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21 February 1984

# AGREEMENT

## CONCERNING THE ADOPTION OF UNIFORM CONDITIONS OF APPROVAL AND RECIPROCAL RECOGNITION OF APPROVAL FOR MOTOR VEHICLE EQUIPMENT AND PARTS

**done at Geneva on 20 March 1958**

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*Addendum 27: Regulation No. 28 to be annexed to the Agreement*

*Amendment 1*

**01 series* of amendments which entered into force on 7 February 1984**

## UNIFORM PROVISIONS CONCERNING THE APPROVAL OF AUDIBLE WARNING DEVICES AND OF MOTOR VEHICLES WITH REGARD TO THEIR AUDIBLE SIGNALS

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**UNITED NATIONS**

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• not including any change in the approval rnark.

Contents

ANNEXES, amend to read:

"Annex 1 - Communication concerning the approval (or refusal or withdrawal of approval or production definitely discontinued) of a type of audible warning device for motor vehicles pursuant to Regulation No. 28

Annex 2 - Communication concerning the approval (or refusal or withdrawal of approval or production definitely discontinued) of a vehicle type with regard to its audible signals pursuant to Regulation No. 28

. . . . . ."

Paragraph 1, read:

"I. audible warning devices */ ..."

"II. the audible signals **/ ..."

Add the following foot-notes:

"*/ A device consisting of several sound outlets activated by a single power unit shall be regarded as an audible warning device.

**/ An audible warning device consisting of several units, each emitting a sound signal and operated simultaneously by the actuation of a single control shall be regarded as an audible warning system."

Paragraph 2.4. , read:

"2.4. Shape and dimensions of diaphragm(s);"

Paragraph 2.5, read:

"2.5. Shape or kind of sound outlet(s);"

Paragraph 2.6, read:

"2.6. Rated sound frequency or frequencies;"

Paragraph 5.2., amend to read:

"5.2. An approval number shall be assigned to each type approved. Its first two digits (at present 00 for the Regulation in its original 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 this number to another type of audible warning device."

Paragraph 5.3., read:

"5.3. ..., rated frequency or frequencies or...."

Paragraph 5.5.1., foot-note amend to read:

"1/ 1 for the Federal Republic of Germany, 2 for France, 3 for Italy, 4 for the.Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for Czechoslovakia, 9 for Spain, 10 for Yugoslavia, 11 for the United Kingdomg 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 for the German Democratic Republic, 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland and 21 for Portugal. Subsequent numbers shall be assigned to other countries in the chronological order in which they ratify the Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, or in which they accede to that Agreement, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement."

Paragraph 6.2., read:

"6.2. Measurement of the sound characteristics"

Paragraph 6.2.1., read:

"6.2.1. The warning device should, preferably, be tested in an anechoic environment. Alternatively, it may be tested in a semi-anechoic chamber or in an open space. In this case, precautions shall be taken to avoid reflections from the ground within the measuring area (for instance by erecting a set of absorbing screens). Compliance with the spherical divergence to a limit of 1 dB within a hemisphere of not less than 5 m radius, up to the maximum frequency to be measured, especially in the measuring direction and at the height of the apparatus and the microphone, shall be checked.

The ambient noise level shall be at least 10 dB lower than the sound pressure level to be measured.

The device to be tested and the microphone shall be placed at the same height. This height shall be between 1.15 and 1.25 m. The axis of maximum sensitivity of the microphone shall coincide with the direction of the maximum sound level of the device.

The microphone shall be so placed that its diaphragm is at a distance of 2 $\pm$ 0.01 m from the plane of the sound outlet of the device. In the case of devices with several outlets, the distance shall be determined in relation to the plane of the nearest outlet to the microphone."

Paragraph 6.2.2., read:

"6.2.2. The measurements of the sound pressure levels shall be made with a class 1 precision sound level metre conforming to the specifications of IEC Publication No. 651, first edition (1979). All measurements shall be made using the time constant “F”. The measurement of the over-all sound pressure level shall be made using the weighting curve A. The spectrum of the sound emitted shall be measured according to the Fourier transform of the acoustic signal. Alternatively, one-third octave filters conforming to the specifications of IEC Publication No. 225, first edition (1966) may be used: in this case, the sound pressure level in the mid-band frequency 2,500 Hz shall be determined by adding the quadratic means of the sound pressures in the one-third mid-band frequencies 2,000, 2,500 and 3,150 Hz.
In every case, only the Fourier transform method shall be regarded as a reference method."

Paragraph 6.2.5., read:

“6.2.5. The resistance of the connecting leads, including terminals and contacts, shall be as close as possible to: ... “

Paragraph 6.2.7., read:

“6.2.7. In the conditions set out above, the A-weighted sound pressure level shall be not less than 105 dB (A) and not more than 118 dB (A).

In addition, the total sound pressure level in the frequency band 1,800 to 3,550 Hz shall be greater than that of any component of a frequency above 3,550 Hz and in any event equal to or greater than 105 dB.”

Paragraph 6.2.8. (new), read:

“6.2.8. The specifications indicated above shall also be met by a device subjected to the endurance test referred to in paragraph 6.3 below, with the supply voltage varying between 115 per cent and 95 per cent of its rated voltage."

Paragraphs 6.2.8 and 6.2.9, re-number as 6.2.9 and 6.2.10 respectively.

Paragraph 6.2.11 (new), read:

"6.2.11. In the case of multiple-tone devices in which each sound-emitting unit is capable of functioning independently, the minimum values specified above shall be obtained when each of the constituent units is operated separately. The maximum value of the over-all sound level shall not be exceeded when all the constituent units are operated simultaneously."

Paragraphs 6.4 to 6.4.6: delete.

Paragraph 13.2, amend to read:

"13.2. An approval number shall be assigned to each type approved. Its first two digits (at present 00 for the Regulation in its original 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 this number to another vehicle type."

Paragraph 14.1, read:

"14.1. The audible warning device(s) (or system) ..."

Paragraph 14.4, re-number as 14.2.

Paragraph 14.3 (former 14.5), read:

"14.3. The sound pressure measurements shall be made in the conditions specified in paragraph 6.2.2 of this Regulation."

Paragraph 14.4 (former 14.2), read:

"14.4. The A-weighted sound pressure level emitted by the device(s) ..."

Paragraph 14.7, re-number as 14.5.

Paragraph 14.6 (former 14.3), read:

"14.6. The sound pressure level of the background noise and wind noise ...

Paragraph 14.6, re-number as 14.7.

Paragraph 14.8, read:

"14.8. The maximum sound pressure level observed shall be not less than 93 dB (A) and not more than 112 dB (A)."

Annex 1

Title, amend to read:

"Communication concerning the approval (or refusal or withdrawal of approval or production definitely discontinued) of a type of audible warning device for motor vehicles pursuant to Regulation No. 28"

Item 2, add at the end:

"indicating whether it is a single-tone or multiple-tone warning device."

Annex 2

Title, amend to read:

"Communication concerning the approval (or refusal or withdrawal of approval or production definitely discontinued) of a vehicle type with regard to its audible signals pursuant to Regulation No. 28"

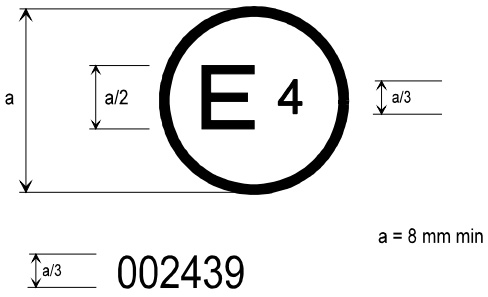
Annex 3

I. ARRANGEMENT OF THE APPROVAL MARK OF THE AUDIBLE WARNING DEVICE

Replace existing text by the following:

"I. ARRANGEMENT OF THE APPROVAL MARK OF THE AUDIBLE WARNING DEVICE

(see paragraph 5.5. of this Regulation)




The above approval mark affixed to an audible warning device shows that this audible warning device has been approved in the Netherlands (E 4) under approval number 002439. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. 28 in its original form.

Note

The approval number must be placed close to the circle and must be in a position either above or below the letter "E" or to left or right of that letter. The digits of the approval number must be on the same side of the letter "E" and face in the same direction. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols."

II. ARRANGEMENT OF THE APPROVAL MARK OF A VEHICLE WITH REGARD TO ITS AUDIBLE SIGNALS

Title, amend to read:

"II. ARRANGEMENT OF THE APPROVAL MARK OF A VEHICLE WITH REGARD TO ITS AUDIBLE SIGNALS

(see paragraph 13.4 of this Regulation)"

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