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(Seventy-ninth session, 16-20 October 2000,  
agenda items 8. and 10.)

**PROPOSAL FOR A DRAFT AMENDMENT TO:**

**REGULATION No. 97 (Vehicle alarm system), and**

**DRAFT REGULATION ON THE PROTECTION OF M1 AND N1 CATEGORIES OF VEHICLES  
AGAINST UNAUTHORIZED USE**

Transmitted by the Expert from France

Note : The text reproduced below was prepared by the expert from France, with the aim of introducing complementary prescriptions taking into account new electrical/electronic systems used to prevent the unauthorized use of vehicles of categories M1 and N1. It is based on a document distributed without a symbol (informal document No. 16) during the seventy-eighth session TRANS/WP.29/GRSG/57, para. 66.)

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Note: This document is distributed to the experts on General Safety Provisions only.

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**A. PROPOSAL**

Regulation No. 97, annex 7, amend to read:

Draft Regulation on the protection of M1 and N1 category vehicles against unauthorized use, annex 9, amend to read :

"Annex 7  
(Annex 9)

ELECTROMAGNETIC COMPATIBILITY

Note: To test the electromagnetic compatibility, either paragraph 1. or paragraph 2. shall be used, depending on the test facilities.

1. ACCORDING TO THE ISO METHOD

Immunity against disturbances conducted along supply lines

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

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 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 n° | Test level | Functional status |
|---------------|------------|-------------------|
| 1             | III        | C                 |
| 2             | III        | A                 |
| 3a            | III        | C                 |
| 3b            | III        | A                 |
| 4             | III        | B                 |
| 4             | I          | A                 |
| 5             | III        | A                 |

Immunity against disturbance coupled on signal lines

Leads which are not connected to supply lines (e.g. special signal lines) shall be tested in accordance with the International Standard ISO/DIS 7637:1993 part 3. The required functional status for all applied test pulses are given in table 2.

Table 2 - Test level / functional status (for signal lines)

| Test pulse n° | Test level | Functional status |
|---------------|------------|-------------------|
| 3a            | III        | C                 |
| 3b            | III        | A                 |

Immunity against radiated high frequency disturbances

Testing of the immunity of a VAS/AS in a vehicle may be performed according to ~~[one of the methods described in the International Standard ISO 11451-1 through 4-1993, or laboratory testing may be performed according to one of the methods described in the International Standard ISO 11452-1 through 7-1993]~~ **the prescriptions in Regulation No. 10, 02 series of amendments and test methods described in annex 6 for the vehicles and annex 9 for a separate technical unit.]**

~~[Test severity level II shall be applied. The functional status A shall be maintained during and after the test. For values of severity level see relevant part of the International Standards ISO 11451-1993 and 11452-1993. A description of the functional status is given in part 1 of both standards.]~~

Electrical disturbance from electrostatic discharges

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

~~Radio frequency interference (RFI)~~ Radiated emission]

Tests **[shall be performed]** according to ~~[the relevant clause of CISPR 12-1990]~~ **Regulation No. 10, 02 series of amendments prescriptions and according to the test methods described in annexes 4 and 5 for vehicles or annexes 7 and 8, for a separate technical unit.]**

2. ACCORDING TO THE IEC METHOD

Electromagnetic field

The VAS/AS shall undergo the basic test. It shall be subjected to the electromagnetic field test described in IEC Publication 839-1-3-1998 test A-13 with a frequency range ~~extended to 1000 MHz and 50 V per m.,~~ **from 20 to 1000 MHz, and for a field strength level of 30 V/m]**

And the VAS/AS shall be subjected to the electrical transient conducted and coupled tests described in the International Standard ISO 7637 Parts 1:1990, [2:1990] and 3:1993, as appropriate.

~~[Immunity against radiated high frequency disturbances~~

~~The VAS/AS shall be subjected to testing for immunity against radiated high frequency disturbances as described in the International Standard ISO 11452-1993 Parts 1 to 7 as appropriate.~~

Electrical disturbance from electrostatic discharges

The VAS/AS shall undergo the basic test. It shall be subjected to the electrostatic discharge test described in IEC Publication 839 1 3 1998 test A-11 (severity 3) or the VAS/AS shall be subjected to testing for immunity against electrostatic discharge as described in Technical Report ISO/TR 10605-1993]

~~[Radio frequency interference (RFI) Emissions rayonnées]~~

The VAS/AS shall be subjected to testing for the suppression of radio frequency interference according to tests prescribed in [the relevant clauses of CISPR 12 1990 Regulation No. 10, 02 series of amendments and according to tests method described in annexes 4 and 5 for vehicles and annexes 7 and 8 for a separate technical unit.]

[Electrical spikes

~~The VAS/AS shall undergo the basic test. It shall be subjected to the electrical spikes as described in IEC Publication 839 1 3 1998 test A-9 (severity 4)] "~~

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**B. JUSTIFICATION**

Regulation No. 10, 02 series of amendments is related to electromagnetic compatibility and should be taken into account regarding the requirements that shall be met by the electronic immobiliser and alarm systems

Two methods are actually possible:

- 1) ISO method
- 2) IEC method

and four categories of tests are described.

- A - coupled and conducted pulses test
- B - electrostatic discharges
- C - immunity test for electromagnetic narrow band field
- D - narrow band radiated emission test

**For the ISO method** and the two last tests C and D, it is proposed to make a direct reference to Regulation No. 10, 02 series of amendments which covers both of these two aspects.

**For the IEC method**, the requirements described in this part are a combination of tests coming from IEC and ISO; it is proposed to make a reference to report ISO/TR 10605-1990 which is the reference for the automotive equipment regarding electrostatic discharges, more than standard EN 61000-4-2.

This proposal takes into account the amendment proposed by the expert from Belgium in informal document No. 16 of the seventy-seventh session of GRSG.

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