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Items and methods of motor vehicles safety technical inspection

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- Added “inspection requirements”(see chapter 6 of this version);

- Deleted “(affirmation for the identify of vehicle)inspection item and requirement” (6.1.1 and 6.2.1 of version 2008);

- Deleted “off-line inspection” (Chapter 8 of version 2008);

- Deleted “in-line inspection” (Chapter 9 of version 2008);

- Deleted “road test inspection” (Chapter 10 of version 2008);

- Deleted “supplementary statement for inspection of two-wheeled and three-wheeled motor vehicle” (Chapter 11 of version 2008);

- Revised the evaluation requirements for inspection result (see 7.1 of this version; 12.2 of version 2008);

- Added the inspection qualification disposal requirements (see 7.2 of this version; 12.4 of version 2008);

- Added the inspection non-qualification disposal requirements (see 7.3 of this version);

- Revised abnormal situation disposal requirements (see 7.4 of this version; 6.1.2 and 6.2.2 of version 2008);

- Added transition requirement for the implementation of the standard (see chapter 8 of this version);

- Deleted Annex A Main features and technical parameters (Annex A of version 2008);

- Deleted Annex B Appearance inspection, chassis dynamic test and vehicle chassis inspection test of vehicles, inspection item (Annex B of version 2008);

- Deleted Annex C Manual inspection item for two-wheeled and three wheeled motor vehicle (Annex C of version 2008);

- Deleted Annex D Braking performance parameter calculation method (Annex D of version 2008);

- Added Annex A Outer size measurement (see Annex A of this version);

- Added Annex B Curb-mass measurement (see Annex B of this version);

- Added Annex C Braking performance test (see Annex C of this version);

- Added Annex D Headlamp inspection (see Annex D of this version);

- Added Annex E Travel speed indicator error inspection (see Annex E of this version);

Items and methods of motor vehicle safety technical inspection

1 Scope

This Standard specified the inspection items, inspection method, inspection requirements and disposal of inspection results of the motor vehicle safety technical inspection.

This Standard is applicable to motor vehicle safety technical inspection institutions for motor vehicle safety technical inspection. This Standard also applies to the entry inspection and quarantine institution for entry of motor vehicle safety technical inspection. Motor vehicles which are approved to conduct actual road test and motor vehicle of temporary entry can conduct safety technical inspection with reference to this Standard.

This Standard does not apply to safety technical inspection of tractor on road for tractor transportation unit.

2 Normative references

The following documents are indispensable for application of this document. For the dated documents so quoted, only the dated versions apply to this document. For the undated documents so quoted, the latest versions (including all modification sheets) apply to this document.

GB 1589 Limits of dimensions, axle load and masses for road vehicles

GB/T 3730.2 Road vehicle – Masses - Vocabulary and codes

GB/T 3730.3 Motor vehicles and towed vehicles - Dimensions of vehicles - Terms and definitions

GB 4785 Prescription for installation of the external lighting and light-signalling devices for motor vehicles and their trailers

GB 7258-2012 Safe specification for power-driven vehicles operating on roads

GB 11567.1 Motor vehicles and trailers - Lateral protection requirements

GB 11567.2 Motor vehicles and trailers - Rear underrun protection requirements

GB 13094 The safety requirements for bus construction

GB 13392 The vehicle mark for road transportation dangerous goods

GB 16735 Road vehicle-Vehicle identification number (VIN)

GB/T 17676 Natural gas vehicle and liquefied petroleum gas vehicle Identification marks

GB 18564.1 Road tanker for dangerous liquid goods transportation - Part 1: Technical requirements of atmospheric pressure metal tank

GB 18986 The safety requirements for light bus construction

GB/T 19056 Vehicle travelling data recorder

GB 19151 Warning triangles for motor vehicle

GB 20300 Safety specifications for road transportation vehicle of explosive substance and chemical toxic substance

GB 24315 The marker of school bus

GB 24407 The safety technique specifications of special school buses

GB 25990 Rear-marking plates for vehicles and their trailers

GB/T 26765 Specifications for power-driven vehicle safety inspection business information system and networking

GA 36 License plate of motor vehicle of the people's republic of china

GA 802 Types of motor vehicle - Terms and definitions

GA 804 Special fixing device for license plate of motor vehicle

GA 1186 General technical specifications for monitoring system of vehicle safety inspection

3 Terms and definitions

The following terms and definitions defined in GB 7258 and GA 802 apply to this document.

3.1

Inspection for unregistered vehicle

Safety technical inspection that motor vehicle safety technical inspection institution conducted to motor vehicle applied for registration.

3.2

Inspection inspection for in - use the vehicle

Safety technical inspection that motor vehicle safety technical inspection institution conducted to motor vehicle registered.

3.3

Inspection for the identify of the vehicle

Inspection shall be made to plate number and type of motor vehicle, vehicle brands and models, vehicle identification number (or vehicle factory number), engine number (or electric motive number), vehicle color and appearance to confirm identity of inspected motor vehicle.

3.4

Inspection for the characteristic parameters of the vehicle

Inspection shall be made to outer size of motor vehicle, curb-mass, verified passenger carrying number and other main features and technical parameters of vehicles to confirm conformance to national security technical standard of motor vehicle, product announcement of motor vehicle, factory certificate of motor vehicle, driving certificate of motor vehicle and other technical data.

3.5

Chassis operating inspection

In driving state, qualitatively judge whether steering system, driving system, braking system, instrument and indicator of inspected motor vehicle meet the safety requirements.

4 Inspection items

4.1 Safety technical inspection item of motor vehicle is shown in table 1.

4.2 When the entry inspection and quarantine authority inspected entry motor vehicles which need to obtain motor vehicle certificates before driving on the road, it shall cover inspection item as stipulated in table 1, and implement according to requirement of registration and inspection.

4.3 Safety technical inspection item of wheel special mechanical cars and tramcar shall be confirmed with reference to table 1 and relevant requirements of national standards and industry standards.

6.3.4.1 The verified passenger carrying number of the motor vehicle shall meet carrying regulations of 4.5.2 to 4.5.6 and 11.6 in GB 7258-2012.

6.3.4.2 When inspection for unregistered vehicle, the verified passenger carrying number of the motor vehicle shall be consistent with motor vehicle product announcement and motor vehicle factory quality certificate.

6.3.4.3 When inspection for in-use vehicle, the seat (bed) number of the motor vehicle shall be consistent with contents signed in motor vehicle driving license.

6.3.5 Column board height

6.3.5.1 The column board height shall not exceed limit as stipulated in GB 1589.

6.3.5.2 When inspection for unregistered vehicle, the column board height of truck and trailer shall be consistent with product announcement, motor vehicle factory quality certificate and column height value painted at both sides of driving cab, and the error shall not exceed ± 1% or ± 50 mm.

6.3.5.3 When inspection for in-use vehicle, the column board height of truck and trailer shall be consistent with the motor vehicle registration information and column height value painted at both sides of driving cab, and the error shall not exceed ± 2% or ± 50 mm.

6.3.6 Rear axle steel plate spring number

6.3.6.1 When inspection for unregistered vehicle, the rear axle steel plate spring number of truck, trailer and special working vehicle shall be consistent with product announcement and motor vehicle factory quality certificate, and obvious “width increase” and “thickness increase” are not allowed.

6.3.6.2 When inspection for in-use vehicle, the rear axle steel plate spring number of truck, trailer and special working vehicle shall be consistent with the motor vehicle registration information, and obvious “width increase” and “thickness increase” are not allowed.

6.3.7 Passenger car emergency exit

6.3.7.1 The number and the mark of passenger vehicle emergency exit shall meet related regulations of GB 7258, GB 13094, GB 18986 and GB 24407; and if vehicle windows at both sides of the bus which leave the factory from September 1, 213 and are equipped with passenger standing area can meet requirements set to the emergency window, it shall be set up as push-draw emergency window or extrapolated emergency window.

6.3.7.2 When inspection for unregistered vehicle, if the size of emergency exit is smaller through inspection by naked eyes, it shall also measure the size parameter of the emergency exit. The size parameter shall comply with the regulations of GB 7258, 13094, GB 18986 GB, 24407 GB and other relevant standard.

6.3.8 Channels and approach of passenger car

d) The coach vehicle shall be painted with word “coach vehicle” with height more than or equal to 100 mm on both sides and the back of car body;

e) Gas fuel cars, dual fuel cars and dual fuel vehicle shall be marked with the type of gas fuel it used according to the provisions of GB/T17676;

f) The car body color of fire fighting truck, ambulances, engineering emergency vehicles and police cars shall comply with the relevant national standards or industry standards; the indicating lamps that police car, fire fighting truck, ambulances and engineering emergency vehicles installed and used shall be complete and effective; other motor vehicle shall not paint, install and use mark pattern, alarms or indicating lamps specially for the above vehicles or similarities;

g) The disabled motor vehicle shall be set up with special mark for specially for disabled motor vehicles in front and at back of the car body.

6.4.2.2 When inspection for unregistered vehicle, the sign shall also meet the following requirements:

a) The sign shall be fixed reliably, and signed contents shall be clear and standard, and meet provisions of GB 7258;

b) The sign of non-plug-in hybrid car shall also indicate the maximum output power of electric power system; pure electric vehicles, plug-in hybrid vehicles, fuel cell vehicles shall also indicate the main drive motor model and power, power battery voltage and capacity, hydrogen storage vessel form, volume, and working pressure (fuel cell car).

6.4.3 Exterior lighting and signal device

6.4.3.1 Exterior lighting and signal device shall meet the following requirements.

a) Front lighting and signal device such as headlamp, front position lamp, front turn signal lamp, front warning against danger signal lamp, outline marker lamp, draw-bar trailer marker lamp shall be complete and they shall work regularly. Far and low beam lights transforming functions of headlamp shall be regular.

b) Rear lighting and signal device such as headlamp, rear position lamp, rear turn signal lamp, outline marker lamp, rear warning against danger signal lamp, stoplight, rear fog lamp, rear registration plate lamp, backup lamp, retro-directive reflector shall be complete and they shall work regularly. Luminous intensity of stoplight shall obviously greater than rear position lamp’s.

c) Side turn signal lamp, side marker lamp and side retro-directive reflector shall be complete and they shall work regularly.

d) Photochromic and luminance of lamps and lanterns with the same symmetrical

6.4.4.3 When inspection for unregistered vehicle, motor vehicles to be inspected shall meet the following requirements.

a) Radial tire without inner tube shall be installed in special school bus;

b) Radial tire shall be installed in dangerous goods carrier vehicle and other passenger car with vehicle length less than 9m.

c) For small and mini passenger car using small specification spare wheel, identification which can permanent retains and reminds driver of using correctly tyre (its contents shall be illustrated in Chinese) shall be installed in nearby obvious positions of spare tyre (or its other appropriate positions).

6.4.5 Plate and Plate installation

6.4.5.1 Character, color and installation of motor vehicle plate shall be in accordance with provisions of GA 36 and special seal device of motor vehicle plate shall comply with provisions of GA 804.

6.4.5.2 Plate and plate installation shall meet the following requirements.

a) Motor vehicle plate shall be complete, and its surface shall be clear, neat, flat, smooth and colored uniformly and shall not have deflect or damage such as obvious wrinkle, bubble, particle, impurity.

b) Motor vehicle shall use fixed plate with special seal device which shall be complete and installed firmly.

c) When plate frame is used to support installation, the distance of its inside edge from motor vehicle registration number character edge shall be over 5mm and detachable and rotatable plate frame shall not be used.

d) There shall not be refit influencing nominal visual cognition of plate.

6.4.5.3 When inspection for unregistered vehicle, plate and plate installation shall also meet the following requirements.

a) For vehicle, front and back plate which can meet requirements of installation shall be set, but back plate which can meet requirements of installation shall be set only; front plate (frame) shall be located its middle or left part (according to moving forward direction of motor vehicle) and back plate (frame) its middle or left part.

b) For vehicle produced on March 1, 2016, each plate (frame) shall at least have two plate installation holes and it is sure that plate can be fixed firmly by bolt with specification of M6.

c) For vehicle produced on March 1, 2016, each plate (frame) [other than front plate (frame) of three-wheeled automobile and back plate (frame) of motorcycle] shall

requirements of rear protective device shall be in accordance with motor vehicle product announcements.

6.5.8 Emergency hammer

Passenger car with airtight tempered glass emergency window shall be equipped with an emergency hammer in its surroundings in order to smash window glass conveniently.

6.5.9 First-aid case

School bus shall be equipped with effective and suitable for sue first-aid case and first-aid case shall be put in positions which is convenient to take and use.

6.5.10 Limiting speed function or limiting speed devices

When inspection for unregistered vehicle, highway passenger vehicle, dangerous goods carrier vehicle sightseeing bus, and bus with vehicle length over 9m which does not installed with stand area for passengers shall have limiting speed function or be equipped with limiting speed device; passenger cat with vehicle length not less than 6m shall have overspeed alarm functions.

6.5.11 Anti-lock braking device

6.5.11.1 The following vehicles shall be equipped with anti-lock braking device.

a) Vehicles road transporting explosive materials and highly toxic chemical and other dangerous goods carrier vehicle produced on September 1, 2012;

b) Highway passenger vehicle and sightseeing bus with total weight over 12000kg, registered on February 1, 2005, trailer with total weight over 10000kg, truck with total weight over 16000kg which allows connecting trailer with total weight over 10000kg;

c) Semitrailer tractor produced on September 1, 2012 and highway passenger vehicle and sightseeing bus with vehicle length over 9m;

d) Special school bus produced on May 1, 2013;

e) Bus with vehicle length over 9m, produced on September 1, 2013 which did not installed with stand area for passengers;

f) Truck and special motor vehicle with total weight not less than 12000kg, produced on September 1, 2014.

6.5.11.2 Self-inspection function of anti-lock braking device shall be normal.

6.5.12 Auxiliary braking device

When inspection for unregistered vehicle, the following vehicles shall be installed retarder and other auxiliary braking device.

6.7.5 Other components

Other components shall meet the following requirements.

a) Fixation of engine shall be reliable;

b) Exhaust pipe and silencer shall be installed fixedly and there shall not air leakage; air vent nozzle shall not point to right side and of bus and below bus (if air vent nozzle must point to right side of bus due to structural constraint, included angle between air vent nozzle center line and motor vehicle longitudinal center line shall not over 15 degree); exhaust pipe of dangerous goods carrier vehicle transporting inflammable and explosive goods shall be installed before front face of tank or box body and it shall not higher than area of vehicle longeron upper plane; it shall be installed spark arrester and rear part of motor vehicle shall be installed grounding device.

c) Electric appliance and wires shall be arranged completely, be tied up into bundles, be fixed and tightened and not have damage.

d) Fuel tank shall be fixed and reliable and not have oil leakage; fuel pipeline and other components shall not have friction and obvious burn-in.

e) Unitary construction body bottom shall be complete and not have deformation and damage influencing intensity of the bus body;

f) Inside tyre shall not have severe friction, cut and erosion.

6.8 Instrument and equipment inspection

6.8.1 Service braking

6.8.1.1 Inspection for bench-testing no-load service braking performance shall be in accordance with relevant requirements of 7.11.1 specified in GB 7258-2012.

6.8.1.2 Inspection for bench-testing no-load service braking performance, shall meet the following requirements at the same time.

a) Inspection result of combination vehicle shall meet relevant requirements of 7.11.1 specified in GB7258-2012.

b) The ratio of the sum of trailer shaft power and the sum of trailer axle load shall not less than 55%;

c) Unbalance rate of trailer axle load shall meet requirements of 7.11.1.2 specified in GB7258-2012.

6.8.1.3 After trucks with at least 3 axes are loaded in accordance with methods of C.3 provided by annex C, its axle braking ratio shall nor less than 45% and its unbalance rate

Safe Technique Inspection Report (model as shown in annex G). The first report shall be presented motor vehicle owner (or it shall be presented motor vehicle owner by person for inspection); the second one vehicle management office as motor vehicle safe technique inspection qualified certificate; the last one inspection organization.

7.2.2 Motor vehicle safe technique inspection organization shall transmit data and image according to requirements of GB/T 26765, GA 1186.

7.2.3 Motor vehicle safe technique inspection organization shall keep properly *Motor vehicle Safe Technique Inspection Report, Motor vehicle Safe Technique Inspection Table (Manual Inspection Part* (as shown in annex H), *Motor vehicle Safe Technique Inspection Report, Motor vehicle Safe Technique Inspection Table (Instrument and Equipment Inspection Part* (as shown in annex I), information such as rubbing film or photo of vehicle identification number (or full vehicle manufacturing number) (when inspection for unregistered vehicle, rubbing film shall be kept and when inspection for motor vehicle, vehicle identification number photo shall be kept) shall be kept prior to expiration period of this inspection cycle but the time shall be at least 2 years.

7.3 Handling of motor vehicle with unqualified inspection

7.3.1 Inspection organization for motor vehicle safe technique shall present *Motor Vehicle Safe Technique Inspection Report* and shall mark all unqualified items.

7.3.2 Inspection organization for motor vehicle safe technique shall obtain evidence for future reference by methods such as taking photos camera shooting and saving data.

7.3.3 Inspection organization for motor vehicle safe technique shall transmit dada and image according to requirements of GB/T 26765, GA 1186.

7.4 Handling of abnormal situation

7.4.1 When assembly, illegal refitting, robbing and suspected smuggling are found, inspection organization for motor vehicle safe technique and inspector shall register in detail relevant information of this motor vehicle inspected, obtain evidence by taking photos and camera shooting, report through motor vehicle safe technique inspection supervisory system and inform person for inspection of handling in local public security traffic administrative department.

7.4.2 In the process of inspection for unregistered vehicle, characteristic parameter and safety device of motor vehicle inspected without meeting motor vehicle national safe technique standards such as GB 1589, GB 7258, motor vehicle product announcement, motor vehicle factory certificate are found, obtain evidence by taking photos and camera shooting, register in detail information such as vehicle type, brand & model, vehicle identification number (or model of full vehicle and factory number), engine number, manufacturer of full vehicle and production date of this motor vehicle inspected, report through motor vehicle safe technique inspection supervisory system.

8 Transitional period of implementation of standards

8.1 In table 1, requirements of partial loading axes braking ratio and loading axes unbalance rate trucks with at least 3 axes and trailer installed two and three axes shall be implemented after the 25th month from implementation of the standard. Before implementation, no-load braking ratio and no-load braking unbalance rate shall be inspected only.

8.2 The following requirements shall be implemented after the 25th month from implementation of the standard.

a) Requirements of overall dimensions self-operated measuring unit used by heavy-medium size truck, special motor vehicle and trailer in table 3;

b) Requirements of chassis gap gauge used by large-medium size passenger car, special motor vehicle, heavy-medium size truck and trailer in table 3;

c) Requirements of inspecting roller opposite forces type brake tester of vehicle with multi-axis and axes installed in C.1.1d) specified in annex C.

8.3 Requirements in 8.1 and 8.2 of this Standard during transitional period can be implemented in advance for places where conditions permit.

Annex B

(Normative)

Curb-mass Measurement

B.1 Equipment requirements

The curb-mass can be measured by a weighbridge or axle (wheel) load meter (include platform testers with weighing function) and others. If measuring vehicles with three or more than three axles with an axle (wheel) load meter, shall ensure that the axle (wheel) load meter has sufficient effective measurement length to ensure that each double mixed axle and triple mixed axle and side wheels can be parked on the same weighting plate.

B.2 Requirements of vehicles to be tested

Vehicles to be tested shall comply with related requirements of vehicle quality in GB/T 3730.2.

B.3 Measurement method of weighbridge application

B.3.1 Drive the vehicle on a weighbridge steadily and measure the curb-mass after the vehicle is stable and still.

B.3.2 The curb-mass of a trailer can be obtained by measuring the curb-mass of the combination vehicle and curb-mass of the tractor and then calculating the difference between them and taking the difference value as the curb-mass of the trailer.

B.4 Measurement method of axle (wheel) load meter application

B.4.1 In the application of an axle (wheel) load meter, shall maintain level of the vehicle to be tested, then drive the vehicle into a inspection board steadily and slowly axle by axle (double mixed axles and triple mixed axles shall be deemed as one axle) and measure the load of each axle after they are stable and still; calculate the sun of each axle load and then calculate the curb-mass of the vehicle.

B.4.2 The measurement method of curb-mass of trailers is the same with B.3.2.

Annex C

(Normative)

Brake Performance Inspection

C.1 Brake inspection of non-load platform test

C.1.1 Relevant requirements of inspection equipment

Relevant requirements of inspection equipment are as follows:

a) Shall use a roller opposite force brake tester or a platform brake tester for brake inspection of motor vehicle and select a brake tester with corresponding carrying capacity according to the axle load of vehicles to be tested;

b) Axle (wheel) load meters shall be installed levelly and the height between the weighting platform and ground shall not exceed ±5mm in installation;

c) The adhesion coefficient of the front and behind ground of the brake platform shall be no more than 0.7;

d) Roller opposite force brake testers for multi-axis vehicles and mixed axle vehicles inspection shall have the function of platform lift and shall meet the following: when the roller center distance is 460 mm and the height difference of the primary roller and secondary roller is 30 mm, the height difference between the bus-bar on the secondary roller and the ground level is + 40 mm; when the roller center distance increases or decreases by 10 mm, the height difference between the bus-bar on the secondary roller and the ground level shall increase or decrease by 2 mm correspondingly; when the height between the primary roller and secondary roller deceases by 10 mm, the height difference between the bus-bar on the secondary roller and the ground level shall increase by 4 mm correspondingly

C.1.2 Preparation before inspection

Shall make the following preparations before test:

a) The roller (or platform) surface of brake tester shall be clean and free of foreign matter and oil;

b) Auxiliary devices for inspection shall be complete;

c) For air braking vehicles, the pressure of air reservoir shall be able to ensure that the pressure is no less than the initial pressure (for those not marked with initial pressure, take 400 kPa as initial pressure) after conducting brake inspection to each axle of the vehicle;

wheel and right wheel and the axle load of this axle. For small (micro) passenger vehicles, take the sun of loads of left wheel and right wheel corresponding to the time when the braking forces of the left wheel and right wheel are the biggest respectively; for other vehicles, take the static axle load as the axle load;

b) The calculation of non-balance ratio, braking ratio of full vehicle, parking braking ratio and other indicators is the same with C.1.5.1.

C.1.6 Handling of special circumstances

Special circumstances shall be handled according to the following method:

a) In the inspection on a roller opposite force brake tester, when the wheels to be tested are locked on the roller, but the braking ratio of full vehicle does not meet qualification requirements, shall conduct re-inspection after adding sufficient additional weight or force with equal additional weight on the vehicle (within the rated load of the equipment, the additional weight or force shall act symmetrically between the left wheel and right wheel of the axle and shall not be included into axle load).

b) Vehicles without significant deviation in the inspection of limited vehicle on a roller opposite force brake tester or in chassis operating inspection and without qualified brake of the left wheel and right wheel shall be tested by using a platform brake tester or using road test.

c) For vehicles added with auxiliary operation device for physically disabled, shall inspection the brake performance through the auxiliary operation device. When the service brake performance is tested, the positive pressure applied on the surface of braking and acceleration determent handle shall be no more than 300 N; when the parking brake performance is tested, the operation force of auxiliary parking braking handle shall be no more than 200 N.

C.2 Brake inspection in road test

C.2.1 Service brake

C.2.1.1 The brake performance inspection in road test shall be done on hard, solid, clean and dry cement or asphalt pavement with longitudinal grade being ne more than 1% and adhesion coefficient between the tire and the ground being no less than 0.7. Adjust the vehicle transmission to neutral position in inspection. Shall inspect the safety of the inspection site before inspection and take necessary protection and containment measures to ensure the safety during inspection process.

C.2.1.2 For vehicles inapplicable to brake inspection to their instrument and equipment, determine the brake performance through braking length or mean fully developed braking deceleration(MFDD) and braking delay time. Shall mount a foot brake pedal pressure gauge when in doubt and inspect whether the brake pedal force reaching the specified braking efficiency comply with standards.

C.2.1.3 On test road, line out a sideline of specified proving road and drive the vehicle to be tested along with the centerline of the proven road. When using a portable brake performance tester for test, adjust the transmission to neutral position, kick down the brake to stop the vehicle after driving the vehicle at specified initial speed and measure the mean fully developed braking deceleration (MFDD) and braking delay time and inspect whether the vehicle has drove outside the driveway sideline; when using the fifth wheel or a non-contacted velocimeter for test, adjust the transmission to neutral position and slide the vehicle to specified initial speed after driving the vehicle at the speed above the specified initial speed, then kick down the brake to stop the vehicle and measure the braking length of the vehicle and inspect whether the vehicles has drove outside the driveway sideline.

C.2.1.4 For vehicles inspected on a brake tester, when the braking force balance and the braking ratio of front axle meet requirements, but the braking ratio of full vehicle does not meet qualified requirements, use a portable brake performance tester to inspect them and the braking initial speed of small (micro) passenger vehicles and other vehicles with total weight not more than 4500 kg shall be no less than 30 km/h; the braking initial speed of other vehicles, combination vehicles and trolleybuses shall be no less than 20 km/h. determine the MFDD and braking delay time of them after kicking down the brake.

C.2.2 Parking braking

C.2.2.1 Drive a vehicle to a ramp with 20% of slope (15% of slope for vehicles with total weight being less than 1.2 times of the curb-mass) and adhesion coefficient being no less than 0.7, maintain the vehicle still in forward and reverse directions for 5 minutes or more than 5 minutes and then inspect whether the parking braking of the vehicle complies with requirements.

C.2.2.2 In inspection for in-use vehicle, when there is no test ramp, can use instruments complying with provisions to test the parking brake performance by referring to relevant standard.

C.3 Platform load braking inspection

Load braking inspection shall be done by using a roller opposite force brake tester with lift function of the body and the first axle and the last axle of combination vehicles combined by double mixed axle trailer may not be done with load braking inspection. The specific method is as follows:

a) Drive a vehicle to be tested uprightly and medially, place the second axle of the vehicle to be tested on the roller of a brake tester, adjust the transmission to neutral position and release the brake pedal;

b) Load the test axle with a lift platform, stop to lift it after lifting the lift platform to a site 100mm away from bus-bar of the secondary roller (or when the axle load reaches 11 500 kg)l; measure the wheel load of the left wheel and right wheel and calculate the axle load of the axle under loading (or directly measure the axle load of the axle

headlights whose driving beam can be adjusted separately; headlights whose driving beam can be adjusted separately refer to headlights whose driving beam radiation angle can be adjusted manually or by using a special tool without affecting the passing beam radiation angle. Usually, the driving beam radiation angle of headlights combining driving beam and passing beam into one can not be adjusted separately.

d) Convert the headlights to be tested into passing beam and make the automatic headlight tester to test the deviation of radiation location in the cut-off corner (or midpoint) of passing beam automatically;

e) Complete the inspection to headlights of all vehicles according to the above step c) and d);

f) When inspecting paratactic headlights (headlights with four lights), shall shield lights t adjacent to tested lights;

g) When using headlights equipped with gas-discharge light sources, shall preheat them before test.

D.3.1.2 When inspecting headlights of three-wheeled automobiles and motorcycles, shall conduct the inspection according to the following steps:

a) Park the vehicle to a predetermined position;

b) Maintain the headlight be over against the tester and clamp the vehicle tightly if there is a clamp equipment;

c) Start the headlight tester for test and make the vehicle be in the state of charge during inspection (be in neutral position and shall apply brake to stepless variable vehicles);

d) Record the driving beam luminous intensity for headlights of two-wheeled motor vehicles or three-wheeled motor vehicles with one headlight. Conduct it according to the method in D.3.1.1 to three-wheeled motor vehicles with two or more than two headlights.

D.3.2 Inspection with a manual headlight tester

a) When using a manual headlight tester for inspection, shall conduct the inspection according to the method in D.3.1.

V. Suggestion					
Remark					

G.2 Explanatory notes to motor vehicle safety technical inspection report

The explanatory notes to motor vehicles safety technical inspection report are as follows:

a) The column of “basic information” is required;

b) The column of “inspection conclusion” shall be written by the authorized signatory with “qualified”, “unqualified” and shall be signed and sealed with the seal of motor vehicle safety technical inspection institute;

c) The column of “manual inspection result” shall be filled with qualified items in actual implementation. When there is noncompliance items, fill “specific condition presentation of non-conformance, for example:

Inspection for the identification of vehicle, compliance:

Networking inquiry, compliance;

Inspection for the characteristic parameters of vehicle, compliance…

The body appearance is unqualified and the filling transport carts for damagers goods are not equipped with protection devices against overturning according to requirements;

The tires are unqualified and the tire face of right rear tire is worn seriously and the tread depth does not meet requirements.

d) The column of “inspection result of instrument and equipment” shall be filled with inspection items of instrument and equipment carried out actually, for example:

Braking ratio / non-balance ratio of the first axle, braking ratio / non-balance ratio of the second axle…

Braking ratio of full vehicle;

Braking ratio of parking vehicle;

Brake performance in road test;

Driving beam luminous intensity of left external light of headlight, driving beam luminous intensity of left internal light of headlight, driving beam luminous intensity of right external light of headlight and driving beam luminous intensity of right internal light of headlight;

Vertical deviation of distance light of left external light of headlight, vertical deviation of distance light of left internal light of headlight, vertical deviation of distance light of right external light of headlight and vertical deviation of distance light of right internal light of headlight;

Speedometer indication error;

Steering wheel transverse side sliding.

e) The column of “suggestion” can be filled with different content according to different inspection conclusions:

- When the inspection conclusion is “qualified”, can remind the personnel sending the motor vehicle for inspection of the following according to the inspection result, for example:

  “ The braking result of your car shows that the braking force is close to the standard limit, so it is suggested to conduct further inspection to eliminate security risk”;

  “The braking result of your car shows that the braking non-balance ratio of xxx axle is close to the standard limit, so it is suggested to conduct further inspection to eliminate security risk”;

  “The headlight result of your car shows that the luminous intensity of xxx light is close to the standard limit, so it is suggested to conduct further inspection to eliminate security risk”;

  “The tread depth on tire crown of your car is closed to standard limit, so it is suggested to eliminate security risk timely”;

  “The tires of your car are worn irregularly, so it is suggested to conduct further inspection to eliminate security risk”;

  “xxx interior trim parts in your car shall not be placed on the airbag so it is suggested to eliminate security risk”;

I.1.2 Explanatory notes to motor vehicles (excluding three-wheeled automobiles and motorcycles) safety technical inspection table

a) In brake performance in road test, print the item name (unit) and data according to the following inspection items for road test:

Initial speed of braking, braking length (m) and braking stability;

Initial speed of braking *MFDD* ($m/s^{2)}$, coordinate time and braking stability;

b) It is required to print the dynamic braking wheel load only when a platform brake tester is used to test small (micro) passenger vehicles and shall print it in “left/right” format;

c) Fill “+” when the vertical deviation of driving beam and passing beam is upper deviation and “-“ when the vertical deviation of driving beam and passing beam is lower deviation in the column of vertical deviation of driving beam and passing beam;

d) The vertical deviation of driving (passing) beam shall be the ratio of vertical deviation of driving (passing) beam and the center height of high (low) beam and the unit shall be *.H.

e) Print the inspection times of individual item in this inspection cycle (including re-inspection) in the column of times of individual items to definite times of inspection result of the data. The times of individual items of each brake axle is subject to the times of equipment inspection on this axle;

f) Print the total times of on-line inspection of this vehicle in this inspection cycle in the column of total inspection times (including early re-inspection);

g) When the primary vehicle (tractor) are inspected on line at the same time with trailer inspection, shall print this table for primary vehicles and tractors.

h) When the inspection items of vehicle overall dimension and curb-mass are measured by instruments automatically, can print the vehicle overall dimension and curb-mass on the table together.

I.2 Safety technical inspection table of three-wheeled automobiles and motorcycles (instrument and equipment inspection)

I.2.1 Safety technical inspection table of three-wheeled automobiles and motorcycles (instrument and equipment inspection) is shown in Table I.2.

Initial speed of braking, braking length (m) and braking stability;

Initial speed of braking *MFDD* ($m/s^{2)}$, coordinate time and braking stability;

b) Print the inspection times of individual item in this inspection cycle (including re-inspection) in the column of times of individual items to definite times of inspection result of the data. The times of individual items of each brake axle is subject to the times of equipment inspection on this axle;

c) Print the total times of on-line inspection of this vehicle in this inspection cycle in the column of total inspection times (including early re-inspection);

When the primary vehicle (tractor) are inspected on line at the same time with trailer inspection, shall print this table for primary vehicles and tractors.

d) When the inspection items of vehicle overall dimension and curb-mass are measured by instruments automatically, can print the vehicle overall dimension and curb-mass on the table together.

Bibliography

[1] "*Road Traffic Safety Law of the People's Republic of China".*

[2] "*Regulation on the Implementation of the Road Traffic Safety Law of the People's Republic of China".*

[3] Implementation guide for national standard GB 7258-2012 "Safety specifications for power-driven vehicles operating on roads". Beijing: Chinese quality inspection publishing house, 2012.

[4] Russian Federation National Standard GOST R 5109-2004 "*Inspection method for requirements to technical conditions by vehicle safety travelling*".

[5] Vehicle Examination Personnel Manual for Trucks (vehicle examination department of transport department of the Hong Kong Special Administrative Region of the People's Republic of China).

[6] Vehicle Examination Personnel Manual for Private Cars and Light Trucks (with total vehicle weight not more than 1.9 metric tons).

[7] Federal Motor Vehicle Safety Regulations 49CFR570 "Vehicle In Use Inspection Standards".

[8] "Roadworthiness tests for motor vehicles and their trailers" (2009/40/EC).

[9] "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" (201 0/48/EU).

[10] "Vermont periodic inspection manual" (TA-VN-11 2 03/01 INTERNET CAL Reprinted: March 2001).

[11] "Inspection standard for exported used cars" (JAAI 6-30B, March 23, 1995).

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