ACTS ADOPTED BY BODIES CREATED BY INTERNATIONAL AGREEMENTS

Regulation No 103 of the Economic Commission for Europe of the United Nations (UNECE) — Uniform provisions concerning the approval of replacement pollution control devices for power-driven vehicles [2017/1446]

Incorporating all valid text up to:

Supplement 4 to the original version of the Regulation — Date of entry into force: 10 June 2014

CONTENTS

REGULATION

ANNEXES

1. SCOPE

This Regulation applies to the type-approval, as separate technical units, of pollution control device to be fitted in one or more types of motor vehicles of categories covered by the scope of the related version of Regulation No 83 as replacement parts.

Catalytic converters and particulate filters shall be considered to be pollution control devices for the purposes of this Regulation.

2. DEFINITIONS

For the purpose of this Regulation:

2.1. 'Original pollution control device' means a pollution control device or an assembly of such devices covered by the type-approval delivered for the vehicle and whose types are indicated in the documents related to Annex 2 of Regulation No 83 ([1]).

2.2. 'Replacement pollution control device' means a pollution control device or an assembly of such devices for which approval can be obtained according to this Regulation, other than those defined in paragraph 2.1 above.

2.3. 'Original replacement pollution control device' means a pollution control device or an assembly of such devices whose types are indicated in the documents related to Annex 2 of Regulation No 83 ([1]), but are offered in the market as separate technical units by the holder of the vehicle type-approval.

2.4. 'Type of pollution control device' means catalytic converters and particulate filters which do not differ in any of the following essential aspects:

(a) number of substrates, structure and material;

(b) type of activity of each substrate;

(c) volume, ratio of frontal area and substrate length;

(d) catalyst material content;

(e) catalyst material ratio;

(f) cell density;

(g) dimensions and shape;

(h) thermal protection.

2.5. 'Vehicle type'

See paragraph 2.1 of Regulation No 83.

2.6. 'Approval of a replacement pollution control device' means the approval of a pollution control device intended to be fitted as a replacement part on one or more specific types of vehicles with regard to the limitation of pollutant emissions, noise level and effect on vehicle performance and, where applicable, on the on-board diagnostic (OBD).

2.7. 'Deteriorated replacement pollution control device' means a pollution control device that has aged or has been artificially deteriorated to such an extent that it fulfils the requirements laid out in paragraph 1 of Appendix 1 to Annex 11 of Regulation No 83.

2.8. 'Periodically regenerating system' means catalytic converters, particulate filters or other pollution control devices that require a periodical regeneration process in less than 4 000 km of normal vehicle operation.

3. APPLICATION FOR APPROVAL

3.1. The application for approval of a type of replacement pollution control device shall be submitted by its manufacturer or by his authorised representative.

([1]) Annex 2 of Regulation No 83, 06 series of amendments, shall be corrected consequently — paragraph 3.2.12.2.1 of Annex 1 of Regulation No 83, 07 series of amendments.

3.2. For each type of replacement pollution control device for which type-approval is requested, the application for approval shall be accompanied by the following documents in triplicate.

3.2.1. Drawings of the replacement pollution control device identifying in particular all the characteristics referred to in paragraph 2.3 of this Regulation.

3.2.2. Description of the vehicle type or types for which the replacement pollution control device is intended. The number and/or symbols characterising the engine and vehicle type(s) shall be indicated.

3.2.3. Description and drawings showing the position of the replacement pollution control device relative to the engine exhaust manifold(s).

3.2.4. Drawings indicating the intended location of the approval mark.

3.2.5. Indication if the replacement pollution control device is intended to be compatible with OBD requirements.

3.2.6. A model for the information document is given in the Appendix.

3.3. The applicant for approval shall provide the technical service responsible for approval tests with:

3.3.1. Vehicle(s) of a type approved in accordance with Regulation No 83 equipped with a new original pollution control device. This (these) vehicle(s) shall be selected by the applicant with the agreement of the technical service. It (they) shall comply with the requirements of paragraph 3.1 of Annex 4 or paragraph 3.2 of Annex 4a of Regulation No 83, whichever was in force at the time of the approval of the vehicle.

The test vehicle(s) shall have no emission control system defects; any excessively worn out or malfunctioning emission related original part shall be repaired or replaced. The test vehicle(s) shall be tuned properly and set to the manufacturer's specification prior to emission testing.

3.3.2. One sample of the type of the replacement pollution control device. This sample shall be clearly and indelibly marked with the applicant's trade name or mark and its commercial designation.

3.3.3. An additional sample of the type of the replacement pollution control device, in the case of a replacement pollution control device intended to be fitted to a vehicle equipped with an OBD system. This sample shall be clearly and indelibly marked with the applicant's trade name or mark and its commercial designation. It shall have been deteriorated as defined in paragraph 2.7 above.

4. APPROVAL

4.1. If the replacement pollution control device submitted for approval pursuant to this Regulation meets the requirements of paragraph 5 below, approval of that type of replacement pollution control device shall be granted.

4.2. Original replacement pollution control devices, which are indicated in Annex 2 of Regulation No 83 [1] and are intended for fitment to a vehicle to which the relevant type-approval document refers, do not need to be approved according to this Regulation provided they fulfil the requirements of paragraphs 4.2.1 and 4.2.2.

4.2.1. Marking

Original replacement pollution control devices shall bear at least the following identifications:

4.2.1.1. The vehicle manufacturer's name or trademark.

4.2.1.2. The make and identifying part number of the original replacement pollution control device as recorded in the information mentioned in paragraph 4.2.3.

[1] Annex 2 of Regulation No 83, 06 series of amendments, shall be corrected consequently — paragraph 3.2.12.2.1 of Annex 1 of Regulation No 83, 07 series of amendments.

4.2.2. Documentation

Original replacement pollution control devices shall be accompanied by the following information:

4.2.2.1. The vehicle manufacturer's name or trade mark.

4.2.2.2. Make and identifying part number of the original replacement pollution control device as recorded in the information mentioned in paragraph 4.2.3.

4.2.2.3. The vehicles for which the original replacement pollution control device is of a type indicated in Annex 2 of Regulation No 83 ([1]), including, where applicable, a marking to identify if the original replacement pollution control device is suitable for fitting to a vehicle that is equipped with an on-board diagnostic (OBD) system.

4.2.2.4. Installation instructions, where necessary.

4.2.2.5. This information shall be provided either:

(a) as a leaflet accompanying the original replacement pollution control device; or

(b) on the packaging in which the original replacement pollution control device is sold; or

(c) by any other applicable means.

In any case, the information shall be available in the product catalogue distributed to points of sale by the vehicle manufacturer.

4.2.3. The vehicle manufacturer shall provide to the technical service and/or approval authority the necessary information in electronic format which makes the link between the relevant part numbers and the type-approval documentation.

This information shall contain:

(a) make(s) and type(s) of vehicle;

(b) make(s) and type(s) of original replacement pollution control device;

(c) part number(s) of original replacement pollution control device;

(d) type-approval number of the relevant vehicle type(s).

4.3. An approval number shall be assigned to each replacement pollution control device type-approved. Its first two digits (00 for the Regulation in its present form) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party may not assign the same number to another type of replacement pollution control device. The same approval number may cover the use of that replacement pollution control device type on a number of different vehicle types.

4.4. When the applicant for type-approval can demonstrate to the type-approval authority or technical service that the replacement pollution control device is of a type indicated in Annex 2 to the 05 or later series of amendments to Regulation No 83, the granting of a type-approval certificate shall not be dependent on the requirements specified in paragraph 5 having to be verified.

4.5. Notice of approval or of extension or of refusal of approval of a type of replacement pollution control device pursuant to this Regulation shall be communicated to the Contracting Parties to the Agreement applying this Regulation by means of a form conforming to the model in Annex 1 to this Regulation.

([1]) Annex 2 of Regulation No 83, 06 series of amendments, shall be corrected consequently — paragraph 3.2.12.2.1 of Annex 1 of Regulation No 83, 07 series of amendments.

4.6. There shall be affixed, conspicuously and in a place specified on the approval form, to the replacement pollution control device conforming to a type of replacement pollution control device approved under this Regulation, an international approval mark consisting of:

4.6.1. A circle surrounding the letter 'E' followed by the distinguishing number of the country which has granted approval ([1]);

4.6.2. The number of this Regulation, followed by the letter 'R', a dash and the approval number in the vicinity of the circle prescribed in paragraph 4.6.1.

4.7. If the replacement pollution control device conforms to a pollution control device 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 4.6.1 need not be repeated; in such a case, the Regulation and approval numbers and the additional 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 4.6.1.

4.8. The approval mark shall be indelible and clearly legible when the replacement pollution control device is mounted under the vehicle.

4.9. Annex 2 to this Regulation gives examples of arrangements of approval marks.

5. REQUIREMENTS

5.1. General requirements

5.1.1. The replacement pollution control device shall be designed, constructed and capable of being mounted so as to enable the vehicle to comply with the provisions of those Regulations which it was originally in compliance with and that pollutant emissions are effectively limited throughout the normal life of the vehicle under normal conditions of use.

5.1.2. The installation of the replacement pollution control device shall be at the exact position of the original pollution control device, and the position on the exhaust line of the oxygen probe(s) and other sensors, if applicable, shall not be modified.

5.1.3. If the original equipment pollution control device includes thermal protections, the replacement pollution control device shall include equivalent protections.

5.1.4. The replacement pollution control device shall be durable, that is designed, constructed and capable of being mounted so that reasonable resistance to the corrosion and oxidation phenomena to which it is exposed is obtained, having regard to the conditions of use of the vehicle.

5.2. Requirements regarding emissions

The vehicle(s) indicated in paragraph 3.3.1 of this Regulation, equipped with a replacement pollution control device of the type for which approval is requested, shall be subjected to a type I test under the conditions described in the corresponding annexes of Regulation No 83 in order to compare its performance with the original pollution control device according to the procedure described below.

5.2.1. Determination of the basis for comparison

The vehicle(s) shall be fitted with a new original pollution control device (see paragraph 3.3.1) which shall be run in with 12 extra urban cycles (test type I, part 2). After this preconditioning, the vehicle(s) shall be kept in a room in which the temperature remains relatively constant between 293 and 303 K (20 and 30 °C). This conditioning shall be carried out for at least six hours and continue until the engine oil temperature and coolant, if any, are within ± 2 K of the temperature of the room. Subsequently three exhaust gas tests type I shall be made.

([1]) The distinguishing numbers of the Contracting Parties to the 1958 Agreement are reproduced in Annex 3 to Consolidated Resolution on the Construction of Vehicles (R.E.3), document TRANS/WP.29/78/Rev.2.

5.2.2. Exhaust gas test with replacement pollution control device

The original pollution control device of the test vehicle(s) shall be replaced by the replacement pollution control device (see paragraph 3.3.2) which shall be run in with 12 extra urban cycles (test type I part 2). After this preconditioning, the vehicle(s) shall be kept in a room in which the temperature remains relatively constant between 293 and 303 K (20 and 30 °C). This conditioning shall be carried out for at least six hours and continue until the engine oil temperature and coolant, if any, are within ± 2 K of the temperature of the room. Subsequently three exhaust gas tests type I shall be made.

5.2.3. Evaluation of the emission of pollutants of vehicles equipped with replacement pollution control devices.

The test vehicle(s) with the original pollution control device shall comply with the limit values according to the type-approval of the vehicle(s) including — if applicable — the deterioration factors applied during the type-approval of the vehicle(s).

The requirements regarding emissions of the vehicle(s) equipped with the replacement pollution control device shall be deemed to be fulfilled if the results meet for each regulated pollutant (CO, HC, NO_x particulates and particles) the following conditions:

(1) $M \leq 0{,}85S + 0{,}4G$

(2) $M \leq G$

where:

M: mean value of the emissions of one pollutant (CO, HC, NO_x particulates and particles) or the sum of two pollutants (HC + NO_x) obtained from the three type I tests with the replacement pollution control device;

S: mean value of the emissions of one pollutant (CO, HC, NO_x particulates and particles) or the sum of two pollutants (HC + NO_x) obtained from the three type I tests with the original pollution control device;

G: limit value of the emissions of one pollutant (CO, HC, NO_x, particulates and particles) or the sum of two pollutants (HC + NO_x) according to the type-approval of the vehicle(s):

(i) divided, if applicable, by the multiplicative deterioration factors determined in accordance with paragraph 5.4 below; or

(ii) minus, if applicable, the additive deterioration factors determined in accordance with paragraph 5.4 below.

Where approval is applied for different types of vehicles from the same car manufacturer, and provided that these different types of vehicles are fitted with the same type of original equipment pollution control device, the type I testing may be limited to at least two vehicles selected after agreement with the technical service responsible for approval.

5.2.4. For pollution control devices intended to be fitted to vehicles type-approved to the 07 series of amendments to Regulation No 83, the regulated pollutants referred to throughout paragraph 5.2.3 of this Regulation shall be understood to be all pollutants specified in paragraph 5.3.1.4 of the 07 series of amendments to Regulation No 83.

5.3. Requirements regarding noise and vehicle performance

The replacement pollution control device shall satisfy the technical requirements of Regulation No 59. As an alternative to the measurement of back-pressure as specified in Regulation No 59, the verification of the vehicle performance can be performed by measuring on a chassis dynamometer the maximum absorbed power at a speed corresponding to the engine maximum power. The value determined under reference atmospheric conditions as specified in Regulation No 85 with the replacement control device shall not be lower by more than 5 per cent than that determined with the original equipment pollution control device.

5.4. Requirements regarding durability

The replacement pollution control device shall comply with the requirements of paragraph 5.3.6 of Regulation No 83.

5.4.1. For replacement pollution control devices intended to be fitted to vehicles type-approved to the 07 series of amendments to Regulation No 83, the durability requirements and associated deterioration factors specified in paragraph 5.3.6 of the 07 series of amendments to Regulation No 83 shall be used.

5.5. Requirements regarding OBD compatibility (applicable only to replacement pollution control devices intended to be fitted to vehicles equipped with an OBD system)

OBD compatibility demonstration is required only when the original pollution control device was monitored in the original configuration.

5.5.1. The compatibility of the replacement pollution control device with the OBD system shall be demonstrated by using the procedures described in the 05, 06 or 07 ([1]) series of amendments to Regulation No 83, Annex 11, Appendix 1.

5.5.2. The provisions in the 05, 06 or 07 ([1]) series of amendments to Regulation No 83, Annex 11, Appendix 1 applicable to components other than the pollution control device shall not be applied.

5.5.3. The aftermarket manufacturer may use the same preconditioning and test procedure as used during the original type-approval. In this case, the Type-Approval Authorities shall provide, on request and on a non-discriminatory basis, the Appendix to the type-approval communication which contains the number and type of preconditioning cycles and the type of test cycle used by the original equipment manufacturer for OBD testing of the pollution control device.

5.5.4. In order to verify the correct installation and functioning of all other components monitored by the OBD system, the OBD system shall indicate no malfunction and have no stored fault codes prior to the installation of any of the replacement pollution control devices. An evaluation of the status of the OBD system at the end of the tests described in paragraph 5.2.1 may be used for this purpose.

5.5.5. The malfunction indicator (MI: see reference paragraph 2.5 of Annex 11 to the 05 or later series of amendments to Regulation No 83) shall not activate during vehicle operation required by paragraph 5.2.2.

5.5.6. For vehicles with positive-ignition engines, if the THC and NMHC emissions measured during the demonstration test of a new original equipment catalytic converter, under paragraph 5.2.1 of this Regulation are higher than the values measured during the type-approval of the vehicle, the difference shall be added to the OBD threshold limits. The OBD threshold limits are specified in paragraph 3.3.2 of Annex 11 to Regulation No 83.

5.5.7. The revised OBD threshold limits will apply during the tests of OBD compatibility set out in paragraphs 5.5 to 5.5.5 of this Regulation. In particular, when the exceedance allowed in paragraph 1 of Appendix 1 to Annex 11 to Regulation No 83 is applied.

5.6. Requirements for replacement periodically regenerating systems

5.6.1. Requirements regarding emissions

5.6.1.1. The vehicle(s) indicated in paragraph 3.3.1 of this Regulation, equipped with a replacement periodically regenerating system of the type for which approval is requested, shall be subject to the tests described in paragraph 3 of Annex 13 to Regulation No 83, in order to compare its performance with the same vehicle equipped with the original periodically regenerating system.

5.6.2. Determination of the basis for comparison

5.6.2.1. The vehicle shall be fitted with a new original periodically regenerating system. The emissions performance of this system shall be determined following the test procedure set out in paragraph 3 of Annex 13 of Regulation No 83.

([1]) Whichever was in force at the time of the approval of the vehicle.

5.6.2.2. Upon request of the applicant for the approval of the replacement component, the approval authority shall make available on a non-discriminatory basis, the information referred to in items 3.2.12.2.1.11.1 and 3.2.12.2.6.4.1 of the information document contained in Annex 1 to Regulation No 83 for each vehicle tested.

5.6.3. Exhaust gas test with a replacement periodically regeneration system

5.6.3.1. The original equipment periodically regenerating system of the test vehicle(s) shall be replaced by the replacement periodically regenerating system. The emissions performance of this system shall be determined following the test procedure set out in paragraph 3 of Annex 13 to Regulation No 83.

5.6.3.2. To determine the D-factor of the replacement periodically regenerating system, any of the engine bench methods referred to in paragraph 3 of Annex 13 to Regulation No 83 may be used.

5.6.4. Other requirements

The requirements of paragraphs 5.2.3, 5.3, 5.4 and 5.5 of this Regulation shall apply to replacement periodically regenerating systems. In these paragraphs the words 'catalytic converter' shall be understood to mean 'periodically regenerating system'.

6. MODIFICATION OF THE REPLACEMENT POLLUTION CONTROL DEVICE TYPE AND EXTENSION OF APPROVAL

Every modification of the replacement pollution control device type shall be notified to the Type-Approval Authority which approved this type of replacement pollution control device.

The Authority may then either:

(a) consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the replacement pollution control device still complies with the requirements; or

(b) require a further test report for some or all the tests described in paragraph 5 of this Regulation from the technical service responsible for conducting the tests.

Confirmation or refusal of approval, specifying the alteration, shall be communicated by the procedure specified in paragraph 4.3 above to the Parties to the Agreement applying this Regulation.

The competent authority issuing the extension of approval shall assign a serial number to each communication form drawn up for such an extension.

7. CONFORMITY OF PRODUCTION

The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements.

7.1. The replacement pollution control devices approved under this Regulation shall be so manufactured as to conform to the type approved in the characteristics as defined under paragraph 2.3 of this Regulation. They shall meet the requirements set forth in paragraph 5 and, where applicable, fulfil the requirements of the tests specified in this Regulation.

7.2. The approval authority may carry out any check or test prescribed in this Regulation. In particular, the tests described in paragraph 5.2 of this Regulation (requirements regarding emissions) may be carried out. In this case, the holder of the approval may ask, as an alternative, to use as a basis for comparison not the original equipment pollution control device, but the replacement pollution control device which was used during the type-approval tests (or another sample that has been proven to conform to the approved type). Emissions' values measured with the sample under verification shall then on average not exceed by more than 15 per cent the mean values measured with the sample used for reference.

8. PENALTIES FOR NON-CONFORMITY OF PRODUCTION

8.1. The approval granted in respect of a type of replacement pollution control device pursuant to this Regulation may be withdrawn if the requirements laid down in paragraph 7 above are not complied with.

8.2. If a Party to the Agreement which applies this Regulation withdraws an approval it has previously granted, it shall forthwith so notify the other Contracting Parties applying this Regulation, by means of a form conforming to the model in Annex 1 to this Regulation.

9. PRODUCTION DEFINITIVELY DISCONTINUED

If the holder of the approval completely ceases to manufacture a type of replacement pollution control device approved in accordance with this Regulation, he shall so inform the authority which granted the approval. Upon receiving the relevant communication, that authority shall inform thereof the other Parties to the Agreement applying this Regulation by means of a form conforming to the model in Annex 1 to this Regulation.

10. NAMES AND ADDRESSES OF TECHNICAL SERVICES RESPONSIBLE FOR CONDUCTING APPROVAL TESTS, AND OF TYPE-APPROVAL AUTHORITIES

The Contracting Parties to the Agreement applying this Regulation shall communicate to the United Nations Secretariat the names and addresses of the technical services responsible for conducting approval tests and of the Type-Approval Authorities which grant approval and to which forms certifying approval or extension or refusal or withdrawal of approval issued in other countries are to be sent.

11. DOCUMENTATION

11.1. Each new replacement pollution control device shall be indelibly marked with the manufacturer's name or trade mark and accompanied by the following information:

11.1.1. The vehicles (including year of manufacture) for which the replacement pollution control device is approved, including, where applicable, a marking to identify if the replacement pollution control device is suitable for fitting to a vehicle that is equipped with an on-board diagnostic (OBD) system.

11.1.2. Installation instructions, where necessary.

11.2. This information shall be provided either:

(a) as a leaflet accompanying the replacement pollution control device; or

(b) on the packaging in which the replacement pollution control device is sold; or

(c) by any other applicable means.

In any case, the information shall be available in the product catalogue distributed to points of sale by the manufacturer of replacement pollution control device.

APPENDIX

Information document No … relating to the type-approval of replacement pollution control devices

Any drawings shall be supplied in appropriate scale and sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, shall show sufficient detail.

If the system, components or separate technical units have electronic controls, information concerning their performance shall be supplied.

1. GENERAL

1.1. Make (trade name of manufacturer):

1.2. Type:

1.2.1. Commercial name(s), if available:

1.5. Name and address of manufacturer:

1.7. In the case of components and separate technical units, location and method of affixing of the ECE approval mark:

1.8. Address(es) of assembly plant(s):

2. DESCRIPTION OF THE DEVICE

2.1. Make and type of the replacement pollution control device:

2.2. Drawings of the replacement pollution control device, identifying in particular all the characteristics referred to in items 2.3 to 2.3.2 of this Appendix:

2.3. Description of the vehicle type or types for which the replacement pollution control device is intended:

2.3.1. Number(s) and/or symbol(s) characterising the engine and vehicle type(s):

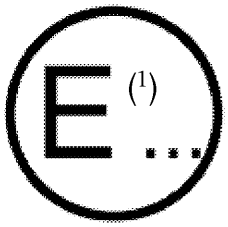
2.3.2. Is the replacement pollution control device intended to be compatible with OBD requirements: Yes/No (Strike out what does not apply).

Description and drawings showing the position of the replacement pollution control device relative to the engine exhaust manifold(s):

ANNEX 1

COMMUNICATION

(Maximum format: A4 (210 × 297 mm))



issued by: Name of administration

.....

.....

.....

Concerning (2): Approval granted

Approval extended

Approval refused

Approval withdrawn

Production definitively discontinued

of a replacement pollution control device pursuant to Regulation No 103

Approval No: ..... Extension No: .....

Reason for extension:

1. Applicant's name and address: .....

2. Manufacturer's name and address: .....

3. Manufacturer's trade name or mark: .....

4. Type and commercial designation of the replacement pollution control device: .....

5. Means of identification of type, if marked: .....

5.1. Location of that marking: .....

6. Vehicle type(s) for which the pollution control device type qualifies as replacement pollution control device: .....

7. Type(s) of vehicle(s) on which the replacement pollution control device has been tested: .....

7.1. Has the replacement pollution control device demonstrated compatibility with OBD requirements: Yes/No (2)

8. Location and method of affixing of the approval mark: .....

9. Submitted for approval on: .....

10. Technical Service responsible for approval tests: .....

10.1. Date of test report: .....

10.2. Number of test report: .....

11. Approval granted/extended/refused/withdrawn (2)

12. Place: .....

13. Date: .....

14. Signature: .....

15. Annexed to this communication is a list of documents in the approval file deposited at the administrative services having delivered the approval and which can be obtained upon request.

(1) Distinguishing number of the country which has granted/extended/refused/withdrawn an approval (see approval provisions in the Regulation).
(2) Strike out what does not apply.

ANNEX 2

EXAMPLES OF ARRANGEMENTS OF APPROVAL MARKS

MODEL A

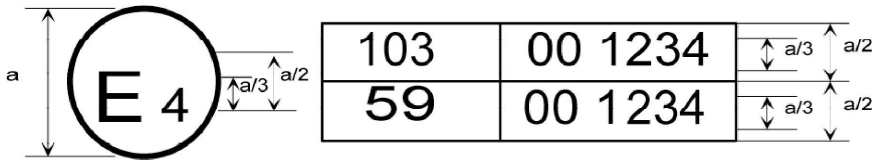
(See paragraph 4.6 of this Regulation)

a = 8 mm min

The above approval mark affixed to a component of a replacement pollution control device shows that the type concerned has been approved in the Netherlands (E 4), pursuant to Regulation No 103 under approval No 001234. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No 103 in its original form.

MODEL B

(See paragraph 4.7 of this Regulation)



a = 8 mm min

The above approval mark affixed to a component of replacement pollution control device shows that the type concerned has been approved in the Netherlands (E 4) pursuant to Regulations Nos 103 and 59 ([1]).

The first two digits of the approval numbers indicate that, on the date on which these approvals were granted, Regulations Nos 103 and 59 were in their original form.

([1]) The second number is given merely as an example