



IMPLEMENTATION OF PERIODICAL TECHNICAL INSPECTION PROGRAM

STAGE 1 – ACTIVITY B

Determination of the requirements for buildings and equipment of the Periodic Vehicle Technical Inspection Centers. Technical qualification of personnel – **Principal Body**



For LEPL “Unified National Body of Accreditation – Accreditation Center” of the Ministry of Economy and Sustainable Development of Georgia

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1 DEFINITION. TERMINOLOGY

- 1) “Agricultural Vehicle”; a specially designed wheeled or tracked motor vehicle which is intended for agricultural, melioration or forestry works, and for which the conveyance of passengers or the carriage of goods, or the towing of vehicles intended for the conveyance of passengers or for the carriage of goods, shall be deemed an additional function. A specialized vehicle which is made on the basis of a car shall not be construed as an agricultural vehicle.
- 2) “Approval”; a procedure whereby Georgian authorities certify that a vehicle satisfies the relevant administrative provisions and technical requirements referred to specific regulation in force.
- 3) “Articulated Lorry”; a lorry combined with a trailer(s) with over 750kg of maximum authorized mass (MAM)
- 4) “Authorization”; any authorization of a person to carry out inspections of such category of motor vehicles, as may be specified in the authorization
- 5) “Axle load”; a fraction of the actual laden weight of a vehicle which the road is subject to as a result of pressure on the axle. When determining the load on each leading and non-leading axle, axles located on the same horizontal line of the vehicle and separated structurally shall be construed as a single combined axle
- 6) “Bus”; a motor vehicle designed for the conveyance of passengers, which has more than eight passenger seats in addition to the driver’s seat
- 7) “Car”; a car (except for a motorcycle) with a maximum authorized mass of 3500kg and with no more than eight passenger seats, excluding the driver’s seat
- 8) “Types of Test Lane for PTI”; heavy vehicles (HV), unladen mass more than 3.500 Kg; light vehicles (LV), unladen mass no more than 3.500 Kg.
- 9) “Accreditation Certificate”; certificate issued by the Accreditation Center to the PTI center (or testing center) to prove its competence in accordance with Georgian regulations
- 10) “Client”; Unified National Body of Accreditation – Accreditation Center, LEPL, acting on behalf of Ministry of Economy and Sustainable Development
- 11) “Company”; the consultant: SGS S.A., SGS Société Générale de Surveillance SA
- 12) “Competent Authority”; an authority or public body entrusted by Georgian Government with responsibility for managing the system of PTI, including, where appropriate, the carrying-out of PTIs; it is “LEPL Unified National Body of Accreditation – Accreditation Center”
- 13) “Consultant”; means SGS S.A., SGS Société Générale de Surveillance SA
- 14) “Datum Line”; (marking), a line, arrow or other markings existing on test lane and which serves to outline the working testing areas
- 15) “Deficiencies”; technical defects and other instances of non-compliance found during a PTI
- 16) “Design Speed”; the maximum speed of vehicles as determined by the manufacturer
- 17) “Driver”; a natural person who drives a motor vehicle
- 18) “Fee”; price that includes direct cost, financial costs, overhead and administrative fees
- 19) “Gross Vehicle Weight”; the weight of a vehicle including goods, a driver and passengers; the limit of the gross vehicle weight shall be determined by the manufacturer. The gross weight of a caravan shall be calculated on the basis of the total of the gross weight of vehicles included in the caravan
- 20) “Inspection Equipment”; the equipment used by the operator to carry out inspections as approved by the Accreditation Center
- 21) “Inspection”; an inspection of a vehicle for the purposes of roadworthiness. Periodical technical inspection

- 22) “Inspection Body”; a body corporate authorized by the Accreditation Center responsible to carry out inspection of vehicles prescribed under Georgian regulations
- 23) “Inspector”; vehicle inspector who carry out the inspection on behalf of the authorized body or operator authorised by competent authority from Georgian Government to carry out PTI in a testing centre or, where appropriate, on behalf of a competent authority
- 24) “ISO 17020:2012”; Requirements for the operation of various types of bodies performing inspection
- 25) “ISO 3833-1977”; Road vehicles - Types - Terms and definitions; the provisions of this International Standard apply to all vehicles designed for road circulation (motor vehicles, combinations of vehicles, mopeds, motorcycles)
- 26) “Laden Mass (actual mass)”; the actual mass of a vehicle laden for a given period, including a driver and passengers
- 27) “LEPL Unified National Body of Accreditation – Accreditation Center”; body supervising provision of mandatory periodical technical inspection, entitled by the Ministry of Economy and Sustainable Development who shall control of the vehicle inspection service. It is the competent authority.
- 28) “Light Quadricycle”; a four wheel vehicle with a maximum design speed of no more than 45km/h, and with an internal combustion engine whose working cylinder volume does not exceed 50 cm³, and in the case of an electric engine, whose maximum generated voltage is 4kV, and whose unladen mass does not exceed 350kgs (in the case of electric vehicles the batteries are not included in the unladen mass).
- 29) “Light Trailer”; a trailer with a maximum laden weight of no more than 750kgs.
- 30) “Maneuver”; pulling off, turning right or left, making a U-turn, reversing, bypassing obstructions and/or changing lanes (regrouping)
- 31) “Maximum Authorised Mass”; (permissible weight), the maximum weight of a fully laden vehicle, which is acknowledged as permissible by a public authority of due competence by which such vehicle is registered.
- 32) “Motor Vehicle”; any power-driven vehicle on wheels (self-propelled) which is moved by its own means with a maximum design speed exceeding 25 km/h; generally used for the conveyance of passengers or for the carriage of goods on roads and/or for towing vehicles intended for the conveyance of passengers or for the carriage of goods on roads. The term includes a trolleybus, i. e. a vehicle powered electrically and operating on tyres. The term does not include mechanical vehicles, such as a tractor, for which the conveyance of passengers and the carriage of goods, or the towing of vehicles intended for the conveyance of passengers and for the carriage of goods on roads, is a supplementary function
- 33) “Moped”; a two or three wheel motor vehicle, whose design speed does not exceed 45km/h, and whose working cylinder volume in the internal combustion engine does not exceed 50 cm³, and in the case of an electric engine, whose maximum generated voltage does not exceed 4kV. A motorized bicycle and a light quadricycle shall fall into the category of a moped
- 34) “Motorised Bicycle”; a two or three-wheel vehicle, which is equipped with an internal combustion engine whose working cylinder volume does not exceed 50 cm³, and whose maximum design speed does not exceed 45km/h, and which shares the parameters of a bicycle in that it is ridden by means of pedals and handlebars
- 35) “Motorcycle”; a two wheel motor vehicle with or without a side-car. A three wheel motor vehicle whose unladen mass does not exceed 400kg shall fall into the category of a motorcycle
- 36) “Motorised Tricycle”; a tricycle whose engine power does not exceed 15kW, and whose unladen mass exceeds 350kg, but is less than 400kg, or less than 550 kg if it is intended for transporting cargo. In the case of electric vehicles the mass of batteries are not included in the unladen mass of a tricycle

- 37) “Non-Conformity”; non-fulfillment of specified requirements
- 38) “Official PTI Center Manual”; code of practice for inspection and testing of used motor vehicles for roadworthiness. Manual of Procedures
- 39) “Operator”; inspection body
- 40) “Periodical Technical Inspection Center – PTI Center”; vehicle inspection center
- 41) “Quadricycle; a four-wheel motor vehicle, other than a light quadricycle, whose engine power does not exceed 15kW and whose unladen mass exceeds 350kg, but is no more than 400kg, or 550kg if intended for the transportation of goods. In the case of electric vehicles the mass of batteries is not included in the unladen mass of the quadricycle. The motor vehicle specified in this paragraph, which meets the technical parameters of tricycles, shall be deemed to be a motorised tricycle
- 42) “Quality Control”; an adequate system of quality control at PTI center. Quality is understood as the totality of features and characteristics of the service that bear on its ability to satisfy stated or implied needs
- 43) “Quality Controller”; inspector or tester appointed quality control, responsible to ensure the quality control system
- 44) “Roadworthiness Certificate”; a PTI report issued by a centre containing the result of the PTI
- 45) “Periodical technical inspection”; a combination of technical operations and procedures, which determine the technical conditions of the main elements of traffic safety with a predetermined periodicity, and the content of harmful substances concentrated in car exhaust emissions in the ambient air
- 46) “Semi-Trailer”; any trailer designed to be coupled to a motor vehicle in such a way that part of it rests on the motor vehicle and a substantial part of its mass and the mass of its load is borne by the motor vehicle
- 47) “SGS Société Générale de Surveillance SA, SGS”; the company who shall carry out the consultancy service and generate recommendations in order to support the Client for the implementation of Vehicle Periodical Technical Inspection Program
- 48) “Standards Body”, a body corporate to confirm that products, goods, machinery comply with minimum standards and metrological requirements. Conformity assessment. It is Georgian National Agency for Standards and Metrology
- 49) “Supervising Body”; a body or bodies set up by the Ministry of Economy and Sustainable Development, responsible for the supervision of testing centres. A supervising body can be part of the competent authority or competent authorities
- 50) “SWL”, means safe working load
- 51) “Test Bay”, inspection area divided in test lane and split each other in specific working testing area, as braking testing, headlamp aim testing (with or without pit / lift) and nuisance testing area
- 52) “Test Lane”; a lane fitted with motor vehicle inspection equipment and facilities arranged in series
- 53) “Testing Centre”; establishment authorised by Georgian competent authority to carry out periodical technical inspection. Periodic Technical Inspection Center (PTI Center)
- 54) “Towing Vehicle”; a specialised vehicle for the transportation of cars and light wheeled tractors
- 55) “Tractor”; a wheeled or tracked agricultural vehicle with two or more axles
- 56) “Trailer”; non-self propelled vehicle on wheels which is designed and constructed to be towed by a motor vehicle

- 57) “Tricycle”; an engine vehicle with three symmetrical wheels, and whose working cylinder volume in the internal combustion engine (if any) does not exceed 50 cm³ and/or whose design speed does not exceed 45km/h
- 58) “Truck Tractor”; a mechanical means of conveyance which is to be operated together with a semi-trailer
- 59) “Two Wheel Electric Scooter”; a two wheel self-balancing single axle vehicle which is designed to carry a single passenger and is driven with the help of electric power
- 60) “Two or Three-Wheel Vehicle”; any power-driven vehicle on two wheels, with or without a sidecar, and any tricycle or quadricycle
- 61) “Unladen Mass (unladen weight)”; the mass of a vehicle determined by the manufacturer excluding a driver, passengers and freight, but including a full reserve of fuel and a necessary tool kit
- 62) “Vehicle”; any not rail-borne motor vehicle or its trailer. It is a machine which moves on roads or which is intended for movement on roads, and which moves with the help of an engine or other power mechanism
- 63) “Vehicle Registered”; a vehicle which is registered or put into service in Georgia by LEPL Registration Centre of Georgia, Ministry of Internal Affairs

2 REVIEWING AND ANALYSIS OF GEORGIAN LEGISLATION AND REGULATION CURRENTLY IN FORCE. REQUIREMENTS

Mandatory inspection for light vehicles, vehicles for carriage of passengers and vehicles less than 3.5 tones in Georgia was canceled from September 2004, after years of operations with non relevant results. The percentage of vehicles effectively inspected was relatively low, and the results of inspection did not reflect the real technical status of the fleet. This has led the authorities to consider that there was obviously an integrity issue. Since it was difficult to solve this issue at that time, it was decided to stop the technical inspection of vehicles.

The current reforms in this sphere are driven by Georgia's desire to introduce the European standards into the current legislation. To realize that the following minimum steps should be made:

- Each region should be studied to determine the number of PTI centers. Each region should have the necessary number of centers for uninterrupted inspection;
- Requirements should be developed for the buildings, equipment and personnel of the centers;
- A unified centralized system for automatic control of the process of PTI should be created.

Must be ensured the development of rules, standards, technical regulations and other normative acts in the field of PTI and the approval thereof as provided for by the Legislation of Georgia, as well as the exercise of state supervision and control over compliance with such rules, standards, technical regulations and other normative acts.

- Law of Georgia on Traffic of 24 December 2013, which sets out the following general provisions, “Chapter II, Traffic Regulation and Traffic Safety, article 11 - Roadworthiness Test”:
 - Mandatory roadworthiness test for motor vehicles, which are operating in the territory of Georgia and are registered as provided for by the legislation of Georgia
 - A roadworthiness test may be conducted in any test centre, regardless of the registration place of the vehicle or the legal address of a person. Freedom to choose the place of inspection
 - Test (examination) centre ('the test centre') is accredited by the Unified National Body of Accreditation called the Accreditation Center. Empowering AC to determine requirements to test centers must comply with

- The technical requirements (compliance with which is tested by the roadworthiness test) to be met by motor vehicles, the form of roadworthiness stickers and the procedures for their production, as well as the frequency of mandatory roadworthiness tests for different categories of vehicles, to be established by a normative act of the Government of the Georgia. A Legal Entity under Public Law called the Land Transport Agency, within the system of the Ministry of Economy and Sustainable Development of Georgia, shall ensure the preparation of roadworthiness stickers certifying the completion of roadworthiness tests and the submission thereof to test centres on the basis of a written request made by a test centre. Such a request shall indicate the number of the said roadworthiness stickers. The test centres shall issue stickers certifying the completion of roadworthiness tests by vehicles. A sticker certifying the completion of the roadworthiness test shall be placed on the lower left hand corner of the windscreen of the vehicle. Authority of the Government to determine requirements to the vehicles, roadworthiness stickers and frequency of PTI
- Test centres are obliged to submit to the Patrol Police Department of the Ministry of Internal Affairs of Georgia a list of vehicles tested during the previous month, before the 10th day of each month, in the form established by the Ministry of Internal Affairs of Georgia. Obligation of PTI center to provide Ministry of Internal Affairs of Georgia with the list of inspected vehicles
- Georgia Government's Decrees:
 - No 06 of 03.01.2014, on technical regulation approving the sticker form and production
 - No 30 of 03.01.2014, on technical regulation approving setting out requirements to the vehicles and inspection process and methods setting out the following provisions:
 - Requirements to the vehicle's moving safety elements
 - Braking system
 - Steering system
 - Visibility
 - Lights (scheme of checking)
 - Wheels
 - The body
 - Other elements (signal, speedometer, tachometer)
 - Noise
 - Vehicle contour marking
 - Vehicle equipment
 - No 37 of 03.01.2014, on technical regulation approving frequency of the PTI for different categories of vehicle
- Regulations of Georgian Accreditation Center, including:
 - GAC 1.8: 2012 - Rules and Procedures for Accreditation of Inspection Bodies on Conformity with SST ISO/IEC 17020:2012/2013.
 - Georgian Accreditation Center Technical Advisory Committee's recommendation for vehicle roadworthiness test centers (Vehicle roadworthiness test center's guide), describing:
 - Working procedures

- Vehicle identification
- Grounds for refusal
- Conditions to be considered
- PTI results figuration
- Registration system
- Building parameters
- o Other acts of AC regulating the process of obtaining accreditation by inspecting bodies

Thus, Georgian legislation provides for the following requirements to the Periodical Technical Inspection Center:

- o *Building:*
 - Location
 - Separate administrative and inspection area
 - Energy, electrical supply, ventilation
 - Fire-fighting security
 - Unobstructed access to the building
 - Dimension
- o *Equipment:* such provisions as equipment installation, use, layout, maintenance and calibration are not covered by the legislation.

In order to make it possible to set the technical level, the condition, and the working and general parameters of equipment mandatory certification process should be established

The certification process of equipment should be provided by the Georgian National Agency for Standards and Metrology or other related state body
- o *Personnel:* regulation doesn't provide any specific provisions regarding that matter.

Education and vocational training is the key to higher productivity, and allow faster and easier adaptation to technological and economic change. Despite the existence of possibility for getting higher education in Georgia in the field related to vehicle engineering, however, there are no specific Vocational Technical schools.

The training of the personnel consists in courses that are performed periodically by the Georgian Vehicle Inspection Bodies Association encompassing different relevant fields.

In this regards SGS recommends establishing of unified training program for test centres inspectors which should be elaborated by the specially constituted working group. The working group will consist of specialists in field of education and transport. After elaboration of the program it should be approved by the field council in accordance with LEPL "National Center for Educational Quality Enhancement" Director's decree № 434 "on approval of rules of establishment and activity of field councils council".

The approved training program will be implemented by the institution on the contractual basis. The certification of candidates will be based on this unified training program of PTI inspectors and such certification will be provided only by accredited personnel certification body.

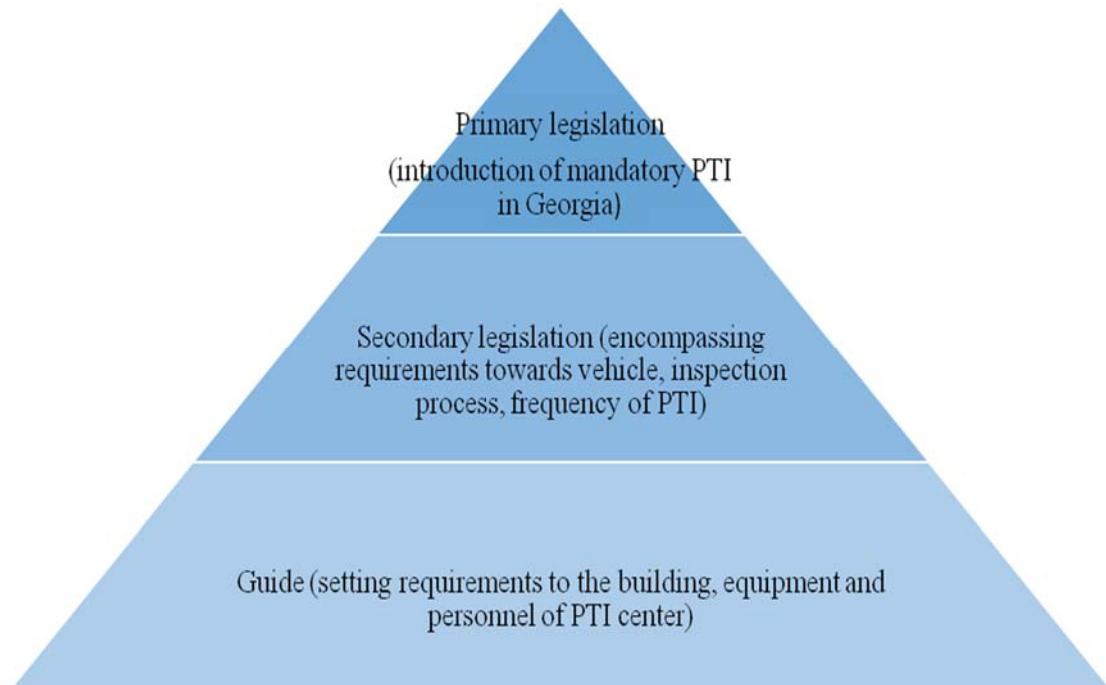
2.1 CONCLUSION ON CURRENT LEGISLATION (REGULATION)

All other matters regarding requirement to PTI centers that go beyond the scope of local legislation are governed by ISO/IEC 17020:2012 which is not enough for government proper regulation and further control of the PTI system.

Thus, on the basis of the review and analyze of current of legislation of PTI the following conclusions can be drawn:

- The regulation of the reviewed issues at the legislative level is extremely limited; in particular with regard to the requirements to building of PTI, inspection process, equipment and personnel.
- There is a number of secondary legislation acts that relate to different issues of vehicle inspection (technical regulation on requirements to the vehicle; technical committee's recommendation on PTI centers), but such acts do not form an integral system.

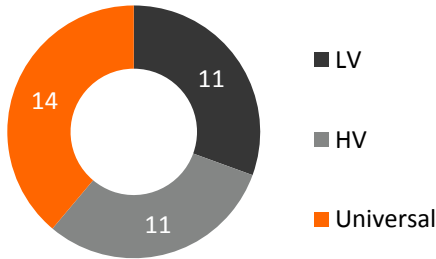
An effective PTI law framework should be structured hierarchically and be as follows:



- SGS shall provide recommendations on:
 - PTI Centre facilities
 - Test equipment and lay outs
 - Personnel, training
 - Management system
 - European Directive:
 - Directive 2014/45/EU of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/EC

3 REVIEW AND ANALYSIS OF CURRENT PTI CENTERS OPERATING IN GEORGIA

3.1 GENERAL ANALYSIS



Test lanes per type

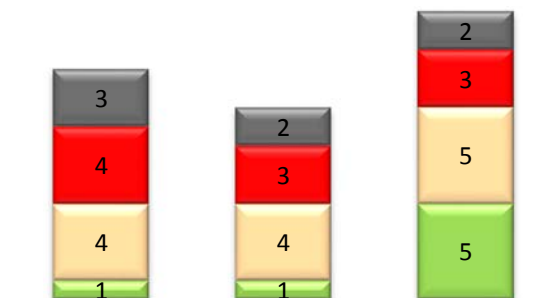
There are twenty six (26) accredited PTI centers in Georgia, of which, one (1) has accreditation for inspection of heavy vehicles (HV), one (1) for inspection of light vehicles (LV). The rest PTI center's accreditation scope covers inspection of both heavy (HV) and light (LV) vehicle categories.

The total number of test lanes is thirty six (36), of which eleven (11) are for light vehicles (LV), eleven (11) are for heavy vehicles (HV), fourteen are (14) for both categories. Existing PTI centers have the following characteristics:

- Building
 - Analysis: mostly complying with given requirements: access and exit of the building, straight through passage, sufficient parking, entrance/exists dimensions, length and width of the lanes, dedicated room for staff
 - Discrepancies: limited access to the pit, absence of waiting room, insufficient number of road signs and poor visibility, damaged entrance roads , absence of IT room
- Equipment
 - Analysis: complying with given requirements: major equipment per lane and layout
 - Discrepancies: due to the variety of equipment models it's impossible to specify which particular model does not meet the specific requirements, but based on the information from PTI some brake tester does not have the necessary stability in accuracy of measurement and automatic data transfer and the other major equipments in most of the cases doesn't have automatic data transfer at all.

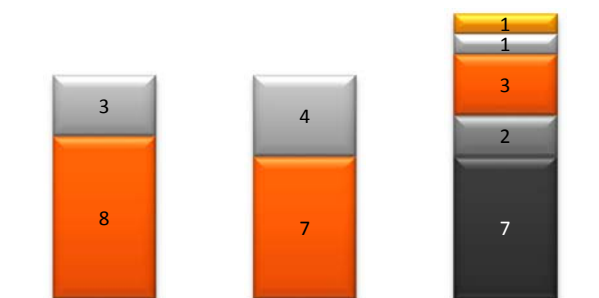
Emission tester producers distribution per lane types

- German "Bosch" ■ Russian "Meta"
- Russian "Infrakar" ■ German "MAHA"



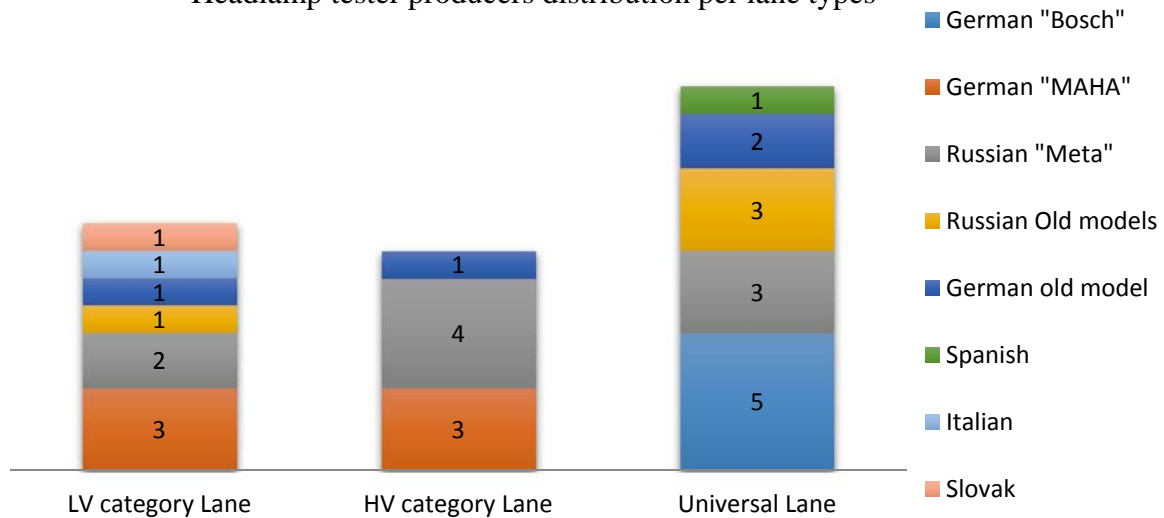
Brake tester producers distribution per lane types

- Bosch ■ Korean
- Georgian Pr. ■ Maha
- Russian



LV category Lane HV category Lane Universal Lane LV category Lane HV category Lane Universal Lane

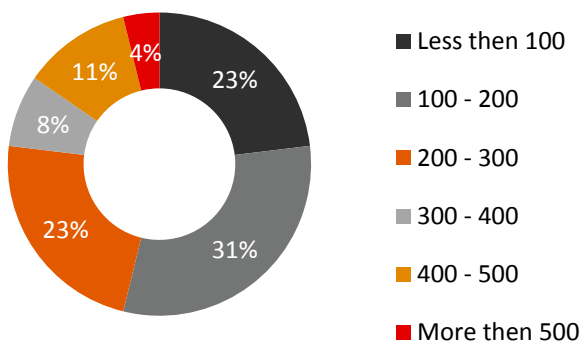
Headlamp tester producers distribution per lane types



- Personnel
 - Analysis: compliance with this topic must be compared with competent authority records due to it is related with inspection body standards

The detailed description of each PTI center and assessment of compliance with these requirements are given in the Attachment 1 to the present report.

3.2 DISTRIBUTION OF INSPECTED VEHICLE PER PTI CENTERS IN MAY, 2017 – WORKLOAD. FIRST RECOMMENDATIONS



Current workload of PTI centers are confined to the small number of inspected vehicles the average number of which is 200 vehicle per month for each center throughout the country.

According to the implantation of mandatory PTI from 1st of January 2018, test centres (PTI centers) shall adopt the new regulation, consequently and further integration to European standards will continue. Current PTI centers shall be ready to be modified in the shortest possible time. For such modification following minimum steps should be taken:

- Shall be managed isolation of inspection area from administrative area
- Shall be repaired, cleaned and properly managed the infrastructure
- Lanes shall be equipped with brake testers with more effective automotive data transfer system and accurate measurement
- Mandatory equipment shall be added such as side slip tester for light vehicle lane and axle play detector for light and heavy vehicle lanes
- Some corrections of the dimensions must be provided by this company, such as lane height and length
- Test centres (PTI centers) must have fully complied with the ISO/IEC 17020:2012 minimum standards

SGS, the consultant, is fully aware of the importance of maintaining an acceptable inspection capacity during the construction phase of new stations by other new operators.

As such, SGS considers that a transition period should be granted, during which the existing centers would decide whether they want to upgrade their facilities and keep on operating or if they decide to close down. They would have the time to undertake the necessary upgrade works up to the level corresponding to the minimum recommendations mentioned in this report.

The duration of this transition period shall be agreed with the competent authorities in Georgia, such as the Accreditation Center and the Ministry of Economy and Sustainable Development.

3.3 REQUIREMENTS TO PERIODICAL TECHNICAL INSPECTION CENTER (PTI) IN GEORGIA CURRENTLY

Following the above mentioned, we summarize the main requirements that came out of the current regulation for PTI centers in Georgia:

- PTI center should not be located in crowded areas and with intensive vehicle traffic places
- The movement of inspected vehicles within the test lane must be through and without the need for a turn or reverse
- The environmental conditions in which the PTI center carries out its function, should guarantee the authenticity of the results obtained. Among them, part of the test lane on which the vehicle is moving for brake system and suspension test passage must be sufficiently horizontal, to avoid spontaneous movement of the vehicle
- The testing center location, building and the area used for testing of vehicles, as well as energy source, lighting, heating, ventilation, electrical and fire safety shall ensure proper working / security conditions
- In case of using a hoist device, sufficient height should be provided for testing for each vehicle PTI
- The testing center should be equipped with fire-fighting and first aid facilities
- The administrative parts of the testing center building (the place of registration of the documentation, the waiting room, auxiliary space and other space) should be isolated and conformed to its designation
- The technical regulations, standards, norms, rules and reference data corresponding to the technical requirements and inspection methods applied to the vehicles should be applicable to every testing center. This information should be available to staff
- The information about the main technical requirements for vehicles to pass the PTI should be located in the visible place of the testing center and accessible to the drivers. Up on request, the testing center is obliged to submit to the interested party full information about the technical requirements to vehicle
- Information on tariffs for testing works should be available on the visible location of the testing center and available for the drivers
- Testing center should have the Journal of registered vehicles for PTI, as well as register of issued stickers and testing cards with its unique number

3.4 EXISTING SITUATION: FIELD WORK. DESCRIPTION OF EACH CURRENT PTI CENTER IN GEORGIA

SGS S.A., the consultant company, has visited all test centre currently operating in Georgia. We must proceed to show herein the field work done, which has allowed us to give our first recommendations above mentioned. Further, we shall proceed to assess in this instance the existing situation.

We report the company information: data ownership, accreditation number, expiring and scope, contact person. Moreover we include building and equipment description, mentioning key parameters to compare with parameters to recommend.

3.5 EXISTING SITUATION: FIELD WORK. ASSESSMENT OF EACH CURRENT PTI CENTER IN GEORGIA REGARDING TO UPDATING LEGISLATION

This consultant is processing the data we got about the existing situation in field work, which consists in:

- 1) Location and layout of PTI centers
 - General requirements as per current regulation
 - General requirements recommended
 - Number and type of test lanes
 - Dimensions of work area
- 2) Infrastructure. Health and safety
 - Building infrastructure
 - Health and safety
 - Inspection equipment infrastructure
 - IT infrastructure - equipment, database, software, CCTV or OCR system
- 3) Personnel
 - Personnel with activity in PTI center
 - Personnel: training course recording
- 4) Statistics 2016
 - Inspections and re-inspection per center

We might assess which PTI center is complying with given recommendations, and which PTI must modify. All in all, this assessment must be shared not only with competent authority but with rest stakeholder, mainly the current operators or inspection bodies, what allows to establish a plan and program to update minimum requirements, transitory requirements and final requirement.

3.5.1 ANALYSIS UNDER A STANDARD MANAGEMENT SYSTEM

The Accreditation Center shall determine the requirements that the test centres must comply with. According to requirements of Accreditation Center by 2015 all inspection bodies should have complied with ISO/IEC 17020:2012 standards, the provisions of which are set out in GAC 1.8: 2012 – “Rules and Procedures for Accreditation of Inspection Bodies on Conformity with SST ISO/IEC 17020:2012/2013”. It is deemed that Periodic Technical Centers in the field of periodic inspection of the roadworthiness of motor vehicles and their trailers, are inspection bodies, so that they should move to this international standard.

This International Standard has been drawn up with the objective of promoting confidence in bodies performing inspection. We must verify that those inspection bodies (PTI Centers) are providing or must provide in the future, in which case we shall provide recommendation in order to, information about the conformity of inspected items with regulations, standards, specifications, inspection schemes or contracts. Inspection parameters include matters of quantity, quality, safety, fitness for purpose, and continued safety compliance of installations or systems in operation.

The categorization of inspection bodies as type A, B or C is essentially a measure of their independence. PTI centers are considered as Type A.

It goes beyond the scope of this report to assess the extent to which PTI centers have fully complied with the ISO/IEC 17020:2012 standards.

For the full analyze of current PTI Centers the following information should be obtained:

- i. Examination of inspection process
- ii. Identification PTI Centers as inspection bodies
- iii. Inspection system; rules, procedures, and management for carrying out inspection
- iv. Impartiality; presence of objectivity. Objectivity means that conflicts of interest do not exist or are resolved so as not to adversely influence subsequent activities of the inspection body
- v. Administrative requirements; the inspection body shall be a legal entity, or a defined part of a legal entity, such that it can be held legally responsible for all its inspection activities
 - o The inspection body shall have documentation which describes the activities for which it is competent
 - o The inspection body shall have adequate provision (e.g. insurance or reserves) to cover liabilities arising from its operations
 - o The inspection body shall have documentation describing the contractual conditions under which it provides the inspection, except when it provides inspection services to the legal entity of which it is a part
- vi. Organization and management; the inspection body shall be structured and managed so as to safeguard impartiality
- vii. Personnel; the inspection body shall define and document the competence requirements for all personnel involved in inspection activities, including requirements for education, training, technical knowledge, skills and experience
- viii. Facilities and equipment; the inspection body shall have available, suitable and adequate facilities and equipment to permit all activities associated with the inspection activities to be carried out in a competent and safe manner
- ix. Inspection methods and procedures; the inspection body shall use the methods and procedures for inspection which are defined in the requirements against which inspection is to be performed
- x. The inspection body shall maintain a record system to demonstrate the effective fulfillment of the inspection procedures and to enable an evaluation of the inspection. The inspection report or certificate shall be internally traceable to the inspector(s) who performed the inspection. This report shall contain at least the following information if available:
 - o Vehicle Identification Number (VIN number or chassis number)
 - o Place and date of the inspection
 - o Odometer reading at the time of the test
 - o Vehicle category
 - o Identified deficiencies and their level of severity
 - o Result of the PTI
 - o Date of the next PTI or date of expiry of the current certificate, if this information is not provided by other means
 - o Name of inspection body and signature or identification of the inspector responsible for the test
- xi. Complaints and appeals; the inspection body shall have a documented process to receive, evaluate and make decisions on complaints and appeals

4 DETERMINATION OF THE REQUIREMENTS TOWARDS THE BUILDING OF THE PERIODICAL TECHNICAL INSPECTION CENTERS

4.1 PERIODICAL TECHNICAL INSPECTION CENTER (PTI)

Every operator or inspection body must, at all times, properly maintain the premises, facilities and testing equipment at all PTI centers for which he is responsible. The facilities and equipment include all facilities and equipment that were present at the time of the PTI center's approval and any additions or alternatives that have been subsequently agreed with the competent authority.

4.2 PREMISES

4.2.1 LOCATION

The competent authority shall require an integrated network of PTI centers strategically located.

Sites chosen shall be able to accommodate any future expansion in inspection volumes resulting from the demographic or socio economic change.

PTI centers should not be located in crowded and with intensive vehicle traffic places and should comply with local regulation regarding this. Entrance to the PTI Center facility and exits from the PTI Center must be independent and display the way to avoid risk and damage to the traffic on road.

4.2.2 SITE REQUIREMENTS

The operator shall propose appropriate fully serviced premises from which to deliver the service. The PTI centers shall be used solely for the purpose of vehicle inspection and shall not form part of any premises used for a conflicting business or conflict of interest (entities involved in the maintenance, repair or sale of the vehicle components).

For a site to be considered for approval it must provide the following:

- Inspection facilities housed in a weatherproof building
- Equipment lay out so that inspection can be performed effectively
- Unobstructed, safe and easy access from the site entrance to the building entrance and egress from the building exit to the site exit for both vehicles and pedestrians
- The movement of inspected vehicles must be through and without the need for a turn and reverse.
- Adequate parking and maneuvering space to accommodate vehicles of the category or categories which the operator is permitted to inspect and to allow the unobstructed movement of vehicles that have been inspected or are awaiting inspection. We recommend
 - Space reserved for 3 vehicles awaiting inspection.
 - A parking lot destined for vehicles of competent authority
 - Two parking lots for PTI Center staff's vehicles
 - Escape way to by-pass the inspection area if one vehicle is refused to inspect

4.2.3 BUILDING REQUIREMENTS

The building shall as a minimum include:

- A reception office. Each PTI center shall have a properly equipped reception office and sufficient seating for all customers
- A clearly identified weatherproof public waiting room or area from which the whole inspection can be directly observed without interruption. The waiting area should be identified by a notice

and floor marking if is applicable. The waiting room or area shall be equipped with comfortable seats and free water distributor

- Dedicate toilet facilities for customers (one of which is suitable for disabled persons). Separate toilet and washing facilities shall be provided for PTI center staff
- External lighting
- All PTI centers shall be fully weatherproof, with concrete or steel non slip floors, and have adequate lighting and ventilation
- Each PTI center shall include effective ventilation or exhaust extraction equipment designed to connect to the exhaust pipe of any vehicle to prevent a buildup of exhaust fume or other noxious gases in order to protect human health according to Directive 2008/50/EC

4.2.4 IT Room

As part of requirement of authorization each PTI center needs to have a telephone and internet connection and a power supply for the computer device (server and work-stations)

It is recommended that IT Room is in an office environment. A location that meets the following minimum specification for installation should consist of:

- A flat horizontal surface with a clear space, at a suitable working height, on which the hardware can be installed. The physical space allocated should be adequate for the equipment. The surface is appropriate for the equipment and will support the hardware. The environment surrounding the proposed location should be suitable and free from potential hazards (water, etc.)
- The IT Room should be sited, as far as is reasonably practical, so that it is protected from exposure to direct sunlight, dampness, contamination by dust and dirt and extremes of temperature

The consultant will detail in depth the dimensions and infrastructure for this room in specific deliverable.

4.2.5 AN INSPECTION AREA (TEST BAY)

As follow:

- Clear and unobstructed access and egress from the entrance of the building which conform to the dimensions applicable to the categories for each granted authorization
- A width and headroom which conforms to the dimensions applicable to the categories for each granted authorization. Any part of the building structure or other fixtures which come within the minimum area outline must be so positioned that vehicle movement is not impeded
- Part of the testing lane free from equipment can be outside the building
- Adequate general illumination. There must be sufficient artificial or natural lighting to enable inspecting to be carried out without difficulty
- Inspection building closed and protected from all natural factors
- Inspection building constructed preferably with prefabricated concrete structure and facades or of lightweight, thermally insulated material. This type of materials are widely used for industrial and commercial buildings, because of its quick manufacturing and mounting, high quality and resistance. The facade, exterior and interior should be painted in uniform or specially selected colors, well-kept and in clean condition at all times.
- Inspection floor built with reinforced concrete flat, waterproof floor coated with resistant surface to oils and grease.

There is an increased likelihood of distraction and disruption of inspection when bays are not separated by walls, etc. from other activities on the premises. Consequently test bays must be kept clear off all non-inspection activities and equipment when inspecting is in progress. It should be isolated from the administrative area of the PTI center building (the place of registration of the documentation, the waiting room, auxiliary space and other space).

4.2.6 SIGNS AND NOTICES

The PTI Center sign, with logo shall be displayed in a prominent position and in area visible from the entrance. In addition, sign can include information about the scope of accreditation of the PTI center.

The business trading name is displayed conspicuous and legible.

Clearly visible signs will be placed inside and outside the PTI centers including, but not limited to, the following

- Exterior signs indicating:
 - The center’s main entrance.
 - The center’s opening hours.
 - The official inspection rates.

- Interior signs indicating:
 - The center’s different sections: entrance – exit – parking lot – reception and cash register – inspection lanes – administration – etc.
 - Prohibited smoking, particularly in the inspection area
 - Fire-fighting equipment
 - Prohibiting entrance to the inspection area

PTI Centers shall also display the following notice on a notice board with a protective transparent covering inside the center in a location where they can be read by those presenting, or intending to present, vehicles for inspection.

- The certificate of accreditation
- The current Fees and Appeals poster showing vehicle categories, inspection fees and appeals clearly and legible completed

4.3 TYPES OF TEST LANES

The vehicles are grouped in four inspection groups for purposes of technical inspection procedures. There will be four types of test lanes. Each of the PTI centers will be designed and equipped to carry out all the necessary tests for that category of vehicles.

4.3.1 MAIN CATEGORIES OF VEHICLES

- 1) Category M: vehicles carrying passengers
- 2) Category N: vehicles carrying goods
- 3) Category L: Two- or three-wheel vehicles and quadricycles
- 4) Category O: trailers and semitrailers
- 5) Category T: agricultural and forestry tractors and their trailers

Category L - Mopeds, Motorcycles, Motor Tricycles and Quadrocycles	
Category	Vehicle Description
<i>Mopeds</i>	
L1e	Two-wheel vehicles with a maximum design speed of not more than 45 km/h and characterized by an engine whose: <ul style="list-style-type: none"> • cylinder capacity does not exceed 50 cm³ in the case of the internal combustion type, or • maximum continuous rated power is no more than 4 kW in the case of an electric motor
L2e	Three-wheel vehicles with a maximum design speed of not more than 45 km/h and characterized by an engine whose: <ul style="list-style-type: none"> • cylinder capacity does not exceed 50 cm³ if of the spark (positive) ignition type, or • maximum net power output does not exceed 4 kW in the case of other internal combustion engines, or • maximum continuous rated power does not exceed 4 kW in the case of an electric motor
<i>Motorcycles</i>	
L3e	Two-wheel vehicles without a sidecar fitted with an engine having a cylinder capacity of more than 50 cm ³ if of the internal combustion type and/or having a maximum design speed of more than 45 km/h
L4e	Two-wheel vehicles with a sidecar fitted with an engine having a cylinder capacity of more than 50 cm ³ if of the internal combustion type and/or having a maximum design speed of more than 45 km/h
<i>Motor tricycles</i>	
L5e	Vehicles with three symmetrically arranged wheels fitted with an engine having a cylinder capacity of more than 50 cm ³ if of the internal combustion type and/or a maximum design speed of more than 45 km/h
<i>Quadrocycles: motor vehicles with four wheels having the following characteristics</i>	
L6e	Quadrocycles whose unladen mass is not more than 350 kg, not including the mass of the batteries in case of electric vehicles, whose maximum design speed is not more than 45 km/h, and whose <ul style="list-style-type: none"> • engine cylinder capacity does not exceed 50 cm³ for spark (positive) ignition engines, or • maximum net power output does not exceed 4 kW in the case of other internal combustion engines, or • maximum continuous rated power does not exceed 4 kW in the case of an electric motor. These vehicles shall fulfill the technical requirements applicable to three-wheel mopeds of category L2e unless specified differently.
L7e	Quadrocycles other than those referred to in category L6e, whose unladen mass is not more than 400 kg (550 kg for vehicles intended for carrying goods), not including the mass of batteries in the case of electric vehicles, and whose maximum net engine power does not exceed 15 kW. These vehicles shall be considered to be motor tricycles and shall fulfill the technical requirements applicable to motor tricycles of category L5e unless specified differently.

Category M - Motor vehicles having at least four wheels and for the carriage of passengers

Category	Vehicle Description
M1	Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat, and having a maximum mass ("technically permissible maximum laden mass") not exceeding 3.5 tons
M2	Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass ("technically permissible maximum laden mass") not exceeding 5 tons
M3	Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding 5 tons

Category N - Power-driven vehicles having at least four wheels and for the carriage of goods

Category	Vehicle Description
N1	Vehicles for the carriage of goods and having a maximum mass not exceeding 3.5 tones
N2	Vehicles for the carriage of goods and having a maximum mass exceeding 3.5 tones but not exceeding 12 tones
N3	Vehicles for the carriage of goods and having a maximum mass exceeding 12 tones

Category O - Trailers (including semitrailers)

Category	Vehicle Description
O1	Trailers with a maximum mass not exceeding 0.75 tones
O2	Trailers with a maximum mass exceeding 0.75 tones, but not exceeding 3.5 tones
O3	Trailers with a maximum mass exceeding 3.5 tones, but not exceeding 10 tones
O4	Trailers with a maximum mass exceeding 10 tones

4.3.2 TYPES OF LANES

- 1) Test lane for inspection of vehicle with 2 wheels. Motor-cycle lane: MC
 - o L₁, L₂, L₃, L₄
- 2) Test lane for inspection of lightweight vehicles below 3.5 tones: LV. Categories
 - o M₁, M₂
 - o N₁
 - o O₁, O₂,
 - o L₅, L₆, L₇ (three wheeled vehicles and quarto cycles)
- 3) Test lane for inspection of heavyweight vehicles above 3,5 tones: HV. Categories
 - o M₂, M₃
 - o N₂, N₃
 - o O₃, O₄
- 4) Universal test lane for all vehicle categories (except L category)

4.4 TEST BAYS - LAYOUTS

A general layout recommendation for all type of lanes:

- With at least 0,6m clearance between the outer edges of equipment in adjacent bays on side by side layouts, unless otherwise provided by the manufacturer
- With at least 0,6m clearance around a pit, including cabinets. Exemption: the standing area for headlamp aim testing must be durably and clearly marked with a datum line (or lines) at the headlamp tester manufactures operational tolerance limits for positioning the vehicle headlamp in relation to the headlamp tester
- With a clearance of at least 1,0m forward of the non-drive on end and 1,5m to the rear of the drive on end of a lift or pit to any entrance / exit door or wall

4.4.1 MOTOR-CYCLE LANE, TWO WHEELS VEHICLES - MC

- **Test Bay**

- An inspection area 4,0m wide x 5,0m long x 2,5m high, which shall include the brake test and/or headlamp aim standing area(s)
- Vehicle entrances and exits at least 2,3m wide and 2,0m high
- Sufficient jacks or stands so that motorcycles without center stands can have each of their wheels raised clear of the floor independently
- A “Motorcycle Alignment Measurement” device, designed to measure the offset (in mm) between the median planes of each of the 2 wheels of a 2-wheeled vehicle (motorcycles, scooters and mopeds) when it is in normal rolling conditions, in a straight line and on a flat and level surface



Optional:

- A wheel supporting stand or bench capable of lifting the vehicle to a comfortable working height
- Clamps for motorbike brake bench

- **MC Brake Testing Area**

A Roller Brake Tester (RBT) must be installed so that:

- It is centrally located in an unobstructed working area at least 4,6m long and at least 1,2m wide. At least 2,1m to the front and rear of the RBT center line should be substantially levelled (which in good building practice is within +/- 12mm of a level plane)
- The console is positioned to be easily read whilst performing the test



- **Minimum dimensions. Summarize**

	TEST BAY	BRAKE TESTER AREA	ENTRANCE TO TEST BAY	EXIT FROM TEST BAY
Length	5,0m	4,6m		
Width	4,0m	1,2m	2,3m	2,3m
Height	2,5m		2,0m	2,0m

4.4.2 LANE FOR INSPECTION OF LIGHTWEIGHT VEHICLES BELOW 3.5 TONES – LV

The aim of the following layout is guarantee at least two vehicles being inspected simultaneously.

- **Test Bay**

- Vehicle entrances and exits at least 3,0m wide and 3,0m high
- A width of at least 4,5m.
- Headroom (in case of a pit) of at least 3.5m. Based on the practice, preferable height is 5m, for the purpose of double deck vehicles inspection
- Headroom (in case of lift) of at least 5,0m
- Recommended test lane length minimum 16,8m with pit, and 15,5 with lift. To cover less than this length as long as it leaves a clearance of at least 1,0m forward of the non-drive on end to any entrance / exit door or wall. (See attached layouts)



- **Underside inspection area: lift**

A wheel supporting platform lift

- Platforms without upstand or guard rails at least 3,9m. long
- Roller edges or vertical rails for jacking equipment must not be more than 25mm. higher than the platform
- The platform length does not include access ramp
- If a scissor lift is used, the scissors must be located underneath the platforms, allowing unobstructed access between them
- Platform surfaces capable of being raised at least 1,4m. from the floor
- A minimum width of a least 0,70m the inner edges of the platforms and at least 2,1m.width between the outer edges
- A safe working load of at least 3,5 tones clearly marked on the lift



- Jacking equipment clearly marked with a minimum of 2,6 tones, capable of simultaneously raising either front or rear wheels. Duplicated jacking equipment is acceptable
- Chocks that operate automatically when the lift is raised
- **Underside inspection area: pit**
 - An uninterrupted working length of at least 6,0m
 - A width of at least 0,760m and not more than 1,0m over the working length measured across both pit walls
 - A depth of at least 1,6m and not more than 1,75m, over the working length. Staging may be used to meet this requirement
 - Adequate access for personnel which does not intrude on the working dimensions. Access steps may encroach on the required dimensions to an entrance/exit door or wall provided there is a minimum clearance width of not less than 0,6m
 - Sealed to prevent the ingress of water
 - Jacking equipment as required for a lift. Rolled edges and vertical rails for jacking equipment must not exceed 25mm height
 - Captive bearing based axle play detectors, positively secured to the floor which permits the steered wheels to be turned freely from lock to lock
 - No part of the installation (axle play detector) should be within 1,5m of the pit working length drive on end. The location of axle play detectors must be that the inspector has adequate space to safely inspect all the items required when stood in the pit
 - Upstand or guard rails must not exceed 25mm height
- **Headlamp aim testing area**

A headlamp aim testing facility will be considered suitable if the following is provided:

 - A calibrated (embedded in the floor) rail or track for trolley headlamp tester, 2,5m long
 - A headlamp tester installation with:
 - a designated vehicle standing area which is certified as flat and level to within +/-6mm in any 3,0m and
 - i. a clearly outlined with marking area of floor 4,5m long measured from the datum line by 2,5m wide, this area may straddle or overlap pit/lift or brake testing area
 - ii. if during headlamp testing vehicle wheels rest on axle play detector than the detector plates must be leveled within the +/- 6mm limits
 - iii. additional equipment fitted in the standing area must comply with the +/- 6mm level requirements



- Rails certified as level to within +/-2mm and parallel to the standing area. The rails must be straight and the headlamp tester must not have significant rock or twist at any point along the rails or track.
- 0,6m clearance behind the headlamp aim tester optical head. Floor mounted equipment must not be installed in this area
- The standing area must be durably and clearly marked with a datum line (or lines) at the headlamp tester manufactures operational tolerance limits for positioning the vehicle headlamp in relation to the headlamp tester



- **Brake testing area.**

A roller brake tester (RBT) must be installed so that;

- It is centrally located in an unobstructed working marked area at least 14,0m long and at least 3,5m wide. At least 2,1m to the front and rear of the RBT center line should be substantially level (which in good building practice is within +/- 12mm of a level plane). The remainder of the area must not exceed a 10% slope (100mm in 1,0m). Part of the brake testing standing area can be outside the building, providing the first part of the RBT floor plate is at least 1.5m inside the building. In the case of a 'drive-through' layout where the roller brake tester is fitted after the lift or the pit there shall be a clear distance of at least 4,2m between lift platform (first point) and the RBT center line. Lead-off ramps from floor mounted lifts shall not encroach on this area
- Any part of a roller brake tester is at least 0,6m from an inspection pit or lift platform
- It is in accordance with the manufacturer instructions
- The console is positioned to be easily read whilst performing the test
- When a cross-pit RBT is installed there must be an isolator that prevents operation of the RBT when a person is in the pit. It must be positioned so other equipment will not interfere with brake testing
- There are two ways to install the side slip tester with the brake test bench, either in order to measure the slippage of the vehicle's two axles before proceeding with the shock absorber and brake tests, the side slip tester must be positioned at least 3.5 m from the entry to the pit; or to perform the slip test on the front axle only, the side slip tester pit edge needs to be positioned 0.80 m from the brake tester pit entrance unless otherwise provided by the manufacturer



- **Minimum dimensions. Summarize**

	TEST BAY ⁽¹⁾	ENTRANCE / EXIT TO / FROM TEST BAY ⁽²⁾	HEADLAMP AIM TESTING AREA	BRAKE TESTING AREA ⁽³⁾	PIT	LIFT ⁽⁴⁾
Length	16.8/15.5m		4,5m	14,0m	6,0m	3,9m
Width	4,5m	3,0m	2,5m	3,5m	0,76-1,0m	
Height (pit)	3,5m	3,0m				
Height (lift)	5,0m	3,0m				
Depth					1,6-1,75m	

- (1) These dimensions can match or not with building dimensions (working area, not include admin building)
 (2) These dimensions match with the access to the inspection area (test area)
 (3) Part of the brake testing standing area can be outside the building, providing the first part of the RBT floor plate is at least 1.5m inside the building
 (4) Not include ramps

4.4.3 LANE FOR INSPECTION OF HEAVYWEIGHT VEHICLES ABOVE 3.5 TONES - HV

- **Test Bay**

- Vehicle entrances and exits at least 4,2m wide and 4,2m high
- Test lane width of at least 6,0m.
- Test lane headroom of at least 4,5m
- Test lane length minimum 20,2m / 22,2m (see appendix)



- **Underside inspection area: pit**

- An uninterrupted working length of at least 12m for HV categories inspection, except O3 and O4 categories inspection for which minimum length is 16m
- A width of at least 1,0m and not more than 1,05m over the working length measured across both pit walls
- A depth of at least 1,4m and not more than 1,6m, over the working length. Staging may be used to meet this requirement
- The capacity to accommodate the weight of all vehicles that fall into the category to be tested
- Sealed to prevent the ingress of water
- Jacking equipment preferably power operated, on a trolley platform able to move an appropriate distance along the pit. Having a minimum safe working load of 15.0 tones, capable of simultaneously raising both front wheels of any vehicle using the recommended test procedures and jacking points. It must also be capable of lifting vehicles fitted with independent suspension
- Adequate access for personnel which does not intrude on the working dimensions, there must be at least one method of easy access either by a staircase at one end of the pit or by a cross tunnel, and adequate escape facilities either at the other end of the pit or along its length

- Any upstands/guard rails if fitted, to be no higher than 50mm
 - Axle play detectors may be installed on each side of the pit (it is recommended to place at 1,5m from the pit exit). At the point where the jack will be used and if installed must be controlled by a “wandering” hand control at this point so the tester may remain close by a wheel when the axle play detector is operated to inspect for wear
 - **Headlamp aim testing area**
 - A headlamp aim testing facility will be considered suitable if the following is provided:
 - A calibrated (embedded in the floor) rail or track for trolley headlamp tester
 - A headlamp tester installation with:
 - a designated vehicle standing area which is certified as flat and level to within +/-6mm in any 3,0m and
 - i. a clearly outlined area of floor 14,0m long measured from the datum line by 3,0m wide, this area may straddle or overlap pit or roller brake tester area
 - ii. if during headlamp testing vehicle wheels rest on axle play detector than the detector plates must be leveled within the +/- 6mm limits
 - iii. additional equipment fitted in the standing area must comply with the +/- 6mm level requirements
 - Rails certified as level to within +/-2mm and parallel to the standing area. The rails must be straight and the headlamp tester must not have significant rock or twist at any point along the rails. If the Roller Brake Tester encroaches on the standing area then the standing area levels must include the cover plates and meet the ±6 mm requirements
 - Equipment correctly aligned to the standing area and positioned to take account of the vertical and horizontal location of headlamps tested
 - 1,0m clearance at the rear of the tester optical head. Floor mounted equipment such as brake testers must not be installed in this area
 - The standing area must be durably and clearly marked with a datum line (or lines) at the headlamp tester manufactures operational tolerance limits for positioning the vehicle headlamp in relation to the headlamp tester
 - Any other test equipment within the standing area arranged so that it does not interfere with the proper testing of headlamps
 - Additionally, in all installations, it is recommended that the rails are sunk into the ground to avoid any excess wear and tear on them. Where vehicles are driven over them the rails must be recessed or suitably protected
- **Brake testing area**
 - A roller brake tester (RBT) must be installed so that;



- It is centrally located in an unobstructed, substantially level area, at least 22,0m long and 4,0m wide
- 11,0m standing area to the rear of the RBT may extend outside a building provided the ground is substantially level is constructed of acceptable material and the roller brake tester bed plate is installed not less than 1,5m from an entrance or exit
- Vehicles are substantially level while being tested (a gradient of not more than 5%)
- The console is positioned so that it can easily be read by the tester performing the test on the vehicle
- An intercom system allowing the tester to communicate with each other when any axle is positioned in the brake rollers
- Any part of the roller brake tester is at least 0,6m from an inspection pit, lift platform or lift recess (except cross pit rollers)
- When a cross-pit RBT is installed there must be an isolator that prevents operation of the RBT when a person is in the pit. It must be positioned so other equipment will not interfere with brake testing. In this case, is recommended that the brake tester be installed 0,50m from the beginning of the pit.
- There must be four chocks available for use in the roller brake test area
- A means of determining brake efficiency and imbalance from the roller brake tester readings is available
- Suitable arrangements are made for re-calibration of the roller brake tester
- Side Slip Tester. By installing the side slip tester center at a significant distance, at least 2,8m from the brake tester center if the side slip of the front and rear wheels of the vehicle is to be measured before proceeding with the braking tests; to perform the slip test on the front axle only, the side slip tester needs to be positioned according to manufacturer’s manual



• **Minimum dimensions. Summarize**

	TEST BAY ⁽¹⁾	ENTRANCE / EXIT TO / FROM TEST BAY ⁽²⁾	HEADLAMP AIM TESTING AREA	BRAKE TESTING AREA ⁽³⁾	PIT ⁽⁴⁾
Length	20,2/22,2m		14,0m	22,0m	12-16,0m
Width	6,0m	4,5m	3,0m	4,0m	1,0m
Height	4,5m	4,2m			
Depth					1,4-1,6m

- (1) These dimensions can match with building dimensions (working area, not include admin building)
- (2) These dimensions match with the access to the inspection area (test area)
- (3) Part of the brake testing standing area can be outside the building, providing the first part of the RBT floor plate is at least 1.5m inside the building
- (4) If the lane is deemed as universal, the depth of the pit is 1,6m

5 VENTILATION

PTI Centers shall have a ventilation system for inspection area in order to prevent the accumulation of toxic substances resulting from the operation of vehicles inside.

If the testing process is carried out in enclosed area, there shall be an appropriated system to reduce harmful gases and avoid its concentration inside the building, with capacity $>400 \text{ m}^3/\text{h}$ for LV lanes and $>1000 \text{ m}^3/\text{h}$ for the HV lane. This system must be controlled automatically by carbon monoxide (CO) detection device and carbon dioxide (CO_2), which activates the extraction system from concentrations of 10 parts per million (ppm) CO or 5.000 ppm CO_2 .

There shall be a forced ventilation system for pits including fresh air supply and allow the renewal of the total volume of air from the pit at a frequency at least six times an hour.

5.1 PETROL AND GAS POWERED VEHICLES

We recommend in-use exhaust emissions testing is applied to all petrol and gas-powered vehicles with four or more wheels. The test does not apply to vehicles fitted with 2-stroke engines.

The emissions test to which a vehicle is subject will depend upon its date of first use (i.e. date of registration or date of manufacture if used abroad before first registration in Georgia).

For all petrol engine vehicles first used before / after (date to determinate), shall be tested with a procedure consists of a metered check at the normal idle speed, the so-called 'non-catalyst' test, in which the concentration of carbon monoxide (CO) will fitted between 3,5% and 5%vol.

Also shall be performed test for petrol fuelled vehicles fitted with advanced emissions control systems such as three way catalytic converters in which case, the concentration of carbon monoxide (CO) will not exceed 0,5%vol

5.2 DIESEL ENGINE VEHICLES

This inspection applies to all diesel engine vehicles with four or more wheels. If the smoke level reading is at or below 1,5m-1, the vehicle has passed the metered test, and a pass result will be displayed on the meter. 1,5m-1 for Euro 4, Euro IV or Euro 5, 0,7m-1 for Euro 6 and Euro VI if the vehicles were registered after a date to determinate. Vehicles before this date, for naturally aspirated engines - 2,5m-1 or 3,0m-1 for turbo engines.

6 DETERMINATION OF THE REQUIREMENTS TOWARDS THE EQUIPMENT OF THE PERIODICAL TECHNICAL INSPECTION CENTERS

Different categories of vehicle need different specialist test equipment. The operator of PTI centers (inspection body) shall make sure he has at least the minimum level for each vehicle category to test. All equipment must be kept in good working order and calibrated properly.

One of the objectives for the operator while providing inspection services is to improve the service delivery by modernizing the inspection methods. Such modernization of the service shall entail a shift from manual to semi-automated or fully automated inspection procedures.

The competent authority shall announce list of various makes and models of test equipment that have a measurement capability, e.g. headlamp aim tester, brake tester, etc. This list shall be organized by the competent authority and it lists makes and models of test equipment.

6.1 LIST OF EQUIPMENT MANUFACTURERS

It shall standardize documents that specify requirements for technical inspection vehicles equipment laying down their required characteristics:

- Make
- Model
- Measurement capability

Standards are developed and approved in a consensus-based process organized by a recognized standards body, Georgian National Agency for Standards and Metrology.

The competent authority shall keep available this list for any manufacturer, which shall comply with standards body requirements.

6.2 REQUIRED MINIMUM EQUIPMENT

- Major Equipment
 - 1) a means of allowing the underside of vehicles to be properly examined without obstruction or hindrance - inspection pit / lift
 - 2) A headlamp aim testing facility
 - 3) Brake testing equipment
 - 4) Emissions testing equipment (nuisance)
 - 1) Gas analyzer
 - 2) Smoke meter
 - 5) Sideslip tester (just for light vehicle inspection lane)
 - 6) Axle play detector
- Miscellaneous Equipment
 - 7) A tyre tread depth gauge
 - 8) Weight equipment, which might be incorporated in major equipment as brake tester
 - 9) Hydraulic/pneumatic trolley jack and safety stands
 - 10) Oil temperature measurement devices (sometimes integral to diesel smoke meters)
 - 11) Suitable wheel chocks for the categories of vehicle to be inspected
 - 12) Suitably positioned mirrors
 - 13) Low voltage inspection lamp
 - 14) Suitable pinch bar
 - 15) Steel tape measure
- Station auxiliary equipment (optional)
 - Standby generator
 - Air compressor

All inspection equipment accommodated within each PTI center shall be accurate, reliable and built to good engineering standards and incorporate the most up-to-date safety features. The operator shall ensure that all the inspection equipment is available in each test lane at all times.

MANDATORY EQUIPMENT TO INSPECT VEHICLES. REQUIRED MINIMUM																			
Vehicles	Maximum authorised mass	Category	Type of fuel	Equipment															
				1	2	3	4,1	4,2	5	6	7	8	9	10	11	12	13	14	15
Motorcycles		L ₁ , L ₂ , L ₃ , L ₄	petrol	x	x	x	x				x	x				x		x	
		L ₁ , L ₂ , L ₃ , L ₄	diesel	x	x	x		x			x	x		x		x			x
		L ₅ , L ₆ , L ₇	petrol	x	x	x	x				x	x				x			x
		L ₅ , L ₆ , L ₈	diesel	x	x	x		x			x	x		x		x			x
Carrying passengers	< 3.500kg	M ₁ , M ₂	petrol	x	x	x	x		x	x	x	x	x		x	x	x	x	x
		M ₁ , M ₂	diesel	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
	> 3.500kg	M ₂ , M ₃	petrol	x	x	x	x			x	x	x	x		x	x	x		x
		M ₂ , M ₄	diesel	x	x	x		x		x	x	x	x	x	x	x	x	x	
Carrying goods	< 3.500kg	N ₁	petrol	x	x	x	x		x	x	x	x	x		x	x	x	x	x
		N ₁	diesel	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
	> 3.500kg	N ₂ , N ₃	petrol	x	x	x	x			x	x	x	x		x	x	x		x
		N ₂ , N ₄	diesel	x	x	x		x		x	x	x	x	x	x	x	x	x	
Light Trailer	< 750kg	O ₁ ,			x					x	x				x			x	
Trailer	< 3.500kg	O ₂ ,			x					x	x				x			x	
	>3.500kg	O ₃ , O ₄			x					x	x	x	x		x	x	x		x

6.3 EQUIPMENT CALIBRATION

The operator shall ensure that all inspection equipment has a current calibration certificate, if appropriated, and retain such calibration certificates for each item of inspection equipment on site at each PTI center. The operator shall check that all inspection equipment remain in calibration at special intervals and will keep records of all such calibration checks.

A comprehensive user/operator manufacturer’s manual must be provided with each equipment and it must include details of the calibration method and maintenance instruction.

The operator shall provide the following information at intervals and in a format to be agreed:

- Maintenance register for each item of inspection equipment
- Record of faults for each item of inspection equipment
- Record of calibration readings for each item of inspection equipment, if appropriate

6.3.1 CALIBRATION PROGRAM. RECORDS OF INSPECTION EQUIPMENT

The calibration program or procedures should define the calibration processes, the environmental conditions when relevant, the frequency or other reasons for calibration, the acceptance criteria and the action to be taken when the results are found unsatisfactory and/or inadequate.

A record of inspection equipment, which requires calibration, must be entered onto registration book (hard or soft copy). The details of the equipment as type, make, model, serial number shall be entered.

The operator is required to ensure that calibrations are carried out when required, controlling calibration date and expire date of the equipment. These dates must be verifiable by a calibration certificate.

Calibration certificates are normally valid for three (3), six (6) or twelve (12) months from the date of issue. The frequency of this calibration and qualifications of calibrators is set out in maintenance plan of each PTI Center.

Roller Brake Testers Certificates must include a record of the test load, gauge readings and percentage error. The following limits apply in both forward and reverse operation as applicable. The minimum values for Roller Brake Testers are as follows:

Motorcycles					
Tested at	0	50 kgf	100 kgf	200 kgf	300 kgf
		(110 lb)	(220 lb)	(440 lb)	(660 lb)
Light vehicles					
Tested at	0	100 kgf	200 kgf	400 kgf	600 - 800 kgf
		(220 lb)	(440 lb)	(880 lb)	(1320 - 1760 lb)
Heavy vehicles					
Tested at	0	200 kgf	400 kgf	600 - 800 kgf	1200 - 1500 kgf
		(440 lb)	(880 lb)	(1320 – 1760 lb)	(2640 - 3300 lb)

- Accuracy brake force readings shall be accurate to within:
 - ± 3 kgf (6.6 lb) of the true value from zero up to and including 100 kgf
 - ± 3% of the true value for all readings above 100 kgf

Weighing facilities certificates must contain a record of the load, gauge readings and percentage error. Accuracy to within $\pm 3\%$ between 200 / 3000 Kg. imposed weight traceable to an acceptable quality standard.

The calibration status should be shown clearly on relevant inspection equipment, preferably by means of suitable markers or labels, indicating when the last calibration was performed or when the next calibration is due. Calibration certificates for equipment are to contain the following (or similar) statement:

“This is to certify that the above test equipment has been calibrated and is within the limits specified by the regulation”.

EQUIPMENT (make, model and serial number)												
Title and address of calibration company or agency						PTI Center:						
Certificate serial number						Status of the calibration: this is to certify that the test equipment has been calibrated and is within the limits specified						
Signature of calibrator	1	2	3	4	5	6	7	8	9	10	11	12
	YEAR			YEAR			YEAR			YEAR		

6.3.2 FREQUENCY AND LOCATION OF CALIBRATION

- Exhaust Gas Analyzers
 - Daily (checks by the inspector); carry out a leak check on the hose and probe
 - Three, six or twelve monthly – depending on manufacturer’s maintenance schedule. This must be carried out according to the approved procedure by a recognized calibration technician only. An exhaust gas analyzer must be calibrated with a certified calibration gas and when the ambient temperature is above 5 degrees C
- Diesel Smoke Meters
 - Weekly checks by the user
 - Annual calibration by a technician accredited or manufacturer
- Roller Brake Tester, Side Slip Tester, and Headlamp Aim Testers; these can be calibrated anytime during the six months following its last date of calibration. The equipment is then considered calibrated until the end of the 6th month. (Where the calibration certificate only states the month and year of expiry, the last day of that month should be taken as the calibration expiry date)

6.3.3 CALIBRATION PROCESS

Equipment shall be calibrated on site only by technician accredited and /or the original manufacturer; or firm that has taken over responsibility for equipment support from the manufacturer; or a calibration specialist; or an experienced person from the operator (PTI Center), in which case Accreditation Center’s member will witness a calibration prior to confirmation of this arrangement and may subsequently require periodic demonstration of continuing competence using the correct equipment.

Where the operator employs either manufacturer or a calibration specialist, there must be a written contract and the operator must obtain a certificate for each calibration per center.

6.3.4 CALIBRATION CERTIFICATES

All calibration certificates must contain

- Certificate numbering
- The address and formal identification of Periodical Technical Inspection Center
- Details of equipment: make, model, serial number
- Calibrator, title and name. Signature and date of calibration
- Expiring date of the certificate

6.4 EQUIPMENT MAINTENANCE

All inspection equipment must be kept in good maintenance order, and measuring apparatus must be calibrated regularly in accordance with manufacturer requirements and internal management system implemented by the inspection body, which shall obligate to keep and follow the normal maintenance program.

Maintenance must be conducted or at least suggested by the manufacturer or manufacturer's agent and a maintenance report issued detailing any remedial work conducted.

The operator is responsible for the inspecting and testing of all types of electrical equipment in all work situations.

We recommend the future operator to work with equipment suppliers which have or will have a local representation in order to ensure both maintenance and calibration in the shortest period of time.

6.5 EQUIPMENT DESCRIPTION. MINIMUM TECHNICAL REQUIREMENT

6.5.1 LOW VOLTAGE INSPECTION LAMP

The lamp must be of a low voltage type (no more than 36V) in line with Accreditation Center recommendations. 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.

6.5.2 2.6 / 15 TONNE JACKING BEAM

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. (safe working load) of not less than 2 600 kilograms. For heavy vehicles, up to 15 tones.

6.5.3 HEADLAMP AIM TESTER

- An optical tube screen type presentation with adjustment and a suitable means to facilitate alignment.
- Capable of adjustment between heights of 500mm and 1.220m.
- Marked with vertical and horizontal center lines or other means of assessment.
- Capable of measurement of headlamp beam aim in gradient per cent (%).
- Fitted with a photo electric cell, for the location of beam hot spots measured by a meter mounted on the testing equipment.



The minimum acceptable standard for accuracy is as set out in EMC 2004/108/EC; EN 301 489-17:2002 v1.2 and its amendments. Equipment which meets an equivalent standard is also acceptable.

6.5.4 WEIGHT EQUIPMENT

Suitable calibrated weighing equipment must be available, which may be combined into the brake tester.

Weight test equipment shall be automated so that inspection procedure and the measurement, collection of the results, further data transfer to the server in appropriate format are not under the control of the vehicle inspector or operator.

6.5.5 EMISSIONS GAS ANALYSER

When vehicles with four stroke spark ignition engines are inspected an emissions 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 2009/40/EC and approved to the requirements of OIML Class O.

Emission gas analyzer shall be automated so that inspection procedure, measurement, collection of the results and further data transfer to the server in appropriate format are not under the control of the inspector or operator.



6.5.6 DIESEL SMOKE OPACITY METER



A meter capable of measuring the smoke opacity of diesel engines to the method of test and test standards set out in Directive 2009/40/EC or to an equivalent standard. 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 acceleration, the date and time of the test and the vehicle registration. It must have an electronic output.

Diesel smoke opacity meter shall be automated so that inspection procedure, measurement, collection of the results and further data transfer to the server in appropriate format are not under the control of the inspector or operator.

6.5.7 SIDE SLIP TESTER

Side Slip plates capable of accurately measuring the geometry of front and rear axles of light vehicles with a GVW up to 3.5 tons and an axle load of 2.6 tons or up to 15 tons for heavy vehicles. The range of Side Slip to be measured shall be between 0-18m/km.

Side slip tester shall be automated so that inspection procedure, measurement, collection of the results and further data transfer to the server in appropriate format are not under the control of the inspector or operator.

6.5.8 BRAKE TESTER

Each PTI center shall contain at least one Roller Brake Tester (RBT) with measurement accuracy $\pm 3\%$, per relevant lane, set in the floor so that vehicles under inspection are substantially levelled.

In addition, each test center shall include equipment to check the calibration of the brake force measuring device.

Brake testers shall be automated so that inspection procedure, measurement, collection of the results and further data transfer to the server in appropriate format are not under the control of the inspector or operator.

The brake tester must be safe to use and be robustly constructed to acceptable engineering standards. When installed in premises it must be secure in the ground in line with the manufacturer's recommendation.

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

6.5.9 AXLE PLAY DETECTOR

Axle 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 tons and an axle load of 2.6 tons, or up to 15 tons for heavy vehicles.

The means of operating the plates shall 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.



6.5.10 TYRE TREAD DEPTH GAUGES

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

6.5.11 PINCH BAR

Bar to be used as a lever to check play in steering and suspension joints etc.

6.5.12 WHEEL CHOCKS

Wheel chocks to be used to prevent the vehicle moving while being tested (4 units)

7 REQUIREMENTS TOWARDS THE TECHNICAL QUALIFICATION OF PERSONNEL AND TRAINING

7.1 GENERAL REQUIREMENTS

Periodical technical inspections of vehicles shall be carried out by inspectors who meet the minimum competence and training requirements set out forward. PTI centers must ensure the initial training and its annual update of the technical manager and inspectors.

The training will be carried out either in the training departments of the PTI Center (inspection body or operator), or in official training centers. In both cases the department or training center must be approved for this purpose by the competent authority.

The competent authority shall verify that the content of the initial training program and its updating allows the maintenance and updating of the necessary knowledge and skills of the inspectors on the subjects set out as training program. The training center must issue a certificate to the technical managers and inspectors who meet the minimum requirements of competence and training.

The operator shall ensure that all staff understand and comply with the legal requirements relevant to their area of work and do not engage in or have a material interest in a conflicting business.

The operator, its inspectors and rest of their employees shall have a strong commitment to customer service and the operator will provide a robust quality management system and a code of practice describing detailed procedures for appropriately dealing with customer's complaints.

7.2 ROLES AND RESPONSIBILITIES. MANDATORY ROLES

Before the operator can operate PTI centers and start inspection, specific roles must be appointed to individuals. These roles identify the individual's responsibilities with regard to the inspection process and allow them appropriate access to the IT system.

Depending on the size and make up of a center an individual can hold one or multiple roles.

- Legal representative is a person who is legally responsible for the entity, appointed by the operator to represent or act on behalf of operator in private affairs, business, or legal matters
- PTI Center Technical Manager; the person who will exercise the most direct control over the inspection. He is the person given the responsibility of managing the PTI service. The technical manager must have direct responsibility for PTI Center at all sites. Basically, the technical manager activity covers inspection responsibilities such as procedures, maintenance and calibration, reports and certificates, administrative arrangements, disciplinary and appeal processes. He will have the responsibility to assign and remove people to and from roles within the authorization. Only one technical manager is allowed per PTI Center. However a technical manager may carry out the role at several operators' PTI centers. The technical manager can carry out PTI center management, and non-inspecting functions e.g. assign users within a PTI management system, update equipment details
- PTI inspector; a person nominated by the operator to carry out inspections
- Quality controller; the operator must ensure an adequate system of quality control at each of their PTI centers. This activity shall be performed for the inspectors, one of them shall be appointed as quality controller at least once every three calendar months. Each quality control check is carried out on a vehicle inspected in normal circumstances. The quality control check test must cover all aspects of the test, including:
 - inspection routines and procedures
 - testing standards
 - use of testing equipment
 - documentation

7.3 CRITERIA FOR BECOMING A STAFF MEMBER OF PERIODICAL TECHNICAL INSPECTION CENTER

The operator shall fill all staff vacancies including those arising during the operations, using open, transparent and fair recruitment policies.

Technical managers and inspector shall have the appropriate nationally recognized qualifications. The operator shall provide evidence of the qualifications of each inspector to competent authority prior to the commencement of their duties.

Credential (to be given by Ministry of Education and Science of Georgia)		Comments (to be given by Ministry of Education and Science of Georgia)	Role VIS
Secondary Professional and vocational education	Junior Technical Certificate	Issued by Offered at technical colleges institutions	Inspector
	Certificate of Education	Represents completion of secondary education	Inspector
	Craft I Certificate	Issued by ...	Inspector
	National Certificate	Issued by Includes fields such as marketing, secretarial studies, accounting and finance management and forestry.	Inspector
	Craft II Certificate	Issued by	Inspector

Higher education in Georgia consists of three stages: Bachelor program, master program and doctorate program.	National Diploma/ Ordinary Diploma/ Ordinary Technician's Diploma	Issued by or by institutions (National Diploma and Ordinary Technician's Diploma). Offered at technical, commercial or vocational institutions and polytechnics. Includes fields such as architectural drawing and draughtsmanship, water engineering, accountancy, and secretarial studies.	Technical Manager
	Higher Diploma/ Higher National Diploma/ Higher Technician's Diploma	Issued by or by institutions (Higher National Diploma and Higher Technician's Diploma). Offered at technical, commercial or vocational institutions and polytechnics. Includes fields such as mechanical engineering, electrical engineering, and civil engineering (construction).	Technical Manager
	Bachelor of Arts/ Science/ Bachelor of...	Represents 4 years of postsecondary education. Higher Diploma/Higher National Diploma/Higher Technician's Diploma holders may receive advanced standing towards bachelor's degree programs in related fields.	Technical Manager
	Bachelor of Engineering		Technical Manager

Inspector qualification assigning should be oriented on the process, which means prequalification requirements, prove of qualification (e.g. by means of certification or special training or sufficient practical experience), empowering of independent working and qualification retain requirements.

It should be as follows:

Pre-qualification requirements – To apply for the position of inspector, the candidate shall have a secondary or high school education in automotive field and/or, have worked in vehicle inspection bodies for at least 1 year. Alternatively, candidates with minimum 3 years of experience in an automotive workshop may also be considered.

Prove of qualification - candidate can undergo the certification in accredited body or attend special training course or provide with sufficient practical experience, which is working as an inspector in inspection body minimum 3 years

Empowering of independent working – person working in inspection body can directly start inspection work, while person that has been working in workshop for at least 1 month can do inspection work only under the supervision of the inspector and further obtain from supervising inspector written confirmation of the competence. The other option is to require passing of the exam before independent involvement in inspection work, after which inspector candidate's result of vehicle inspection should be compared to the results of experienced inspector's who inspected the same car.

7.3.1 NATIONAL CRAFT CERTIFICATE (TO BE GIVEN BY MINISTRY OF EDUCATION OF GEORGIA)

- *Motor Vehicle Technician Course Part I*
- *Electrical Installation Craft Course Part II*
- *Mechanical Engineering Craft Practice II (1002)*
- *Radio, T.V and Electronics Technicians Craft Course Part I*
- *Agricultural Engineering Mechanics (1001/2)*

If someone has qualifications not on the list but which is believed to be equivalent, they must send evidence of the qualification to the competent authority. Where qualifications are from an unfamiliar source it may required the applicant to provide further supporting information.

7.3.2 ADDITIONAL CRITERIA FOR BECOMING A PTI STAFF

- For technical managers
 - Have sufficient qualifications and experience in vehicle inspection procedures
 - He must belong to the staff of the PTI Center

- For inspectors
 - Have a current full driving license for a vehicle category within the test group they wish to inspect

7.3.3 ADDITIONAL INFORMATION TO THE COMPETENT AUTHORITY

The operator shall provide following information to the competent authority

- Any changes to the list of nominated PTI inspector
- The training and certifications status of each inspector
- Any changes to the employment term and conditions of all staff

7.4 TRAINING GENERAL

The operator shall implement the training program which will include initial and continuous training for inspectors so as to ensure the effective operation of all inspection equipment and information systems, the quality of the inspection results and compliance with all service standards.

The operators shall assess and review the proficiency of individual inspector through correspond exams.

The competent authority reserves the right at any time to require the operator to provide remedial training for any inspector found to be deficient or to dismiss that inspector.

Inspection body or PTI Center, and their staff shall have full awareness of the relevant general acts, legislation, safety rules and other regulations applicable to the specified services.

7.4.1 INITIAL AND CONTINUOUS TRAINING (ONGOING REQUIREMENT)

A training course basically explains the processes of inspecting and reinforces the standards set out in the relevant Inspection Manuals. They must also satisfactorily complete a demonstration test.

Qualified PTI inspector must keep up to date with current practices and standards by:

- studying all relevant notices, the testing guide, appropriate Inspection Manuals and their amendments;
- attending and successfully completing any refresher training;
- training on the use of any new or modified equipment installed at their PTI Centers;
- studying or training on the significance and correct functioning of any new features that are introduced on vehicle types that they are likely to be asked to inspect.

PTI inspectors may be required to undertake additional training or carry out demonstration inspections before being allowed to inspection vehicles in categories that they have not previously been inspecting.

The general contents of these training courses are:

- 1) Automotive technology
 - a. Braking system
 - b. Steering system
 - c. Field of visions
 - d. Electronics and electrics
 - e. Light installation, lighting equipment and electronic components
 - f. axles, wheels and tyres
 - g. Chassis and bodywork

- h. Nuisance and emissions
- i. Additional requirements for special vehicle
- 2) Inspection method
- 3) Failure assessment during technical inspection
- 4) Regulation in force for vehicle technical inspection
- 5) Vehicle registration: legal requirements
- 6) Management system
- 7) IT systems: applications relating to testing and administration

7.4.2 QUALITY CONTROL CHECK

Qualified PTI inspectors must also carry out at least one test on a regular basis and be subject to Quality Control checks. PTI inspector may also be required to carry out demonstration tests for representatives of the competent authority.

7.4.3 TEST GROUPS

For the purpose of demonstration inspections, vehicles are grouped as follows:

- a. Heavy Vehicles
- b. Light vehicles, headlamp tester area
- c. Light vehicles, roller brake tester area
- d. Motorcycle (MC)

With these groups a demonstration test may be required for each vehicle category within the test group.

Requirement	Training type			
	Initial training	Refresher course	Directed retraining	Demo test
A. Before starting testing	√			√
B. For PTI center wishing to add a vehicle category within a group not currently approved				
C. Regular refresher training		√		
D. When required to do so by competent authority to monitor test standards				√
E. Competent Authority Recommended Retraining			√	

- **Required training d) MC**
 - Two training courses are available for inspectors in these classes;
 - Initial training is a 40 hours training course, (5 working days) which incorporates computerization training and practical instruction on conducting an inspection.
 - Refresher Training is an 8 hours training course. Normally, 1 year after the date of the most recent qualifying course (either initial, refresher or directed retraining). An inspector who has not attended a training course by the expiry date of his current training will be prevented from testing and may not resume testing until the refresher course has been completed.

- **Required Training a), b), c)**
 - Three training courses are available for inspectors testing vehicles in these classes;
 - Initial Training is a 120 hours training course, (15 working days) which incorporates computerization training and practical instruction on conducting a test. Inspectors will sit an end of course assessment and will also be required to demonstrate their understanding.
 - Refresher training is 40 hours training course, 5 working days. Normally the inspector will be notified, 1 years after the date of the most recent qualifying course (initial, refresher or directed retrained). An inspector who has not attended a training course by the expiry date of his current training will be prevented from testing and may not resume testing until the refresher course has been completed
 - Directed Retraining occurs as a result of following the recommendation of competent authority as an alternative to formal disciplinary action. The content of the course is flexible in order to address the specific needs of the attendees

7.4.4 INITIAL TRAINING, REFRESHING AND RETRAINED COURSE.CONTENTS

		INITIAL TRAINING			REFRESHING		
CODE	TITLE	Timetable	Evaluation	Record	Timetable	Evaluation	Record
TR01	Motivation and commitment. HR policy - Code of ethic	8 hours		√	4 hours		√
TR02	Health, Safety & Welfare	8 hours	√	√		√	√
TR03	Automobile technology; mechanic and electricity.	8 hours	√	√	4 hours	√	√
TR04	Car testing: Inspection Method – The Manual – part I	8 hours	√	√		√	√
TR05	Car testing: Inspection Method – The Manual – part II	8 hours	√	√		√	√
TR06	Car testing: Inspection Method – Failure assessment during technical inspection	8 hours	√	√	4 hours	√	√
TR07	Car testing – The equipment and facilities	8 hours	√	√		√	√
TR08	Types of inspection (MB, LV and HV) – Regulation (modifications)	8 hours	√	√	2 hours	√	√
TR09	Facilities: reception, viewing area, workshop and waiting area. Test Routine; Data entry. Quality control	8 hours	√	√	2 hours	√	√
TR10	Inspection Routine; workshop (RBT, inspection area and emission). Quality control	8 hours	√	√		√	√
TR11	Inspection Routine; workshop headlamp (inspection area – underside inspection). Quality control	8 hours	√	√	8 hours	√	√
TR12	Inspection Routine; report – automated data and visual data. Pass / fail. Quality control	8 hours	√	√		√	√
TR13	Maintenance and calibration – equipment and facilities. Quality control	8 hours	√	√	8 hours	√	√
TR14	Quality, standards; customer care service; F&Q, booking system. Complaints and appeals	8 hours	√	√	4 hours	√	√
TR15	IT users. Quality System	8 hours	√	√	4 hours	√	√

7.4.5 TRAINING CONTENTS

	CONTENTS	DESCRIPTION
TR1	Motivation and Commitment. HR policy - Code of Ethic	Introduction. Impartiality and Independence
	About PTI center as inspection body and legal entity	System Rules and User Roles Roles and Responsibilities
	Principles of Integrity	The Code applies to all employees, officers and directors of the operator. All aspects of the Code must also be adhered to by contractors, consultants, freelancers, joint-venture partners, agents and subcontractors
	Integrity Rules	Integrity of Services Conflicts of interest Use of Company assets and resources Bribery and corruption Fair competition Employee relations Environment, health and safety Confidentiality Compliance with laws
TR2	Health, Safety & Welfare	<i>Health</i> <i>Safety:</i> Every employee has right to safe and healthy work environment. <i>Environment</i> Environmental Standards and Regulations are abided by <i>Quality</i> Implementing organisational systems, procedures and processes needed to provide the highest quality service and standards
	Risk Prevention	These rules are based on the risks identified in PTI Centers
TR3	Automobile technology; mechanic and electricity.	The way we use our cars, how we drive them and the condition of our roads. Normal driving is defined as steady driving in non-extreme weather or environments. The automotive industry refers to “severe driving” as: Stop-and-go traffic; Short commutes; Heavier loads: cargo, passenger or towing a trailer; Rough or mountainous roads; Dusty or salty environments; Driving the car before it’s had a chance to warm up; and/or Driving in extremely hot or cold weather
	Vehicle Maintenance	Engine Performance Oils, Filters and Fluids Belts and Hoses Brake Service Wheels and Tyres Check Engine Light Air Conditioning Appearance
	Vehicle Components	Belts and Hoses Brake System Emission System Engine Cooling System Exhaust System Filters and Fluids Fuel System Lighting and Wipers Batteries Steering and Suspension

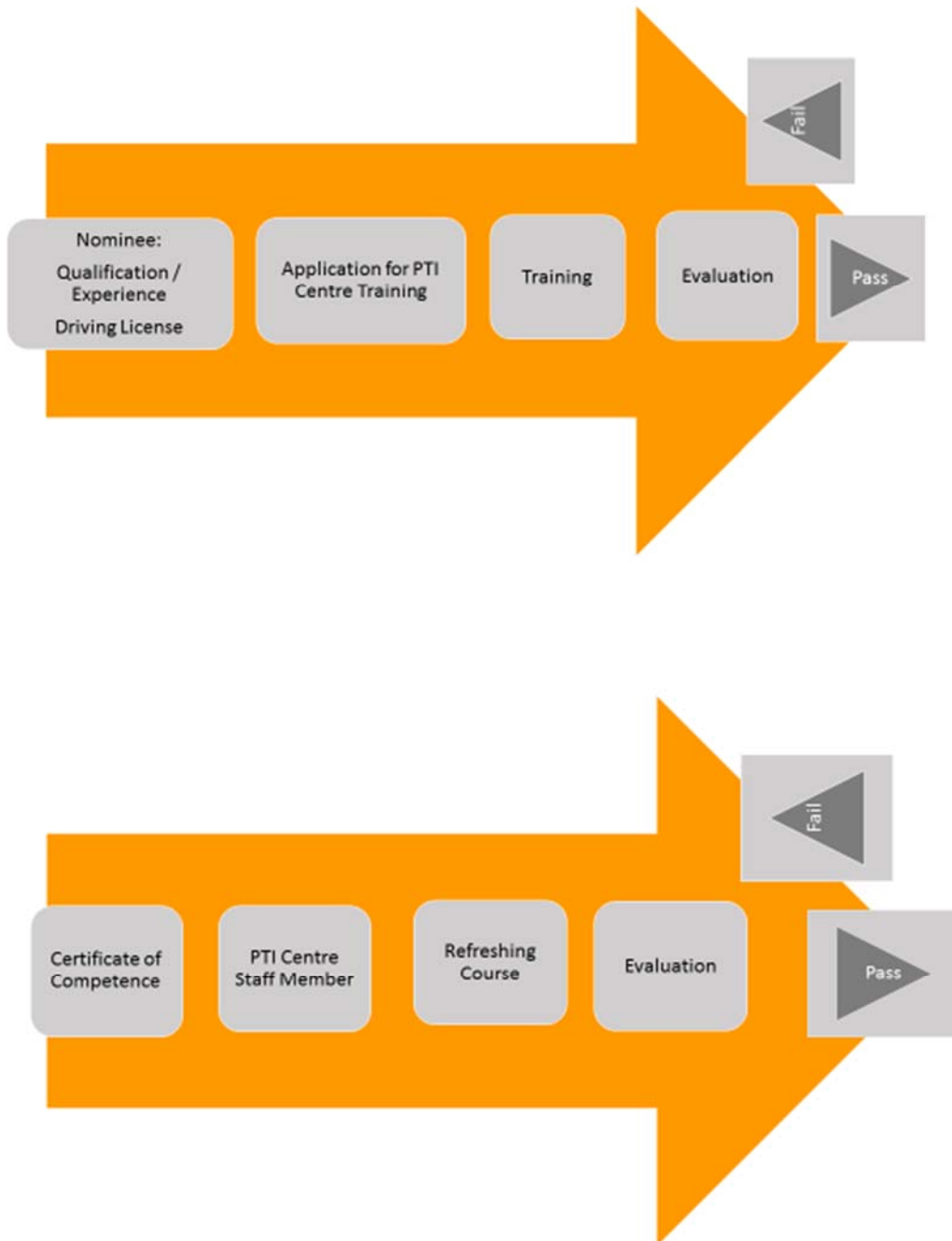
	Vehicle Care and the Environment	Transmission Introduction Fuel Economy and Environmental Awareness Auto Care Industry Recycles Rebuilt Engines Alternative Energies
TR4	Vehicle Testing: Inspection Method – The Manual – Part I Lamps, Reflector and electrical Equipment	Code of Practice – Manual of Procedure Front and Rear Lamps Registration Plate Lamps Stop Lamps Rear Fog Lamps Indicator Lamps and Hazard Warning Lamps Headlamp Aims Electrical Wiring and Battery
	Steering and Suspension	Side Slip Control Steering Control – Steering System Suspension – Front and Rear Suspension Shock Absorber
	Brakes	Parking Brake Control Service Brake Control Mechanical Brake Components Braking Systems and Additional Braking Devices Brake Performance Testing
TR5	Vehicle Testing: Inspection Method – The Manual – Part II Tyres and Wheels	Code of Practice – Manual of Procedure Tyres and Wheels Spare Wheel
	Seat Belts and Supplementary Restraint System Body and Structure	Seat Belt Requirement Supplementary devices Bodywork Seats and Doors Registration Number: VIN or Chassis Number Driver Controls
	Exhaust, Fuel and Emission	Exhaust System Fuel System Exhaust Emission: Spark / Compression Ignition
	Visibility	View to rear Wipers and Washer Windscreen
	Particular Provision for Carrying Passengers and Carrying Goods Tricycles / Quadricycles / Motorcycles / Moped	Local Regulation Specifications Lighting and Signalling Equipment Headlamp Headlamp aim Steering Control and System Front Suspension Wheel Alignment Brake system and Performance Tyres and Wheels Body and structure Registration Plates and Vehicle Identification Number Fuel and Exhaust System
TR6	Vehicle testing: Inspection Method – Failure assessment during technical inspection	Conduct of Inspection Process Test Results – Roadworthiness Certificate and Vehicle identifier (sticker) Test Result: Notification of Refusal – Dangerous Defects Duplicates and Appeals Grounds for Refusal to Carry Out the Inspection Liability for Loss or Damage

TR7	Vehicle testing – The Equipment and Facilities Premises	Signs and Notices Notice Board Location Building Requirement. General Dimensions
TR8	Equipment	Mandatory Equipment per Category of Vehicle Type of lanes Maintenance Calibration: Description and Frequency. Certificates Mobile Equipment
TR9	Facilities: reception, viewing area, workshop and waiting area. Test Routine; Data entry. Quality control	Requirements
TR10	Inspection Routine; workshop (RBT inspection area and emission). Quality control	Quality Control Practice Exercise
TR11	Inspection Routine; workshop headlamp (inspection area – underside inspection). Quality control	Practice Exercise
TR12	Inspection Routine; report – automated data and visual data. Pass / fail. Quality control	Computerisation System: Security: Hardware and Software DBMS Server Computerisation : Final User. Data Entry Use of Data and Data Protection
TR13	Maintenance and calibration – equipment and facilities. Quality control	Practice Exercise
TR14	Quality, standards; customer care service; F&Q, booking system. Complaints and appeals	Practice Exercise
		Enforcement Vehicle Registration Process. Local Regulation Notification to Owners Booking System Customer Care Service Fees of Inspection Inspection Documents
TR15	IT users. Quality System	Inspection Bodies Confidentiality Organization and Management Resources Process and Records. KPIs Continuous Improvement

7.5 INSPECTOR TRAINING PROCESS DEVELOPMENT

- The training processes and their periodical updating shall be carried out in the training departments of the PTI centers or in official training centers, after communication to the competent authority
- The training processes and their updates shall be carried out with the physical presence of the nominee or appointed inspectors in the training center, in working days and with a maximum of 16 attendants. The initial training processes shall have a minimum duration of fifteen days, with a minimum of 120 hours. The training updating processes shall have a minimum duration of three days, with a minimum of 24 hours.
- PTI Centers or official training centers shall communicate to the competent authority at least ten (10) days in advance, for each training process:
 - Date, the agenda, the place where it will be celebrated
 - Name of the trainers, both holders and substitutes that will develop them.

- The competent authority may at any time inspect the departments or training centers, their records and the development of the training processes.



7.6 CERTIFICATE OF COMPETENCE

The training centers shall issue a certificate to each inspector who has passed the initial training or updating process. Said certificate shall be valid and effective for one year from the date it was issued. The training department or center should keep a record of all the training processes carried out and the assisting inspectors.

The training centers shall inform the competent authority, within a period of less than 15 days, the names of the assisting inspectors who have passed the training or updating process and the PTI Center from which they come.

The certificate or equivalent documentation issued by the department or training center to an inspector authorized to carry out technical inspections must include at least the following information:

- 1) Inspector identity: name and surname
- 2) Categories of vehicles for which the inspector is authorized to carry out the technical inspection.
- 3) Date in which the training or updating process was carried out
- 4) Name of the issuing authority or body.
- 5) Date of issue of the certificate

8 NORMATIVE, REFERENCES AND BIBLIOGRAPHY

SGS states that besides the normative, reference and bibliography below reported, has based this consultancy on its own practices and expertise.

- 1) Chile; Decree. 156, PTI Centers regulation and operation, Ministry of Transport and Communication (Subsecretaria de Transportes reglamenta revisiones técnicas y la autorización y funcionamiento de las plantas revisoras)
- 2) CITA Recommendation No.7: "Inspection Station Equipment"
- 3) CITA Recommendation No.9: "Quality Requirements for Inspection Bodies and Supervising Bodies involved in Periodic Vehicle Inspections"
- 4) Commission directive 2010/48/EU of 5 July 2010 adapting to technical progress Directive 2009/40/EC of the European Parliament and of the Council on roadworthiness tests for motor vehicles and their trailers
- 5) Council Directive 96/96/EC of 20 December 1996 on the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers
- 6) Decrees No 06 of Government of Georgia - on technical regulation approving the sticker form and production
- 7) Decree No 30 of Government of Georgia - on technical regulation approving setting out requirements to the vehicles and inspection process and methods setting out following provisions:
- 8) Decree No 37 of Government of Georgia - on technical regulation approving frequency of the PTI Centers for different categories of vehicle
- 9) Decree No 221/2012 – Ministerio Da Economia e Do Emprego – Portugal. Technical Requirement for PTI Centers
- 10) Directive 70/220/EEC
- 11) Directive 2007/46/EC provides a common legal framework for the type approval of cars, vans, trucks, buses and coaches
- 12) Directive 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe

- 13) Directive 2009/40/EC of the European Parliament and of the Council of 6 May 2009 on roadworthiness tests for motor vehicles and their trailers. (Recast)
- 14) Directive 2014/45/EU of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/EC
- 15) EA-5/02 INF: 2015; EA Guidance on the Application of ISO/IEC 17020 in Periodic Inspection of the Roadworthiness of Motor Vehicles and their Trailers
- 16) EMC 2004/108/EC , EN 301 489-17:2002 v1.2.- Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services;
- 17) Euro 5 and 6 Regulation 715/2007/EC sets the emission limits for cars for regulated pollutants
- 18) European Commission Papers – Transport Emission – July 2017 - <http://ec.europa.eu/environment/air/transport/road.htm>
- 19) Ireland; Premises and Equipment Guidelines for CVR test operators; March 2013, version 1.0 Released March 2013 – Version 1.0 Released
- 20) ISO 17020:2012; Requirements for the operation of various types of bodies performing inspection
- 21) ISO 3833-1977; Road vehicles - Types - Terms and definitions; the provisions of this International Standard apply to all vehicles designed for road circulation (motor vehicles, combinations of vehicles, mopeds, motorcycles)
- 22) The MoT Testing Guide; a handbook for scheme administration. Sixth Edition, by Vehicle and Operator Services Agency – Department of Transport - United Kingdom
- 23) Regulation 595/2009/EC sets new heavy duty vehicles and engines to comply with new emission limits and introduces additional requirements on access to information
- 24) Regulation 692/2008/EC implements and amends Regulation (EC) No 715/2007 on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information
- 25) Regulation (EU) 2016/427 of 10 March 2016 amends Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6)
- 26) Spain; Decree Draft to regulate technical inspection of vehicles: installation, buildings, equipment and operation of Periodical Technical Inspection Centers” .