Furthermore, the proposed Directive will also mean that the requirements will be part of the EC type-approval system, hence involving Member States authorities in the application of the legal provisions. Both the Council and the European Parliament have stated that they would prefer to have the type-approval authorities involved in the application of the required measures.

The proposed basic requirements will be tested according to detailed prescriptions which will be set out in a Commission decision. With this approach, the Directive will not have to be encumbered with elaborated technical details.

#### **4. CONTENTS 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. 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.

Nevertheless, there is scope to mitigate the severity of injuries to pedestrians by improving the frontal structures of motor vehicles. Above a certain speed 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.

The prescriptions in this proposal are based on scientific work performed by Working Group 17 of the European Enhanced Vehicle-safety Committee (EEVC) and the Joint Research Centre of the European Commission.

In order to comply with the proposed limit values, motor vehicles (passenger cars and light vans) will have to pass a number of tests. In a first phase, starting in 2005, new types of vehicles must comply with two tests concerning protection against head injuries and leg injuries. In a second phase, starting in 2010, four tests of increased severity will be required for new types of vehicles, two tests concerning head injuries and two concerning leg injuries. Within five years all new vehicles will have to comply with these test requirements.

The Commission is aware of the fact that few, if any, current vehicle designs are capable of meeting all of the proposed technical provisions. Therefore, it was thought that an appropriate lead-time should be allowed before the proposed measures should be applied to new vehicle types and, later, to all new vehicles.

Clearly the maximum benefit from making vehicles pedestrian friendly would occur if all types of vehicles comply with these technical provisions but it is recognised

that their application to heavier vehicles (trucks and buses) would be of limited value and may not be technically appropriate in their present form. For this reason the scope of application has been limited to passenger cars and car-derived vans up to 2.5 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.

Although compliance with these technical provisions will necessitate substantial changes in vehicle design, the provided lead-time and the introduction in two phases means that these can be made during the development of new vehicles rather than introducing costly changes to vehicles already in production.

Considering the speed of technological development in this area, this proposal foresees that alternative measures to the requirements laid down in the proposal might be developed. A feasibility assessment will therefore be carried out by 1 July 2004 concerning the proposed technical test provisions and in particular other measures which potentially may have at least equal protective effects to those proposed. Should the feasibility assessment show that these alternative measures have at least equal protective effects the Commission shall consider relevant proposals to amend this Directive.

In their commitments, in addition to the introduction of measures to improve the design of car fronts, the motor vehicle manufacturer associations have also undertaken to introduce the following additional active and passive safety measures conducive to improved protection of pedestrian and other road users:

- To equip all new motor vehicles with anti-lock braking systems (ABS) from 1<sup>st</sup> July 2004;
- To gradually introduce information and communication technology (ICT) elements to improve active safety;
- To equip all new motor vehicles with Daytime Running Lights (DRL) as from 1 October 2003;
- Not to install rigid bull-bars as original equipment on new motor vehicles, nor to sell them as spare parts.

Concerning the introduction of DRL, as a result of the consultation of the Council and the European Parliament, and in view of the differing national laws on the use of DRL at present, the Commission has decided not to recommend its introduction by industry until a harmonised approach is reached at Community level with regard to its use.

Concerning the withdrawal of rigid bull bars, following the views expressed by the Council and the European Parliament, suggesting that a legislative approach would cover not only the original equipment manufacturers but also the independent after-market, the Commission intends to propose a Directive containing a test procedure for all bull-bars and similar devices placed on the market.

The additional measures (including ABS and ICT elements) are being implemented and are monitored separately.

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**

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<sup>1</sup>,

Having regard to the opinion of the European Economic and Social Committee<sup>2</sup>,

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

Whereas:

- (1) In order to reduce the number of road accident casualties in the Community, it is necessary to introduce measures so as to improve the protection of pedestrians and other vulnerable road users from injury in the event of a collision with the fronts of motor vehicles.
- (2) The internal market comprises an area without internal frontiers in which the free movement of goods, persons, services and capital must be ensured and to which end a Community type-approval system for motor vehicles is in place; whereas the technical requirements for the type-approval of motor vehicles with regard to pedestrian protection should be harmonised to avoid the adoption of different requirements among Member States and to ensure the proper functioning of the internal market. (3) Pedestrian protection objectives can be achieved by active or passive safety measures; whereas the recommendations by the European Enhanced Vehicle-safety Committee (EEVC) of June 1999 are generally accepted in this area; whereas those recommendations propose performance requirements for the frontal structures of certain categories of motor vehicles to reduce their aggressiveness; whereas this Directive presents tests and limit values based on the EEVC recommendations.
- (4) In view of the speed of technological development in this area, alternative measures of at least equivalent effect to the requirements of this Directive, including active safety measures, may be proposed by the industry and shall be assessed following a feasibility study by 1 July 2004; the introduction of alternative measures with at least equal protective effects would require amending this Directive.

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<sup>1</sup> OJ C , , p. .

<sup>2</sup> OJ C , , p. .

- (5) Because of the ongoing research and technical progress in the area of pedestrian protection, it is appropriate to introduce a certain degree of flexibility in this field. Accordingly, this Directive establishes the fundamental provisions regarding pedestrian protection in the form of tests to be complied with by new types of vehicles and by new vehicles. The technical prescriptions for the application of those tests should be adopted by Commission decision.
- (6) The Associations representing the European, Japanese and Korean motor vehicle manufacturers have undertaken commitments to start applying the EEVC recommendations concerning limit values and tests, or agreed alternative measures of at least equivalent effect, as from 2010, and a first set of limit values and tests as from 2005 to new types of vehicles and to apply the first set of tests to 80% of all new vehicles as from 1 July 2010, to 90% of all new vehicles as from 1 July 2011 and to all new vehicles as from 31 December 2012.
- (7) The provisions laid down in this Directive should also contribute to establishing a high level of protection in the context of the international harmonisation of legislation in this area, which started under the 1998 Agreement of the UN/ECE concerning the establishment of global technical regulations for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles.
- (8) This Directive is one of the separate Directives which must be complied with in order to conform to the EC type-approval procedure established by 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, as last amended by Commission Directive 2001/116/EC<sup>3</sup>.
- (9) Directive 70/156/EEC should therefore be amended accordingly.

HAVE ADOPTED THIS DIRECTIVE:

#### *Article 1*

1. The Directive applies to the frontal surfaces of vehicles. For the purpose of this Directive, “vehicle” means any motor vehicle as defined in Article 2 of and Annex II to Directive 70/156/EEC, of category M1, of a total permissible mass not exceeding 2.5 tonnes, and N1 derived from M1, of a total permissible mass not exceeding 2.5 tonnes.
2. This Directive has the purpose of reducing injuries to pedestrians and other vulnerable road users who are hit by the frontal surfaces of the vehicles defined in paragraph 1.

#### *Article 2*

1. With effect from 1 January 2004 no Member State may, on grounds relating to pedestrian protection:

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<sup>3</sup> OJ L18, 21.01.2002, p.1.

- refuse, in respect of a type of motor vehicle, to grant EC type-approval, or national type-approval or
- prohibit the registration, sale or entry into service of vehicles,

provided that the vehicles comply with the technical provisions set out in section 3.1. or 3.2 of Annex I.

2. With effect from 1 October 2005, Member States shall no longer grant:

- EC type-approval, or
- national type-approval,

except where the provisions of Article 8(2) of Directive 70/156/EEC are invoked, for any type of vehicle on grounds relating to pedestrian protection if the technical provisions set out in section 3.1. or 3.2. of Annex I are not complied with.

3. Paragraph 2 shall not apply to vehicles which do not differ with respect to their essential aspects of bodywork construction and design forward of the A pillars from vehicle types which have been granted EC type approval or national type approval before 1 October 2005, which have not already been approved to this Directive.

4. With effect from 1 September 2010, Member States shall no longer grant:

- EC type-approval, or
- national type-approval,

except where the provisions of Article 8(2) of Directive 70/156/EEC are invoked, for any type of vehicle on grounds relating to pedestrian protection if the technical provisions set out in section 3.2. of Annex I to this Directive are not complied with.

5. With effect from 31 December 2012, Member States:

- shall 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, and
- shall refuse the registration, sale and entry into service of new vehicles which are not accompanied by a certificate of conformity in accordance with Directive 70/156/EEC

on grounds relating to pedestrian protection if the technical provisions set out in section 3.1. or 3.2. of Annex I are not complied with.

6. With effect from 5 years after the date referred to in Article 2(4), Member States:

- shall 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, and

- shall refuse the registration, sale and entry into service of new vehicles which are not accompanied by a certificate of conformity in accordance with Directive 70/156/EEC

on grounds relating to pedestrian protection if the technical provisions set out in section 3.2 of Annex I are not complied with.

### *Article 3*

Subject to the provisions in Article 2, Member States shall ensure that the tests laid down in section 3.1. or 3.2. of Annex I are carried out in accordance with the technical prescriptions which the Commission shall specify by decision.

### *Article 4*

The approval authorities of each Member State shall send monthly to the Commission a copy of the type-approval certificate, the model for which is set out in Appendix 2 of Annex II, in respect of each vehicle which they have approved in accordance with this Directive during that month.

### *Article 5*

1. The Commission, based on relevant information communicated by the approval authorities and interested parties as well as on independent studies, shall monitor the progress made by the industry in the area of pedestrian protection, and shall carry out, by 1 July 2004, a feasibility assessment concerning the provisions in Annex I, section 3.2. and in particular other measures which are at least equivalent (at least equal protective effects).
2. The Commission shall report on a regular basis to the Council and the European Parliament on the results of the monitoring referred to in paragraph 1.

### *Article 6*

Directive 70/156/EEC is amended as follows:

1. In Annex I, points 9.[23] and 9.[23].1 are inserted:
  - “9.[23] Pedestrian protection
  - 9.[23].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 part of the vehicle (interior and exterior) shall be provided. This description should include detail of any active protection system installed, where appropriate.”



2. In Annex III, Section A, points 9.[23] and 9.[23].1 are inserted:

“9.[23] Pedestrian protection

9.[23].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 part of the vehicle (interior and exterior) shall be provided. This description should include detail of any active protection system installed, where appropriate.”

3. In Annex IV, part I, an item [58], and footnotes, is inserted as follows:

Subject	Directive number	Official journal reference	Applicability										
			M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>	
“[58]. Pedestrian Protection	[.../.../EC]	L ..., ..., p. ..	X <sup>(6)</sup>			X <sup>(6, 7)</sup>							

(6) not exceeding 2.5 tonnes total permissible mass.

(7) derived from M<sub>1</sub> category vehicles”.

4. In Annex XI, appendix 1 an item [58] is inserted, as follows:

Item	Subject	Directive number	M <sub>1</sub> ≤ 2 500 ( <sup>1</sup> ) kg	M <sub>1</sub> > 2 500 ( <sup>1</sup> ) kg	M <sub>2</sub>	M <sub>3</sub>
“[58]	Pedestrian Protection	[.../.../EC]	X”			

5. In Annex XI, appendix 2 an item [58] is inserted as follows:

Item	Subject	Directive number	M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>
“[58]	Pedestrian Protection	[.../.../EC]”										

6. In Annex XI, appendix 3 an item [58] is inserted, as follows:

Item	Subject	Directive number	M <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>
“[58]	Pedestrian Protection	[.../.../EC]”									

#### *Article 7*

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 2003 at the latest. They shall forthwith inform the Commission thereof.

They shall apply those provisions with effect from 1 January 2004.

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

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

*Article 8*

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

*Article 9*

This Directive is addressed to the Member States.

Done at Brussels,

*For the European Parliament*  
*The President*

*For the Council*  
*The President*

# ANNEX I

## TECHNICAL PROVISIONS

### 1. SCOPE

The Directive applies to the frontal surfaces of vehicles. For the purpose of this Directive, vehicle means any motor vehicle as defined in Article 2 of and Annex II to Directive 70/156/EEC of category M<sub>1</sub> of a total permissible mass not exceeding 2,5 tonnes and to N<sub>1</sub> vehicles derived from M<sub>1</sub>, of a total permissible mass not exceeding 2,5 tonnes.

### 2. DEFINITIONS

for the purposes of this Directive:

- 2.1 **‘A-pillar’** means the foremost and outermost roof support extending from the chassis to the roof of the vehicle.
- 2.2 **‘Bumper’** means the front, lower, outer structure of a vehicle. It includes all structures that are intended to give protection to a vehicle when involved in a low speed frontal collision with another vehicle and also any attachments to this structure.
- 2.3 **‘Bonnet Leading Edge’** means the front upper outer structure including the bonnet and wings, the upper and side members of the headlight surround and any other attachments.
- 2.4 **‘Bonnet top’** means the outer structure that includes the upper surface of all outer structures except the windscreen, the A-pillars and structures rearwards of them. It therefore includes, but is not limited to, the bonnet, wings, scuttle, wiper spindle and lower windscreen frame. **‘Head Performance Criterion (HPC)’** is a calculation, over a specified time period, of the maximum resultant acceleration experienced during the impact.
- 2.5 **‘Windscreen’** means the frontal glazing of the vehicle which meets all the relevant requirements of Annex I to EU Directive 77/649/EEC.
- 2.6 **‘Vehicle Type’** means a category of vehicles which, forward of the A-pillars, do 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),

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

### 3. TEST PROVISIONS

3.1. The following tests are required to be carried out; however, the limit values specified in items 3.1.3. and 3.1.4. are required for monitoring purposes only.

3.1.1. Legform to Bumper:

One of the two following legform tests are required to be performed:

3.1.1.1 **Lower legform to bumper:** The test is performed at an impact speed of 40km/h. The maximum dynamic knee bending angle shall not exceed 21.0°, the maximum dynamic knee shearing displacement shall not exceed 6.0mm, and the acceleration measured at the upper end of the tibia shall not exceed 200g

3.1.1.2 **Upper legform to bumper:** The test is performed at an impact speed of 40km/h. The instantaneous sum of the impact forces with respect to time shall not exceed 7.5kN and the bending moment on the test impactor shall not exceed 510Nm.

3.1.2. **Child/Small Adult headform to bonnet top:** The test is performed at an impact speed of 35km/h using a 3.5kg test impactor. The Head Performance Criterion (HPC) shall not exceed 1000 over 2/3 of the bonnet test area and 2000 for the remaining 1/3 of the bonnet test area.

3.1.3. **Upper legform to bonnet leading edge:** The test is performed at an impact speed up to 40km/h. The instantaneous sum of the impact forces with respect to time should not exceed a possible target of 5.0kN and the bending moment on the test impactor shall be recorded and compared with the possible target of 300Nm.

3.1.4. **Adult headform to windscreen:** The test is performed at an impact speed of 35km/h using a 4.8kg test impactor. The Head Performance Criterion (HPC) shall be recorded and compared with the possible target of 1000.

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

3.2.1. Legform to Bumper:

One of the two following legform tests are required to be performed:

3.2.1.1 **Lower legform to bumper:** The test is performed at an impact speed of 40km/h. The maximum dynamic knee bending angle shall not exceed 15.0°, the maximum dynamic knee shearing displacement shall not exceed 6.0mm, and the acceleration measured at the upper end of the tibia shall not exceed 150g.

3.2.1.2 **Upper legform to bumper:** The test is performed at an impact speed of 40 km/h. The instantaneous sum of the impact forces with respect to time shall not exceed 5.0kN and the bending moment on the test impactor shall not exceed 300Nm.

- 3.2.2. **Child headform to bonnet top:** The test is performed at an impact speed of 40km/h using a 2.5kg test impactor. The Head Performance Criterion (HPC) shall not exceed 1000 for the whole of the bonnet test area.
- 3.2.3 **Upper legform to bonnet leading edge:** The test is performed at an impact speed up to 40km/h. The instantaneous sum of the impact forces with respect to time shall not exceed 5.0kN and the bending moment on the test impactor shall not exceed 300Nm.
- 3.2.4 **Adult headform to bonnet top:** The test performed at an impact speed of 40km/h using a 4.8kg test impactor. The Head Performance Criterion (HPC) shall not exceed 1000 for the whole bonnet test area.

## **ANNEX II**

### **ADMINISTRATIVE PROVISIONS FOR TYPE-APPROVAL**

#### **1. APPLICATION FOR EC TYPE APPROVAL**

- 1.1 The application for EC type-approval pursuant to Article 3 (4) of Directive 70/156/EEC of a vehicle type with regard to pedestrian protection shall be submitted by the manufacturer.
- 1.2 A model for the information document is given in Appendix 1.
- 1.3 A vehicle, representative of the vehicle type to be approved, shall be submitted to the technical service responsible for conducting the type-approval tests.

#### **2. GRANTING OF EC TYPE-APPROVAL**

- 2.1 If the tests referred to in Annex I are conducted in accordance to the specifications provided in that Annex and the technical prescriptions referred to in Article 3, EC type-approval pursuant to Article 4(3) and, if applicable, 4(4) of Directive 70/156/EEC shall be granted.
- 2.2 A model for the EC type-approval certificate is given in Appendix 2.
- 2.3 An approval number in accordance with Annex VII to Directive 70/156/EEC shall be assigned to each type of vehicle approved. The same Member State shall not assign the same number to another type of vehicle.
- 2.4 In case of doubt, account shall be taken, when verifying the compliance with the test procedures, of any data or test results, provided by the manufacturer, which can be taken into consideration in validating the approval test carried out by the approval authority.

#### **3. MODIFICATION OF THE TYPE AND AMENDMENTS TO APPROVALS**

- 3.1 Any modification of the vehicle affecting the general form of the frontal structure of the vehicle which in the judgement of the authority would have a marked influence on the results of the tests shall require a repetition of the test.
- 3.2 In the case of modification of a vehicle type approved pursuant to this Directive, the provisions of Article 5 of Directive 70/156/EEC shall apply.

#### **4. CONFORMITY OF PRODUCTION**

- 4.1 Measures to ensure the conformity of production shall be taken in accordance with the provisions laid down in Article 10 of Directive 70/156/EEC.

#### *Appendix 1 to Annex II*

Information document No .....

pursuant to Annex I of Council Directive 70/156/EEC

relating to the EC type-approval of a vehicle with respect to

**Pedestrian protection**

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 on a folder of A4 format. Photographs, if any, must show sufficient detail.

If the systems, components or separate technical units have electronic controls, 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:.....
- 1.6 Position and arrangement of the engine : .....

**9. BODYWORK**

- 9.1 Type of bodywork :.....
- 9.2 Materials used and methods of construction : .....
- 9.[23] Pedestrian protection

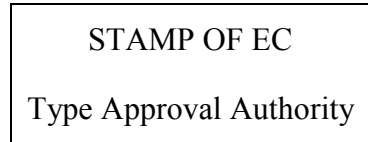
A detailed description, including photographs and/or drawings, of the vehicle with respect to the structure, the dimensions, the relevant reference lines and the constituent materials of the frontal part of the vehicle (interior and exterior) shall be provided. This description should include detail of any active protection system installed, where appropriate.

*Appendix 2 to Annex II*

MODEL

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

**EC TYPE-APPROVAL CERTIFICATE**



Communication concerning the

- EC type-approval<sup>(1)</sup>
- extension of EC type-approval<sup>(1)</sup>
- refusal of EC type-approval<sup>(1)</sup>
- withdrawal of EC type-approval<sup>(1)</sup>

of a type of vehicle/ with regard to Directive .../.../EC, as last amended by Directive .../.../EC

Type-approval Number

Reason for extension

**SECTION I**

- 0.1 Make (trade name of manufacturer):.....
- 0.2 Type: .....
- 0.2.1. Commercial name(s) (if available).....
- 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 Names and address(es) of assembly plant(s): .....

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<sup>(1)</sup> Delete where not applicable



## 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.

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### *Addendum*

to EC type-approval certificate no .....

concerning the type-approval of a vehicle with regard to

Directive .../.../EC.

- 1 Additional information
  - 1.1 Brief description of the vehicle type as regards its structure, dimensions, lines and constituent materials : .....
  - 1.2 Site of engine : forward / rear / central<sup>(1)</sup>
  - 1.3 Drive : front-wheel : rear-wheel<sup>(1)</sup>
  - 1.4 Mass of vehicle submitted for testing -  
Front axle : .....
  - Rear axle : .....
  - Total : .....
  - 1.5 Test results according to Section 3.1/3.2 of Annex I (delete as appropriate):

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<sup>(1)</sup> Delete where not applicable

1.5.1. Annex I Section 3.1 tests

Test	Value recorded		Pass/Fail <sup>(2)</sup>
Lower legform to Bumper (where performed)	Bending angle	degrees	
	Shear displacement	mm	
	Acceleration at tibia	G	
Upper legform to bonnet leading edge	Sum of impact forces	kN	___ <sup>(3)</sup>
	Bending moment	Nm	___ <sup>(3)</sup>
Upper legform to bumper. (where performed)	Sum of impact forces	kN	
	Bending moment	Nm	
Child/Small Adult headform (3.5 kg) to bonnet top	HPC values in Zone A (at least 12 values)		
	HPC values in Zone B (at least 6 values)		
Adult headform (4.8 kg) to windscreen	HPC values (at least 5 values)		___ <sup>(3)</sup>

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<sup>(2)</sup> According to the values specified in Annex I, section 3.1. of Directive [...] EC relating to pedestrian protection.

<sup>(3)</sup> For monitoring purposes only.

1.5.2. Annex I Section 3.2 tests

Test	Value recorded		Pass/Fail <sup>(4)</sup>
Lower legform to Bumper (where performed)	Bending angle	Degrees	
	Shear displacement	Mm	
	Acceleration at tibia	G	
Upper legform to bonnet leading edge	Sum of impact forces	KN	
	Bending moment	Nm	
Upper legform to bumper (where performed)	Sum of impact forces	KN	
	Bending moment	Nm	
Child headform (2.5 kg) to bonnet top	HPC values (at least 9 values)		
Adult headform (4.8 kg) to bonnet top	HPC values (at least 9 values)		

1.6 Remarks: (eg, valid for left-hand drive and right-hand drive vehicles)

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<sup>(4)</sup> According to the values specified in Annex I, section 3.2. of Directive [...] EC relating to pedestrian protection.

## **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 protection of pedestrians and other vulnerable road users in the event of a collision with a motor vehicle and amending Directive 70/156/EEC

#### **DOCUMENT REFERENCE NUMBER**

ENTR/2002/1610

#### **THE PROPOSAL**

1. Taking account of the principle of subsidiarity, why is Community legislation necessary in this area and what are its main aims?

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. The purpose of this proposal is to lay down requirements for the construction of motor vehicles 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.

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 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**

2. Who will be affected by the proposal?

The proposal, which concerns the design of the frontal structures of motor vehicles, will primarily affect motor vehicle manufacturers producing vehicles in volume. At present, none of the affected operators fall under the category of small or medium sized firm.

3. What will business have to do to comply with the proposal?

In order to comply with the proposal, vehicles will have to pass a number of tests with regard to their frontal structures. In a first phase, starting in 2005, two tests will be required. In a second phase, starting in 2010, four tests (based on the recommendations of the European Enhanced Vehicle safety Committee, or EEVC,

and commonly known as the “EECV tests”) or alternative measures having at least equal protective effects (to be determined by July 2004) will be required.

4. What economic effects is the proposal likely to have?

Although compliance with the proposed measures will involve a significant cost for industry, the benefit for society as a whole will be substantial. It is estimated that “pedestrian-friendly” car designs could avoid up to 2,000 pedestrian and cyclist deaths in the EU<sup>1</sup>. In addition, collisions with cars account for injuries to about 300,000 pedestrians each year.

5. 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, since its provisions primarily affect large operators.

## CONSULTATION

6. List the organisations which have been consulted about the proposal and outline their main views.

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. This question and the 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) were represented.

As a result of this hearing, the Commission started negotiations 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 the Parliament asked the Commission to propose legislation with regard to the elements of the commitment related to the design of the frontal structures of vehicles. This proposal reflects this request.

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<sup>1</sup> According to the “Study on Cost and Benefits of research into pedestrian protection, 28 April 1998, MIRA, *see* Communication to the Commission on Pedestrian Protection, 21 December 2000 - SEC(2000)2283.

The present proposal corresponds, with regard to the substance, to the commitment undertaken by the European, Japanese and Korean Manufacturers in 2001. The proposal also takes into account the position of consumer associations, who favoured legislation rather than a voluntary commitment in this area, and who had asked for the inclusion in the proposal of the “EEVC tests” as a requirement.