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PROPOSAL FOR AMENDMENTS TO DRAFT ADDENDUM 2 – RULE NO. 2: UNIFORM PROVISIONS FOR PERIODICAL TECHNICAL INSPECTIONS OF WHEELED VEHICLES WITH REGARD TO THEIR ROADWORTHINESS

Transmitted by the expert from the Russian Federation

Note: The text reproduced below is a result of revision of the document TRANS/WP.29/2003/16 by the expert from Russian Federation in order to improve and clarify its technical provisions.

GENERAL COMMENTS

In compliance with the Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections done at Vienna on 13 November 1997 rules for periodical technical inspections of wheeled vehicles shall cover test methods by which any performance requirements have to be demonstrated. Draft Rule No.2, presented in document TRANS/WP.29/2003/16, does not contain any uniform techniques of tests and checks, except visual inspection, criteria and parameters to be checked or measured and their critical values. Operating conditions and modes of the parts are not prescribed as well.

The present system of inspections varies in different countries. Techniques and equipment currently available are also different. In such circumstances adoption of uniform techniques of tests and checks and evaluation of the results is very important for reciprocal recognition of technical inspections results.

Therefore it is proposed to present the "Minimum inspection requirements" in the form of table including 5 columns with the titles of the columns as shown below.

Part, component, parameter	Test conditions	Inspected parameter	Principal reasons for rejection/critical values	Test method

PROPOSED AMENDMENTS

1. Items, which are not considered essential in periodic inspection and marked (X) in the document, should be excluded.

2. Paragraph 1.1.1. should be deleted.
Brake pedal pivot shall always be operable.

3. Paragraphs 1.1.5.b, 1.1.8.a, 1.1.9.b, 1.1.10.a, 1.1.10.g, 1.1.11.a, 1.1.12.a, 1.1.15.b, 2.2.2.d, 3.2.c, 4.1.1.b, 4.2.1.b, 4.3.1.b, 4.10.c, 4.13.c,d. should be deleted.
Defective parts shall be replaced with criteria of malfunction or critical values of the parameter.

4. Paragraph 1.1.13, 1.1.14.: Inspection of brake linings and drums is possible when wheels are dismounted. This condition of the inspection shall be prescribed in column 2 of the table.
Dismounting of wheels increases inspection time essentially. It is not fulfilled during the periodical inspections in many countries.
Inspection of those items can be carried out, if specified by the national legislation.

5. Paragraph 1.1.16e. should be deleted or criteria for insufficient or excessive travel of operating piston or diaphragm mechanism should be specified.

6. Paragraph 1.2.1.b. Braking effort from any wheel should not be less than 80% of maximum effort recorded from other wheel on the same axle.

7. Paragraph 1.2.1.e. should be deleted or permissible fluctuation of brake force should be indicated.

8. Paragraph 1.5.b. Replace the text by the following: “Deceleration is not in accordance with regulations 2/”

9. Paragraphs 2.1.1.b,c should be deleted.
Wear of the components can be detected after disassembling parts. Steering gear cannot be disassembled during the periodical inspection.

10. Paragraph 2.1.3.b,f. should be deleted or criteria of excessive wear and appropriate repair should be specified.

11. Paragraph 6.1.3.e. Replace the text by the following: “fuel tank or exhaust not shielded in accordance with the regulations. 2/”.

For reference, the lines of the Annex “MINIMUM INSPECTION REQUIREMENTS” in question are reproduced below. Deleted text is crossed out. Added text is underlined.

Item	Method	Principal reasons for rejection
~~1.1.1. Service brake pedal pivot~~	~~Visual inspection of the components while the braking system is operated. Note: Vehicles with power-assisted braking systems should be inspected with the engine switched off.~~	~~*(a)* Pivot too tight.~~ ~~*(b)* Bearing worn.~~ ~~*(c)* Excessive wear or play.~~ ~~*(d)* Inappropriate repair or modification.~~
1.1.5. Hand operated brake control valve	Visual inspection of the components while the braking system is operated.	*(a)* Control cracked, damaged or excessively worn. *(b)* ~~Malfunction of control valve~~. *(c)* Control insecure on valve or valve insecure. *(d)* Loose connections or leaks in system. *(e)* Unsatisfactory operation *(f)* Inappropriate repair or modification.
1.1.8. Couplings for trailer brakes	Disconnect braking system coupling between towing vehicle and trailer.	~~*(a)* Tap or self sealing valve defective.~~ *(b)* Tap or valve insecure or inadequately mounted. *(c)* Excessive leaks.
1.1.9. Energy storage reservoir pressure tank	Visual inspection.	*(a)* Tank damaged, corroded or leaking. ~~*(b)* Drain device inoperative.~~ *(c)* Tank insecure or inadequately mounted. *(d)* Inappropriate repair or modification.
1.1.10. Brake servo units, master cylinder (hydraulic systems)	Visual inspection of the components while the braking system is operated.	~~*(a)* Defective or ineffective servo unit.~~ *(b)* Master cylinder defective or leaking. *(c)* Master cylinder insecure. *(d)* Insufficient brake fluid. *(e)* Master cylinder reservoir cap missing. *(f)* Brake fluid warning light illuminated ~~or defective.~~ ~~*(g)* Incorrect functioning of brake fluid level warning device.~~
1.1.11. Rigid brake pipes	Visual inspection of the components while the braking system is operated.	~~*(a)* Risk of failure or fracture.~~ *(b)* Pipes or connections leaking. *(c)* Pipes damaged or excessively corroded. *(d)* Pipes misplaced. *(e)* Inappropriate repair or modification.
1.1.12. Flexible brake hoses	Visual inspection of the components while the braking system is operated.	~~*(a)* Risk of failure or fracture.~~ *(b)* Hoses damaged, chafing, twisted or too short *(c)* Hoses or connections leaking. *(d)* Hoses bulging under pressure. *(e)* Hoses porous. *(f)* Inappropriate repair or modification.
1.1.13. Brake linings and pads	Visual inspection <u>after dismounting of wheels.</u>	*(a)* Lining or pad excessively worn. *(b)* Lining or pad contaminated (oil, grease etc.).
1.1.14. Brake drums, brake discs	Visual inspection <u>after dismounting of wheels.</u>	*(a)* Drum or disk excessively worn, excessively scored, cracked, insecure or fractured. *(b)* Drum or disk contaminated (oil, grease, etc.) *(c)* Back plate insecure.

Item	Method	Principal reasons for rejection
1.1.15. Brake cables, rods, levers, linkages	Visual inspection of the components while the braking system is operated.	*(a)* Cable damaged or knotted. ~~*(b)* Component excessively worn or corroded.~~ *(c)* Cable, rod or joint insecure. *(d)* Cable guide defective. *(e)* Restriction to free movement of the braking system. *(f)* Abnormal movement of the levers/linkage indicating maladjustment or excessive wear. *(g)* Inappropriate repair or modification.
1.1.16. Brake actuators (including spring brakes or hydraulic cylinders)	Visual inspection of the components while the braking system is operated.	*(a)* Actuator cracked or damaged. *(b)* Actuator leaking. *(c)* Actuator insecure or inadequately mounted. *(d)* Actuator excessively corroded. ~~*(e)* Insufficient or excessive travel of operating piston or diaphragm mechanism.~~ *(f)* Dust cover missing or excessively damaged. *(g)* Inappropriate repair or modification.
1.2.1. Performance	During a road test and/or a test on a static brake-testing machine, apply the brakes progressively up to maximum effort.	*(a)* Inadequate braking effort on one or more wheel. *(b)* Braking effort from any wheel is less than ~~[70%]~~ 80% of maximum effort recorded from the other wheel on the same axle. Or in the case of testing on the road, the vehicle deviates excessively from a straight line. *(c)* No gradual variation in brake effort (grabbing). *(d)* Abnormal lag in brake operation of any wheel. *(e)* ~~Excessive fluctuation of brake force during each complete wheel revolution~~.
1.5. Endurance braking system performance	Visual inspection and, where possible test whether the system functions.	*(a)* No gradual variation of efficiency (not applicable to exhaust brake systems). *(b)* ~~System not functioning.~~ Deceleration is not in accordance with regulations 2/
2.1.1. Steering gear condition	With the vehicle over a pit or on a hoist and with the road wheels off the ground, rotate the steering wheel from lock to lock. Visual inspection of the operation of the steering gear.	*(a)* Roughness in operation of gear. ~~*(b)* Sector shaft twisted or splines worn.~~ ~~*(c)* Excessive wear in sector shaft.~~ *(d)* Excessive "end float" of sector shaft. *(e)* Leaking.
2.1.3. Steering linkage condition	With the vehicle over a pit or on a hoist and with the road wheel on ground, rock steering wheel clockwise and anti-clockwise or using a specially adapted wheel play detector. Visual inspection of steering components for wear, fractures and security.	*(a)* Relative movement between components which should be fixed. ~~*(b)* Excessive wear at joints.~~ *(c)* Fractures or deformation of any component. *(d)* Absence of locking devices. *(e)* Misalignment of components (e.g. track rod or drag link). ~~*(f)* Inappropriate repair or modification.~~ *(g)* Dust cover missing, damaged or severely deteriorated.

Item	Method	Principal reasons for rejection
2.2.2. Steering column	With the vehicle over a pit or on a hoist and the mass of the vehicle on the ground, push and pull the steering wheel in line with column, push steering wheel in various directions at right angles to the column. Visual inspection of play, and condition of flexible couplings or universal joints.	*(a)* Excessive movement of centre of steering wheel up or down. *(b)* Excessive movement of top of column radially from axis of column. *(c)* Deteriorated flexible coupling. ~~*(d)* Attachment defective.~~
~~2.4. Wheel alignment (X)~~	~~Check alignment of steered wheels with suitable equipment.~~	~~Alignment not in accordance with vehicle manufacturer's data or regulations 2/.~~
3.2. Condition of glass	Visual inspection.	*(a)* Cracked or discoloured glass or transparent panel (if permitted). *(b)* Glass or transparent panel that does not comply with specifications in the regulations. 2/ ~~*(c)* Glass or transparent panel in unacceptable condition.~~
~~3.6 Demisting system (X) 7/~~	~~Visual inspection and by operation.~~	~~System inoperative or obviously defective.~~
4.1.1. Condition and operation	Visual inspection and by operation.	*(a)* Defective bulb. ~~*(b)* Defective lens.~~ *(c)* Lamp not in accordance with the regulations. 2/ *(d)* Lamp not securely attached. *(e)* Products on lens or bulb which reduce light intensity or change colour.
~~4.1.4. Compliance with regulations 2/ (X) 7/~~	~~Visual inspection and by operation.~~	~~Lamp colour, position or intensity not in accordance with the regulations. 2/~~
~~4.1.5. Levelling devices (where mandatory) (X) 7/~~	~~Visual inspection and by operation.~~	~~*(a)* Device not operating.~~ ~~*(b)* Manual device cannot be operated from driver's seat.~~
~~4.1.6. Headlamp washers (where mandatory) (X) 7/~~	~~Visual inspection and by operation.~~	~~Washer not operating.~~
4.2.1. Condition and operation	Visual inspection and by operation.	*(a)* Defective bulb. ~~*(b)* Defective lens.~~ *(c)* Lamp not securely attached.
4.3.1. Condition and operation	Visual inspection and by operation.	*(a)* Defective bulb. ~~*(b)* Defective lens.~~ *(c)* Lamp not securely attached.
~~4.6. Reversing lamps (X) 7/~~		
~~4.6.1. Condition and operation~~	~~Visual inspection and by operation.~~	~~*(a)* Defective bulb.~~ ~~*(b)* Defective lens.~~ ~~*(c)* Lamp not securely attached.~~
~~4.6.2. Compliance with regulations 2/~~	~~Visual inspection and by operation.~~	~~*(a)* Lamp colour, position or intensity not in accordance with the regulations. 2/~~ ~~*(b)* System does not operate in accordance with the regulations. 2/~~

Item	Method	Principal reasons for rejection
4.10. Electrical connections between towing vehicle and trailer or semi-trailer	Visual inspection: if possible examine the electrical continuity between the vehicles.	*(a)* Fixed components not securely attached. *(b)* Damaged or deteriorated insulation. ~~*(c)* Trailer or towing vehicle electrical connections not functioning correctly.~~
~~4.12. Non obligatory lamps (X) 7/~~	~~Visual inspection and by operation.~~	~~*(a)* A lamp fitted not in accordance with the regulations. 2/~~ ~~*(b)* Lamp operation not in accordance with the regulations. 2/~~ ~~*(c)* Total intensity (including headlamps) not in accordance with the regulations. 2/~~ ~~*(d)* Lamp not securely attached.~~
4.13. Battery	Visual inspection.	*(a)* Insecure. *(b)* Leaking. ~~*(c)* Defective switch (if required).~~ ~~*(d)* Defective fuses (if required).~~
6.1.3. Fuel tank and pipes (including heating fuel tank and pipes)	Visual inspection with vehicle over a pit or on a hoist.	*(a)* Insecure tank or pipes. *(b)* Leaking fuel or missing or ineffective filler cap. *(c)* Damaged or chafed pipes. *(d)* Fuel stopcock (if required) not operating correctly. ~~*(e)* Fire risk due to~~ ~~- Leaking fuel~~ - ~~Fuel tank or exhaust improperly shielded~~ Fuel tank or exhaust not shielded in accordance with the regulations. 2/ ~~- Engine compartment condition.~~ *(f)* LPG/CNG system not in accordance with regulations 2/.
~~7.2. Fire extinguisher (X) 7/~~	~~Visual inspection.~~	~~*(a)* Missing.~~ ~~*(b)* Not in accordance with the regulations. 2/~~
~~7.3. Locks and anti-theft device (X) 7/~~	~~Visual inspection and by operation~~	~~Device not functioning to prevent vehicle being driven.~~
~~7.4. Warning triangle (if required) (X) 7/~~	~~Visual inspection.~~	~~*(a)* Missing or incomplete.~~ ~~*(b)* Not in accordance with the regulations. 2/~~
~~7.5. First aid kit. (if required) (X) 7/~~	~~Visual inspection.~~	~~Missing, incomplete or not in accordance with the regulations. 2/~~
~~7.6. Wheel chocks (if required) (X) 7/~~	~~Visual inspection.~~	~~Missing or not in good condition.~~
~~9.2. Demisting and defrosting system. (X) 7/~~	~~Visual inspection and by operation.~~	~~*(a)* Not operating correctly.~~ ~~*(b)* Emission of toxic or exhaust gases into driver's or passengers' compartment.~~ ~~*(c)* Defective defrosting (if compulsory).~~
~~9.3. Ventilation and heating system.(X) 7/~~	~~Visual inspection and by operation.~~	~~*(a)* Defective operation.~~ ~~*(b)* Emission of toxic or exhaust gases into driver's or passengers' compartment.~~
~~9.5. Interior lighting and destination devices. (X) 7/~~	~~Visual inspection and by operation.~~	~~Device defective or not in accordance with the regulations. 2/~~

Item	Method	Principal reasons for rejection
9.8. Passenger communication system (X) 7/	Visual inspection and by operation.	*(a)* Defective signal. *(b)* Defective stop sign or warning device for driver.
9.9. Notices (X) 7/	Visual inspection.	Missing, erroneous or illegible notice.
9.10. Regulations regarding the transport of children (X) 7/		
9.10.1. Doors	Visual inspection.	Protection of doors not in accordance with the regulations 2/ for this form of transport.
9.10.2. Signalling and special equipment required by regulations 2/	Visual inspection.	Signalling or special equipment absent or not in accordance with the regulations. 2/ .
9.11. Special equipment (X) 7/		
9.11.1. Installations for food preparation	Visual inspection.	*(a)* Installation not in accordance with the regulations.2/ *(b)* Installation damaged to such an extent that it would be dangerous to use it.
9.11.2. Sanitary installations	Visual inspection.	Installation not in accordance with the regulations. 2/