

## Proposal for a Supplement 3 to 01 series of UN Regulation No.92 (Replacement exhaust silencing systems)

The text reproduced below was prepared by the expert from Germany. The proposed amendments to the current Regulation are incorporated into the consolidated text and marked in bold for new or strikethrough for deleted characters.

### 6.3.4. Additional sound emission provisions (ASEP)

*Insert new numbering 6.3.4.1 and amendment the existing first sub-paragraph:*

**6.3.4.1** The ASEP requirements of ~~paragraph 6.3. of the 04 series of amendments to Regulation No. 41~~ **the Regulation No. 9 or 41** shall also be fulfilled for the NORESS, if it is designed to be used on vehicles that are type approved according to ~~the 04 series of amendments to Regulation No. 41 and are subject to the requirements of paragraph 6.3. of the 04 series of amendments to Regulation No. 41~~ **a series of amendments to Regulation No. 9 or 41, where ASEP was part of the issued type approval of the vehicle. The applicable ASEP requirement is based on the scope of the Regulation No. 9 and 41 and its vehicle category.**

**If ASEP has to be tested, these tests and necessary pre-tests have to be done in accordance to the series of amendments of the Regulation which was the base of the issued type approval of the vehicle.**

*Insert new paragraph 6.3.4.2:*

**6.3.4.2** If the NORESS has different modes or variable geometries it has to perform the ASEP tests of Regulation No. 9 or 41 also, if it is designed to be used on vehicles that are type approved according to a series of amendments to Regulation No. 9 or 41, where ASEP was not a part of the issued type approval of the vehicle.

**The ASEP tests and necessary pre-tests have to be done in accordance to the actual series of amendments of the Regulation which is the actual base for issuing type approvals of vehicles.**

**The sound emission of the NORESS equipped vehicle under typical on-road driving conditions, which are different from those under which the type-approval test set out in Annex 3 and Annex 7 was carried out, shall not deviate from the test result in a significant manner.**

*Insert new paragraph 6.3.4.3:*

**6.3.4.3** The ASEP tests regarding 6.3.4.2 has to be done in comparison on a vehicle, which is equipped with the original exhaust silencer and the NORESS (back-to-back-test).

**During these tests the sound-pressure level of the NORESS for each test condition can have in its maximum the same sound-pressure level as the measurement of the vehicle equipped with the original exhaust silencer.**

*Insert new numbering 6.3.4.4 and amendment the existing second sub-paragraph of 6.3.4:*

**6.3.4.4** If ASEP tests regarding 6.3.4.1 or 6.3.4.2 are to be performed for NORESS without multiple, manually or electronically adjustable, rider selectable operating modes or without variable geometries, the vehicle as described in paragraph 3.3. (c) shall be used.

*Insert new paragraph 6.3.4.5:*

**6.3.4.5** If ASEP tests regarding 6.3.4.1 or 6.3.4.2 are to be performed for NORESS which are equipped with multiple, manually or electronically adjustable, rider selectable operating modes or with variable geometries, each vehicle type of the range of approval application of the NORESS has to be tested in every selectable mode.

*Insert new paragraph 6.3.4.6:*

**6.3.4.6** ASEP tests regarding 6.3.4.4 can be done by the manufacturer of the NORESS.

**ASEP tests regarding 6.3.4.5 have to be performed by the Technical Service. The test results of these measurements of the original and the NORESS equipped vehicle and all re-**

levant data of these tests have to be mentioned into the test report of the Technical Service.

*Insert new numbering 6.3.4.7 and amend the existing third sub-paragraph of 6.3.4:*

**6.3.4.7** The Type Approval Authority may require any relevant test to verify the compliance of the NORESS to the above mentioned requirements of **paragraph 6.3.4.1 to 6.3.4.6. During these tests the type approval authority can also check the software of the steering units of NORESS which are equipped with multiple, electronically adjustable, rider selectable operating modes or with variable geometries.**

*Insert new numbering 6.3.4.7 and amend the existing fourth sub-paragraph of 6.3.4:*

**6.3.4.8** The manufacturer shall provide **in addition to the test report of the Technical Service** a statement in conformity with annex 4 of this Regulation that the NORESS or components to be approved comply with the additional sound emission provision requirements of ~~paragraph 6.3 of the 04 series of amendments to Regulation No. 41~~ **the applicable Regulation No. 9 or 41.**

**In the case of NORESS which are equipped with multiple, manually or electronically adjustable, rider selectable operating modes or with variable geometries the manufacturer of the NORESS has to send the approval authority an additional document with detailed principle(s) and control of the NORESS.**

*Insert new headline of paragraph 6.3.4.9:*

**6.3.4.9 Additional Documentation for NORESS equipped with multiple, manually or electronically adjustable, rider selectable operating modes or with variable geometries**

*Insert new paragraph 6.3.4.9.1:*

**6.3.4.9.1** The additional documentation package required by paragraph 6.3.4.8 enabling the approval authority to evaluate the sound emission control strategy or strategies to ensure the correct operation of the NORESS.

**It shall be made available in the two following parts:**

- (a) the ‘formal additional documentation package’ that may be made available to interested parties upon request;**
- (b) the ‘extended additional documentation package’ that shall remain strictly confidential.**

*Insert new paragraph 6.3.4.9.2:*

**6.3.4.9.2** The formal additional documentation package may be brief, provided that it exhibits evidence that all parameters to control the NORESS have been identified. The additional documentation shall describe the functional operation of the NORESS. This material shall be retained by the approval authority.

*Insert new paragraph 6.3.4.9.3:*

**6.3.4.9.3** The extended additional documentation package shall include information on the operation of all Additional Sound Emission Strategies (ASES) and Base Sound Emission Strategy (BSES), including a description of the parameters that are modified by any ASES and the boundary conditions under which the ASES operate, and indication of which ASES and BSES are likely to be active under the conditions of the test procedures set out in the applicable ASEP requirement of the Regulation No. 9 and 41. The extended documentation package shall include all modes of operation.

**The extended documentation package shall remain strictly confidential. This material shall be retained by the approval authority.**

*Insert new paragraphs 12 (Transitional provisions):*

## **12 Transitional provisions**

**12.1** As from the official date of entry into force of the supplement 3 of the 01 series to this Regulation, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type-approvals under this supplement 3 of the 01 series to this Regulation.

**12.2** As from 12 months after the date of entry into force, Contracting Parties applying this Regulation shall grant approvals only if the type of component or separate technical unit to be approved meets the requirements of this Regulation as amended by the supplement 3 of 01 series of amendments.

**12.3** As from 24 months after the date of entry into force, Contracting Parties applying this Regulation shall grant extensions to existing approvals only if the type of component or

separate technical unit to be approved meets the requirements of this Regulation as amended by the supplement 3 of 01 series of amendments.

**12.4 Even after the entry into force of the supplement 3 of 01 series of amendments to this Regulation, approvals of the components and separate technical units to the preceding series of amendments to the Regulation shall remain valid and Contracting Parties applying this Regulation shall continue to accept them.**

Annex 4

Statement of Compliance with the Additional Sound Emission Provisions

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

This statement is required for non-original replacement exhaust silencing systems (NORESS)

- **with multiple, manually or electronically adjustable, rider selectable operating modes or variable geometries**
- **without multiple, manually or electronically adjustable, rider selectable operating modes or without variable geometries** specified for the use on L<sub>3</sub> category vehicles that are type approved pursuant to the 04 series of amendments to Regulation No. 9 or 41 and are subject to the requirements of paragraph 6.3. of the 04 series of amendments to Regulation No. 41 **which requires ASEP<sup>1</sup>.**

..... (Name of manufacturer) attests that the non-original replacement exhaust silencing systems of this type ..... (type with regard to its sound emission pursuant to the **actual 04** series of amendments to Regulation No. 9 or 41) comply with the **applicable ASEP** requirements of paragraph 6.3. of the 04 series of amendments to Regulation No. 9 or 41 **during the type approval procedure and its production.**

..... (Name of manufacturer) makes this statement in good faith, after having performed an appropriate evaluation of the sound emission performance of the non-original replacement exhaust silencing system in accordance with the requirements of Regulation No. 92 **during the type approval procedure and its production.**

Date: .....

Name of authorized representative: .....

Signature of authorized representative: .....

*Footnote 1) Delete the bullet point that does not apply*

### **Justification:**

There are NORESS on the market, which are designed for L-category vehicles which are not type approved according to the actual series of amendments to Regulation No. 9 and 41. Because of this the original L-category vehicle and NORESS for these vehicles at the moment are not been tested in respect of ASEP. Some of these NORESS uses the technique of multiple, manually or electronically adjustable, rider selectable operating modes or variable geometries (NORESS with “flexibilities”), with the consequence that vehicles equipped with these NORESS produce low sound pressure levels only during the measurement conditions of Annex 3 (about a vehicle speed of 50 to 65 km/h in 2<sup>nd</sup> and 3<sup>rd</sup> gear). Outside of these Annex 3 conditions the approved NORESS produces much higher sound pressure levels and annoy other people in an extremely way. In future each NORESS with “flexibilities” has to fulfill the ASEP requirements set out in Regulation No. 9 and 41. These ASEP tests have to be done by the Technical Service. The test results and the boundary conditions have to be part of the test report. The manufacturer of NORESS with “flexibilities” has to give the type approval authority a detailed documenttation about the sound emission control strategy of the NORESS.

The type approval and test procedure of NORESS without “flexibilities” will not affect by this supplement 3. In fact of this NORESS without “flexibilities” has not to be tested in respect of ASEP if they are designed for older L-category vehicles. Work load for manufacturer and ASEP manufacturer declaration procedure will not be changed.

With this proposal the sound emission of NORESS with “flexibilities” under typical on-road driving conditions, which are different from those under which the type-approval test set out in Annex 3 was carried out, shall not deviate from the test result in a significant manner.

Some modifications of this supplement 3 are caused by ASEP modifications of Regulation No. 9.

The last chapter of paragraph 6.2.3 of UN-R 51.03 was also copied into paragraph 6.3.4.2 of this supplement, because there is the same need for L-cat.-vehicles like passenger cars, that “the sound emission of the NORESS equipped vehicle under typical on-road driving conditions, which are different from those under which the type-approval test set out in Annex 3 and Annex 7 was carried out, shall not deviate from the test result in a significant manner.”