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### Economic Commission for Europe

#### Inland Transport Committee

#### World Forum for Harmonization of Vehicle Regulations

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##### **1997 Agreement (Periodical Technical Inspections):**

**Establishment of requirements for testing equipment,  
for skills and training of inspectors and for  
supervision of test centres**

### **Proposal for a Resolution on the administrative and technical provisions required for carrying out the technical inspections according to the technical prescriptions specified in UN Rules**

#### **Submitted by the Informal Working Group on Periodical Technical Inspection\***

The text reproduced below was prepared by the Informal Working Group on Periodical Technical Inspection. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) for consideration at its March 2017 session.

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\* In accordance with the programme of work of the Inland Transport Committee for 2016–2017 (ECE/TRANS/254, para. 159 and ECE/TRANS/2016/28/Add.1, cluster 3.1), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

**[Special] Resolution ([S.]R. [X]) on the administrative and technical provisions required for carrying out the technical inspections according to the technical prescriptions specified in UN Rules**

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\* Page numbers will be inserted at a later stage

## Preamble

The Administrative Committee of the 1997 Agreement (AC.4),

*Desiring* to define uniform conditions on Periodical Technical Inspections of wheeled vehicles that ensures a high level of safety and protection of the environment,

*Bearing in mind* that the 1997 Agreement established on 13 November 1997 provides for the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the conditions for reciprocal recognition by Contracting Parties of the International Technical Inspection Certificates granted on the basis of these inspections,

*Bearing in mind* that the assessment of compliance with the technical prescriptions of Rules annexed to the 1997 Agreement requires the use of administrative and technical arrangements,

*Bearing in mind* that the inspections may take place in any of the territories of the Contracting Parties and at a variety of technical centres within those territories,

*Bearing in mind* that to facilitate the application of the Agreement, AC.4 has decided that the administrative and technical provisions, necessary for technical inspections should be comprehensively defined in terms of their essential characteristics and performance in a [Special] Resolution,

*Bearing in mind* that this Resolution does not hold regulatory status within Contracting Parties.

*Recommends* that Contracting Parties refer to this [Special] Resolution when establishing the suitability of their technical inspection regime when used for the assessment of compliance with the prescriptions of Rules in the framework of the 1997 Agreement.

## I. Statement of technical rationale and justification

1. Harmonisation of technical prescriptions of Contracting Parties with respect to roadworthiness of wheeled vehicles is the declared objective of the 1997 Agreements. An essential element of this objective is the confidence that the assessment of compliance is robust and not subject to variation depending upon the administrative and technical arrangements used in the assessment process.
2. At its seventy-seven session, the Inland Transport Committee (ECE/TRANS/248, para. 61) welcomed the discussions on the importance of periodic technical inspections and the 1997 Agreement for the sake of road safety and environmental protection, and requested the World Forum for Harmonization of Vehicle Regulations (WP.29) to consider the introduction of harmonized rules on testing equipment, on skills, training and certification of inspectors, as well as on supervision benefiting from recent achievements.
3. At its 165th session, WP.29 agreed to establish an informal working group on periodical technical inspections (IWG on PTI) to provide for a proper preparation of the proposals on development of the 1997 Vienna agreement provisions and alignment it with national legislations of the Contracting Parties.
4. At the 168th session of WP.29, the Co-Chairs of IWG on PTI, through Informal document WP.29-168-05, presented proposals for development of the 1997 Agreement. WP.29 supported the approach, proposed by the IWG on PTI, when general obligations and responsibilities of the Contracting Parties necessary to arrange PTI shall be put into the 1997 Vienna Agreement text and the detailed recommendations for ensuring the objectivity

and the high quality of the technical inspections, undertaken in accordance with the recommended methods specified in the Rules, will be prescribed by the [Special] Resolution.

5. WP.29 affirmed the approach at its 169th session.
6. This [Special] Resolution is written to define the administrative and technical provisions for PTI regime and their preparation for use in a regulatory context.
7. The construction of this [Special] Resolution is designed to permit the addition of discrete addenda for each and any administrative and technical arrangements, as appropriate to the Agreement. Further elements may be included according to the nature of the specific provisions.
8. Additions to or amendments of the individual addenda are subject to the agreement of AC.4 as appropriate to the needs of the Agreement.

## **II. [Special] Resolution (S.R. [X]) on the administrative and technical provisions required for carrying out the technical inspections according to the technical prescriptions specified in Rules**

### **1. Scope**

- 1.1. This [Special] Resolution establishes minimum requirements for a regime of periodic technical inspections of vehicles used on public roads. This [Special] Resolution details specific administrative and technical provisions for PTI.

### **2. General provisions**

- 2.1. This [Special] Resolution contains those details associated with any administrative and technical provisions that are necessary to establish regime of PTI appropriate for use in determining the compliance of the [roadworthiness] of a wheeled vehicle, within the Rules. These details are those associated with the technical inspection facilities and test equipment, the competence, training and certification of inspectors, provisions and procedures concerning supervising bodies.
- 2.2. The technical prescriptions for each administrative and technical provision can be found in a discrete paragraph of this [Special] Resolution.
- 2.3. The regulatory prescriptions for the use of the provisions can be found in the Agreement or in the individual Rule for which the provision is specified.

### **3. Minimum requirements concerning technical inspection facilities and test equipment**

- 3.1. Facilities and equipment
  - 3.1.1. Technical inspections undertaken in accordance with the recommended methods specified in Rules shall be carried out by using appropriate facilities and equipment. This may include, where applicable, the use of mobile test units. The test equipment that is necessary will depend on the design and

categories of vehicles to be tested. Facilities and equipment shall comply with the following minimum requirements:

- 3.1.2. A test facility with adequate space for the evaluation of vehicles which meets the necessary health and safety requirements;
- 3.1.3. A test lane of sufficient size for each test, a pit or lift and, for vehicles having a maximum mass exceeding 3.5 tonnes, a device to lift a vehicle on one of the axles, equipped with appropriate lighting and, where necessary, with aeration devices;
- 3.1.4. For testing any vehicle, a roller brake tester capable of measuring, displaying and recording the braking forces and the air pressure in air brake systems in accordance with Annex A to standard ISO 21069-1 on the technical requirements of roller brake tester or equivalent standards;
- 3.1.5. For testing vehicles having a maximum mass not exceeding 3.5 tonnes, a roller brake tester in accordance with item 3.1.4, which may not include the recording of braking forces, pedal force and the air pressure in air brake systems and their display;
 

or

A plate brake tester equivalent to the roller brake tester in accordance with item 3.1.4, which may not include the recording capability of the braking forces, pedal force and the display of air pressure in air brake systems;
- 3.1.6. A deceleration recording instrument, while non-continuous measurement instruments must record/store measurements at least 10 times per second;
- 3.1.7. Facilities for the testing of air brake systems, such as manometers, connectors and hoses;
- 3.1.8. A wheel/axle load measuring device to determine the axle loads (optional facilities for measuring two-wheel loads<sup>†</sup>, such as wheel weight pads and axle weight pads);
- 3.1.9. A device for testing the wheel-axle suspension (wheel play detector) without lifting the axle, meeting the following requirements:
  - (a) The device must be equipped with at least two power-operated plates that can be moved in opposite sense in both the longitudinal and the transversal directions;
  - (b) The movement of the plates must be controllable by the operator from the testing position;
  - (c) For vehicles having a maximum mass exceeding 3,5 tonnes, the plates shall comply with the following technical requirements:
    - (i) Longitudinal and transversal movement of at least 95 mm, and
    - (ii) Longitudinal and transversal movement speed 5 cm/s to 15 cm/s;
- 3.1.10. A Class II sound level meter, if sound level is measured;

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<sup>†</sup> As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.4, para. 2. - [www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html](http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html)

- 3.1.11. A 4-gas analyser;
  - 3.1.12. A device for measuring the absorption coefficient with sufficient accuracy;
  - 3.1.13. One headlamp aiming device allowing the setting of the headlight to be tested in accordance with the provisions for the setting of headlights of motor vehicles; the light/dark boundary must be easily recognisable in daylight (without direct sunlight);
  - 3.1.14. A device for measuring the tread depth of tyres;
  - 3.1.15. A device to connect to the electronic vehicle interface, such as an OBD scan tool;
  - 3.1.16. A device to detect LPG/CNG/LNG leakage, if such vehicles are tested.
- Any of the above devices may be combined in one composite device, provided that this does not affect the accuracy of each device.
- 3.2. Calibration of equipment used for measurements
- Unless specified otherwise by the relevant the Contracting Party legislation, the interval between two successive calibrations may not exceed:
- (a) 24 months for the measurement of weight, pressure and sound level;
  - (b) 24 months for the measurement of forces,
  - (c) 12 months for the measurement of gaseous emissions.

#### **4. Minimum requirements concerning the competence, training and certification of inspectors**

- 4.1. Competence
- Before authorising an applicant for a position as inspector to carry out periodic technical inspections, Contracting Parties or competent authorities shall verify that that person:
- (a) Has a certified knowledge and understanding relevant for road vehicles in the following areas:
    - (i) Mechanics;
    - (ii) Dynamics;
    - (iii) Vehicle dynamics;
    - (iv) Combustion engines;
    - (v) Material and material processing;
    - (vi) Electronics;
    - (vii) Electrics;
    - (viii) Electronic vehicle components;
    - (ix) IT applications;
  - (b) Has at least three years of documented experience or equivalent, such as documented mentorship or studies, and appropriate training in the road vehicle field set out above.

#### 4.2. Initial and refresher training

Contracting Parties or competent authorities shall ensure that inspectors receive the appropriate initial and refresher training or undergo appropriate examination, including in theoretical and practical elements, to enable them to be authorised to carry out technical inspections.

The minimum contents of the initial and refresher training or appropriate examination shall include the following topics:

##### (a) Initial training or appropriate examination

The initial training provided by the Contracting Party or by an authorised training centre of the Contracting Party shall cover at least the following topics:

##### (i) Vehicle technology:

- a. Braking systems;
- b. Steering systems;
- c. Fields of vision;
- d. Light installation, lighting equipment and electronic components;
- e. Axles, wheels and tyres;
- f. Chassis and bodywork;
- g. Nuisance and emissions;
- h. Additional requirements for special vehicles.

##### (ii) Testing methods;

##### (iii) Assessment of deficiencies;

##### (iv) Legal requirements applicable on the vehicle condition for approval;

##### (v) Legal requirements relating to roadworthiness testing;

##### (vi) Administrative provisions relating to vehicle approval, registration and roadworthiness testing;

##### (vii) IT applications relating to testing and administration.

##### (b) Refresher training or appropriate examination

Contracting Parties shall ensure that inspectors regularly receive refresher training or undergo an appropriate examination provided or set by the Contracting Party or by an authorised training centre of the Contracting Party.

Contracting Parties shall ensure that the contents of the refresher training or appropriate examination enable inspectors to maintain and refresh the requisite knowledge and skills in relation to the topics referred to in point (a), (i) to (vii) above.

4.3. Certificate of competence

The competent authorities or, where applicable, approved training centres shall provide a certificate or equivalent documentation to inspectors who fulfil the minimum competence and training requirements.

The certificate or equivalent documentation issued to an inspector authorised to carry out technical inspections shall include at least the following information:

- (a) Identification of the inspector (first name, surname);
- (b) Vehicle categories for which the inspector is authorised to carry out technical inspections;
- (c) Name of the issuing authority;
- (d) Date of issue.

## 5. Supervising bodies

Testing centres directly operated by a competent authority shall be exempted from the requirements regarding authorisation and supervision where the supervising body is part of the competent authority.

Provisions and procedures concerning supervising bodies established by Contracting Parties shall cover the following minimum requirements:

5.1. Tasks and activities of the supervising bodies

Supervising bodies shall perform at least the following tasks:

- (a) Supervision of testing centres:
  - (i) Checking whether the minimum requirements for premises and test equipment are met;
  - (ii) Verifying the mandatory requirements of the authorised entity;
- (b) Verifying training and examination of inspectors:
  - (i) Verifying the initial training of inspectors;
  - (ii) Verifying the periodic refresher training of inspectors;
  - (iii) Periodic refresher training of supervising body examiners;
  - (iv) Conducting or supervising examinations.
- (c) Auditing:
  - (i) Pre-audit of testing centres prior to authorisation;
  - (ii) Periodic re-audit of testing centres;
  - (iii) Special audit in the case of irregularities;
  - (iv) Audit of training/examination centres.
- (d) Monitoring, using measures such as the following:
  - (i) E-testing of a statistically valid proportion of tested vehicles;
  - (ii) 'Mystery shopper' checks (use of defective vehicle optional);

- (iii) Analysis of results of technical inspections (statistical methods);
  - (iv) Appeal tests;
  - (v) Investigation of complaints.
- (e) Validation of measurement results of technical inspections.
- (f) Proposing the withdrawal or suspension of authorisation of testing centres and/or of inspectors:
- (i) Where the centre or inspector concerned does not fulfil a significant authorisation requirement;
  - (ii) Where major irregularities are detected;
  - (iii) Where there are continued negative audit results;
  - (iv) Where there is a loss of good repute on the part of the centre or inspector in question.

5.2. Requirements concerning the supervising body

Requirements applicable to the personnel employed by a supervising body shall cover the following areas:

- (a) Technical competence;
- (b) Impartiality;
- (c) Standards of qualification and training.

5.3. Contents of the rules and procedures

Each Contracting Party or its competent authority shall lay down the relevant rules and procedures, which shall include at least the following items:

- (a) Requirements concerning the authorisation and supervision of testing centres:
  - (i) Application for authorisation to operate as a testing centre;
  - (ii) Responsibilities of testing centres;
  - (iii) Pre-authorisation visit, or visits, to verify that all requirements are complied with;
  - (iv) Authorisation of testing centres;
  - (v) Periodic re-testing/audits of testing centres;
  - (vi) Periodic checks on testing centres to see whether they are continuing to comply with the applicable rules and procedures;
  - (vii) Evidence-based unannounced special checks or audits of testing centres;
  - (viii) Analysis of test data to see whether evidence exists of non-compliance with the applicable rules and procedures;
  - (ix) Withdrawal or suspension of authorisations granted to testing centres.
- (b) Inspectors of testing centres:
  - (i) Requirements to become a certified inspector;

- (ii) Initial training, refresher training and examinations;
  - (iii) Withdrawal or suspension of certification of inspectors.
  - (c) Equipment and premises:
    - (i) Requirements for test equipment;
    - (ii) Requirements for testing premises;
    - (iii) Requirements for signage;
    - (iv) Requirements for maintenance and calibration of testing equipment;
    - (v) Requirements for computerised systems.
  - (d) Supervising bodies:
    - (i) Powers of the supervising bodies;
    - (ii) Requirements applicable to staff of supervising bodies
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