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**ECONOMIC COMMISSION FOR EUROPE**

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations

One-hundred-and-forty-seventh session  
Geneva, 10-13 March 2009  
Item 4.2.12 of the provisional agenda

1958 AGREEMENT

Consideration of draft amendments to existing Regulations

Proposal for Supplement 3 to the 02 series of amendments to Regulation No. 34  
(Fire risks)

Submitted by the Working Party on General Safety Provisions \*/

The text reproduced below was adopted by the Working Party on General Safety Provisions (GRSG) at its ninety-fifth session (ECE/TRANS/WP.29/GRSG/74, para. 26). It is based on ECE/TRANS/WP.29/GRSG/2008/24, not amended. It is submitted to WP.29 and AC.1 for consideration.

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\*/ In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles. The present document is submitted in conformity with that mandate.

The Contents,

Title of Part I, amend to read:

"PART I - APPROVAL OF VEHICLES WITH REGARDS TO THEIR FUEL TANKS"

Title of Part II, amend to read:

"PART II - APPROVAL OF VEHICLES WITH REGARD TO THE PREVENTION OF FIRE RISKS IN THE EVENT OF COLLISION"

Item 8, amend to read:

"8. Requirements for the installation of liquid fuel tanks"

After item 9., insert new PART III and PART IV, to read:

"PART III - APPROVAL OF TANKS FOR LIQUID FUEL AS SEPARATE TECHNICAL UNITS

10. Definitions

11. Requirements for liquid fuel tanks

PART IV - APPROVAL OF A VEHICLE WITH REGARD TO THE INSTALLATION OF AN APPROVED TANK

12. Definitions

13. Requirements for the installation of liquid fuel tanks"

Item 10. (former), renumber as item 14. and amend to read:

"14. Modifications of the type of vehicle or tank"

Items 11. to 14. (former), renumber as items 15. to 18.

Annex 1, amend to read:

"Annex 1 - Communication concerning ..... frontal/lateral/rear collision and to a type of tank for liquid fuel pursuant to Regulation No. 34"

The text of the Regulation,

Paragraph 1.2., amend to read:

"1.2. PART II: at the request ..... approved to Part I or IV of this ..... collision."

Insert new paragraphs 1.3. and 1.4., to read:

"1.3. PART III: to the approval of tanks for liquid fuel as technical units.

1.4. PART IV: to the approval of vehicles with regard to the installation of approved tanks for liquid fuel."

Insert a new paragraph 2.1., to read:

"2.1. Application for approval pursuant to Part I and/or Part II of this Regulation"

Paragraph 2.1. (former), renumber as paragraph 2.1.1. and amend to read:

"2.1.1. The application for approval of a vehicle type to Part I or Part II of this Regulation shall be submitted by the vehicle manufacturer or by his duly accredited representative."

Paragraph 2.2. (former), renumber as paragraph 2.1.2.

Paragraph 2.2.1. (former), renumber as paragraph 2.1.2.1. and amend to read:

"2.1.2.1. a detailed description ..... shall be specified."

Paragraphs 2.2.2. to 2.2.4. (former), renumber as paragraph 2.1.2.2. to 2.1.2.4.

Paragraph 2.3. (former), renumber as paragraph 2.1.3. and amend to read:

"2.1.3. The following shall be submitted ..... tests:"

Paragraphs 2.3.1. to 2.3.3., renumber as 2.1.3.1. to 2.1.3.3.

Insert new paragraphs 2.2. and 2.3., to read:

"2.2. Application for approval pursuant to Part III of this Regulation

2.2.1. The application for approval of a type of tank for liquid fuel pursuant to Part III of this Regulation shall be submitted by the tank manufacturer or by his duly accredited representative.

2.2.2. It shall be accompanied by the under-mentioned documents in triplicate and by the following particulars:

2.2.2.1. A detailed description of the type of fuel tank with respect to the items specified in paragraph 10.2.; it should be specified whether the application applies to a type of tank with or without its accessories and whether it applies for a universal use or for a specific

- vehicle use. In the case of an approval of a type of tank without its accessories, clear identification of the accessories used for the tests shall be included;
- 2.2.2.2. Drawing(s) showing the characteristics of the fuel tank and specifying the material of which it is made and, in the case of a tank for specific vehicle use, characteristics of the vehicle parts used during the tests;
- 2.2.3. The following shall be submitted to the technical service responsible for conducting the type-approval tests:
- 2.2.3.1. In the case of a tank made of plastic material: seven tanks, with their accessories. In the case of a tank to be approved without its accessories, seven sets of accessories of a type normally fitted to the vehicle shall be submitted;
- 2.2.3.2. In the case of a tank made of another material: two tanks, with their accessories. In the case of a tank to be approved without its accessories, two sets of accessories of a type normally fitted to the vehicle shall be submitted.
- 2.2.3.3. In the case of a tank made of plastic for a specific vehicle use, vehicle parts as indicated in paragraph 5.3.2. of Annex 5 shall be submitted.
- 2.3. Application for approval pursuant to Part IV of this Regulation
- 2.3.1. The application for approval of a type of vehicle pursuant to Part IV of this Regulation shall be submitted by the vehicle manufacturer or by his duly accredited representative.
- 2.3.2. It shall be accompanied by the below-mentioned documents in triplicate and by the following particulars:
- 2.3.2.1. A detailed description of the vehicle type with respect to the items specified in paragraph 12.2. The numbers and/or symbols identifying the engine type and the vehicle type shall be specified;
- 2.3.2.2. A diagram of the entire fuel feed system, showing the site of each component on the vehicle;
- 2.3.2.3. A list of all types of tanks for liquid fuel approved pursuant to Part III of this regulation and intended to be fitted to the type of vehicle.
- 2.3.3. The following shall be submitted to the technical service responsible for conducting the type-approval tests:
- 2.3.3.1. A vehicle representative of the type of vehicle to be approved;
- 2.3.3.2. If necessary, two additional tanks with their accessories in the case of each type of fuel tank approved without its accessories."

Insert a new paragraph 3.1., to read:

"3.1. Approval pursuant to Part I and/or Part II of this Regulation"

Paragraphs 3.1. to 3.2. (former), renumber as paragraphs 3.1.1. to 3.1.2.

Paragraph 3.3. (former), renumber as paragraph 3.1.3. and amend to read:

"3.1.3. Notice of approval ..... model in annex 1, appendix 1 to this Regulation and of drawings, giving the particulars referred to in paragraphs 2.1.2.2., 2.1.2.3. and 2.1.2.4. above ..... scale."

Paragraphs 3.4. to 3.4.1. (former), renumber as paragraphs 3.1.4. to 3.1.4.1.

Paragraph 3.4.2. (former), renumber as paragraph 3.1.4.2. and amend to read:

"3.1.4.2. the number of this Regulation, followed by "RI", if the vehicle is approved pursuant to Part I of the Regulation, or by "RII" if the vehicle is approved pursuant to Parts I or IV and to Part II of the Regulation, a dash and the approval number to the right of the circle prescribed in paragraph 3.1.4.1."

Paragraph 3.5. (former), renumber as paragraph 3.1.5. and amend to read:

"3.1.5. If the vehicle ..... in paragraph 3.1.4.1. need not ..... in paragraph 3.1.4.1."

Paragraphs 3.6. to 3.8. (former), renumber as paragraphs 3.1.6. to 3.1.8.

Paragraph 3.1.4.1., footnote 2, amend to read:

"2/ 1 for Germany, ..... 10 for Serbia, 11 for the United Kingdom, ....., 47 for South Africa, 48 for New Zealand, 49 for Cyprus, 50 for Malta, 51 for the Republic of Korea, 52 for Malaysia, 53 for Thailand, 54 (vacant), 55 (vacant), 56 for Montenegro and 58 for Tunisia. Subsequent numbers ..... Agreement."

Insert new paragraphs 3.2. to 3.3.8., to read:

"3.2. Approval pursuant to Part III of this Regulation

3.2.1. If the tank submitted for approval pursuant to this Regulation meets the requirements of Part III below, approval of that type of tank shall be granted.

3.2.2. Each type approved shall be assigned an approval number whose first two digits shall constitute the number of the most recent series of amendments incorporated in the Regulation on the date of issue of the approval.

- 3.2.3. Notice of approval or of refusal of approval of a type of tank pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in annex 1, appendix 2 to this Regulation and of drawings, giving the particulars referred to in paragraphs 2.2.2.1. and 2.2.2.2. above (supplied by the applicant for approval) in a format not exceeding A 4 (210 x 297 mm) or folded to that format and on an appropriate scale.
- 3.2.4. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every tank conforming to a type of tank approved under this Regulation, an international approval mark consisting of:
  - 3.2.4.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval; 2/
  - 3.2.4.2. The number of this Regulation, followed by "RIII", the mention "U" if the tank is approved for a universal use or "S" if the tank is approved for a specific vehicle use, the mention "+A" if the tank is approved with its accessories or "#A" if the tank is approved without its accessories, a dash and the approval number to the right of the circle prescribed in paragraph 3.2.4.1.
- 3.2.5. The approval mark shall be clearly legible and indelible when the tank is installed in the vehicle.
- 3.2.6. Annex 2 to this Regulation gives examples of arrangements of the approval mark.
- 3.3. Approval pursuant to Part IV of this Regulation
  - 3.3.1. If the vehicle submitted for approval pursuant to this Regulation meets the requirements of Part IV below, approval of that vehicle type shall be granted.
  - 3.3.2. Each type approved shall be assigned an approval number whose first two digits shall constitute the number of the most recent series of amendments incorporated in the Regulation on the date of issue of the approval. A Contracting Party may however assign the same approval number to several vehicle types as defined in paragraph 12.2. if the types are variants of the same basic model and provided that each type is separately tested and found to comply with the conditions of this Regulation.
  - 3.3.3. Notice of approval or of refusal of approval of a vehicle type pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in annex 1, appendix 1 to this Regulation and of drawings, giving the particulars referred to in paragraphs 2.3.2.1., 2.3.2.2. and 2.3.2.3. above (supplied by the applicant for approval) in a format not exceeding A 4 (210 x 297 mm) or folded to that format and on an appropriate scale.
  - 3.3.4. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every vehicle conforming to a vehicle type approved under this Regulation, an international approval mark consisting of:

- 3.3.4.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval; 2/
- 3.3.4.2. The number of this Regulation, followed "RIV", a dash and the approval number to the right of the circle prescribed in paragraph 3.3.4.1.
- 3.3.5. If the vehicle conforms to a vehicle type approved, under one or more other Regulations annexed to the Agreement, in the country which has granted approval under this Regulation, the symbol prescribed in paragraph 3.3.4.1. need not be repeated; in such a case the additional numbers, approval numbers and symbols of all the Regulations under which approval has been granted in the country which has granted approval under this Regulation shall be placed in vertical columns to the right of the symbol prescribed in paragraph 3.3.4.1.
- 3.3.6. The approval mark shall be clearly legible and indelible.
- 3.3.7. The approval mark shall be placed close to or on the vehicle data plate affixed by the manufacturer.
- 3.3.8. Annex 2 to this Regulation gives examples of arrangements of the approval mark."

Title of Part I, amend to read:

**"PART I - APPROVAL OF VEHICLES WITH REGARD TO THEIR FUEL TANKS"**

Paragraph 4.2.1., amend to read:

"4.2.1. the manufacturer's type designation"

Paragraph 5.1., amend to read:

"5.1. Tanks shall be made so as to be corrosion-resistant."

Paragraph 5.2., amend to read:

"5.2. Tanks shall satisfy ..... of 0.3 bar.

Tanks made of a plastic material ..... Annex 5, paragraph 2."

Paragraph 5.3., amend to read:

"5.3. Any excess pressure ..... working pressure shall be compensated ..... etc.)."

Paragraph 5.4., amend to read:

"5.4. The vents shall be designed ..... being filled shall not be able ..... ground."

Paragraph 5.5., amend to read:

"5.5. The tank(s) shall not be situated in..... it."

Paragraph 5.6., amend to read:

"5.6. A partition shall be provided ..... of use."

Paragraph 5.7., amend to read:

"5.7. Every tank shall be securely ..... of use."

Paragraph 5.8., amend to read:

"5.8. The filler hole shall not be situated..... compartment."

Paragraph 5.9., amend to read:

"5.9. The fuel shall not escape ..... ;this requirement shall be verified..... paragraph 6.2."

Paragraph 5.9.1., amend to read:

"5.9.1. The fuel filler cap shall be fixed to the filler pipe."

Paragraph 5.9.1.1., amend to read:

"5.9.1.1. The requirements of paragraph 5.9.1. shall be deemed to be satisfied if..... cap.

This may be achieved using one of the following:"

Paragraph 5.9.2., amend to read:

"5.9.2. the seal ... pipe shall be ..... The cap shall latch securely..... closed."

Paragraph 5.10., amend to read:

"5.10. Tanks shall be installed ..... consequences of a collision ..... tank."

Paragraph 5.12., amend to read:

"5.12. The fuel tank(s) shall ..... a plastic material ..... with."



Paragraph 6.1., amend to read:

"6.1. Hydraulic test

The tank shall be subjected .....test which shall be carried ..... The tank shall be completely ..... the pressure shall be gradually ..... 0.3 bar (30 kPa), which shall be maintained ..... tank shell shall not crack ..... deformed."

Paragraph 6.2.1., amend to read:

"6.2.1. The tank and all its accessories shall be mounted ..... excess pressure."

Paragraph 6.2.3., amend to read:

"6.2.3. The test shall be carried ..... be accepted)."

Paragraph 6.2.4., amend to read:

"6.2.4. The tank shall be turned ..... The tank shall remain ..... The tank shall then be turned ..... The tank shall be held ..... The tank shall be rotated ..... the tank shall be drained ..... The tank shall be rotated ..... position.

The tank shall be rotated ..... inverted position shall be maintained. .... Afterwards the tank shall be ..... position.

The rotation ..... 3 minutes."

Paragraph 8., amend to read:

"8. REQUIREMENTS FOR THE INSTALLATION OF LIQUID FUEL TANKS "

Paragraph 8.1.1., amend to read:

"8.1.1. the vehicles shall be approved according to either Part I or IV of this Regulation."

Paragraph 9.2., amend to read:

"9.2. if there is continuous ..... of leakage shall not exceed ..... collected;"

Paragraph 9.4., amend to read:

"9.4. During and ..... the battery shall be kept ..... device."

Insert new Part III, to read:

**"PART III - APPROVAL OF TANKS FOR LIQUID FUEL AS TECHNICAL UNITS**

10. DEFINITIONS

For the purposes of this Part of the Regulation:

- 10.1. "Tank" means the tank(s) designed to contain the liquid fuel, as defined in paragraph 10.3., used primarily for the propulsion of the vehicle; the tank may be approved either with or without its accessories (filler pipe, if it is a separate element, filler hole, cap, gauge, connections to compensate interior excess pressure, etc.);
- 10.2. "Capacity of the fuel tank" means the fuel tank capacity as specified by the tank manufacturer;
- 10.3. "Liquid fuel" means a fuel which is liquid in normal conditions of temperature and pressure;
- 10.4. "Approval of a tank" means the approval of a type of liquid fuel tank;
- 10.5. "Type of tank" means tanks which do not differ in such essential respects as:
  - 10.5.1. The structure, shape, dimensions and material (metal/plastic) of the tank(s);
  - 10.5.2. The intended use of the tank: universal use or specific vehicle use;
  - 10.5.3. The presence or absence of the accessories.

11. REQUIREMENTS FOR LIQUID FUEL TANKS

- 11.1. The requirements stated in paragraphs 5.1., 5.2., 5.3., 5.9., 5.12., 6.1. and 6.2. above shall be complied with when the tanks are equipped with the accessories that are normally attached to them.
- 11.2. In case the tanks are to be approved without their accessories the manufacturer's documentation shall clearly identify the accessories used for the test."

Insert new Part IV, to read:

**"PART IV - APPROVAL OF VEHICLES WITH REGARD TO THE INSTALLATION OF APPROVED FUEL TANK(S)**

12. DEFINITIONS

For the purposes of this Part of the Regulation:

- 12.1. "Approval of a vehicle" means the approval of a vehicle type with regard to the installation of liquid fuel tank(s) approved pursuant to Part III of this Regulation;

- 12.2. "Vehicle type" means vehicles which do not differ in such essential respects as:
- 12.2.1. The manufacturer's type designation;
- 12.2.2. In vehicles of category M1 1/ the position of the tank(s) in the vehicle in so far as it has a negative effect on the requirements of paragraph 5.10.;
13. REQUIREMENTS FOR THE INSTALLATION OF LIQUID FUEL TANK(S)
- 13.1. The requirements stated in paragraphs 5.4., 5.5., 5.6., 5.7., 5.8., 5.10., and 5.11. above shall be complied with.
- 13.2. In case the tanks are approved without their accessories, those accessories used during the tests on the tanks and identified in the manufacturer's documentation according to paragraph 11.2. above shall, at the request of the manufacturer, be included in the approval pursuant to Part IV of this Regulation. Additional accessories shall be included provided that the Technical Service is satisfied that the vehicle complies with the requirement of Parts III and IV of this Regulation."

Paragraph 10 (former)., renumber as paragraph 14. and amend to read:

"14. MODIFICATIONS OF THE TYPE OF VEHICLE OR TANK"

Paragraph 10.1. (former)., renumber as paragraph 14.1. and amend to read:

"14.1. Every modification of the type of vehicle or tank shall be notified..... then either:"

Paragraphs 10.1.1. and 10.1.2. (former), renumber as paragraphs 14.1.1. and 14.1.2.

Paragraph 10.2. (former)., renumber as paragraph 14.2. and amend to read:

"14.2. Without prejudice to the provisions of paragraph 14.1. above, a variant of the vehicle tested according to Part II of this Regulation whose unladen ..... type."

Paragraph 10.3. (former)., renumber as paragraph 14.3. and amend to read:

"14.3. Notice of confirmation ..... by the procedure specified in paragraphs 3.1.3., 3.2.3. or 3.3.3. above ..... this Regulation."

Paragraph 11. (former), renumber as paragraph 15.

Paragraphs 11.1. to 11.3. (former), renumber as paragraphs 15.1. to 15.3. and amend to read:

"15.1. Every vehicle or tank bearing ..... the requirements of the respective Parts above.

15.2. In order to verify conformity as prescribed in paragraph 15.1. above, a sufficient number ..... vehicles or tanks bearing the approval..... random checks.

15.3. As a general rule, the conformity of the vehicle or tank with ..... However, the vehicle or tank shall ..... paragraph 6. above."

Paragraph 12. (former), renumber as paragraph 16.

Paragraph 12.1. (former), renumber as 16.1. and amend to read:

"16.1. The approval granted in respect of a type of vehicle or tank pursuant to ..... paragraph 15.1. above is not ..... paragraph 9. above."

Paragraph 12.2. (former), renumber as paragraph 16.2.

Paragraphs 13. to 13.4. (former), renumber as paragraphs 17. to 17.4.

Insert new paragraphs 17.5. and 17.6., to read:

"17.5. As from the official date of entry into force of the Supplement 3 to the 02 series of amendments, no Contracting Party applying this Regulation shall refuse to grant ECE approval under this Regulation as amended by Supplement 3 to the 02 series of amendments.

17.6. Even after the entry into force of the Supplement 3 to the 02 series of amendments to this Regulation, approvals of the vehicles to the preceding supplements to the 02 series of amendments shall remain valid and Contracting Parties applying this Regulation shall continue to grant extensions to such approvals and shall continue to accept them."

Paragraph 14. (former), renumber as paragraph 18.

Annex 1,

The title, amend title to read:

"Annex 1-Appendix 1"

Item 7 of Appendix 1, amend to read:

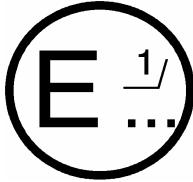
"7. Brief description of fuel tank and fuel or approval number(s) of the approved fuel tank 2/  
....."

Insert a new Appendix 2, to read:

"Annex 1-Appendix 2

COMMUNICATION

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



issued by :

Name of administration:

.....  
.....  
.....

concerning: 2/

- APPROVAL GRANTED
- APPROVAL EXTENDED
- APPROVAL REFUSED
- APPROVAL WITHDRAWN
- PRODUCTION DEFINITELY DISCONTINUED

of a fuel tank pursuant to Regulation No. 34.

Approval No.....

Extension No.: .....

1. Trade name or mark of the fuel tank: .....
2. Manufacturer's name for the type of fuel tank: .....
3. Manufacturer's name and address: .....
4. If applicable, name and address of manufacturer's representative: .....  
.....
5. Brief description of fuel tank and fuel .....
- 5.1. Characteristics of fuel tank: .....
- 5.2. For fuel tanks made of a plastic material, state material and trade name or mark:  
.....
6. Submitted for approval on: .....
7. Technical service responsible for conducting approval tests: .....
8. Date of report issued by that service: .....
9. Number of report issued by that service: .....
10. Reason(s) for extension (if applicable): .....
11. Approval granted/extended/refused/withdrawn 2/
12. Position of approval mark on the fuel tank: .....
13. Place: .....
14. Date: .....
15. Signature: .....

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

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1/ Distinguishing number of the country which has granted/extended/refused/withdrawn/ the approval (see approval provisions in the Regulation).

2/ Strike out what does not apply."

Annex 2,

Model A, amend to read (model and the text that follows it are unchanged):

"Model A  
(see paragraph 3.1.4. of this Regulation)"

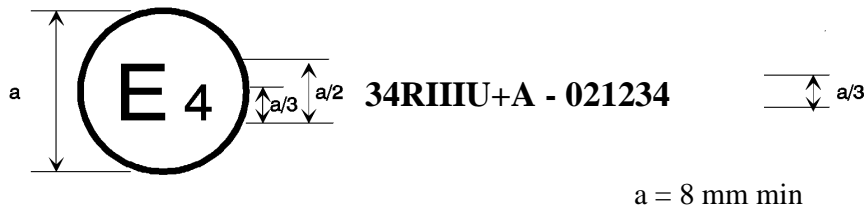
Model B, amend to read (model unchanged):

"Model B  
(see paragraph 3.1.5. of this Regulation)

The above approval mark..... pursuant to Regulations Nos. 34 Parts I or IV and II and 33 \*/. The approval numbers..... original form."

Insert new models C, D and E, to read:

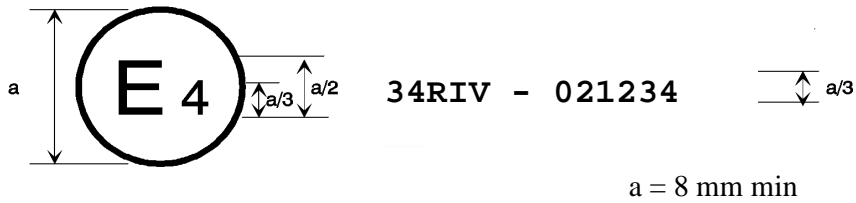
"Model C  
(see paragraph 3.2.4. of this Regulation)



The above approval mark affixed to a fuel tank shows that the type concerned was approved in the Netherlands (E4) pursuant to Part III of Regulation No. 34, for a universal use including its accessories, under approval No. 021234. The first two digits (02) of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. 34 as amended by the 02 series of amendments.

Model D

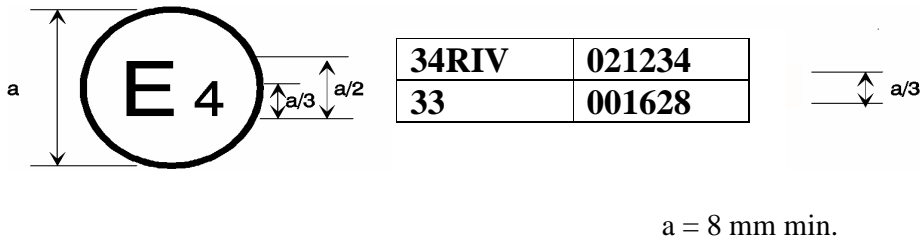
(see paragraph 3.3.4. of this Regulation)



The above approval mark affixed to a vehicle shows that the type concerned was approved in the Netherlands (E4) pursuant to Part IV of Regulation No. 34 under approval No. 021234. The first two digits (02) of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. 34 as amended by the 02 series of amendments.

Model E

(See paragraph 3.3.5. of this Regulation)



The above approval mark affixed to a vehicle shows that the type concerned was approved in the Netherlands (E4) pursuant to Regulations Nos. 34 Part IV and 33 \*/. The approval numbers indicated that, at the date when the respective approvals were given, Regulation No. 34 included the 02 series of amendments and Regulation No. 33 was still in its original form.

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\*/ The second number is given merely as an example."



Annex 3,

Paragraph 2.1., amend to read:

"2.1. Testing ground

The test area ..... before the barrier, shall be horizontal, flat and smooth."

Paragraph 2.2., amend to read:

The barrier ..... The barrier shall be of such ..... The front face shall be vertical .....  
be used."

Paragraph 2.3., amend to read:

"2.3. Propulsion of vehicle

At the ..... the vehicle shall no longer ..... It shall reach the ..... 30 cm."

Paragraph 2.4.2., amend to read:

"2.4.2. If the ..... fuel installation shall be filled ..... be empty."

Paragraph 2.4.3., amend to read:

"2.4.3. If the vehicle ..... fuel tank shall be at least ..... to capacity."

Paragraph 2.5., amend to read:

"2.5. Velocity on collision

The velocity on collision shall be between ..... considered satisfactory."

Paragraph 3.2., amend to read:

"3.2. If a method ..... its equivalence shall be demonstrated."

Annex 4,

Paragraph 2.4.1., amend to read:

"2.4.1. If the impactor is ..... element, the latter shall be rigid ..... propelling device."

Paragraph 2.7.2., amend to read:

"2.7.2. The fuel tank shall be filled ..... may be empty."

Paragraph 3.2., amend to read:

"3.2. If a method ..... its equivalence shall be demonstrated."

Annex 5.

Paragraph 1.1., amend to read:

"1.1. The tank shall be filled ..... material, and shall then ..... perforation test."

Paragraph 1.2., amend to read:

"1.2. During this test the tank temperature shall be  $233\text{K} \pm 2\text{K}$  ( $-40\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ )."

Paragraph 1.3., amend to read:

"1.3. A pendulum collision testing fixture shall be used for the test. The collision body shall be of ..... the pendulum shall coincide with ..... the pendulum shall be 1 m. The total mass of the pendulum shall be 15 kg. .... of collision shall be not less ..... as possible."

Paragraph 1.4., amend to read:

"1.4. The tests shall be made ..... the laboratories shall be indicated in the test report."

Paragraph 1.5., amend to read:

"1.5. During the test, the tank shall be held ..... No leak shall result from the test."

Paragraph 2., amend to read:

"2. MECHANICAL STRENGTH

The tank shall be tested ..... accessories shall be mounted ..... ( $53\text{ }^{\circ}\text{C}$ ) shall be used as the testing fluid and shall fill the tank to its capacity. The tank shall be subjected ..... accessories shall not crack ..... deformed."

Paragraph 3.1., amend to read:

"3.1. The fuel used for the permeability test shall be ..... diesel fuel."

Paragraph 3.2., amend to read:

"3.2. Prior to the test, the tank shall be filled ..... storage time)."

Paragraph 3.3., amend to read:

"3.3. The tank shall then ..... after which it shall be hermetically sealed ..... The pressure shall be adjusted ..... of testing time."

Paragraph 3.4., amend to read:

"3.4. If the loss due to ..... test described there shall be carried ..... per 24 hours."

Paragraph 4., amend to read:

"4. RESISTANCE TO FUEL

After the test ..... the tank shall still meet ..... paragraphs 1. and 2."

Paragraph 5., amend to read:

"5. RESISTANCE TO FIRE

The tank shall be subjected to the following tests."

Paragraph 5.1., amend to read:

"5.1. For two ..... the vehicle, shall be exposed to flame. There shall be no leakage ..... tank."

Paragraph 5.2., amend to read:

"5.2. Three tests shall be made on different tanks filled with fuel as follows:"

Paragraph 5.2.1., amend to read:

"5.2.1. If the tank is ..... three tests shall be carried ..... gasoline; "

Paragraph 5.2.2., amend to read:

"5.2.2. If the tank ..... three tests shall be carried ..... diesel fuel; "

Paragraph 5.2.3., amend to read:

"5.2.3. For each ..... accessories shall be installed ..... actual mounting conditions ..... the fixture shall correspond ..... for its installation. In the case of tanks designed for a

specific vehicle use, vehicle parts which ..... and plugs shall be taken into consideration. All openings shall be closed ..... venting systems shall remain operative. .... the tank shall be filled ..... capacity."

Paragraph 5.3., amend to read:

"5.3. The flame ..... is exposed shall be obtained ..... test procedure."

Paragraph 5.4., amend to read:

"5.4. The pan dimensions shall be chosen ..... The pan shall therefore ..... the pan shall not project ..... test."

Paragraph 5.5., amend to read:

"5.5. The pan filled with fuel shall be placed ..... or both, shall be freely movable."

Paragraph 5.6., amend to read:

"5.6. During phase C of the test, the pan shall be covered ..... level.

The screen shall be made ..... There shall be no ..... they shall be supported ..... frame shall be 2 cm ..... ventilation."

Paragraph 5.7., amend to read:

"5.7. When the tests ..... protection shall be provided ..... level shall not exceed ..... the screen shall be heated ..... successive test."

Paragraph 5.8., amend to read:

"5.8. The test shall comprise four phases (see appendix 1)."

Paragraph 5.8.1., amend to read:

"5.8.1. Phase A: Pre-heating (figure 1)

The fuel in the pan shall be ignited ..... pan shall be placed ..... tank."

Paragraph 5.8.2., amend to read:

"5.8.2. Phase B: Direct exposure to flame (figure 2)

For 60 seconds the tank shall be exposed ..... fuel."

Paragraph 5.8.3., amend to read:

"5.8.3. Phase C: Indirect exposure to flame (figure 3)

As soon as phase B has been completed, the screen shall be placed ..... The tank shall be exposed ..... 60 seconds."

Paragraph 5.8.4., amend to read:

"5.8.4. Phase D: End of test (figure 4)

The burning pan covered with the screen shall be moved ..... the fire shall be extinguished forthwith."

Paragraph 6.1., amend to read:

"6.1. The fixture used for the test shall match ..... works."

Paragraph 6.2., amend to read:

"6.2. The tank filled ..... (20 °C) shall be ..... (95 °C ± 2 °C)."

Paragraph 7., amend to read:

"7. MARKINGS ON THE FUEL TANK

The trade name or mark shall be affixed to the tank; it shall be ..... vehicle."

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