

COMMISSION DIRECTIVE 2010/48/EU

of 5 July 2010

adapting to technical progress Directive 2009/40/EC of the European Parliament and of the Council on roadworthiness tests for motor vehicles and their trailers

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2009/40/EC of the European Parliament and of the Council of 6 May 2009 on roadworthiness tests for motor vehicles and their trailers⁽¹⁾, and in particular Article 6(1) thereof,

Whereas:

- (1) In the interests of road-safety, environmental protection and fair competition it is important to ensure that vehicles in operation are properly maintained and tested, in order to maintain their performance as guaranteed by type-approval, without excessive degradation, throughout their life-time.
- (2) Standards and methods, as referred to in Art. 6 (1) of Directive 2009/40/EC, should be further defined and adapted to reflect technical progress, in order to improve motor vehicle roadworthiness testing in the European Union in a cost-effective manner.
- (3) The findings of two projects, Autofore⁽²⁾ and Idelsy⁽³⁾ which recently dealt with future options for roadworthiness testing, and the outcome of an open and factual dialogue with stakeholders should be taken into account.
- (4) The current state of vehicle technology requires modern electronic systems to be included in the list of items to be tested.
- (5) In order to achieve further harmonisation of roadworthiness testing, testing methods should be introduced for each of the test items.

- (6) To facilitate further harmonisation and for reasons of consistency of standards, a non-exhaustive list of the main reasons for failure, as already exists for braking systems, should now be included for all test items.
- (7) Roadworthiness tests should cover all items relevant to the specific design, construction and equipment of the tested vehicle. Therefore, where necessary, specific requirements for particular vehicle categories should be added.
- (8) Member States have extended the periodic test requirement pursuant to Article 5(e) of Directive 2009/40/EC to other categories of vehicles. For the purpose of further harmonised testing, methods and standards for those categories of vehicles should be included. The tests should be carried out using techniques and equipment currently available, and without the use of tools to dismantle or remove any part of the vehicle.
- (9) In addition to the items related to safety, security and environmental protection, the test also needs to cover identification of the vehicle in order to ensure that the correct tests and standards are applied, to enable the results of the test to be recorded and to enable enforcement of other legal requirements.
- (10) To facilitate the functioning of the internal market, and to improve methods of roadworthiness testing, the results of a test should be set out in a roadworthiness certificate covering certain core elements.
- (11) Further work needs to be done in the field of developing alternative test procedures to check the maintenance condition of diesel driven vehicles, particularly concerning NO_x and particulates taking into account new emission after-treatment systems.
- (12) The measures provided for in this Directive are in accordance with the opinion of the committee on the adaptation to technical progress of the Directive on roadworthiness tests for motor vehicles and their trailers instituted by Article 7 of Directive 2009/40/EC,

⁽¹⁾ OJ L 141, 6.6.2009, p. 12.

⁽²⁾ Autofore study on the Future Options for Roadworthiness Enforcement in the European Union, http://ec.europa.eu/transport/roadsafety/publications/projectfiles/autofore_en.htm

⁽³⁾ IDELSY Initiative for Diagnosis of Electronic Systems in Motor Vehicles for PTI, http://ec.europa.eu/transport/roadsafety/publications/projectfiles/idelsy_en.htm

HAS ADOPTED THIS DIRECTIVE:

Article 1

Annex II to Directive 2009/40/EC is amended in accordance with the Annex to this Directive.

Article 2

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 2011 at the latest, with the exception of the provisions of paragraph 3 of Annex II, which shall apply as of 31 December 2013. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field covered by this Directive.

Article 3

This Directive shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 5 July 2010.

For the Commission

The President

José Manuel BARROSO

ANNEX

Annex II to Directive 2009/40/EC is replaced by the following:

'ANNEX II

ITEMS TO BE COMPULSORY TESTED

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1. INTRODUCTION

This Annex identifies the vehicle systems and components to be tested; it details the method of testing them and the criteria to be used when determining whether the condition of the vehicle is acceptable.

Where the vehicle is found to be defective with regard to the test items listed, the competent authorities in the Member States must adopt a procedure for setting the conditions under which the vehicle may be used before passing another roadworthiness test.

The test must cover at least the items listed below, provided that these are related to the equipment of the vehicle being tested in the Member State concerned.

The tests should be carried out using techniques and equipment currently available without the use of tools to dismantle or remove any part of the vehicle.

All the items listed should be considered as mandatory at a periodic test of vehicles, except those marked with the indication (X), which are related to the condition of the vehicle and its suitability for use on the road but which are not considered essential in a periodic test.

'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, first entry into service or retrofitting requirements.

Where a method of inspection is given as visual, it means that in addition to looking at the items, the inspector should, if appropriate, also handle them, evaluate noise or use any other appropriate means of inspection without the use of equipment.

2. SCOPE OF INSPECTION

The inspection shall cover at least the items listed below, provided that these are related to the installed equipment of the vehicle being tested.

(0) Identification of the vehicle;

(1) Braking equipment;

(2) Steering;

- (3) Visibility;
- (4) Lighting equipment and parts of electric system;
- (5) Axles, wheels, tyres, suspension;
- (6) Chassis and chassis attachments;
- (7) Other equipment;
- (8) Nuisance,
- (9) Supplementary tests for passenger carrying vehicles M2 and M3

3. ROADWORTHINESS CERTIFICATE

The vehicle operator or driver must be notified in writing of the defects, the result of the test and the legal consequences.

Roadworthiness certificates issued in case of mandatory periodic vehicle tests shall cover at least the following elements:

- (1) VIN number
- (2) registration plate number and country symbol of state of registration
- (3) place and date of the test
- (4) odometer reading at time of the test if available
- (5) vehicle class if available
- (6) identified defects (it is recommended to follow the numerical order of Paragraph 5 of this Annex) and its category
- (7) overall assessment of the vehicle
- (8) date of next periodical test (if this information is not provided by other means)
- (9) name of inspection organisation and signature or identification of the inspector responsible for the test

4. MINIMUM INSPECTION REQUIREMENTS

The inspection shall cover at least the items and use the minimum standards and methods listed below. Reasons for failure are examples of defects that may be detected.

Item	Method	reasons for failure
0. IDENTIFICATION OF THE VEHICÉ		
0.1. Registration number plates (if needed by requirements) ⁽⁴⁾	Visual inspection	(a) Number plate(s) missing or so insecure/fixes that it is (they are) likely to fall off. (b) Inscription missing or illegible. (c) Not in accordance with vehicle documents or records.
0.2. Vehicle identification chassis/serial number	Visual inspection	(a) Missing or can not be found. (b) Incomplete, illegible. (c) Not in accordance with vehicle documents or records.

Item	Method	reasons for failure
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. <i>Note:</i> Vehicles with power-assisted braking systems should be inspected with the engine switched off.	(a) Pivot too tight. (b) Excessive wear or play.
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 <i>Note:</i> Vehicles with power-assisted braking systems should be inspected with the engine switched off.	(a) Excessive or insufficient reserve travel. (b) Brake control not releasing correctly. (c) Anti-slip provision on brake pedal missing, loose or worn smooth.
1.1.3. Vacuum pump or compressor and reservoirs	Visual inspection of the 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.	(a) Insufficient pressure/vacuum to give assistance for at least two brake applications after the warning device has operated (or gauge shows an unsafe reading). (b) Time taken to build up air pressure/vacuum to safe working value not in accordance with the requirements (e) (c) Multi-circuit protection valve or pressure relief valve not working. (d) Air leak causing a noticeable drop in pressure or audible air leaks. (e) External damage likely to affect the function of the braking system.
1.1.4. Low pressure warning gauge or indicator	Functional check	Malfunctioning or defective gauge or indicator.
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) Control insecure on valve or valve insecure. (c) Loose connections or leaks in system. (d) Unsatisfactory operation.
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. (b) Excessive wear at lever pivot or in ratchet mechanism. (c) Excessive movement of lever indicating incorrect adjustment. (d) Activator missing, damaged or inoperative (e) Incorrect functioning, warning indicator shows malfunction

Item	Method	reasons for failure
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. (b) Excessive oil discharge from compressor. (c) Valve insecure or inadequately mounted. (d) Hydraulic fluid discharge or leak.
1.1.8. Couplings for trailer brakes (electrical and pneumatic)	Disconnect and reconnect 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. (d) Not functioning correctly
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.
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) Imminent risk of failure or fracture. (b) Pipes or connections leaking. (c) Pipes damaged or excessively corroded. (d) Pipes misplaced.
1.1.12. Flexible brake hoses	Visual inspection of the components while the braking system is operated.	(a) Imminent 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.
1.1.13. Brake linings and pads	Visual inspection.	(a) Lining or pad excessively worn. (b) Lining or pad contaminated (oil, grease etc.). (c) Lining or pad missing
1.1.14. Brake drums, brake discs	Visual inspection.	(a) Drum or disc excessively worn, excessively scored, cracked, insecure or fractured.

Item	Method	reasons for failure
		(b) Drum or disc contaminated (oil, grease, etc.) (c) Drum or disc missing (d) Back plate insecure.
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.
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.
1.1.17. Load sensing valve	Visual inspection of the components while the braking system is operated	(a) Defective linkage. (b) Linkage incorrectly adjusted. (c) Valve seized or inoperative. (d) Valve missing. (e) Missing data plate. (f) Data illegible or not in accordance with requirements ^(a)
1.1.18. Slack adjusters and indicators	Visual inspection.	(a) Adjuster damaged, seized or having abnormal movement, excessive wear or incorrect adjustment. (b) Adjuster defective. (c) Incorrectly installed or replaced.
1.1.19. Endurance braking system (where fitted or required)	Visual inspection.	(a) Insecure connectors or mountings. (b) System obviously defective or missing.
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.
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. (b) Leakage of air or anti-freeze.

Item	Method	reasons for failure
		(c) Any component insecure or inadequately mounted. (d) Inappropriate repair or modification to any component ⁽¹⁾
1.1.22. Test connections (where fitted or required)	Visual inspection	(a) Missing. (b) Damaged, unusable or leaking.
1.2. Service braking performance and efficiency		
1.2.1. Performance	during a test on a static brake testing machine or, if impossible during a road test apply the brakes progressively up to maximum effort.	(a) Inadequate braking effort on one or more wheels. (b) Braking effort from any wheel is less than 70 % 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.
1.2.2. Efficiency	Test with a static brake testing machine or, if one cannot be used for technical reasons, by a road test using a recording decelerometer. Vehicles or a trailer with a maximum permissible mass exceeding 3 500 kg has to be inspected following the standards given by ISO 21069 or equivalent methods. Road tests should be carried out under dry conditions on a flat, straight road.	Does not give at least the minimum figure as follows Vehicles registered first time after entry into force of this Directive: — Category N1: 50 %, — Category M1: 58 %, — Category M2 and M3: 50 %, — Category N2 and N3: 50 %, — Category O2 (XX) ⁽⁵⁾ , O3 and O4: — for semi-trailers: 45 % — for draw-bar trailers: 50 % Vehicles registered before entry into force of this Directive: Category N1: 45 % Category M1, M2 and M3: 50 % ⁽²⁾ Category N2 and N3: 43 % ⁽³⁾ Category O2 (XX) ⁽⁵⁾ , O3 and O4: 40 % ⁽⁴⁾ Other categories (XX) ⁽⁵⁾ , — Categories L (both brakes): — Category L1e: 42 % — Category L2e, L6e: 40 % — Category L3e: 50 % — Category L4e: 46 % — Category L5e, L7e: 44 % — Categories L (rear wheel brake): — all categories: 25 %

Item	Method	reasons for failure
1.3. Secondary (emergency) braking performance and efficiency (if met by separate system)		
1.3.1. 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. (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. (c) No gradual variation in brake effort (grabbing).
1.3.2. 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 % ⁽⁵⁾ of the service brake performance defined in section 1.2.2 in relation to the maximum authorized mass or, in the case of semi-trailers, to the sum of the authorized axle loads (except L1e and L3e).
1.4. Parking braking performance and efficiency		
1.4.1. Performance	Apply the brake during a test on a static brake testing machine and/or during a road test with a decelerometer.	Brake inoperative on one side or in the case of testing on the road, the vehicle deviates excessively from a straight line.
1.4.2. Efficiency	Test with a static brake testing machine or by a road test using either an indicating or recording decelerometer or with the vehicle on a slope of known gradient. Goods vehicles should, if possible, be tested laden.	Does not give at least for all vehicles a braking ratio of 16 % in relation to the maximum authorized mass, or, for motor vehicles, of 12 % in relation to the maximum authorized combination mass of the vehicle, whichever is the greater (except L1e and L3e).
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.
1.6. Anti-lock braking system (ABS)	Visual inspection and inspection of warning device.	(a) Warning device malfunctioning. (b) Warning device shows system malfunction. (c) Wheel speed sensors missing or damaged (d) Wirings damaged (e) Other components missing or damaged
1.7. Electronic brake system (EBS)	Visual inspection of warning device.	(a) Warning device malfunctioning. (b) Warning device shows system malfunction.

Item	Method	reasons for failure
2. STEERING		
2.1. Mechanical condition		
2.1.1. Steering gear condition	With the vehicle over a pit or on a hoist and with the road wheels off the ground or on turn tables, rotate the steering wheel from lock to lock. Visual inspection of the operation of the steering gear.	<ul style="list-style-type: none"> (a) Roughness in operation of gear. (b) Sector shaft twisted or splines worn. (c) Excessive wear in sector shaft. (d) Excessive movement of sector shaft. (e) Leaking.
2.1.2. Steering gear casing attachment	With vehicle on a pit or hoist and the weight of the vehicle road wheels on the ground, rotate steering/handle bar wheel clock-wise and anticlockwise or using a specially adapted wheel play detector. Visual inspection of the attachment of gear casing to chassis.	<ul style="list-style-type: none"> (a) Steering gear casing not properly attached. (b) Elongated fixing holes in chassis. (c) Missing or fractured fixing bolts. (d) Steering gear casing fractured.
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.	<ul style="list-style-type: none"> (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.
2.1.4. Steering linkage operation	With the vehicle over a pit or on a hoist and with the road wheels on ground and the engine running (power steering), rotate steering wheel from lock to lock. Visual inspection of movement of linkages.	<ul style="list-style-type: none"> (a) Moving steering linkage fouling a fixed part of chassis. (b) Steering stops not operating or missing.
2.1.5. Power steering	Check steering system for leaks and hydraulic fluid reservoir level (if visible). With the road wheels on ground and with the engine running, check that the power steering system is operating.	<ul style="list-style-type: none"> (a) Fluid leak. (b) Insufficient fluid. (c) Mechanism not working. (d) Mechanism fractured or insecure. (e) Misalignment or fouling of components. (f) Inappropriate repair or modification. (g) Cables/hoses damaged, excessively corroded.
2.2. Steering wheel, column and handle bar		
2.2.1. Steering wheel/handle bar condition	With the road wheels on the ground, rock steering wheel from side to side at right angles to column and apply slight downward and upward pressure. Visual inspection of play.	<ul style="list-style-type: none"> (a) Relative movement between steering wheel and column indicating looseness. (b) Absence of retaining device on steering wheel hub

Item	Method	reasons for failure
		(c) Fracture or looseness of steering wheel hub, rim or spokes
2.2.2. Steering column/yokes and forks	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/handle bar in various directions at right angles to the column/forks. 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. (e) inappropriate repair or modification
2.3. Steering play	With the vehicle over a pit or on a hoist, the mass of the vehicle on the road-wheels, 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 ^(a)).
2.4. Wheel alignment (X) ^(b)	Check alignment of steered wheels with suitable equipment.	Alignment not in accordance with vehicle manufacturer's data or requirements ^(a) .
2.5. Trailer steered axle turntable	Visual inspection or using a specially adapted wheel play detector	(a) Component damaged or cracked. (b) Excessive play. (c) Attachment defective.
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	(a) EPS Malfunction Indicator Lamp (MIL) indicates any kind of failure of the system. (b) Inconsistency between the angle of the steering wheel and the angle of the wheels. (c) power assistance not working

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.
3.2. Condition of glass	Visual inspection.	(a) Cracked or discoloured glass or transparent panel (if permitted). (b) Glass or transparent panel (including reflecting or tinted film) that does not comply with specifications in the requirements ^(a) (XX) ^(c) , (c) Glass or transparent panel in unacceptable condition.
3.3. Rear-view mirrors or devices	Visual inspection.	(a) Mirror or device missing or not fitted according to the requirements ^(a) . (b) Mirror or device inoperative, damaged, loose or insecure.

Item	Method	reasons for failure
3.4. Windscreen wipers	Visual inspection and by operation.	(a) Wipers not operating or missing (b) Wiper blade missing or obviously defective.
3.5. Windscreen washers	Visual inspection and by operation.	Washers not operating adequately.
3.6. Demisting system (X) ^(b)	Visual inspection and by operation.	System inoperative or obviously defective.

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. (b) Defective or missing projection system (reflector and lens). (c) Lamp not securely attached.
4.1.2. Alignment	Determine the horizontal aim of each headlamp on dipped beam using a headlamp aiming device or a screen.	Aim of a headlamp not within limits laid down in the requirements ^(a) .
4.1.3. Switching	Visual inspection and by operation.	(a) Switch does not operate in accordance with the requirements ^(a) (Number of headlamps illuminated at the same time) (b) Function of control device impaired.
4.1.4. Compliance with requirements ^(a) .	Visual inspection and by operation.	(a) Lamp, emitted colour, position or intensity not in accordance with the requirements ^(a) . (b) Products on lens or light source which obviously reduce light intensity or change emitted colour. (c) Light source and lamp not compatible
4.1.5. Levelling devices (where mandatory)	Visual inspection and by operation if possible.	(a) Device not operating. (b) Manual device cannot be operated from driver's seat.
4.1.6. Headlamp cleaning device (where mandatory)	Visual inspection and by operation if possible.	Device not operating.

4.2. Front and rear position lamps, side marker lamps and end outline marker lamps

4.2.1. Condition and operation	Visual inspection and by operation.	(a) Defective light source. (b) Defective lens. (c) Lamp not securely attached.
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Item	Method	reasons for failure
4.2.2. Switching	Visual inspection and by operation.	(a) Switch does not operate in accordance with the requirements ^(a) . (b) Function of control device impaired.
4.2.3. Compliance with requirements ^(a) .	Visual inspection and by operation.	(a) Lamp, emitted colour, position or intensity not in accordance with the requirements ^(a) . (b) Products on lens or light source which reduce light intensity or change emitted colour.
4.3. Stop Lamps		
4.3.1. Condition and operation	Visual inspection and by operation.	(a) Defective light source. (b) Defective lens. (c) Lamp not securely attached.
4.3.2. Switching	Visual inspection and by operation.	(a) Switch does not operate in accordance with the requirements ^(a) . (b) Function of control device impaired.
4.3.3. Compliance with requirements ^(a) .	Visual inspection and by operation.	Lamp, emitted colour, position or intensity not in accordance with the requirements ^(a) .
4.4. Direction indicator and hazard warning lamps		
4.4.1. Condition and operation	Visual inspection and by operation.	(a) Defective light source. (b) Defective lens. (c) Lamp not securely attached
4.4.2. Switching	Visual inspection and by operation.	Switch does not operate in accordance with the requirements ^(a) .
4.4.3. Compliance with requirements ^(a) .	Visual inspection and by operation.	Lamp, emitted colour, position or intensity not in accordance with the requirements ^(a) .
4.4.4. Flashing frequency	Visual inspection and by operation.	Rate of flashing not in accordance with the requirements ^(a) .
4.5. Front and rear fog lamps		
4.5.1. Condition and operation	Visual inspection and by operation.	(a) Defective light source. (b) Defective lens. (c) Lamp not securely attached.
4.5.2. Alignment (X) ^(b)	by operation and using a headlamp aiming device	Front fog lamp out of horizontal alignment when the light pattern has cut-off line

Item	Method	reasons for failure
4.5.3. Switching	Visual inspection and by operation.	Switch does not operate in accordance with the requirements ^(a) .
4.5.4. Compliance with requirements ^(a) .	Visual inspection and by operation.	(a) Lamp, emitted colour, position or intensity not in accordance with the requirements ^(a) (b) System does not operate in accordance with the requirements ^(a)
4.6. Reversing lamps		
4.6.1. Condition and operation	Visual inspection and by operation.	(a) Defective light source. (b) Defective lens. (c) Lamp not securely attached.
4.6.2. Compliance with requirements ^(a)	Visual inspection and by operation.	(a) Lamp, emitted colour, position or intensity not in accordance with the requirements ^(a) . (b) System does not operate in accordance with the requirements ^(a) .
4.6.3. Switching	Visual inspection and by operation.	Switch does not operate in accordance with the requirements ^(a) .
4.7. Rear registration plate lamp		
4.7.1. Condition and operation	Visual inspection and by operation.	(a) Lamp throwing direct light to the rear. (b) Defective light source. (c) Lamp not securely attached.
4.7.2. Compliance with requirements ^(a)	Visual inspection and by operation.	System does not operate in accordance with the requirements ^(a) .
4.8. Retro-reflectors, conspicuity (retro reflecting) markings and rear marker plates		
4.8.1. Condition	Visual inspection.	(a) Reflecting equipment defective or damaged. (b) Reflector not securely attached.
4.8.2. Compliance with requirements ^(a)	Visual inspection.	Device, reflected colour or position not in accordance with the requirements ^(a) .
4.9. Tell-tales mandatory for lighting equipment		
4.9.1. Condition and operation	Visual inspection and by operation.	Not operating.
4.9.2. Compliance with requirements ^(a)	Visual inspection and by operation.	Not in accordance with the requirements ^(a) .

Item	Method	reasons for failure
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. (b) Damaged or deteriorated insulation. (c) Trailer or towing vehicle electrical connections not functioning correctly.
4.11. Electrical wiring	Visual inspection with vehicle over a pit or on a hoist, including inside the engine compartment in some cases.	(a) Wiring insecure or not adequately secured. (b) Wiring deteriorated (c) Damaged or deteriorated insulation.
4.12. Non obligatory lamps and retro-reflectors (X) ^(b)	Visual inspection and by operation.	(a) A lamp/retro-reflector fitted not in accordance with the requirements ^(a) . (b) Lamp operation not in accordance with the requirements ^(a) . (c) Lamp/retro-reflector not securely attached.
4.13. Battery(ies)	Visual inspection.	(a) Insecure. (b) Leaking. (c) Defective switch (if required). (d) Defective fuses (if required). (e) inappropriate ventilation (if required)

5. AXLES, WHEELS, TYRES AND SUSPENSION

5.1. Axles

5.1.1. Axles	Visual inspection with vehicle over a pit or on a hoist. Wheel play detectors may be used and are recommended for vehicles over 3,5 tonnes gross vehicle mass (GVM).	(a) Axle fractured or deformed. (b) Insecure fixing to vehicle. (c) Inappropriate repair or modification.
5.1.2. Stub axles	Visual inspection with vehicle over a pit or on a hoist. Wheel play detectors may be used and are recommended for vehicles over 3,5 tonnes GVM. 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. (b) Excessive wear in the swivel pin and/or bushes. (c) Excessive movement between stub axle and axle beam. (d) Stub axle pin loose in axle.
5.1.3. Wheel bearings	Visual inspection with the vehicle over a pit or on a hoist. Wheel play detectors may be used and are recommended for vehicles over 3,5 tonnes GVM. 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. (b) Wheel bearing too tight, jammed.

Item	Method	reasons for failure
5.2. Wheels and tyres		
5.2.1. Road wheel hub	Visual inspection.	(a) Any wheel nuts or studs missing or loose. (b) Hub worn or damaged
5.2.2. Wheels	Visual inspection of both sides of each wheel with vehicle over a pit or on a hoist.	(a) Any fracture or welding defect (b) Tyre retaining rings not properly fitted. (c) Wheel badly distorted or worn. (d) Wheel size or type not in accordance with the requirements ^(a) and effecting road safety
5.2.3. Tyres	Visual inspection of the entire tyre by either rotating the road wheel with it off the ground and the vehicle over a pit or on a hoist, or by rolling the vehicle backwards and forwards over a pit.	(a) Tyre size, load capacity, approval mark or speed rating not in accordance with the requirements ^(a) and effecting road safety (b) Tyres on same axle or on twin wheels of different sizes. (c) Tyres on same axle of different construction (radial/cross-ply). (d) Any serious damage or cut to tyre. (e) Tyre tread depth not in accordance with the requirements ^(a) . (f) Tyre rubbing against other components. (g) Re-grooved tyres not in accordance with requirements ^(a) . (h) air pressure monitoring system malfunctioning or obviously inoperative
5.3. Suspension system		
5.3.1. Springs and stabilizer	Visual inspection with vehicle over a pit or on a hoist. Wheel play detectors may be used and are recommended for vehicles over 3,5 tonnes GVM.	(a) Insecure attachment of springs to chassis or axle. (b) A damaged or fractured spring component. (c) spring missing (d) inappropriate repair or modification
5.3.2. Shock absorbers	Visual inspection with vehicle over a pit or on a hoist or using special equipment, if available.	(a) Insecure attachment of shock absorbers to chassis or axle. (b) Damaged shock absorber showing signs of severe leakage or malfunction.
5.3.2.1. efficiency testing of damping (X) ^(b)	Use special equipment and compare left/right differences and/or absolute values given by manufactures	(a) significant difference between left and right (b) given minimum values not reached

Item	Method	reasons for failure
5.3.3. Torque tubes, radius arms, wishbones and suspension arms	Visual inspection with vehicle over a pit or on a hoist. Wheel play detectors may be used and are recommended for vehicles over 3,5 tonnes GVM.	(a) Insecure attachment of component to chassis or axle. (b) A damaged, fractured or excessively corroded component. (c) Inappropriate repair or modification.
5.3.4. Suspension joints	Visual inspection with vehicle over a pit or on a hoist. Wheel play detectors may be used and are recommended for vehicles over 3,5 tonnes GVM.	(a) Excessive wear in swivel pin and/or bushes or at suspension joints. (b) Dust cover missing or severely deteriorated.
5.3.5. Air suspension	Visual inspection	(a) System inoperable. (b) Any component damaged, modified or deteriorated in a way that would adversely affect the functioning of the system (c) audible system leakage

6. CHASSIS AND CHASSIS ATTACHMENTS

6.1. Chassis or frame and attachments

6.1.1. General condition	Visual inspection with vehicle over a pit or on a hoist.	a) Fracture or deformation of any side or cross member. b) Insecurity of strengthening plates or fastenings. c) Excessive corrosion which affects the rigidity of the assembly.
6.1.2. Exhaust pipes and silencers	Visual inspection with vehicle over a pit or on a hoist.	a) Insecure or leaking exhaust system. b) Fumes entering cab or passengers compartment.
6.1.3. Fuel tank and pipes (including heating fuel tank and pipes)	Visual inspection with vehicle over a pit or on a hoist, use of leak detecting devices in case of LPG/CNG systems.	(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, — engine compartment condition, (f) LPG/CNG or hydrogen system not in accordance with requirements ^(a) .
6.1.4. Bumpers, lateral protection and rear underrun devices	Visual inspection.	(a) Looseness or damage likely to cause injury when grazed or contacted. (b) Device obviously not in compliance with the requirements ^(a) .

Item	Method	reasons for failure
6.1.5. Spare wheel carrier (if fitted)	Visual inspection.	(a) Carrier not in proper condition (b) Carrier fractured or insecure. (c) A spare wheel not securely fixed in carrier and likely to fall off.
6.1.6. Coupling mechanisms and towing equipment	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. (b) Excessive wear in a component. (c) Attachment defective. (d) Any safety device missing or not operating correctly. (e) Any indicator not working. (f) Obstruct registration plate or any lamp (when not in use) (g) Inappropriate repair or modification.
6.1.7. Transmission	Visual inspection.	(a) Loose or missing securing bolts. (b) Excessive wear in transmission shaft bearings. (c) Excessive wear in universal joints. (d) Deteriorated flexible couplings. (e) A damaged or bent shaft. (f) Bearing housing fractured or insecure. (g) Dust cover missing or severely deteriorated. (h) Illegal power-train modification
6.1.8. Engine mountings	Visual inspection not necessarily on a pit or hoist.	Deteriorated, obviously and severely damaged, loose or fractured mountings.
6.1.9. Engine performance	Visual inspection	(a) Control unit illegal modified (b) illegal engine modification
6.2. Cab and bodywork		
6.2.1. Condition	Visual inspection.	(a) A loose or damaged panel or part likely to cause injury. (b) Insecure body pillar. (c) Permitting entry of engine or exhaust fumes. (d) Inappropriate repair or modification.
6.2.2. Mounting	Visual inspection over a pit or on a hoist.	(a) Body or cab insecure. (b) Body/cab obviously not located squarely on chassis. (c) Insecure or missing fixing of body/cab to chassis or cross members. (d) Excessive corrosion at fixing points on integral bodies.

Item	Method	reasons for failure
6.2.3. Doors and door catches	Visual inspection.	(a) A door will not open or close properly. (b) A door likely to open inadvertently or one that will not remain closed. (c) Door, hinges, catches, pillar, missing, loose or deteriorated.
6.2.4. Floor	Visual inspection over a pit or on a hoist.	Floor insecure or badly deteriorated
6.2.5. Driver's seat	Visual inspection.	(a) A loose seat or seat with defective structure. (b) Adjustment mechanism not functioning correctly.
6.2.6. Other seats	Visual inspection.	(a) Seats in defective condition or insecure. (b) Seats fitted not in accordance with requirements ⁽⁴⁾ .
6.2.7. Driving controls	Visual inspection and by operation.	Any control necessary for the safe operation of the vehicle not functioning correctly.
6.2.8. Cab steps	Visual inspection.	(a) Step or step ring insecure. (b) Step or ring in a condition likely to cause injury to users.
6.2.9. Other interior and exterior fittings and equipment	Visual inspection.	(a) Attachment of other fitting or equipment defective. (b) Other fitting or equipment not in accordance with the requirements ⁽⁴⁾ . (c) Leaking hydraulic equipment
6.2.10. Mudguards (wings), spray suppression devices	Visual inspection.	(a) Missing, loose or badly corroded. (b) Insufficient clearance to road wheel. (c) Not in accordance with the requirements ⁽⁴⁾ .

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. (b) Anchorage loose
7.1.2. Condition of safety-belts/buckles.	Visual inspection and by operation.	(a) Mandatory safety-belt missing or not fitted. (b) Safety-belt damaged. (c) Safety-belt not in accordance with the requirements ⁽⁴⁾ . (d) Safety-belt buckle damaged or not functioning correctly.

Item	Method	reasons for failure
		(e) Safety-belt retractor damaged or not functioning correctly.
7.1.3. Safety belt Load limiter	Visual inspection	Load limiter obviously missing or not suitable with the vehicle
7.1.4. Safety belt Pre-tensioners	Visual inspection	Pre-tensioner obviously missing or not suitable with the vehicle
7.1.5. Airbag	Visual inspection	(a) Airbags obviously missing or not suitable with the vehicle. (b) Airbag obviously non operative
7.1.6. SRS Systems	Visual inspection of MIL	SRS MIL indicates any kind of failure of the system
7.2. Fire extinguisher (X) ^(b)	Visual inspection.	(a) Missing. (b) Not in accordance with the requirements ^(a) .
7.3. Visual inspection and by operation	Visual inspection.	(a) Device not functioning to prevent vehicle being driven. (b) Defective or inadvertently locking or blocking
7.4. Warning triangle (if required) (X) ^(b)	Visual inspection.	(a) Missing or incomplete. (b) Not in accordance with the requirements ^(a) .
7.5. First aid kit. (if required) (X) ^(b)	Visual inspection.	Missing, incomplete or not in accordance with the requirements ^(a) .
7.6. Wheel chocks (wedges) (if required) (X) ^(b)	Visual inspection.	Missing or not in good condition.
7.7. Audible warning device	Visual inspection and by operation.	(a) Not working. (b) Control insecure. (c) Not in accordance with the requirements ^(a) .
7.8. Speedometer	Visual inspection or by operation during road test or by electronically means..	(a) Not fitted in accordance with the requirements ^(a) . (b) Not operational. (c) Not capable of being illuminated.
7.9. Tachograph (if fitted/required)	Visual inspection.	(a) Not fitted in accordance with the requirements ^(a) . (b) Not operational. (c) Defective or missing seals. (d) Calibration plaque missing, illegible or out of date.

Item	Method	reasons for failure
		(e) Obvious tampering or manipulation. (f) Size of tyres not compatible with calibration parameters
7.10. Speed limitation device (if fitted/required)	Visual inspection and by operation if equipment available.	(a) Not fitted in accordance with the requirements ^(a) . (b) Obviously not operational. (c) Incorrect set speed (if checked) (d) Defective or missing seals. (e) Calibration plaque missing, illegible or out of date. (f) size of tyres not compatible with calibration parameters
7.11. Odometer if available (X) ^(b)	Visual inspection	(a) obviously manipulated (fraud) (b) obviously inoperative
7.12. Electronic Stability Control (ESC) if fitted/required	Visual inspection	(a) Wheel speed sensors missing or damaged (b) Wirings damaged (c) Other components missing or damaged (d) Switch damaged or not functioning correctly (e) ESC MIL indicates any kind of failure of the system

8. NUISANCE

8.1. Noise

8.1.1. Noise suppression system	Subjective evaluation (unless the inspector considers that the noise level may be borderline, in which case a standing noise test using a noise meter may be conducted)	(a) Noise levels in excess of those permitted in the requirements ^(*) . (b) Any part of the noise suppression system loose, likely to fall off, damaged, incorrectly fitted, missing or obviously modified in a way that would adversely affect the noise levels.
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8.2. Exhaust emissions

8.2.1. Petrol engine emissions

8.2.1.1. Exhaust emissions control equipment	Visual inspection	(a) Emission control equipment fitted by the manufacturer absent, modified or obviously defective. (b) Leaks which would affect emission measurements
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Item	Method	reasons for failure
8.2.1.2. Gaseous emissions	Measurement using an exhaust gas analyser in accordance with the requirements ^(a) . Alternatively, for vehicles equipped with suitable on-board diagnostic systems, the proper functioning of the emission system can be checked by appropriate reading of the OBD device and checks on the proper functioning of the OBD system in place of emission measurements at engine idle in accordance with the manufacturer's conditioning recommendations and other requirements ^(a) .	<p>(a) Either, gaseous emissions exceed the specific levels given by the manufacturer;</p> <p>(b) Or, if this information is not available, the CO emissions exceed,</p> <p>i) for vehicles not controlled by an advanced emission control system,</p> <p>— 4,5 %, or,</p> <p>— 3,5 %,</p> <p>according to the date of first registration or use specified in requirements ^(a).</p> <p>ii) for vehicles controlled by an advanced emission control system,</p> <p>— at engine idle: 0,5 %,</p> <p>— at high idle: 0,3 %,</p> <p>or</p> <p>— at engine idle: 0,3 % ⁽⁶⁾</p> <p>— at high idle: 0,2 %,</p> <p>according to the date of first registration or use specified in requirements ^(a).</p> <p>(c) Lambda outside the range $1 \pm 0,03$ or not in accordance with the manufacturer's specification</p> <p>(d) OBD readout indicating significant malfunction</p>
8.2.2. Diesel engine emissions		
8.2.2.1. Exhaust emission control equipment	Visual inspection	<p>(a) Emission control equipment fitted by the manufacturer absent or obviously defective</p> <p>(b) Leaks which would affect emission measurements</p>
8.2.2.2. Opacity Vehicles registered or put into service before 1 January 1980 are exempted from this requirement	<p>(a) 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.</p> <p>(b) Vehicle preconditioning:</p> <p>1. Vehicles may be tested without preconditioning although for safety reasons checks should be made that the engine is warm and in a satisfactory mechanical condition.</p> <p>2. precondition requirements:</p> <p>(i) Engine shall be fully warm, for instance the engine oil temperature measured by a probe in the oil level dipstick tube to be 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 vehicle configuration, this measurement is impractical, the establishment of the engine's normal operating temperature may be made by other means,</p>	<p>(a) For vehicles registered or put into service for the first time after the date specified in requirements ^(a),</p> <p>opacity exceeds the level recorded on the manufacturer's plate on the vehicle;</p> <p>(b) Where this information is not available or requirements ^(a). do not allow the use of reference values,</p> <p>for naturally aspirated engines: 2,5 m⁻¹,</p> <p>for turbo-charged engines: 3,0 m⁻¹,</p> <p>or, for vehicles identified in requirements ^(a). or first registered or put into service for the first time after the date specified in requirements ^(a),</p> <p>1,5 m⁻¹ ⁽⁷⁾.</p>

Item	Method	reasons for failure
	<p>for example by the operation of the engine cooling fan.</p> <p>(ii) Exhaust system shall be purged by at least three free acceleration cycles or by an equivalent method.</p> <p>(c) Test procedure:</p> <ol style="list-style-type: none"> 1. 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 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 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 throttle depression and release, which in the case of vehicles of category 1 and 2 of Annex 1, 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 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 less 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 less than three free acceleration cycles or after the purging cycles 	

8.3. Electromagnetic interference suppression

Radio-interference (X) ^(b)	Visual examination.	Any requirements of the requirements ^(a) not met.
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8.4. Other items related to the environment

8.4.1. Fluid leaks	Visual examination	Any excessive fluid leak likely to harm the environment or to pose a safety risk to other road users
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9. SUPPLEMENTARY TESTS FOR PASSENGER CARRYING VEHICLES M2, M3

9.1. Doors

9.1.1. Entrance and exit doors	Visual inspection and by operation	(a) Defective operation (b) Deteriorated condition
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Item	Method	reasons for failure
		(c) Defective emergency control (d) Remote control of doors or warning devices defective (e) Not in accordance with the requirements ^(a) .
9.1.2. Emergency exits	Visual inspection and by operation (where appropriate)	(a) defective operation (b) Emergency exits signs missing or illegible (c) Missing hammer to break glass (d) Not in accordance with requirements ^(a) .
9.2. Demisting and defrosting system (X) ^(b)	Visual inspection and by operation	(a) Not operating correctly (b) Emission of toxic or exhaust gases into driver's or passenger compartment (c) Defective defrosting (if compulsory)
9.3. Ventilation and heating system (X) ^(b)	Visual inspection and by operation	(a) Defective operation (b) Emission of toxic or exhaust gases into driver's or passenger compartment
9.4. Seats		
9.4.1. Passenger seats (including seats for accompanying personnel)	Visual inspection	a) Seats in defective condition or insecure b) Folding seats (if allowed) not working automatically c) Not in accordance with the requirements ^(a) .
9.4.2. Driver's seat (additional requirements)	Visual inspection	a) Defective special devices such as anti-glare shield or anti-dazzle screen b) Protection for driver insecure or not in accordance with requirements ^(a) .
9.5. Interior lighting and destination devices (X) ^(b)	Visual inspection and by operation	Device defective or not in accordance with requirements ^(a) .
9.6. Gangways, standing areas	Visual inspection	(a) Insecure floor. (b) Defective rails or grab handles. (c) Not in accordance with the requirements ^(a) .
9.7. Stairs and steps	Visual inspection and by operation (where appropriate)	(a) Deteriorated or damaged condition (b) Retractable steps not operating correctly

Item	Method	reasons for failure
		(c) Not in accordance with requirements ^(a) .
9.8. Passenger communication system (X) ^(b)	Visual inspection and by operation.	Defective system
9.9. Notices (X) ^(b)	Visual inspection.	(a) missing, erroneous or illegible notice (b) not in accordance with requirements ^(a) .
9.10. Requirements regarding the transport of children. (X) ^(b)		
9.10.1. Doors	Visual inspection	Protection of doors not in accordance with the requirements ^(a) . regarding this form of transport.
9.10.2. Signalling and special equipment	Visual inspection	Signalling or special equipment absent or not in accordance with requirements ^(a) .
9.11. Requirements regarding the transport of disabled persons (X) ^(b)		
9.11.1. Doors, ramps and lifts	Visual inspection and by operation	(a) Defective operation. (b) Deteriorated condition. (c) Defective control(s). (d) Defective warning device(s). (e) Not in accordance with the requirements ^(a) .
9.11.2. Wheelchair fixings	Visual inspection and by operation if appropriate	(a) Defective operation. (b) Deteriorated condition. (c) Defective control(s). (d) Not in accordance with the requirements ^(a) .
9.11.3. Signalling and special equipment	Visual inspection	Signalling or special equipment absent or not in accordance with requirements ^(a) .
9.12. Other special equipment (X) ^(b)		
9.12.1. Installations for food preparation	Visual inspection	(a) installation not in accordance with the requirements ^(a) . (b) installation damaged to such an extent that it would be dangerous to use it.
9.12.2. Sanitary installation	Visual inspection	Installation not in accordance with the requirements ^(a) .

Item	Method	reasons for failure
9.12.3. Other devices (e.g. audiovisual systems)	Visual inspection	Not in accordance with the requirements ^(a) .

(1) Inappropriate repair or modification means a repair or modification that adversely affects the road safety of the vehicle or has a negative effect on the environment.

(2) 48 % for vehicles not fitted with ABS or type approved before 1 October 1991.

(3) 45 % for vehicles registered after 1988 or from the date specified in requirements whichever is the later.

(4) 43 % for semi-trailers and draw-bar trailers registered after 1988 or from the date in requirements whichever is the later.

(5) 2,2 m/s² for N1, N2 and N3 vehicles.

(6) Type-approved according to limits in row A or B section 5.3.1.4. of Annex I to Directive 70/220/EEC as amended by Directive 98/69/EC or later or first registered or put into service after 1 July 2002.

(7) Type approved according to limits in row B section 5.3.1.4. of Annex I to Directive 70/220/EEC as amended by Directive 98/69/EC or later; row B1, B2 or C section 6.2.1 of Annex I to Directive 88/77/EEC as amended by Directive 1999/96/EC or later or first registered or put into service after 1 July 2008.

Notes:

(a) 'requirements' are laid down by type-approval requirements at the date of approval, first registration or first entry into service as well as retrofitting obligations or national legislation in the country of registration.

(b) (X) Identifies items which are related to the condition of the vehicle and its suitability for use on the road but which are not considered essential in a periodic inspection

(c) (XX) This reason for failure only applies if testing is required by national legislation.'