INTRODUCTION

The purpose of this manual is to give guidelines to Local Authority Authorised Officers for the appointment of Authorised Testers.

Authorised Testers will be required to roadworthiness test all light and heavy goods vehicles, trailers over 3.5 tonnes D.G.V.W., buses with more than eight seats and ambulances.

A lane separate from the H.G.V. lane will be required for light commercials with a gross vehicle weight up to 3.5 tonnes D.G.V.W.

Authorised Officers should not appoint Authorised Testers unless and until they are satisfied that all the requirements in this manual have been met.

Section A deals with the requirements for the testing of H.G.V., trailers, buses and ambulances.

Section B deals with the requirements for the testing of light goods vehicles with a D.G.V.W. up to 3.5 tonnes.
SECTION A

GUIDELINES FOR PREMISES AND EQUIPMENT FOR THE TESTING OF GOODS VEHICLES AND TRAILERS WITH A D.G.V.W. OVER 3.5 TONNES, BUSES WITH MORE THAN 8 SEATS AND AMBULANCES

Department of Transport
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VEHICLE TESTING

GUIDELINES FOR PREMISES AND EQUIPMENT

1. Premises

The testing area, should be contained within premises that are permanent, fully weather proof, with concrete floors and adequate lighting. The test lane should be dedicated to vehicle testing and be separate from other workshop activities. The headroom of the testing area and the entrance height should be a minimum of 5.3m with a minimum entrance width of 4.25m. The overall length of the premises should be at least 25m with an internal width of 6m. The design should be such that vehicles can drive in one end of the test lane and out the opposite end.

It is desirable that sufficient concreted or similar surfaced parking space be available to accommodate any vehicles awaiting tests. The parking and the general area needed for movement of vehicles for tests should be arranged so that there is no undue obstruction. There should be an unobstructed access via a concrete or similar surfaced driveway from the site entrance to the test bay building entrance and from the test bay exit to the site exit.

It must be possible to drive with ease each of the vehicles in the category to be tested from the site entrance through the test lane and to the site exit in one movement.

The testing area should not be unreasonably subjected to oil contamination, smoke, noise or other pollution from adjacent facilities.

The door and front of each bay shall display the colours and logo of the test network. The colouring shall be the full width of the bays including the door pillars and shall extent upwards to the top of the building or 1.5M whichever is the lesser. The orange colour must be to ref. Pantone 158.

A sign post guiding customers to the test centre must be provided and shall display the colours and logo of the test network. Examples of the above requirements are given in Appendix 5.

The issuing authority may consider a premises as suitable for testing even though it does not comply fully with the measurements referred to in these guidelines.

2. Test Facilities - General

The Authorised Tester will be responsible for ensuring that the premises and equipment comply with the relevant Acts, Regulations, Bye-laws, Health, Safety and Welfare requirements, Health and Safety at Work Requirements.

The floor area of the test lane should be painted or otherwise to facilitate easy cleaning. Channels should be provided along the test lane to facilitate washing of the test area.

An appropriate exhaust emissions extraction system must be installed and should as far as practicable be attached to all vehicles when the engine is running.

The level of illumination and the evenness of distribution should be adequate for inspection work to be carried out with ease.

An office should be provided on the premises. There should be a lockable desk, a chair, a telephone nearby and a security lockable steel safe for the safe custody of test documentation. The scale of these facilities may be less at sites with small throughputs.

A customer waiting room separated from the office and test lane but with a view of the test lane should be provided. Facilities should include a public telephone and coffee machine. Toilets, adjacent to the waiting
room dedicated to vehicle owners must be provided. The toilets should comply with the Health and Safety requirements. Appendix 2 lists the equipment required for testing purposes.

3. **Testing Facilities**

The testing operations subdivide into the following stages:

- External inspection
- Internal inspection
- Underside inspection
- Lighting and headlamp aim
- Brake testing

As a general requirement, the testing equipment should be easily accessible to the entrance of the test lane so that the inspection can be carried out in sequence. This means that the equipment should be positioned in the building so that access to it is unlikely to be obstructed by other vehicles on the premises.

4. **External Inspection Stage**

The provision for external inspection should be fully under cover and of a minimum length to accommodate a maximum length truck / trailer combination and allow ample space at the front and back. Width should be a minimum of 6.0 m and should be clear of obstruction. The level of illumination falling on the sides of the vehicle must be adequate for inspection purposes at all levels.

**Air Pressure Gauges**
Air pressure gauges must be available to establish the pressure in the susy brake connections to the trailer/semitrailer.

**Steering Side Slip Plate**
A steering side slip plate shall be fitted in the test lane prior to the underbody inspection and a level length of 12m available before and after the centre point of the side slip plate.

**Fifth Wheel Pin**
An unworn fifth wheel pin must be available in order to establish the wear in the fifth wheel of tractor units.

**Gauge for measuring Trailer King Pin**
A gauge shall be available for accurately measuring the wear in trailer king pins.

**Test Plug**
A test plug is required to check the electrical circuits of trailers fitted with ABS/EBS brake systems.

**Diesel Smoke Meter**
A diesel smoke meter is required to check the exhaust emissions of diesel engines in line with EU Directive 96/96.

**Exhaust Emissions Gas Analyser**
An exhaust emissions gas analyser is required to check the exhaust emissions of petrol engined vehicles in line with EU Directive 96/96.

5. **Internal Inspection Stage**

**Speed Limiter Tester**
An instrument must be available to check the speed at which the speed limiter is set.
6. **Underside Inspection Stage - Pit (Goods Vehicles, Trailers and Semi-trailers, passenger vehicles with seating accommodation for more than 8 passengers and ambulances)**

**Pit**
The pit should be well lit, dry and painted in a light colour or tiled. It should be free from oil deposits, water, or combustion hazards. The clear unobstructed working length of the pit should be at least 20 m exclusive of any access steps, ladders etc. There should be at least one means of easy access either by stair case at one end of the pit or by a cross tunnel, and also adequate escape facilities either at the ends of the pit or along the length. It is recommended that the working depth of the pit be between 1.37 m and 1.62 m. The working width should be such that the wheels of all vehicles within the category being tested may be accommodated on firm standing. For guidance a width between 0.850m and 1.00m is recommended.

There should be an effective low voltage hand lamp provided.

Jacking facilities shall be a power operated jack, on a trolley platform able to move an appropriate distance along the pit. A jacking bridge on a joist should be stable both longitudinally and transversely and arranged so as to ensure there is no possibility of the jack falling down or tipping over.

Wheel-play (check wear) detectors should be installed on each side of the pit at the point where the jack will be used and must be controlled by a portable hand control at this point.

**ALL VEHICLES**

7. **Lighting and Headlamp Aim Stage**

The area where the vehicle stands for headlamp aim testing shall be a minimum of 4 m wide and 14 m long. A 10m x 4m section of this area shall comply with the floor and rail standards set out in the Irish Standard for Headlamp Aim Test Equipment and Floor Area Requirements. This may be reduced to 10m x 3m where a pit forms part of the headlamp test area. The standing area should be marked out with continuous white or yellow lines. These lines will not be required where a pit forms part of the standing area.

The headlamp aim equipment shall comply with the Irish Standard for Headlamp Aim Test Equipment.

8. **Brake Testing Stage**

**Brake Testing Static**

A roller type brake tester should be set in the floor and a level length of 12 m available before and after the lateral centre line of the machine’s rollers.

Roller brake tester installations on the pit will be accepted where the examination of the vehicle underside will not be impeded such as when a vehicle is placed on the brake rollers.

Roller brake testers shall include the facilities to print out the brake test results as follows:

- Brake efficiency readings for service, secondary and parking brake
- Imbalance across each axle;
- Brake drag.

**Brake Tester Auxiliary Equipment**

In addition to the roller brake test machine itself, the following items must be available:-

(i) instructions on how to operate the roller brake tester correctly;
(ii) means of calibrating the roller brake tester machine, or as an alternative, evidence that the machine is regularly calibrated at least once a year by an outside agency will be acceptable;
(iii) means of applying a load to the axle of vehicles being tested so as to ensure that the minimum legal brake power reading may be attained (e.g. load simulator);
(iv) four wheel chocks.
Brake Tester Location
The brake tester should be located so that:

(i) vehicles can be driven onto and off the rollers without difficulty and within a reasonable time;
(ii) there must be adequate clearance to enable all the brakes on a vehicle to be tested with the vehicle facing the same direction;
(iii) the vehicle is substantially level when on the rollers; and
(iv) the machine is in a building under cover and is located not closer than 1.5 m (59 ins) to any entrance / exit by which vehicles enter or leave the building.

Brake Test – Dynamic
The roller brake tester must be the normal method used to test brakes, except for vehicles equipped with braking systems and/or transmissions where the use of a roller brake tester is not feasible. In such cases, a road test may be carried out using a decelerometer or block mounted brake testing meter with a manufacturer’s calibration certificate not more than two years old. There should be a reasonably level surface upon which a dynamic brake test may be safely carried out. This need not be under cover but should not be on the public road except under exceptional circumstances.

9. Test Information
The information captured on the side slip plate and the brake tester must be fed into a central computer system in the test lane.

10. Insurance
Local Authorities shall ensure that Authorised Testers have adequate insurance cover for vehicle testing activities. This can be confirmed with written conformation from the insurance broker.

11. Quality Control
Local Authorities must satisfy themselves that Authorised Testers have in place a quality control system. Part of this system shall include a daily, monthly audit (as per appendix 6) carried out by the service manager or a person with responsibility for Vehicle Testing. A record of these checks should be held for inspection by the Authorised Officer. Authorised Testers must obtain ISO/C.I.T.A. Recommendation No. 9 within four years of being appointed.

12. VTN Branding
All approved VTN centres will be required to undertake the following:-

(1) Placement of signs on the premises, identifying them as an approved VTN centre.
(2) Placement of directional signs, directing clients to the centre.
(3) Uniforms, featuring the VTN logo.
(4) Use official documentation when communicating with clients – letterhead, literature, reports.
(5) VTN corporate colour to be applied to areas within centres dedicated to VTN activity.

Detailed guidelines will be issued to enable test centres to comply with these requirements. These guidelines are available upon request from the Local Authority Authorised Officer for Vehicle Testing.
APPENDIX I

GUIDELINES FOR ACCEPTABLE EQUIPMENT

It should be noted that equipment used in a vehicle roadworthiness test lane will be used more extensively than equipment used for normal vehicle servicing and therefore equipment manufacturers must consider whether or not their equipment is robust enough for vehicle roadworthiness testing purposes.

1. Inspection Hand Lamp and Communication System for the Pit

   The lamp must be of a low voltage type in line with Section 41 (3) of S.I. 44 of 1993 issued by the Department of Labour and S.I. 188 of 2001. Portable rechargeable light units would also be acceptable.

   The lamp may incorporate a microphone when other provision has not been made for communication between pit personnel and the vehicle driver.

   Power shall be at least 40 watts and the exterior of the lamp shall be protected. The lamp supply lead shall be captive to a system of running eyes along a rail or cable such that the lead cannot trail either on the pit or workshop floor.

   Where a microphone is provided it is recommended that this feed into an amplifier and loudspeaker placed near to the driver’s cab for communication purposes.

2. Jacking System

   The jacking system shall be capable of lifting either one or both wheels of the axle (including low slung axles) of a vehicle for the purpose of checking the steering and wheel bearings.

   The total lifting capacity must be a minimum of 15 tonnes.

   The lift arrangement must be such as to lift vehicle wheels clear of floor level without recourse to unstable packing.

   The jacking system must be capable of lifting the axle of an independent suspension system in the position recommended by the vehicle manufacturer for checking wear in the suspension ball joints.

   The lift base of a pit jack must comply with the relevant sections of S.I. 44 referred to above and be such that the base can be moved along the pit.

   The power jacking system provided must be silenced so as to meet Health and Safety Authority requirements and any exhaust must be filtered or arranged to prevent oil deposition. Jacks must be suitable for use on beam axles and independent suspension systems.

3. Optical Headlamp Testing Apparatus must be:-

   Rail mounted and certified by a competent person as meeting the requirements of the Irish Standard for Head Lamp Aim Test Equipment and Floor Area Requirements with an additional requirement that the headlamp aim tester screen be capable of reading values as low as -4%.

4. Roller Brake Testers (RBT)

   The Roller Brake Tester (RBT) shall consist of a pair of roller sets mounted in the ground, or within a raised floor, with a separate display console. The RBT shall be safe to use, robustly constructed to acceptable engineering standards and suitable for brake testing of H.G.Vs.

   It must be capable of weighing each axle of the vehicle as presented and of measuring brake performance against
(a) G.V.W. weight using axle load simulation (present system),
(b) Air pressure applied using signals from sensors fitted to the axle (extrapolation),
(c) EU type approval brake curves.
(d) Brake reference values (values supplied by vehicle manufacturer).

Roller Set
The roller sets shall have:

(a) a means of preventing either roller set operating unless a wheel is correctly located in it.  
   **Note:** Except following calibration.
(b) a means of stopping both sets of rollers from a position within the pit in an emergency.
(c) the ability to be driven independently or simultaneously by the use of suitable controls.
(d) a means of manually stopping either or both roller sets.
(e) An automatic means of stopping either roller set individually when the tyre to roller slip reaches a pre-set limit in the range 20 to 30%.

To ensure that the slip value remains constant throughout the full range of brake force, and if variations occur in the power supply, the means of stopping the roller set shall include actual measurement of the speed of the sensing roller and the speed of the motor/drive roller train.

   **Note 1:** A tyre to roller slip of 20% is when the surface speed of the vehicle wheel equals 80% of the surface speed of the RBT rollers.

   **Note 2:** When both roller sets are in use and one wheel locks, only the relevant roller set should stop.

(f) The capability of accepting an axle load of 15,000 kg.
(g) A clear durable marking showing the normal forward ‘drive-on’ direction of the RBT.
(h) No part protruding more than 100 mm above the floor surface.

If a cross-pit RBT is offered, a suitable protection device shall be installed to prevent the rollers from being started when a person is in the pit within reaching distance of the RBT.

Rollers
The rollers shall have:

(a) a surface that is durable and not likely to cause undue tyre damage.
(b) A roller to tyre co-efficient of friction of not less than 60% in wet conditions.
(c) The following dimensions:
   (i) minimum diameter 200 mm
   (ii) not greater than 500 mm between roller centres
   (iii) not greater than 880 mm between inner ends of the high friction surfaces of the left and right rollers.
   (iv) not less than 2600 mm between outer ends of the high friction surfaces of the left and right rollers.
   (v) (when running) a constant surface speed in the range 2 to 5.5 km/h.

   **Note 1:** The speed of the rollers shall remain within the specified range throughout the full range of brake force.

   **Note 2:** In determining the distance between inner ends of the high friction surfaces of the left and right rollers, account must be taken of the categories of vehicles to be tested.

Brake Force Display
The brake force display shall:

(a) indicate in units of kilogram force (kgf).
(b) Indicate the brake force individually for each wheel on an axle.
(c) Be analogue and sufficiently sensitive to show the variations in brake force caused by excessive drum ovality or disc runout.
(d) If a VDU is used, include an additional digital display of brake force which shall be of a size that is readable from the vehicle driving position.

   **Note:** If the brake force is displayed on traditional dials, an additional digital display of brake force is required.
(e) Have the means to display brake force values over two ranges:
   (i) low range – max brake force value in the range 600 to 800 kgf
   (ii) high range – max brake force value in the range 3500 to 4000 kgf

(f) be marked with graduations of not greater than:
   (i) 10 kgf from zero up to and including 240 kgf.
   (ii) 20 kgf from 240 kgf up to and including 800 kgf.
   (iii) 50 kgf from 800 kgf and above.

Note: If a VDU is used, a more relaxed requirement can be applied to the analogue scale provided that the digital scale exceeds the above requirement.

(g) indicate individually for each roller set when a wheel lock occurs.

(h) retain the maximum brake force values until either the indication is manually reset or the rollers are re-started.

User Controls

Note: AUTOMATIC operation of a RBT is NOT permitted.

The user controls shall be:

(a) manually operated.
(b) suitably identified in English or with acceptable symbols.
(c) capable of starting the roller sets independently or simultaneously.
(d) capable of stopping the roller sets.
(e) capable of being operated from the vehicle driving seat by remote control.

If the remote control unit is not hard-wired:

(f) suitable secondary operating controls shall be available on the console, or equivalent.

(g) the unit shall be resistant to spurious signals from other sources.

(h) a system shall be in place to ensure that each unit is dedicated to operate only one RBT when two or more are used in close proximity.
   (i) provision for safe storage shall be provided for the remote control unit when not in use.

In addition, there shall be:

(j) a visual indication for the user on the display console showing:
   (i) when each roller set is in operation, and
   (ii) if the RBT has a bi-directional facility, whether the roller sets are operating in ‘forward’ or ‘reverse’ direction.

(k) a durable notice stating ‘RBT shall NOT be used in automatic mode for vehicle testing if the RBT is equipped with an automatic facility’.

Brake Efficiency and Imbalance

There shall be a satisfactory means available for either the user to calculate or for the RBT to display the value of:

(a) brake efficiency, calculated from the total brake force and expressed as a percentage of the design gross vehicle weight (as specified by the vehicle manufacturer) and imbalance of brake force between the left and right wheels on an axle, expressed as a percentage of the higher brake force.

If the RBT is equipped with a device for indicating maximum brake imbalance it shall:

(i) be inhibited when both left and right brake forces are 40 kgf or less,
(ii) function when one or both brake forces exceed 40 kgf and one brake force is less than 70% of the other, and display the numerical difference between left and right brake forces as a percentage of the higher brake force, i.e.

\[
\text{Imbalance} (\%) = \frac{\text{high force} - \text{low force}}{\text{High Force}} \times 100.
\]
**Calibration**
A means of calibrating the brake tester shall be available and the RBT display shall be capable of showing negative numbers close to zero.

The applicant shall provide an assurance that a system is in place to ensure all of its calibration devices used for the subject RBT are checked and certified by an accredited organisation in accordance with their requirements.

**Brake Force Measurement**
The calibration equipment shall:

(a) be capable of checking brake force accuracy at the following values:
- low range: 0, 100, 200, 400 and 600/800 kgf
- high range: 0, 1200/1500, 2000/2500 and 3500/4000 kgf

**Note 1:** If the brake force measurement is displayed on traditional dials, the accuracy of the calibration shall be assessed via the dials and not from any secondary means.

**Note 2:** If the brake force measurement is displayed on a VDU, the accuracy of the brake force measurement shall be judged against the digital values.

(b) have a method and operational accuracy that is traceable to a national physical standard.
(c) be certified by a NSAI accredited laboratory, or an equivalent European laboratory, that the whole calibration device is traceable to a national physical standard.

**Note 1:** All component parts of the calibration device, including any weights, shall be individually marked with an identity number to enable all parts to be kept together as a set. The certificate shall relate to the set and each calibration device produced shall require its own certificate.

**Note 2:** If the certificate or any other relevant document produced for the calibration device is not in English, the applicant shall make available a translation into English.

**Note 3:** When the static calibration has been completed, to assess the level of torque required to rotate the RBT drive train mechanism, including any unexpected cause of increased friction such as a failing roller bearing, the following test shall be carried out:

With the RBT in ‘calibration mode’ and with NO vehicle in the rollers, the rollers shall be rotated and the brake force displayed shall not exceed 50 kgf.

**Accuracy**
The RBT brake force readings shall be accurate to within:

- +/-3 kgf of the true value from zero up to and including 100 kgf.
- +/-3 per cent of the true value for all readings above 100 kgf.

The RBT brake force calibration device shall be accurate to within:

- +/-0.3 kgf of the true value from zero up to and including 100 kgf.
- +/-0.3 per cent of the true value for all readings above 100 kgf.

**Instruction Manual**
A comprehensive Instruction Manual shall be supplied with each RBT. The Instruction Manual shall:

(a) be written in English.
(b) Explain how to operate the RBT, including the function of each control and how to interpret the results.
(c) Detail how to use the RBT to carry out a brake performance test and make reference to the need to follow the brake test procedures detailed in the latest version of the relevant Vehicle Testers Manual.
(d) Detail the procedure for calibrating the RBT.

**Identification**
The RBT shall be marked with a durable identification on the exterior of the control console, or equivalent, showing the make, model and serial number.

**Maintenance**
The roller brake tester must be so designed and so mounted in its location pit as to enable easy access for regular maintenance and the replacement and repair of parts.
5. **Load Simulation**

Each roller brake tester should be fitted with an axle load simulator capable of applying a load of at least 8 tonnes to the axles of a vehicle or trailer. The load simulation must be designed or approved by the roller brake tester manufacturer.

6. **Air Brake Pressure Gauges**

Pressure gauges should be provided, suitable for connection to the "susie" connections of vehicles used as the drawing component in vehicle combinations. These gauges shall be capable of registering pressures up to 12 bar and be provided with a yearly certificate of calibration.

Air pressure gauges must also be available to establish the operating pressure of load sensing valves with facilities to bypass load sensing valves when necessary to apply higher air pressure to the axles.

7. **Wheel Play Detectors**

Wheel play detectors consisting of two plates, one each side of the pit are required and shall be of such size and distance apart that they can safely accommodate the tyres of vehicles in the category to be tested.

The means of operating the plates should be capable of control from the pit such that, at the same time, the wheels on either side of the vehicle can be closely inspected (e.g. by a portable type hand control). Any air or hydraulic supply must be filtered to ensure detector reliability and an air exhaust must be filtered to avoid excessive exhaust oil depositions.

8. **Exhaust Emissions Gas Analyser**

Where vehicles with spark ignition engines are inspected a four gas analyser is required. Analysers must meet the requirements of OIML class O.

9. **Diesel Smoke Meter**

When vehicles with compression ignition engines are inspected, a smoke meter shall be provided capable of measuring smoke opacity as per the requirements of EU Directive 96/96.

Smoke meters shall meet the Vehicle Inspectorate (Great Britain) specifications for smoke meters dated 2003 (or current standard at time of purchase) MOT – 05 – 01 – 01 Revision 2, 2003 or an equivalent standard by the appropriate authority of another Member State of the European Union.

Means shall be provided to enable the accuracy of the smoke meter to be quickly checked.

10. **Steering Side Slip Plate**

Side slip plate capable of accurately measuring the geometry of front and rear axles of vehicles with axle loads up to 15 tons. The side slip to be measured shall be between 0-20m/km. The side slip plate shall be of a type approved by the appropriate authority of a Member State of the European Union.

11. **Decelerometer**

A block mounted brake testing meter or decelerometer must be available for brake tests on vehicles where the use of a roller brake tester is not appropriate. This is required to be calibrated at least every two years.

12. **Fifth Wheel Pin Test**

A new fifth wheel trailer pin fitted with an extension T/bar approximately 2 m long shall be available for checking wear in fifth wheel assemblies.
13. **Speed Limiter**

An approved instrument shall be provided to check the settings of vehicle speed limitation devices. Such instruments must comply with Annex A of the UK Vehicle Inspectorate Standard for Simulator for Checking of Speed Limiter Settings.

14. **Gauge for Measuring Trailer Kingpin Wear**

A gauge should be provided for measuring wear of up to 3 mm in trailer kingpins. A micrometer or vernier gauge would be acceptable.

15. **Tyre Tread Depth Gauges**

Tyre Tread depth gauge must be provided.

16. **Tyre Inflation Equipment**

Tyre inflation equipment capable of achieving 8.2 bar (120 p.s.i.) must be available on the site.

17. **Records of Tests**

Inspection records must be submitted electronically each month in a program approved by the Department of Transport.

18. **Test Plug**

Test plug for checking ABS/EBS warning light systems on trailers.

19. **Miscellaneous**

Adjacent to test area a clean work-top is required for tester’s paper work.

Any tools and inspection aids as may be specified from time to time by the issuing authority.
APPENDIX 2

Test Equipment Required for Department of Transport

Heavy Goods Vehicle Test Scheme

1. Low voltage inspection lamp
2. 15 tonnes jacking system with appropriate extensions and saddles
3. Headlamp aim tester
4. Heavy goods vehicle roller brake tester
5. Axle load simulator
6. Air brake pressure gauges
7. Pinch bar (1 meter long)
8. Four gas exhaust emissions analyser
9. Diesel smoke meter
10. Steering Side Slip Plate
11. Decelerometer
12. Fifthwheel measuring (or test) pin
13. An instrument for checking accurately the speed setting of a speed limiter
14. Tool for measuring trailer kingpin
15. Tyre tread depth gauge
16. Tyre inflation equipment
17. Calculator
18. Wheel Chocks
19. Wheel Play Detectors
20. Test plug for checking ABS/EBS warning light systems on trailers
APPENDIX 3

Documentation Required for Test Equipment for Department of Transport Heavy Goods Vehicle Test Scheme

1. **Roller Brake Tester**
   
   (a) Written declaration from manufacturer that the brake tester meets the required specification.
   
   (b) Current calibration certificate.

2. **Decelerometer**

   Current Calibration certificate.

3. **Air Pressure Gauge**

   Current Calibration certificate.

4. **Jacking Beam**

   Written declaration from manufacturer that the jack and jacking beam meets the required specification.

5. **Headlamp aim test area and tester**

   Written declaration from a competent person that the headlamp aim test area conforms to the Irish Standards for Headlamp Aim Test Equipment and Floor Area Requirement. Written declaration from headlamp aim supplier that the headlamp aim tester is fitted in line with the Irish Standard for Headlamp Aim Test Equipment and Floor Area Requirement and has been calibrated in line with the headlamp tester manufacturers requirement.

6. **Four Gas Analyser**

   (a) Written declaration from manufacturer that analyser(s) meet the required specification.
   
   (b) Current Calibration certificate.

7. **Diesel Smoke Meter**

   (a) Written declaration from manufacturer that smoke meter meets the required specification.
   
   (b) Current Calibration certificate.

8. **Speed Limiter Tester**

   Declaration that speed limit meter meets the required specification.

   A comprehensive user/operator manual in English must be provided in the case of items (1), (2), (5), (6), (7), and (8).

9. **Information**

   Up to date information on Max. RPM values for diesel engines.

   ABS warning light sequence chart.

   **Note:** All Calibration Certificates must be in date.
APPENDIX 4

TEST LANE DIMENSIONS

25m

6m

20m Minimum (excluding steps)
Directional Signage

When applying the identity to directional signage, the clearzone must be observed.

FINGER POST SIGN (LEFT)
Aluminium pole set into ground with concrete. Aluminium panel spray-painted finish to corporate colours, decal text and logo applied to both sides of panel.

MONOLITH SIGN (RIGHT)
Internal stainless steel or aluminium frame work. Curved pressed aluminium panels fixed to frame, panels spray-painted finish to corporate colours. Decal text and VTN identity applied to face of panel, sign bolted to base cage. Cage sunked into ground and filled with concrete. Ground to be surveyed for base cage.

EXAMPLE
Here is an example of the fingerpost sign in use on a roundabout and a monolith at the entrance of an industrial estate.
APPENDIX 5

22 Guidelines for Premises & Equipment
APPENDIX 5

Guidelines for Premises & Equipment
APPENDIX 6
AUDIT OF TEST EQUIPMENT FOR HEAVY GOODS VEHICLES

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily</td>
<td>Weekly</td>
</tr>
<tr>
<td><strong>Premises</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean and sweep</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Pass Statements of Results</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that statements are stored in floor safe</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Roller Brake Test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check emergency controls</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check wheel slip roller operation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check wheel slip roller condition</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check roller condition</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check roller chain condition &amp; adjustment</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lubricate roller bearing and chains</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check dials are at zero</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that brake tester is secure</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean rollers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean console</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check calibration</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Load Simulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check condition of straps/chains</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition of gauge (damage)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that gauge is reading zero</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check system for oil/air leaks</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean gauge</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Pit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that pit is clean</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that pit is dry</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that pit lighting is operating</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Axle Jack</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that jack is secure within rails</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check safety features</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean equipment and rails</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check for oil or air leaks</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Grease and oil the rollers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Headlamp Tester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean Surface and screen with a soft tissue</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check and clean rails and rollers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that tester is in its place</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check calibration*</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

*This should be checked every 3 months by a competent person.
## APPENDIX 6
### AUDIT OF TEST EQUIPMENT FOR HEAVY GOODS VEHICLES CONTD.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily</td>
<td>Weekly</td>
</tr>
<tr>
<td><strong>Smoke Meter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaning as specified by manufacturer</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check cable/wire (not twisted)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean equipment on outside</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Morning-before first test linearity test</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check RPM sensor</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check temperature probe/instrument</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean optic</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean and calibrate as per manufacturer’s requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Co Tester evening-after last test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disconnect probe</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition of probe</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Blow out hose (against flow)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Change inlet filter</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Rinse the main filter (metal)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check cable/wire not twisted</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean equipment on outside</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Morning Before-First Test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leak test/Zero adjustment</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Calibrate</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Air Gauges</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check condition of gauges</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that gauge is at zero</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that susy connections are available</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition of connections</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Calibrate</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Compressor/Air Pressure System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drain the air receiver</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check the system is not leaking</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check oil level</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition of gauges (damage)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Speed Limiter Tester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for presence</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX 6
### AUDIT OF TEST EQUIPMENT FOR HEAVY GOODS VEHICLES CONTD.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily</td>
<td>Weekly</td>
</tr>
<tr>
<td>Fifth Wheel Pin</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check presence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean handle</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check for wear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fifth Wheel Pin Gauge</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check for presence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tyre Depth Gauge</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check for presence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for damage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand Lamp</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check for presence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check condition of wiring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check condition of lamp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decelerometer</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check for presence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check condition (damage)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calibrate (every 2 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steering Side Slip Plate</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check for presence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check condition (damage)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check accuracy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lever</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Presence</td>
<td></td>
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</tbody>
</table>
## APPENDIX 6
### AUDIT OF TEST EQUIPMENT FOR HEAVY GOODS VEHICLES CONTD.

<table>
<thead>
<tr>
<th>Test Procedure</th>
<th>Interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check that a report is available for each test</td>
<td>X</td>
<td>To be carried out by a competent person assigned by the Authorised Tester to have responsibility for vehicle roadworthiness testing.</td>
</tr>
<tr>
<td>Check that all testers are Registered</td>
<td></td>
<td>X All testers must be registered before operating as a tester.</td>
</tr>
<tr>
<td>Check that the correct test procedures are being followed (observe a test)</td>
<td>X</td>
<td>Observe test.</td>
</tr>
<tr>
<td>Check that the appropriate test equipment is being used</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that smoke tests are carried out at correct temperature.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
RECOMMENDATION No 9

A. QUALITY SYSTEM FOR INDEPENDENT ROAD VEHICLE INSPECTION BODIES NOT UNDERTAKING RELATED ACTIVITIES

B. QUALITY SYSTEM FOR ROAD VEHICLE INSPECTION BODIES UNDER THE DIRECT SUPERVISION OF A DESIGNATED AUTHORITY

Document Status: Recommendation
Reference: CITA/rec9
Date of adoption: 16 September 2003
Issue date: 1 December 2003
Original: English (= authoritative version)
Pages: A: 21 pages
       B: 20 pages
B. QUALITY SYSTEM FOR ROAD VEHICLE INSPECTION BODIES UNDER THE DIRECT SUPERVISION OF A DESIGNATED AUTHORITY

INTRODUCTION

This CITA Recommendation and the related Recommendation number 9 A have been drawn up with the objective of promoting confidence in inspection bodies performing mandatory inspections of road vehicles that can show that they comply with their requirements.

In general, inspection bodies performing mandatory inspections of road vehicles carry out these inspections on behalf of public authorities, according to prescribed laws, regulations, standards, directives or specifications, with the objective of certifying the conformity of the inspected vehicles with the requirements of these provisions.

This Recommendation applies to inspection bodies that are not fully independent of the owner or operator of the vehicle being inspected or are involved in the maintenance, repair or sale of vehicles or vehicle components but which operate under the direct supervision of the State or an authority designated by the State.

The CITA Recommendation has been drawn up in the light of experience by inspection bodies who have performed mandatory inspections of road vehicles for many years, taking into account the relevant provisions of the International and European Standards EN ISO 9002 and EN 45004.
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<td>1.2. Vehicle inspection</td>
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<td>2. Definitions</td>
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<td>2.3. Inspection body</td>
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<tr>
<td>2.4. Technical inspector</td>
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<tr>
<td>2.5. Vehicle inspection centre</td>
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</tr>
<tr>
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<tr>
<td>2.7. CITA</td>
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<td>3. ADMINISTRATIVE REQUIREMENTS</td>
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<td>3.1. Not applicable</td>
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</tr>
<tr>
<td>4. IMPARTIALITY, INTEGRITY, CONFIDENTIALITY</td>
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</tr>
<tr>
<td>4.1. General requirements</td>
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</tr>
<tr>
<td>4.2. Quality policy</td>
<td>0</td>
</tr>
<tr>
<td>4.3. Quality system</td>
<td>0</td>
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<tr>
<td>4.4. Quality procedures</td>
<td>0</td>
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<tr>
<td>4.5. Organisational structure</td>
<td>0</td>
</tr>
<tr>
<td>4.6. Staff resources and management</td>
<td>0</td>
</tr>
<tr>
<td>4.7. General requirements</td>
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</tr>
<tr>
<td>5. QUALITY MANAGEMENT REQUIREMENTS</td>
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<tr>
<td>5.1. General requirements</td>
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</tr>
<tr>
<td>5.2. Quality policy</td>
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<td>5.3. Quality system</td>
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<td>5.4. Quality procedures</td>
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<tr>
<td>5.5. Organisational structure</td>
<td>0</td>
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<tr>
<td>5.6. Staff resources and management</td>
<td>0</td>
</tr>
<tr>
<td>5.7. General requirements</td>
<td>0</td>
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<tr>
<td>5.8. Quality policy</td>
<td>0</td>
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<tr>
<td>5.9. Quality system</td>
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<td>5.10. Quality procedures</td>
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<td>5.11. Organisational structure</td>
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<td>5.12. Staff resources and management</td>
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<tr>
<td>5.13. General requirements</td>
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</tr>
<tr>
<td>5.14. Quality policy</td>
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<tr>
<td>6. VEHICLE INSPECTION FACILITIES AND EQUIPMENT</td>
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<tr>
<td>6.1. General requirements</td>
<td>0</td>
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<tr>
<td>6.2. Control and maintenance</td>
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<tr>
<td>6.3. Calibration</td>
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</tbody>
</table>
1 SCOPE

1.1. This Recommendation specifies quality management requirements an inspection body has to meet if it is to be recognised as being competent to carry out mandatory inspections of road vehicles, according to prescribed requirements.

1.2. This Recommendation is applicable to inspection bodies that are not fully independent of owner or operator of the vehicle being inspected or are involved in the maintenance, repair or sale of vehicles or vehicle components but which operate under the direct supervision of the State or an authority designated by the State.

1.3. This recommendation is for use by inspection bodies in developing their quality, administrative and technical systems that govern their operations. It is also for use by regulatory authorities involved in supervising or confirming the competence of inspection bodies.

2. DEFINITIONS

For the purpose of this Recommendation, the definitions given in ISO 8402 and in EN 45020 and the following definitions apply.

2.1. Vehicle inspection

Process to perform mandatory inspection (including any associated testing) of road vehicles according to prescribed requirements and to determine the conformity of the inspected vehicles to those requirements, on the basis of a professional judgement.

2.2. Prescribed requirements

List of items to be inspected and/or tested that are prescribed or otherwise specified in the territory where the inspection is performed, such as European Union directive 96/96/EC or other equivalent national or international specification.

2.3. Inspection body

Public or private organisation (authority, company, corporation, enterprise or institution) authorised and supervised by a national government or governmental authority to perform mandatory vehicle inspections.

2.4. Technical inspector

Person in an inspection body carrying out all or part of the technical aspects of a vehicle inspection.

2.5. Vehicle inspection centre

Facilities (i.e. building and mobile units) used by an inspection body to perform vehicle inspections.
2.6. Vehicle inspection equipment

All equipment, including computer hardware and software, directly used for vehicle inspections, i.e., for examinations, verifications, measurements, and testing.

2.7. CITA

"International Motor Vehicle Inspection Committee" ("Comité International de l’Inspection Technique Automobile"), a world-wide non-profit making association of inspection bodies and related organisations, constituted according to Belgium law, with category 2 advisory status at the United Nations Economic Commission for Europe.

3. ADMINISTRATIVE REQUIREMENTS

3.1. The inspection body, or the organisation of which it is a part, shall be legally identifiable.

3.2. Not applicable

3.3. If the inspection body is involved in activities other than vehicle inspection, these activities shall be clearly defined.

3.4. Unless its business conditions, including its functions, the scope of its activity and the list of applicable fees, are not ruled by international and/or national laws or regulations, the inspection body shall have a documented description of the conditions, including the due fees under which it is doing its business. This documentation shall be available to all parties interested.

3.5. Unless its liability is assumed by the State in accordance with national laws, the inspection body shall have liability insurance covering material damages and personal damages according to national law.

3.6. Not applicable

4. IMPARTIALITY, INTEGRITY, CONFIDENTIALITY

4.1. If not specified by national laws, the inspection body shall be impartial to the extent required with regard to the conditions under which it performs vehicle inspections.

4.2. The inspection body shall provide safeguards within the organisation to ensure adequate segregation of responsibilities and accountabilities in the provision of inspection services by organisation and/or documented procedures.

4.3. Unless otherwise specified in international and/or national laws or regulations, all interested parties shall have access to the services of the inspection body. There shall not be undue conditions, particularly concerning fees. The procedures under which the inspection body operates shall be administrated in a non-discriminatory manner.

4.4. Unless otherwise specified by national laws or regulations, the inspection body shall ensure confidentiality of all personal information obtained from outside or generated internally in the course of its vehicle inspection activities.
4.5. The inspection body's staff shall be committed contractually to impartiality, integrity and confidentiality, and any breach of these commitments may result in dismissal.

5. QUALITY MANAGEMENT REQUIREMENTS

5.1. General requirements

The inspection body applying the quality system according to the provisions of the present recommendation shall be under the supervision of an authority designated for that purpose by the national government

5.2. Quality policy

5.2.1 The inspection body's executive management shall clearly define and document its policy and objectives for quality, including its own commitment to quality in general and to the requirements of this Recommendation in particular.

5.2.2 The quality policy and its objectives shall be consistent with the expectations of the government or authorising authority and of vehicle owners and operators, and also with the inspection body's own organisational goals and objectives, taking account of cost/benefit considerations.

5.2.3 The executive management shall ensure:

5.2.3.1 that the inspection body's quality policy is written in simple language and is understood by all its staff;

5.2.3.2 that the quality policy achieves its quality objectives by implementing an effective quality system and by providing adequate and sufficient resources and training to support its development and implementation;

5.2.3.3 that the quality system is maintained without any deviations at all levels of the inspection body's organisation by providing adequate and sufficient resources and training, through the permanent control of all quality relevant processes and by immediate corrective action, whenever required or indicated.

5.3. Quality system

5.3.1. General Requirements

5.3.1.1 The inspection body shall establish, document and maintain a quality system to implement quality management and to ensure that the objectives of the inspection body's quality policy are continuously achieved, so that:

- the governmental authorities and vehicle owners and operators are satisfied with the services provided;
- vehicle inspections are carried out adequately, correctly and efficiently, in conformity to the requirements of this Recommendation and of all relevant legal and technical requirements

5.3.1.2 So that it is a cost/effective aid in the control of quality, the quality system shall be reasonably adapted to the inspection body’s size and volume of
activity, i.e. the number of vehicle inspections performed.

5.3.2 Quality manual

5.3.2.1 The inspection body’s quality system shall be fully documented by means of a quality manual. Normally, the quality manual shall consist of an overall quality manual, outlining the structure of the quality system and covering the general quality requirements of this Recommendation, supported by one or more specific quality procedures, covering the more particular aspects of the different parts of the vehicle inspection process.

5.3.2.2 The overall quality manual shall contain a detailed and updated distribution list, or make reference to such a list, for both the overall quality manual itself and the specific quality procedures.

5.3.3 Quality procedures

5.3.3.1 The quality procedures, being an integral part of the inspection body’s quality system, shall be consistent with the requirements of this Recommendation and the inspection body’s quality policy.

5.3.3.2 The range and detail of the quality procedures shall depend upon the complexity of the function, the working method used and the qualifications and training of the persons carrying it out. They should be simple, unambiguous, understandable and as short as possible.

Note: Documented procedures may make reference to work instructions that define in detail how an activity shall be performed.

5.4. Organisational structure

The inspection body shall have an organisational structure that enables it to maintain its capability to perform vehicle inspections adequately and correctly and with the desired quality.

5.5 Staff resources and management

5.5.1 General requirements

5.5.1.1 Sufficient staff shall be made available for all the functions, including management, training, documentation and verifications as well as internal quality audits.

5.5.1.2 In particular, the inspection body shall have a sufficient number of permanent technical inspectors with the relevant knowledge of road vehicle technology and the required expertise to perform adequately and correctly vehicle inspections and all other functions directly related to the vehicle inspection process.

5.5.1.3 The technical inspectors shall be employees of the inspection body.

5.5.1.4 The remuneration of the technical inspectors shall not depend directly upon the number of vehicle inspections they individually perform or on the results of the inspections.
5.5.2 Manager

5.5.2.1 The inspection body shall have a manager, who
- is qualified and experienced in the operational procedures for vehicle inspections;
- has overall responsibility that the vehicle inspections are performed in conformity to the requirements of this Recommendation and the relevant regulations, standards and directives; and
- has defined and adequate authority for all quality assurance matters and in particular for ensuring that a quality system is established, implemented and maintained in accordance with the requirements of this Recommendation and those of the supervising authority.

5.5.2.2 The manager shall be a permanent employee.

5.5.3 Not applicable

5.5.4 Deputising, guidance and supervision

5.5.4.1 The inspection body shall have a named person who shall deputise when the appointed manager is absent.

5.5.4.2 The inspection body shall provide effective guidance and supervision, particularly for the technical inspectors, by persons familiar with the vehicle inspection process and the evaluation and assessment of the results of vehicle inspections.

5.5.5 Job descriptions, qualification and training

5.5.5.1 The inspection body shall make all staff in its organisation, whose function and work directly affect the quality of vehicle inspections aware of their responsibility and authority in quality matters. All such functions shall be clearly described and documented in appropriate job descriptions, which include the minimum requirements for education, qualifications, training, technical knowledge and experience.

5.5.5.2 Not applicable.

5.5.5.3 The technical inspectors shall have sufficient knowledge of the road vehicle technology so that they can make professional judgements on the conformity of vehicles to the prescribed requirements. They shall have at least a medium level qualification in vehicle mechanics and technology, according to national requirements. They shall be approved by the supervising authority.

5.5.5.4 The inspection body shall develop an appropriate training plan and shall ensure that responsible managers and technical inspectors, as well as other staff, whose functions and work directly affect the quality of the vehicle inspections, attend regular training and/or education courses.

5.5.5.5 All staff shall be trained to operate correctly the quality system and its procedures and documents to the satisfaction of the supervising authority.

5.5.5.6 The education and training courses shall take into account the qualifications and experience of the staff involved and the individual training needs required for satisfactory performance, particularly for new recruits or staff
transferred to new assignments.

5.5.7 The technical inspectors shall attend at least three days (24 hours in total) educational courses each year.

5.5.8 The education courses shall include specific technical training necessary for performing vehicle inspections and will focus on new technical developments and recent changes and amendments of the prescribed requirements, in order to keep relevant staff, particularly the appointed manager and technical inspectors up-to-date.

5.5.9 The education courses shall also include general and quality related training to instill and to heighten quality awareness. Special consideration shall also be given to provide staff with effective and adequate customer communication skills.

5.5.10 The inspection body shall keep up-to-date records about the qualifications, training and experience of each member of staff, which can be used to identify any gaps in training.

5.5.6 Responsibility and authority

Adequate authority and organisational freedom shall be delegated to staff managing, performing and verifying work affecting the quality of vehicle inspections, in order to allow them to exercise their responsibilities for achieving the inspection body’s quality objectives with the desired efficiency, in particular by:

- initiating all necessary actions to prevent the occurrence of any non-conformities;
- identifying and recording any quality relevant problems and initiating, recommending or providing appropriate solutions,
- monitoring the implementation of agreed corrective action and initiating further development until the deficiency or the unsatisfactory condition has been corrected.

5.6. Document and data control

5.6.1 The inspection body shall establish and maintain documented procedures to control all documentation and data directly related to the inspection body’s quality system in general and to the vehicle inspection process in particular. The procedures shall apply to internal as well as to external documentation (e.g. European directives, international or national regulations and standards).

Note: Documents and data may be recorded and produced using any type of media, e.g. paper copy or electronic media.

5.6.2 The document and data control procedures shall clearly state for all relevant documents and data:

- when and how they shall be reviewed, which should be at least each time a legal or technical regulation relevant to vehicle inspection is significantly amended;
- who is responsible for their development, review, update, change, approval, issue, recording, distribution and removal.

5.6.3 Regarding the document and data control procedures, the inspection body shall
ensure that:
- only experienced persons are authorised to develop, review, update, change and approve documents and data prior to their issue and, distribution;
- the responsible persons have direct access to all relevant background information upon which to base the development, review and approval of documentation;
- updates, changes or amendments shall be processed in adequate time;
- consideration is given to the effect that a proposed change may have on other parts and/or procedures inside and/or outside the organisation;
- as far as relevant, other affected parties inside and outside of the inspection body, particularly staff and supervising authority, are notified of changes and amendments, as far as relevant;
- all necessary actions are taken prior to the implementation of a change;
- current issues of appropriate and approved documentation are available at all relevant locations and to all relevant staff in charge of operations essential for the effectiveness of the quality system;
- superseded, invalid and obsolete documents are promptly removed from use throughout the organisation, one copy, suitably identified as "obsolete", being filed for at least three years.

5.6.4 A master list of all relevant documents shall be maintained, identifying who is responsible for approval and for the distribution and revision status.

5.7. Vehicle inspection identification

The inspection body shall ensure by whatever means, that all vehicle inspections are uniquely identified. This is best achieved using, where possible, the vehicle’s unique vehicle identification number (VIN), or, if the VIN is not available, a unique combination of the vehicle chassis number, identification number and/or engine number.

5.8. Vehicle inspection traceability

5.8.1 The inspection body shall ensure by whatever means, that it is possible to trace full details of all vehicle inspections for at least three years.

5.8.2 If vehicle inspections are carried out by more than one technical inspector, each one of them has to be traceable by recording the individual’s identification, using manual, electronic or other means.

5.8.3 The items of the vehicle inspection equipment used for each vehicle inspection shall be unequivocally identified and recorded.

5.9. Vehicle inspection process control

5.9.1 The inspection body shall ensure that all quality relevant processes, but in particular the vehicle inspection processes, are carried out under controlled conditions.

5.9.2 Special consideration shall be given to the under-vehicle inspection process, since it is the most critical part with regard to process quality.

5.9.3 The vehicle inspection process control shall include:
- documented procedures clearly defining the process, particularly where the absence of such procedures could seriously affect the process quality;
- what facilities and equipment should be used;
- establishment and maintenance of a suitable and safe working environment;
- compliance with relevant reference standards and/or legal and regulatory provisions;
- monitoring and (statistical) control of relevant parameters of process;
- approval of procedures and equipment;
- availability of sufficient and of adequately qualified and trained staff;
- performance criteria, stipulated in the clearest and most practical manner, e.g. written procedures and/or work instructions, representative samples, photographs or illustrations;
- maintenance and calibration arrangements for vehicle inspection equipment, to ensure continuing process capability.

5.10. In-process verifications

5.10.1 The inspection body shall ensure that in-process verifications are carried out in order to allow early identification of non-conformities and timely initiation of corrective action.

5.10.2 For that purpose, appropriate sampling procedures and statistical control techniques shall be used to identify trends before non-conformities actually occur. These statistical evaluations may also be useful for identifying defective processes that require attention and improvement.

5.11. Preventive action

5.11.1 The inspection body shall undertake preventive action, to prevent the occurrence of quality relevant non-conformities and to assist in prompt identification, if they should arise.

5.11.2 Preventive action includes:

- ensuring availability and use of appropriate and up-to-date sources of information;
- regular in-process verifications;
- systematic analysis of quality records relating to non-conformities, audit results, client complaints, service reports and management review records.

5.12. Corrective action

5.12.1 The inspection body shall take corrective action whenever necessary, in order to initiate process improvement whenever deficiencies are detected in the quality system and/or in the vehicle inspection process and to prevent the recurrence of any identified quality relevant non-conformities.

5.12.2 Reasons why corrective action may be necessary include:

- failures, malfunctions or non-conformities in vehicle inspection equipment;
- inadequate or non-existent procedures and documentation;
- non-conformities identified through in-process control, analysis of vehicle inspection records, audit observations, client complaints, service reports, management review results or observations and reports by staff, e.g.:
  - non-compliance with procedures;
  - poor scheduling;
  - lack of training;
  - inadequate working conditions;
  - inadequate availability of staff and/or material resources.

5.12.3 In order to keep corrective action useful and effective, the inspection body shall:
  - clearly state when corrective action is required, accepting that corrective action shall be commensurate with the quality relevance of the deficiencies and problems encountered;
  - clearly establish the responsible staff who shall have authority to take corrective action
  - define how the corrective action shall be carried out;
  - fix limit target dates for implementing the corrective action;
  - bring the implemented corrective action to the attention of the staff having responsibility in the activity concerned, e.g. by means of appropriate amendments to the relevant procedures and/or documents;
  - verify the effectiveness of corrective action.

5.12.4 Regarding the technical part of the vehicle inspection process, corrective action shall:
  - be required at each time any quality-relevant non-conformity is identified or detected;
  - be taken immediately;
  - be the responsibility of the highest level manager (or of his deputy) in the relevant inspection centre;
  - be documented and brought to the attention of all technical inspectors concerned;
  - be checked for its effectiveness by means of a timely internal quality audit.

5.12.5 The inspection body shall keep records of all corrective actions.

5.13. Quality audits

5.13.1 Normally the supervising authority will do quality audits. If this is not the case, or for those items not covered, the inspection body shall plan and carry out periodic quality audits, in order to:
  - verify whether the quality of the vehicle inspection process still complies with the criteria specified in this Recommendation;
  - determine whether the quality system effectively achieves the quality objectives stated by the inspection body’s management in its quality policy;
  - provide an opportunity to improve the inspection body’s quality system.

5.13.2 Quality audits shall be held on the technical part of the vehicle inspection process at least once a year. For less quality relevant parts, quality audits may be scheduled on a two yearly basis.
5.13.3 In addition to the periodic quality audits, a quality audit may be initiated for any of the following reasons:

- an initial evaluation to verify that the quality system has been correctly implemented;
- when significant changes have been made, e.g. reorganisations and/or procedure revisions;
- when the performance or quality level of the services provided are in, or are suspected to be in, jeopardy, due to non-conformities;
- to verify that necessary corrective actions have been taken and effectively implemented;
- to evaluate an inspection body's quality system against a quality system standard.

5.13.4 Not applicable.

5.13.5 Not applicable.

5.13.6 The results of quality audits shall be recorded and brought to the attention of the staff having responsibility in the activity audited. The management shall take appropriate corrective actions on deficiencies found during the audits, according to the provisions of chapter 5.11. and 5.12. of this Recommendation.

5.14. Quality system review

5.14.1 The inspection body's management shall review annually the quality system in order to ensure its continuing suitability and effectiveness in satisfying the requirements of this Recommendation and the inspection body's stated quality policy and objectives.

5.14.2 The quality system review should include the following items:

- adequacy of staff and resources,
- degree of implementation and status of the quality system,
- actual quality of the vehicle inspections compared to the required quality,
- information received through client feedback, quality audits by the supervisory authority, internal quality audits and vehicle inspection performance.

5.14.3 The quality system review shall be well structured, on either a systematic or random basis, giving chronic problem areas special attention. The results shall be analysed for trends and indications of systematic problems and be discussed with the staff concerned. Necessary changes and corrective actions shall be taken and implemented, according to the provisions of chapter 5.11 and 5.12 of this Recommendation.

Note: The results of quality audits shall form an integral part of the input into the annual quality system review by the inspection body's executive management.

5.14.4 The inspection body shall keep records of the results of the quality system reviews.
6. VEHICLE INSPECTION FACILITIES AND EQUIPMENT

6.1. General requirements

6.1.1 The inspection body shall ensure that suitable and adequate facilities and equipment to perform the vehicle inspections in conformity with the prescribed requirements are available.

6.1.2 Unless climatic conditions allow, most vehicle inspections should be carried out in closed buildings, except for those parts of the vehicle inspection process that generate significant environmental stress like noise or emissions.

6.1.3 The buildings used as vehicle inspection centres:
- shall be designed with sufficient space for the technical inspectors to perform vehicle inspections adequately and correctly and in safe and secure conditions;
- should be provided with adequate heating and ventilation systems;
- should have sufficient and suitable outside parking for the vehicles waiting for inspection;
- shall have adequate sanitary facilities, preferably separate ones for staff and visitors.

6.1.4 Vehicle inspection equipment shall conform to the provisions defined in European Directive 96/96/EC or equivalent national or international regulations.

6.1.5 In particular, vehicle inspection centres shall have available for use at least the following equipment according to the category or categories of vehicles to be inspected and the inspection procedures to be used:
- weigh-bridge or other weighing equipment;
- roller brake tester or equivalent plate brake tester;
- decelerometer;
- pit or platform hoist, both equipped with a movable vehicle jack and artificial lightning;
- play detector (at least for vehicles with a gross vehicle mass over 3,500 kg);
- headlight tester, preferably mounted on rails, with suitable even standing surface for the vehicle;
- opacimeter, suitable for analysing diesel engine smoke;
- exhaust gas analyser, capable of measuring at least carbon monoxide (in %) and the I-value of catalytic systems;
- manometer, appropriate for measuring air pressures in pneumatic brake systems.

6.1.6 Inspection centres may have available and/or use other and/or supplementary equipment for specific purposes.

6.1.7 The inspection body shall select vehicle inspection equipment meeting the accuracy and precision requirements specified in the relevant legal and regulatory provisions.
6.1.8 The measuring equipment shall be used in a manner that ensures that the measurement uncertainty is known and is consistent with the required measurement capability.

6.2. Control and maintenance

6.2.1 All vehicle inspection equipment used shall be properly identified, e.g. using indestructible markings or labels.

6.2.2 The vehicle inspection body shall ensure that vehicle inspection equipment is handled, preserved and stored so that accuracy, fitness and suitability are properly maintained. The condition of quality relevant vehicle inspection equipment that has been stored shall be assessed before use to detect any deterioration and/or non-conformity.

6.2.3 The vehicle inspection equipment shall be safeguarded from adjustments that would invalidate the calibration setting.

6.2.4 Out of calibration or otherwise non conforming vehicle inspection equipment shall be marked as such (e.g. "out of use") and shall be adequately protected against use until corrective action, adjustment and/or re-calibration has been taken and its conformity with the specified requirements has been re-established.

6.2.5 Where relevant, vehicle inspection equipment shall have regular in-service functional checks between the programmed calibrations. In-service functional checks shall at least at the following frequencies:

- brake tester once per month;
- headlight tester once per week;
- opacimeter once per day, before the first use;
- exhaust gas analyser once per day, before the first use.

6.2.6 If the inspection body uses computers or other automated equipment in the vehicle inspection process, it shall ensure that computer software is checked and tested, prior to its release for use and regularly during in-service use, to ensure its adequacy and capability for the intended purpose.

6.3. Calibration

6.3.1 The inspection body shall ensure that there are proper arrangements to adequately control and calibrate vehicle inspection equipment before and during use, in order to ensure its accuracy, its conformity to the relevant requirements and its continued suitability and to provide confidence in decisions based on measurements.

6.3.2 The calibration procedures, sometimes known as calibration programmes, shall define the calibration processes, their environmental conditions, their frequency, the acceptance criteria and the action to be taken when the results are found
unsatisfactory and/or inadequate.

6.3.3 Quality relevant vehicle inspection equipment shall be calibrated before first use and at least at the following frequencies during in-service use:

- brake tester 6 months;
- headlight tester 6 months;
- opacimeter 6 months;
- exhaust gas analyser 6 months;
- manometer 12 months.

6.3.4 Calibration shall be done, where appropriate, against certified equipment having a known and traceable relationship to internationally or nationally recognised standards. Where no such standards exist, the basis used for calibration shall be fully documented, according to the equipment manufacturer’s recommendation, if any.

6.3.5 If vehicle inspection equipment is found to be out of calibration, the validity of the vehicle inspection results since the date of last calibration shall be re-assessed. If there was any relevant non-conformity, the vehicles concerned shall be invited for re--inspection (at the cost of the inspection body) immediately.

6.3.6 The calibration status shall be shown clearly on relevant vehicle inspection equipment, preferably by means of suitable markers or labels, indicating at least the date of the last calibration and the date the next calibration is due.

6.3.7 Reference measurement standards held by the inspection body shall be used for calibration only and not for other purposes. Only competent bodies who can provide traceability to international or national measurement standards shall calibrate reference measurement standards.

6.3.8 The inspection body shall keep records of all calibrations performed.

6.4. Purchasing

6.4.1 General requirements

The inspection body shall ensure that quality relevant vehicle inspection equipment that is purchased conforms to the relevant requirements of its quality system or of this Recommendation and to the applicable legal and technical provisions.

6.4.2 Purchasing orders

The inspection body shall ensure that the documents for purchasing quality relevant vehicle inspection equipment shall clearly and completely describe the equipment ordered, including:

- the type, class or other precise identification;
- the precise technical specification, including any necessary drawings;
- any relevant technical data or reference to any applicable technical information and/or standard;
- if applicable, the title, number and issue of the relevant standard.
6.4.3 Receiving verification

6.4.3.1 The inspection body shall ensure that new quality relevant vehicle inspection equipment is not released for use until it has been verified as fulfilling all the supplier’s contractual obligations and as conforming to the purchasing order requirements and, if appropriate, to other specified technical or quality requirements.

6.4.3.2 Receiving verification shall focus on the following items:

- conformity of the construction and function to the stated specifications;
- correct number, proper identification, no apparent damage;
- presence of relevant supporting documentation and technical data.

7. SPECIFIC REQUIREMENTS FOR THE VEHICLE INSPECTIONS

7.1. General requirements

The inspection body shall establish, maintain and document all the procedures necessary to ensure that vehicle inspections are performed adequately, correctly and completely, in conformity to prescribed requirements, and to verify that all provisions of these requirements are met.

7.2. Vehicle inspection procedures

The inspection body shall have and apply fully documented methods and procedures against whose requirements vehicle conformity is to be determined. The methods and procedures could be defined either in national legislation or in the following documents:

a) European Union Directive 96/96/EC;
b) CITA Recommendation N0 1: Inspection of Motor Vehicles;
c) CITA Recommendation N02: Additional items to be inspected on Public Service Vehicles;
d) CITA Recommendation N0 5: Inspection of Motorcycles;
e) CITA Recommendation N0 6: Inspection of the installation and operation of LPG equipment for the propulsion of motor vehicles;
f) CITA Recommendation N0 8: Brake testing procedures
g) CITA Recommendation N0 4: Decisions to be taken with reference to technical modifications carried out on vehicles in use.

7.3. Vehicle inspection planning

The inspection body shall plan vehicle inspections, giving sufficient attention to the real availability of human and material resources, in order to allow:

- the technical inspectors sufficient time to fulfil their duties, without stress that could affect quality;
- the vehicle owners or operators to have their vehicles inspected in a reasonable time and under acceptable conditions.
7.4. Handling of vehicles submitted to vehicle inspections

7.4.1 The inspection body shall ensure that the vehicles submitted for inspection are carefully handled and protected during the vehicle inspection process, in order to prevent any damage, deterioration or contamination.

7.4.2 The inspection body shall ensure that any confusion regarding the identity of vehicles submitted for inspection is avoided by at least checking the vehicle identification number (VIN).

7.4.3 Where there is any doubt as to a vehicle's suitability for an inspection, verification or test to be carried out adequately and correctly, the technical inspector in charge shall have authority to refuse to perform the relevant inspection, verification or test, until the vehicle has been brought into a suitable and acceptable condition.

7.5. Vehicle inspection sub-contracting

7.5.1 The inspection body shall normally perform the vehicle inspections itself. Vehicle inspections shall only be sub-contracted in very exceptional circumstances when the inspection body is prevented from performing the vehicle inspection itself and provided the responsible authority has agreed.

7.5.2 Full responsibility for determining the conformity of inspected vehicles with the relevant requirements remains with the inspection body even when part or all of the inspection is sub-contracted.

7.6. Other requirements for the vehicle inspection process

7.6.1 The inspection body shall ensure that vehicle inspections are performed giving due consideration to environment protection, health and safety, in conformity to relevant international and/or national legal provisions.

7.6.2 Technical inspectors shall have ready access to up-to-date documents, instructions, standards, written procedures, work-sheets and reference data relevant to their work.

7.6.3 The inspection body shall ensure that all relevant parts of the vehicle inspections are performed on each specific vehicle by ensuring that the vehicle inspection process provides a way of knowing the status of an inspected or tested vehicle.

7.6.4 All calculations and data relating to the vehicle inspection process shall be subject to appropriate conformity checks.

7.6.5 If unused test certificates need to be stored, they shall be kept in a secure place.

7.7. Vehicle inspection reports and vehicle inspection certificates

7.7.1 The inspection body shall ensure that for all vehicle inspections there is a retrievable vehicle inspection report (consisting of information for internal and audit purposes) and a vehicle inspection certificate (legal evidence for the owner or operator that the vehicle has been submitted for inspection).
7.7.2 Before issuing a vehicle inspection certificate, the inspection body shall ensure that:

- all specified inspections, verifications and tests have been performed adequately, correctly and completely;
- all associated data and documentation are available.

7.7.3 The vehicle inspection reports and vehicle inspection certificates shall include the final evaluation of the inspection results and all other information needed to understand and interpret them correctly.

7.7.4 The vehicle inspection reports shall include at least following information:

- name of the vehicle inspection body, preferably by a standardised heading; where the vehicle inspection was performed;
- date of the vehicle inspection;
- unique identifier for each report, e.g. a report serial number or the vehicle chassis number and/or the registration number;
- identity of the vehicle inspected;
- deviations, if any, to the standard inspection and/or testing procedures;
- relevant data obtained from measurements during the vehicle inspection process;
- signature and title or an equivalent marking of the staff who performed the quality relevant parts of the vehicle inspection and of the staff responsible for its final evaluation.

7.7.5 All information on vehicle inspection reports and certificates shall be reported accurately, clearly and unambiguously. Data or results supplied by sub-contractors shall be clearly identified and marked as such.

7.7.6 Corrections and/or additions on vehicle inspection certificates shall not be allowed. If any correction or addition is necessary, the spoilt certificate shall be withdrawn and a new vehicle inspection certificate issued.

7.7.7 Vehicle inspection reports and certificates shall be produced and signed or otherwise approved by authorised staff persons only.

7.8. Vehicle inspection records

7.8.1 The inspection body shall establish and keep records of all vehicle inspections performed, including those performed by sub-contractors.

7.8.2 The vehicle inspection records shall be held securely and kept confidential to the vehicle owner or operator and the supervising authority, unless otherwise specified by relevant international or national legislation.

8. COMPLAINTS AND APPEALS

8.1. The inspection body shall have implemented a documented procedure for dealing with complaints about its vehicle inspection activity.
8.2. The inspection body shall have implemented a documented procedure for considering and resolving appeals against the results of vehicle inspections and related decisions.

8.3. Complaints and appeals shall be dealt with in an unbiased manner.

8.4. The inspection body shall keep records of all complaints and appeals received and of the actions taken.

9. QUALITY RECORDS

9.1. The inspection body shall have implemented a procedure for adequate and correct collection, identification, indexing, filing, storage, maintenance and disposition of all quality relevant records, including those of quality relevance concerning sub-contractors. The quality records shall be legible and shall be stored in facilities that provide a suitable environment to prevent damage, deterioration and loss. They shall be adequately protected against unauthorised access, but shall be readily accessible and retrievable as and when needed.

9.2. At least the following quality records shall be kept:

9.2.1 vehicle inspection reports;
9.2.2 vehicle inspection equipment receiving reports;
9.2.3 calibration data and reports;
9.2.4 staff qualification, training and experience;
9.2.5 quality audit reports, including those of the supervising authority;
9.2.6 quality system review reports;
9.2.7 corrective action reports.

9.3. Thorough analysis of quality records shall be done as they provide an important input for identifying trends in quality measures and the need for corrective action and improvement.

9.4. Unless otherwise specified in any relevant legislation or regulation, the retention time of quality records shall be at least three years for the items listed in 9.2.1-9.2.3 and five years for the items listed in 9.2.4 - 9.2.7.

Note: Quality records may be stored and/or copied in any suitable form e.g. as paper copy or electronic media.

10. CO-OPERATION

10.1 Co-operation with supervising authorities

10.1.1 The inspection body shall afford the supervising authority such reasonable co-operation as necessary to enable this authority or body to monitor the
inspection body’s compliance with the requirements of this Recommendation and with any other relevant criteria. In particular, the inspection body shall afford the supervising authority’s representatives access to all relevant areas in inspection centres for witnessing vehicle inspections and to all quality relevant documents, in order to verify the inspection body’s capability and its compliance to the relevant legal and technical requirements.

10.1.2 With regard to its authorisation, the inspection body shall:

- pay all fees for assessment and surveillance as determined by the supervising authority, having regard to the real costs involved;
- not use its authorisation in a manner likely to bring the supervising authority into disrepute and shall not make any statement relevant to its authorisation which the supervising authority might reasonably consider to be misleading;
- immediately inform the supervising authority of any changes bearing on its compliance with the requirements of this Recommendation and other quality relevant criteria;
- not use in any communication media any misleading terminology to make reference to its authorised status.

10.2. Co-operation with other bodies performing road vehicle inspections

The inspection body is expected to participate, as appropriate, in exchanges of experience with supervising authorities and other vehicle inspection bodies.
Annex A
(informative)

Bibliography

Quality- Vocabulary

Quality management and quality assurance standards -  
Part 1: Guidelines for selection and use.

Quality management and quality assurance standards - Part 2:  
Generic guidelines for the application of ISO 9001, ISO 9002 and ISO 9003.

Quality systems - Model for quality assurance in production,  
installation and servicing.

Quality management and quality system elements -  
Part 1: Guidelines

Quality management and quality system elements -  
Part 2: Guidelines for services.

General criteria for the operation of various types of bodies  
performing inspection.
APPENDIX 8

IRISH STANDARD FOR HEAD LAMP AIM TEST EQUIPMENT AND FLOOR AREA REQUIREMENT

1. Scope

This specification is a description for the MINIMUM performance and constructional requirements for headlamp aim testing for Private Vehicles (PV) with a gross weight not exceeding 3500 kg and accommodation for not more than 8 passengers and Light Commercial Vehicles (LCV) with a design Gross Vehicle Weight not exceeding 3,500kg.

This specification does not address health and safety requirements.

2. Reference

This standard is based on ISO 10604.

3. Test Area Floor

3.1. The test area floor shall be composed of two rolling tracks, which are clearly indicated on the floor.
3.2. The materials to be used may be either steel plates or a levelling compound.
3.3. The rolling track minimum dimensions shall be as follows (figure 1).
3.4. After initial levelling or re surfacing, a laser measurement by a competent engineer shall be undertaken. The grid lines for the measurement shall be as follows (figure 2).

3.5. The result shall be recorded in a simple form (such as an excel spreadsheet) dated and signed by the competent person who performed the laser measurement.
4. Light Test Equipment (LTE)

In principle there are two basic designs of LTE:
- Mechanical LTE (MLTE)
- Scanning LTE (SLTE)

4.1. Rails

4.1.1. The light test equipment shall operate on rails at all times.
4.1.2. The rails must be sturdy, robust and capable of being secured flat and level within +/- 0.5 mm in any meter.
4.1.3. It is recommended that rails shall be designed to be recessed into the floor to facilitate drive-over by vehicles being tested, without distorting or collapsing the rails. This requires them to be capable of supporting a drive over axle load of at least 2000 Kg for PV and 2800 Kg for LCV.

4.2. Lens Assembly

4.2.1. The lens assembly shall be adjustable vertically so that the centre of the lens can be set to any height between 500 and 1220 mm above the light test area. When set to the correct height the lens assembly shall be capable of being temporarily locked in the set position.
4.2.2. The lens assembly shall be attached to the LTE in a sturdy manner with no detectable rock or flexing of the lens assembly when the unit is mounted on the LTE rails.
4.2.3. The whole LTE shall be inherently stable when the lens assembly is positioned 1220 mm above the vehicle standing area.
4.2.4. A means shall be available to enable the LTE to be accurately aligned with the longitudinal axis of the vehicle. To achieve this, the lens assembly shall be capable of rotating in the horizontal plane (yaw) and when correctly aligned it shall be capable of being temporarily locked in the set position.
4.2.5. For calibration purposes only, where the LTE calibration is not preset at the factory, the lens assembly shall be adjustable in rotation in the vertical plane (pitch). Adjustment shall be possible only with the use of tools and after adjustment the mechanism shall be locked.
4.3. Aiming Screen

4.3.1. The aiming screen shall be positively located within the LTE and adjustable only with tools; attachment by adhesive is not acceptable as adjustment, either vertical or horizontal, may be necessary during calibration.

4.3.2. The aiming screen shall be marked with bandwidth lines coloured in accordance with the diagram shown in figure 3. MLTE’s shall be fitted with a standard screen with only four solid red or blue lines showing the 0.5%, 1.25%, 2% and 2.75% positions. The markings shall be positioned within a tolerance of +/- 0.15 mm and line thickness for defining bandwidths shall not exceed 0.35 mm.

4.3.3. As an alternative to the requirements set in 4.3.2; an aiming screen may be marked with 1 single broken line in the horizontal plane and 1 single broken line in the vertical plane, which intersect at the centre point of the screen and which are used in conjunction with a calibrated scaled wheel, whose adjustments are made in accordance with the manufacturers table.

4.3.4. The aiming screen shall be clearly and permanently marked with the LTE manufacturers logo in a position that can be seen easily when installed but away from the main screen markings or shown clearly on the body of the lens assembly unit.

4.3.5. If an SLTE is used, the light test results have to be displayed either in an alpha numeric or a graphic way (or a combination of both).

4.4. Documentation/Identification

4.4.1. The LTE shall have a durable identification mark on the exterior showing the make, model and serial number.

4.4.2. The manufacturer of the LTE shall provide a clear and easy to understand user manual, written in English and available at any time, which shall explain how it operates, including the function of each device.

4.4.3. The manufacturer of the LTE shall provide a technical handbook with a description of the calibration technology.

4.4.4. The manufacturer of the LTE shall, where this is available, deliver an “EC Declaration of Conformity”.

4.4.5. The manufacturer of the LTE shall deliver a “Maintenance procedure”.

5. Calibration of LTE

5.1. The calibration procedure shall match the manufacturers recommendation.

5.2. For an initial set up, the installer shall provide a calibration certificate.

5.3. A competent person shall calibrate the equipment every 12 months.

5.4. Calibration certificates shall be kept for at least 3 years and should state the technology of calibration.

6. Vehicle Preparation

- Check that headlamp glass is clean and dry
- Seat a driver of approx. 75 kg on the drivers seat
- Check tyre pressure and where necessary inflate them to the pressure recommended by the vehicle manufacturer for normal driving condition on the road
- Bring vehicles with pneumatic suspension and seat corrector to the normal road position
- Set any levelling devices to the "0" position
- Drive the vehicle on to the headlamp test area and bring it gently to a halt at the headlamp checking point, with the steering in the straight ahead position

7. Training

7.1. All operators carrying out the test shall have participated in an approved training course
SECTION B

GUIDELINES FOR PREMISES AND EQUIPMENT FOR THE TESTING OF LIGHT GOODS VEHICLES UP TO 3.5 TONNES D.G.V.W.

Department of Transport

[LGV Guidelines (2)]
# SECTION B

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## APPENDIX 1

### GUIDELINES FOR ACCEPTABLE EQUIPMENT

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VEHICLE TESTING

GUIDELINES FOR PREMISES AND EQUIPMENT FOR THE TESTING OF LIGHT GOODS VEHICLES UP TO 3.5 TONNES G.V.W.

1. Premises

The testing area, should be contained within premises that are permanent, fully weather proof buildings with concrete floors and adequate lighting. The entrance height should be a minimum of 3.2m and a minimum entrance width of 3.5m is recommended. The test bay should be not less than 4.25m wide with a headroom clearance of at least 3.5m high (4.9 m high over a lift).

The design should be such that vehicles can drive in one end of the test lane and out the other wherever possible.

It is desirable that sufficient parking space be available (at least three spaces of 7 metres x 3 metres) to accommodate any vehicles awaiting tests. The parking and the general area needed for movement of the vehicles for testing should be arranged so that there is no undue obstruction. There should be unobstructed access via a metalled road from the site entrance to the building entrance, such that vehicles can enter and leave the site in a forward direction.

Within reason the testing area should be free from oil contamination, smoke, exhaust fumes, noise or other pollution from adjacent facilities.

The door and front of each test bay shall display the colours and logo of the test network. The colouring shall be the full width of the bays including the door pillars and shall extend upwards to the top of the building or 1.5 metres, whichever is the lesser. The orange colour must be to ref. Pantone 158.

A sign post guiding customers to the test centre must be provided and shall display the colours and logo of the test network. Examples of the above requirements are given in Appendix 5.

The issuing authority may consider a premises as suitable for testing even though it does not comply fully with the measurements referred to in these guidelines.

2. Test Facilities - General

The Authorised Tester will be responsible for ensuring that the premises and equipment comply with the relevant Acts, Regulations, Bye-laws, Health, Safety and Welfare requirements and Health and Safety at Work Requirements.

The floor area of the test lane should be painted or otherwise to facilitate easy cleaning. Channels should be provided along the test lane to facilitate washing of the test area.

An appropriate exhaust emission extraction system must be installed and should, as far as practicable, be attached to all vehicles when the engine is running.

The level of illumination and the evenness of distribution should be adequate for inspection work to be carried out with ease.

An office should be provided on the premises. There should be a lockable desk, a chair, a telephone nearby and a security lockable steel floor safe for the safe custody of test documentation. The scale of these facilities may be less at sites with small throughputs.

A customer waiting room separated from the office and test lane but with a view of the test lane should be provided. Facilities should include a public telephone and coffee machine. Toilets, adjacent to the waiting
room dedicated to vehicle owners must be provided. The toilets should comply with the Health and Safety requirements.

Appendix 2 lists the equipment required for testing purposes.

3. Testing Facilities

The testing operations subdivide into the following stages:
- External inspection
- Internal inspection
- Underside inspection
- Lighting and headlamp aim
- Brake Testing

As a general requirement the testing equipment should be easily accessible to the entrance of the test lane so that the inspection can be carried out in sequence. This means that the equipment should be positioned in the building so that access to it is unlikely to be obstructed by other vehicles on the premises.

Equipment should be laid out with at least 1.5m between the inside of a wall, an entrance or exit door and lift platforms or a pit.

There should be at least .5m clearance around all parts of a lift including control boxes.

4. External Inspection Stage

The provision for the external inspection of the vehicle should be fully under cover and have a minimum of 8m in length and 4.25m in width and should be clear of obstruction. The level of illumination falling on the sides of the vehicle must be adequate for inspection purposes at all levels.

Steering Side Slip Plate
A steering side slip plate shall be fitted in the test lane prior to the shock absorber test, the roller brake test and the underside inspection.

Diesel Smoke Meter
A diesel smoke meter shall be provided to check the exhaust emissions of diesel engined vehicles in line with EU Directive 96/96.

Exhaust Gas Analyser
An exhaust gas analyzer shall be provided to check exhaust emissions of petrol engined vehicles in line with EU Directive 96/96.

5. Internal Inspection Stage

No special requirements.

6. Underside Inspection

Jacking equipment together with either a lift/hoist or a pit and a portable hand lamp is required.

Wheel play detectors are required but must not reduce the minimum clearance between inner edges of the lift platforms or width of pit.

Tool for Brake Pedal
A tool to keep the brake pedal under pressure is required in order to inspect the brake pipes/hoses for
leaks or bulges.

(1) **Lifts must meet the following conditions.**

A wheel supporting platform lift (not centre post type) or a scissor lift with:

(a) 2 platforms each at least 5.2m long to 6m long (depending on whether the lift is used for headlamp aim testing) by at least 630mm wide. Any upstands or guard rails must not be more than 25mm high; platform surfaces capable of being raised at least 1.4m from the floor;

(b) at least 800mm, but not more than 840mm between the inner edges of the platforms and at least 2.1m between the outer edges. These dimensions may be met by means of adjustable platforms;

(c) a safe working load (SWL) of at least 4700 kg certified and marked in accordance with BS AU 161: Part Ia. 1983 or equivalent specification; jacking equipment having a minimum SWL of 2800 kg capable of simultaneously raising both front or both rear wheels of any relevant vehicle, using the vehicle manufacturers recommended test procedures and jacking points;

(d) portable chocks and an appropriate chocks notice.

(e) a recess, if applicable, certified large enough (in plan view) to accept the platforms and posts, as defined in BS AU 161: Part Ia 1983;

(f) no walkways.

(g) confirmation, in writing by a competent person that the lift complies with all current safety standards (e.g. protection against pinching and shearing and roll off safety devices).

(h) if a scissor lift is used there must be clear access between the platforms, i.e. scissors must be located underneath the platforms rather than between them.

(2) **Pits must meet the following conditions**

(a) an uninterrupted working length of at least 7.0m;

(b) a width of at least 650mm and not more than 840mm over the working length;

(c) a depth of at least 1.40m and not more than 1.80m, over the working length. Staging may be used to meet this requirement;

(d) the capacity to accommodate vehicles weighing at least 3,500 kg with an axle load of 2,800 kgs;

(e) sealing, which prevents the ingress of water or a means that automatically prevents its accumulation;

(f) jacking equipment as required for a lift (see 1(c) of lift requirements).

(g) adequate access for personnel which does not intrude on the working dimensions;

(h) adequate general illumination;

(i) no upstands/guard rails more than 25mm high.

Provision should be made for the tester conducting the under-vehicle inspection to use a portable low voltage inspection hand lamp. Additional general illumination of the underside of the vehicle is recommended.
The lift should be so located that:-

(a) there is adequate clearance at each end of the lift platforms to cater for the overhang of a vehicle.

(b) there is a clear height of at least 4.9m measured above the fully lowered lift platforms over an area 7 m x 4 m located symmetrically above the lift.

(c) there is adequate clearance at the sides of the lift platform to enable the tester to view the sides of the vehicle and to open its doors to gain access to the inside of the vehicle when it is on the lift;

(d) a vehicle can be maneuvered into a position where it can be driven on and/or off the lift, as appropriate, without difficulty within a reasonable time; and

(e) it is not nearer than 1.50m to any entrance/exit by which vehicles enter or leave the building.

NOTE 1
If a lift forms part of the brake testing area (i.e. front axle on the lift while the rear axle is in the brake tester) then clarification must be sought from the lift manufacturer that the lift is suitable for the type of layout.

NOTE 2
If the vehicle "standing area" for the conduct of the headlamp aim test includes the platforms of the lift, these should be certified as meeting the Irish Standard for the Headlamp Aim Test Equipment and Floor Area Requirement. The platforms must rest on steel stops when lowered.

7. The Lighting and Headlamp Aim Stage.

The designated area for headlamp aim testing should be a minimum of 3m wide and 6m long. Apart from a clearly identified strip of 800m wide down the centre the area should be certified by a competent person as complying with the Irish Standard for Headlamp Aim Test Equipment and Floor Area Requirement. A copy of the certificates and measurements obtained must be provided to the Authorised Officer.

A lift or pit may form part of this area. In such a case certification is also required.

Wheel play detectors forming part of the headlamp aim stage must meet Irish Standard for Headlamp Aim Test Equipment and Floor Area Requirement.

Where a lift forms part of the designated area marking will not be required.

The headlamp aim tester should be rail mounted. Where rails are surface mounted and the layout is such that vehicles will be driving over the rails they should be protected on either side by concrete, steel or wood to ensure that they are not damaged. There should be a clearance of at least 1 m at the rear of the headlamp aim tester.

Suitable equipment should be provided or available to enable the headlamp aim tester to be checked for alignment on a regular basis.

8. Suspension/Shock Absorber Tester

The suspension tester should not be built into or be a part of a pit facility.

The suspension tester should be located so that:-

(i) vehicles can be driven on and off without difficulty

(ii) the vehicle is substantially level; and
(iii) it is in the building under cover and is located not nearer than 1.50m to any entrance/exit by which vehicles enter or leave the building

(iv) it is before the brake tester

(v) it is before the underside inspection.

9. Brake Testing Stage

Brake Tester General Description
The brake tester is required in order to determine that the brakes on the vehicle being tested are at least equal to the minimum required by law and that there is no unacceptable imbalance between brakes on the same axle. This requirement implies the need for

(i) A competent fully trained operator.

(ii) Data on vehicle weights.

(iii) Accurate calibration - See Appendix 3.

(iv) Means of weighing the vehicle as presented.

(v) Brake tester instruction manual.

(vi) Wheel chocks.

Brake Tester Location
A roller type brake tester should be set in the floor and a level floor of 7m available before and after the lateral centre line of the machine’s rollers. The roller brake tester should not normally be built into or be part of the pit facility.

The brake tester should be located so that:-

(i) vehicles can be driven on and off the rollers without difficulty and within a reasonable time;

(ii) there must be adequate clearance to enable all the brakes on a vehicle to be tested with the vehicle facing the same direction;

(iii) the vehicle is substantially level when on the rollers; and

(iv) the machine is in a building under cover and is located not nearer than 1.50m to any entrance/exit by which vehicles enter or leave the building.

Brake Testing - Dynamic
The roller brake tester must be the normal method used to test all brakes, except for vehicles equipped with braking systems and/or transmissions where the use of a roller brake tester is not feasible. In such cases a road test must be carried out using a decelerometer with a manufacturers calibration certificate not more than two years old. There shall be a reasonably level surface upon which a dynamic brake test may be safely carried out. This need not be under cover but should not be on the public road except under exceptional circumstances.

10. Test Information

The information captured on the side slip plate, shock absorber tester and the brake tester must be fed into a central computer system in the test lane.
11. **Insurance**

Local authorities shall ensure that Authorised Testers have adequate insurance cover for vehicle testing activities. This can be confirmed with written confirmation from the insurance broker.

12. **Quality Control**

Local Authorities must satisfy themselves that Authorised Testers have in place a quality control system. Part of this system shall include a daily, monthly audit (as per appendix 4) carried out by the service manager or a person with responsibility for Vehicle Testing. A record of these checks should be held for inspection by the Authorised Officer. Authorised Testers must obtain ISO/C.I.T.A. Recommendation No.9 within four years of being appointed.

13. **VTN Branding**

All approved VTN centres will be required to undertake the following:

1. Placement of signs on the premises, identifying them as an approved VTN centre.
2. Placement of directional signs, directing clients to the centre.
3. Uniforms, featuring the VTN logo.
4. Use official documentation when communicating with clients – letterhead, literature, reports.
5. VTN corporate colour to be applied to areas within centres dedicated to VTN activity.

Detailed guidelines will be issued to enable the centres to comply with these requirements. These guidelines are available upon request from the Local Authority Authorised Officer for Vehicle Testing.
APPENDIX I

GUIDELINES FOR ACCEPTABLE EQUIPMENT

It should be noted that equipment used in a vehicle roadworthiness test lane will be used more extensively than equipment used for normal vehicle servicing and therefore equipment manufacturers must consider whether or not their equipment is robust enough for vehicle roadworthiness testing.

1. Inspection Hand Lamp

   The lamp must be of a low voltage type in line with Section 21 of S.I. 3 of 1972 issued by the Department of Labour and also S.I. 188 of 2001.

   Power shall be between 40 and 60 watts and the exterior of the lamp shall be protected. The lamp supply lead shall be captive to a system of running eyes along a rail or cable such that the lead cannot trail either on the floor of the pit or workshop.

2. Jacking System

   The jacking system shall be capable of lifting simultaneously both wheels of the front or rear axle of a vehicle using the vehicle manufacturer’s recommended jacking points. The jacking equipment must have a S.W.L. of not less than 2,800 kilograms.

3. Optical Headlamp Testing Apparatus must be:-

   (a) an optical tube screen type presentation with adjustment and a suitable means to facilitate alignment.

   (b) capable of adjustment between heights of 500 mm and 1.220m.

   (c) marked with vertical and horizontal centre lines or other means of assessment.

   (d) capable of measurement of headlamp beam aim in gradient per cent (%).

   (e) fitted with a photo electric cell, for the location of beam hot spots measured by a meter mounted on the testing equipment.

   (f) provided with calibration equipment or have access to such equipment.

   The minimum acceptable standard for accuracy is as set out in B.S.A.U. 162: 1976 and its amendments. Equipment which meets an equivalent standard is also acceptable.

4. Roller Brake Testers

   General

   The roller brake tester must be capable of carrying out brake tests on all light goods vehicles up to and including vehicles of 3,500 KG. GVW with axle loads of 2,800 kgs.

   It must also be capable of weighing each axle of the vehicle in order to establish the total weight of the vehicle as presented. (This will not be required where the axle weight is captured by the shock absorber test).

   The brake tester must be safe to use and be robustly constructed to acceptable engineering standards. When installed in authorised testers’ premises it must be secure in the ground in line with the manufacturers recommendation.
Brake machines which operate automatically are not acceptable.

The make, model and serial number of the machine must be clearly and durably marked on the exterior of the console.

A comprehensive user/operator manual must be provided with each RBT and it must include details of the method of calibration.

On the roller set installation of bi-directional machines there must be a clear and durable marking, for the user, showing the normal forward ‘drive on’ vehicle direction.

**Roller Set**

Roller sets must have:

(a) two sets of rollers which can be driven independently and simultaneously by use of the appropriate controls and which are capable of simultaneously accommodating the left and right wheels of an axle.

(b) rollers driven at the same nominal surface speed in the range 2 to 5.5 km/h throughout the full brake effort range;

(c) a roller to tyre friction co-efficient of not less than 60% in wet conditions. The rollers must be durable and not likely to cause tyre damage;

(d) a means of automatically stopping each roller set individually when tyre to roller slip is at a pre-selected point in the range 10 to 25 per cent;

(e) a means of preventing either roller set from operating unless a wheel is located on it except when calibrating the equipment;

(f) rollers capable of accepting an axle load of not less than 2800 kg;

(g) roller dimensions as follows:
   (i) minimum diameter 150 mm;
   (ii) not more than 500 mm between roller centres;
   (iii) not more than 880 mm between the inner ends and not less than 2.6 metres between the outer ends of the high friction surfaces of the left and right rollers.

**Brake effort Displays**

Brake effort displays must:

(a) be analogue in kilogram force units (kgf) over the full brake effort range.

(b) indicate the braking forces at individual road wheels;

(c) have a maximum brake force display value not less than 1250 kgf;

(d) have:
   (i) 10 kgf dial graduations from ZERO up to and including 240 kgf;
   (ii) 20 kgf dial graduations from 240 kgf up to and including 800 kgf;
   (iii) 50 kgf dial graduations from 800 kgf and above.

(e) retain maximum brake effort values until manually reset (e.g. rollers re-start).
Accuracy

Brake effort readings must be accurate within:

(a) ±3 kgf of the true value from zero up to and including 100 kgf; and
(b) ±3% of the true value for all readings above 100 kgf.

User Controls

User controls must be manually operated and:

(a) suitably identified in Irish/English or acceptable symbols;
(b) capable of starting the LH and RH roller sets independently and stopping both either simultaneously or independently;
(c) remote control units must be either ‘hard wired’ or have suitable operating controls on the console, must be dedicated to operate only one RBT installation and be resistant to spurious signals from other sources.

NOTE 1:
There must be provision for the safe storage of a remote control hand set when it is not in use.

NOTE 2:
There must be a visual indication for the user, on the console or equivalent, when either roller set is in operation. For bi-directional RBTs the visual indication must show whether the roller sets are operating in the normal ‘forward’ or reverse’ direction.

Brake Efficiency and Imbalance

There must be a satisfactory means for the user calculating or the brake tester displaying the value of:

(a) brake efficiency calculated from the total braking effort, expressed as a percentage of the vehicle test weight (i.e. weight of vehicles as presented).
(b) brake effort difference between the left and right wheels on an axle, expressed as a percentage of the higher brake effort;

This may be output automatically by the brake machine or determined by the operator (using a calculator if necessary).

NOTE:
A printer or plotter on its own is not an acceptable substitute for (a) or (b) above.

If an RBT is equipped with a device for indicating excessive brake imbalance it must be inhibited when left and right brake efforts are 40 kgf or less and must display any imbalance which subsequently exceeds 30%.

Calibration

There must be suitable equipment for yearly calibration checks at brake effort values specified by the manufacturer or alternatively independent calibration by an outside contractor.

5. Exhaust Gas Analyser

When vehicles with four stroke spark ignition engines are inspected an exhaust gas analyzer capable of measuring the CO, HC and lambda values of exhaust gases to the method of test and standards set out in Directive 96/96/EC and approved to the requirements of OIML Class O.
6. Diesel Smoke Meter

A meter capable of measuring the smoke opacity of diesel engines to the method of test and test standards set out in Directive 96/96/EC and which has been approved to the specification issued by the Vehicle Inspectorate in Great Britain dated 2003 (MOT-05-01-01 Revision 2 2003) or to an equivalent standard by the appropriate authority of another Member State of the European Union shall be provided.

The smoke meter shall include a means for measuring engine RPM and engine temperature. The smoke meter must provide a print out showing the engine temperature, maximum RPM and idle speed for each accel., the date and time of the test and the vehicle registration.

7. Steering Side-Slip Plate

Side-slip plates capable of accurately measuring the geometry of front and rear axles of light commercial vehicles with a GVW up to 3.5 tonnes and an axle load of 2.8 tonnes. The range of side-slip to be measured shall be between 0-20m/km. The side-slip plate shall be of a type approved by the appropriate authority of a Member State of the European Union.

8. Suspension Tester/(Shock Absorber Tester)

A suspension tester should be based on the resonance principle with a flexible base excitation. The suspension tester should be capable of measuring suspension performance and imbalance in percentage terms. The suspension tester should have the capability of weighing axles up to 2.800kgs.

Suspension testers should be of a model approved and used in a Member State of the European Union.

9. Wheel Play Detectors

Wheel Play Detectors shall be fitted either side of the lift or pit to establish play in steering/suspensions of vehicles with GVW up to 3.5 tonnes and an axle load of 2.8 tonnes.

10. Tyre Tread Depth Gauges

Tyre tread depth gauges must be available at all times in test bay.

11. Decelerometer

A decelerometer duly calibrated and certified must be available for brake tests on vehicles where the use of a roller brake tester is impractical.

12. Tyre inflation equipment

A means of inflating tyres to manufacturer’s recommendations must be provided.

13. Tool for Pressing Brake Pedal

A tool will be required to press the brake pedal in order to examine the brake pipes and hoses under pressure in cases where the roadworthiness test is being carried out by a single tester.

14. Miscellaneous

The above list may be supplemented from time to time by the Issuing Authority.
APPENDIX 2

TEST EQUIPMENT REQUIRED FOR DEPARTMENT OF TRANSPORT

Light Goods Vehicle Test Scheme

1. Light goods vehicle roller brake tester
2. Decelerometer
3. 4.7 tonne 4 post lift (pit is acceptable)
4. 2.8 tonne jacking beam
5. Headlamp aim tester mounted on rails
6. CO/HC/Lambda exhaust gas analyser(s)
7. Diesel smoke meter
8. Suspension Tester
9. Steering Side Slip Plate
10. Wheel Play detector
11. Low voltage inspection lamp
12. Tyre tread depth gauge
13. Lever (1 meter long).
15. Tool for pressing Brake Pedal.
APPENDIX 3

DOCUMENTATION REQUIRED FOR TEST EQUIPMENT FOR DEPARTMENT OF TRANSPORT

Light Goods Vehicle Test Scheme

1. **Roller Brake Tester**
   (a) Written declaration from manufacturer that the brake tester meets the required specification
   (b) Calibration certification.

2. **Decelerometer**
   Current calibration certificate

3. **Lift**
   Written declaration from manufacturer that lift meets the required specification.

4. **Jacking Beam**
   Written declaration from manufacturer that jacking beam meets the required specification.

5. **Headlamp aim test area and tester**
   Written declaration from the garage proprietor that the headlamp aim test area conforms to the Department of Transport specifications. Written declaration from headlamp aim supplier that the headlamp aim tester is fitted in line with the Department of Transport specifications.

6. **CO/HC/Lambda Exhaust Gas Analyser(s)**
   (a) Written declaration from manufacturer that analysers meet the required specification.
   (b) Calibration Certificate.

7. **Diesel Smoke Meter**
   (a) Written declaration from manufacturer that smoke meter meets the required specification.
   (b) Calibration Certificate.

8. **Suspension Tester**
   (a) Written declaration from manufacturer that equipment meets required specification.
   (b) Calibration Certificate.

9. **Steering Side Slip Plate**
   Declaration for manufacturer that equipment meets the required specification.

10. **A comprehensive user/operator manual must be provided in the case of items (1) (2) (5) (6) (7) (8) and (9).**

11. Suitable data on ABS warning systems.

12. Most recent information on maximum R.P.M. for diesel engines.
## APPENDIX 4
### AUDIT OF TEST EQUIPMENT FOR LIGHT GOODS VEHICLES

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily</td>
<td>Weekly</td>
</tr>
<tr>
<td><strong>Premises</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean and sweep</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Pass Statements of Results</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that statements are stored in floor safe</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Roller Brake Test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check emergency controls</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check wheel slip roller operation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check wheel slip roller condition</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check roller condition</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check roller chain condition &amp; adjustment</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lubricate roller bearing and chains</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check dials are at zero</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that brake tester is secure</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean rollers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean console</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check calibration</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Lift/Hoist</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check lift controls and operation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that all guards are in place</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check cables</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check fluid level</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check ram for leaks</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check wheel free system</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lubricate as necessary</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that lift platform is level (where used for headlamp testing)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Pit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that pit is clean</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that pit is dry</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that pit lighting is operating</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Axle Jack</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that jack is secure within rails</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check safety features</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean equipment and rails</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check for oil or air leaks</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Grease and oil the rollers</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX 4
### AUDIT OF TEST EQUIPMENT FOR LIGHT GOODS VEHICLES CONTD.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily</td>
<td>Weekly</td>
</tr>
<tr>
<td><strong>Headlamp Tester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean Surface and screen with a soft tissue</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check and clean rails and rollers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that tester is in its place</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check calibration*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Smoke Meter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaning as specified by manufacturer</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check cable/wire (not twisted)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean equipment on outside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning-before first test linearity test</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check RPM sensor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check temperature probe/instrument</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean optic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean and calibrate as per manufacturer’s requirements</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Co Tester evening-after last test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disconnect probe</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check condition of probe</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Blow out hose (against flow)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change inlet filter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rinse the main filter (metal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check cable/wire not twisted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean equipment on outside</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Morning Before-First Test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leak test/Zero adjustment</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Calibrate</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Compressor/Air Pressure System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drain the air receiver</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>As per manufacturer’s requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the system is not leaking</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check oil level</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check condition of gauges (damage)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Tyre Depth Guage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for presence</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check for damage</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Clean Guage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*This should be checked every 3 months by a competent person.*
### APPENDIX 4
AUDIT OF TEST EQUIPMENT FOR LIGHT GOODS VEHICLES CONTD.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily</td>
<td>Weekly</td>
</tr>
<tr>
<td>Hand Lamp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for presence</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check for operation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition of wiring</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition of lamp</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Decelerometer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for presence</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition (damage)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean unit</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Calibrate (every 2 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steering Alignment Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for presence</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check condition (damage)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean equipment</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Long Lever</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that a report is available for each test</td>
<td>X</td>
<td>All testers must be registered before operating as a tester.</td>
</tr>
<tr>
<td>Check that all testers are Registered</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that the correct test procedures are being followed (observe a test)</td>
<td>X</td>
<td>Observe test.</td>
</tr>
<tr>
<td>Check that the appropriate test equipment is being used</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Check that smoke tests are carried out at correct temperature.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>