

Prepared by the expert from Germany

## **New Part IV of ECE - R 97**

### **SCOPE, DEFINITIONS AND REQUIREMENTS FOR VEHICLE DEGRADATION<sup>1</sup> SYSTEMS DURING UNAUTHORIZED USE**

- 1. Scope**
  - 1.1. **Part I:** Vehicle degradation systems intended to be fitted optionally in vehicles of classes M<sub>1</sub> and N<sub>1</sub> and which only become effective after standstill.
  - 1.2. **Part II:** Vehicle degradation systems intended to be fitted optionally in vehicles of classes M<sub>1</sub> und N<sub>1</sub> and which are also effective in vehicles under operation.
  - 1.3. Where such systems are fitted to vehicles of other classes, they are required to comply analogously with the provisions of this Annex.

#### ***PART I***

### **2. Definitions**

For the purposes of Part I of this Annex:

- 2.1. **"Vehicle degradation system"** (VDS) means a device which after previous activation is intended to prevent or to restrict a vehicle being driven away powered by its own engine after standstill of the vehicle;
- 2.2. **"Activation device"** means a device for activating the VDS;
- 2.3. **"Activation"** is a measure which sets the VDS to a state in which the vehicle can only be driven away powered by its own engine after previous standstill up to a defined restricted degree or in which movement is impeded;
- 2.4. **"Warning signal"** means a signal capable of indicating the activation state and the resulting imminent degradation of the vehicle to the vehicle user;

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<sup>1</sup> The term "degradation" was defined by CEN; TC 278, WG 14: "After Theft Systems for Vehicle Recovery"

- 2.5. **"Degradation"** means a series of measures after which the vehicle can only be driven away up to a defined restricted degree powered by its own engine;
- 2.6. **"Standstill"** means the state where the device for operating the engine is in the "off" position. Standstill can also exist where the device for operating the engine is not in the "off" position, but where the vehicle speed is 0 kph over a continuous period of not less than 15 seconds;
- 2.7. **"Deactivation"** means a measure which resets the VDS into its deactivated state;
- 2.8. **"Type of vehicle degradation system"** means devices which do not differ in such essential aspects as:
- the VDS manufacturer's trade name or mark
  - the operation of the VDS
  - the kind of activation device.

### 3. General specifications

- 3.1. The activation of the VDS and the degradation of the vehicle may only follow these specifications.
- 3.2. If the VDS includes the possibility of a radio transmission, e.g. for setting or unsetting of the alarm or for alarm transmission, it shall comply with the relevant ETSI Standards <sup>2</sup>, e.g. EN 300 220-1 VI.2.1 (1997-11) and EN 300 220-2 VI.2.1 (1997-11) (including any advisory requirements). The frequency and maximum radiated power of radio transmissions for the setting and unsetting of the alarm must comply with the CEPT/ERC <sup>3</sup> Recommendation 70-03 (1977) relating to the use of short range devices <sup>4</sup>.
- Evidence of compliance can be provided by means of the manufacturer's own documents.
- 3.3. Vehicle degradation systems shall be so designed, manufactured and fitted that any equipped vehicle continues to meet the applicable technical requirements with regard to electromagnetic compatibility (EMC) in accordance with the latest issue of the ECE Regulation ECE - R 10.
- 3.4. The VDS shall not degrade the vehicle performance unless the state in accordance with paragraph 2.6. occurs. It shall not inadvertently become active or lead to a vehicle degradation. This applies, in particular, to states not corresponding to paragraph 2.6.

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<sup>2</sup> ETSI: European Telecommunication Standards Institute. If these standards are not available when this Regulation comes into force, then the relevant domestic requirements shall apply.

<sup>3</sup> CEPT: Conference of European Posts and Communications.

ERC: European Radiocommunications Committee

<sup>4</sup> Contracting Parties may prohibit the frequency and/or the power and may permit the use of other frequency and/or power.

- 3.5. The installation of a VDS in a vehicle shall have no influence either on the performance or on the safe operation of the vehicle.
- 3.6. Failure of the VDS, or failure of its electrical supply shall not affect the safe operation of the vehicle.
- 3.7. A VDS may be combined with other vehicle systems or may be integrated into them.
- 3.8. In case of an aftermarket installation of a VDS, evidence must be provided to demonstrate that the vehicle with its modified components, if any, continues to comply with all applicable requirements.

#### **4. Particular specifications**

##### 4.1. Extent of the degradation

4.1.1. The VDS shall be designed so that it prevents or degrades the operation of the vehicle under its own power after previous standstill by means of influencing vehicle components required for the operation of the vehicle under its own power.

4.1.2. The installation of a VDS into a vehicle equipped with emission-reducing components in the exhaust line shall not result in uncombusted fuel impairing the performance of these components.

##### 4.2. Operating reliability

The specific environmental conditions in the vehicle shall be taken into account (see paragraph 5. of this Annex).

##### 4.3. Operating safety

Steps shall be taken to ensure that the VDS does not change its state (activated / deactivated) as a result of the tests in accordance with paragraph 5. of this Annex.

##### 4.4. Activation of the VDS

The VDS can be activated from the outside (e.g. by a radio signal, induction loops) or by means of devices fitted in the vehicle when an unauthorized use is detected (e.g. theft detection, budgeting method).

The VDS can also be activated by means of a combination of these measures.

##### 4.5. Degradation of the vehicle

4.5.1. To notify the vehicle user of activation of the VDS, suitable indication of a (visual, acoustic) warning signal in the vehicle interior is allowed.

4.5.2. When the VDS is in its activated state in accordance with paragraph 4.4. of this Annex, and the standstill of the vehicle occurs for the first time, the vehicle shall be degraded by means of the measures indicated in paragraph 4.1.1. of this Annex. The degraded vehicle may thence be operated at a maximum speed of between [15] and [20] km/h. In

hicle may thence be operated at a maximum speed of between [15] and [20] km/h. In this degraded state, a visual warning signal consisting of simultaneous flashing of all turn signal lamps shall be provided until deactivation.

4.5.3. Provided the VDS is activated, the engine cannot be started any more under the following conditions:

- the vehicle stands still with the engine switched off and the vehicle's doors locked, or
- the vehicle stands still with the engine switched off for more than [10] minutes.

4.6. Deactivation

Deactivation by the unauthorized vehicle user shall not be possible.

## **5. Operation parameters and test conditions**

5.1. Operation parameters

All components of the VDS shall comply with the relevant prescriptions given in Part III, paragraph 33.

These tests do not apply to:

- those components that are fitted and tested as part of the vehicle, whether or not a VDS is fitted (e. g. lamps); or,
- those components that have previously been tested as part of the vehicle and for which documentary evidence has been provided.

5.2. Test conditions

All the tests shall be carried out in sequence on a single VDS. However, at the discretion of the test authority other samples may be used if this is not considered to affect the results of the other tests.

Upon completion of all the tests specified below, the VDS shall be tested under the test conditions specified in Part I, paragraph 7.2.1.2. to check that it continues to function normally. Where necessary, fuses may be replaced during the test.

All components of the VDS shall comply with prescriptions given in paragraphs 7.2.2. to 7.2.8. and 7.2.12. of Part I.

## **6. Instructions**

Each VDS shall be accompanied by instructions in accordance with the relevant prescriptions contained in Part III, paragraph 34.

## ***PART II***

### **7. Definitions**

For the purposes of Part II of this Annex:

- 7.1. **"Vehicle degradation system"** (VDS) means a device which after previous activation is intended to degrade the movement of the vehicle under its own power also while the vehicle is being driven;
- 7.2. **"Activation device"** means a device for activating the VDS;
- 7.3. **"Activation"** means a measure which sets the VDS to a state which ultimately leads to a speed restriction;
- 7.4. **"Warning signal"** means a signal indicating the activation state and the resulting imminent degradation of the vehicle to the vehicle user;
- 7.5. **"Degradation"** means a series of measures after which the vehicle can only be driven away up to a defined restricted degree powered by its own engine;
- 7.6. **"Deactivation"** means a measure which resets the VDS into its deactivated state;
- 7.7. **"Type of vehicle degradation system"** means devices which do not differ in such essential aspects as:
  - the VDS manufacturer's trade name or mark
  - the operation of the VDS
  - the kind of activation device.

### **8. General specifications**

- 8.1. The activation of the VDS and the degradation of the vehicle must follow these specifications at all times.
- 8.2. If the VDS includes the possibility of a radio transmission, e.g. for setting or unsetting of the alarm or for alarm transmission, it shall comply with the relevant ETSI Standards<sup>5</sup>, e.g. EN 300 220-1 VI.2.1 (1997-11) and EN 300 220-2 VI.2.1 (1997-11) (including any advisory requirements). The frequency and maximum radiated power of radio transmissions for the setting and unsetting of the alarm must comply with the CEPT/ERC<sup>6</sup> Recommendation 70-03 (1977) relating to the use of short range devices<sup>7</sup>.

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<sup>5</sup> ETSI: European Telecommunication Standards Institute. If these standards are not available when this Regulation comes into force, then the relevant domestic requirements shall apply.

<sup>6</sup> CEPT: Conference of European Posts and Communications.

ERC: European Radiocommunications Committee

<sup>7</sup> Contracting Parties may prohibit the frequency and/or the power and may permit the use of other frequency and/or power.

Evidence of compliance can be provided by means of the manufacturer's own documents.

- 8.3. Vehicle degradation systems shall be so designed, manufactured and fitted that any equipped vehicle continues to meet the applicable technical requirements with regard to electromagnetic compatibility (EMC) in accordance with the latest issue of the ECE Regulation ECE - R 10.
- 8.4. The VDS may also lead to a vehicle degradation in compliance with specifications of paragraph 9. of this Annex while the engine is running. However, it shall not inadvertently become active or lead to a vehicle degradation.
- 8.5. The installation of a VDS in a vehicle shall have no influence either on the performance or on the operating reliability of the vehicle.
- 8.6. Failure of the VDS, or failure of its electrical supply shall not affect the safe operation of the vehicle.
- 8.7. A VDS may be combined with other vehicle systems or may be integrated into them.
- 8.8. In case of an aftermarket installation of a VDS, evidence must be provided to demonstrate that the vehicle with its modified components, if any, continues to comply with all applicable requirements.

## **9. Particular specifications**

### 9.1. Extent of the degradation

- 9.1.1. The VDS shall be designed so that it restricts the operation of the vehicle under its own power also while the vehicle is being driven (see paragraph 9.5. of this Annex) and so that it reduces the vehicle speed progressively down to the specified value by means of interference with vehicle components required for the operation of the vehicle under its own power.
- 9.1.2. The installation of a VDS into a vehicle equipped with emission-reducing components in the exhaust line shall not result in uncombusted fuel impairing the performance of these components.

### 9.2. Operating reliability

The specific environmental conditions in the vehicle shall be taken into account (see paragraph 10. of this Annex).

### 9.3. Operating safety

Steps shall be taken to ensure that the VDS does not change its state (activated / deactivated) as a result of the tests in accordance with paragraph 10 of this Annex.

### 9.4. Activation of the VDS

The VDS can be activated from the outside (e.g. by a radio signal, induction loops) or by means of devices fitted in the vehicle when an unauthorized use is detected (e.g. theft detection, budgeting method).

The VDS can also be activated by means of a combination of these measures.

#### 9.5. Degradation of the vehicle

##### 9.5.1. To notify the vehicle user of activation of the VDS, suitable indication of a (visual, acoustic) warning signal in the vehicle interior is allowed.

Not less than [5] minutes and not more than [10] minutes after activation, the engine output shall change resulting in a reduction of the speed down to the final speed of between [15] km/h and [20] km/h.

The VDS shall reduce the engine performance as a function of the covered distance after its activation. The final speed as specified above shall be reached after a distance of between [20] and [30] km. If the vehicle has not yet covered the distance of [30] km within one hour after its activation, the engine performance shall be reduced as a function of time reaching the above specified final speed after [30] minutes.

Automatic interference with the braking system to degrade the vehicle is not permissible.

With the change in engine output, a visual warning signal consisting of simultaneous flashing of all turn signal lamps shall be provided until deactivation.

##### 9.5.2. Provided the VDS is activated, the engine cannot be started any more under the following conditions:

- the vehicle stands still with the engine switched off and the vehicle's doors locked, or
- the vehicle stands still with the engine switched off for more than [10] minutes.

#### 9.6. Deactivation

Deactivation by the unauthorized vehicle user shall not be possible.

## **10. Operation parameters and test conditions**

### **10.1. Operation parameters**

All components of the VDS shall comply with the relevant prescriptions given in Part III, paragraph 33.

These tests do not apply to:

- those components that are fitted and tested as part of the vehicle, whether or not a VDS is fitted (e. g. lamps); or,
- those components that have previously been tested as part of the vehicle and for which documentary evidence has been provided.

### **10.2. Test conditions**

All the tests shall be carried out in sequence on a single VDS. However, at the discretion of the test authority other samples may be used if this is not considered to affect the results of the other tests.

Upon completion of all the tests specified below, the VDS shall be tested under the test conditions specified in Part I, paragraph 7.2.1.2 to check that it continues to function normally. Where necessary, fuses may be replaced during the test.

All components of the VDS shall comply with prescriptions given in paragraphs 7.2.2 to 7.2.8 and 7.2.12 of Part I.

## **11. Instructions**

Each VDS shall be accompanied by instructions in accordance with the relevant prescriptions contained in Part III, paragraph 34.

## **12. Use of the VDS**

The contracting parties shall establish provisions to ensure that VDSs can only be used for the purpose of vehicle theft prevention.