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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

World Forum for Harmonization of Vehicle Regulations

Working Party on General Safety Provisions

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Geneva, 3 - 7 May 2010

Item 9 of the provisional agenda

**REGULATION No. 116**  
(Protection of motor vehicles against unauthorized use)

Revised proposal for draft amendments to Regulation No. 116

Submitted by the expert from Japan \*/

The text reproduced below was prepared by the expert from Japan, in order to simplify the test procedures. It is based on the informal document GRSG-97-21. Modifications to the current text of the Regulation are marked in bold or strikethrough characters.

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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.

A. PROPOSAL

Insert new paragraphs 2.1. and 2.2., to read:

- "2.1. **"component" means a device subject to the requirements of this regulation and intended to be part of a vehicle, which may be type-approved independently of a vehicle where this regulation makes express provisions for so doing;**
- 2.2. **"separate technical unit" means a device subject to the requirements of this regulation and intended to be part of a vehicle, which may be type-approved separately, but only in relation to one or more specified types of vehicle where this regulation makes express provisions for so doing;"**

Paragraph 2.1. (former), renumber as paragraph 2.3.

Paragraph 3.2., amend to read:

- "3.2. It shall be accompanied by an information document **established** in accordance with the model shown in Annex 1, Part 1, 2 or 3 as appropriate, **and giving a description of the technical characteristics of the device to prevent unauthorized use and/or the VAS and/or the immobilizer and the method(s) of installation for each make and type of vehicle on which the protective device and/or VAS and/or immobilizer is intended to be installed"**

Paragraph 4.5., amend to read:

- "4.5 **List of paragraphs of this regulation which do not apply by virtue of the installation conditions for a VAS type approved as a separate technical unit, which is to be installed in specified places in specified vehicles:"**

Paragraph 4.10., amend to read:

"4.10.

.....

Where a VAS and/or immobilizer manufacturer supplies an unmarked VAS and/or immobilizer approved to this Regulation to a vehicle manufacturer, for fitment by that manufacturer as original equipment for a vehicle model or range of vehicle models, the VAS and/or immobilizer manufacturer shall supply a number of copies of the certificate of conformity to the vehicle manufacturer, sufficient for that manufacturer to obtain the vehicle approval to ~~Parts II, IV~~ **III** and/or ~~Part IV~~ **Part IV**, as appropriate, of this Regulation.

..... "

Part II

Paragraph 6.1., amend to read:

"6.1. DEFINITIONS

For the purpose of Part ~~III~~ II of this Regulation,"

Paragraph 6.4.2.1., amend to read:

"6.4.2.1. Operation tests

**For the operation tests required according to paragraphs 6.4.2.3., 6.4.2.4., 6.4.2.5., 6.4.2.6. and 6.4.2.8.4., if some of the tests required in each of these paragraphs prior to the operation tests are performed in series on a single VAS, the operation test may be carried out one time only after the chosen tests are completed instead of performing the operation tests required in the paragraphs after each of the chosen tests. Vehicle manufacturers and suppliers have to guarantee satisfactory results only on non accumulated procedures"**

Paragraph 6.4.2.3., amend to read:

"6.4.2.3. .... shall be repeated.

**With the agreement of the Technical Service this requirement need not apply in the following circumstances:**

- (a) **Type Approval of a VAS which is to be type approved as a separate technical unit**

**In this case, the manufacturer of the VAS shall:**

- (i) **specify in paragraph 4.5. of the information document (Annex 1, Part 2), that the requirement of this paragraph was not applied to the VAS (in accordance with paragraph 7 of this regulation),**
- (ii) **and specify in paragraph 4.1. of the information document, the list of vehicles to which the VAS is intended to be fitted and the relevant installation conditions in paragraph 4.2.**

- (b) **Type approval of a vehicle in respect of an AS**

**In this case, the manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the AS due to the nature of installation conditions and the vehicle manufacturer shall prove it by submitting related documents.**

- (c) **Type approval of a vehicle in respect of the installation of a VAS which is type approved as a separate technical unit**

In this case, the vehicle manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the installation of the VAS where the relevant installation conditions are met.

This requirement does not apply in cases where the information required in paragraph 3.1.3.1.1. of Annex 1, Part 1 has already been submitted for the approval of the separate technical unit."

Paragraph 6.4.2.7., amend to read:

"6.4.2.7. .... alarm system including status display.

With the agreement of the Technical Service this requirement need not apply in the following circumstances:

- (a) **Type Approval of a VAS which is to be type approved as a separate technical unit**

In this case, the manufacturer of the VAS shall:

- (i) specify in paragraph 4.5. of the information document (Annex 1, Part 2), that the requirement of this paragraph was not applied to the VAS (in accordance with paragraph 7 of this Regulation),
- (ii) and specify in paragraph 4.1. of the information document, the list of vehicles to which the VAS is intended to be fitted and the relevant installation conditions in paragraph 4.2.

- (b) **Type approval of a vehicle in respect of an AS**

In this case, the manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the AS due to the nature of installation conditions and the vehicle manufacturer shall prove it by submitting related documents.

- (c) **Type approval of a vehicle in respect of the installation of a VAS which is type approved as a separate technical unit**

In this case, the vehicle manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the installation of the VAS where the relevant installation conditions are met.

**This requirement does not apply in cases where the information required in paragraph 3.1.3.1.1. of Annex 1, Part 1 has already been submitted for the approval of a separate technical unit."**

Paragraph 6.4.2.12., amend to read:

"6.4.2.12. .... submitted to the tests described in Annex 9.

**In this case, a VAS which meets all the functional status of the tests in Annex 9 is deemed not to cause the alarm signal to sound unnecessarily in association with the requirements in paragraph 6.3.1.2.1.**

**With regard to the conformity to the functional status in each test, a VAS, which is designed to sound the alarm in the set state in some of the test conditions given in Annex 9 and sound the alarm signal in the tests, is deemed to function as designed in the tests and thus deemed to meet the functional status of the tests. In this case, the manufacturer of the VAS shall prove it by submitting related documents."**

### Part III

Paragraph 7., amend to read:

"7. PART III: APPROVAL OF A VEHICLE WITH REGARD TO ITS ALARM SYSTEM

When a VAS approved to Part ~~III~~ II of this Regulation is installed in a vehicle submitted for approval to Part ~~IV~~ III of this Regulation, tests required to be passed by a VAS in order to obtain approval to Part ~~III~~ II of this Regulation shall not be repeated."

Paragraph 7.3.2.1., amend to read:

"7.3.2.1 General

.....

**If a separate audible warning device according to paragraph 7.3.2.2.3.1. below is used, the original equipment standard audible warning device may additionally be actuated by the AS, provided that any tampering with the standard audible warning device (generally more accessible) does not affect the operation of the additional audible warning device."**

Paragraph 7.3.8., amend to read:

"7.3.8. Entry delay

**If the device for unsetting the VAS AS is fitted within the protected area, a delay of 5 seconds minimum and 15 seconds maximum shall be allowed before the activation of the audible and optical signals. The delay period may be adjustable to suit individual operators' circumstances."**

Paragraph 8.2.2., amend to read:

"8.2.2. If the ... requirements). **The frequency and maximum radiated power of radio transmissions for the setting and unsetting of the alarm-system immobilizer must comply with the CEPT/ERC (see footnote 6/ pertinent to paragraph 6.2.3.) Recommendation 70-03 (17 February 2000) relating to the use of short range devices (see footnote 7/ pertinent to paragraph 6.2.3.). "**

Paragraph 8.2.4.(a)., amend to read:

" (a) the vehicle is equipped ~~on~~ **or** intended to be equipped for ambulance, fire brigade or police purposes; or"

Annex 1, Part 1, insert a new paragraph 3.1.3.1.1., to read:

"3.1.3.1.1. **A detailed description of the vehicle type with regard to the arrangement of the installed VAS illustrated by photographs and/or drawings (where the VAS is already type approved as a separate technical unit, reference may be made to the description in paragraph 4.2. of the VAS manufacturer's information document):"**

Annex 1 - Part 2

The heading, amend to read:

"INFORMATION DOCUMENT  
in accordance with paragraph 6. of Regulation No. 116 relating to ECE component  
**or separate technical unit** type approval of an alarm system"

Paragraph 1.3., footnote (b). amend to read:

"(b) If the means of identification of type contains characters not relevant to describe the ~~vehicles~~, component or separate technical unit types covered in this information document, such characters shall be represented in the documentation by the symbol "?" (e.g. ABC??123??)"

Insert a new paragraph 4.5., to read:

**"4.5. For a VAS type approved as a separate technical unit, which is to be installed in specified places in specified vehicles by virtue of the installation conditions, the description of the paragraphs of this regulation which do not apply:"**

Annex 1 - Part 3

The heading, amend to read:

"INFORMATION DOCUMENT  
in accordance with paragraph 8. of Regulation No. 116 relating to ECE component  
**or separate technical unit** type approval of an immobilizer system"

Paragraph 1.3., footnote (b), amend to read:

"(b) If the means of identification of type contains characters not relevant to describe the ~~vehicles~~, component or separate technical unit types covered in this information document, such characters shall be represented in the documentation by the symbol "?" (e.g. ABC??123?)"

Annex 2 - Part 2

The heading, amend to read:

".....  
of a type of component **or separate technical unit** as an alarm system pursuant to  
Regulation No. 116 Approval  
....."

Paragraph 1.3., footnote (b), amend to read:

"(b) If the means of identification of type contains characters not relevant to describe the ~~vehicle~~, component or separate technical unit types covered in this information document, such characters shall be represented in the documentation by the symbol "?" (e.g. ABC??123?)"

Annex 2 - Part 3

The heading, amend to read:

".....  
of a type of component **or separate technical unit** as an immobilizer system  
pursuant to Regulation No. 116 Approval  
....."

Paragraph 1.3., footnote (b), amend to read:

- "(b) If the means of identification of type contains characters not relevant to describe the ~~vehiele~~, component or separate technical unit types covered in this information document, such characters shall be represented in the documentation by the symbol "?" (e.g. ABC??123??)"

Annex 9, paragraph 1., amend to read:

"1. METHOD ISO

Immunity against disturbances conducted along supply lines

**Apply test pulses 1, 2a/2b, 3a, 3b, 4 and 5a/5b according to the International Standard ISO ~~7637-1:1990~~7637-2:2004 to the supply lines as well as to other connections of VAS/AS which may be operationally connected to supply lines.**

**Concerning pulse 5, pulse 5b shall be applied on vehicles which include an alternator with internal limitation diode and pulse 5a shall be applied for others cases.**

**Concerning the pulse 2, pulse 2a shall always be applied and pulse 2b could be performed with the agreement between the vehicle manufacturer and the technical approval services.**

**With the agreement of the Technical Service, Test pulse 5a/5b need not be applied in the following circumstances:**

- (a) **Type Approval of a VAS which is to be type approved as a separate technical unit and intended for the fitment to (a) vehicle(s) without any alternators**

**In this case, the manufacturer of the VAS shall:**

- (i) **specify in paragraph 4.5. of the information document (Annex 1, Part 2), that the requirement of this paragraph was not applied to the VAS (in accordance with paragraph 7 of this Regulation),**
- (ii) **and specify in paragraph 4.1. of the information document, the list of vehicles to which the VAS is intended to be fitted and the relevant installation conditions in paragraph 4.2.**



- (b) **Type approval of a vehicle in respect of an AS intended for fitment to (a) vehicle(s) without alternators**

In this case, the manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the AS due to the nature of installation conditions.

- (c) **Type approval of a vehicle in respect of the installation of a VAS which is type approved as a separate technical unit and intended for the fitment to vehicle(s) without any alternators**

In this case, the vehicle manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the installation of the VAS where the relevant installation conditions are met.

This requirement does not apply in cases where the information required in paragraph 3.1.3.1.1. of Annex 1, Part 1 has already been submitted for the approval of the separate technical unit."

**VAS/AS in unset state**

~~The test pulses 1 through 5, shall be applied with a degree of severity III. The required functional status for all applied test pulses shall be A.~~

**VAS/AS in unset state and set state**

The test pulses 1 through 5 shall be applied. The required functional status for all applied test pulses are given in table 1.

Table 1 – Severity/functional status (for supply lines)

Test pulse number	Test level	Functional status
1	III	C
<b>2a</b>	<b>III</b>	<b>B</b>
<b>2b</b>	<b>III</b>	<b>C</b>
3a	III	A
3b	III	A
4	III	B
<del>4</del>	<b>I</b>	<b>A</b>

55a or 5b	III	A
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Immunity against disturbance coupled on signal lines

.....

Electrical disturbance from electrostatic discharges

Immunity against electrical disturbances shall be tested in accordance with Technical Report ISO/TR 10605-1993.

**With the agreement of the Technical Service this requirement need not apply in the following circumstances:**

- (a) **Type Approval of a VAS which is to be type approved as a separate technical unit**

**In this case, the manufacturer of the VAS shall:**

- (i) **specify in paragraph 4.5. of the information document (Annex 1, Part 2), that the requirement of this paragraph was not applied to the VAS (in accordance with paragraph 7 of this regulation),**
- (ii) **and specify in paragraph 4.1. of the information document, the list of vehicles to which the VAS is intended to be fitted and the relevant installation conditions in paragraph 4.2.**

- (b) **Type approval of a vehicle in respect of an AS**

**In this case, the manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the AS due to the nature of installation conditions and the vehicle manufacturer shall prove it by submitting related documents.**

- (c) **Type approval of a vehicle in respect of the installation of a VAS which is type approved as a separate technical unit**

**In this case, the vehicle manufacturer shall specify in paragraph 3.1.3.1.1. of the information document (Annex 1, Part 1), that the requirement of this paragraph does not apply to the installation of the VAS where the relevant installation conditions are met.**

**This requirement does not apply in cases where the information required in paragraph 3.1.3.1.1. of Annex 1, Part 1 has already been submitted for the approval of the separate technical unit."**

Radiated emissions..."

B. JUSTIFICATION

Paragraph 2.1., 4.10., 6.1, 7.3.8., 8.2.2., 8.2.4.

Correction of typographical errors.

Paragraph 3.2.

The term "protective device" in the current text should be changed to "device to prevent unauthorized use", aligning with the term used in 95/56/EC.

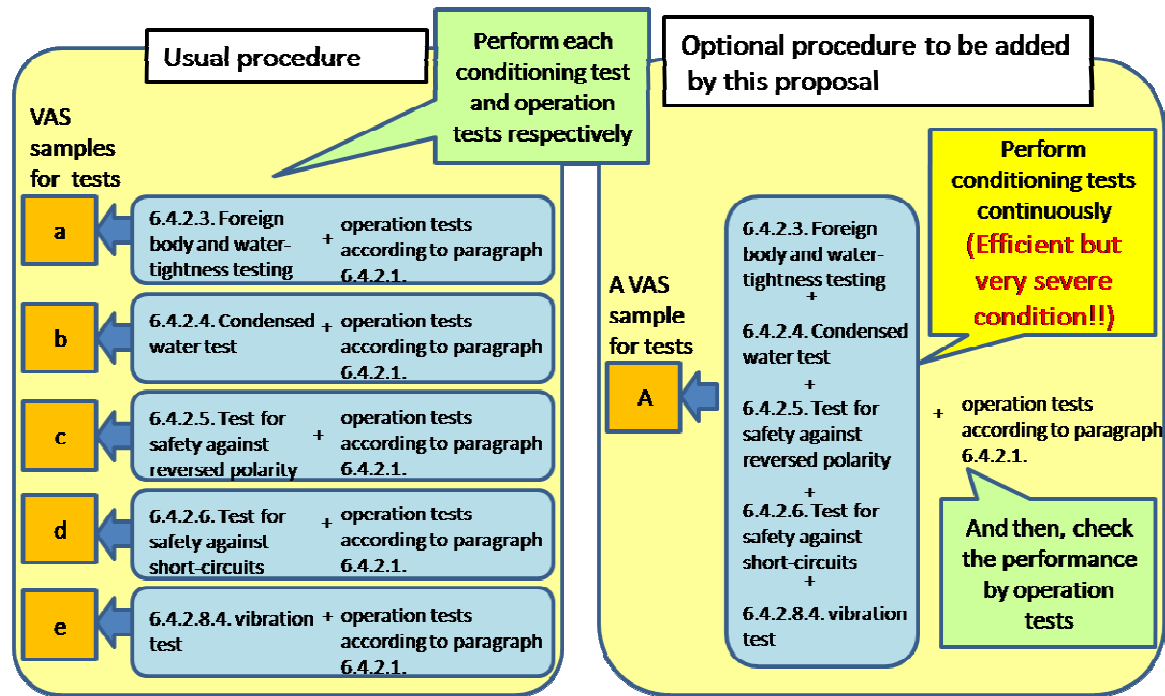
Paragraph 6.4.2.1.

This proposal is to add an optional procedure to streamline the operation tests repeatedly required in paragraphs 6.4.2.3., 6.4.2.4., 6.4.2.5., 6.4.2.6. and 6.4.2.8.4. by adopting more rigorous conditions.

Performing some of the tests required in these paragraphs prior to the operation tests in series for a sample is more rigorous than performing one of these tests before performing the operation test with regard to test conditions.

This amendment enables exemption of the tests for a VAS approved as separate technical unit or an AS to be installed to the vehicle which is type approved. It is possible to apply vehicle type approval of the immobilizers and alarm systems without the type approval for components/separate technical unit, while some devices to prevent unauthorized use are not subject to such component type approval.

According to this amendment, manufacturers can choose this option to decrease their work for obtaining type approval, provided they have sufficient quality for a VAS to do so.



#### Paragraph 6.4.2.3.

The VAS approved as a separate technical unit is to be installed in (a) vehicle(s) and can be designed to be placed in the vehicle(s) where foreign bodies and water cannot penetrate. Therefore, it is unnecessary to apply this requirement to the VAS if the VAS is designed to be placed where foreign bodies and water cannot penetrate. In this case, to clarify the fitment procedure of the VAS, it is necessary to describe the exception to the application of the requirement to the VAS and the vehicles and the places in which the VAS is to be installed in the information documents.

Regarding the last sentence, if the approved type is obtained for the type approval of the separate technical unit, the information mentioned in para. 3.1.3.1.1. is already submitted at that time. The added sentence is necessary to avoid duplication of work to demand the same information again at the vehicle type approval. The same situation could be applied to paragraph 6.4.2.7. and Annex 9, paragraph 1.

#### Paragraph 6.4.2.7.

The purpose of this requirement is to prevent the battery in a vehicle from running out by limiting the energy consumption of the VAS.

In the case of the VAS as a separate technical unit in a vehicle, it is unnecessary to apply this requirement because the total current value of the vehicle including the energy consumption by the VAS is designed to always be controlled to prevent the battery from running out. In this case, to clarify the fitment procedure of the VAS, it is necessary to describe the exception to the

application of the requirement to the VAS and the vehicles in which the VAS is to be installed in the information documents.

Paragraph 6.4.2.12.

This proposal is to clarify the requirements regarding this paragraph. In Annex 9, some of the tests require the checking of the functional status of the VAS after applying some conditioning.

However, paragraph 6.3.1.2.1. requires the checking whether the VAS causes an unnecessary alarm signal or not in paragraph 6.4.2.12. and it is necessary to clarify the relationship between the functional status and the necessity of the alarm signal to check the conformity of the VAS to the provisions.

Part III, paragraph 7.

This proposal is to clarify that vehicles equipped with a VAS approved under Part II are not required to repeat the same tests when obtaining approval under Part III.

Paragraph 7.3.2.1.

Under Part II, the same requirements (paragraph 6.3.2.1.) refers the paragraph 6.3.2.3.1. (same requirements as paragraph 6.3.2.3.1. in Part III).  
This is editorial correction.

Annex 1, Part 2, paragraph 4.5.

This proposal is to add the place to describe the items of the exception to the requirements according to this proposal especially for the VAS of a separate technical unit.

Annex 9, paragraph 1.

Immunity against disturbances conducted along supply lines and Table 1

- (a) Update to the latest ISO standard version.
- (b) Since the test pulse 5a or 5b is a simulated test for noise created by disruption of an alternator, the test should be conducted according to the state of alternators of vehicles in which the VAS is to be installed. In this case, to clarify the fitment procedure of the VAS, it is necessary to describe the exception of the application of the requirement to the VAS and the vehicles in which the VAS is to be installed in the information documents.
- (c) Modifications to the functional status in Table 1 are based on the European Union Directive 72/745/EEC, as last amended by 2006/28/EC.

Electrical disturbance from electrostatic discharges

The purpose of this requirement is to assure the resistance characteristics of the VAS to electrostatic discharge. Therefore, it is unnecessary to apply this requirement to the VAS as a separate technical unit that is to be put in a place in the vehicle(s) where the VAS cannot be accessed in normal use. In this case, to clarify the fitment procedure of the VAS, it is necessary to describe the exception to the application of the requirement to the VAS and the vehicles and the places in which the VAS is to be installed in the information documents.

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