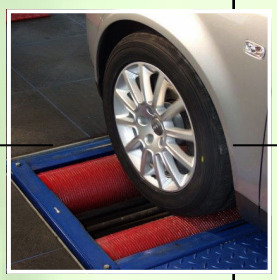
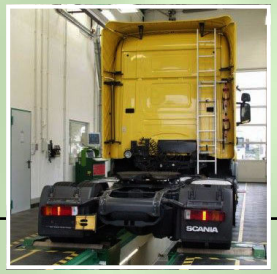
CITA

COMITÉ INTERNATIONAL DE L'INSPECTION TECHNIQUE AUTOMOBILE
INTERNATIONAL MOTOR VEHICLE INSPECTION COMMITTEE
INTERNATIONALE VEREINIGUNG FÜR DIE TECHNISCHE PRÜFUNG VON KRAFTFAHRZEUGEN



Recommendation no. 1
Inspection of vehicles in categories M, N and O



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INTERNATIONAL MOTOR VEHICLE INSPECTION COMMITTEE

Recommendation no. 1

Inspection of vehicles in categories M, N and O

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RECOMMENDATION no. 1

INSPECTION OF VEHICLES IN CATEGORIES M, N and O (1/)

Items to be inspected during periodic inspection

INTRODUCTION

This document lists the items to be included in a periodic vehicle inspection. It has been prepared with the following general principles in mind:

1) The inspections 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.

2) The equipment recommended in CITA Recommendation 7 will normally be available and used appropriately according to the inspection that needs to be performed.

3) It must be possible to perform the inspection within a limited time. The test time will vary according to the way the inspection is organised, the equipment used and the vehicle type and condition. A total working time of 30 minutes for an M_1 in good condition would not be unreasonable.

4) As well as items related to safety and environmental protection, the inspection needs also to cover identification of the vehicle in order to ensure that the correct inspections and standards are applied, to enable the results of the inspection to be recorded and to enable enforcement of other legal requirements.

5) 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 have been marked with the indication (X). All the other items listed should be considered as mandatory at a periodic inspection of vehicles.

The present document identifies the vehicle systems and components to be inspected; it details the method of inspecting them and provides information on the criteria to be used when determining whether the condition of the vehicle is acceptable.

The "principal reasons for rejection" are not necessarily applicable when they concern items that are not prescribed in the Regulations of the country carrying out the inspection. But when an item is prescribed and has to satisfy quantitative criteria in order to be acceptable, the requirements to be met are those defined in the same Regulations, in international regulations or standards or other CITA Recommendations, as appropriate. Such requirements are not specified in this document, which merely refers to the need to comply with the appropriate standards or regulations before an item can be regarded as satisfactory.

Normally no distinction has been made between the categories of vehicles to which the inspections apply, since this is obvious from the test. Where necessary, specific requirements for particular vehicle categories have been included. In the case of public service vehicles (M_2 and M_3 vehicles used to carry fare paying passengers) however, inspection of additional items related to the safety of passengers (e.g. ventilation, passenger exits, etc.) are required. These are listed in CITA Recommendation n° 2.

Where a method of inspection is given as visual, it means that in addition to looking at the items, the inspector can also handle them, evaluate noise, etc.

A road test has not been specified in this document. If it is necessary to determine the handling qualities of a vehicle, a road test may be conducted if circumstances allow.

Inappropriate repair or modification means a repair or modification that adversely affects the road safety of the vehicle.

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1 / As specified in UN ECE Consolidated Resolution R.E.3 (document TRANS/WP29/78/Rev1 as amended)

The inspection shall cover at least the items listed below, provided that these are related to the obligatory equipment of the vehicle being tested in the country applying this recommendation.

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.

MINIMUM INSPECTION REQUIREMENTS

The inspection shall cover at least the items listed below.

Item	Method	Principal reasons for rejection
0. IDENTIFICATION OF THE VEHICLE		
0.1. Registration number plates (if required by regulations) 2/	Visual inspection	*(a)* Number plate(s) missing or so insecure 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 / serial number	Visual inspection	*(a)* Missing or can not be found. *(b)* Incomplete, illegible. *(c)* Not in accordance with vehicle documents or records.
1. BRAKING EQUIPMENT		
1.1. Mechanical condition and operation		
1.1.1. Service brake pedal pivot	Visual inspection of the components while the braking system is operated. *Note*: Vehicles with power-assisted braking systems should be inspected with the engine switched off.	*(a)* Pivot too tight. *(b)* Bearing worn. *(c)* Excessive wear or play.
1.1.2. Pedal 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. *(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 regulations. 2/ *(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.

2/ 'regulations' means the relevant national or international requirements specified in national legislation.

Item	Method	Principal reasons for rejection
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)* Malfunction of control valve. *(c)* Control insecure on valve or valve insecure. *(d)* Loose connections or leaks in system. *(e)* Unsatisfactory operation.
1.1.6. Parking brake, lever control, parking brake ratchet	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.
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	Disconnect braking system coupling between towing vehicle and trailer.	*(a)* Tap or self sealing valve defective. *(b)* Tap or valve insecure or inadequately mounted. *(c)* Excessive leaks.
1.1.9. Energy storage reservoir pressure tank	Visual inspection.	*(a)* Tank damaged, corroded or leaking. *(b)* Drain device inoperative. *(c)* Tank insecure or inadequately mounted.
1.1.10. Brake servo units, master cylinder (hydraulic systems)	Visual inspection of the components while the braking system is operated.	*(a)* Defective or ineffective servo unit. *(b)* Master cylinder defective or leaking. *(c)* Master cylinder insecure. *(d)* Insufficient brake fluid. *(e)* Master cylinder reservoir cap missing. *(f)* Brake fluid warning light illuminated or defective. *(g)* Incorrect functioning of brake fluid level warning device.
1.1.11. Rigid brake pipes	Visual inspection of the components while the braking system is operated.	*(a)* Risk of failure or fracture. *(b)* Pipes or connections leaking. *(c)* Pipes damaged or excessively corroded. *(d)* Pipes misplaced.

Item	Method	Principal reasons for rejection
1.1.12. Flexible brake hoses	Visual inspection of the components while the braking system is operated.	*(a)* Risk of failure or fracture. *(b)* Hoses damaged, chafing, twisted or too short *(c)* Hoses or connections leaking. *(d)* Hoses bulging under pressure. *(e)* Hoses porous.
1.1.13. Brake linings and pads	Visual inspection.	*(a)* Lining or pad excessively worn. *(b)* Lining or pad contaminated (oil, grease etc.).
1.1.14. Brake drums, brake discs	Visual inspection.	*(a)* Drum or disk excessively worn, excessively scored, cracked, insecure or fractured. *(b)* Drum or disk contaminated (oil, grease, etc.) *(c)* 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 regulations [2/]
1.1.18. Automatic 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.

Item	Method	Principal reasons for rejection
1.1.19. Endurance braking system (where fitted or required)	Visual inspection.	*(a)* Insecure connectors or mountings. *(b)* System obviously defective.
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. *(c)* Any component insecure or inadequately mounted. *(d)* Inappropriate repair or modification to any component
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 road test and/or a test on a static brake testing machine, apply the brakes progressively up to maximum effort.	*(a)* Inadequate braking effort on one or more wheel. *(b)* Braking effort from any wheel is less than 70% 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 either an indicating or recording decelerometer. For goods vehicles, the laden braking system performance should be assessed by testing the vehicle laden, by evaluation using a method based on extrapolation or by some other acceptable means.	Does not give at least the minimum figure as follows:- Category N1 - 45% Category M1, M_2 and M_3 - 50% [3/] Category N_2 and N_3 - 43% [4/] Category O_3 and O_4 - 40% [5/]

3/ 48% for vehicles not fitted with ABS or type approved before 1 October 1991
4/ 45% for vehicles registered after 1988 or from the date specified in regulations [2/] whichever is the later?
5/ 43% for semi-trailers and draw-bar trailers registered after 1988 or from the date in regulations [2/] whichever is the later.

Item	Method	Principal reasons for rejection
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)* Brake inoperative on one side. *(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% 6/ 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 axel loads.
1.4. Parking braking performance and efficiency		
1.4.1. Performance	Apply the brake during a road test with a decelerometer and/or a test on a static brake testing machine.	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
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	Visual inspection of warning device.	*(a)* Warning device malfunctioning. *(b)* Warning device shows system malfunction.

6/ $2.2 m/s^2$ for N1, N2 and N3 vehicles.

Item	Method	Principal reasons for rejection
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, rotate the steering wheel from lock to lock. Visual inspection of the operation of the steering gear.	*(a)* Roughness in operation of gear. *(b)* Sector shaft twisted or splines worn. *(c)* Excessive wear in sector shaft. *(d)* Excessive "end float" of sector shaft. *(e)* Leaking.
2.1.2. Steering gear casing attachment	With vehicle on a pit or hoist and the weight of the vehicle road wheels on the ground, rotate steering wheel clock-wise and anticlockwise or using a specially adapted wheel play detector. Visual inspection of the attachment of gear casing to chassis.	*(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.	*(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, rotate steering wheel from lock to lock. Visual inspection of movement of linkages.	*(a)* Moving steering linkage fouling a fixed part of chassis. *(b)* Steering stops not operating.
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.	*(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 and column		
2.2.1. Steering wheel 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.	*(a)* Relative movement between steering wheel and column indicating looseness. *(b)* Absence of retaining device on steering wheel hub. *(c)* Fracture or looseness of steering wheel hub, rim or spokes.

Item	Method	Principal reasons for rejection
2.2.2. Steering column	With the vehicle over a pit or on a hoist and the mass of the vehicle on the ground, push and pull the steering wheel in line with column, push steering wheel in various directions at right angles to the column. Visual inspection of play, and condition of flexible couplings or universal joints.	*(a)* Excessive movement of centre of steering wheel up or down. *(b)* Excessive movement of top of column radially from axis of column. *(c)* Deteriorated flexible coupling. *(d)* Attachment defective.
2.3. 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 regulations.[2/]
2.4. Wheel alignment (X) [7/]	Check alignment of steered wheels with suitable equipment.	Alignment not in accordance with vehicle manufacturer's data or regulations. [2/]
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.
3. VISIBILITY		
3.1. Field of vision	Visual inspection from driving seat.	Obstruction (including reflecting or tinted film) 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 that does not comply with specifications in the regulations. [2/] *(c)* Glass or transparent panel in unacceptable condition.
3.3. Rear-view mirrors	Visual inspection.	*(a)* Mirror missing or not fitted according to the regulations. [2/] *(b)* A mirror not giving an adequate view to the rear. *(c)* Mirror damaged, loose or insecure.
3.4. Windscreen wipers	Visual inspection and by operation.	*(a)* Wipers not operating *(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) [7/]	Visual inspection and by operation.	System inoperative or obviously defective.

7/ '(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.

Item	Method	Principal reasons for rejection
4. LAMPS, REFLECTORS AND ELECTRICAL EQUIPMENT		
4.1. Headlamps		
4.1.1. Condition and operation	Visual inspection and by operation.	*(a)* Defective light source. *(b)* Defective lens. *(c)* Lamp not securely attached.
4.1.2. Alignment	Determine the horizontal and vertical aim of each headlamp on both main and dipped beam using a headlamp aiming device.	Aim of a headlamp not within limits laid down in the regulations. 2/
4.1.3. Switching	Visual inspection and by operation.	*(a)* Number of headlamps illuminated at the same time not in accordance with the regulations. 2/ *(b)* Function of control device impaired.
4.1.4. Compliance with regulations 2/ (X) 7/	Visual inspection and by operation.	*(a)* Lamp, emitted colour, position or intensity not in accordance with the regulations. 2/ *(b)* Products on lens or light source which reduce light intensity or change emitted colour.
4.1.5. Levelling devices (where mandatory) (X) 7/	Visual inspection and by operation.	*(a)* Device not operating. *(b)* Manual device cannot be operated from driver's seat.
4.1.6. Headlamp washers (where mandatory) (X) 7/	Visual inspection and by operation.	Washer not operating.
4.2. 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.
4.2.2. Compliance with regulations 2/	Visual inspection and by operation.	*(a)* Lamp, emitted colour, position or intensity not in accordance with the regulations. 2/ *(b)* Products on lens or light source which reduce light intensity or change emitted colour. *(c)* Switch does not operate in accordance with the regulations. 2/
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. Compliance with regulations 2/	Visual inspection and by operation.	*(a)* Lamp, emitted colour, position or intensity not in accordance with the regulations. 2/ *(b)* Switch does not operate in accordance with the regulations. 2/

Item	Method	Principal reasons for rejection
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. Compliance with regulations 2/	Visual inspection and by operation.	Lamp, emitted colour, position or intensity not in accordance with the regulations. 2/
4.4.3. Switching	Visual inspection and by operation.	Switch does not operate in accordance with the regulations. 2/
4.4.4. Flashing frequency	Visual inspection and by operation.	Rate of flashing not in accordance with the regulations. 2/
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. *(d)* Front fog lamp out of alignment
4.5.2. Compliance with regulations 2/	Visual inspection and by operation.	*(a)* Lamp, emitted colour, position or intensity not in accordance with the regulations. 2/ *(b)* System does not operate in accordance with the regulations. 2/
4.6. Reversing lamps (X) 7/		
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 regulations 2/	Visual inspection and by operation.	*(a)* Lamp, emitted colour, position or intensity not in accordance with the regulations. 2/ *(b)* System does not operate in accordance with the regulations. 2/
4.7. Rear registration plate lamp		
4.7.1. Condition and operation	Visual inspection and by operation.	*(a)* Lamp throwing light to the rear. *(b)* Defective light source. *(c)* Lamp not securely attached.
4.7.2. Compliance with regulations 2/	Visual inspection and by operation.	System does not operate in accordance with the regulations. 2/
4.8. Retro-reflectors, side reflectors 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 regulations 2/	Visual inspection.	Not in accordance with the regulations. 2/
4.9. Tell-tales		
4.9.1. Condition and operation	Visual inspection and by operation.	Not operating.

Item	Method	Principal reasons for rejection
4.9.2. Compliance with regulations [2/]	Visual inspection and by operation.	Not in accordance with the regulations. [2/]
4.10. Electrical connections between towing vehicle and trailer or semi-trailer	Visual inspection: if possible examine the electrical continuity between the vehicles.	*(a)* Fixed components not securely attached. *(b)* Damaged or deteriorated insulation. *(c)* Trailer or towing vehicle electrical connections not functioning correctly.
4.11. Electrical wiring	Visual inspection with vehicle over a pit or on a hoist, including in the engine compartment in some cases.	*(a)* Wiring insecure or not adequately secured. *(b)* Damaged or deteriorated insulation.
4.12. Non obligatory lamps (X) [7/]	Visual inspection and by operation.	*(a)* A lamp fitted not in accordance with the regulations. [2/] *(b)* Lamp operation not in accordance with the regulations. [2/] *(c)* Total intensity (including headlamps) not in accordance with the regulations. [2/] *(d)* Lamp not securely attached.
4.13. Battery	Visual inspection.	*(a)* Insecure. *(b)* Leaking. *(c)* Defective switch (if required). *(d)* Defective fuses (if required).
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	Principal reasons for rejection
5.2. Wheels and tyres		
5.2.1. Road wheel hub	Visual inspection.	Any wheel nuts or studs missing or loose.
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. *(d)* Wheel size or type not in accordance with the regulations. [2/]
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 or speed rating not in accordance with the regulations. [2/] *(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 regulations. [2/] *(f)* Tyre rubbing against other components. *(g)* Re-grooved tyres not in accordance with regulations [2/].
5.3. Suspension		
5.3.1. Springs	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.
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.
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

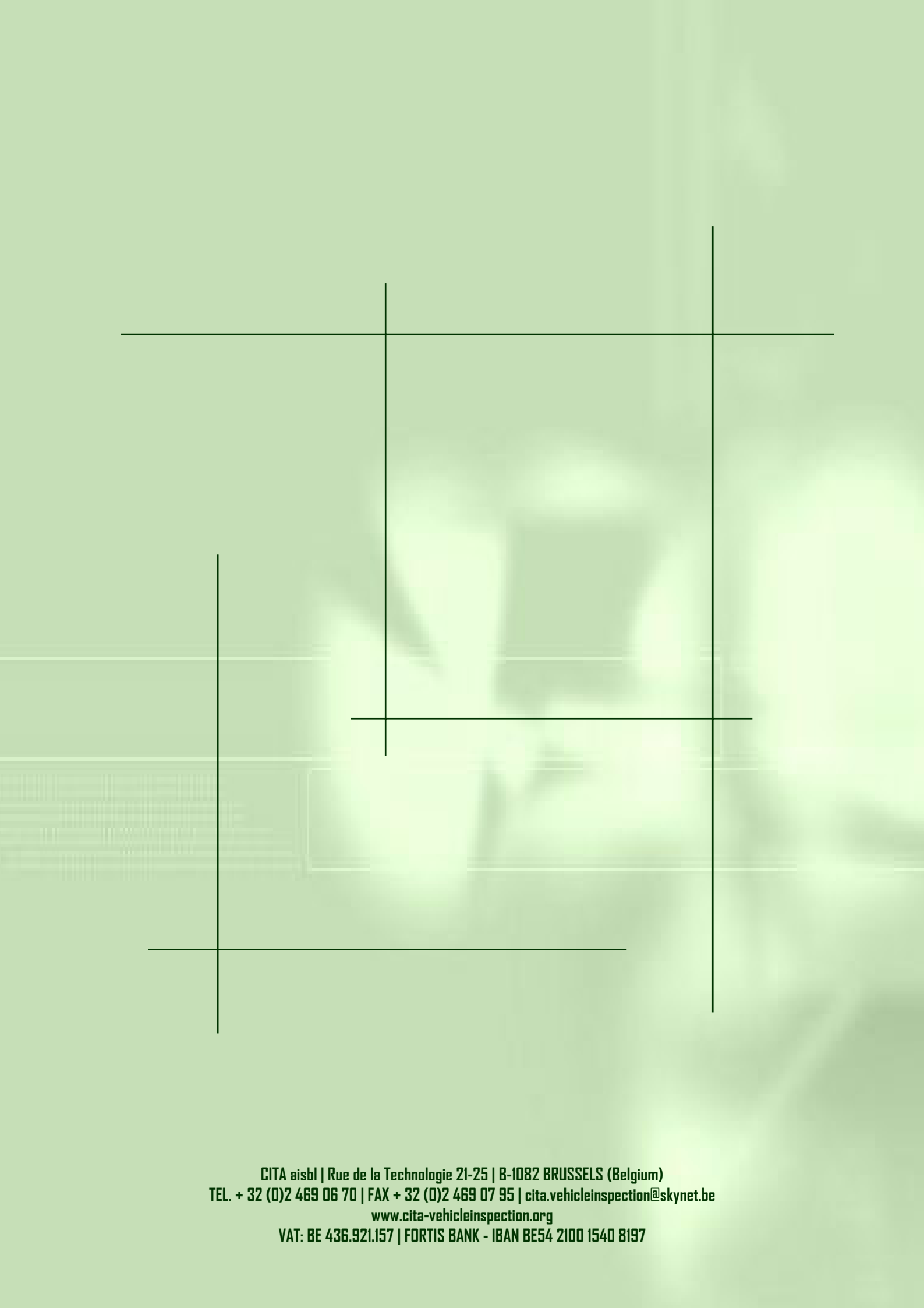
Item	Method	Principal reasons for rejection
6. CHASSIS AND CHASSIS ATTACHMENTS		
6.1. Chassis or frame and attachments		
6.1.1. General condition	Visual inspection with vehicle over a pit or on a hoist.	*(a)* Fracture or deformation of any side or cross member. *(b)* Insecurity of strengthening plates 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.	*(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 system not in accordance with regulations [2/].
6.1.4. Bumpers, lateral protection and rear underrun devices	Visual inspection.	*(a)* Looseness or damage likely to cause injury. *(b)* Device obviously not in compliance with the regulations. [2/]
6.1.5. Spare wheel carrier (if fitted)	Visual inspection.	*(a)* Carrier fractured or insecure. *(b)* A spare wheel not securely fixed in carrier.
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)* 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.

Item	Method	Principal reasons for rejection
6.1.8. Engine mountings	Visual inspection not necessarily on a pit or hoist.	Deteriorated, loose or fractured mountings.
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)* Leaks 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.
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 regulations [2/]
6.2.7. Driving controls	Visual inspection and by operation.	*(a)* Any control necessary for the safe operation of the vehicle not in good working order. *(b)* Any control necessary for the safe operation of the vehicle which does not carry out the function for which it is provided.
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 regulations. [2/] *(c)* Leaking hydraulic equipment
6.2.10. Mudguards (wings), spray suppression devices	Visual inspection.	*(a)* Missing, loose or badly corroded. *(b)* Insufficient clearance for road wheel. *(c)* Not in accordance with the regulations. [2/]

Item	Method	Principal reasons for rejection
7. OTHER EQUIPMENT		
7.1. Safety-belts/buckles		
7.1.1. Security of mounting	Visual inspection.	Anchorage point badly deteriorated.
7.1.2. Condition.	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 regulations. [2/] *(d)* Safety-belt buckle damaged or not functioning correctly. *(e)* Safety-belt retractor damaged or not functioning correctly.
7.2. Fire extinguisher (X) [7/]	Visual inspection.	*(a)* Missing. *(b)* Not in accordance with the regulations. [2/]
7.3. Locks and anti-theft device (X) [7/]	Visual inspection and by operation	Device not functioning to prevent vehicle being driven.
7.4. Warning triangle (if required)(X) [7/]	Visual inspection.	*(a)* Missing or incomplete. *(b)* Not in accordance with the regulations. [2/]
7.5. First aid kit. (if required)(X) [7/]	Visual inspection.	Missing, incomplete or not in accordance with the regulations. [2/]
7.6. Wheel chocks (wedges) (if required) (X) [7/]	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 regulations. [2/]
7.8. Speedometer	Visual inspection or by operation during road test.	*(a)* Not fitted in accordance with the regulations. [2/] *(b)* Not operational. *(c)* Not capable of being illuminated.
7.9. Tachograph (if required)	Visual inspection.	*(a)* Not fitted in accordance with the regulations. [2/] *(b)* Not operational. *(c)* Defective or missing seals. *(d)* Calibration plaque missing, illegible or out of date. *(e)* Obvious tampering or manipulation.
7.10. Speed limitation device (if required)	Visual inspection and by operation if equipment available.	*(a)* Not fitted in accordance with the regulations. [2/] *(b)* Not operational. *(c)* Incorrect set speed (if checked) *(d)* Defective or missing seals. *(e)* Calibration plaque missing, illegible or out of date.

Item	Method	Principal reasons for rejection
8. NUISANCE		
8.1. Noise		
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 regulations; *(b)* Severe exhaust gas leak; *(c)* Any part of the noise suppression system loose, damaged, incorrectly fitted, missing or obviously modified in a way that would significantly affect the noise levels.
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 or obviously defective. *(b)* Leaks which would affect emission measurements
8.2.1.2 Gaseous emissions	Measurement using an exhaust gas analyser in accordance with the regulations [2/]. Alternatively, for vehicles equipped with suitable on-board diagnostic systems, the proper functioning of the emission system can bee checked by appropriate reading the OBD device and checks on the proper functioning of the OBD system in place of some of the emission measurements in accordance with the regulations [2/]	*(a)* Either, gaseous emissions exceed the specific levels given by the manufacturer; *(b)* Or, if this information is not available, the **CO** emissions exceed, (1) for vehicles **not** controlled by an advanced emission control system, - 4.5%, or - 3.5% according to the date of first registration or use specified in regulations [2/] (2) for vehicles controlled by an advanced emission control system, - at engine idle: 0.5% - at high idle: 0.3% or - at engine idle: 0.3% - at high idle: 0.2% according to the date of first registration or use specified in regulations [2/] *(c)* Lambda outside the range 1± 0.03 or in accordance with the manufacturer's specification

Item	Method	Principal reasons for rejection
8.2.2 Diesel engine emissions		
8.2.2.1 Exhaust emission control equipment	Visual inspection	*(a)* Emission control equipment fitted by the manufacturer absent or obviously defective. *(b)* Leaks which would affect emission measurements
8.2.2.2 Opacity	Measurement during free acceleration using an opacity meter in accordance with the regulations 2/	*(a)* For vehicles registered or put into service for the first time after the date specified in regulations 2/ , · opacity exceeds the level recorded on the manufacturer's plate on the vehicle; *(b)* Where this information is not available or regulations 2/ do not allow the use of reference values, - for naturally aspirated engines: 2.5 m^{-1} , - for turbo-charged engines: 3.0 m^{-1}, or, for vehicles identified in regulations 1/ or first registered or put into service for the first time after the date specified in regulation 2/, - 1.5 m^{-1}.
8.3 Electromagnetic interference suppression		
Radio-interference	Visual examination.	Any requirements of the regulations 2/ not met.
8.4 Other items related to the environment		
Fluid leaks	Visual examination	Any excessive fluid leak likely to harm the environment.



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