ANNEX II

## SCOPE OF TECHNICAL ROADSIDE INSPECTION

1. INSPECTION AREAS

(0) Identification of the vehicle;

(1) Braking equipment;

(2) Steering;

(3) Visibility;

(4) Lighting equipment and parts of electrical system;

(5) Axles, wheels, tyres, suspension;

(6) Chassis and chassis attachments;

(7) Other equipment;

(8) Nuisance;

(9) Supplementary tests for passenger-carrying vehicles of categories $M_2$ and $M_3$.

2. INSPECTION REQUIREMENTS

Items that may only be checked by the use of equipment are marked with an E.

Items that can only be checked to some extent without the use of equipment are marked with + (E).

Where a method of inspection is indicated as visual, this means that, in addition to looking at the items concerned, the inspector shall also, if appropriate, handle them, evaluate their noise or use any other appropriate means of inspection not involving the use of equipment.

Technical roadside inspections may cover items listed in Table 1, which includes the recommended testing methods that should be used. Nothing in this Annex shall prevent an inspector from using additional equipment where relevant, such as a hoist or a pit.

The tests shall be carried out using techniques and equipment currently available, without the use of tools to dismantle or remove any part of the vehicle. The test may also include a verification as to whether the respective parts and components of the vehicle correspond to the safety and environmental requirements that were in force at the time of approval or, if applicable, at the time of retrofitting.

Where the design of the vehicle does not allow the application of the test methods laid down in this Annex, the test shall be conducted in accordance with the recommended test methods accepted by the competent authorities.

The ‘Reasons for failure’ do not apply in cases where they refer to requirements which were not prescribed in the relevant vehicle approval legislation at the time of first registration or first entry into service, or in the retrofitting requirements.

3. CONTENTS AND METHODS OF TESTING, ASSESSMENT OF DEFICIENCIES OF VEHICLES

The test shall cover those items that are considered necessary and relevant, taking into account in particular the safety of the brakes, tyres, wheels, chassis and nuisance, and the recommended methods listed in the following table.

For each vehicle system and component subject to testing, the assessment of deficiencies shall be carried out in accordance with the criteria set out in that table, on a case-by-case basis.

Deficiencies not listed in this Annex shall be assessed in terms of the risks that they pose to road safety.

| Item | | Method | Reasons for failure | | Assessment of deficiencies | | |
|---|---|---|---|---|---|---|---|
| | | | | | Minor | Major | Dangerous |
| **0. IDENTIFICATION OF THE VEHICLE** | | | | | | | |
| 0.1. | Registration number plates (if needed by requirements [1]) | Visual inspection | (a) | Number plate(s) missing or so insecurely fixed that it is (they are) likely to fall off. | | X | |
| | | | (b) | Inscription missing or illegible. | | X | |
| | | | (c) | Not in accordance with vehicle documents or records. | | X | |
| 0.2. | Vehicle identification/ chassis/ serial number | Visual inspection | (a) | Missing or can not be found. | | X | |
| | | | (b) | Incomplete, illegible, obviously falsified, or does not match the vehicle documents. | | X | |
| | | | (c) | Illegible vehicle documents or clerical inaccuracies. | X | | |
| **1. BRAKING EQUIPMENT** | | | | | | | |
| **1.1. Mechanical condition and operation** | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1.1.1. | Service brake pedal/ hand lever 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. | | X | |
| | | | (b) | Excessive wear or play. | | X | |
| 1.1.2. | Pedal/ hand lever condition and travel of the brake operating device | 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) | Excessive or insufficient reserve travel. | | X | |
| | | | | Brake cannot be fully applied or is blocked | | | X |
| | | | (b) | Brake control not releasing correctly. | X | | |
| | | | | Its functionality is affected | | X | |
| | | | (c) | Anti-slip provision on brake pedal missing, loose or worn smooth. | | X | |
| 1.1.3. | Vacuum pump or | Visual inspection of the | (a) | Insufficient pressure/ vacuum | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| compressor and reservoirs | components at normal working pressure. Check time required for vacuum or air pressure to reach safe working value and function of warning device, multi-circuit protection valve and pressure relief valve. | | to give assistance for at least four brake applications after the warning device has operated (or gauge shows an unsafe reading). | | | |
| | | | at least two brake applications after the warning device has operated (or gauge shows an unsafe reading). | | | X |
| | | (b) | Time taken to build up air pressure/ vacuum to safe working value is too long according to the requirements [1]. | | X | |
| | | (c) | Multi-circuit protection valve or pressure relief valve not working. | | X | |
| | | (d) | Air leak causing a noticeable drop in pressure or | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | audible air leaks. | | | |
| | | | (e) | External damage likely to affect the function of the braking system. | | X | |
| | | | | Secondary braking performance not met. | | | X |
| 1.1.4. | Low pressure warning gauge or indicator | Functional check | Malfunctioning or defective gauge or indicator. | | X | | |
| | | | Low pressure not identifiable. | | | X | |
| 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. | | X | |
| | | | (b) | Control insecure on valve or valve insecure. | | X | |
| | | | (c) | Loose connections or leaks in system. | | X | |
| | | | (d) | Unsatisfactory operation. | | X | |
| 1.1.6. | Parking brake activator lever, control parking brake ratchet, electronic parking brake | Visual inspection of the components while the braking system is operated | (a) | Ratchet not holding correctly. | | X | |
| | | | (b) | Wear at lever pivot or in ratchet mechanism. | X | | |
| | | | | Excessive wear | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (c) | Excessive movement of lever indicating incorrect adjustment. | | X | |
| | | | (d) | Activator missing, damaged or inoperative. | | X | |
| | | | (e) | Incorrect functioning, warning indicator shows malfunction. | | X | |
| 1.1.7. | Braking valves (foot valves, unloaders, governors) | Visual inspection of the components while the braking system is operated | (a) | Valve damaged or excessive air leak. | | X | |
| | | | | Its functionality is affected. | | | X |
| | | | (b) | Excessive oil discharge from compressor. | X | | |
| | | | (c) | Valve insecure or inadequately mounted. | | X | |
| | | | (d) | Hydraulic fluid discharge or leak. | | X | |
| | | | | Its functionality is affected. | | | X |
| 1.1.8. | Couplings for trailer brakes (electrical and pneumatic) | Disconnect and reconnect braking system coupling between towing | (a) | Tap or self sealing valve defective. | X | | |
| | | | | Its functionality is affected. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | vehicle and trailer | (b) | Tap or valve insecure or inadequately mounted. | X | | |
| | | | | Its functionality is affected. | | X | |
| | | | (c) | Excessive leaks. | | X | |
| | | | | Its functionality is affected. | | | X |
| | | | (d) | Not functioning correctly. | | X | |
| | | | | Operation of brake affected. | | | X |
| 1.1.9. | Energy storage reservoir/ pressure tank | Visual inspection | (a) | Tank slightly damaged or slightly corroded. | X | | |
| | | | | Tank heavily damaged, corroded or leaking. | | X | |
| | | | (b) | Drain device inoperative. | | X | |
| | | | (c) | Tank insecure or inadequately mounted. | | X | |
| 1.1.10. | Brake servo units master cylinder (hydraulic systems) | Visual inspection of the components while the braking system is operated, if possible | (a) | Defective or ineffective servo unit. | | X | |
| | | | | If it is not operating. | | | X |
| | | | (b) | Master cylinder defective but brake | | X | |

| | | | | | | | |
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| | | | | still operating. | | | |
| | | | | Master cylinder defective or leaking. | | | X |
| | | | (c) | Master cylinder insecure but brake still operating. | | X | |
| | | | | Master cylinder insecure. | | | X |
| | | | (d) | Insufficient brake fluid below MIN mark. | X | | |
| | | | | Brake fluid significantly below MIN mark. | | X | |
| | | | | No brake fluid visible. | | | X |
| | | | (e) | Master cylinder reservoir cap missing. | X | | |
| | | | (f) | Brake fluid warning light illuminated or defective. | X | | |
| | | | (g) | Incorrect functioning of brake fluid level warning device. | X | | |
| 1.1.11. | Rigid brake pipes | Visual inspection of the components | (a) | Imminent risk of failure or fracture. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | while the braking system is operated, if possible | (b) | Pipes or connections leaking (air brake systems). | | X | |
| | | | | Pipes or connection leaking (hydraulic brake systems). | | | X |
| | | | (c) | Pipes damaged or excessively corroded. | | X | |
| | | | | Affecting the functioning of the brakes on account of blocking or imminent risk of leaking. | | | X |
| | | | (d) | Pipes misplaced. | X | | |
| | | | | Risk of damage. | | X | |
| 1.1.12. | Flexible brake hoses | Visual inspection of the components while the braking system is operated, if possible. | (a) | Imminent risk of failure or fracture. | | | X |
| | | | (b) | Hoses damaged, chafing, twisted or too short. | X | | |
| | | | | Hoses damaged or chafing. | | X | |
| | | | (c) | Hoses or connections leaking (air brake systems). | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Hoses or connections leaking (hydraulic brake systems). | | | X |
| | | | (d) | Hoses bulging under pressure. | | X | |
| | | | | Cord impaired. | | | X |
| | | | (e) | Hoses porous. | | X | |
| 1.1.13. | Brake linings and pads | Visual inspection | (a) | Lining or pad excessively worn. (minimum mark reached). | | X | |
| | | | | Lining or pad excessively worn. (minimum mark not visible). | | | X |
| | | | (b) | Lining or pad contaminated (oil, grease etc.). | | X | |
| | | | | Brake performance affected. | | | X |
| | | | (c) | Lining or pad missing or wrongly mounted. | | | X |
| 1.1.14. | Brake drums, brake discs | Visual inspection | (a) | Drum or disc worn. | | X | |
| | | | | Drum or disc excessively scored, cracked, | | | X |

| | | | | | | | |
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| | | | | insecure or fractured | | | |
| | | | (b) | Drum or disc contaminated (oil, grease, etc.). | | X | |
| | | | | Braking performance severely affected. | | | X |
| | | | (c) | Drum or disc missing. | | | X |
| | | | (d) | Back plate insecure. | | X | |
| 1.1.15. | Brake cables, rods, levers, linkages | Visual inspection of the components while the braking system is operated, if possible | (a) | Cable damaged or knotted. | | X | |
| | | | | Braking performance affected. | | | X |
| | | | (b) | Component excessively worn or corroded. | | X | |
| | | | | Braking performance affected. | | | X |
| | | | (c) | Cable, rod or joint insecure. | | X | |
| | | | (d) | Cable guide defective. | | X | |
| | | | (e) | Restriction to free movement of the braking system. | | X | |
| | | | (f) | Abnormal movement of the levers/ linkage indicating | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | maladjustment or excessive wear. | | | |
| 1.1.16. | Brake actuators (including spring brakes or hydraulic cylinders) | Visual inspection of the components while the braking system is operated, if possible. | (a) | Actuator cracked or damaged. | | X | |
| | | | | Braking performance affected. | | | X |
| | | | (b) | Actuator leaking. | | X | |
| | | | | Braking performance affected. | | | X |
| | | | (c) | Actuator insecure or inadequately mounted. | | X | |
| | | | | Braking performance affected. | | | X |
| | | | (d) | Actuator excessively corroded. | | X | |
| | | | | Likely to crack. | | | X |
| | | | (e) | Insufficient or excessive travel of operating piston or diaphragm mechanism. | | X | |
| | | | | Braking performance affected (lack of reserve movement). | | | X |
| | | | (f) | Dust cover damaged. | X | | |
| | | | | Dust cover missing or | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | excessively damaged. | | | |
| 1.1.17. | Load sensing valve | Visual inspection of the components while the braking system is operated, if possible. | (a) | Defective linkage. | | X | |
| | | | (b) | Linkage incorrectly adjusted. | | X | |
| | | | (c) | Valve seized or inoperative (ABS functioning). | | X | |
| | | | | Valve seized or inoperative | | | X |
| | | | (d) | Valve missing. (if required). | | | X |
| | | | (e) | Missing data plate. | X | | |
| | | | (f) | Data illegible or not in accordance with requirements [1]. | X | | |
| 1.1.18. | Slack adjusters and indicators | Visual inspection | (a) | Adjuster damaged, seized or having abnormal movement, excessive wear or incorrect adjustment. | | X | |
| | | | (b) | Adjuster defective. | | X | |
| | | | (c) | Incorrectly installed or replaced. | | X | |
| 1.1.19. | Endurance braking system (where fitted | Visual inspection | (a) | Insecure connectors or mountings. | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | or required) | | | Its functionality is affected. | | X | |
| | | | (b) | System obviously defective or missing. | | X | |
| 1.1.20. | Automatic operation of trailer brakes | Disconnect brake coupling between towing vehicle and trailer | Trailer brake does not apply automatically when coupling disconnected. | | | | X |
| 1.1.21. | Complete braking system | Visual inspection | (a) | Other system devices (e.g. anti-freeze pump, air dryer, etc.) damaged externally or excessively corroded in a way that adversely affects the braking system. | | X | |
| | | | | Braking performance affected. | | | X |
| | | | (b) | Leakage of air or anti-freeze. | X | | |
| | | | | System functionality affected. | | X | |
| | | | (c) | Any component insecure or inadequately mounted. | | X | |
| | | | (d) | Unsafe modification | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | to any component [3]. | | | |
| | | | | Braking performance affected. | | | X |
| 1.1.22. | Test connections (where fitted or required) | Visual inspection | Missing. | | | X | |
| 1.1.23. | Overrun brake | Visual inspection and by operation | Insufficient efficiency. | | | X | |
| **1.2. Service braking performance and efficiency** | | | | | | | |
| 1.2.1. (E) | Performance | During a test on a brake tester, apply the brakes progressively up to maximum effort. | (a) | Inadequate braking effort on one or more wheels. | | X | |
| | | | | No braking effort on one or more wheels. | | | X |
| | | | (b) | Braking effort from any wheel is less than 70 % of the 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. | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Braking effort from any wheel is less than 50 % of the maximum effort recorded from the other wheel on the same axle in the case of steered axles. | | | X |
| | | (c) | No gradual variation in brake effort (grabbing). | | X | |
| | | (d) | Abnormal lag in brake operation of any wheel. | | X | |
| | | (e) | Excessive fluctuation of brake force during each complete wheel revolution. | | X | |
| 1.2.2. Efficiency (E) | Test with a brake tester at the presented weight or, if one cannot be used for technical reasons, by a road test using a deceleration recording instrument[a]. | Does not give at least the minimum figure as follows[b]: | | | | |
| | | Categories $M_1$, $M_2$ and $M_3$: 50 %[c] | | | X | |
| | | Category $N_1$: 45 % | | | | |
| | | Categories $N_2$ and $N_3$: 43 %[d] | | | | |
| | | Categories $O_3$ and $O_4$: 40 %[e] | | | | |
| | | Less than 50 % of the above values reached | | | | X |
| **1.3. Secondary (emergency) braking performance and efficiency (if met by separate system)** | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1.3.1. (E) | Performance | If the secondary braking system is separate from the service braking system, use the method specified in 1.2.1. | (a) | Inadequate braking effort on one or more wheels. | | X |
| | | | | No braking effort on one or more wheels. | | X |
| | | | (b) | Braking effort from any wheel is less than 70 % of maximum effort recorded from another wheel on the same axle specified. Or, in the case of testing on the road, the vehicle deviates excessively from a straight line. | | X |
| | | | | Braking effort from any wheel is less than 50 % of the maximum effort recorded from the other wheel on the same axle in the case of steered axles. | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (c) | No gradual variation in brake effort (grabbing). | | X | |
| 1.3.2. (E) | Efficiency | If the secondary braking system is separate from the service braking system, use the method specified in 1.2.2. | Braking effort less than 50 %[f] of the required service brake performance defined in Section 1.2.2 in relation to the maximum authorized mass. | | | X | |
| | | | Less than 50 % of the above braking effort values reached in relation to the vehicle mass during testing. | | | | X |
| **1.4. Parking braking performance and efficiency** | | | | | | | |
| 1.4.1. (E) | Performance | Apply the brake during a test on a brake tester | Brake inoperative on one side or, in the case of testing on the road, the vehicle deviates excessively from a straight line. | | | X | |
| | | | Less than 50 % of the braking effort values as referred to in point 1.4.2 reached in relation to the vehicle mass during testing | | | | X |
| 1.4.2. (E) | Efficiency | Test with a brake tester. If not possible, then by a road test using an indicating or deceleration recording instrument | Does not give, for all vehicles, a braking ratio of at least 16 % in relation to the maximum authorised mass, or, for motor vehicles, of at least 12 % in relation to the maximum authorised combination mass of the vehicle, whichever is the greater. | | | X | |
| | | | Less than 50 % of the above braking ratio values reached in relation to the vehicle mass during testing. | | | | X |
| 1.5. | Endurance braking | Visual inspection and, where possible | (a) | No gradual variation of efficiency (not | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | system performance | test whether the system functions | | applicable to exhaust brake systems). | | | |
| | | | (b) | System not functioning. | | X | |
| 1.6. | Anti-lock braking system (ABS) | Visual inspection and inspection of warning device and/or using electronic vehicle interface | (a) | Warning device malfunctioning. | | X | |
| | | | (b) | Warning device shows system malfunction. | | X | |
| | | | (c) | Wheel speed sensors missing or damaged. | | X | |
| | | | (d) | Wirings damaged. | | X | |
| | | | (e) | Other components missing or damaged. | | X | |
| | | | (f) | System indicates failure via the electronic vehicle interface. | | X | |
| 1.7. | Electronic brake system (EBS) | Visual inspection and inspection of warning device and/or using electronic vehicle interface | (a) | Warning device malfunctioning. | | X | |
| | | | (b) | Warning device shows system malfunction. | | X | |
| | | | (c) | System indicates failure via the electronic vehicle interface. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (d) | Connector between towing vehicle and trailer incompatible or missing. | | | X |
| 1.8. | Brake fluid | Visual inspection | Brake fluid contaminated or sedimented. | | | X | |
| | | | Imminent risk of failure. | | | | X |
| **2. STEERING** | | | | | | | |
| **2.1. Mechanical condition** | | | | | | | |
| 2.1.1. | Steering gear condition | Visual inspection of the operation of the steering gear while the steering wheel is rotated | (a) | Sector shaft twisted or splines worn. | | X | |
| | | | | Affecting functionality. | | | X |
| | | | (b) | Excessive wear in sector shaft. | | X | |
| | | | | Affecting functionality. | | | X |
| | | | (c) | Excessive movement of sector shaft. | | X | |
| | | | | Affecting functionality. | | | X |
| | | | (d) | Leaking. | | X | |
| | | | | Formation of drops. | | | X |
| 2.1.2. | Steering gear casing attachment | Visual inspection of the attachment of gear casing to chassis while the steering wheel is rotated clockwise | (a) | Steering gear casing not properly attached. | | X | |
| | | | | Attachments dangerously loose or relative movement to chassis/ bodywork visible. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | and anti-clockwise. | (b) | Elongated fixing holes in chassis. | | X | |
| | | | | Attachments seriously affected. | | | X |
| | | | (c) | Missing or fractured fixing bolts. | | X | |
| | | | | Attachments seriously affected. | | | X |
| | | | (d) | Steering gear casing fractured. | | X | |
| | | | | Stability or attachment of casing affected. | | | X |
| 2.1.3. | Steering linkage condition | Visual inspection of steering components for wear, fractures and security while the steering wheel is rotated clock-wise and anti-clock-wise | (a) | Relative movement between components which should be fixed. | | X | |
| | | | | Excessive movement or likely to unlink. | | | X |
| | | | (b) | Excessive wear at joints. | | X | |
| | | | | A very serious risk of unlinking. | | | X |
| | | | (c) | Fractures or deformation of any component. | | X | |
| | | | | Affecting function. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (d) | Absence of locking devices. | | X | |
| | | | (e) | Misalignment of components (e.g. track rod or drag link). | | X | |
| | | | (f) | Unsafe modification [3]. | | X | |
| | | | | Affecting function. | | | X |
| | | | (g) | Dust cover damaged or deteriorated. | X | | |
| | | | | Dust cover missing or severely deteriorated. | | X | |
| 2.1.4. | Steering linkage operation | Visual inspection of steering components for wear, fractures and security while the steering wheel is rotated clockwise and anti-clockwise with the road wheels on the ground and the engine running (power steering). | (a) | Moving steering linkage fouling a fixed part of the chassis. | | X | |
| | | | (b) | Steering stops not operating or missing. | | X | |
| 2.1.5. | Power steering | Check steering system for leaks and hydraulic fluid | (a) | Fluid leak. | | X | |
| | | | (b) | Insufficient fluid (below | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | reservoir level (if visible). With the road wheels on ground and with the engine running, check that the power steering system is operating | | MIN mark). | | | |
| | | | Insufficient reservoir. | | | X |
| | | (c) | Mechanism not working. | | X | |
| | | | Steering affected. | | | X |
| | | (d) | Mechanism fractured or insecure. | | X | |
| | | | Steering affected. | | | X |
| | | (e) | Misalignment or fouling of components. | | X | |
| | | | Steering affected. | | | X |
| | | (f) | Unsafe modification [3]. | | X | |
| | | | Steering affected. | | | X |
| | | (g) | Cables/ hoses damaged, excessively corroded. | | X | |
| | | | Steering affected. | | | X |
| **2.2. Steering wheel, column and handle bar** | | | | | | |
| 2.2.1. | Steering wheel condition | With the road wheels on the ground, push and pull the steering wheel in line with column, push steering wheel in various | (a) | Relative movement between steering wheel and column indicating looseness. | | X | |
| | | | | Very serious risk of unlinking. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | directions at right angles to the column. Visual inspection of play, and condition of flexible couplings or universal joints | (b) | Absence of retaining device on steering wheel hub. | | X | |
| | | | | Very serious risk of unlinking. | | | X |
| | | | (c) | Fracture or looseness of steering wheel hub, rim or spokes. | | X | |
| | | | | Very serious risk of unlinking. | | | X |
| | | | (d) | Unsafe modification [3]. | | X | |
| 2.2.2. | Steering column and steering dampers. | 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. | | X | |
| | | | (b) | Excessive movement of top of column radially from axis of column. | | X | |
| | | | (c) | Deteriorated flexible coupling. | | X | |
| | | | (d) | Attachment defective. | | X | |
| | | | | Very serious risk of unlinking. | | | X |
| | | | (e) | Unsafe modification [3] | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2.3. | Steering play | With the engine running, for vehicles with power steering and with the road wheels in the straight-ahead position, lightly turn the steering wheel clockwise and anti-clockwise as far as possible without moving the road wheels. Visual inspection of free movement. | Free play in steering excessive (for example, movement of a point on the rim exceeding one fifth of the diameter of the steering wheel) or not in accordance with the requirements [1]. | | | X | |
| | | | Safe steering affected. | | | | X |
| 2.4. | Wheel alignment (X) [2] | Visual inspection | Obvious misalignment | | X | | |
| | | | Straight-on driving affected; directional stability impaired. | | | X | |
| 2.5. | Trailer steered axle turntable | Visual inspection or using a specially adapted wheel play detector | (a) | Component slightly damaged. | | X | |
| | | | | Component heavily damaged or cracked. | | | X |
| | | | (b) | Excessive play. | | X | |
| | | | | Straight-on driving affected; directional stability impaired. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (c) | Attachment defective. | | X | |
| | | | | Attachment seriously affected. | | | X |
| 2.6. | Electronic Power Steering (EPS) | Visual inspection and consistency check between the angle of the steering wheel and the angle of the wheels when switching on/off the engine, and/or using the electronic vehicle interface. | (a) | EPS malfunction indicator lamp (MIL) indicates any kind of failure of the system. | | X | |
| | | | (b) | Power assistance not working. | | X | |
| | | | (c) | System indicates failure via the electronic vehicle interface. | | X | |
| **3. VISIBILITY** | | | | | | | |
| 3.1. | Field of vision | Visual inspection from driving seat | Obstruction within driver's field of view that materially affects his view in front or to the sides (outside cleaning area of windscreen wipers). | | X | | |
| | | | Inside cleaning area of windscreen wipers affected or outer mirrors not visible. | | | X | |
| 3.2. | Condition of glass | Visual inspection | (a) | Cracked or discoloured glass or transparent panel (if permitted). (outside cleaning area of windscreen wipers) | X | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Inside cleaning area of windscreen wipers affected or outer mirrors not visible | | X | |
| | | (b) | Glass or transparent panel (including reflecting or tinted film) that does not comply with specifications in the requirements [1] (outside cleaning area of windscreen wipers). | X | | |
| | | | Inside cleaning area of windscreen wipers affected or outer mirrors not visible. | | X | |
| | | (c) | Glass or transparent panel in unacceptable condition. | | X | |
| | | | Visibility through inside cleaning area of windscreen wipers heavily affected. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3.3. | Rear-view mirrors or devices | Visual inspection | (a) | Mirror or device missing or not fitted according to the requirements (at least two rear-view devices available). | X [1] | | |
| | | | | Fewer than two rear-view devices available. | | X | |
| | | | (b) | Mirror or device slightly damaged or loose. | X | | |
| | | | | Mirror or device inoperative, heavily damaged, loose or insecure. | | X | |
| | | | (c) | Necessary field of vision not covered. | | X | |
| 3.4. | Windscreen wipers | Visual inspection and by operation | (a) | Wipers not operating or missing. | | X | |
| | | | (b) | Wiper blade defective. | X | | |
| | | | | Wiper blade missing or obviously defective. | | X | |
| 3.5. | Windscreen washers | Visual inspection and by operation | Washers not operating adequately (lack of washing fluid but pump | | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | operating or water-jet misaligned). | | | | |
| | | | Washers not operating. | | | X | |
| 3.6. | Demisting system (X) [2] | Visual inspection and by operation | System inoperative or obviously defective. | | X | | |
| **4. LAMPS, REFLECTORS AND ELECTRICAL EQUIPMENT** | | | | | | | |
| **4.1. Headlamps** | | | | | | | |
| 4.1.1. | Condition and operation | Visual inspection and by operation | (a) | Defective or missing light/light source (multiple light/light sources; in the case of LED, less than 1/3 not functioning). | X | | |
| | | | | Single light/light sources; in the case of LED, seriously affected visibility. | | X | |
| | | | (b) | Slightly defective projection system (reflector and lens). | X | | |
| | | | | Heavily defective or missing projection system (reflector and lens). | | X | |
| | | | (c) | Lamp not securely attached. | | X | |
| [x1 4.1.2. | Alignment | Visual inspection and by operation | (a) | Headlamp grossly misaligned | X | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | (b) | Light source incorrectly fitted | X | | ] |
| 4.1.3. | Switching | Visual inspection and by operation | (a) | Switch does not operate in accordance with the requirements (number of headlamps illuminated at the same time). | X [1] | | |
| | | | | Maximum permitted light brightness to the front exceeded. | | X | |
| | | | (b) | Function of control device impaired. | | X | |
| 4.1.4. | Compliance with requirements [1]. | Visual inspection and by operation | (a) | Lamp, emitted colour, position, brightness or marking not in accordance with the requirements [1]. | | X | |
| | | | (b) | Products on lens or light source which obviously reduce light brightness or change emitted colour. | | X | |
| | | | (c) | Light source and | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | lamp not compatible. | | | |
| 4.1.5. | Levelling devices (where mandatory) | Visual inspection and by operation if possible | (a) | Device not operating. | | X | |
| | | | (b) | Manual device cannot be operated from driver's seat. | | X | |
| 4.1.6. | Headlamp cleaning device (where mandatory) | Visual inspection and by operation if possible | Device not operating. | | X | | |
| | | | In the case of gas-discharging lamps. | | | X | |
| **4.2. Front and rear position lamps, side marker lamps, end outline marker lamps and daytime running lamps** | | | | | | | |
| 4.2.1. | Condition and operation | Visual inspection and by operation | (a) | Defective light source. | | X | |
| | | | (b) | Defective lens. | | X | |
| | | | (c) | Lamp not securely attached. | X | | |
| | | | | Very serious risk of falling off. | | X | |
| 4.2.2. | Switching | Visual inspection and by operation | (a) | Switch does not operate in accordance with the requirements [1]. | | X | |
| | | | | Rear position lamps and side marker lamps can be switched off when headlamps are on. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (b) | Function of control device impaired. | | X | |
| 4.2.3. | Compliance with requirements | Visual inspection and by operation [1] | (a) | Lamp, emitted colour, position brightness or marking not in accordance with the requirements [1]. | X | | |
| | | | | Red light to the front or white light to the rear; heavily reduced light brightness. | | X | |
| | | | (b) | Products on lens or light source which reduce light brightness or change emitted colour. | X | | |
| | | | | Red light to the front or white light to the rear; heavily reduced light brightness. | | X | |
| **4.3. Stop Lamps** | | | | | | | |
| 4.3.1. | Condition and operation | Visual inspection and by operation | (a) | Defective light source (multiple light source, in the case of LED less than 1/3 not functioning). | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Single light sources; in the case of LED less than 2/3 functioning. | | X | |
| | | | | All light sources not functioning. | | | X |
| | | | (b) | Slightly defective lens (no influence on emitted light). | X | | |
| | | | | Heavily defective lens (emitted light affected). | | X | |
| | | | (c) | Lamp not securely attached. | X | | |
| | | | | Very serious risk of falling off, | | X | |
| 4.3.2. | Switching | Visual inspection and by operation | (a) | Switch does not operate in accordance with the requirements [1]. | X | | |
| | | | | Delayed operation. | | X | |
| | | | | No operation at all. | | | X |
| | | | (b) | Function of control device impaired. | | X | |
| 4.3.3. | Compliance with requirements [1]. | Visual inspection and by operation | Lamp, emitted colour, position, brightness or marking not in | | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | accordance with the requirements [1]. | | | | |
| | | | White light to the rear; heavily reduced light brightness. | | | X | |
| **4.4. Direction indicator and hazard warning lamps** | | | | | | | |
| 4.4.1. | Condition and operation | Visual inspection and by operation | (a) | Defective light source (multiple light source; in the case of LED less than 1/3 not functioning). | X | | |
| | | | | Single light sources; in the case of LED less than 2/3 functioning. | | X | |
| | | | (b) | Slightly defective lens (no influence on emitted light). | X | | |
| | | | | Heavily defective lens (emitted light affected). | | X | |
| | | | (c) | Lamp not securely attached. | X | | |
| | | | | Very serious risk of falling off. | | X | |
| 4.4.2. | Switching | Visual inspection and by operation | Switch does not operate in accordance with the requirements [1]. | | X | | |
| | | | No operation at all. | | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4.4.3. | Compliance with requirements. | Visual inspection and by operation | Lamp, emitted colour, position, brightness or marking not in accordance with the requirements [1]. | | | X | |
| 4.4.4. | Flashing frequency. | Visual inspection and by operation | Rate of flashing not in accordance with the requirements [1]. (frequency more than 25 % deviating). | | X | | |
| **4.5. Front and rear fog lamps** | | | | | | | |
| 4.5.1. | Condition and operation. | Visual inspection and by operation | (a) | Defective light source (multiple light source; in the case of LED less than 1/3 not functioning). | X | | |
| | | | | Single light sources; in the case of LED less than 2/3 functioning. | | X | |
| | | | (b) | Slightly defective lens (no influence on emitted light). | X | | |
| | | | | Heavily defective lens (emitted light affected). | | X | |
| | | | (c) | Lamp not securely attached. | X | | |
| | | | | Very serious risk of falling off or dazzling oncoming traffic. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4.5.2. | Alignment (X) [2] | Visual inspection and by operation | Front fog lamp out of horizontal alignment when the light pattern has cut-off line (cut-off line too low). | | X | | |
| | | | Cut-off line above that for dipped beam headlamps. | | | X | |
| 4.5.3. | Switching | Visual inspection and by operation | Switch does not operate in accordance with the requirements [1]. | | X | | |
| | | | Not operative. | | | X | |
| 4.5.4. | Compliance with requirements [1]. | Visual inspection and by operation | (a) | Lamp, emitted colour, position, brightness or marking not in accordance with the requirements [1]. | | X | |
| | | | (b) | System does not operate in accordance with the requirements [1]. | X | | |
| **4.6. Reversing lamps** | | | | | | | |
| 4.6.1. | Condition and operation | Visual inspection and by operation | (a) | Defective light source. | X | | |
| | | | (b) | Defective lens. | X | | |
| | | | (c) | Lamp not securely attached. | X | | |
| | | | | Very serious risk of falling off. | | X | |
| 4.6.2. | Compliance with requirements [1] | Visual inspection and by operation | (a) | Lamp, emitted colour, position, brightness | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | or marking not in accordance with the requirements [1]. | | | |
| | | | (b) | System does not operate in accordance with the requirements [1]. | | X | |
| 4.6.3. | Switching | Visual inspection and by operation | Switch does not operate in accordance with the requirements [1]. | | X | | |
| | | | Reversing lamp can be switched on with gear not in reverse position. | | | X | |
| **4.7. Rear registration plate lamp** | | | | | | | |
| 4.7.1. | Condition and operation | Visual inspection and by operation | (a) | Lamp throwing direct or white light to the rear. | X | | |
| | | | (b) | Defective light source (multiple light source). | X | | |
| | | | | Defective light source (single light source). | | X | |
| | | | (c) | Lamp not securely attached. | X | | |
| | | | | Very serious risk of falling off. | | X | |
| 4.7.2. | Compliance with requirements [1] | Visual inspection and by operation | System does not operate in accordance with the requirements [1]. | | X | | |
| **4.8. Retro-reflectors, conspicuity (retro reflecting) markings and rear marking plates** | | | | | | | |
| 4.8.1. | Condition | Visual inspection | (a) | Reflecting equipment | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | defective or damaged. | | | |
| | | | | Reflecting affected. | | X | |
| | | | (b) | Reflector not securely attached. | X | | |
| | | | | Likely to fall off. | | X | |
| 4.8.2. | Compliance with requirements [1] | Visual inspection | Device, reflected colour or position not in accordance with the requirements [1]. | | | X | |
| | | | Missing or reflecting red colour to the front or white colour to the rear. | | | | X |
| **4.9. Tell-tales mandatory for lighting equipment** | | | | | | | |
| 4.9.1. | Condition and operation | Visual inspection and by operation | Not operating. | | X | | |
| | | | Not operating for main beam headlamp or rear fog lamp. | | | X | |
| 4.9.2. | Compliance with requirements [1] | Visual inspection and by operation | Not in accordance with the requirements [1]. | | X | | |
| 4.10. | Electrical connections between towing vehicle and trailer or semi-trailer | Visual inspection: if possible examine the electrical continuity of the connection | (a) | Fixed components not securely attached. | X | | |
| | | | | Loose socket. | | X | |
| | | | (b) | Damaged or deteriorated insulation. | X | | |
| | | | | Likely to cause a short-circuit fault. | | X | |
| | | | (c) | Trailer or towing vehicle | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | electrical connections not functioning correctly. | | | |
| | | | | Trailer brake lights not working at all. | | | X |
| 4.11. | Electrical wiring | Visual inspection including inside the engine compartment (if applicable) | (a) | Wiring insecure or not adequately secured. | X | | |
| | | | | Fixings loose, touching sharp edges, connectors likely to be disconnected. | | X | |
| | | | | Wiring likely to touch hot parts, rotating parts or ground, connectors disconnected (relevant parts for braking, steering). | | | X |
| | | | (b) | Wiring slightly deteriorated. | X | | |
| | | | | Wiring heavily deteriorated. | | X | |
| | | | | Wiring extreme deteriorated (relevant parts for braking, steering). | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (c) | Damaged or deteriorated insulation. | X | | |
| | | | | Likely to cause a short-circuit fault. | | X | |
| | | | | Imminent risk of fire, formation of sparks. | | | X |
| 4.12. | Non-obligatory lamps and retro-reflectors (X) [2] | Visual inspection and by operation | (a) | A lamp/ retro-reflector fitted not in accordance with the requirements [1]. | X | | |
| | | | | Emitting/ reflecting red light to the front or white light to the rear. | | X | |
| | | | (b) | Lamp operation not in accordance with the requirements [1]. | X | | |
| | | | | Number of headlights simultaneous operating exceeding permitted light brightness; emitting red light to the front or white light to the rear. | | X | |
| | | | (c) | Lamp/ retro-reflector | X | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | not securely attached. | | | |
| | | | Very serious risk of falling off. | | X | |
| 4.13. Battery(ies) | Visual inspection | (a) | Insecure. | X | | |
| | | | Not properly attached; likely to cause a short-circuit fault. | | X | |
| | | (b) | Leaking. | X | | |
| | | | Loss of hazardous substances. | | X | |
| | | (c) | Defective switch (if required). | | X | |
| | | (d) | Defective fuses (if required). | | X | |
| | | (e) | Inappropriate ventilation (if required). | | X | |
| **5. AXLES, WHEELS, TYRES AND SUSPENSION** | | | | | | |
| **5.1. Axles** | | | | | | |
| 5.1.1. Axles (+ E) | Visual inspection using wheel play detectors if available | (a) | Axle fractured or deformed. | | | X |
| | | (b) | Insecure fixing to vehicle. | | X | |
| | | | Stability impaired, functionality affected: extensive movement relative to its fixtures. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (c) | Unsafe modification [3]. | | X | |
| | | | | Stability impaired, functionality affected, insufficient clearance to other vehicle parts or to the ground. | | | X |
| 5.1.2. Stub axles<br>(+ E) | | Visual inspection using wheel play detectors if available. Apply a vertical or lateral force to each wheel and note the amount of movement between the axle beam and stub axle | (a) | Stub axle fractured. | | | X |
| | | | (b) | Excessive wear in the swivel pin and/or bushes. | | X | |
| | | | | Likelihood of loosening; directional stability impaired. | | | X |
| | | | (c) | Excessive movement between stub axle and axle beam. | | X | |
| | | | | Likelihood of loosening; directional stability impaired. | | | X |
| | | | (d) | Stub axle pin loose in axle. | | X | |
| | | | | Likelihood of loosening; directional stability impaired. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5.1.3. (+ E) | Wheel bearings | Visual inspection using. wheel play detectors if available. Rock the wheel or apply a lateral force to each wheel and note the amount of upward movement of the wheel relative to the stub axle. | (a) | Excessive play in a wheel bearing. | | X | |
| | | | | Directional stability impaired; danger of demolishment. | | | X |
| | | | (b) | Wheel bearing too tight, jammed. | | X | |
| | | | | Danger of overheating; danger of demolishment. | | | X |
| **5.2. Wheels and tyres** | | | | | | | |
| 5.2.1. | Road wheel hub | Visual inspection | (a) | Any wheel nuts or studs missing or loose. | | X | |
| | | | | Missing fixing or loose to an extent which very seriously affects road safety. | | | X |
| | | | (b) | Hub worn or damaged. | | X | |
| | | | | Hub worn or damaged in such a way that secure fixing of wheels is affected. | | | X |
| 5.2.2. | Wheels | Visual inspection of both | (a) | Any fracture or | | | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | sides of each wheel with vehicle over a pit or on a hoist | | welding defect. | | | |
| | | (b) | Tyre retaining rings not properly fitted. | | X | |
| | | | Likely to come off. | | | X |
| | | (c) | Wheel badly distorted or worn. | | X | |
| | | | Secure fixing to hub affected; secure fixing of tyre affected. | | | X |
| | | (d) | Wheel size, technical design, compatibility or type not in accordance with the requirements and affecting road safety. [1] | | X | |
| 5.2.3. Tyres | Visual inspection of the entire tyre by rolling the vehicle backwards and forwards | (a) | Tyre size, load capacity, approval mark or speed rating category not in accordance with the requirements and affecting road safety. [1] | | X | |

| | | | | | |
|---|---|---|---|---|---|
| | | Insufficient load capacity or speed rating category for actual use; tyre touches other fixed vehicle parts impairing safe driving. | | | X |
| | (b) | Tyres on same axle or on twin wheels of different sizes. | | X | |
| | (c) | Tyres on same axle of different construction (radial/ cross-ply). | | X | |
| | (d) | Any serious damage or cut to tyre. | | X | |
| | | Cord visible or damaged. | | | X |
| | (e) | Tyre tread wear indicator becomes exposed. | | X | |
| | | Tyre tread depth not in accordance with the requirements [1]. | | | X |
| | (f) | Tyre rubbing against other components | X | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | (flexible anti spray devices). | | | |
| | | | Tyre rubbing against other components (safe driving not impaired). | | X | |
| | | (g) | Re-grooved tyres not in accordance with requirements [1]. | | X | |
| | | | Cord protection layer affected. | | | X |
| **5.3. Suspension system** | | | | | | |
| 5.3.1. (+ E) | Springs and stabilizer | Visual inspection using wheel play detectors if available | (a) Insecure attachment of springs to chassis or axle. | | X | |
| | | | Relative movement visible, fixings very seriously loose. | | | X |
| | | | (b) A damaged or fractured spring component. | | X | |
| | | | Main spring (-leaf), or additional leafs very seriously affected. | | | X |
| | | | (c) Spring missing. | | X | |
| | | | Main spring (-leaf), or | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | additional leafs very seriously affected. | | | |
| | | | (d) | Unsafe modification [3]. | | X | |
| | | | | Insufficient clearance to other vehicle parts; spring system inoperative. | | | X |
| 5.3.2. | Shock absorbers | Visual inspection | (a) | Insecure attachment of shock absorbers to chassis or axle. | X | | |
| | | | | Shock absorber loose. | | X | |
| | | | (b) | Damaged shock absorber showing signs of severe leakage or malfunction. | | X | |
| | | | (c) | Shock absorber missing. | | X | |
| 5.3.3. (+ E) | Torque tubes, radius arms, wishbones and suspension arms | Visual inspection using wheel play detectors if available | (a) | Insecure attachment of component to chassis or axle. | | X | |
| | | | | Likelihood of loosening; directional stability impaired. | | | X |
| | | | (b) | A damaged or | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | excessively corroded component. | | | |
| | | | | Stability of component affected or component fractured. | | | X |
| | | | (c) | Unsafe modification [3]. | | X | |
| | | | | Insufficient clearance to other vehicle parts; system inoperative. | | | X |
| 5.3.4. (+ E) | Suspension joints | Visual inspection using wheel play detectors if available | (a) | Excessive wear in swivel pin and/or bushes or at suspension joints. | | X | |
| | | | | Likelihood of loosening; directional stability impaired. | | | X |
| | | | (b) | Dust cover severely deteriorated. | X | | |
| | | | | Dust cover missing or fractured. | | X | |
| 5.3.5. | Air Suspension | Visual inspection | (a) | System inoperable. | | | X |
| | | | (b) | Any component damaged, modified or deteriorated in a way that would adversely affect the functioning | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | of the system. | | | |
| | | | Functioning of system seriously affected. | | | X |
| | | (c) | Audible system leakage. | | X | |
| | | (d) | Unsafe modification. | | X | |
| **6. CHASSIS AND CHASSIS ATTACHMENTS** | | | | | | |
| **6.1. Chassis or frame and attachments** | | | | | | |
| 6.1.1. | General condition | Visual inspection | (a) | Slight fracture or deformation of any side or cross-member. | | X | |
| | | | | Serious fracture or deformation of any side or cross-member. | | | X |
| | | | (b) | Insecurity of strengthening plates or fastenings. | | X | |
| | | | | Majority of fastenings loose; insufficient strength of parts. | | | X |
| | | | (c) | Excessive corrosion which affects the rigidity of the assembly. | | X | |
| | | | | Insufficient strength of parts. | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6.1.2. | Exhaust pipes and silencers | Visual inspection | (a) | Insecure or leaking exhaust system. | | X | |
| | | | (b) | Fumes entering cab or passengers compartment. | | X | |
| | | | | Danger to health of persons on board. | | | X |
| 6.1.3. | Fuel tank and pipes (including heating fuel tank and pipes) | Visual inspection, use of leak detecting devices in the case of LPG/ CNG/LNG systems | (a) | Insecure tank or pipes, creating particular risk of fire. | | | X |
| | | | (b) | Leaking fuel or missing or ineffective filler cap. | | X | |
| | | | | Risk of fire; excessive loss of hazardous material | | | X |
| | | | (c) | Chafed pipes. | X | | |
| | | | | Damaged pipes. | | X | |
| | | | (d) | Fuel stopcock (if required) not operating correctly. | | X | |
| | | | (e) | Fire risk due to:<br>— leaking fuel;<br>— fuel tank or exhaust | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | — not properly shielded; — engine compartment condition. | | | |
| | | | (f) | LPG/CNG/ LNG or hydrogen system not in accordance with requirements; any part of the system defective [1]. | | | X |
| 6.1.4. | Bumpers, lateral protection and rear underrun devices | Visual inspection | (a) | Looseness or damage likely to cause injury when grazed or contacted. | | X | |
| | | | | Parts likely to fall off; functionality heavily affected. | | | X |
| | | | (b) | Device obviously not in compliance with the requirements [1]. | | X | |
| 6.1.5. | Spare wheel carrier (if fitted) | Visual inspection | (a) | Carrier not in proper condition. | X | | |
| | | | (b) | Carrier fractured or insecure. | | X | |
| | | | (c) | A spare wheel not securely fixed in carrier. | | X | |
| | | | | Very serious risk | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | of falling off. | | | |
| 6.1.6. | Mechanical coupling and towing device. | Visual inspection for wear and correct operation with special attention to any safety device fitted and/ or use of measuring gauge. | (a) | Component damaged, defective or cracked (if not in use). | | X | |
| (+ E) | | | | Component damaged, defective or cracked (if in use) | | | X |
| | | | (b) | Excessive wear in a component. | | X | |
| | | | | Below wear limit. | | | X |
| | | | (c) | Attachment defective. | | X | |
| | | | | Any attachment loose with a very serious risk of falling off. | | | X |
| | | | (d) | Any safety device missing or not operating correctly. | | X | |
| | | | (e) | Any coupling indicator not working. | | X | |
| | | | (f) | Obstruct registration plate or any lamp (when not in use). | X | | |
| | | | | Registration plate not readable (when not in use). | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | (g) | Unsafe modification (secondary parts). | [3] | X | |
| | | | Unsafe modification (primary parts). | [3] | | X |
| | | (h) | Coupling too weak or incompatible, or coupling device not in accordance with requirements. | | | X |
| 6.1.7. | Transmission | Visual inspection | (a) | Loose or missing securing bolts. | | X | |
| | | | | Loose or missing securing bolts to such an extent that road safety is seriously endangered. | | | X |
| | | | (b) | Excessive wear in transmission shaft bearings. | | X | |
| | | | | Very serious risk of loosening or cracking. | | | X |
| | | | (c) | Excessive wear in universal joints or transmission chains/ belts. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Very serious risk of loosening or cracking. | | | X |
| | | | (d) | Deteriorated flexible couplings. | | X | |
| | | | | Very serious risk of loosening or cracking. | | | X |
| | | | (e) | A damaged or bent shaft. | | X | |
| | | | (f) | Bearing housing fractured or insecure. | | X | |
| | | | | Very serious risk of loosening or cracking. | | | X |
| | | | (g) | Dust cover severely deteriorated. | X | | |
| | | | | Dust cover missing or fractured. | | X | |
| | | | (h) | Illegal power-train modification. | | X | |
| 6.1.8. | Engine mountings | Visual inspection | Deteriorated, obviously and severely damaged mountings | | | X | |
| | | | Loose or fractured mountings. | | | | X |
| 6.1.9. | Engine performance (X) [2] | Visual inspection and/or using electronic interface | (a) | Control unit modified affecting safety and/or the environment. | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | (b) | Engine modification affecting safety and/or the environment. | | | X |
| **6.2. Cab and bodywork** | | | | | | |
| 6.2.1. Condition | Visual inspection | (a) | A loose or damaged panel or part likely to cause injury. | | X | |
| | | | Likely to fall off. | | | X |
| | | (b) | Insecure body pillar. | | X | |
| | | | Stability impaired. | | | X |
| | | (c) | Permitting entry of engine or exhaust fumes. | | X | |
| | | | Danger to health of persons on board. | | | X |
| | | (d) | Unsafe modification [3]. | | X | |
| | | | Insufficient clearance to rotating or moving parts and road. | | | X |
| 6.2.2. Mounting | Visual inspection | (a) | Body or cab insecure. | | X | |
| | | | Stability affected. | | | X |
| | | (b) | Body/cab obviously not located squarely on chassis. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (c) | Insecure or missing fixing of body/cab to chassis or cross-members and if symmetrical. | | X | |
| | | | | Insecure or missing fixing of body/cab to chassis or cross-members to such an extent that road safety is very seriously endangered. | | | X |
| | | | (d) | Excessive corrosion at fixing points on integral bodies. | | X | |
| | | | | Stability impaired. | | | X |
| 6.2.3. | Doors and door catches | Visual inspection | (a) | A door will not open or close properly. | | X | |
| | | | (b) | A door likely to open inadvertently or one that will not remain closed (sliding doors). | | X | |
| | | | | A door likely to open inadvertently or one that | | | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | will not remain closed (turning doors). | | | |
| | | | (c) | Door, hinges, catches or pillar deteriorated. | X | | |
| | | | | Door, hinges, catches or pillar missing or loose. | | X | |
| 6.2.4. | Floor | Visual inspection | Floor insecure or badly deteriorated. | | | X | |
| | | | Insufficient stability. | | | | X |
| 6.2.5. | Driver's seat | Visual inspection | (a) | Seat with defective structure. | | X | |
| | | | | Loose seat. | | | X |
| | | | (b) | Adjustment mechanism not functioning correctly. | | X | |
| | | | | Seat moving or backrest not fixable. | | | X |
| 6.2.6. | Other seats | Visual inspection | (a) | Seats in defective condition or insecure (secondary parts). | X | | |
| | | | | Seats in defective condition or insecure (main parts). | | X | |
| | | | (b) | Seats not fitted in accordance | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | with requirements [1]. | | | |
| | | | | Permitted number of seats exceeded; positioning not in compliance with approval. | | X | |
| 6.2.7. | Driving controls | Visual inspection and by operation | Any control necessary for the safe operation of the vehicle not functioning correctly. | | | X | |
| | | | Safe operation affected. | | | | X |
| 6.2.8. | Cab steps | Visual inspection | (a) | Step or step rung insecure. | X | | |
| | | | | Insufficient stability. | | X | |
| | | | (b) | Step or rung in a condition likely to cause injury to users. | | X | |
| 6.2.9. | Other interior and exterior fittings and equipment | Visual inspection | (a) | Attachment of other fitting or equipment defective. | | X | |
| | | | (b) | Other fitting or equipment not in accordance with the requirements [1]. | X | | |
| | | | | Parts fitted likely to cause injuries; safe operation affected. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (c) | Leaking hydraulic equipment. | X | | |
| | | | | Extensive loss of hazardous material. | | X | |
| 6.2.10. | Mudguards (wings), spray suppression devices | Visual inspection | (a) | Missing, loose or badly corroded. | X | | |
| | | | | Likely to cause injuries; likely to fall off. | | X | |
| | | | (b) | Insufficient clearance to tyre/wheel (spray suppression). | X | | |
| | | | | Insufficient clearance to tyre/wheel (mudguards). | | X | |
| | | | (c) | Not in accordance with the requirements [1]. | X | | |
| | | | | Insufficient coverage of tread. | | X | |
| **7. OTHER EQUIPMENT** | | | | | | | |
| **7.1. Safety-belts/buckles and restraint systems** | | | | | | | |
| 7.1.1. | Security of safety-belts/ buckles mounting | Visual inspection | (a) | Anchorage point badly deteriorated. | | X | |
| | | | | Stability affected. | | | X |
| | | | (b) | Anchorage loose. | | X | |
| 7.1.2. | Condition of safety- | Visual inspection and by operation | (a) | Mandatory safety-belt missing or not fitted. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | belts/ buckles. | | (b) | Safety-belt damaged. | X | | |
| | | | | Any cut or sign of overstretching. | | X | |
| | | | (c) | Safety-belt not in accordance with the requirements [1]. | | X | |
| | | | (d) | Safety-belt buckle damaged or not functioning correctly. | | X | |
| | | | (e) | Safety-belt retractor damaged or not functioning correctly. | | X | |
| 7.1.3. | Safety belt Load limiter | Visual inspection, and/or using electronic interface | (a) | Load limiter obviously missing or not suitable with the vehicle. | | X | |
| | | | (b) | System indicates failure via the electronic vehicle interface. | | X | |
| 7.1.4. | Safety belt Pre-tensioners | Visual inspection, and/or using electronic interface | (a) | Pre-tensioner obviously missing or not suitable with the vehicle. | | X | |
| | | | (b) | System indicates failure via the electronic | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | vehicle interface. | | | |
| 7.1.5. | Airbag | Visual inspection, and/or using electronic interface | (a) | Airbags obviously missing or not suitable with the vehicle. | | X | |
| | | | (b) | System indicates failure via the electronic vehicle interface. | | X | |
| | | | (c) | Airbag obviously non-operative | | X | |
| 7.1.6. | SRS Systems | Visual inspection of MIL, and/or using electronic interface | (a) | SRS MIL indicates any kind of failure of the system | | X | |
| | | | (b) | System indicates failure via the electronic vehicle interface. | | X | |
| 7.2. | Fire extinguisher (X) [2] | Visual inspection | (a) | Missing. | | X | |
| | | | (b) | Not in accordance with the requirements | X [1]. | | |
| | | | | If required (e.g. taxi, busses, coaches, etc.). | | X | |
| 7.3. | Locks and anti-theft device | Visual inspection and by operation | (a) | Device not functioning to prevent vehicle being driven. | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (b) | Defective. | | X | |
| | | | | Inadvertently locking or blocking. | | | X |
| 7.4. | Warning triangle (if required) (X) [2] | Visual inspection | (a) | Missing or incomplete. | X | | |
| | | | (b) | Not in accordance with the requirements [1]. | X | | |
| 7.5. | First aid kit. (if required) (X) [2] | Visual inspection | Missing, incomplete or not in accordance with the requirements [1]. | | X | | |
| 7.6. | Wheel chocks (wedges) (if required) (X) [2] | Visual inspection | Missing or not in good condition; insufficient stability or dimension. | | | X | |
| 7.7. | Audible warning device | Visual inspection and by operation | (a) | Not working properly. | X | | |
| | | | | Not working at all. | | X | |
| | | | (b) | Control insecure. | X | | |
| | | | (c) | Not in accordance with the requirements [1]. | X | | |
| | | | | Emitted sound likely to be confused with official sirens. | | X | |
| 7.8. | Speedometer | Visual inspection or by | (a) | Not fitted in accordance | X | | |

| | | | | | | | |
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| | | operation during road test or by electronic means | | with the requirements [1]. | | | |
| | | | | Missing (if required). | | X | |
| | | | (b) | Operation impaired. | X | | |
| | | | | Not operational at all. | | X | |
| | | | (c) | Not capable of being sufficient illuminated. | X | | |
| | | | | Not capable of being illuminated at all. | | X | |
| 7.9. | Tachograph (if fitted/ required) | Visual inspection | (a) | Not fitted in accordance with the requirements [1]. | | X | |
| | | | (b) | Not operational. | | X | |
| | | | (c) | Defective or missing seals. | | X | |
| | | | (d) | Installation plaque missing, illegible or out of date. | | X | |
| | | | (e) | Obvious tampering or manipulation. | | X | |
| | | | (f) | Size of tyres not compatible with calibration parameters. | | X | |
| 7.10. | Speed limitation device | Visual inspection and by operation if | (a) | Not fitted in accordance | | X | |

| | | | | | | | |
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| (+ E) | (if fitted/ available required) | equipment | | with the requirements [1]. | | | |
| | | | (b) | Obviously not operational. | | X | |
| | | | (c) | Incorrect set speed (if checked). | | X | |
| | | | (d) | Defective or missing seals. | | X | |
| | | | (e) | Plaque missing or illegible. | | X | |
| | | | (f) | Size of tyres not compatible with calibration parameters. | | X | |
| 7.11. | Odometer if available (X) [2] | Visual inspection, and/or using electronic interface | (a) | Obviously manipulated (fraud) to reduce or misrepresent the vehicle's distance record. | | X | |
| | | | (b) | Obviously inoperative. | | X | |
| 7.12. | Electronic Stability Control (ESC) if fitted/ required (X) [2] | Visual inspection, and/or using electronic interface | (a) | Wheel speed sensors missing or damaged. | | X | |
| | | | (b) | Wirings damaged. | | X | |
| | | | (c) | Other components missing or damaged. | | X | |
| | | | (d) | Switch damaged or not | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | functioning correctly. | | | |
| | | (e) | ESC MIL indicates any kind of failure of the system. | | X | |
| | | (f) | System indicates failure via the electronic vehicle interface. | | X | |
| **8. NUISANCE** | | | | | | |
| **8.1. Noise** | | | | | | |
| 8.1.1. Noise suppression system (+ E) | Subjective evaluation (unless the inspector considers that the noise level may be borderline, in which case a measurement of noise emitted by stationary vehicle using a sound level meter may be conducted) | (a) | Noise levels in excess of those permitted in the requirements [1]. | | X | |
| | | (b) | Any part of the noise suppression system loose, damaged, incorrectly fitted, missing or obviously modified in a way that would adversely affect the noise levels. | | X | |
| | | | Very serious risk of falling off. | | | X |
| **8.2. Exhaust emissions** | | | | | | |
| **8.2.1. Positive ignition engine emissions** | | | | | | |
| 8.2.1.1. Exhaust emissions | Visual inspection | (a) | Emission control equipment | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | control equipment | | | fitted by the manufacturer absent, modified or obviously defective. | | | |
| | | | (b) | Leaks which would affect emission measurements. | | X | |
| | | | (c) | MIL does not follow correct sequence. | | X | |
| 8.2.1.2. (E) | — Gaseous emissions | For vehicles up to emission classes Euro 5 and Euro VI[g]: measurement using an exhaust gas analyser in accordance with the requirements [1] or reading of OBD. Tailpipe testing shall be the default method of | (a) | Either gaseous emissions exceed the specific levels given by the manufacturer. | | X | |
| | | | (b) | Or, if this information is not available, the CO emissions exceed, (i) for vehicles not controlled by an advanced emission control system, — 4,5 %, or — 3,5 % according to the date of first | | X | |

| | | | | | | |
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| | | exhaust emission assessment. On the basis of an assessment of equivalence, and by taking into account the relevant type-approval legislation, Member States may authorise the use of OBD in accordance with the manufacturer's recommendations and other requirements.<br>— For vehicles as of emission classes Euro 6 and Euro VI[h]: | | registration or use specified in requirements [1];<br>(ii) for vehicles controlled by an advanced emission control system, at engine idle:<br>— 0,5 %,<br>— at high idle: 0,3 %, or<br>— at engine idle: 0,3 %[g],<br>— at high idle: 0,2 %,<br>according to the date of first registration or use specified in requirements [1]. | | |
| | | (c) measurement using an exhaust | Lambda coefficient outside the range 1 ± 0,03 or not in accordance with the | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | gas analyser in accordance with the requirements [1] or reading of OBD in accordance with the manufacturer's recommendations and other requirements [1]. Measurements not applicable for two-stroke engines. Alternatively, measurement using remote sensing equipment and confirmed by standard test methods. | manufacturer's specification. | | | |
| | | (d) | OBD readout indicating significant malfunction. | | X | |
| | | (e) | Remote sensing measurement showing significant non-compliance. | | X | |
| **8.2.2. Compression ignition engine emissions** | | | | | | |
| 8.2.2.1. | Exhaust emission control equipment | Visual inspection | (a) | Emission control equipment fitted by the manufacturer absent or obviously defective. | | X | |
| | | | (b) | Leaks which | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | would affect emission measurements. | | | |
| | | | (c) | MIL does not follow correct sequence. | | X | |
| | | | (d) | Insufficient reagent, if applicable. | | X | |
| 8.2.2.2. Opacity Vehicles registered or put into service before 1 January 1980 are exempted from this requirement | — | For vehicles up to emission classes Euro 5 and Euro V[g]: exhaust gas opacity to be measured during free acceleration (no load from idle up to cut-off speed) with gear lever in neutral and clutch engaged or reading of | (a) | For vehicles registered or put into service for the first time after the date specified in requirements [1], | | | |
| | | | | opacity exceeds the level recorded on the manufacturer's plate on the vehicle; | | X | |

| | | | | | |
|---|---|---|---|---|---|
| | OBD. The tailpipe testing shall be the default method of exhaust emission assessment. On the basis of an assessment of equivalence, Member States may authorise the use of OBD in accordance with the manufacturer's recommendations and other requirements. | | | | |
| — | [xi For vehicles as of emission classes Euro 6 and Euro VI[i]:] exhaust gas opacity to | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | be measured during free acceleration (no load from idle up to cut-off speed) with gear lever in neutral and clutch engaged or reading of OBD in accordance with the manufacturer's recommendations and other requirements [1]. | | | | |
| Vehicle preconditioning:<br>1. | (b) Vehicles may be tested without preconditioning although for safety reasons checks should be made that | Where this information is not available or requirements [1] do not allow the use of reference values,<br>— for naturally aspirated engines: 2,5 $m^{-1}$, | | X | |

| | | | | | |
|---|---|---|---|---|---|
| | the engine is warm and in a satisfactory mechanical condition. | — for turbo-charged engines: 3,0 $m^{-1}$, or, for vehicles identified in requirements [1] or first registered or put into service for the first time after the date specified in requirements [1]: [X1 1,5 $m^{-1}$ ]X1 or 0,7 $m^{-1}$ | | | |
| 2. (i) | Precondition requirements: Engine shall be fully warm, for instance the engine oil temperature measured by a probe in the oil level dipstick tube to be | | | X | |

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|---|---|---|---|---|
| | at least 80 °C, or normal operating temperature if lower, or the engine block temperature measured by the level of infrared radiation to be at least an equivalent temperature. If, owing to the vehicle configuration, this measurement is impractical, the engine's normal operating temperature may be established by other means, for example by the | | | |

| | | | | | |
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| | operation of the engine cooling fan.<br>(ii) Exhaust system shall be purged by at least three free acceleration cycles or by an equivalent method. | | | | |
| Test procedure:<br>1. | (c) Engine and any turbocharger fitted to be at idle before the start of each free acceleration cycle. For heavy-duty diesels, this means waiting for at least | Remote sensing measurement showing significant non-compliance. | | X | |

| | | | | | |
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| | 10 seconds after the release of the throttle. | | | | |
| 2. | To initiate each free acceleration cycle, the throttle pedal must be fully depressed quickly and continuously (in less than one second) but not violently, so as to obtain maximum delivery from the injection pump. | | | | |
| 3. | During each free acceleration cycle, the engine shall reach cut-off | | | | |

| | | | | | |
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| | speed or, for vehicles with automatic transmissions, the speed specified by the manufacturer or, if this data is not available, then two thirds of the cut-off speed, before the throttle is released. This could be checked, for instance, by monitoring engine speed or by allowing a sufficient time to elapse between initial | | | | |

| | | | | | |
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| | throttle depression and release, which in the case of vehicles of categories $M_2$, $M_3$, $N_2$ and $N_3$, should be at least two seconds. | | | | |
| 4. | Vehicles shall only be failed if the arithmetic means of at least the last three free acceleration cycles are in excess of the limit value. This may be calculated | | | | |

| | | | | | |
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| | by ignoring any measurement that departs significantly from the measured mean, or the result of any other statistical calculation that takes account of the scattering of the measurements. Member States may limit the number of test cycles. | | | | |
| 5. | To avoid unnecessary testing, Member States may fail vehicles which have measured values significantly in excess | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | of the limit values after fewer than three free acceleration cycles or after the purging cycles. Equally to avoid unnecessary testing, Member States may pass vehicles which have measured values significantly below the limits after fewer than three free acceleration cycles or after the purging cycles. Alternatively, measurement using remote sensing equipment and | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | confirmed by standard test methods | | | | |
| **8.4. Other items related to the environment** | | | | | | | |
| 8.4.1. | Fluid leaks | | Any excessive fluid leak, other than water, likely to harm the environment or to pose a risk to the safety of other road users. | | | X | |
| | | | Steady formation of drops that constitutes a very serious risk. | | | | X |
| **9. SUPPLEMENTARY TESTS FOR PASSENGER CARRYING VEHICLES OF CATEGORIES $M_2$, $M_3$** | | | | | | | |
| **9.1. Doors** | | | | | | | |
| 9.1.1. | Entrance and exit doors | Visual inspection and by operation | (a) | Defective operation. | | X | |
| | | | (b) | Deteriorated condition. | X | | |
| | | | | Likely to cause injuries. | | X | |
| | | | (c) | Defective emergency control. | | X | |
| | | | (d) | Remote control of doors or warning devices defective. | | X | |
| 9.1.2. | Emergency exits | Visual inspection and by operation (where appropriate) | (a) | Defective operation. | | X | |
| | | | (b) | Emergency exits signs illegible. | X | | |
| | | | | Emergency exits signs missing. | | X | |
| | | | (c) | Missing hammer to break glass. | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (d) | Access blocked. | | X | |
| 9.2. | Demisting and defrosting system (X) [2] | Visual inspection and by operation | (a) | Not operating correctly. | X | | |
| | | | | Affecting safe operation of the vehicle. | | X | |
| | | | (b) | Emission of toxic or exhaust gases into driver's or passenger compartment. | | X | |
| | | | | Danger to health of persons on board. | | | X |
| | | | (c) | Defective defrosting (if compulsory). | | X | |
| 9.3. | Ventilation and heating system (X) [2] | Visual inspection and by operation | (a) | Defective operation. | X | | |
| | | | | Risk to health of persons on board. | | X | |
| | | | (b) | Emission of toxic or exhaust gases into driver's or passenger compartment. | | X | |
| | | | | Danger to health of persons on board. | | | X |
| **9.4. Seats** | | | | | | | |
| 9.4.1. | Passenger seats (including | Visual inspection | Folding seats (if allowed) not working automatically. | | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | seats for accompanying personnel and child restraint systems when applicable) | | Blocking an emergency exit. | | | X | |
| 9.4.2. | Driver's seat (additional requirements) | Visual inspection | (a) | Defective special devices such as anti-glare shield. | X | | |
| | | | | Field of vision impaired. | | X | |
| | | | (b) | Protection for driver insecure. | X | | |
| | | | | Likely to cause injuries. | | X | |
| 9.5. | Interior lighting and destination devices (X) [2] | Visual inspection and by operation | Device defective. | | X | | |
| | | | Not operational at all. | | | X | |
| 9.6. | Gangways, standing areas | Visual inspection | (a) | Insecure floor. | | X | |
| | | | | Stability affected. | | | X |
| | | | (b) | Defective rails or grab handles. | X | | |
| | | | | Insecure or un-useable. | | X | |
| 9.7. | Stairs and steps | Visual inspection and by operation | (a) | Deteriorated condition. | X | | |
| | | | | Damaged condition. | | X | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | (where appropriate) | | Stability affected. | | | X |
| | | | (b) | Retractable steps not operating correctly. | | X | |
| 9.8. | Passenger communication system (X) [2] | Visual inspection and by operation. | Defective system. | | X | | |
| | | | Not operational at all. | | | X | |
| 9.9. | Notices (X) [2] | Visual inspection | (a) | Missing, erroneous or illegible notice. | X | | |
| | | | | False information. | | X | |
| **9.10. Requirements regarding the transportation of children (X) [2]** | | | | | | | |
| 9.10.1. | Doors | Visual inspection | Protection of doors not in accordance with the requirements [1]. regarding this form of transport. | | | X | |
| 9.10.2. | Signalling and special equipment | Visual inspection | Signalling or special equipment absent. | | X | | |
| **9.11. Requirements regarding the transportation of persons with reduced mobility(X) [2]** | | | | | | | |
| 9.11.1. | Doors, ramps and lifts | Visual inspection and operation | (a) | Defective operation. | X | | |
| | | | | Safe operation affected. | | X | |
| | | | (b) | Deteriorated condition. | X | | |
| | | | | Stability affected; likely to cause injuries. | | X | |
| | | | (c) | Defective control(s). | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Safe operation affected. | | X | |
| | | | (d) | Defective warning device(s). | X | | |
| | | | | Not operating at all. | | X | |
| 9.11.2. | Wheelchair restraint system | Visual inspection and by operation if appropriate | (a) | Defective operation. | X | | |
| | | | | Safe operation affected. | | X | |
| | | | (b) | Deteriorated condition. | X | | |
| | | | | Stability affected; likely to cause injuries. | | X | |
| | | | (c) | Defective control(s). | X | | |
| | | | | Safe operation affected. | | X | |
| 9.11.3. | Signalling and special equipment | Visual inspection | Signalling or special equipment absent. | | | X | |

| | |
|---|---|
| **a** | The brake percentage efficiency is calculated by dividing the total brake effort achieved when the brake is applied by the vehicle weight or, in the case of a semi-trailer, the sum of the axle loads and then multiplying the result by 100. |
| **b** | The vehicle categories which are outside the scope of this Directive are included for guidance. |
| **c** | 48 % for vehicles not fitted with ABS or type approved before 1 October 1991. |
| **d** | 45 % for vehicles registered after 1988 or from the date specified in requirements, whichever is the later. |
| **e** | 43 % for semi-trailers and draw-bar trailers registered after 1988 or from the date in requirements, whichever is the later. |
| **f** | 2,2 $m/s^2$ for $N_1$, $N_2$ and $N_3$ vehicles. |
| **g** | Type-approved in accordance with Directive 70/220/EEC, Regulation (EC) No 715/2007, Annex I, Table 1 (Euro 5), Directive 88/77/EEC and Directive 2005/55/EC. |
| **h** | **[**[X1]Type-approved in accordance with Regulation (EC) No 715/2007, Annex I, Table 2 (Euro 6) and Regulation (EC) No 595/2009 (Euro VI). |
| **i** | Type-approved in accordance with limits in row B, Section 5.3.1.4 of Annex I to Directive 70/220/EEC; row B1, B2 or C, Section 6.2.1 of Annex I to Directive 88/77/EEC or first registered or put into service after 1 July 2008.**]** |

NOTES:

[1] 'Requirements' are laid down by type-approval at the date of approval, first registration or first entry into service, as well as by retrofitting obligations or by national legislation in the country of registration. These reasons for failure apply only when compliance with requirements has been checked.

[2] (X) identifies items which relate to the condition of the vehicle and its suitability for use on the road but which are not considered essential in a roadworthiness test.

[3] Unsafe modification means a modification that adversely affects the road safety of the vehicle or has a disproportionately adverse effect on the environment.

E For testing of this item, equipment is required.

**Editorial Information**

**X1** Substituted by Corrigendum to Directive 2014/47/EU of the European Parliament and of the Council of 3 April 2014 on the technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union and repealing Directive 2000/30/EC (Official Journal of the European Union L 127 of 29 April 2014).