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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### Working Party on Noise and Tyres

#### Seventy-fourth session

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Item 5 of the provisional agenda

**UN Regulation No. 92 (Replacement exhaust silencing systems for motorcycles)**

## **Proposal for amendment of UN Regulation No. 92**

### **Submitted by the expert from Italy\***

The text reproduced below was prepared by the expert from Italy in order to amend UN Regulation No. 92. The modifications to the current text of the UN Regulation are marked bold for added text and strike through for deleted text.

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\* In accordance with the programme of work of the Inland Transport Committee for 2021 as outlined in proposed programme budget for 2021 (A/75/6 (Sect.20), para 20.51), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

## I. Proposal

Paragraph 2.3., amend to read:

- "2.3. *"Non-original replacement exhaust systems of different ~~types~~ configurations"* means silencing systems **belonging to the same NORESS type which are fundamentally different in one or more of the following ways:**
- (a) **Systems comprising components bearing different factory or trademarks,**
  - (b) **Systems comprising any components made of materials of different characteristics or comprising components which are of a different shape or size; a modification in respect to coating (zinc coating, aluminium coating, etc.) is not considered a change of configuration,**
  - (c) **Systems in which the operating principles of at least one component are different,**
  - (d) **Systems comprising components in different combinations,**
  - (e) **The list of allowed differences for NORESS configurations belonging to the same NORESS type is included in Annex 5 to the present Regulation."**

Paragraph 2.4., amend to read:

- "2.4. *"Non-original replacement exhaust silencing system (NORESS) or component thereof"* means any part of the exhaust silencing system defined in paragraph 2.1. intended for use on a vehicle other than a part of the type/**configuration** fitted to the vehicle when submitted for type approval pursuant to UN Regulation No. 9, UN Regulation No. 41 or UN Regulation No. 63;"

Paragraph 2.6., amend to read:

- "2.6. *"Vehicle type"* means vehicles, falling under the scope of this UN Regulation, which do not differ in such essential respects as:
- ...
  - (c) **Number, type/**configurations** and arrangement of exhaust silencing systems.**
  - ..."

Paragraph 3.2., amend to read:

- "3.2. It shall be accompanied by the under mentioned documents and the following particulars:
- ...
  - (c) **Detailed drawings of each NORESS component to enable it to be easily located and identified, and specification of the materials used. These drawings shall also indicate the location for the mandatory affixing of the approval number. **Differences for each configuration of RESS can be described on RESS drawings;****
  - ..."

Paragraph 3.3., amend to read:

- "3.3. At the request of the Technical Service conducting the tests for approval, the manufacturer of the NORESS shall submit:
- (a) **Two samples of the NORESS or its components submitted for approval; **in accordance with the Technical Service, a single configuration of RESS shall be tested;****

..."

Paragraph 4.3., amend to read:

"4.3. The NORESS shall be labelled by its manufacturer; indicating the type(s) of vehicle(s) for which it has been granted the approval. **Indication of type(s) of motorcycle(s) can be given in a separate summary sheet and/or a QR code, as an alternative to the label described above.**"

Paragraph 5.1., amend to read:

"5.1. If the NORESS or component thereof submitted for approval under this UN Regulation meets the requirements of paragraph 6. below, approval for that type shall be granted, **including all the configurations belonging to the RESS type.**"

Annex 1, amend to read:

"Annex 1

Part A. NORESS for vehicle types approved according to the 04 series of amendments to UN Regulation No. 41

Communication



issued by:

Name of administration:

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

- concerning<sup>2</sup>:
- Approval granted
  - Approval extended
  - Approval refused
  - Approval withdrawn
  - Production definitively discontinued

**of a type/configuration of NORESS or component thereof pursuant to UN Regulation No. 92 for installation on the following vehicle types.**

...

- 7. ~~Equipment~~
- 7.1. ~~Exhaust silencer~~
  - 7.1.1. ~~Manufacturer or authorized representative (if any):~~ .....
  - 7.1.2. ~~Model:~~ .....
  - 7.1.3. ~~Type:~~ ..... in accordance with drawing No. ....
- 7.2. ~~Intake silencer~~
  - 7.2.1. ~~Manufacturer or authorized representative (if any):~~ .....
  - 7.2.2. ~~Model:~~ .....
  - 7.2.3. ~~Type:~~ ..... in accordance with drawing No. ....

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

<sup>2</sup> Delete what does not apply.

...

Part B. NORESS for vehicle types approved according to UN Regulations Nos. 9 or 63



issued by:

Name of administration:

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

- concerning<sup>2</sup>:
- Approval granted
  - Approval extended
  - Approval refused
  - Approval withdrawn
  - Production definitively discontinued

**of a type/configuration of NORESS or component thereof pursuant to UN Regulation No. 92 for installation on the following vehicle types.**

...

- 7. ~~Equipment~~
  - 7.1. ~~Exhaust silencer~~
    - 7.1.1. ~~Manufacturer or authorized representative (if any):~~ .....
    - 7.1.2. ~~Model:~~ .....
    - 7.1.3. ~~Type:~~ ..... in accordance with drawing No. ....
  - 7.2. ~~Intake silencer~~
    - 7.2.1. ~~Manufacturer or authorized representative (if any):~~ .....
    - 7.2.2. ~~Model:~~ .....
    - 7.2.3. ~~Type:~~ ..... in accordance with drawing No. ....
- ..."

Insert a new Annex 5, to read:

## "Annex 5

### List of allowed differences between NORESS configurations belonging to the same NORESS type

Configurations belonging to the same type of non-original replacement exhaust silencing systems may be different with respect to one or more of the following features:

- (a) silencer / silencers shape, provided that the difference in volume does not exceed 15 per cent;
- (b) silencer / silencers length, provided that the difference in volume does not exceed 15 per cent;

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

- (c) **design of internal structure (i.e. internal perforated pipe) with respect to dimensions (length, front/rear diameter), provided that the change in one or more dimensions does not exceed 20 per cent;**
- (d) **design of components used on silencer / silencers (i.e.: internal baffles), provided that components design does not cause the NORESS configuration to exceed noise limits specified for the vehicle for which the NORESS configuration is designed."**

## **II. Justification**

1. The reasons for the proposed amendments are as follows:
    - Aligning UN Regulation No. 92 to the latest amendments made on UN Regulation No. 41.
    - Reducing the number and amount of different exhaust types to be approved by NORESS manufacturers (estimated reduction on an average of 20 per cent). Requirements actually included in UN Regulation No. 92 require that an exhaust type is related to a single, precise drawing. Even a minor modification made on any performance/noise reduction related component requires to create a new exhaust type. The scope of the modifications is to allow to use different configurations of the same exhaust type on different vehicles, with the aim to reduce proliferation of exhaust types, thus reducing homologations investment/costs (both direct and indirect) for NORESS manufacturers. Reducing the number of exhaust types and related type-approval marking will improve standardization for components.
  2. Criteria for permitted modifications listed in Annex 5 have been defined on the basis of approaches already adopted in some regional legislation - i.e. the European one - which allowed to include, under the same type approval, exhaust drawings that are slightly different in one or more components under the supervision and the agreement of the Technical Service. The ranges indicated on the criteria – 15 per cent and 20 per cent - for shape, length and internal dimensions guarantee that exhaust configurations included in those ranges have similar characteristics in terms of compliance to the noise legislative requirements.
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