

**CHAPTER 2
DETAILS OF SAFETY REGULATIONS THAT APPLY TO
MOTOR VEHICLES**

**Section 3
Details of Safety Regulations That Apply to
In-Use Motor Vehicles**

Article 161

The provisions of this Section shall apply to the following cases:

- (1) Cases where checks and maintenance pursuant to the provision of Article 47 of the Act are carried out;
- (2) Cases where the order pursuant to the provision of Paragraph 1 of Article 54 of the Act, the suspension of use pursuant to the provision of Paragraph 2 of the same Article, the revoke of disposition pursuant to the provision of Paragraph 3 of the same Article, or the judgement for the order pursuant to the provision of Paragraph 4 of the same Article is carried out;
- (3) Cases where the order pursuant to the provision of Paragraph 1 of Article 54-2 of the Act, the maintenance pursuant to the provision of Paragraph 4 of the same Article, the revoke of disposition pursuant to the provision of Paragraph 5 of the same Article, or the judgement concerning the provision of Paragraph 7 of the same Article is carried out;
- (4) Cases where the renewal inspection pursuant to the provision of Paragraph 1 of Article 62 of the Act is carried out;
- (5) Cases where the extraordinary inspection pursuant to the provision of Paragraph 2 of Article 63 of the Act is carried out;
- (6) Cases where the modification inspection pursuant to the provision of Paragraph 3 of Article 67 of the Act is carried out;
- (7) Cases where the disassembling repair pursuant to the provision of Article 90 of the Act is carried out;

- (8) Cases where the judgement for the issuance pursuant to the provision of Paragraph 1 of Article 94-5 of the Act is carried out;
- (9) Cases other than those where the provisions of Sections 1 and 2 apply pursuant to the provisions of Articles 5 and 83.

2. In the cases enumerated in each of the following Items, for the portions of a motor vehicle enumerated in each Item, notwithstanding the provision of the preceding Paragraph, the respective provisions of Section 2 (Section 1 in the case of carrying out the extraordinary inspection of the designated motor vehicles, etc.) shall apply.

[The following shall be put into effect on October 1, 2005] -----

In this case, the “initial inspection” shall read as the “renewal inspection or modification inspection.”

- (1) In cases where the extraordinary inspection pursuant to the provision of Paragraph 2 of Article 63 of the Act is carried out, the portions where the construction, devices or performance is recognized unlikely to comply with the provisions of Section 2 (Section 1 in the case of the designated motor vehicles, etc.) due to severe accidents, etc.;
- (2) In cases where the modification inspection pursuant to the provision of Paragraph 3 of Article 67 of the Act is carried out, the portions where the construction, devices or performance is recognized unlikely to comply with the provisions of Section 2 due to changes arising from the provision of Paragraph 3 of Article 67 of the Act;
- (3) In cases where changes are made concerning the construction, devices or performance by the modification of the motor vehicle or parts of it, installation/removal of devices or other similar actions (except cases prescribed in the preceding Item), the portions related to the changes concerned; and
- (4) In cases where motor vehicles approved pursuant to the provision of Paragraph 4 of Article 56 of the Safety Regulations are subjected to the initial inspection pursuant to the provision of Paragraph 1 of Article 59 of the Act or the preliminary inspection pursuant to the provision of Paragraph 1 of Article 71 of the Act for the first time after the said approval has lost its validity, the construction or devices that have been subjected to the said approval.

Article 162 (Length, Width and Height)

1. The method prescribed in the Announcement of Paragraph 1 of Article 2 of the Safety Regulations in connection with the measurement of a motor vehicle shall mean that the motor vehicle under the conditions enumerated in each of the following Items be measured according to Paragraph 2.

- (1) Unloaded state;
- (2) Any ladder of a ladder truck, a turret of an overhead wire repair motor vehicle or those which can be housed while the motor vehicle is being driven shall be housed;
- (3) Any folding awnings, cranes of a work motor vehicle or those which may be used in various states while the motor vehicle is being driven shall be in respective states where these are used during running. However, any outward-opening windows and ventilators shall be closed.
- (4) Any outside rear-view mirrors, devices and flexible antennas in Paragraph 5 of Article 44 of the Safety Regulations shall be removed. In this case, the outside rear-view mirrors and devices in Paragraph 5 of Article 44 of the Safety Regulations shall include lamps and reflectors attached thereto.

2. The length, width and height of a motor vehicle shall be the measured values (the unit shall be centimeter, ignoring the fractions of less than 1 cm.) of the dimensions given in each of the following Items, using a measuring tape or the like, with the motor vehicle in its straight-ahead position under the conditions of the preceding Paragraph placed on a horizontal, flat surface (hereinafter referred to as the “reference surface”).

- (1) With regard to the length, the most forward end and most rearward end of the motor vehicle are projected on the reference surface. The length shall be the distance between the projected points in a direction parallel to the longitudinal centre line of the motor vehicle.
- (2) As regards the width, the outermost sections of the motor vehicle (except the rotating tyres, disc wheels and their related rotating sections that are mounted on motor vehicles other than large-sized special motor vehicles and small-sized special motor vehicles) are projected on the reference surface. The width shall be the distance

between the projected points in a direction parallel to a straight line perpendicular to the motor vehicle longitudinal centre line.

- (3) The height shall be the distance between the highest section of the motor vehicle and the reference surface.

3. The method prescribed in the Announcement of Paragraph 2 of Article 2 of the Safety Regulations in connection with the measurement of a motor vehicle shall mean that the motor vehicle under the conditions enumerated in each of the following Items be measured.

- (1) With regard to the outward-opening windows and ventilators, the state where they are opened;
- (2) As regards the rear-view mirrors and devices of Paragraph 5 of Article 44 of the Safety Regulations, the state where they are fitted.

Article 163 (Minimum Ground Clearance)

The requirements prescribed in the Announcement of Article 3 of the Safety Regulations shall be that any part other than the ground-contact section of a motor vehicle have enough clearance above the ground to ensure safe operation. In this case, when the ground clearance comes under one of the following Items enumerated below, the motor vehicle meeting such condition shall be regarded as complying with this requirement.

- (1) Those motor vehicles which are approved to be equivalent to type-designated motor vehicles, etc.;
- (2) Those motor vehicles for which the measured values meet the requirements of Item B when the measurement has been conducted according to the measuring conditions of Item A in the case of ordinary-sized motor vehicles and small-sized motor vehicles (except motor vehicles with a passenger capacity of 11 persons or more and motor cycles) with a gross vehicle weight of 2.8 tons or less, motor vehicles used exclusively for carriage of passengers (except motor vehicles with a passenger capacity of 11 persons or more and motor cycles) with a gross vehicle weight exceeding 2.8 tons, and mini-sized motor vehicles (except motor cycles and mini-sized motor vehicles with caterpillar tracks and sleds) which have been modified so that the minimum ground clearance becomes smaller;

A. Measuring conditions

The minimum ground clearance shall be determined, using the following methods enumerated below:

- ① The motor vehicle to be measured shall be under the unloaded condition;
- ② The air inflation pressure of the tyres of the motor vehicle to be measured shall be the specified value;
- ③ In the case of motor vehicles that are equipped with a vehicle height adjustment device, the standard (neutral) position shall be selected. However, in the case of vehicle height adjustment devices capable of holding the vehicle height at an arbitrary position, the device shall be set to a mid-point between the position where the vehicle height becomes the minimum value and the position where the vehicle height becomes the maximum value;
- ④ With the motor vehicle to be measured placed on a paved, flat surface, the minimum ground clearance shall be measured by means of a measuring tape or the like;
- ⑤ The measured value shall be expressed in centimeters, rounding off the fractions less than 1 cm.

B. Evaluation of measured values

The minimum ground clearance determined according to Item A shall meet the following requirements prescribed in Items ① through ③.

However, in the case of motor vehicles whose construction allows the important devices in terms of the motor vehicle construction and safety to adequately withstand impacts, such as contact, or whose construction includes undercovers, etc. capable of providing adequate protection for the important devices in terms of the motor vehicle construction and safety when the section other than the ground-contact section of the motor vehicle comes in contact with the ground, etc., it is permissible for the minimum ground clearance of the section concerned to satisfy only the following requirements of ① and ②.

In this case, with regard to the minimum ground clearance at the section of motor vehicles whose “construction allows to adequately withstand” and whose “construction includes undercovers, etc.” in the proviso above, the value in Item ① shall read as “at least 5 cm” in its application.

Furthermore, the following sections of the motor vehicle shall be excluded when measuring the ground clearance.

- (a) Lower edge of the brake drum which moves up and down in interlocking with the tyre, and the lower edge of the lower arm, etc. of the suspension;
- (b) Rubber parts of a certain level of freedom in movement;
- (c) Mud guard, air dam skirt, air cut flap and so forth that are made of resin.

- ① The minimum ground clearance (over the whole section) of the motor vehicle shall be at least 9 cm.
- ② The minimum ground clearance of the motor vehicle over the wheelbase shall be at least the value that is determined using the following formula:

$$H = Wb \cdot 1 / 2 \cdot \sin 2^{\circ}20' + 4$$

- ③ The minimum ground clearance at the section ahead of the front wheel and the minimum ground clearance at the section rearward from the rear wheel of the motor vehicle shall be at least the value that is determined using the following formula given below:

$$H = Ob \cdot \sin 6^{\circ}20' + 2$$

where:

H : Minimum ground clearance of motor vehicle (cm)

Wb : Wheelbase (cm)
If the motor vehicle has plural axles, the wheelbase to be used is the longest one between the axles in tandem.

Ob : Distance between a point where the front minimum

ground clearance of the motor vehicle is measured from the front axle (in the case of a motor vehicle with plural axles, the most forward axle) and the centre line of the front axle, or the distance between a point where the rear minimum ground clearance of the motor vehicle is measured from rear axle (in the case of a motor vehicle with plural axles, the most rearward axle) and the centre line of the rear axle. (cm)

Furthermore, as for the sine of trigonometric functions, the following values shall be used.

$$\sin 2^{\circ}20' = 0.04$$

$$\sin 6^{\circ}20' = 0.11$$

Article 164 (Stability)

The requirements prescribed in the Announcement of Article 5 of the Safety Regulations in connection with the stability of a motor vehicle shall be the requirements prescribed in each of the following Items.

- (1) The total load imposed upon the ground-contact sections of the steering tyres in the unloaded state and in the loaded state shall be 20% or more (18% in the case of three-wheeled motor vehicles) of the vehicle weight and of the gross vehicle weight, respectively.
- (2) In the case of a tractor, the requirement of the preceding Item shall be met even in the state when a trailer is coupled thereto.
- (3) In the case of a motor cycle with sidecar, the load imposed upon the ground-contact section of the wheel (except driving wheels) of the sidecar in the unloaded state and in the loaded state shall be 35% or less of the vehicle weight and of the gross vehicle weight, respectively.
- (4) Any motor vehicle (except motor cycles and trailers) in the unloaded state shall not overturn when it is tilted to the right and left sides at an angle of 35° (25° in the case of motor cycles with sidecar and 30° in the case of motor vehicles with a maximum speed of less than 20 km/h and motor vehicles with a gross vehicle weight of 1.2 times or less of the vehicle weight). In this case, the phrase “tilted to the right and left sides” shall not mean to tilt a motor vehicle to the right or left side perpendicular to the motor vehicle longitudinal centre line, but it shall mean to tilt a motor vehicle to the side where overturning may actually

take place, using as an axis a line connecting the ground-contact sections of the front and rear outer wheels at the side concerned.

- (5) In the case of trailers (except pole trailers), the requirements of the preceding Item shall be met when a tractor in the unloaded state is coupled thereto;
- (6) In the case of pole trailers, the distance between the centres of the ground-contact sections of the right and left outermost wheels shall be 1.3 times or more the height of the loading platform above the ground in the unloaded state.

Article 165 (Ground-Contact Section and Contact Pressure)

The requirements prescribed in the Announcement of Article 7 of the Safety Regulations in connection with the ground-contact sections and contact pressure of the running system of a motor vehicle shall be the requirements prescribed in each of the following Items.

- (1) No ground-contact section shall be constructed in such a way that it damages road surfaces;
- (2) Motor vehicles with a rubber traction belt caterpillar or flat traction belt caterpillar shall comply with the requirement of the preceding Item;
- (3) For pneumatic rubber tyres or solid rubber tyres whose ground-contact section is 25 mm or thicker, the ground-contact pressure shall not exceed 200 kg/cm² per cm of the width of the ground-contact section of the tyre. In this case, the “width of the ground-contact section of the tyre” shall mean the maximum width of the section that is actually in contact with the ground;
- (4) For caterpillar tracks, the ground-contact pressure shall not exceed 3 kg per cm² of the ground-contact area of the caterpillar tracks. In this case, the ground-contact area of the caterpillar tracks shall be a virtual ground-contact area and the value calculated from the following formula (The unit shall be cm² and the value shall be an integer.):

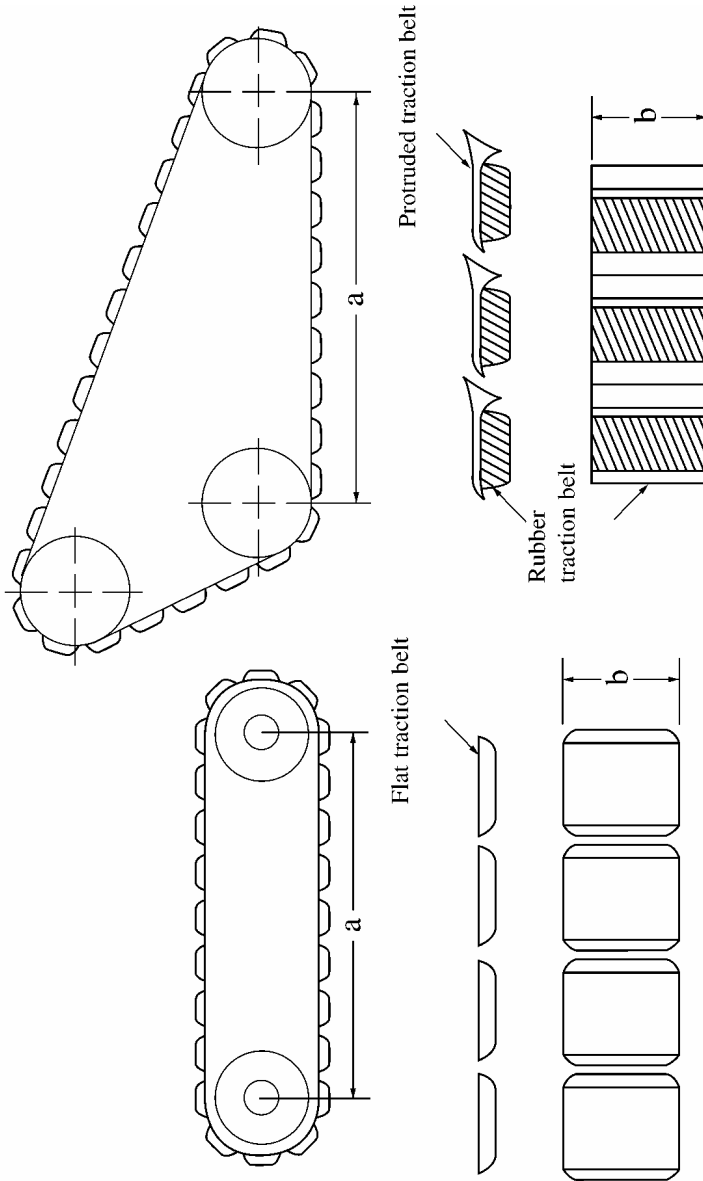
(Calculation formula)

$$A = a \cdot b$$

where:

- A : Virtual ground-contact area
- a : Ground-contact length of traction belt
- b : Ground-contact width of traction belt

(Referential diagram)



- (5) As regards ground-contact sections other than those in the preceding two Items as well as those of sleds, the ground-contact pressure shall

not exceed 100 kg per cm of the width of the ground-contact section;

- (6) For tractors, the requirements of the preceding three Items shall be met even when coupled with a trailer.

Article 166 (Engine and Power Train System)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 8 of the Safety Regulations in connection with the construction, etc. of the engine and power train system shall be that the engine and power train system be constructed and have sufficient performance to fully withstand operations. In this case, those enumerated in the following Items shall be regarded as not complying this requirement:

- (1) Engines where starting is extremely difficult;
- (2) Engines emitting considerable abnormal noise or vibration during operation;
- (3) Engines where smooth rise in speed is not attained when the engine speed is increased from idling;
- (4) Engines where the air cleaners are detached;
- (5) Engines where the lubrication system exhibits considerable oil leakage;
- (6) Engines where the cooling system exhibits considerable water leakage;
- (7) Engines where the fan belts, etc. are excessively loose or damaged;
- (8) Clutches whose operation is not proper or which exhibit excessive slippage, or the dust boot of the release cylinder is damaged;
- (9) Transmissions whose control mechanism exhibits excessive play;
- (10) Power train systems whose connections exhibit looseness;
- (11) Power train systems which exhibit considerable fluid or oil leakage;
- (12) Splines of propeller shafts, universal joints or centre bearings which exhibit excessive play;
- (13) Splines of drive shafts, universal joints or centre bearings which

exhibit excessive play;

- (14) Propeller shafts or drive shafts which are damaged;
- (15) Universal joints whose bolts and nuts are missing or exhibit damage;
- (16) Universal joints whose dust boots exhibit damage or where the direction of the yoke is not correct;
- (17) Power train systems whose sprockets are damaged, whose mounting are loose or whose chains exhibit excessive looseness;
- (18) Motor vehicles which do not comply with the requirements of Attachment 95 “Technical Standard for Running Performance of Motor Vehicles”;
- (19) Motor vehicles which do not comply with the requirements of Attachment 96 “Technical Standard for Running Performance of Coupled Motor Vehicles.”

2. The requirements prescribed in the Announcement of Paragraph 5 of Article 8 of the Safety Regulations in connection with the speed limiting performance, etc. of the speed limitation device shall be the requirements prescribed in each of the following Items:

- (1) Motor vehicles manufactured on or after September 1, 2003, (including motor vehicles manufactured on or before August 31, 2003, which are equipped with a lamp for confirming the function of the speed limitation device or a display indicating the set speed (hereinafter referred to as the “confirmation lamp, etc.”) so that the function of the speed limitation device can be confirmed while the motor vehicle is in a stopped state provided for in Paragraph 3-6 of Attachment 1 “Technical Standard for Speed Limitation Devices for Large-Sized Trucks” or Attachment 97 “Technical Standard for Speed Limitation Devices for In-Use Large-Sized Trucks”) shall comply with the requirements prescribed in the following Items A and B.
 - A. The confirmation lamp, etc. shall function normally. However, in the case of motor vehicles equipped with no confirmation lamp, etc., an appropriate measure shall be taken for preventing the modification that may hamper the function of the speed limitation device, such as the sealing of the speed limitation device.

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- B. The mark provided for in Paragraph 5 “Indication” of Attachment 1 “Technical Standard for Speed Limitation Devices for Large-Sized Trucks” shall be indicated at a place in the vehicle compartment where the driver can easily see it and at the rear end of the motor vehicle (except trailers).
- (2) Motor vehicles manufactured on or before August 31, 2003, (except motor vehicles equipped with a confirmation lamp, etc.) shall comply with all requirements prescribed in the following Items A through C. However, this provision shall not apply to motor vehicles designated by the Minister of Land, Infrastructure and Transport.
- A. It shall be possible to confirm that the motor vehicle concerned complies with Attachment 97 “Technical Standard for Speed Limitation Devices for In-Use Large-Sized Trucks” by means of the test data record form issued by a public testing institute according to Attachment 97 “Technical Standard for Speed Limitation Devices for In-Use Large-Sized Trucks.”
- B. An appropriate measure shall be taken on the motor vehicle for preventing the modification that may hamper the function of the speed limitation device, that is described in the test data record form.
- C. The mark provided for in Paragraph 5 “Indication” of Attachment 97 “Technical Standard for Speed Limitation Devices for In-Use Large-Sized Trucks” shall be indicated at a place in the vehicle compartment where the driver can easily see it and at the rear end of the motor vehicle (except trailers).

Article 167 (Running System)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 9 of the Safety Regulations in connection with the strength, etc. of the running system of a motor vehicle shall be the requirements prescribed in each of the following Paragraphs.
2. The running system of a motor vehicle shall be secure to ensure safe operation. In this case, each of the following Items shall be regarded as not complying with this requirement.
- (1) Hub bolts, spindle nuts, clip bolts and nuts which exhibit looseness or omission, or where cotter pins are missing.

- (2) Wheel bearings which exhibit considerable play or damage.
- (3) Axles which exhibit damage.
- (4) Rims or side rings which exhibit damage.
- (5) Side rings which are not fitted completely into the rims.
- (6) Wheels which exhibit considerable runout.
- (7) Wheels which will not rotate smoothly.

3. Light-alloy disc wheels which bear casting or stamping markings in accordance with Attachment 1 “Technical Standard for Light-Alloy Disc Wheels” and which exhibit no damage shall be regarded as “being secure” as stated in the preceding Paragraph.

4. The requirements prescribed in the Announcement of Paragraph 2 of Article 9 of the Safety Regulations in connection with the strength, anti-slip performance, etc. of pneumatic rubber tyres of a motor vehicle shall be the requirements prescribed in each of the following Items.

- (1) With regard to loads applicable to tyres for motor vehicles, the value obtained by dividing the axle weight of a motor vehicle in the loaded state by the number of wheels attached to the said axle shall be the load capacity of tyres.
- (2) The ground-contact section of a tyre shall have a tread to reduce the likelihood of slipping. In this case, the tread depth (except for tyres mounted on motor vehicles with a maximum speed of less than 40 km/h, trailers drawn by motor vehicles with a maximum speed of less than 40 km/h, large-sized special motor vehicles and trailers drawn by large-sized special motor vehicles) shall be 1.6 mm or more (0.8 mm in the case of tyres mounted on motor cycles with or without sidecars) at any part of the recessed section (except the siping, platform and wear indicator) for preventing slipping across the overall width of the ground-contact section of the tyre (1/4 of the overall width from the centre line of the ground-contact section of the tyre to the right and left sides, respectively, in the case of lug-type tyres). Here, it is permissible to evaluate the tread depth, using a wear indicator.
- (3) The tyres shall be free from any notable damage, such as cracks, bare cords, etc.

- (4) The tyre shall be inflated to a proper pressure.

Article 168 (Control System)

The requirements prescribed in the Announcement of Article 10 of the Safety Regulations in connection with the arrangement, identification marks, etc. of the control system shall be the requirements prescribed in each of the following Items.

- (1) The devices enumerated in each Item of Article 10 of the Safety Regulations, which are necessary for operating a motor vehicle, shall be located within 500 mm to the right and left of the centre of the steering wheel and be constructed so that the driver in his normal driving position may easily operate them. In this case, the distance concerning the arrangement in relation to the centre of the steering wheel shall be the length of the perpendicular drawn from the centre of each control device to the vertical plane which is parallel to the motor vehicle longitudinal centre line including the centre of the steering wheel (the centre of the driver's seat in the case of a lever-type steering system). The centre of the transmission shall be the centre point of the grip of the shift lever located at the centre in the neutral position. The centre of a movable defroster control device, such as a lever-type control device, shall be the centre position of the movable range.
- (2) The devices (except the starter switch, accelerator, clutch and control device of the transmission) enumerated in Item (1) of Article 10 of the Safety Regulations as well as the devices (except the control device of the direction indicator lamps) enumerated in Item (3) of the same Article shall have an identification mark thereon or nearby so that the driver in his seat may easily recognize the device concerned.
- (3) The control device of the transmission shall have an identification mark thereon or nearby so that the driver in his seat may easily recognize the operating position of each gear.
- (4) The control device of the direction indicator lamp shall have an identification mark thereon or nearby so that the driver in his seat may easily recognize the operating position of each direction indicated by the direction indicator lamp concerned.
- (5) "An identification mark thereon or nearby so that the driver in his seat may easily recognize" mentioned in Items (2) through (4) shall mean

an indication which enables the driver seated in his seat to easily distinguish the device concerned or the operating position thereof by means of characters, figures or marks provided at a position where the driver can see without assuming a strained posture. In this case, those identification codes which are posted in JIS D0032 "Road vehicles – Symbols for controls, indicators and tell-tales" or ISO (International Organization for Standardization) 2575 "Road vehicles – Symbols for controls, indicators and tell-tales" shall be examples of such indications.

Article 169 (Steering System)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 11 of the Safety Regulations in connection with the strength, operating performance, etc. of the steering system of a motor vehicle shall be the requirements prescribed in each of the following Items.

- (1) The steering system of a motor vehicle shall be secure to ensure safe operation. In this case, each of the following Items shall be regarded as not complying with this requirement.
 - A. Steering links, such as the knuckle arms, tie-rods, drag links and sector arms, which exhibit damage.
 - B. Mountings of each section specified in the preceding Item which exhibit considerable play or where cotter pins are missing.
 - C. Steering wheels which exhibit excessive play or whose mountings exhibit looseness.
 - D. Points needing lubrication, but not lubricated.
 - E. Steering forks which exhibit damage.
 - F. Gear boxes which exhibit excessive oil leakage or whose mountings are loose.
 - G. Dust boots of steering systems which exhibit damage.
 - H. Power steering systems which exhibit excessive oil leakage or whose mountings are loose.
 - I. Belts of power steering systems which exhibit excessive looseness

or damage.

- J. Components using such parts which have undergone repairs, such as welding, padding or heat treatment.
 - K. Motor vehicles with four or more wheels whose side slippage of the steering tyres exceeds 5 mm per 1 m driving when subjected to the measurement on a sideslip tester. However, this provision shall not apply to cases where the side slippage is within a range of the side slippage designated as capable of assuring safe operation in connection with the steering system by the motor vehicle manufacture, etc. (referring to a person who makes it his business to manufacture motor vehicles or a person who has a contract to purchase the motor vehicles concerned from him and makes it his business to export the motor vehicles concerned to Japan) of designated motor vehicles, etc. when the steering tyres of the motor vehicle with four or more wheels are subjected to the measurement on a sideslip tester.
- (2) The steering system shall be operated easily and securely by the driver in his normal position. Motor vehicles (except motor vehicles with a maximum speed of less than 20 km/h) which are not equipped with power steering and in which the total sum of wheel loads of the steering tyres is 4,700 kg or more shall be regarded as not complying with this requirement.
 - (3) No part of the steering system shall come in contact, when steered, with any other part of the motor vehicle, such as the frame and fender.
 - (4) There shall be no great difference between the left and right as respects the relationship between the turning angle of the steering wheel and the steering angle of the steering tyres.
 - (5) There shall be no considerable difference between the left and right as respects the steering force of the steering wheel.
2. The requirements prescribed in the Announcement of Paragraph 2 of Article 11 of the Safety Regulations in connection with the driver protection performance of the steering system shall be that the steering system be constructed so that it is unlikely to give impacts to the driver excessively when subjected to impacts due to a collision, etc. of the motor vehicle concerned. In this case, the steering system enumerated in each of the following Items, which exhibits no damage liable to hamper its function, shall be regarded as complying with this requirement.

- (1) Steering systems having the same construction and provided at the same position as the steering system mounted on designated motor vehicles, etc.;
- (2) Those having the same construction as the steering system for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act or those having the performance equivalent to it;
- (3) Steering systems having the same construction and provided at the same position as the steering system presented at the time of the initial inspection, preliminary inspection or modification inspection;
- (4) Devices for which the implementation of a destructive test is proved to be extremely difficult, under the provision of the proviso of Article 1-3 of the Safety Regulations, and which conform to the provision of Paragraph 3 of Article 91.

Article 170 (Locking Device)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 11-2 of the Safety Regulations in connection with the construction, locking performance, etc. of the locking device shall be the requirements prescribed below. However, the provision of Item (3) shall not apply to motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds.

- (1) The locking device shall be so constructed that, when operated, it can positively prevent the function of the system provided with the locking system.
- (2) The locking device shall be secure and constructed so that its function may not be easily damaged or its function may not be disabled.
- (3) The locking device shall be such one that, when operated, it can prevent the activation of the starter.
- (4) The locking device shall not be activated by vibration, shocks, etc. while running.

2. The following locking device which exhibits no damage, etc. liable to hamper its function shall be regarded as complying with the requirements

prescribed in the preceding Paragraph.

- (1) Locking devices having the same construction and provided at the same position as the locking devices mounted on designated motor vehicles, etc.;
 - (2) Locking devices having the same construction and provided at the same position as the locking devices mounted on motor vehicles for which device type designation has been granted in connection with the locking device pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or locking devices having the performance equivalent to it.
3. The requirements prescribed in the Announcement of Paragraph 3 of Article 11-2 of the Safety Regulations in connection with the construction, locking performance, etc. of the immobilizer shall be the requirements prescribed below. In this case, the immobilizer having the same construction and provided at the same position as the immobilizers mounted on designated motor vehicles, etc. which exhibits no damage, etc. liable to hamper its function shall be regarded as complying with this requirement.
- (1) The immobilizer shall be so constructed that, when operated, it can positively prevent the function of the engine and other devices necessary for the running.
 - (2) The immobilizer shall be secure and constructed so that its function may not be easily damaged or its function may not be disabled.
 - (3) The immobilizer shall not be activated by vibration, shocks, etc. while running.
 - (4) The immobilizer, when operated, shall not prevent the release of the brake system. However, this provision shall not apply to immobilizers which prevents the release of pneumatically released spring brakes.
 - (5) The lamp indicating the operating condition of the immobilizer shall such one that cannot be confused with the warning lamp of an emergency motor vehicle. Furthermore, in the case of a lamp that is shared in common with the direction indicator lamp or the position lamp and that is indicating the activation or the releasing operation of the immobilizer, the duration of its illumination or flashing shall not exceed three seconds.

Article 171 (Brake System)

1. The requirements prescribed in the Announcement of Paragraph 1, Article 12 of the Safety Regulations in connection with the braking performance of decelerating and stopping the running motor vehicle and of holding the stopped motor vehicle standstill, etc. shall be the requirements enumerated in the next Paragraph through Paragraph 8.

2. Motor vehicles (except motor vehicles enumerated in the next Paragraph through Paragraph 6) shall be provided with brake systems which comply with the following requirements.

- (1) Two or more independently operating brake systems shall be provided. In this case, the brake system which is constructed so that those sections from the brake pedal or the brake lever to the wheel cylinder or the brake chamber (up to the camshafts, etc. which directly actuate the brake shoes in the case of such systems which do not incorporate any wheel cylinders or brake chambers) are independent for each system shall be regarded as the “two or more independently operating brake systems.”
- (2) The brake system shall be durable enough to fully withstand the operation and be mounted so as not to be damaged by vibration, impact, contact, etc. Furthermore, the brake system shall not be such ones enumerated in the following Items.
 - A. Pipes or brake cables (excluding protective materials in cases where such protective materials are wound around the pipes or brake cables to protect them) of the brake system which are in contact with the drag links, propeller shafts, exhaust pipes, tyres, etc. or exhibit traces caused by contacting them during running, or which are likely to contact with them;
 - B. Pipes or joints of the brake system which exhibit fluid leakage or air leakage;
 - C. Brake rods or brake cables which exhibit damage or whose joints exhibit looseness;
 - D. Brake rods or pipes of the brake system which use such parts which have undergone repairs, such as welding and padding (except copper pipes where two layers are employed and brazing is made securely);
 - E. Brake hoses or brake pipes which exhibit damage;

- F. Brake hoses which are attached in an excessively twisted state;
 - G. Brake pedals which have no free travel or brake pedals where there is no gap relative to the floor surface;
 - H. Brake levers which have no free travel or working travel;
 - I. Brake levers whose ratchets will not operate positively or which exhibit damage.
 - J. In addition to those enumerated in Items A. through I., brake systems which are not durable or which have not been mounted so as not to be damaged by vibration, impact, contact, etc.
- (3) The brake system shall have a construction and functions which operate without interfering with the steering performance, and shall not cause sideslips due to unevenness of braking effects, etc.
 - (4) The service brake system (which means the brake system commonly used for braking the vehicle being in operation; the same applies hereinafter) shall work on all wheels. In this case, the construction that the braking force-operating surface of the brake disc, brake drum, etc. is connected to the wheel by means of rigid parts, such as bolts, shafts and gears, shall be regarded as an example of “work on wheels.”
 - (5) The service brake system shall be such that the braking effect is not affected significantly even after the brakes have been repeatedly applied.
 - (6) The service brake system shall be such that the its braking effect is not affected significantly even when the brake piping, etc., are partly damaged.
 - (7) The service brake system shall be capable of adjusting automatically the clearances of rotating and sliding parts. However, this provision shall not apply to the following service brake systems:
 - A. The service brake system installed to the rear wheels of motor vehicles with a gross vehicle weight of 3.5 tons or less (except those used exclusively for carriage of passengers);
 - B. The service brake system installed to the following motor vehicles with a gross vehicle weight exceeding 3.5 tons, but 12

tons or less (except those used exclusively for carriage of passengers):

- ① Motor vehicles provided with a power train system designed to transmit power to all wheels (including the type designed to cut off power transmission to one axle);
 - ② Motor vehicles provided with a power train system designed to transmit power to one or more of the front axles and rear axles respectively (including the type designed to cut off power transmission to one axle) and with a device capable of stopping or limiting the operations of the differentials of one or more power train systems, and also provided with an ability of climbing a slope with a gradient of 1/4;
- C. The service brake system installed to the following motor vehicles with a gross vehicle weight exceeding 12 tons (except those used exclusively for carriage of passengers):
- ① Motor vehicles provided with a power train system designed to transmit power to all wheels (including the type designed to cut off power transmission to one axle);
 - ② Motor vehicles provided with a power train system designed to transmit power to more than half the number of axles and with a device capable of stopping or limiting the operations of the differentials of one or more power train systems, and also provided with an ability to climbing a slope with a gradient of 1/4.
- (8) The brake fluid of the service brake system shall not deteriorate the function of the service brake system concerned by corroding the brake piping and forming bubbles due to heat from the engine, etc.
- (9) The service brake system operated by fluid pressure shall have any of the following construction that the brake fluid level can be checked readily without opening the lid of the reservoir tank, and shall be provided with a warning device to give warning to the driver in his seat when the braking effect is affected by leakage of brake fluid from the brake piping.
- A. Construction where the reservoir tank of the brake fluid is transparent or semitransparent;

- B. Construction equipped with a gauge by which the level of brake fluid can be checked;
 - C. Construction equipped with a fluid level drop warning device which gives a warning to the driver in his seat in the event that the brake fluid level drops;
 - D. In addition to those enumerated in Items A. through C., construction that the brake fluid level can be checked readily without opening the lid of the reservoir tank.
- (10) The service brake system operated by pneumatic or vacuum pressure or pressure of accumulated fluid shall have a capacity of accumulating a sufficient pressure for braking and shall be provided with a warning device to give warning to the driver in his seat when the braking effect is liable to be affected significantly by pressure change.
- (11) The service brake system for motor vehicles used exclusively for carriage of passengers with a gross vehicle weight exceeding 12 tons (except motor vehicles for passenger carrying business (which mean motor vehicles used for passenger carrying business; hereinafter the same) running regularly along fixed routes other than those related to the national expressways, etc. (which mean the roads provided for in Paragraph 1, Article 4 of the National Expressway Law (Law No. 79 of 1957) and the fully-access-controlled highways provided for in Paragraph 1, Article 48-4 of the Road Law (Law No. 180 of 1952; the same applies hereinafter))) and for tractors with a gross vehicle weight exceeding 7 tons shall be provided with a device capable of preventing efficiently the locking of the rotation of wheels which affects significantly the braking of the vehicle being in operation.
- (12) In the case of motor vehicles provided with a device capable of preventing efficiently the locking of the rotation of wheels which affects significantly the braking of the vehicle being in operation, they shall be provided with a warning device to give warning when the power supply is applied and to give warning readily distinguished by the driver in his seat so that he can know that the device becomes liable to fail to operate normally.
- (13) The auxiliary brake system for motor vehicles used exclusively for carriage of passengers with a gross vehicle weight exceeding 10 tons (except motor vehicles for passenger carrying business running regularly along fixed routes other than those related to the national expressways,

etc.) shall be such that the braking effect is not affected significantly even after the brakes have been repeatedly applied.

3. Motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons (except motor vehicles in the next Paragraph through Paragraph 6) shall be provided with brake systems which comply with the following requirements.

- (1) Two or more independently operating brake systems shall be provided. In this case, the provisions of the latter part of Item (1) of the preceding Paragraph shall apply mutatis mutandis.
- (2) The brake system shall comply with the requirements prescribed in Items (2) through (6) and Items (8) through (10) of the preceding Paragraph.
- (3) The service brake system shall be capable of adjusting automatically the clearances of rotating and sliding parts.
- (4) The brake system except service brake systems (one brake system in the case of motor vehicles provided with two or more brake systems except the service brake system, or the service brake system in the case of motor vehicles equipped with mechanism in which the service brake system is actuated by operating the operating device of the brake system except the service brake system) shall be equipped with a warning device to give warning to the driver in his seat when it is operated.
- (5) The service brake system shall have such construction that the wear of the sliding section can be checked easily with an appropriate inspection hole or the like. In this case, the examples given below shall be deemed as those complying with this requirement:
 - A. The brake system having the same construction and provided at the same position as the brake system mounted on designated motor vehicles, etc.;
 - B. The brake system equipped with a device giving a warning to the driver in his seat when the sliding section needs to be replaced by a new one.
- (6) The service brake system operated by pneumatic pressure, vacuum pressure or accumulated fluid pressure shall be provided with two or more independently operating devices which accumulate pressure.

However, this provision shall not apply to the service brake system constructed to comply with the requirements of Item (8) only by the operating force of the driver even when the device which accumulates pressure fails to operate normally.

- (7) The service brake system equipped with an electric device to control the braking force shall be capable of accumulating electricity sufficient enough for braking and shall be provided with a warning device to give warning to the driver in his seat when the device becomes liable to fail to operate normally.

4. Motor cycles with or without sidecar (except motor vehicles with a maximum speed of 25 km/h or less and motor vehicles of Paragraph 6) shall be provided with brake systems complying with the following requirements.

- (1) Two or more brake systems shall be provided.
- (2) The brake system shall comply with the requirements of Items (2), (3), (5), (8) and (12) of Paragraph 2.
- (3) The service brake system shall have two independent control devices and shall work on the wheels including the front one by means of one of the control devices and on the wheels including the rear one by means of the other control device. However, this provision shall not apply to motor cycles with sidecar of Item B., Item (4) of Article 2, that have the service brake system in which one control device works on all wheels. In this case, the provision of the latter part of Item (4) of Paragraph 2 shall apply *mutatis mutandis*.
- (4) The service brake system shall be such that the braking effect is not affected significantly by adhesion of rainwater, etc.
- (5) The service brake system operated by fluid pressure shall have any of the following construction that the brake fluid level can be checked readily without opening the lid of the reservoir tank.
 - A. Construction where the reservoir tank of the brake fluid is transparent or semitransparent;
 - B. Construction equipped with a gauge by which the level of brake fluid can be checked;
 - C. Construction equipped with a fluid level drop warning device which gives a warning to the driver in his seat in the event that

the brake fluid level drops;

- D. In addition to those enumerated in Items A. through C., construction that the brake fluid level can be checked readily without opening the lid of the reservoir tank.

5. Large-sized special motor vehicles, small-sized special motor vehicles for agricultural use, mini-sized motor vehicles with caterpillar tracks and sleds and motor vehicles with a maximum speed of 25 km/h or less (except motor vehicles of the next Paragraph) shall be provided with brake systems which comply with the following requirements. However, the requirements of Items (1), (3), (5), (8) and (10) shall not apply to large-sized special motor vehicles with a maximum speed of less than 35 km/h, small-sized special motor vehicles for agricultural use and motor vehicles with a maximum speed of 25 km/h or less.

- (1) Two or more independently operating brake systems shall be provided.
- (2) The brake system shall comply with the requirements of Items (2), (3) and (8) of Paragraph 2.
- (3) The service brake system shall work on at least half the number of wheels including the rear ones. In this case, the provision of the latter part of Item (4), Paragraph 2 shall apply *mutatis mutandis*.
- (4) The service brake system shall have a braking capacity specified in the following Table according to the maximum speed of the motor vehicle concerned on a dry, level paved road. In this case, the force to be applied by the driver shall not exceed 900 N for the foot-operated type and 300 N for the hand-operated type.

Maximum speed (km/h)	Initial braking speed (km/h)	Stopping distance (m)
80 or more	50	22 or less
35 or more, but less than 80	35	14 or less
20 or more, but less than 35	20	5 or less
Less than 20	Maximum speed	5 or less

- (5) The service brake system shall be constructed to work on two or more wheels when the brake piping (except the section for common use of two or more wheels) is partly damaged. However, this provision shall not apply to motor vehicles provided with an emergency brake system (which means a brake system capable of working on two or more wheels of the vehicle being in operation when the service brake system fails).
- (6) The brake system (one brake system in the case of motor vehicles provided with two or more brake systems) shall be capable of holding an unloaded vehicle standstill on a dry paved road with a gradient of 1/5 by a mechanical action when the driver is not in his seat. In this case, the force to be applied by the driver shall not exceed 900 N for the foot-operated type and 500 N for the hand-operated type. The brake system which utilizes hydraulic pressure, pneumatic pressure or electrical operations, even after the motor vehicle comes to the stationary state by applying the brake system concerned, shall be regarded as the brake system not complying with this requirement.
- (7) In the case of tractors, the requirements of the preceding Item shall be complied with when unloaded trailers are coupled with them.
- (8) The service brake system operated by fluid pressure shall be provided with a buzzer or other warning device to give warning to the driver in his seat when the braking effect is affected by leakage of brake fluid from the brake piping (which refers, among brake piping, to the section used as a passage of oil or air for braking leading only to one wheel, except the section for common use of two or more wheels). However, this provision shall not apply to motor vehicles equipped with an emergency brake system (which means a brake system capable of working on two or more wheels of the vehicle being in operation when the service brake system fails).

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- (9) The service brake system operated by pneumatic or vacuum pressure shall have a capacity of accumulating a sufficient pressure for braking and shall be provided with a buzzer or other warning device to give warning to the driver in his seat when the braking effect is liable to be affected by pressure change. However, this provision shall not apply to the service brake system constructed to comply with the requirements of Item (4) even when the pressure is reduced to zero.
- (10) The service brake system for tractors with a gross vehicle weight exceeding 7 tons shall be provided with a device capable of preventing efficiently the locking of the rotation of wheels which affects significantly the braking of the vehicle being in operation. In this case, the provision of Item (12), Paragraph 2 shall apply *mutatis mutandis*.
6. Any trailer shall be provided with brake systems which comply with the following requirements.
- (1) Two or more brake systems shall be provided.
- (2) The brake system shall comply with the requirements of Items (2) , (4), (5) and (8) of Paragraph 2.
- (3) The service brake system shall be constructed to operate in interlocking with that of the tractor.
- (4) The service brake system shall have a braking capacity complying with the following Formula A. for semi-trailers, and with the Formula B. for other trailers, on a dry, level paved road when only the service brake system of the trailer is operated:

A. $S \leq 0.15V + 0.0086V^2$

B. $S \leq 0.15V + 0.0077V^2$

In this case, the running system of the tractor drawing the trailer shall be disconnected from the engine.

where:

S : Stopping distance of trailer itself (Unit: meters)

V : Initial braking speed (the maximum speed of the tractor drawing the trailer, but 60 in the case of trailers drawn by tractors with a maximum speed exceeding 60 km/h) (Unit: km/h).

- (5) The service brake system shall be capable of adjusting automatically the clearances of rotating and sliding parts. However, this provision shall not apply to trailers with a gross vehicle weight of 3.5 tons or less and trailers drawn by tractors with a maximum speed of 25 km/h or less.
- (6) The brake system except service brake systems for trailers (one brake system in the case of trailers provided with two or more brake systems except service brake system) shall be capable of holding the trailer standstill on a dry paved road with a gradient of 9/50 by a mechanical action. In this case, the force to be applied by the driver shall not exceed 600 N.

7. Notwithstanding the requirements prescribed in Item (3) of the preceding Paragraph, the service brake system for the following trailers may be constructed to operate when the trailer approaches the tractor drawing it. In this case, the requirements prescribed in Item (2) (limited only to the sections related to the requirements of Item (5), Paragraph 2) and Item (4) of the preceding Paragraph shall not apply.

- (1) Trailers (except semi-trailers) with a gross vehicle weight of 3.5 tons or less;
- (2) Trailers drawn by tractors with a maximum speed of 25 km/h or less;
- (3) Trailers drawn by large-sized special motor vehicles with a maximum speed of less than 35 km/h and small-sized special motor vehicles for agricultural use, which have a gross vehicle weight of less than 2 tons (except those enumerated in the two preceding Items).

8. The brake system of a motor vehicle, when its braking force is measured under the conditions prescribed in Item (1) by means of a brake tester, shall comply with the requirements of Item (2). However, only when it is difficult to conduct the inspection by means of a brake tester, the inspection may be carried out by the running or other appropriate methods and the conformity to the requirements of Item (2) may be judged.

- (1) Conditions of measurement

It shall be the motor vehicle conditions at the time of inspection.

Moreover, if the motor vehicle concerned is of type with an automatic axle-lift device, the measurement shall be carried out in the status where the axle is lifted as well.

- (2) Evaluation of measured values
- A. For the service brake system of a motor vehicle (except for trailers), the value obtained by dividing the total sum of the braking forces by the weight of the motor vehicle under the motor vehicle conditions at the time of inspection (Note 1) shall be 4.90 N/kg or more (if “kgf” is used as measurement unit for indicating braking forces, the total sum of the braking forces shall be 50% or more of the weight of the motor vehicle under the motor vehicle conditions at the time of inspection) (Note 2), and the value obtained by dividing the sum of the braking forces applied to the rear wheels by the axle weight of the axle concerned under the motor vehicle conditions at the time of inspection shall be 0.98 N/kg or more (if “kgf” is used as measurement unit for indicating braking forces, the sum of the braking forces shall be 10% or more of the axle weight of the axle concerned under the motor vehicle conditions at the time of inspection).
 - B. For the service brake system of a motor vehicle with a maximum speed of less than 80 km/h and whose gross vehicle weight is 1.25 times or less the vehicle weight, notwithstanding the provision of Item A. above, the value obtained by dividing the total sum of the braking forces by the gross vehicle weight shall be 3.92 N/kg or more (if “kgf” is used as measurement unit for indicating braking forces, the total sum of the braking forces shall be 40% or more of the gross vehicle weight) (Note 2).
 - C. For the service brake system of trailers, the value obtained by dividing the sum of braking forces by the axle weight of the axle concerned under the motor vehicle conditions at the time of inspection shall be 4.90 N/kg or less (if “kgf” is used as measurement unit for indicating braking forces, the sum of braking forces shall be 50% or more of the axle weight of the axle concerned (Note 3)).
 - D. For the service brake system, the value obtained by dividing the difference in braking forces between the right and left wheels by the axle weight of the axle concerned under the motor vehicle conditions at the time of inspection (Note 1) shall be 0.78 N/kg

or less (if “kgf” is used as measurement unit for indicating braking forces, the difference in braking forces shall be 8% or less of the axle weight of the axle concerned under the motor vehicle conditions at time of inspection (Note 1)).

- E. For the brake system except the service brake system (one brake system in the case of motor vehicles provided with two or more brake systems except the service brake system), the value obtained by dividing the total sum of braking forces by the weight of the motor vehicle under the motor vehicle conditions at time of inspection (Note 1) shall be 1.96 N/kg or more (if “kgf” is used as measurement unit for indicating braking forces, the total sum of braking forces shall be 20% or more of the weight of the motor vehicle under the motor vehicle conditions at time of inspection (Note 1)). The brake system which utilizes hydraulic pressure, pneumatic pressure or electrical operations, even after the motor vehicle is held in the stationary state by applying the brake system concerned, shall be regarded as the brake system not complying with this requirement.
- F. For the brake system of the trailers of Paragraph 4 of Article 63, the value obtained by dividing the total sum of braking forces by the weight of the motor vehicle under the motor vehicle conditions at time of inspection shall be 1.96 N/kg or more (if “kgf” is used as measurement unit for indicating braking forces, the total sum of braking forces shall be 20% or more of the weight of the motor vehicle under the motor vehicle conditions at time of inspection).

(Note 1) If it is difficult to measure each axle weight of a motor vehicle under the motor vehicle conditions at time of inspection, it is permissible to regard the value obtained by adding 55 kg to the front axle weight in the unloaded state as the front axle weight of the motor vehicle under the motor vehicle conditions at time of inspection.

(Note 2) If all wheels of the front axle are locked on the rollers of a brake tester and it is difficult to measure the braking forces beyond this point, it is permissible to regard that the conformity of the total sum of braking forces with the requirements has been obtained at this condition.

(Note 3) If all wheels of the axle concerned are locked on the rollers of a brake tester and it is difficult to measure the braking

forces beyond this point, it is permissible to regard that the value divided by the axle weight of the axle concerned has reached 4.90 N/kg or more under those conditions (if “kgf” is used as measurement unit for indicating braking forces, 50% of the axle concerned).

Article 172 (Brake Systems for Tractors and Trailers)

1. The requirements prescribed in the Announcement of Article 13 of the Safety Regulations in connection with the braking performance under the coupled condition of the tractor and trailer shall be the requirements prescribed in the next Paragraph through Paragraph 8.

2. The brake system for tractors and trailers shall comply with the requirements of Items (3) and (8), Paragraph 2 of the preceding Article as well as the following requirements when the tractor and trailer are in the coupled state.

- (1) In cases where trailers are drawn by motor vehicles of Paragraph 2 or 3 of the preceding Article, the requirements prescribed in Item (10), Paragraph 2 of the same Article;
- (2) In cases where trailers are drawn by motor vehicles of Paragraph 5 of the preceding Article, the requirements of Item (9) of the same Paragraph.

3. Trailers enumerated in Items (2) and (3), Paragraph 7 of the preceding Article need not be provided with a service brake system in cases where the requirements of Item (3), Paragraph 2 and Item (4), Paragraph 5 of the said Article are complied with by only the service brake system of the tractor coupled therewith.

4. The brake system for tractors and trailers (except those for trailers which are constructed to operate when the trailer approaches the tractor drawing it (hereinafter referred to as the “inertial brake system”)) shall be constructed to stop the tractor and trailer, respectively, when they are detached during operation. However, this provision shall not apply to the brake system for trailers (except semi-trailers) with a gross vehicle weight of 1.5 tons or less and with one axle, which are capable of preventing the coupling device from coming into contact with the ground when detached and of keeping the trailer coupled with the tractor.

5. The service brake systems for tractors (except large-sized special motor

vehicles with a maximum speed of less than 35 km/h, small-sized special motor vehicles for agricultural use and motor vehicles with a maximum speed of 25 km/h or less) and trailers (except motor vehicles provided with an inertial brake system) shall comply with the following requirements when the tractor and trailer are in the coupled state:

- (1) In cases where trailers are drawn by motor vehicles of Paragraph 2 or 3 of the preceding Article, the requirements prescribed in Item (9), Paragraph 2 of the same Article;
- (2) In cases where trailers are drawn by motor vehicles of Paragraph 4 of the preceding Article, the requirements of Item (5) of the same Paragraph;
- (3) In cases where trailers are drawn by motor vehicles of Paragraph 5 of the preceding Article, the requirements of Items (5) and (8) of the same Paragraph.

6. The service brake systems for tractors and trailers (except the inertial brake systems) shall have such construction that, when the tractor and trailer are in the coupled state, the service brake of the trailer operates immediately when the service brake of the tractor is actuated.

7. The service brake systems for tractors and trailers with a gross vehicle weight exceeding 7 tons (except trailers with a gross vehicle weight of 10 tons or less and trailers drawn by large-sized special motor vehicles with a maximum speed of less than 35 km/h, small-sized special motor vehicles for agricultural use or motor vehicles with a maximum speed of 25 km/h or less) shall comply with the following requirements when the tractor and trailer are in the coupled state:

- (1) In cases where trailers are drawn by motor vehicles of Paragraph 2 of the preceding Article, the requirements of Items (11) and (12) of the same Paragraph;
- (2) In cases where trailers are drawn by motor vehicles of Paragraph 5 of the preceding Article, the requirements of Item (10) of the same Paragraph.

8. Trailers with a gross vehicle weight of 750 kg or less drawn by motor vehicles of Paragraph 3 of the preceding Article need not be provided with a service brake system in the case of any of the following Items:

- (1) Cases where the requirements prescribed in Paragraph 2-1-2 of

Attached Sheet 1 of Attachment 12 “Technical Standard for Passenger Motor Vehicle Braking System” as well as the requirements prescribed in Item (3), Paragraph 2 of the preceding Article are complied with by only the service brake system of the tractor coupled therewith;

- (2) Cases where the gross vehicle weight of the trailer concerned will not exceed 1/2 the vehicle weight of a tractor drawing it.

Article 173 (Suspension System)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 14 of the Safety Regulations in connection with the strength, suspension performance, etc. of the suspension system, such as springs, shall be the requirements prescribed in the following Paragraph.

2. The suspension system, such as springs, shall have sufficient capacity to absorb shocks from the ground and ensure safe operation. In this case, the suspension system, such as springs, enumerated in each of the following Items shall be regarded as not complying with this requirement.

- (1) Springs which exhibit damage or spring leaves which exhibit excessive displacement of leaves or springs in which there is a considerable difference in deflection between the right and left springs.
- (2) Centre bolts, U-bolts, clip bolts and nuts or clip bands which exhibit damage, missing or looseness.
- (3) Brackets or sliding seats which exhibit damage, or whose mountings exhibit looseness.
- (4) Shackles or shackle pins which exhibit excessive wear.
- (5) Arms, etc., such as suspension arms; rods, etc., such as torque rods, or stabilizers, etc. which exhibit damage, or whose mountings exhibit excessive play.
- (6) Dust boots of arms, etc., such as suspension arms, which exhibit damage.
- (7) Air spring bellows, etc. which exhibit damage or air leakage, or air springs in which there is a considerable difference in height between the right and left air springs.

- (8) Spring ends which are detached from their brackets or likely to detach therefrom.
- (9) Struts which exhibit damage, or strut mountings which exhibit looseness.
- (10) Shock absorbers which exhibit excessive fluid leakage, gas leakage or damage, or shock absorber mountings which exhibit looseness.
- (11) Suspension systems in which shock absorbers are detached.
- (12) Oleo systems which exhibit excessive fluid leakage.
- (13) Fork rocker arm mountings which exhibit excessive play or looseness.
- (14) Springs, stabilizers, etc. which use such parts which have undergone repairs, such as welding, padding or heat treatment, thus hampering their functions.
- (15) Those which come under one of the following categories due to modifications.
 - A. Part or the entire portion of a spring is removed due to cutting, etc.
 - B. Springs employing clamps which may hamper the function of the springs.
 - C. Springs whose installation method may hamper the function of the springs.

Article 174 (Fuel System)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 15 of the Safety Regulations in connection with the strength, construction, installation method, etc. of the fuel system of motor vehicles fueled by gasoline, kerosene, light oil, alcohol or any other inflammable liquid shall be the requirements prescribed in each of the following Items.

- (1) The fuel tank and its piping shall be secure and fixed so that they may not be damaged by vibrations, impacts, etc. In this case, the fuel tank and its piping enumerated below shall be regarded as not complying with this requirement.

-
- A. Pipes (excluding protective materials in cases where such protective materials are wound around the pipes) which exhibit traces caused by contacting with other sections during running, or which are likely to contact them.
 - B. Fuel tanks, pipes or joints which exhibit fuel leakage.
- (2) The filler and gas vent of a fuel tank shall not leak fuel when the vehicle is shaken.
 - (3) The filler and gas vent of a fuel tank shall not have their openings facing the direction of the exhaust pipe. They shall be located at least 300 mm away from the opening of exhaust pipe.
 - (4) The filler and gas vent of a fuel tank shall be located at least 200 mm away from any exposed electric terminals or switches;
 - (5) The filler and gas vent of a fuel tank shall not open to the inside of any vehicle compartment with seats or standing space (except the driver's compartment separated by a partition).
2. The fuel system having the same construction and provided at the same position as the fuel tank and piping mounted on designated motor vehicles, etc. which exhibits no damage liable to hamper its function shall be regarded as complying with the requirements prescribed in Item (1) of the preceding Paragraph.
3. The requirements prescribed in the Announcement of Paragraph 2 of Article 15 of the Safety Regulations in connection with the performance, etc. of the fuel tank and pipes of ordinary-sized motor vehicles, small-sized motor vehicles or mini-sized motor vehicles fueled by gasoline, kerosene, light oil, alcohol or any other inflammable liquid (except motor vehicles with a passenger capacity of 11 persons or more, motor vehicles with a gross vehicle weight exceeding 2.8 tons, motor cycles with or without sidecar, and mini-sized motor vehicles with caterpillar tracks and sleds) shall be that the fuel tank and pipes be so constructed that it is unlikely to leak fuel significantly when the motor vehicle concerned is subjected to impacts due to collisions, rear-end collisions by other motor vehicles. In this case, the following fuel system which exhibits no damage liable to hamper its function shall be regarded as complying with this requirement.
- (1) Fuel systems having the same construction and provided at the same position as the fuel tank and piping mounted on designated motor vehicles, etc.;

- (2) Fuel systems having the same construction and provided at the same position as the fuel tank and piping presented at the time of the initial inspection, preliminary inspection or modification inspection;
- (3) Fuel systems for which the implementation of a destructive test is proved to be extremely difficult, under the provision of the proviso of Article 1-3 of the Safety Regulations, and which conform to the provision of Paragraph 4 of Article 66.

Article 175 (Fuel System of Motor Vehicles Whose Fuel Is Producer Gas)

The requirements prescribed in the Announcement of Paragraph 1 of Article 16 of the Safety Regulations in connection with the strength, installation method, etc. of the fuel system of motor vehicles whose fuel is producer gas shall be the requirements prescribed in each of the following Items.

- (1) The gas producer and its piping shall be secure and be mounted in such a way that they may not be damaged by vibration or impact, etc.
- (2) The part of the vehicle body which faces the combustion chamber of the gas producer shall be covered with a suitable heat insulator.
- (3) The distance between a gas producer and heat insulator shall be 50 mm or more.
- (4) No hot parts of the piping shall be in contact with a combustible part of the body.
- (5) If loaded goods are likely to come in contact with the gas producer, there shall be a suitable partition provided between the gas producer and the goods-loading accommodation.

Article 176 (Fuel System of Motor Vehicles Whose Fuel Is High-Pressure Gas)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 17 of the Safety Regulations in connection with the strength, installation method, etc. of the fuel system of motor vehicles whose fuel is high-pressure gas (except motor vehicles of Paragraph 3) shall be the requirements prescribed in each of the following Items.

- (1) The gas container shall be constructed and have the performance in Articles 7 and 17 of the Safety Regulations for Containers (Ministry of International Trade and Industry Ordinance No. 50 of 1966). In this case, those which can be confirmed by any of the following methods shall be regarded as complying with this requirement.

- A. High-pressure gas container which has not undergone the container re-inspection

It shall be confirmed whether the container concerned bears a valid stamping or a mark by the container inspection provided for in Article 45 of the High-Pressure Container Control Act (Law No. 204 of 1951) or by Article 49-25 (including cases where it applies mutatis mutandis in Paragraph 2 of Article 49-33 of the said Act). In this case, the container for the fuel system of compressed natural gas-fueled motor vehicles (referring to, of gas containers of motor vehicles fueled by compressed natural gas (referring to high-pressure gas containing methane gas as main component. Hereinafter the same), the container for the fuel system of compressed natural gas-fueled motor vehicles provided for in Item (10) of Article 2 of the Safety Regulations for Containers) bears a mark near the fuel filling port according to Article 46 of the said Act. Hence, confirmation can be made by this mark.

- B. High-pressure gas container which has undergone the container re-inspection

It shall be confirmed whether the container concerned bears a valid stamping or a mark according to Article 49 of the said Act. In the case of the container for the fuel system of compressed natural gas-fueled motor vehicles, confirmation shall be made as to whether a valid mark is put near the fuel filling port according to the said Article.

- (2) The gas container and the conduit pipes for liquefied petroleum gas (which means the liquefied gas of the chief ingredient being propane or butane gas; hereinafter the same) shall be constructed so that gas may be filled without unfixing the container.
- (3) The gas container, except those located outside the vehicle body, shall be located where an airtight partition wall against the vehicle compartment with seats or standing space is provided and also it is properly ventilated to the outside of the vehicle body. In this case, the

inspection shall be conducted in accordance with the following Items A. and B. for motor vehicles whose fuel is liquefied petroleum gas or compressed natural gas. As a result, those which fall under Item C. shall be regarded as not complying with this requirement.

A. Motor vehicles where the gas container or the gas container valve and safety valve, etc. are housed in a fixed container case and they are located in the luggage compartment, etc.

(1) Methods employing carbonic acid gas:

Insert a carbonic acid gas hose whose nozzle diameter is 4 mm (or 6 mm dia.) into one of ventilation holes of the container case. After sealing all of the ventilation holes, fill compressed carbonic acid gas that is pressurized to 9.8 kPa for 30 seconds into the container case. Under this condition, inspect to see whether any gas leakage from the container case is present, using a carbonic acid gas detector.

(2) Method employing a smoke agent:

Insert an air hose whose nozzle diameter is 4 mm (or 6 mm dia.) into one of ventilation holes of the container case. After sealing all of the ventilation holes, fill compressed air which contains smoke generated by a smoke agent that has been pressurized to 9.8 kPa for 30 seconds into the container case. Under this condition, inspect visually to see whether any smoke leakage from the container case is present.

B. Motor vehicles where the gas container or the gas container valve and safety valves, etc. are installed in the luggage compartment, etc. by using other methods than those in Item A.

(1) Methods employing carbonic acid gas:

Insert a carbonic acid gas hose whose nozzle diameter is 4 mm (or 6 mm dia.) into one of ventilation holes of the gas container compartment. After sealing all of the ventilation holes, fill compressed carbon acid gas that is pressurized to 490 kPa (294 kPa in the case of a 6 mm dia. nozzle) for 30 seconds into the gas container compartment. Under this condition, inspect to see whether any gas leakage to the passenger compartment occurs, using a carbonic acid gas detector.

- (2) Method employing a smoke agent:

Insert an air hose whose nozzle diameter is 4 mm (or 6 mm dia.) into one of ventilation holes of the gas container compartment. After sealing all of the ventilation holes, fill compressed air which contains smoke generated by a smoke agent that has been pressurized to 490 kPa (291 kPa in the case of 6 mm dia. nozzle) for 30 seconds into the gas container compartment. Under this condition, visually inspect to see whether any gas leakage to the passenger compartment occurs.

C. Evaluation of airtightness examination results

- (1) When employing carbonic acid gas, cases where the gas concentration in the detecting tube of the carbonic acid gas detector exceeds 0.05%.
- (2) When employing a smoke agent, cases where the smoke leaks into the passenger compartment.

D. Omission of airtightness examination

- (1) Those in which the gas container valve, safety valves, etc. are housed securely in the same container case as that at the time of installing the gas container, and the said container case is free from any risk of damaging the airtight performance (except for the container cases to be installed in motor vehicles for which fuel is changed to liquefied petroleum gas or compressed natural gas).
 - (2) Those which are recognized to have the airtightness performance by means of other procedures.
- (4) The gas containers and conduit pipes shall be securely fixed so that they may not move or be damaged. Any part thereof which is likely to be damaged shall be protected by suitable covering. Moreover, in the case of a gas container for soluble acetylene gas, the container shall be mounted so that the gascock opens upwards and that the original state of porous material inside the container may not be changed. In this case, those enumerated below shall be regarded as not complying with this requirement.

A. Mountings of the gas container and mountings of the pipes which

exhibit looseness or damage.

- B. Conduit pipes (excluding protective materials in cases where such protective materials are wound around the conduit pipes to protect them) which exhibit traces caused by making contact with other components during running, or which are likely to contact with them.
- (5) If the gas container and conduit pipes are located in a position where they are likely to be exposed to considerable heat from the exhaust pipe, silencer, etc., there shall be a suitable heat-prevention device. In this case, those which are exposed to direct sunrays shall be covered with a suitable sunshade or the like.
 - (6) Conduit pipes shall be of fiberglass-reinforced plastics or annealed steel or copper (fiberglass-reinforced plastics or annealed steel for high-pressure gases containing acetylene gas). However, those used on the low-pressure side and for liquefied petroleum gas may be of oil-proof rubber.
 - (7) The conduit pipe (except oil-proof rubber hoses), each end of which is fixed, shall be provided with flexible section in the middle and also by held by a stay every meter or less.
 - (8) For a fuel system using a high pressure gas containing acetylene gas, no copper material shall be used on any part which comes into contact with the gas in the fuel system.
 - (9) The high-pressure pipe line (referring to a pipe from the gas container to the first pressure-reducing valve. Hereinafter the same in this Item.) shall be able to withstand the pressure of 1.5 times of the gas filling pressure in the gas container. In this case, if there is a likelihood that the high-pressure pipe line fails to comply with this requirement, the air-tight inspection shall be conducted in accordance with the methods enumerated in Items A. through C. given below. As a result of the air-tight inspection, the high-pressure pipe line of a motor vehicle fueled by liquefied petroleum gas or compressed natural gas which complies with the requirement of Item D. shall be regarded as complying with this requirement.

A. Method employing detecting liquid

With the liquid draining valve of the gas container fully opened, apply detecting liquid (e.g. soapy water) to each of the pipes and

joints. Inspect to see if any gas leakage is present at the pipes by observing any bubbles.

B. Method using a gas detector

With the liquid draining valve of the gas container fully opened, let the detecting section of the gas detector come in contact with each of the pipes and joints. Inspect to see if any gas leakage is present at the pipes.

C. Method employing a pressure gauge

Install a pressure gauge in the pipe. Fill the pipes for one minute with incombustible gas set to the normal pressure of liquefied petroleum gas or compressed natural gas. See if any drop in pressure takes place by observing the pressure gauge attached to the pipes.

D. When subjected to the airtight inspection conducted in accordance with Items A. through C. above, there shall be no gas leakage as proven by bubbles or a drop in pressure.

- (10) The main stop valve shall be located in a place easily operated by the driver, and a gas-filling valve near the gas filling inlet port.
- (11) The fuel system of a motor vehicle whose fuel is high pressure gas other than liquefied petroleum gas shall be provided with a pressure gauge which indicates the inlet port pressure of the first pressure-reducing valve.
- (12) The fuel system of a motor vehicle whose fuel is compressed natural gas shall be provided with a safety device capable of efficiently preventing significant pressure rise on the low-pressure side. However, this provision shall not apply to such a fuel system in which the low-pressure side of the final pressure-reducing valve is open to the air.
- (13) Safety devices shall be mounted so that the gas discharged may not leak into the vehicle compartments.
- (14) The fuel system of a motor vehicle whose fuel is high pressure gas containing acetylene gas shall be provided, between the final pressure-reducing valve and the intake manifold of the engine, with a back-fire prevention device.

2. The requirements prescribed in the Announcement of Paragraph 2 of Article 17 of the Safety Regulations in connection with the strength, installation method, etc. of the fuel system of motor vehicles whose fuel is liquefied petroleum gas shall be the requirements prescribed in each Item of the preceding Paragraph as well as the requirements prescribed in Items (3) through (5), Paragraph 1 of Article 174. In this case, the phrase “The filler and gas vent of a fuel tank” shall read as “the filling port of a gas container.”

3. The requirements prescribed in the Announcement of Paragraph 1 of Article 17 of the Safety Regulations in connection with the strength, construction, installation method, etc. of fuel systems of motor vehicles fueled by compressed hydrogen gas (except motor cycles with or without sidecar) shall be the requirements prescribed in each of the following Items:

(1) Gas containers shall have the construction and performance prescribed in Articles 7 and 17 of the Safety Regulations for Containers. In this case, those which can be confirmed by any of the following methods shall be regarded as complying with this requirement:

A. High-pressure gas containers which have never undergone re-inspection of container

It shall be confirmed that the container bears a valid stamping or a mark according to Article 45 of the High-Pressure Gas Safety Act or Article 49-25 (including cases where application is made mutatis mutandis in Paragraph 2 of Article 49-33 of the said Law).

B. High-pressure gas containers which have undergone re-inspection of container

It shall be confirmed that the container bears a valid stamping or a mark according to Article 49 of the said Law.

(2) Fuel systems shall comply with each of the following Items:

A. The following requirements enumerated in Items (1) through (3) shall be complied with: In this case, the compliance with these requirements shall be evident from a document describing the results of tests, etc. conducted by a public testing institute, etc. designated separately.

(1) In the case of motor vehicles equipped with a housing of Paragraph 3-5-2 of Attachment 100 “Technical Standard

for Fuel Systems of Motor Vehicles Fueled by Compressed Hydrogen Gas,” the housing shall exhibit no damage liable to hamper the airtightness of the housing, or there shall be no gas leakage when the airtightness test is conducted for the housing according to the method prescribed in Paragraph 1 of Attached Sheet 1 “Airtightness and Ventilation Test” of Attachment 100;

- (2) The piping, etc. (referring to components on the hydrogen gas flow passage, except the fuel cell stack, engine, gas container and container attachments. Hereinafter the same applies in this Item.) shall be durable and sturdy, with airtightness from the outside under the general-use pressure (referring to the general-use pressure of Paragraph 2-4 of Attachment 100), and there shall be no gas leakage when the airtightness test is conducted for the piping, etc. according to the method prescribed in Paragraph 3 of Attached Sheet 1 “Airtightness and Ventilation Test” of Attachment 100; and
 - (3) Devices for detecting hydrogen gas leakage (hereinafter referred to as the “hydrogen gas leakage detector” in this Item), alarm devices and devices for shutting off the supply of hydrogen gas shall be such that hydrogen gas can be detected, the alarm device will operate, and the supply of hydrogen gas can be shut off, when the test is conducted according to the method prescribed in Attached Sheet 3 “Test for Hydrogen Gas Leakage Detector, etc.” of Attachment 100. Moreover, in the case of motor vehicles equipped with plural hydrogen systems, it shall be acceptable if the device shuts off the supply of hydrogen gas from the hydrogen system that is leaking hydrogen gas.
- B. Mountings of the gas container and piping, etc. shall exhibit no looseness or damage;
 - C. Any part of the gas container and piping, etc. which is likely to be damaged shall be protected by suitable covering. Moreover, the said covering shall exhibit no damage or malfunction liable to hamper its function;
 - D. The heat-insulating measures, covering or other suitable sunshade of the gas container and piping, etc. shall exhibit no

damage liable to hamper their functions;

- E. Gas that has been purged (referring to discharging of the gas containing hydrogen within the fuel cell system to the outside) by the control of the fuel cell system shall be directed positively to the exhaust section. Moreover, those in which mountings of the piping for directing the gas are not secure, or piping is damaged, shall be regarded as not complying with this requirement;
- F. The hydrogen gas leakage detector shall exhibit no open wire or short circuit, and no hydrogen gas leakage shall be detected from the device concerned; and
- G. The pressure gauge or residual amount meter shall function normally.

4. The requirements prescribed in the Announcement of Paragraph 3 of Article 17 of the Safety Regulations in connection with the performance of preventing fuel leakage, etc. of the gas container, piping, or other devices on the hydrogen gas flow passage of ordinary-sized motor vehicles or small-sized motor vehicles used exclusively for carriage of passengers, or mini-sized motor vehicles, fueled by compressed hydrogen gas (except motor vehicles with a passenger capacity of 11 persons or more, motor vehicles with a gross vehicle weight exceeding 2.8 tons, motor cycles with or without sidecar, and mini-sized motor vehicles with caterpillar tracks and sleds) shall be that it is unlikely to leak fuel to a significant degree when the motor vehicle concerned is subjected to impacts due to collision, rear-end collision by other motor vehicles, and so forth. In this case, devices enumerated in each of the following Items, which exhibit no damage liable to hamper their functions, shall be regarded as complying with this requirement:

- (1) Those having the same construction and provided at the same position as the gas container, piping and other devices on the hydrogen gas flow passage mounted on designated motor vehicles, etc.;
- (2) Those having the same construction and provided at the same position as the gas container, piping and other devices on the hydrogen gas flow passage which have been presented at the time of the initial inspection, preliminary inspection or modification inspection; and
- (3) Those devices for which the implementation of a destructive test is proved to be extremely difficult under the provision of the proviso of Article 1-3 of the Safety Regulations, which are provided for in

Paragraph 5 of Article 98.

Article 177 (Electrical System)

1. The requirements prescribed in the Announcement of **Paragraph 1 of Article 17-2 of the Safety Regulations** in connection with the installation position, installation method, etc. of the electrical system shall be the requirements prescribed in each of the following Items.

- (1) Electrical wiring located inside the vehicle compartment or the place for a gas container for liquefied petroleum gas with a partition wall, such as the luggage compartment (hereinafter referred to as “the vehicle compartment, etc.”), shall be covered with an insulator and fixed to the body.
- (2) Electric terminals, switches and other electrical systems which are likely to spark and are located in the vehicle compartment, etc. shall be suitably covered so that they may not be damaged or shorted by occupants or loaded goods and they may not injure occupants and damage loaded goods by electric sparks, etc. In this case, electric terminals and switches located behind the instrument panel or mounted at a closed section under the seats shall be regarded as being suitably covered.
- (3) The storage battery shall be fixed so that it may not move or be damaged by vibration, impacts, etc. Furthermore, the battery in the vehicle compartment, etc. shall be covered with a wooden case or other insulating material. In this case, the phrase “shall be covered with a wooden case or other insulating material” refers to a condition where the terminal section of the battery (the upper section of the battery box) is covered completely by appropriate insulating material. The side or lower section of the battery need not be covered by insulating material.
- (4) The radio wave emitted from the electrical system shall not cause continuous and serious damage to the function of the wireless equipment. In this case, motor vehicles which do not have a radio interference control device, such as high-voltage resistive wire, external resistor, etc. for preventing motor vehicle radio noise, shall be regarded as not complying with this requirement.

2. The requirements prescribed in the Announcement of **Paragraph 2 of Article 17-2 of the Safety Regulations** in connection with the performance and construction of protecting the occupants as the one that is unlikely to

cause injuries, etc. to the occupants by high voltage of the electrical system of fuel cell motor vehicles (except motor cycles with or without sidecar) shall be the requirements prescribed in each of the following Items:

- (1) Solid insulators, barriers (referring to components provided so as to protect from energized components against direct contact from all directions of approach. Hereinafter the same.), enclosures (referring to components provided to enclose internal equipment and protect against direct contact from all directions. Hereinafter the same.), etc., which are mounted on energized components (referring to conductive components whose purpose is to transmit electric current during normal applications. Hereinafter the same.) in order to protect against contact of the human body with the energized components, shall exhibit no looseness, breakage, etc. liable to hamper their functions;
- (2) Barriers and enclosures shall be marked in the manner of the example of the form provided for in Attached Sheet 2 “Warning Sign for Protection Against Electrical Shock” of Attachment 101 “Technical Standard for Protection of Occupants Against High Voltage in Fuel Cell Vehicles”;
- (3) For protection against electrical shock that could arise from contact of the human body with exposed electroconductive components (referring to conductive components (except conductive components, such as cooling devices, etc. for fuel cell stacks) that do not normally conduct electricity, but may do so at the time of insulation failure, and that can be contacted easily without using tools. In this case, whether or not a component can be contacted easily shall be judged, in principle, by the confirmation method as to whether the construction of protection class IPXXB is provided or not.), such as conductive barriers and enclosures, the connecting conditions of the connection, welding, bolt tightening, etc. of electrical wires and ground cables to be connected to the electrical chassis (referring to an aggregate of electroconductive components that have been electrically connected to each other, whose potential is regarded as the standard) in electrical DC shall exhibit no damage, breakage, etc. liable to hamper their functions; and
- (4) To prevent electrical shock due to the drop in insulation resistance caused by the deterioration, etc. of the fuel cell stack refrigerant, those for which measures have been taken pursuant to Paragraphs 3-1 and 3-3 in connection with energized components in Attachment 101 shall comply with Items (1) and (2). In this case, if the electroconductive barrier or enclosure is used, Item (3) shall be complied with. Or, when a monitor of drops in insulation resistance is used, its function shall

operate normally, and the said device shall not give a warning of the drop in insulation resistance.

Article 178 (Frame and Body)

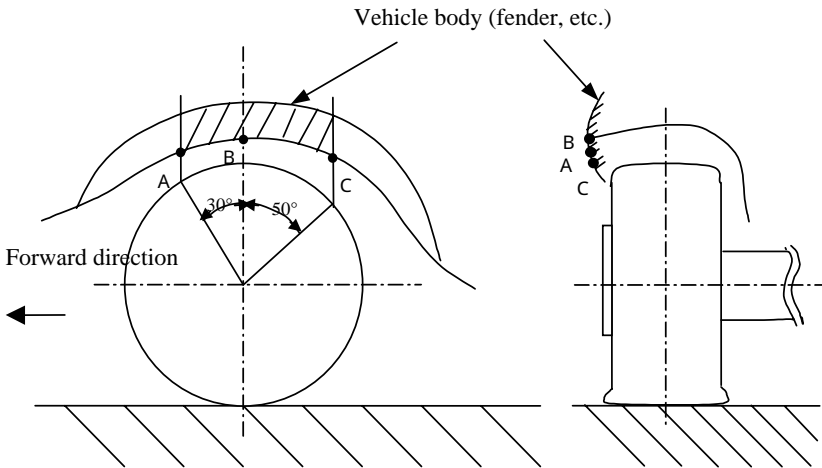
1. The requirements prescribed in the Announcement of Item (1), Paragraph 1 of Article 18 of the Safety Regulations in connection with the strength, installation method, etc. of the frame and body shall be the requirements prescribed in each of the following Items.

- (1) The frame and body shall be secure so that they may fully withstand vehicle operation.
- (2) The body shall be firmly fixed to the frame so that it may not be loosened by vibration, impacts, etc.
- (3) The frame and body shall not be severely damaged.

2. The requirements prescribed in the Announcement of Item (2), Paragraph 1 of Article 18 of the Safety Regulations in connection with the external shape of the vehicle body and other shape of motor vehicles shall be that the external shape of the vehicle body and other shape of motor vehicles have no sharp edge or rotating protrusions which are likely to endanger other traffic. In this case, the following frame and body shall be regarded as complying with this requirement.

- (1) When a motor vehicle is in a straight-ahead posture, the rotating parts of the running system (e.g. tyres, wheel-steps, and wheel caps) which lie between two planes; one plane is passing through the axle centre and intersecting with the vertical plane including the axle centre at an angle of 30 degrees forward, and the other plane passing through the axle centre and intersecting with the vertical plane including the axle centre at an angle of 50 degrees backward; which are not protruding in the outward direction of the motor vehicle from the body sections (e.g. fenders) immediately above the said rotating parts.

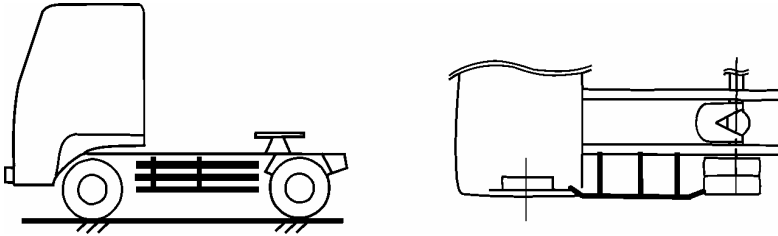
(Referential diagram)



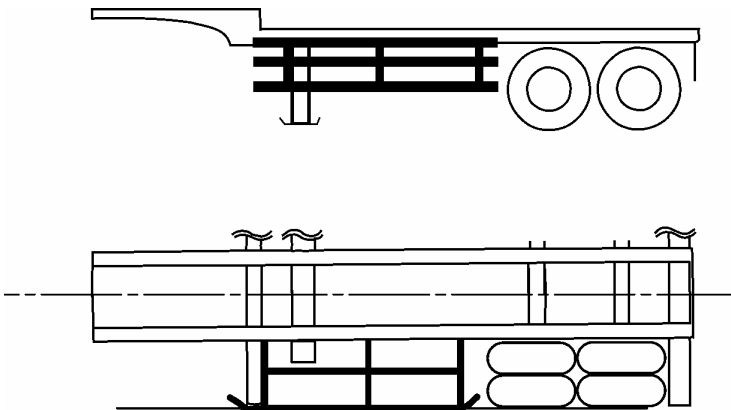
- (2) Rear wheels of an ordinary-sized motor vehicles for carriage of goods which are equipped with pedestrian protection side-guards, etc. which comply with the requirements of Paragraph 1 of Article 18-2 of the Safety Regulations and whose flat portions are at the outer side of the straight line which connects each of the intersections of a vertical line at the outermost point (excluding those portions below the axle centres) of the rotating parts, such as wheels, on the vertical planes passing through the respective axle centres of the outermost front and rear wheels and the ground-contact section (in the case of a trailer without any front wheels, the straight line which passes the intersection of a vertical line at the outermost point (excluding those portions below the axle centres) of the rotating parts, such as wheels, on the vertical plane passing through the axle centre of the outermost rear wheels and the ground-contact section and in parallel with the longitudinal centre line of the motor vehicle).

(Referential diagram)

(Example 1)



(Example 2)



- (3) Air spoilers mounted on motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less, and motor vehicles used for the transport of goods with a gross vehicle weight of 2.8 tons or less (except those mounted on motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds), which comply with the following requirements.

- A. The air spoiler shall not constitute the most forward point or the most backward point of the motor vehicle at any point of the front part or the rear part of the motor vehicle. However, this provision shall not apply to those parts that are situated below the lower edge of each bumper and where the curvature radius of the corner parts of those areas where a 100 mm diameter sphere can make static

contact (except for its parts lower than the geometrical locus (hereinafter referred to as the “floor line”) of the contact point when a cone, in which the angle between the vertical line and the generatrix is 30°, is moved while being statically brought in contact with the external surface of the motor vehicle) is 5 mm or more, or where the hardness of corner parts is 60 shore (A) or less.

- B. The air spoiler (except for its parts lower than the lower edge of each bumper and its parts higher than a 1.8 m high point above the ground) shall not have any corner parts with a curvature radius of less than 2.5 mm at those areas where a 100 mm diameter sphere can make static contacts. However, this provision shall not apply to cases where the hardness of the corner parts is 60 shore (A) or less, or the height of the corner parts is less than 5 mm, or the distance between the adjacent corner parts (referring to the distance between the contact points when a 100 mm diameter sphere makes static contacts with the two corner parts concerned) is 40 mm or less and the corner parts concerned comply with the requirements regarding the shapes of the corner parts set forth in the next table.

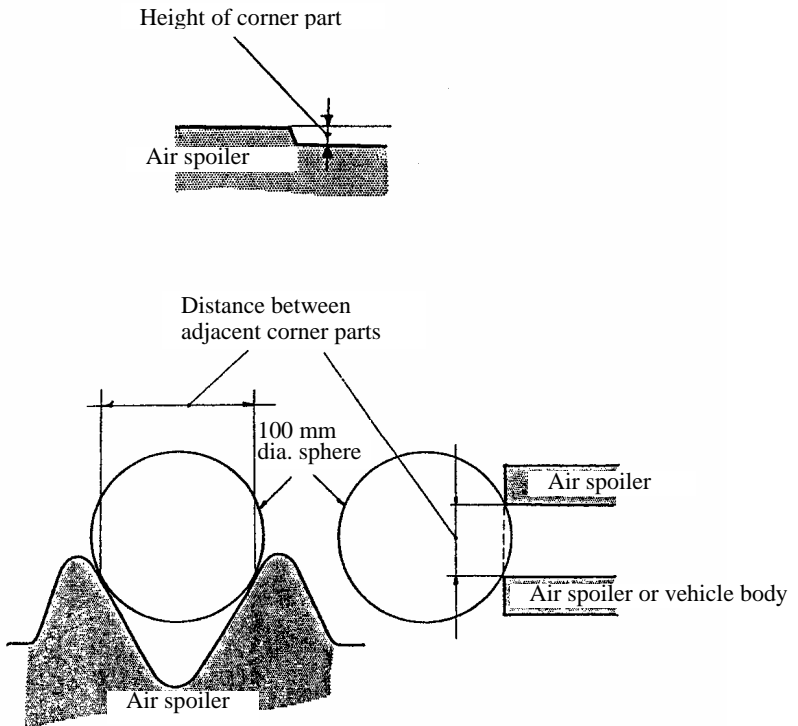
Height of corner parts (h)	Shape of corner parts	Distance of adjacent corner parts (δ)	Shape of corner parts
h < 5 mm	The corner parts shall not have any parts pointed outward or sharp edge.	$25 < \delta \leq 40$ mm	The curvature radius of the corner of the corner parts shall be 1.0 mm or more.
		$\delta \leq 25$ mm	The curvature radius of the corner parts shall be 0.5 mm or more.

- C. The air spoiler shall not constitute the outermost part of the vehicle body at its adjacent sections (the outermost part of the motor vehicle for the parts below the upper edge of each bumper).
- D. The air spoiler shall have no wing-shaped overhangs extending to the side (hereinafter referred to as the “Wings”). However, this provision shall not apply to cases where the gap between the side edge of the wing and the vehicle body is extremely small, for example, the gap between the side edge of the wing and the vehicle body is not exceeding 20 mm, or cases where the side edge of the wing is situated 165 mm or more inward from the outermost part of the body of the motor vehicle concerned, or cases where the parts of the wing whose side edge is not situated 165 mm or more

inward from the outermost part of the vehicle body are constructed so that they may reduce the impact in the event of contact with pedestrians. In this case, those whose wing section not situated 165 mm or more inward from the outermost part of the vehicle body can yield, turn, or drop shall be regarded as an example of “the parts of the wing whose side edge is not situated 165 mm or more inward from the outermost part of the vehicle body are constructed so that they may reduce the impact in the event of contact with pedestrians.”

- E. The air spoiler shall be securely attached to the vehicle body by welding, bolts, nuts, adhesive agents and so forth.

(Example) Examples of Height and Distance Concerning Corner parts



3. Notwithstanding the provision of Item (3) of the preceding Paragraph, the following air spoiler which exhibits no damage, etc. shall be regarded as complying with the requirements prescribed in the preceding Paragraph.

- (1) Air spoilers having the same construction and provided at the same position as the air spoiler mounted on designated motor vehicles, etc.;
 - (2) Air spoilers having the same construction and provided at the same position as the air spoiler mounted on motor vehicles for which device type designation has been granted in connection with the external projections pursuant to the provision of Paragraph 1 of Article 75-2 of the Act.
4. The frame and body which fall under any of the following Items when

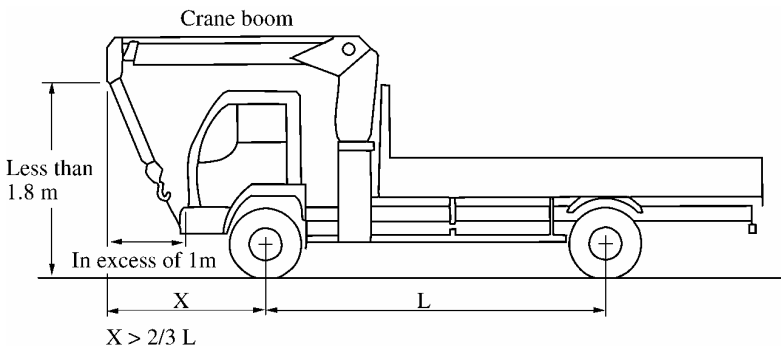
the windows, entrance doors, etc. of the motor vehicle are all closed shall be regarded as the examples not complying with the requirements of Paragraph 2:

- (1) Edges of bumpers which are likely to catch the clothes of pedestrians;
- (2) Those motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons (except motor cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds, and trailers) which have a projection of 5 mm or more in length, and of less than 2.5 mm in radius of curvature at the end, from the vehicle body or the base (excluding the part above the height of 2.0 m, the part below the floor line, those which do not contact a 100 mm-radius globe at the contour including the vehicle body, grills for air intake or air delivery at intervals of 40 mm or less, those whose projections are no more than 60 shores-A durometer, windshield wipers, wiper blades of headlamp washers and their supporting parts, part of bumpers within 20 mm from the bumper contour line, rotating parts of wheels, turned parts of body panels whose radius of curvature is 10% or more of the projection height, and the end of deflectors attached to the side of the vehicle).
- (3) Antennas installed on the motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons (limited to those installed lower than 2.0 m in height), partially or totally projected from the outermost of the vehicles.
- (4) Wheels, wheel nuts, hub caps and wheel caps installed on motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons, having sharp projections from the outermost of the wheel rims.
- (5) Outward-opening windows (limited to those installed lower than 2.0 m in height) installed on motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons, partially or totally projected from the outermost of the motor vehicle, or with the edges being oriented in the direction of forward movement.
- (6) Rear-view mirrors whose installation has sharp projections;
- (7) Ornaments in shape of propeller to be installed on wheels, such as spinners and wing nuts;
- (8) Lever door handles whose tip ends are oriented in the direction of

forward movement of the vehicle (excluding those unlikely to impede the traffic safety, such as handles with the tip ends bent inside or those with protection devices);

- (9) Crane booms of simple cranes mounted on trucks whose forward projection amount and the installation height of the forward end of the crane boom come under the categories given below:
- A. Cases where the horizontal distance between the centre of the most forward axle and the most forward point of the crane boom exceeds $2/3$ of the wheelbase;
 - B. Cases where the horizontal distance between the most forward point of the motor vehicle, except for the crane section, and the most forward point of the crane boom exceeds one meter;
 - C. Cases where the height of the lower edge of the most forward point of the crane boom is less than 1.8 m above the ground.

(Referential diagram)



- (10) Fairings installed on motor cycles, having sharp projections.

5. Motor vehicles other than those used exclusively for carriage of passengers with a passenger capacity of less than 10 persons (motor cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds and trailers) and motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons (motor cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds and

trailers), manufactured on or before December 31, 2008, which are enumerated below, shall be regarded as not complying with the requirement of Paragraph 2.

- (1) Rear bumpers (limited to those bumpers whose edges are located at a point near the side at the rear section of the body) which are installed at the rear section of passenger motor vehicles and motor vehicles whose shape is similar to that of passenger motor vehicles (e.g. trucks used for carriage of passengers, police patrol motor vehicles, etc.), and which do not come under the categories given below:
 - A. Bumpers which are built into the recessed part of the body;
 - B. Bumpers whose gap between the bumper's edge and the vehicle body is less than 20 mm, in which the end of the bumper will not contact with a sphere of a 100 mm diameter when such sphere is brought into contact with the vehicle body and bumper, and the outermost part of the bumper is turned in toward the vehicle body.
- (2) Antenna mounting sections which are provided at a point 1.8 m or less above the ground and which are projected above the outermost point of the vehicle body in close proximity to the antenna.

6. The requirements prescribed in the Announcement of Item (3), Paragraph 1 of Article 18 of the Safety Regulations in connection with the horizontal distance between the centre of the rearmost axle of the motor vehicle and the rearmost part of the vehicle body (referring to the length measured, using a measuring tape or the like, in parallel with the longitudinal centre line of the motor vehicle with the motor vehicle placed on a flat surface in the unloaded state. Hereinafter the same) shall be that the horizontal distance between the centre of the rearmost axle and the rearmost part of the vehicle body is $1/2$ ($2/3$ in the case of motor vehicles which are so constructed that they may not carry a load protruding out of the rearmost part of the vehicle body, or $11/20$ in the case of small-sized motor vehicles except those corresponding with the former) or less of the distance between the foremost and rearmost axles. In this case, the crane booms of the crane trucks or the goods loading accommodation provided on the outside of the passenger compartment of ski buses are included in the vehicle body, but the attached parts, such as bumpers, hooks and hinges, are not included. In the case of motor vehicle with automatic axle-lift device, the measurement shall be conducted, on one hand, for the status where the axle is lifted and, on the other hand, for the condition where the axle is forcibly lowered.

7. Motor vehicles enumerated below shall be regarded as "motor vehicles

which are so constructed that they may not carry a load protruding out of the rearmost part of the vehicle body.”

- (1) Motor vehicles with no device to accommodate goods.
- (2) Motor vehicles whose devices to accommodate goods come under the following categories given below:
 - A. Tanks or the like;
 - B. Clamping devices used exclusively for carriage of containers.
- (3) Motor vehicles whose rear gate panels are not folded types and the gate panel height is 155 cm or more above the loading platform floor level.
- (4) Van type motor vehicles, etc. which have double doors, a single-side opening door or shutter type doors over the entire sections of the loading/unloading section at the rear.

8. The requirements prescribed in the Announcement of Paragraph 2 of Article 18 of the Safety Regulations in connection with the occupant protection performance, etc. of the frame and body in the event of frontal collision shall be that the frame and body are constructed so that, when the front of the motor vehicle concerned receives an impact due to collision, etc., the driver in his seat and the occupant in the other front seat parallel to the driver's seat and adjacent to the side of the motor vehicle are less likely to suffer excessive injuries. In this case, the following frame and body which exhibit no damage liable to hamper the frontal-impact absorbing performance, etc. shall be regarded as complying with this requirement.

- (1) Frames and bodies in which the forward section of the driver's seat is of the same construction as that of the designated motor vehicle, etc.
- (2) Frames and bodies having the same construction and provided at the same position as the frame and body presented at the time of the initial inspection, preliminary inspection or modification inspection;
- (3) Frames and bodies for which the implementation of a destructive test is proved to be extremely difficult, under the provision of the proviso of Article 1-3 of the Safety Regulations, and which conform to the provision of Paragraph 9 of Article 100.

9. The requirements prescribed in the Announcement of Paragraph 3 of Article 18 of the Safety Regulations in connection with the occupant

protection performance of the frame and body in the event of offset collision shall be that the frame and body are constructed so that it is unlikely to injure excessively the occupants in the driver's seat and seats parallel thereto and adjacent to the side of the motor vehicle when part of the front face of the motor vehicle concerned at the driver's seat side is deformed due to a collision, etc. In this case, the following frames and bodies which exhibit no damage liable to hamper the frontal-impact absorbing performance shall be regarded as complying with this requirement:

- (1) Frames and bodies in which the forward section of the driver's seat is of the same construction as that of the designated motor vehicle, etc.
- (2) Frames and bodies having the same construction as the frame and body presented at the time of the initial inspection, preliminary inspection or modification inspection;
- (3) Frames and bodies for which the implementation of a destructive test is proved to be extremely difficult, under the provision of the proviso of Article 1-3 of the Safety Regulations, and which conform to the provision of Paragraph 11 of Article 100.

10. The requirements prescribed in the Announcement of Paragraph 4 of Article 18 of the Safety Regulations in connection with the occupant protection performance, etc. of the frame and body in the event of lateral collision shall be that the frame and body are constructed so that, when one side of the motor vehicle concerned receives an impact due to collision, etc., the driver in his seat and the occupant in the other front seat parallel to the driver's seat and adjacent to the impact-receiving side of the motor vehicle are less likely to suffer excessive injuries. In this case, the following frames and bodies which exhibit no damage liable to hamper the side-impact absorbing performance shall be regarded as complying with this requirement.

- (1) Frames and bodies which are of the same construction as that of the designated motor vehicles, etc. for the portion enclosing the driver's compartment and passenger compartment.
- (2) Frames and bodies which have the same construction as the occupant protection device in lateral collision whose type has been approved pursuant to the provision of Paragraph 1 of Article 75-2 of the Act.
- (3) Frames and bodies having the same construction and provided at the same position as the frame and body presented at the time of the initial inspection, preliminary inspection or modification inspection;

- (4) Frames and bodies for which the implementation of a destructive test is proved to be extremely difficult, under the provision of the proviso of Article 1-3 of the Safety Regulations, and which conform to the provision of Paragraph 13 of Article 100.

11. The requirements prescribed in the Announcement of Paragraph 4 of Article 18 of the Safety Regulations in connection with the performance of the frame and body concerning the protection of the heads of pedestrians shall be that the frame and body be so constructed as to be unlikely to give excessive injuries to the heads of pedestrians when the front surface of the motor vehicle concerned is collided with the pedestrians. In this case, frames and bodies having no sharp protrusion on the surface of hood (those equivalent to the hood, such as the front panel, in the case of motor vehicles equipped with no hood) shall be regarded as complying with this requirement.

12. On the rear surface of the body of a motor vehicle, the maximum loading capacity (the maximum loading capacity, the maximum loading volume and the name of loaded goods in the case of a tank motor vehicle) shall be marked.

13. The indication to be attached, pursuant to Paragraph 7 of Article 18 of the Safety Regulations, on the front, rear and each side of the vehicle body of any motor vehicle (only limited to those motor vehicles with a passenger capacity of 11 persons or more) used exclusively for carriage of students, children or infants of middle schools, primary schools, schools for the blind, schools for the deaf, schools for physically handicapped or mentally retarded children, kindergartens or nursery schools, indicating that this particular vehicle is used for carriage of the above mentioned passengers, shall be in accordance with the example of the form prescribed below.

- (1) The shape shall be an equilateral triangle with its apex is directed upwards, with a length of each side of 50 cm or more, and the thickness of the frame and the triangle line shall be approximately 12 mm. However, for a motor vehicle whose body is so constructed that it may not ensure the said dimensions (referring to motor vehicles in which the specified dimensions cannot be ensured because of the function components of motor vehicles, such as the windshield screen, headlamps, signal lamps or the like, air inlet port of the cooling system, or the motor vehicle registration number plate), it may reduce the length of the side to 30 cm.
- (2) The colour of the triangle line, the characters and symbols shall be in black and the frame and ground shall be in yellow.

- (3) The characters in the form shall be Japanese words which mean “school bus,” “kindergarten bus,” etc.

(Example of form)



Article 179 (Pedestrian Protection Side Guard)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 18-2 of the Safety Regulations in connection with the strength, shape, etc. of the pedestrian protection side guard shall be the requirements prescribed in each of the following Items.

- (1) It shall be secure. In this case, those whose installation is not secure due to corrosion, etc. shall be regarded as not complying with this requirement.
- (2) It shall be a sheet or have a shape which can effectively prevent pedestrians, bicycle riders, etc. from being caught under the rear wheels of the motor vehicle. In this case, “a sheet or a shape which can effectively prevent pedestrians, bicycle riders, etc. from being caught under the rear wheels of the motor vehicle” shall refer to the shape of integral sheets, grating, mesh, rods (3 pcs. or more) or shape similar to these.

2. With regard to the application of the provision of Item (2) of the preceding Paragraph in the case of ordinary-sized motor vehicles used for the transport of goods (except those with a gross vehicle weight of 8 tons or more or with a maximum loading capacity of 5 tons or more), the phrase “shall be a sheet or have a shape which can effectively prevent pedestrians, bicycle riders, etc. from being caught under the rear wheels of the motor vehicle” shall read as “shall be constructed so that pedestrians are not likely to be caught under the rear wheels of the motor vehicle” pursuant to the provision of Paragraph 4 of the Supplementary Provisions of the “Ministry Ordinance That Amends Part of the Safety Regulations for Road Vehicles” (Ministry of Transport Ordinance No. 8 of 1979). In this case, pedestrian protection side guards having a shape of one steel pipe or the like shall be regarded as complying with this requirement.

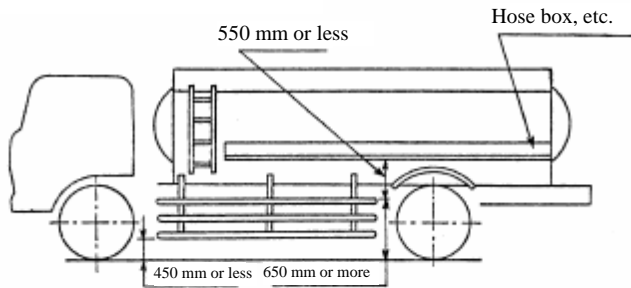
3. The “motor vehicles which are constructed as prescribed in the Announcement in connection with the construction by which pedestrians, bicycle riders, etc. are not likely to be caught under the rear wheels of the motor vehicle concerned” shall be motor vehicles which are constructed so as to effectively prevent pedestrians, bicycle riders, etc. from being caught under the rear wheels of the motor vehicle concerned by means of the original construction, etc. of the motor vehicle to the same degree as or more than the pedestrian protection side guard.

4. The requirements prescribed in the Announcement of Paragraph 2 of Article 18-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the pedestrian protection side guard shall be the requirements prescribed in each of the following Items.

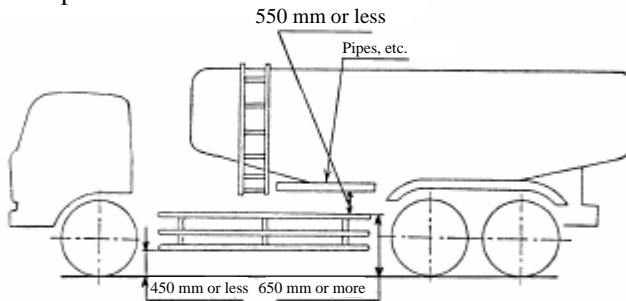
- (1) The pedestrian protection side guard shall be mounted so that, in the unloaded state, the height of its lower edge is 450 mm or less above the ground and the height of its upper edge is 650 mm or more above the ground.
- (2) The pedestrian protection side guard shall be mounted so that the distance between the upper edge thereof and the loading platform, etc. may effectively prevent pedestrians, bicycle riders, etc. from being caught under the rear wheels of the motor vehicle. In this case, pedestrian protection side guards that are mounted in such a way that the distance between the upper edge of the flat section thereof and the loading platform, etc. is 550 mm or less shall be regarded as complying with this requirement.

(Example)

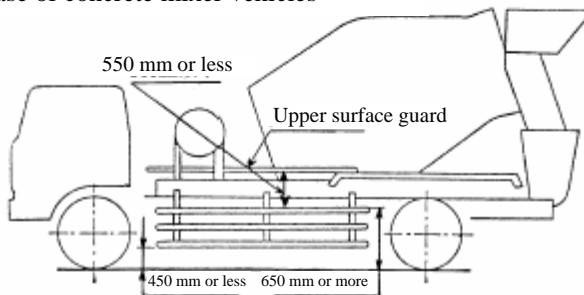
(1) Case of tank trucks



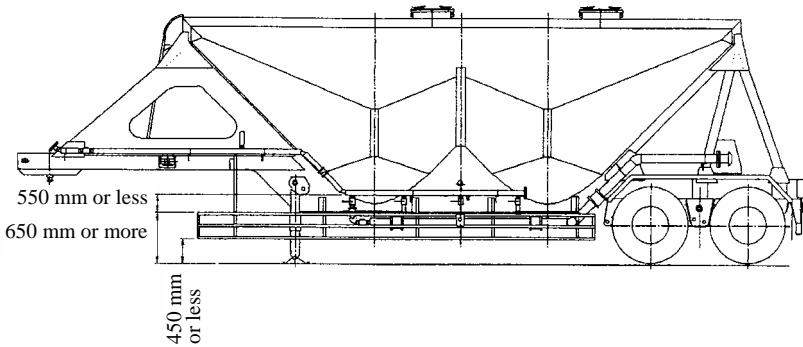
(2) Case of powder cement motor vehicles



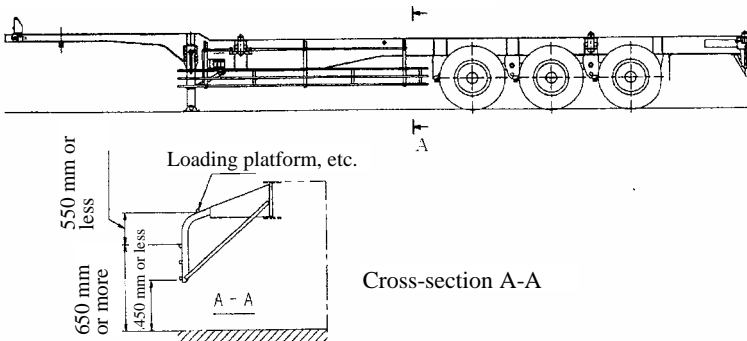
(3) Case of concrete mixer vehicles



(4) Case of powder cement semi-trailers



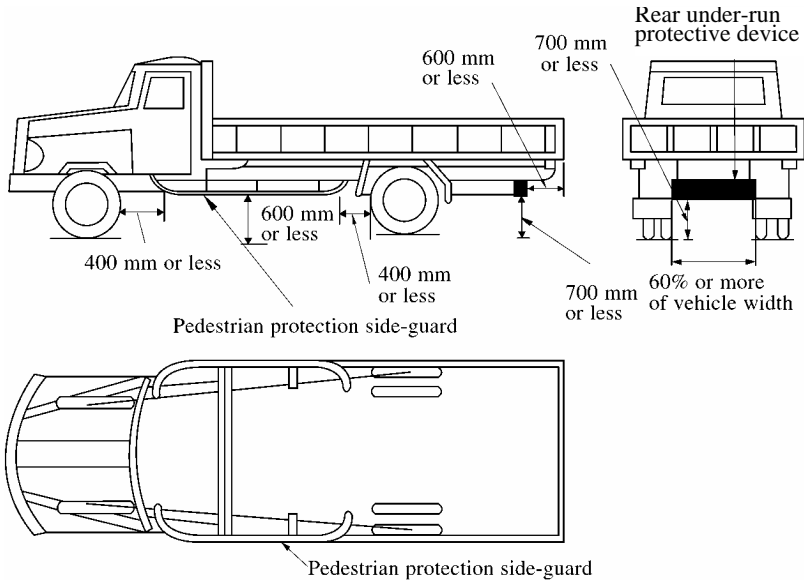
(5) Case of container semi-trailers



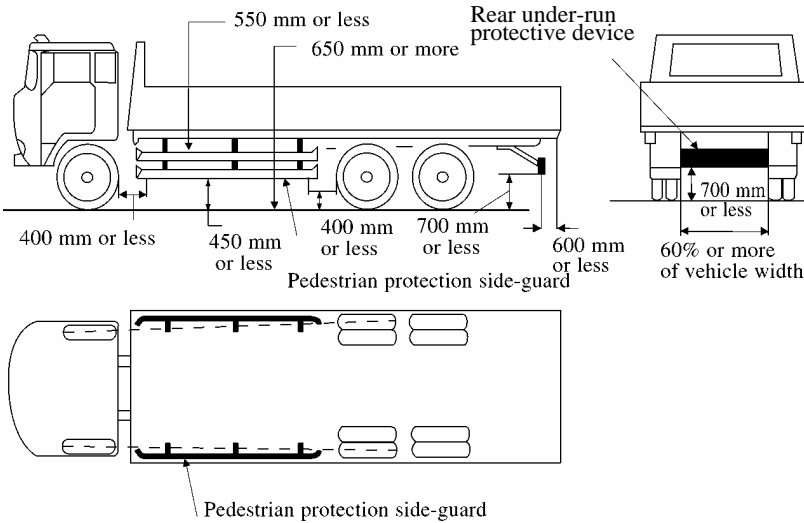
- (3) The pedestrian protection side guard shall be mounted so that the distance between a vertical plane, which includes the forward end of the flat section (except the curved section. Hereinafter the same) thereof and is perpendicular to the longitudinal centre plane of the motor vehicle, and a vertical plane, which includes the rear end of the rearmost front tyre and is perpendicular to the longitudinal centre plane of the motor vehicle, as well as the distance between a vertical plane, which includes the rear end of the flat section and is perpendicular to the longitudinal centre plane of the motor vehicle, and a vertical plane,

which includes the front end of the most forward rear tyre and is perpendicular to the longitudinal centre plane of the motor vehicle, is 400 mm or less. However, the pedestrian protection side guard to be mounted on a semi-trailer shall be mounted so that the front end of flat sections is located forward of the auxiliary leg.

(Example 1) (Example of installation on ordinary-sized truck)

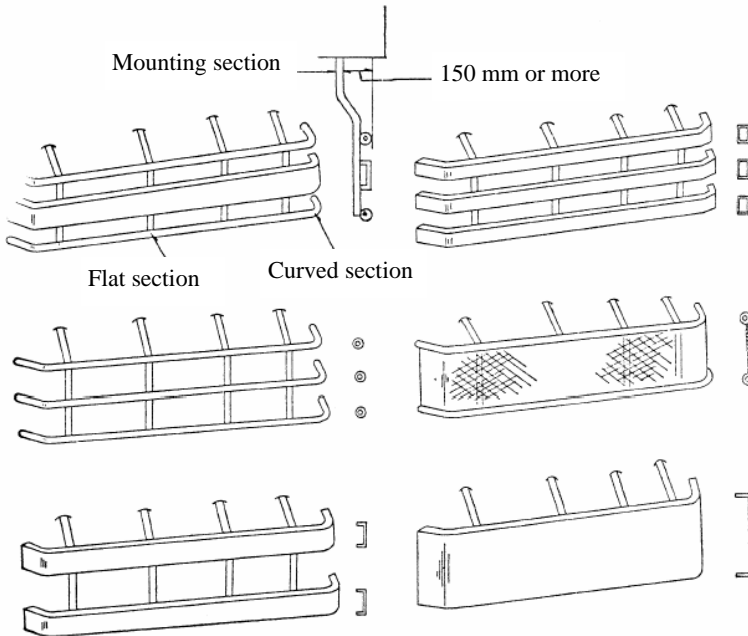


(Example 2) (Example of installation on large-sized truck with a gross vehicle weight of 8 tons or more, or with a maximum loading capacity of 5 tons or more)



(4) The pedestrian protection side guard shall be mounted so that the flat section thereof is located outside of a straight line connecting the centres of the road contact sections of the outermost front wheel and outermost rear wheel, and the mounting section thereof is located 150 mm or more inside of the flat section.

(Example)



(5) The pedestrian protection side guard shall be securely mounted so that it does not become loose due to vibrations, shocks, etc.

5. With regard to the application of the provisions of Items (1) and (2) of the preceding Paragraph in the case of ordinary-sized motor vehicles used for the transport of goods (except those with a gross vehicle weight of 8 tons or more or with a maximum loading capacity of 5 tons or more), notwithstanding the provisions of Items (1) and (2) of the preceding Paragraph, the pedestrian protection side guard shall be mounted so that, in the unloaded state, the height of its lower edge is 600 mm or less above the ground, except sections near the entrance of the driver's seat, pursuant to the provision of Paragraph 4 of the Supplementary Provisions of the "Ministry Ordinance That Amends Part of the Safety Regulations for Road Vehicles" (Ministry of Transport Ordinance No. 8 of 1979).

Article 180 (Rear Underrun Protection Devices)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 18-2 of the Safety Regulations in connection with strength, shape, etc. of the rear underrun protection device shall be the requirements prescribed in each of the following Items.

- (1) The rear underrun protection device mounted on motor vehicles used for the transport of goods with a gross vehicle weight of more than 3.5 shall have such a construction that is capable of preventing the front part of the colliding motor vehicle from being severely plunged into the rear part of the motor vehicle concerned in the case of rear-end collision. In this case, the following rear underrun protection devices enumerated below which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with these requirements.
 - A. Rear underrun protection devices having the same construction as the rear underrun protection device mounted on designated motor vehicles, etc. or the rear underrun protection device having the equivalent construction, and mounted at the same position or at the rear position thereof;
 - B. Rear underrun protection devices type-designated pursuant to the provision of Paragraph 1 of Article 75-2 of the Act;
 - C. Rear underrun protection devices provided with an identification code prescribed by the Minister of Land, Infrastructure and Transport.
- (2) The rear underrun protection device mounted on ordinary-sized motor vehicles used for the transport of goods (except those of the preceding Item) shall be a sheet or have a shape which can effectively prevent the front part of a colliding motor vehicle from running under the rear part of the motor vehicle concerned during a rear-end collision. The length of the rear underrun protection device shall be 60% or more of the width of the motor vehicle to which it is attached.
- (3) The rear underrun protection device provided for in Item (1) shall be so constructed that the height of the cross-section of the flat section thereof is 100 mm or more on a vertical plane in parallel with the longitudinal centre plane of the motor vehicle.
- (4) The rear underrun protection device shall be robust and capable of fully withstanding operations, and shall not be such ones enumerated

below.

- A. Those whose installation is not secure due to corrosion, etc.;
 - B. Those which are not robust other than those in Item A.
- (5) The rear underrun protection device shall not be liable to injure pedestrians, etc., when it comes in contact with them. For example, the rear underrun protection device shall have no external edge which bends backward nor sharp outward protrusion.

2. The “motor vehicles prescribed in the Announcement as ones having such construction that can prevent the front part of the colliding motor vehicle from plunging into the rear part of the motor vehicle concerned in the case of rear-end collision, to the same degree as with motor vehicles equipped with a rear underrun protection device” appearing in the proviso of Paragraph 2 of Article 18-2 of the Safety Regulations shall be those motor vehicles having such construction that complies with the following requirements.

- (1) In the case of motor vehicles with a gross vehicle weight of 7 tons or more, the cross-section of the flat section of the construction section (that refers to a construction section, consisting of the vehicle frame or the vehicle body, capable of preventing the front part of the colliding motor vehicle from plunging into the rear part of the motor vehicle concerned in the case of rear-end collision, to the same degree as with rear underrun protection devices. Hereinafter the same.) at the rear surface of the vehicle body shall be at a height of 100 mm or more on a vertical plane parallel to the vehicle longitudinal centre plane and the outermost edge of the flat section concerned shall be located within 100 mm inward from the outermost edge of the wheel of the rear axle.
- (2) In the case of motor vehicles with a gross vehicle weight of less than 7 tons, the length of the construction section at the rear surface of the vehicle body shall be 60% or more of the width of the motor vehicle concerned (in cases where the horizontal distance between the centre of the rearmost axle and the rear end of the vehicle body is 1500 mm or less, the width or more of the vehicle frame at the rear end of the motor vehicle concerned).
- (3) The height of the lower edge of the construction section at the rear end of the vehicle body shall be 550 mm or less (in the case of motor vehicles with a gross vehicle weight of less than 7 tons (limited only to those in which the horizontal distance between the centre of the

rearmost axle and the rear end of the vehicle body is 1,500 mm or less), 600 mm or less) above the ground under the unloaded state.

- (4) The horizontal distance between the flat section of the construction section at the rear end of the vehicle body and the rear end of the other part of the motor vehicle concerned at a height of 1,500 mm or less above the ground under the unloaded condition shall be 450 mm or less.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 18-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the rear underrun protection device shall be the requirements enumerated in each of the following Items.

- (1) The rear underrun protection device of motor vehicles used for the transport of goods with a gross vehicle weight of more than 3.5 tons shall comply with the requirements prescribed in each of the following Items:

A. The rear underrun protection device shall be mounted so that the height at its lower edge is 550 mm or less above the ground in the unloaded state;

B. The rear underrun protection device shall be mounted so that its flat section is symmetrical relative to the longitudinal centre plane of the vehicle on the vertical plane perpendicular to the longitudinal centre plane of the vehicle;

C. The rear underrun protection device shall be mounted so that the outermost edge of the flat section thereof is located within 100 mm inward from the outermost edge of the wheel of the rear axle;

D. The rear underrun protection device shall be mounted so that the horizontal distance between the flat section and the rear end of the other part of the motor vehicle concerned at a height of 1,500 mm or less above the ground under the unloaded condition is within 400 mm and that the rear underrun protection device is located as close to the rearmost end of the motor vehicle;

E. The rear underrun protection device shall be securely mounted so that it may not be loosened by vibrations, shocks, etc.

- (2) The rear underrun protection device of ordinary-sized motor vehicles

used for the transport of goods (except for the motor vehicles of the preceding Item) shall comply with the following requirements:

- A. The rear underrun protection device shall be mounted so that the height at its lower edge is 700 mm or less above the ground in the unloaded state;
- B. The rear underrun protection device shall be mounted so that its flat section is symmetrical relative to the longitudinal centre plane of the vehicle on the vertical plane perpendicular to the longitudinal centre plane of the vehicle;
- C. The rear underrun protection device shall be mounted so that the horizontal distance between the flat section and the rear end of the other part of the motor vehicle concerned at a height of 1,500 mm or less above the ground under the unloaded condition is within 600 mm;
- D. The rear underrun protection device shall be securely mounted so that it may not be loosened by vibrations, shocks, etc.

Article 181 (Coupling Device)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 19 of the Safety Regulations in connection with the strength, construction, etc. of coupling devices between a tractor and a trailer shall be the requirements prescribe in each of the following Items:

- (1) The coupling device between a tractor and a trailer shall be secure so that it may fully withstand vehicle operation;
- (2) The coupling device between a tractor and a trailer shall be constructed so that it may securely connect the tractor with the trailer;
- (3) The coupling device of a tractor or a trailer shall be provided with a suitable safety device to prevent accidental separation by vibration, shocks, etc. while running.

2. In the preceding Paragraph, an emergency drawing hook, etc. which is provided at the front end of the frame of trucks, etc. and is not intended to tow a trailer shall not be included in coupling devices.

Article 182 (Riding Accommodation)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 20 of the Safety Regulations in connection with the construction of the riding accommodation of a motor vehicle shall be the requirements prescribed in each of the following Items.

- (1) The riding accommodation of a motor vehicle shall be constructed so that it may secure safe boarding and may not cause the occupants to fall off or stumble by vibrations, impact, etc. In this case, the riding accommodation enumerated below shall be regarded as complying with this requirement:
 - A. In the case of motor vehicles whose sides are not provided with doors, chains, ropes, etc., passenger seats provided with arm rests or grip handles;
 - B. In the case of motor cycles, rear seats provided with grip handles and foot rests;
 - C. In the case of fire trucks, standing spaces provided with grip bars and tread plates (with a depth of 30 cm or more) which has employed slip preventive measures;
 - D. In the case of bus type motor vehicles, standing spaces provided with straps, grip bars or grip handles.
- (2) Link type door opening/closing devices which shall not be liable to pinch passenger's feet because of their construction, thereby not assuring safe boarding.

2. The flame-resistant material which complies with the requirements prescribed in the Announcement of Paragraph 4 of Article 20 of the Safety Regulations shall be any material enumerated in each of the following Items.

- (1) Those which are made of the same material and provided at the same position as that of the interior trim provided on designated motor vehicle, etc.
- (2) The material which has been proved to be flame-resistant by a document and so forth which posts the test results enforced by official testing institutes, etc.
- (3) Steel sheets, aluminum sheets, FRP, wooden plate whose thickness is 3

mm or more (including plywood) and natural leather.

3. Those enumerated in each of the following Items shall be regarded as an example of not being “interior trim” provided for in the preceding Paragraph.

- (1) Articles that are not secured to the vehicle body.
- (2) Articles whose length is less than 293 mm and whose width is less than 25 mm.

4. The requirements prescribed in the Announcement of Paragraph 5 of Article 20 of the Safety Regulations in connection with the occupant protection performance, etc. of the instrument panel of motor vehicles used exclusively for carriage of passengers shall be that it is unlikely to give occupants excessive impact on the head, etc. of the occupants when the motor vehicle concerned is subjected to impacts due to collision, etc. However, this provision shall not apply to motor vehicles with a passenger capacity of 11 persons or more, motor cycles with or without sidecar, mini-sized motor vehicles with caterpillar tracks and sleds, and motor vehicles with a maximum speed of less than 20 km/h.

5. Instrument panels having the same construction and provided at the same position as instrument panels mounted on designated motor vehicles, etc. which exhibit no damage, etc. liable to hamper its impact-absorbing function shall be regarded as complying with this requirement.

Article 183 (Driver’s Seat)

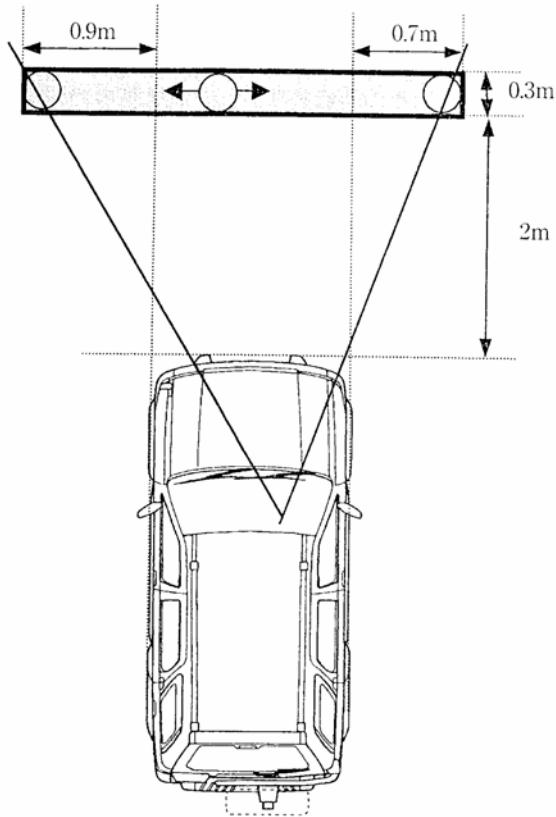
1. The requirements prescribed in the Announcement of Paragraph 1 of Article 21 of the Safety Regulations in connection with the field of vision of the driver in his seat, the partition wall, etc. from the goods-loading accommodation, etc.

- (1) The driver’s seat of motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less (except motor cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds, and trailers) and motor vehicles used for the carriage of goods with a gross vehicle weight of 3.5 tons or less (except three-wheeled motor vehicles and trailers) shall be such ones that enable the driver in his seat to discern, without using a mirror or the like, at least part of an obstacle (referring to a round column having a height of 1 m and a diameter of 30 cm. Hereinafter the same.) located in an area enclosed by the following

vertical planes:

- A. A vertical plane at a distance of 2 m from the front end of the motor vehicle;
- B. A vertical plane at a distance of 2.3 m from the front end of the motor vehicle;
- C. A vertical plane at a distance of 0.9 m from the left side surface (the right side surface in the case of left-hand drive motor vehicles) of the motor vehicle;
- D. A vertical plane at a distance of 0.7 m from the right side surface (the left side surface in the case of right-hand drive motor vehicles) of the motor vehicle.

(Referential diagram)



- (2) The driver's seat of motor vehicles other than those provided for in the preceding Item shall have a field of vision necessary for driving.
- (3) The driver's seat shall be such one that the driving operations may not be hampered by occupants, loaded goods, etc. In this case, the following driver's seats which exhibit no damage liable to hamper its operation shall be regarded as "one that the driving operations may not be hampered by occupants, loaded goods, etc."
 - A. The driver's seat of a bus used for passenger carrying business, where a protection bar or partition wall is provided.

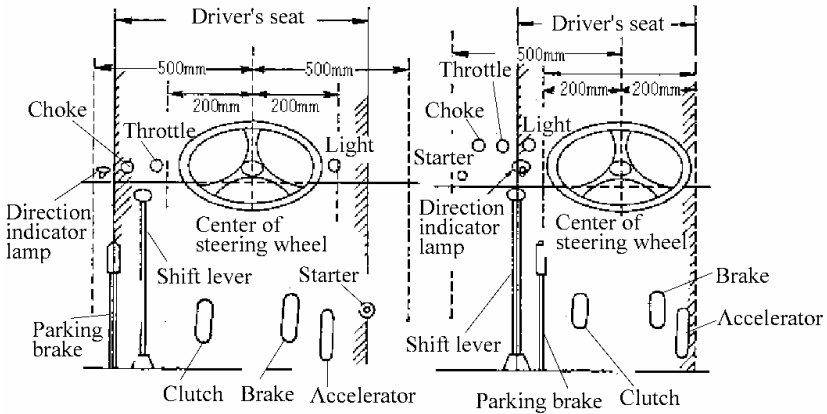
- B. The driver's seat of a truck, where a partition wall or protecting partition is provided between the driver's seat and the goods-loading accommodation. In this case, trucks with a maximum loading capacity of 500 kg or less where it is recognized that the driver's seat is protected from loaded goods, etc. by means of the seatback of the driver's seat, the seatback of the driver's seat shall be regarded as a protecting partition.
- C. The seat on the right side of the driver's seat in a three-wheeled motor vehicle whose steering wheel turning angle is less than 7 times of that of the steering tyres, where the front edge of the seat is 20 cm or more backward from the front edge of the driver's seat, or the seat which is provided on the left side and whose front edge is behind the front edge of the driver's seat.

2. The driver's seat having the same construction and provided at the same position as the driver's seat mounted on designated motor vehicles, etc. which has not been modified or exhibits no damage, etc. liable to hamper its function shall be regarded as complying with each Item of the preceding Paragraph.

Article 184 (Seats)

1. The requirements prescribed in the Announcement of Paragraph 1, Article 22 of the Safety Regulations in connection with a space for sitting in and direction of the seats concerned shall be the requirements enumerated in each of the following Items.

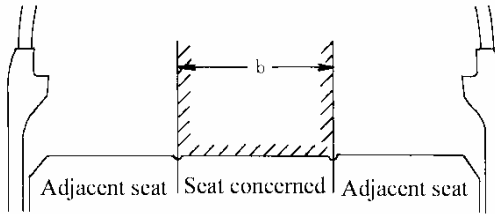
- (1) The driver's seat of a motor vehicle shall be the range up to the outermost device among those enumerated in each Item of Article 10 of the Safety Regulations (except devices which may not be obstructed by passengers, loaded goods, etc.). In this case, the minimum range shall be up to 200 mm or more to the right and to the left from the centre of the steering wheel.



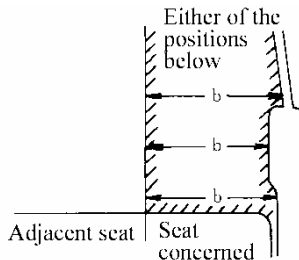
- (2) The seats for passengers other than the driver of a motor vehicle (except saddle-type seats and seats for infants of a motor vehicle which is used exclusively for carriage of children (hereinafter referred to as "infant-carrying vehicle")) shall have a space of 400 mm or more in width for sitting-in per person. In this case, the following seats shall be deemed as an example not complying with this requirement:
- A. Of the three or more seats arranged side by side, those of less than 400 mm in width, excluding the seats at each of the extremities;
 - B. Of the three or more seats arranged side by side, but except the seats at each of the extremities, those which have no space of 400 mm or more in width in the compartment, excluding spaces necessary for sitting-in at any seat adjacent to the seat concerned;
 - C. Of the three or more seats arranged side by side, seats at each of the extremities, which have no space of 400 mm or more in width in the compartment, that is measured at any point above the surface of the seat concerned, excluding spaces necessary for setting-in at any seat adjacent to the seat concerned.

(Example)

- (1) Of the three or more seats arranged side by side, those of less than 400 mm in width, excluding the seats at each of the extremities, or width of space other than spaces necessary for sitting-in at any seat adjacent to the seat concerned



- (2) Of the three or more seats arranged side by side, seats at each of the extremities, and width of a space other than spaces necessary for sitting-in at any seat adjacent to the seat concerned



- (3) The seats for infants on an infant-carrying vehicle shall be provided facing forwards.
- (4) There shall be at least the following spaces (in cases where the seat concerned and the front seat are facing each other, the said space shall be twice or more those below) between the seat and its front seat, partition, etc.

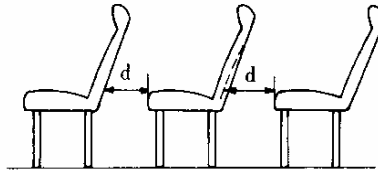
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- A. In the case of seats (except seats for infant of an infant-carrying vehicle) of a motor vehicle (except emergency motor vehicles) with a passenger capacity of 11 persons or more, 200 mm;
 - B. In the case of seats for infant of an infant-carrying vehicle, 150 mm.
2. The requirements prescribed in the Announcement of Paragraph 2, Article 22 of the Safety Regulations in connection with the dimensions of the seats other than the driver's seat shall be the requirements enumerated in each of the following Items.
- (1) The size of seats for passengers other than the driver of a motor vehicle (except saddle-type seats and seats for infant of an infant-carrying vehicle) shall be 380 mm or more in width and 400 mm or more in depth per person (In the case of seats near the emergency exit, 380 mm or more in width and 250 mm or more in depth; in the case of seats listed below, 300 mm or more in width and 250 mm or more in depth).
 - A. Spare seats (which mean one-person seats which may be folded easily, provided in aisles, loading platforms, or floor spaces other than those used exclusively for installing seats; hereinafter the same);
 - B. One-person seats for the conductor or similar seats, and one-person seats for driver's assistant which are respectively provided on motor vehicles with a passenger capacity of 11 persons or more;
 - C. One-person seats on the side of the driver's seat of a three-wheeled motor vehicle where the rotational angle of the steering wheel is less than seven times the rotational angle of the steering tyre.
 - (2) The size of a seat for infant on an infant-carrying vehicle shall be 270 mm or more in width and 230 mm or more, but not exceeding 270 mm in depth, and 250 mm or less in height from the floor per person.
3. The space provided for in Item (4) of Paragraph 1 and the seat width and depth provided for in the preceding Paragraph shall be defined as follows:
- (1) The space shall be the shortest horizontal distance between the front edge of the seat at a height of the front edge of the seat and the rear edge of the seatback of its front seat, partition, etc. (excluding local

protrusions). In this case, the adjusting mechanism of the seat shall be set to the following conditions:

- A. In the case of the driver's seat (including seats operating integral with the driver's seat or seats parallel to the driver's seat. Hereinafter the same in this Item) equipped with reclining mechanisms, the seatback shall be reclined 30° backward from the vertical plane.
- B. In the case of the driver's seat equipped with sliding mechanisms, such mechanisms shall be adjusted so that the space may become the shortest distance.
- C. In the case of seats other than the driver's seat, equipped with adjusting mechanisms, such as the sliding mechanism and reclining mechanism, such mechanisms shall be adjusted so that the space may become the shortest distance.

(Example) Space between the seats

d: Space



- (2) The width shall be the shortest horizontal distance between both edges (inner edges of the armrest, in cases where an armrest is provided) of the seat that has been measured at right angles to the depth direction at a distance 200 mm in the depth direction from the centre of the front edge of the seat. In this case, those seats where the positions of their separated portions can be adjusted respectively and these portions can be set to integral conditions shall be set to such conditions.

Moreover, for armrests mounted at a height between 100 mm and 300 mm from the seat surface, they shall be handled as having conformity if they protrude toward the inside of the seat by 50 mm per armrest.

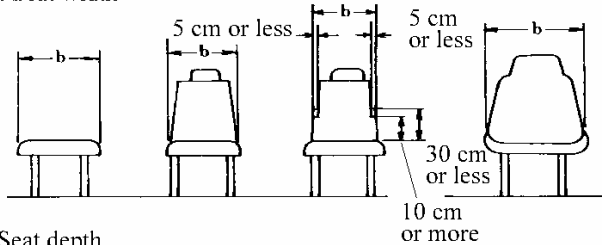
- (3) The depth shall be the shortest horizontal distance between the front edge and rear edge of the seat (the front edge of the seatback if a

seatback is provided) at the centre thereof.

(Example)

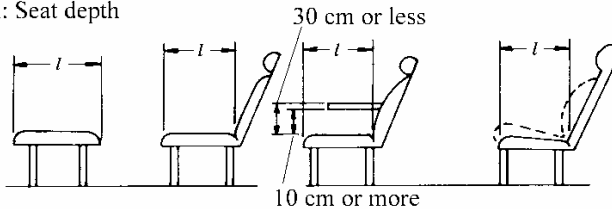
(1) Seat width

b: Seat width



(2) Seat depth

l: Seat depth



4. In accordance with the provisions of the proviso in Paragraph 2 of Article 22 of the Safety Regulations, the provisions of Paragraph 2 shall not apply to seats other than those of motor vehicles for passenger carrying business or infant-carrying vehicles, which are equipped with the following seat belts and seat belt anchorages thereof.

- (1) Seat belts and seat belt anchorages thereof having the same construction and provided at the same position as the seat belts and seat belt anchorages thereof mounted on designated motor vehicles, etc.;
- (2) Seat belts and seat belt anchorages thereof where the installation distance of the anchorages of the webbing for waist is 330 mm or more, when measured along the horizontal distance parallel to the vehicle longitudinal centre plane, and the seat belts concerned are functioning normally.

5. Motor vehicles with a passenger capacity of 11 persons or more may be provided with spare seats on the aisles, only for the cases where available

opening of most windows are 500 mm or more in width and 300 mm or more in height.

6. Infant-carrying vehicles cannot be provided with any spare seat for infant.

7. The requirements prescribed in the Announcement of Paragraphs 3 and 4, Article 22 of the Safety Regulations in connection with the performance of withstanding the load applied by the occupants, etc. and the performance of protecting the head, etc. of occupants sitting behind the seat concerned when subjected to impacts due to a collision, etc. shall be the requirements prescribed in each of the following Items.

- (1) The seats and seat anchorages shall be securely installed to the vehicle body.
- (2) In the case of seats equipped with adjusting mechanisms, such as sliding mechanisms and reclining mechanisms, the seats shall be able to be held at every seat adjusting position.
- (3) The rear surface of the seat shall have such a construction unlikely to give excessive impacts to the head, etc. of occupants sitting behind the seat concerned when the motor vehicle concerned is subjected to impacts due to a collision.

8. The seats and seat anchorages enumerated below which exhibit no damage, etc. liable to hamper its function nor damage liable to injure the head, etc. of the occupants shall be regarded as complying with the requirements of the preceding Paragraph.

- (1) Seats and seat anchorages having the same construction and provided at the same position as the seats and seat anchorages mounted on designated motor vehicles, etc.;
- (2) Seats and seat anchorages type-designated pursuant to the provision of Paragraph 1 of Article 75-2 of the Act or seats and seat anchorages having the equivalent performance;

Article 185 (Capacity of Auxiliary Seats)

The requirements prescribed in the Announcement of Paragraph 2, Article 22-2 of the Safety Regulations shall be that the capacity of seats other than those enumerated in A. through C. of Item (1), Paragraph 2 of the

preceding Article is a half or more of the seat capacity, and one third or more of the passenger capacity when the calculation is made on the assumption that no standing space is provided on the floor surface used for wheelchairs. In this case, the “floor surface used for wheelchairs” shall mean a floor space which is designated to be used for wheelchairs, equipped with anchors for fixing the wheelchair or a grip bar provided on the floor surface or on the wall in the vicinity, and separated distinctively from the floor surface for standing space. Furthermore, the minimum required floor surface to be used for wheelchairs shall be 1200 mm in effective length and 800 mm in effective width.

Article 186 (Seat belts, etc.)

1. The “seats adjacent to either side of the motor vehicle” in the table of Paragraph 1 of Article 22-3 of the Safety Regulations shall mean any seat other than those in which the horizontal distance exceeds 20 cm when measured between the seat side at a position 20 cm deep horizontally from the front edge of the seat centre and the wall at that height of the passenger compartment (excluding the wheel house, armrest, other protrusion and local recessed sections).

2. “Type 2 seat belts” in Table of Paragraph 1 of Article 22-3 of the Safety Regulations shall mean seat belts, such as three-point type seat belts, which are capable of restraining at least the displacement of the occupant’s pelvis and the inclination of his upper torso.

3. “Type 1 seat belts” in Table of Paragraph 1 of Article 22-3 of the Safety Regulations shall mean seat belts, such as two-point type seat belts, which are capable of restraining at least the displacement of the occupant’s pelvis.

4. The requirements prescribed in the Announcement of Paragraph 2 of Article 22-3 of the Safety Regulations in connection with the strength, installation position, etc. of seat belt anchorages shall be the requirements prescribed in each of the following Items.

- (1) The anchorage shall fully withstand load applied by the seat belt in the collision of the motor vehicle concerned;
- (2) The anchorage shall be constructed so that it may not loosen or become deformed by vibration or shocks, etc.;
- (3) The anchorage shall be located so that it may allow an efficient function of the seat belt installed there;

(4) The anchorage shall be located so that it is neither damaged nor causes hindrance upon boarding and alighting;

(5) The anchorage shall allow an easy installation of a seat belt.

5. Seat belt anchorages having the same construction and provided at the same position as the seat belt anchorages mounted on designated motor vehicles, etc. which exhibit no damage shall be regarded as complying with the requirement of the preceding Paragraph.

6. The requirements prescribed in the Announcement of Paragraph 3 of Article 22-3 of the Safety Regulations in connection with the construction, operation performance, etc. of seat belts shall be the requirements prescribed in each of the following Items.

(1) The seat belt shall be constructed so that it is unlikely to cause the wearers' injury when the motor vehicle concerned is subjected to impacts by collisions, etc.;

(2) Type 2 seat belt shall be constructed so that it may restrain the wearers of the seat belt concerned from moving forward and inclining their upper torsos forward excessively when the motor vehicle concerned is subjected to impacts by collision, etc.;

(3) Type 1 seat belt shall be constructed so that it may restrain the wearers of the seat belt concerned from moving forward when the motor vehicle concerned is subjected to impacts by collision, etc.;

(4) The seat belt shall be constructed so that it may allow easy fastening, releasing and adjustment of the belt length;

(5) In the case of Type 2 seat belt and Type 1 seat belt to be provided on the driver's seat, they shall be constructed so that the wearers of the seat belt concerned may easily move their waists and the upper halves of their bodies during normal driving.

7. Seat belts which are the same as the ones provided on designated motor vehicles, etc. or which comply with JIS D-4604 "Seat Belt Assemblies for Automobiles" or the equivalent standards and have the specified performance and exhibit no damage or fraying etc., likely to cause injuries to the wearers, shall be regarded as complying with the requirement prescribed in each Item of the preceding Paragraph .

8. The requirements prescribed in the Announcement of Paragraph 4 of Article 22-3 of the Safety Regulations in connection with the warning performance, etc. of warning devices to give warning to the driver in his seat shall be that a warning is given to the driver in his seat when the seat belt for the driver in his seat, that is to be provided in accordance with the provision of Paragraph 1, is not worn. In this case, the devices enumerated in each of the following Items shall be regarded as not complying with this requirement.

- (1) Warning devices which will not emit any warning when the power supply is turned on with the seat belt at the driver's seat not worn.
- (2) Warning devices which will not stop warning when the seat belt at the driver's seat is worn, except for the 8-second period after the power supply is turned on.
- (3) Warning devices which produce warning that cannot be recognized readily at the driver's seat.

Article 187 (Head Restraints)

1. The requirements prescribed in the Announcement of Article 22-4 of the Safety Regulations in connection with the head restraint's performance of protecting the heads of occupants in the seats concerned, etc. when subjected to impacts in the event of rear-end collision, etc. shall be the requirements prescribed in each of the following Items.

- (1) The head restraint shall efficiently prevent excessive rearward angular displacement of the head of the occupant of the motor vehicle concerned when the motor vehicle is subjected to impacts due to rear-end collisions, etc. by other motor vehicles.
 - (2) The head restraint shall be constructed so that it may not cause injury to the head, etc. of the occupant;
 - (3) The rear surface of the head restraint shall have such a construction unlikely to give excessive impacts to the occupants sitting behind the seat equipped with the head restraint concerned when subjected to impacts due to a collision.
 - (4) The head restraint shall be mounted so that it may not fall by vibrations and shocks.
2. The following head restraints, which exhibit no damage to hamper the

performance of them or to injure the heads, etc. of the occupants shall be regarded as complying with the requirements prescribed in each Item of the preceding Paragraph.

- (1) Head restraints having the same construction and provided at the same position as the head restraints mounted on designated motor vehicles, etc.;
- (2) Head restraints type-designated pursuant to the provision of Paragraph 1 of Article 75-2 of the Act;
- (3) Head restraints which comply with the standards of JIS D 4606 “Head Restraints for Automobile Occupants” or the equivalent standards and which are mounted securely.

Article 188 (Child Restraints)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 22-5 of the Safety Regulations in connection with the construction, operation performance, etc. of child restraints shall be the requirements prescribed in each of the following Items.

- (1) Child restraints shall not damage the seats or the seat belts they are attached to;
- (2) The child restraint shall be constructed so that it is unlikely to injure the occupant in the child restraint concerned when the motor vehicle is subjected to impacts due to a collision, etc. In this case, front-facing child restraints in which rigid structures are not covered with padding materials that reduce physical impacts to the front of the children’s bodies shall be regarded as not complying with this requirement;
- (3) The child restraint shall be constructed so that it may restrain the wearer of the child restraint and the child restraint concerned from moving forward by means of the seat belt which has complied with the requirements of Paragraph 3 of Article 22-3 or the anchorage which has complied with the following requirements, when the motor vehicle concerned is subjected to impacts by collision, etc. In this case, child restraints which cannot be restrained by seat belts or anchorage which can withstand fully the load applied from the child restraint at the time of collision, etc. of the motor vehicle concerned, e.g. those installed on the seat merely by being hung over the seatback of the motor vehicle, or child restraints in which it is difficult to restrain or retain a child in

place easily in the device shall be regarded as not comply with this requirement;

- A. The anchorage shall fully withstand a load applied from the child restraint at time of a collision, etc. of the motor vehicle concerned.
 - B. The anchorage shall not be loosened or deformed by vibration and impacts, etc.
- (4) The child restraint shall be easily fastened and released. In this case, child restraints whose construction will not permit a protector or a third party to rescue the child readily in the event of emergency shall be regarded as not complying with this requirement.
2. The child restraints enumerated below which exhibit no damage, etc. liable to injure children shall be regarded as complying with the requirements of each Item of the preceding Paragraph.

- (1) Child restraints having the same construction and provided at the same position as the seat built-in type child restraints (referring to the child restraints that have been built in the seat of the motor vehicle. Hereinafter the same.) mounted on designated motor vehicles, etc.
- (2) Child restraints for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or child restraints having the performance equivalent to it.

Article 189 (Aisles)

1. Based on Paragraph 2 of Article 23 of the Safety Regulations, an aisle, which leads from the entrance to any seat, to be mounted on motor vehicles with a passenger capacity of 11 persons or more (except emergency motor vehicles), buses used for passenger carrying business with a passenger capacity of 10 persons or less and infant-carrying motor vehicles shall have an effective width of 300 mm or more (effective width when the spare seats are folded away if such seats exist in the aisle) and an effective height of 1,600 mm or more (1,200 mm if the shortest distance in the direction of the longitudinal centre line of the motor vehicle between the front edge of all seats concerned with the said aisle and the nearest entrance is less than 2 m). However, this provision shall not apply to the seats directly accessible from the entrance.

2. The “effective width” and “effective height” provided for in the

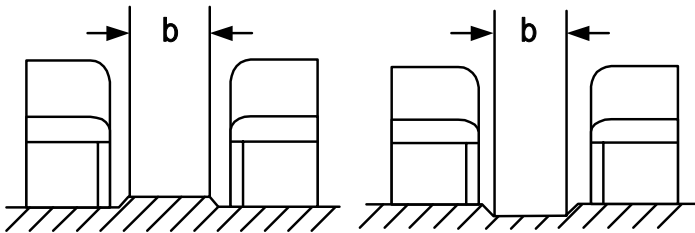
preceding Paragraph shall be the width and height of those sections which can be used effectively as the aisles. In cases where the effective width of the aisle varies because of the slide, etc. of the seats, the effective width shall be the value at a setting where the effective width of the aisle becomes the minimum value.

(Example)

A. Effective width

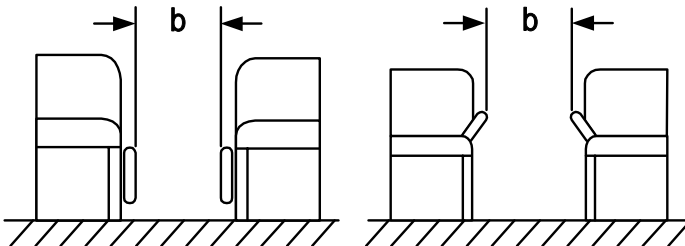
(1) Cases where aisle and seat floor surface differ in height:

b: Effective width



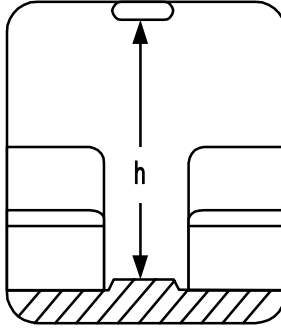
(2) Cases where part of seat protrudes above aisle:

b: Effective width



B. Effective height

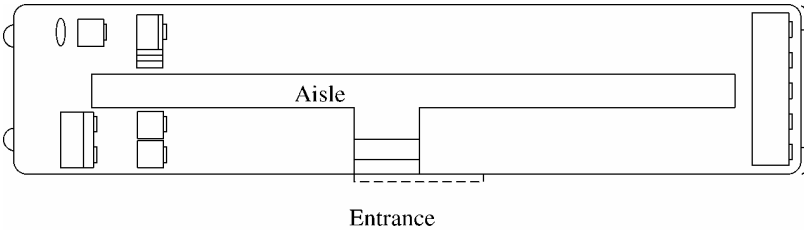
b: Effective width



3. Those seats whose positional relationship with the aisle which leads from the entrance to the seat comes under one of the following Items given below shall be regarded as “leading to any seat” provided for in Paragraph 1 in respect to the seat concerned.

- (1) Seats whose side is adjacent to the aisle or seats which are located near the aisle.
- (2) The most forward front-facing seats (except those specified in the preceding Item), the orthogonal projection of whose seatback on the floor surface is adjacent to the aisle or is located near the aisle.
- (3) Side-facing seats or the most rearward seats, etc. where the floor surface to be used for the seat concerned is adjacent to the aisle.
- (4) Seats which are provided next to those specified in Item (1) through the preceding Item and whose seating capacity is up to two persons, respectively.

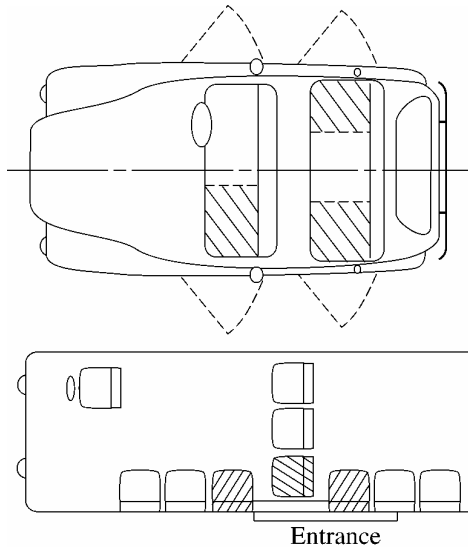
(Referential diagram)



4. The following seats readily accessible from the entrance shall be regarded as “seats directly accessible from the entrance” provided for in the proviso of Paragraph 1.

- (1) Seats provided next to the entrance.
- (2) Seats provided next to the side of those seats specified in preceding Item and whose seating capacity is up to two persons, respectively.

(Referential diagram)



(Note) Those shaded portions denote seats provided next to the entrance.

5. In applying the provision of Paragraph 1, the floor surface to an extent of 250 mm from the front edge of a seat shall be regarded as the floor surface to be used exclusively for a seat.

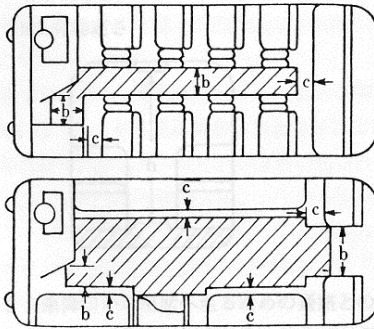
Article 190 (Standing Space)

1. The floor surface prescribed in the Announcement in the passenger compartment where a standing space can be provided pursuant to the provision of Paragraph 1 of Article 24 of the Safety Regulations shall be a floor surface having an effective width of 300 mm or more and an effective height of 1,800 mm or more in the passenger compartment, other than floor surfaces used exclusively for seats. However, this provision shall not apply to the standing space of an emergency motor vehicle, the standing space used for a conductor, the standing space equivalent to this, or the standing space used for the driver's assistant.

2. With regard to the application of the provision of the preceding Paragraph, the floor surface to an extent of 250 mm from the front edge of a seat shall be regarded as the floor surface to be used exclusively for a seat.

3. In Paragraph 1, the "effective width" and "effective height" shall be the width and height of the section which can be used effectively as the standing space in the passenger compartment. When the height of the vehicle compartment is measured, grip bars, straps, individual interior lamps, etc. installed to the ceiling of the vehicle compartment shall be regarded as not being installed. Moreover, in the case of motor vehicles having protrusions with a certain width and length, such as line light and ventilation duct, in which the height from the floor surface to the lower surface thereof is less than 1,800 mm, the projected area of the construction objects concerned shall be subtracted from the area of the aisle.

(Referential diagram)



b: 30 cm or more
c: 25 cm

Note: Those shaded portions denote sections for the standing space.

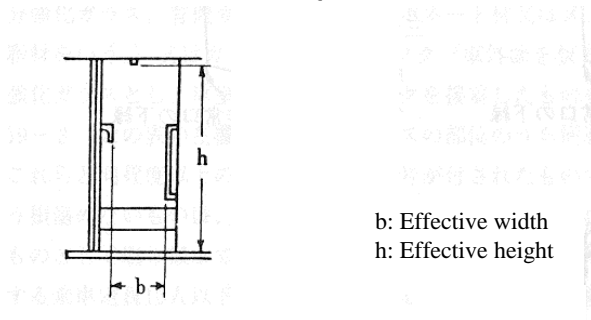
4. Infant-carrying vehicles shall not be provided with standing space.
5. The area prescribed in the Announcement in connection with the space to be occupied by one standee pursuant to the provision of Paragraph 3 of Article 24 of the Safety Regulations shall be 0.14 m^2 .

Article 191 (Entrance)

1. The entrance of a passenger compartment shall be provided with a door which can be securely closed pursuant to the provision of Paragraph 3 of Article 25 of the Safety Regulations. However, this provision shall not apply to an entrance which is provided with such devices as chain and rope, to prevent passengers from falling out while the motor vehicle is running.
2. The requirements prescribed in the Announcement of Paragraph 4 of Article 25 of the Safety Regulations in connection with the construction of doors provided at entrances shall be that the entrance door shall be constructed not to open easily when the motor vehicle receives an impact by collision, etc. In this case, the doors enumerated below which exhibit no damage liable to hamper their functions and strength shall be regarded as complying with the requirements prescribed in this Item.
 - (1) Doors having the same construction and provided at the same position as the doors mounted on designated motor vehicles, etc.

- (2) Those for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or those having the performance equivalent to it.
3. The requirements prescribed in the Announcement of Paragraph 5 of Article 25 of the Safety Regulations in connection with the size, construction, etc. of entrances shall be the requirements prescribed in each of the following Items. However, this provision shall not apply to an entrance only for the seats directly accessible from the entrance.
- (1) The effective width (referring to the width of the section which can be used effectively as the entrance. Hereinafter the same in this Article) of an entrance shall be 600 mm or more;
- (2) The effective height (referring to the height of the section which can be used effectively as the entrance. Hereinafter the same in this Article) of an entrance shall be 1,600 mm or more (1,200 mm or more in the case of a motor vehicle whose effective height on an aisle may be reduced to 1,200 mm under the provision of Paragraph 1 of Article 189);

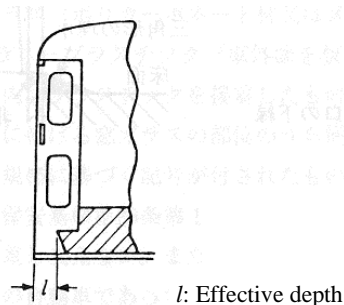
(Referential diagram)



- (3) The entrance of a motor vehicle whose floor height exceeds, in the unloaded state, 450 mm above the ground shall be provided with steps, each of which is 400 mm or less (450 mm in the case of the lowermost step) in height;
- (4) The steps at an entrance shall be constructed so they do not cause passengers to slip;
- (5) In the case of the entrance in Item (3), an entrance railing to secure safe boarding and alighting shall be provided.

4. The requirements prescribed in the Announcement of Paragraph 6 of Article 25 of the Safety Regulations in connection with the size, construction, etc. of entrances of infant-carrying motor vehicles shall be the requirements prescribed in each of the following Items. However, this provision shall not apply to an entrance only for the seats directly accessible from the entrance.

- (1) The entrance of a motor vehicle whose floor height exceeds, in the unloaded state, 300 mm above the ground shall be provided with steps, each of which is 200 mm or less (300 mm in the case of the lowermost step) in height and also 200 mm or more in effective depth (which means the depth of the section of a step which can be used effectively during entry/exit and a horizontal distance between the front end of a step and that of the next step; hereinafter the same). However, in cases where it is difficult for a step other than the lowermost one to have the said dimension, due to the doors, etc., it may be constructed so that it has an effective depth of 200 mm or more at the part where an effective width of the entrance is as long as 350 mm or more;



- (2) The requirements of the preceding Paragraph (except Item (3)) shall apply mutatis mutandis to the entrance and steps.

Article 192 (Emergency Exits)

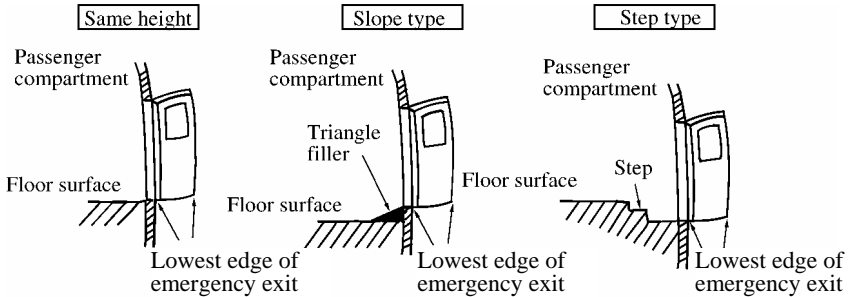
The requirements prescribed in the Announcement of Paragraph 1 of Article 26 of the Safety Regulations in connection with the installation position, size, etc. of emergency exits shall be the requirements prescribed in each of the following Items:

- (1) The emergency exit shall be located on the right side at the rear

(referring to those sections located back from the centre of the passenger compartment on the right side in the longitudinal direction) or on the rear of the passenger compartment. In this case, those emergency exits whose centre of the effective width is located back from the rear on the right side shall be regarded as complying with this requirement;

- (2) The emergency exit of a motor vehicle with a passenger capacity of 30 persons or more, except the case of the next Item and Item (4), shall be 400 mm or more in effective width and 1,200 mm or more in effective height;
- (3) In unavoidable cases due to the protrusion of wheel covers, etc. next to an emergency exit, the emergency exit located on the right side at the rear of the passenger compartment shall be 250 mm or more in effective width at the part up to the height of 450 mm above the floor surface and 400 mm or more at other parts in effective width, and moreover 1,200 mm or more in effective height;
- (4) In unavoidable cases (except the case of the preceding Item) due to the presence of forward-facing seats next to an emergency exit, the emergency exit located on the right side at the rear of the passenger compartment shall be 300 mm or more in effective width at the part up to the height of 650 mm and 400 mm or more in effective width at other parts in effective width, and moreover 1,300 mm or more in effective height;
- (5) The emergency exit of an infant-carrying vehicle with a passenger capacity of less than 30 persons shall be 300 mm or more in effective width and 1,000 mm or more in effective height;
- (6) The emergency exit shall have an outward opening door which can be securely closed under normal conditions and which may be opened from both inside and outside of the passenger compartment without using any key or other special tool in the event of fire, collisions and other emergencies. In this case, the door will not be closed by its own weight after it is opened;
- (7) Any obstacles, such as the bumper, drawing hooks, and any other object which is liable to hamper exiting, shall not protrude around the emergency exit and no step shall be provided between the lower edge of the exit and the floor. In this case, the phrase “no step shall be provided between the lower edge of the exit and the floor” shall mean a construction whereby no person is likely to stumble while exiting. The

emergency exits shown in the following figures shall be regarded as complying with this requirement;



- (8) The seat near the emergency exit shall be easily detached or folded so as not to obstruct escape. In this case, the phrase “not to obstruct escape” shall refer to a seat, in the detached or folded state, where the effective width and effective height of the section from the aisle to the emergency exit comply with the requirements of Item (5) in the case of the motor vehicles specified in the said Item; the requirements of Items (2), (3) or (4) in the case of other motor vehicles, and such construction which makes it possible to retain the conditions above.

2. On motor vehicles provided with an emergency exit, the location of the emergency exit and the method of opening the door shall be legibly indicated at or near the emergency door pursuant to the provision of Paragraph 2 of Article 26 of the Safety Regulations. When a lamp is used to indicate the location of the emergency exit, the colour of the light shall be green.

3. Motor vehicles provided with an emergency exit shall be equipped with a warning device to notify the driver when the door of the emergency exit is opened pursuant to the provision of Paragraph 3 of Article 26 of the Safety Regulations.

Article 193 (Goods-Loading Accommodation)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 27 of the Safety Regulations in connection with the strength, construction, etc. of goods-loading accommodations, such as loading platforms, shall be that the goods-loading accommodation of a motor vehicle,

such as loading platforms, shall be secure and be constructed so that goods can be loaded safely and securely. In this case, those enumerated in each of the following Items shall be regarded as not complying with this requirement:

- (1) Goods-loading accommodations, such as loading platforms, which exhibit severe damage;
- (2) Loading platforms (only limited to loading platforms which can be tilted. Hereinafter the same in this Paragraph) of motor vehicles used exclusively for transport of soil and sand (except motor vehicles provided for in the next Paragraph. Hereinafter the same in this Paragraph.), where the value that is obtained by dividing the maximum loading capacity of the motor vehicle concerned by the capacity of the loading platform concerned (values of less than 0.1 m^3 shall be discarded) is less than 1.5 tons/m^3 in the case of ordinary-sized motor vehicles, 1.3 tons/m^3 in the case of small-sized motor vehicles;
- (3) Loading platforms of motor vehicles other than those specified in the preceding Item, having the attaching metal ware of inserting frames;
- (4) In the case of motor vehicles used exclusively for transport of soil and sand, which do not come under the categories specified in Items (2) and (3), loading platforms where parts, such as rear gate panels and side gate panels, of the loading platform are higher than the remaining parts and those designed for aiming at overloading in excess of the maximum loading capacity.

2. The goods-loading accommodation prescribed in the Announcement of Paragraph 2 of Article 27 of the Safety Regulations in connection with large-sized motor vehicle for transport of sand, etc. provided for in Article 4 of the “Special Measures Act for Prevention of Traffic Accidents by Large-sized Motor Vehicles for Transport of Sand, etc.” (Law No. 131 of 1967) shall be the devices prescribed in each of the following Items:

- (1) Loading platforms of a motor vehicle, where the value that is obtained by dividing the maximum loading capacity of the motor vehicle concerned by the capacity of the loading platform concerned (values of less than 0.1 m^3 shall be discarded) is less than 1.5 tons/m^3 ;
- (2) Loading platforms of motor vehicles other than those specified in the preceding Item, having the attaching metal ware of inserting frames;
- (3) Loading platforms of motor vehicles which do not come under the categories specified in each of the preceding Items, where parts, such

as rear gate panels and side gate panels, of the loading platform are higher than the remaining parts and those designed for aiming at overloading in excess of the maximum loading capacity.

Article 194 (High-Pressure Gas Transport Devices)

The requirements prescribed in the Announcement of Article 28 of the Safety Regulations in connection with the strength, installation method, etc. of the gas transport device of a motor vehicle for the transport of high-pressure gas shall be the requirements prescribed in each of the following Items:

- (1) For gas-transporting containers, the requirements of Items (1) and (5), Paragraph 1 of Article 176 shall apply mutatis mutandis;
- (2) For the piping of a gas transport device, the requirements of Items (5) through (7) and (9), Paragraph 1 of Article 176 shall apply mutatis mutandis;
- (3) For parts where the gas comes in contact with the gas transport device, the requirement of Item (8), Paragraph 1 of Article 176 shall apply mutatis mutandis;
- (4) For the installation of the gas transport device and piping, the requirement of Item (4), Paragraph 1 of Article 176 shall apply mutatis mutandis;
- (5) The gas-filling valve shall be located near the gas-filling inlet port, and the gas-feeder valve shall be near the gas-feeder outlet port;
- (6) In the case of a gas-transporting containers for transportation of poisonous gas (except liquefied gas) in Item (2) of Article 2 of the "Safety Regulations for General High-Pressure Gases," a pressure gauge, which indicates the pressure of each container, shall be provided in a position easily seen by the driver for each group of containers partitioned by gas stopper valves
- (7) The pressure gauge in the preceding Item shall be graduated from zero to the value 1.5 times or more, but twice or less of the gas filling pressure;
- (8) The pressure gauge in Item (6) shall either be provided with lighting equipment or a plate or pointer painted with self-illuminating paint.

Article 195 (Window Glass)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 29 of the Safety Regulations in connection with the safety glass, etc. of the window glass shall be the laminated glass, toughened glass, zone toughened glass, organic glass (referring to hard synthetic resin material, such as polycarbonate material or methacrylic material), or glass-plastic (referring to one in which sheet glass, laminated glass or toughened glass is used for the vehicle outside surface, whereas plastic is affixed to the vehicle inside surface). In this case, the “place prescribed in the Announcement to be where there is less possibility that occupants be insured by pieces of glass concerned” of the proviso of Paragraph 1 of Article 29 of the Safety Regulations shall be the place separated from the driver’s compartment and passenger compartment by a partition wall which will not allow fragments of a broken glass to easily pass through.

2. The requirements prescribed in the Announcement of Paragraph 2 of Article 29 of the Safety Regulations in connection with the strength, etc. of the windshield glass of motor vehicles (except large-sized special motor vehicles, small-sized special motor vehicles for agricultural use, motor vehicles with a maximum speed of less than 20 km/h and trailers) shall be the requirements prescribed in each of the following Items:

- (1) The windshield glass shall, even when the glass is broken, ensure the driver’s view;
- (2) The windshield glass shall not be penetrated easily.

3. The requirements prescribed in the Announcement of Paragraph 3 of Article 29 of the Safety Regulations in connection with the distortion of the windshield glass and side glass of motor vehicles (except trailers), the rate of visible light transmission, etc. shall be the requirements prescribed in each of the following Items:

- (1) The glass shall be transparent and free from any distortion obstructing the driver’s view;
- (2) The rate of visible light transmission at those sections concerned with the range of the driver’s view necessary for recognizing the traffic conditions shall be 70% or more.

4. The sections prescribed by the Announcement of Paragraph 3 of Article

29 of the Safety Regulations shall be those sections at the rear of the driver's seat. In this case, the ranges enumerated in each of the following Items shall be regarded as sections at the rear of the driver's seat:

- (1) Side glass of those seats, etc. at the rear of the driver's seat;
- (2) Side glass located at the rear side of a vertical plane that is including the forward edge of the head restraint provided at the driver's seat (the forward edge at the top of the seatback provided at the driver's seat in the case of a motor vehicle without a head restraint at the driver's seat; and the rear edge of the driver's head under normal driving posture in the case of a motor vehicle without a head restraint and a seatback at the driver's seat) and is perpendicular to the motor vehicle longitudinal centre line. Here, in the case of the driver's seat equipped with a sliding mechanism, etc., the driver's seat shall be adjusted to the most backward position. In the case of the seatback of the driver's seat equipped with a reclining mechanism, the seatback shall be adjusted to such an angular position that is as close to 25 degrees as possible in the backward direction from the vertical line.

5. The substance prescribed in the Announcement of Item (6), Paragraph 4 of Article 29 of the Safety Regulations in connection with mounting, affixing, painting or stamping to the window glass shall be those enumerated in each of the following Items:

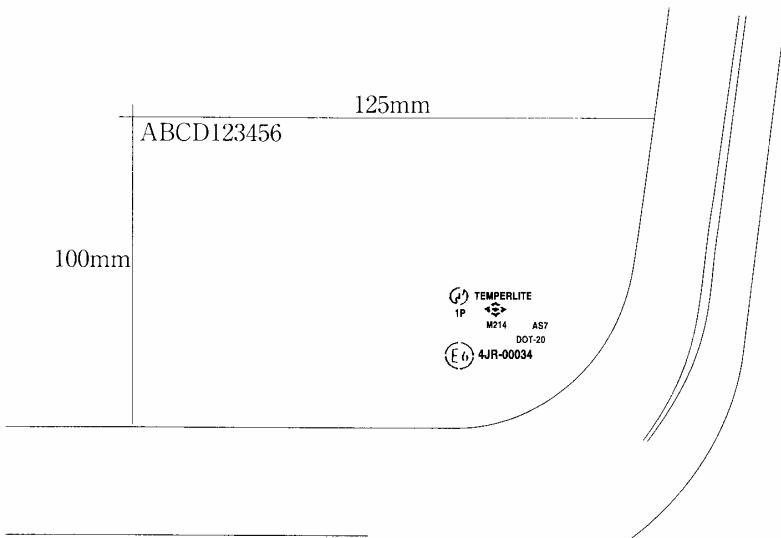
- (1) Affixed-type rear-view mirrors provided in the vehicle compartment;
- (2) Equipment used for communicating with the communication facilities provided on the road, etc., cameras used to obtain information about the road and traffic conditions, equipment which measures the distance relative to other vehicles, sensors which actuate the wipers automatically when sensing raindrops, etc., or sensors which detect the receiving light amount and actuate automatically the headlamps, position lamps, etc., which meet the following requirements enumerated below:
 - A. In the case of motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less (hereinafter referred to as the "passenger motor vehicles" in this Article), it shall be affixed within the range set forth in the following Item ① or ②.

- ① When the driver in his seat views the front from the point V provided for in Paragraph 2-9 of Attachment 37 "Technical

Standard for Window Glass,” the range on the windshield glass screened by the interior rear-view mirror.

- ② The range other than the test zone B of the windshield glass (hereinafter referred to as the “test zone B”) provided for in Paragraph 2-8 of Attachment 37 “Technical Standard for Window Glass” and the area which is produced by enlarging the test zone B in the horizontal direction of the windshield glass.
- B. In the case of motor vehicles other than passenger motor vehicles, it shall be affixed within the range set forth in the following Item ① or ②.
- ① When the driver in his seat views the front from the point O provided for in Paragraph 2-9 of Attachment 37 “Technical Standard for Window Glass,” the range on the windshield glass screened by the interior rear-view mirror.
 - ② The range other than the test zone I of the windshield glass (hereinafter referred to as the “test zone I”) provided for in Paragraph 2-8 of Attachment 37 “Technical Standard for Window Glass” and the area which is produced by enlarging the test zone I in the horizontal direction of the windshield glass.
- (3) Antennas affixed on the windshield glass to receive public radio waves. In this case, the requirements of the following Items A and B shall be met in the case of passenger motor vehicles in which the antenna is affixed on the test zone A of the windshield glass (hereinafter referred to as the “test zone A”) provided for in Paragraph 2-8 of Attachment 37 “Technical Standard for Window Glass” or the test zone B; and the requirements of the following Item C shall be met in the case of motor vehicles other than passenger motor vehicles in which the antenna is affixed on the test zone I.
- A. When affixed on the test zone A, the width of the equipment shall be 0.5 mm or less and the number of pieces of the equipment shall not exceed three.
 - B. When affixed on the test zone B, the width of the equipment shall be 1.0 mm or less.
 - C. When affixed on the test zone I, the width of the equipment shall be 1.0 mm or less.

- (4) Equipment which prevents the wipers from freezing and which meets the following requirements enumerated below:
 - A. In the case of passenger motor vehicles, the equipment concerned shall be affixed in the range below the lower edges of the test zone B and the area which is produced by enlarging the test zone B in the horizontal direction of the windshield glass.
 - B. In the case of motor vehicles other than passenger motor vehicles, the equipment concerned shall be affixed in the range below the lower edges of the test zone I and the area which is produced by enlarging the test zone I in the horizontal direction of the windshield glass.
- (5) Markings for the motor vehicle registration issued by the stationed military police;
- (6) Besides those enumerated in each of the preceding Items, such substances which are transparent and also ensure the rate of visible light transmission of 70% or more at those sections concerned with the range of the driver's view necessary for recognizing the traffic conditions under a mounted, affixed or painted condition;
- (7) Markings indicating that a motor vehicle is equipped with a theft-control device or characters and codes stamped on the window glass for preventing the theft of the motor vehicle, which are affixed or stamped in such a way that the height of the upper edge of the marking or stamp is 100 mm or less from the lower edge of the glass opening section (except those sections overlapped with the weather strips and moldings as well as sections covered with masking. Hereinafter the same in this Article.) near the side glass and that the front edge of the marking or stamp is within 125 mm from the rear edge of the glass opening section near the side glass;



6. “The range of the driver’s view necessary for recognizing the traffic conditions” provided for in Item (7) of the preceding Paragraph shall be a range other than the ranges prescribed in each of the following Items (except those ranges necessary for recognizing the rear-view mirrors in Paragraph 1 of Article 44 of the Safety Regulations and the mirrors and other devices in Paragraph 5 of the same Article as well as, among the window glass of a motor vehicle in the proviso of the said Paragraph, those ranges necessary for directly recognizing obstacles in the said Paragraph).

- (1) Ranges within 20% of the actual length, at the upper edge of the windshield glass, of the glass opening on the vertical plane that is parallel to the motor vehicle longitudinal centre line;
- (2) For side glass, ranges of the window glass located at the upper part of the door, etc. provided at the side of the motor vehicle;
- (3) For side glass, ranges of the window glass located at the lower part of the door, etc. provided at the side of the motor vehicle;
- (4) Besides those ranges specified in the preceding Items, of the window glass of the doors at the side of motor vehicles with a passenger capacity of 11 persons or more or motor vehicles whose shape is

similar to that of motor vehicles with a passenger capacity of 11 persons or more, ranges below a horizontal plane which includes the seating surface of the driver's seat.

7. If the driver can recognize the objects enumerated in each of the following Items under a mounted, affixed or painted condition on the window glass, those objects shall be regarded as "being transparent" as in Item (7) of Paragraph 3.

- (1) For those sections concerning the driver's view necessary for recognizing the traffic conditions, other motor vehicles, pedestrians, etc.;
- (2) In the case of Items (1) and (2) of the preceding Paragraph, traffic signals;
- (3) In the case of Items (3) and (4) of the preceding Paragraph, pedestrians, etc.

8. Window glass having the same construction and provided at the same position as window glass mounted on designated motor vehicles, etc. which exhibits no damage, etc. liable to hamper its function shall be regarded as complying with the requirements of Paragraphs 1, 2 and 3.

9. Window glass at those positions specified in the left column of the following table, which bears those marks posted in the right column of the said table or marks based on the equivalent or higher standards and which exhibits no damage, etc. liable to hamper its performance, shall be regarded as complying with the requirements of Paragraphs 1, 2 and 3.

Installation position of window glass	Marks on glass		
	Window glass complying with JIS R-3211 "Safety Glass for Road Vehicles"	Window glass complying with ECE Regulation No. 43	Window glass complying with provisions of FMVSS No. 205 and ANSZ 26.1 which is based thereon
(1) Windshield glass other than that specified in Item (2)	L	" E 43R – , " " E 43R – , iv E 43R – ,	AS1, AS14
(2) Windshield glass of large-sized special motor vehicles and motor vehicles with a maximum speed of less than 20 km/h	L, Ḷ, Z, T	" E 43R – , " " E 43R – , iv E 43R – , vii E 43R – ,	AS1, AS2, AS14
(3) Of side glass (except those sections at rear of driver's seat), sections concerned with field of vision necessary for driver to recognize traffic conditions.	L, Ḷ, T	E 43R – ,	AS1, AS2, AS4, AS14, AS15
(4) Window glass other than those specified in Items (1), (2) and (3)	L, Ḷ, T	E 43R – , v E 43R – ,	AS1, AS2, AS3, AS4, AS5, AS8, AS9, AS10, AS11, AS12, AS14, AS15, AS16

Article 196 (Noise Control Device)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 30 of the Safety Regulations in connection with the construction, noise level, etc. so that motor vehicles (except trailers. Hereinafter the same in this Article) may not emit considerable noise shall be the requirements prescribed in each of the following Items.

- (1) Motor vehicles shall be so constructed that the steady running noise level, expressed in dB, that has been measured according to the method

prescribed in Attachment 39 “Measurement Procedure for Steady Running Noise Level” may not exceed 85 dB;

- (2) Motor vehicles (except motor vehicles equipped with no exhaust pipe, and motor vehicles equipped with an exhaust pipe, but whose engine will not operate when the motor vehicle is in a stopped state) posted in the “Category of motor vehicles” column of the following table shall be so constructed that the proximity stationary noise level, expressed in dB, that has been measured according to the method prescribed in Attachment 38 “Measurement Procedure for Proximity Stationary Noise Level” may not exceed the noise level posted in the “Noise level” column of the following table, respectively;

Category of motor vehicles		Noise level
Large-sized special motor vehicles and small-sized special motor vehicles		110
Ordinary-sized motor vehicles, small-sized motor vehicles and mini-sized motor vehicles (except motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less and motor cycles (including those with sidecar; the same applies hereinafter in this Article))	With a gross vehicle weight exceeding 3.5 tons and a maximum engine output exceeding 150kW	99
	With a gross vehicle weight exceeding 3.5 tons and a maximum engine output of 150kW or less	98
	With a gross vehicle weight of 3.5 tons or less	97
Ordinary-sized motor vehicles, small-sized motor vehicles and mini-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less (except motor cycles)	Those having engine at rear end thereof	100
	Other than those having engine at rear end thereof	96
Small-sized motor vehicles and mini-sized motor vehicles (limited to motor cycles)		94

2. The requirements prescribed in the Announcement of Paragraph 2 of Article 30 of the Safety Regulations in connection with the construction, noise control performance, etc. so that the silencer mounted on a motor vehicle having an internal combustion engine as the prime mover controls generation of noise effectively shall be the requirements prescribed in each of the following Items:

- (1) The whole or a part of the silencer shall not be removed;
- (2) The main body of the silencer shall not be cut off;
- (3) The noise reducing mechanism provided inside the silencer shall not be removed;
- (4) The silencer shall exhibit no damage and corrosion.

[Exhaust Emission Regulations]

Article 197 (Emission Control Device)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 31 of the Safety Regulations in connection with the emission control performance on carbon monoxide, hydrocarbons, nitrogen oxides, particulate matters and diesel smoke contained in the exhaust emission emitted from the exhaust pipe of a motor vehicle to the atmosphere shall be the requirements prescribed in each of the following Items.

[Idling Regulations for Gasoline•LPG Motor Vehicles]

- (1) Gasoline- or liquefied petroleum gas-fueled ordinary-sized motor vehicles, small-sized motor vehicles and mini-sized motor vehicles shall comply with the following requirements:

The measured value (The measurement shall be conducted with a probe (the exhaust gas sampling part of an apparatus for measuring carbon monoxide or hydrocarbons) inserted about 60 cm into the exhaust pipe of a warmed-up motor vehicle. However, if it is difficult to perform the measurement with the probe inserted about 60 cm deep, the measurement shall be conducted by taking steps to prevent the admission of open air.) of carbon monoxide, expressed in volumetric ratio, and the measured value of hydrocarbons, expressed in volumetric ratio by normal-hexane equivalent, contained in the exhaust emission generated when the engine is in idling operation and emitted from the exhaust pipe to the atmosphere shall not exceed the value posted in the “Carbon monoxide” and “Hydrocarbons” columns of the following table, respectively, according to the category of motor vehicle posted in the left column of the same table.

Category of motor vehicles	Carbon monoxide	Hydrocarbons
A. Motor vehicles with a two-cycle engine	4.5%	7,800 ppm
B. Motor cycles with a four-cycle engine (including motor cycles with sidecar, hereinafter the same in this Article)	4.5%	2,000 ppm
C. Mini-sized motor vehicles with a four-cycle engine (except motor cycles)	2%	500 ppm
D. Motor vehicles other than those posted in Items A through C	1%	300 ppm

[Unloaded Rapid Acceleration Diesel Smoke Regulations for Diesel Motor Vehicles]

- (2) Diesel-powered motor vehicles shall comply with the following requirements:

The degree of pollution by diesel smoke contained in the exhaust emission generated since the time when the acceleration is started during the rapid acceleration while the engine is operated under the unloaded condition according to the operating conditions provided for in Attachment 46 “Measurement Procedure for Diesel Smoke During Rapid Acceleration Under Unloaded Condition” and emitted from the exhaust pipe to the atmosphere shall be 25% or less (40% or less in the case of large-sized special motor vehicles and small-sized special motor vehicles).

[Maintenance Regulations for Function of Exhaust Emission Control Device]

2. The requirements prescribed in the Announcement of Paragraph 3 of Article 31 of the Safety Regulations in connection with the construction, function, performance, etc. of the exhaust emission control device to be mounted on a motor vehicle in order to comply with the provisions of Paragraph 1 of Article 41 or Paragraph 1 of Article 119 that will not hamper the function of the said device and other devices shall be the requirements prescribed in each of the following Items. However, the provisions of Items (2) through (4) shall not apply to motor cycles as well as diesel-powered large-sized special motor vehicles and small-sized special motor vehicles.

- (1) The device shall be constructed so that it may function efficiently while the engine is in operation. However, any of the Items enumerated below (those in Item C in the case of motor vehicles which, according to a document describing the results of tests conducted by a public

testing institute, evidently comply with the applicable requirements of Paragraph 1 of Article 41 or Paragraph 1 of Article 119 according to the category of the motor vehicle) shall be regarded as not complying with this requirement:

- A. Exhaust emission control devices from which the catalytic converter, exhaust gas recirculating device, oxygen sensor, secondary air intake device, etc. (including the pipes and wires of these devices. Hereinafter referred to as the “catalyst, etc.”) are removed;
 - B. Exhaust emission control devices in which the electronic control type fuel feed system is substituted by a mechanical type fuel feed system;
 - C. Exhaust emission control devices in which the catalyst, etc. is not installed securely or is damaged.
- (2) The device shall have heat-shields or other appropriate measures in order not to hamper the function of other devices when the temperature of the device concerned has risen. However, this requirement shall not apply to motor vehicles equipped with an ignition device whose contact breaker is of no-contact type. Furthermore, those enumerated in Items A and B below shall be regarded as complying with this requirement:
- A. Heat-damage warning devices which comply with the following Items ① and ② in terms of the identity with the heat-damage warning device, etc. mounted on designated motor vehicles, etc. or motor vehicles which, according to a document describing the results of tests conducted by a public testing institute designated separately, evidently comply with the requirements of Paragraph 1 of Article 41 or Paragraph 1 of Article 119:
 - ① The exhaust pipe and catalytic converter shall be installed in the same position.
 - ② The heat shield of the catalytic converter shall have the same construction.
 - B. Heat-damage warning devices which are installed securely and are not damaged.
- (3) The device shall have a warning system which gives a warning to the

driver in his seat when the temperature of the device concerned has risen or is likely to rise beyond the temperature at which it may likely hamper the function of the device itself or other devices (hereinafter referred to as the “abnormal temperature”). However, this requirement shall not apply to motor vehicles equipped with a device that prevents the temperature of the device concerned from rising beyond the abnormal temperature and motor vehicles equipped with an ignition device whose contact breaker is of no-contact type. Furthermore, any of the Items enumerated below shall be regarded as complying with this requirement:

- A. Heat-damage warning devices having the same construction and provided at the same position as those mounted on designated motor vehicles, etc. which exhibit no damage;
 - B. Heat-damage warning devices which, according to a document certified by a public testing institute, evidently comply with the applicable requirements of Paragraph 1 of Article 41 or Paragraph 1 of Article 119 according to the category of the motor vehicle.
- (4) The device shall have a warning system which gives a warning to the driver in his seat when the function of the device concerned has failed. Furthermore, any of the Items enumerated below shall be regarded as not complying with this requirement:
- A. Warning devices which will not emit any warning when the power supply is turned on;
 - B. Warning devices which, when the engine is started, will not stop warning that has been emitted at the time when the power supply was turned on;
 - C. Warning devices which produce warning that cannot be recognized readily at the driver’s seat.

[Blow-by Gas Regulations]

3. As regards the blow-by gas recirculation device to be mounted on ordinary-sized motor vehicles, small-sized motor vehicles and mini-sized motor vehicles having an internal combustion engine as the prime mover, fueled by gasoline, liquefied petroleum gas or diesel fuel, the requirements prescribed in the Announcement of Paragraph 4 of Article 31 of the Safety Regulations in connection with its function, performance, etc. of preventing

the emission of hydrocarbons, etc. shall be that its installation is secure and exhibits no damage.

[Fuel Evaporative Gas Regulations for Gasoline Motor Vehicles]

4. For gasoline-fueled ordinary-sized motor vehicles, small-sized motor vehicles (except motor cycles) and mini-sized motor vehicles (except motor cycles), the requirements prescribed in the Announcement of Paragraph 5 of Article 31 of the Safety Regulations in connection with the emission mass of hydrocarbons evaporated from the motor vehicle concerned and its fuel in order to effectively prevent the emission of hydrocarbons shall be that a device having the performance equivalent to or more than that of the fuel evaporative emission control device that has been mounted at the time when the motor vehicle concerned was subjected to the completion inspection, etc. or the initial inspection, etc. Moreover, those in which the device controlling the emission of fuel evaporative gas is not mounted securely or exhibits damage shall be regarded as not complying with this requirement.

[Air Conditioning System Requirements]

5. The requirements prescribed in the Announcement of Paragraph 6 of Article 31 of the Safety Regulations in connection with the installation position, installation method, etc. of the air conditioning system to be unlikely to injure occupants shall be the requirements prescribed in each of the following Items.

- (1) The piping (except the parts protected by a cover from damage) shall not be located in the passenger compartment;
- (2) The safety devices shall be mounted so that the gas may not be discharged to the vehicle compartments.

[Exhaust Pipe Requirements]

6. The requirements prescribed in the Announcement of Paragraph 7 of Article 31 of the Safety Regulations in connection with the installation position, installation method, etc. of the exhaust pipe to be unlikely to injure occupants, etc. by the exhaust gas, etc. emitted from the exhaust pipe of a motor vehicle and not to hamper the function of the brake system, etc. shall be the requirements prescribed in each of the following Items.

- (1) No exhaust pipe shall have its opening directed rightwards or leftwards. Moreover, the opening of the exhaust pipe which has an inclination not exceeding 30° rightwards or leftwards in relation to the vertical plane

including the motor vehicle longitudinal centre line and is recognized that the emitting gases are not likely to affect other traffic adversely shall be regarded as complying with this requirement.

- (2) No exhaust pipe shall have its opening at such a position that the indication of the numbers, etc. on the motor vehicle registration number plate of Paragraph 1 of Article 11 of the Act or the vehicle number plate of Paragraph 1 of Article 73 of the Act (including cases where it applies *mutatis mutandis* in Paragraph 2 of Article 97-3 of the Act) is hampered by the emitting gases, etc.
- (3) No exhaust pipe shall be located in the vehicle compartment.
- (4) No exhaust pipe shall set fire on the motor vehicle (including a trailer drawn by the motor vehicle concerned) or the loaded goods and shall hamper the function of other systems, such as the brake system and electrical system, because of the interference with the exhaust pipe or emitting exhaust gas, etc. Moreover, exhaust pipes which are not mounted securely or exhibit damage shall be regarded as not complying with this requirement.

Article 198 (Headlamps, etc.)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 32 of the Safety Regulations in connection with the colour of light, brightness, etc. of the headlamps with driving beam shall be the requirements prescribed in each of the following Items.

- (1) The headlamps with driving beam, when all lit at the same time, shall be capable of illuminating with such an intensity that the driver may discern any traffic obstacle on the road at a distance of 100 m (50 m for those installed to motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, and large-sized special motor vehicles with a maximum speed of less than 35 km/h and small-sized special motor vehicles for agricultural use) ahead of them in the nighttime. In this case, for motor vehicles manufactured on or before August 31, 1998, and motor cycles with or without sidecar that were manufactured on or after September 1, 1998, motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, large-sized special motor vehicles with a maximum speed of less than 35 km/h and small-sized special motor vehicles for

agricultural use, the measurement shall be conducted in accordance with the measuring conditions of Item A. by means of a headlamp tester (for driving beam) (by other appropriate methods when it is difficult to conduct the inspection by means of a headlamp tester). Headlamps with driving beam that comply with the evaluation of measured values of Item B. shall be regarded as complying with these requirements.

A. Measuring conditions

- ① The test vehicle shall be under a straight-ahead condition and the motor vehicle conditions at time of inspection;
- ② In the case of motor vehicles equipped with a manual headlamp aiming direction adjusting device, the operation device of the said device shall be adjusted so that the condition of Item ① may be obtained.
- ③ The battery shall be charged and the engine shall be running.
- ④ The light-receiving unit of the headlamp tester (for driving beam) shall face normally the headlamp with driving beam.
- ⑤ In cases where there is the possibility that proper measurement is hindered, those lamps other than the lamps to be measured shall be covered.

B. Evaluation of measured values

- ① In the case of the headlamp with driving beam (main driving beam in the case of a four-unit type headlamp (referring to a headlamp in which four driving beams go on simultaneously; hereinafter the same)) mounted on motor vehicles (except motor vehicles of Item ②, the point where the luminous intensity takes on a maximum value (hereinafter referred to as the “maximum luminous intensity point” in this Item) shall be, at a distance of 10 m in front of the motor vehicle, in the range between the horizontal plane including the centre of the illuminating surface of the headlamp with driving beam and the plane downward from the said horizontal plane by 1/5 of the height of the centre of the illuminating surface concerned.

Furthermore, the luminous intensity of the headlamp with driving beam at the maximum luminous intensity point shall be at least the luminous intensity given below.

- (i) 15,000 cd per lamp in the case of headlamps which, other than the four-unit type headlamps, have such construction that the headlamps with passing beam do not go on simultaneously.
 - (ii) 12,000 cd per lamp in the case of headlamps which, other than the four-unit type headlamps, have such construction that the headlamps with passing beam go on simultaneously. However, in cases where the luminous intensity is less than 12,000 cd, the sum together with luminous intensities of the headlamps with passing beam that go on simultaneously may be 15,000 cd.
 - (iii) In the case of the four-unit type headlamps, the luminous intensity of the main driving beam shall be 12,000 cd per lamp, or the sum together with luminous intensities of other headlamps with driving beam shall be 15,000 cd.
- ② In the case of the headlamp with driving beam (main driving beam in the case of a four-unit type headlamp) mounted on motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, large-sized special motor vehicles with a maximum speed of less than 35 km/h, small-sized special motor vehicles for agricultural use and motor vehicles manufactured on or before September 30, 1960 (except those with a maximum speed of less than 25 km/h), the maximum luminous intensity point of the headlamp with driving beam (in the case of four-unit type headlamps, the main driving beam) shall be, at a distance of 10 m in front of the motor vehicle, in the range between the horizontal plane including the centre of the illuminating surface of the headlamp with driving beam and the plane downward from the said horizontal plane by $\frac{3}{10}$ of the height of the centre of the illuminating surface concerned. Furthermore, the luminous intensity of the headlamp with driving beam at the maximum luminous intensity point shall be at least 10,000 cd per lamp.

- (2) The headlamp with driving beam mounted on motor vehicles with a maximum speed of less than 20 km/h shall have an adequate luminous intensity to ensure safe operation.
- (3) The colour of light of a headlamp with driving beam shall be white.
- (4) Headlamps with driving beam shall not have broken lamps, or lamps whose lens surfaces are badly smeared.
- (5) Headlamps with driving beam shall not have lamps whose lens mountings are loose or exhibit an excessive.
- (6) Only the following headlamps with driving beam which exhibit no damage, etc. liable to hamper their function may be used as adaptive front lighting system with driving beam:
 - A. Adaptive front lighting system with driving beam having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - B. Adaptive front lighting system with driving beam type-designated pursuant to the provision of Paragraph 1 of Article 75-2 of the Act or adaptive front lighting system with driving beam having the equivalent performance.

2. The requirements prescribed in the Announcement of Paragraph 3, Article 32 of the Safety Regulations in connection with the installation position, installation method, etc. of the headlamps with driving beam shall be the requirements provided for in each of the following Items (Item (1) in the case of headlamps with driving beam mounted on motor vehicles with a maximum speed of less than 20 km/h, whose luminous intensity is less than 10,000 cd; Items (1), (4), (5), (6) through (12) in the case of headlamps with driving beam mounted on motor vehicles with a maximum speed of less than 20 km/h, whose luminous intensity is 10,000 cd or more). In this case, the measuring methods for the illuminating surface, numbers and installation position of the headlamps shall be in accordance with the Attachment 94 “Measuring Method of Illuminating Surfaces, Numbers and Installation Positions of Lamps, etc. (Related to Sections 2 and 3 of Chapter 2).”

- (1) The number of headlamps with driving beam shall be two or four. However, the number shall be one or two for motor cycles with or without sidecar; and one, two or four for mini-sized motor vehicle with caterpillar tracks and sleds, motor vehicles with a width of 0.8 m or less (except motor cycles), and motor vehicles with a maximum speed

of less than 20 km/h (except motor cycles with or without sidecar). In this case, an adaptive front lighting system with driving beam may be used at each of the right and left sides of the motor vehicle in the case of motor vehicles other than trailers, motor vehicles with a maximum speed of less than 20 km/h (except motor cycles with or without sidecar), motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, large-sized special motor vehicles with a maximum speed of less than 35 km/h, motor cycles with or without sidecar, small-sized special motor vehicles for agricultural use and mini-sized motor vehicles with caterpillar tracks and sleds.

- (2) For motor vehicles equipped with four headlamps with driving beam (only limited to those where all of them can be retracted when the headlamps are turned off (hereinafter referred to as the “retractable headlamps with driving beam”)), notwithstanding the provisions of the preceding Item, two headlamps intended to give warning by flashing intermittently at a short interval or illuminating alternatively only by manually may be provided in cases other than those when the headlamps must be turned on pursuant to the provision of Paragraph 1 of Article 52 of the Road Traffic Act, in addition to the four headlamps with driving beam.
- (3) The total maximum luminous intensity of the headlamps with driving beam shall not exceed 225,000 cd.
- (4) The beams from headlamps with driving beam shall be directed in the moving direction of the motor vehicle. However, in the case of adaptive front lighting system with driving beam, the beam thereof may be directed in the moving direction of the motor vehicle in a straight-ahead condition. In these cases, when measurements are carried out according to each of Item A., Item (1) of the preceding Paragraph by means of a headlamp tester (for driving beam), if the maximum luminous intensity point of the headlamp with driving beam (main driving beam in the case of four-unit type) is, at a distance of 10 m in front of the motor vehicle, in the range between the vertical planes on the right and left sides 200 mm respectively away from the vertical plane including the centre of the illuminating surface of the headlamp with driving beam and parallel with the longitudinal centre plane of the motor vehicle (100 mm in the case of the right side of the headlamp with driving beam mounted at the right side of the motor vehicle (except motor vehicles used for snow removal, civil engineering work and other special use that have been designated by

the Director-General of District Transport Bureau, large-sized special motor vehicles with a maximum speed of less than 35 km/h, small-sized special motor vehicles for agricultural use, motor vehicles manufactured on or before September 30, 1960, and motor cycles with or without sidecar)), such headlamps shall be regarded as complying with the requirements of this Item.

- (5) A device shall be provided which indicates the on-off state of the headlamps with driving beam to the driver in his seat. However, this provision shall not apply to large-sized special motor vehicles with a maximum speed of less than 35 km/h, small-sized special motor vehicles for agricultural use, motor cycles with or without sidecar, and mini-sized motor vehicles with caterpillar tracks and sleds.
- (6) Headlamps with driving beam shall be provided in equal numbers on the right and left sides except for motor vehicles having only one headlamp with driving beam and, headlamps with driving beam to be mounted on motor vehicles whose front end is symmetrical shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle. However, in the case of motor cycles having a headlamp with driving beam at the side of the headlamp with passing beam, it is only necessary that the centres of the headlamp with driving beam and the headlamp with passing beam be located symmetrically with respect to the longitudinal centre plane of the motor vehicle.
- (7) When the headlamps with passing beam are turned on, one or all of the headlamps with driving beam provided at each side of the motor vehicle shall be turned on simultaneously. Furthermore, when the headlamps with passing beam are turned off, all headlamps with driving beam shall be turned off.
- (8) The headlamp with driving beam shall be so constructed that it cannot be turned on when the position lamps, rear position lamps, front-end outline marker lamps, rear-end outline marker lamps, number plate lamps and side marker lamps are extinguished. However, this provision shall not apply to cases where it is necessary to make the headlamp with driving beam flash intermittently at a short interval or illuminate alternatively only by manually, except cases where the headlamps must be turned on pursuant to the provision of Paragraph 1 of Article 52 of the Road Traffic Act.
- (9) The headlamp with driving beam shall not flash. However, this provision shall not apply to cases provided for in the proviso of the preceding Item.

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- (10) The direct light or reflected light of the headlamp with driving beam shall not hamper the driving operations of the motor vehicle equipped with the headlamp with driving beam concerned.
 - (11) The headlamp with driving beam shall be such one that the direction of its beam is not liable to be disturbed readily by vibration, shocks, etc., such as exhibiting looseness, excessive play, etc. at its attaching section.
 - (12) The headlamp with driving beam shall be mounted in such a way that the performance provided for in the preceding Paragraph may not be hampered. In this case, those lamps where objects changing the photometric axis are affixed on the lens surface, etc. of the lamp, thus significantly affecting the light distribution, shall be regarded as not complying with these requirements.
3. The following headlamp with driving beam which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with the requirements prescribed in each Item of the preceding Paragraph (except Item (4)).
- (1) Headlamps with driving beam having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Headlamps with driving beam having the same construction and provided at the same position as headlamps with driving beam mounted on motor vehicles for which device type designation has been granted in connection with the installation of lamps, reflex reflectors and direction indicator lamps pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or headlamps with driving beam having the performance equivalent to it.
4. The “headlamps with driving beam whose luminous intensity is less than the value prescribed in the Announcement” appearing in Paragraph 4 of Article 32 of the Safety Regulations shall be headlamps with driving beam whose luminous intensity is less than 10,000 cd.
5. The requirements prescribed in the Announcement of Paragraph 5, Article 32 of the Safety Regulations in connection with the colour of light, brightness, etc. of the headlamps with passing beam shall be the requirements prescribed in each of the following Items.

- (1) The beams from the headlamps with passing beam (except those mounted on motor vehicles with a maximum speed of less than 20 km/h which are equipped with headlamps with driving beam whose luminous intensity is 10,000 cd or more), shall not disturb other traffic and, when all lit at the same time, shall be capable of illuminating with such an intensity that the driver may discern any traffic obstacle on the road at a distance of 40 m (15 m for those installed to motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, and large-sized special motor vehicles with a maximum speed of less than 35 km/h and small-sized special motor vehicles for agricultural use) ahead of them in the nighttime. In this case, for motor vehicles (except motor cycles with or without sidecar, motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, large-sized special motor vehicles with a maximum speed of less than 35 km/h and small-sized special motor vehicles for agricultural use) manufactured on or after September 1, 1998, the measurement shall be conducted in accordance with the measuring conditions of Item A. by means of a headlamp tester (for passing beam). Headlamps with passing beam that comply with the evaluation of measured values of Item B. shall be regarded as complying with these requirements. However, if it is impossible to conduct the measurement with a headlamp tester (for passing beam), the measurement can be conducted by means of a headlamp tester (for driving beam), screen, wall, etc. pursuant to Item A. ②. Headlamps with passing beam that comply with the requirements of Item B. ② shall be regarded, for the time being, as complying with these requirements.

A. Measuring conditions

- ① Cases other than those of ②:
- (i) The test vehicle shall be under a straight-ahead condition and the motor vehicle conditions at time of inspection;
 - (ii) In the case of motor vehicles equipped with a manual headlamp aiming direction adjusting device, the operation device of the said device shall be adjusted so that the condition of Item (i) may be obtained.
 - (iii) The battery shall be charged and the engine shall be running.

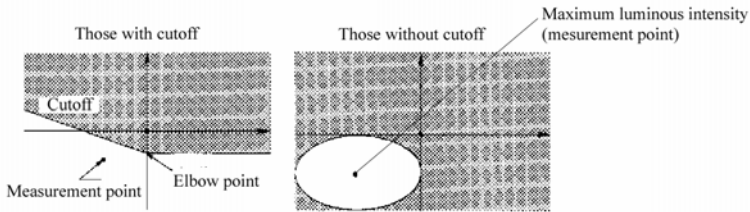
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- (iv) The light-receiving unit of the headlamp tester (for passing beam) shall face normally the headlamp with passing beam.
 - (v) In cases where there is the possibility that proper measurement is hindered, those lamps other than the lamps to be measured shall be covered.
- ② Cases where it is impossible to conduct the measurement with the headlamp tester (for passing beam):
- (i) The test vehicle shall be under a straight-ahead condition and the motor vehicle conditions at time of inspection;
 - (ii) In the case of motor vehicles equipped with a manual headlamp aiming direction adjusting device, the operation device of the said device shall be adjusted so that the condition of Item (i) may be obtained.
 - (iii) The battery shall be charged and the engine shall be running.
 - (iv) In cases where a headlamp tester (for driving beam) is used, the light-receiving unit concerned shall face normally the headlamp with passing beam.
 - (v) In cases where there is the possibility that proper measurement is hindered, those lamps other than the lamps to be measured shall be covered.
- B. Evaluation of measured values
- ① Cases other than those of ②:
- (i) In the case of headlamps with passing beam provided with cutoff (referring to the light/darkness division line used in adjustment of aiming direction of headlamps with passing beam; hereinafter the same)
 - (a) The elbow point (referring to the intersection of right-half and left-half cutoff lines; hereinafter the same) shall be within the range enclosed by the plane 0.11 degree downward and the plane 0.86 degree

downward from the horizontal plane (in the case of motor vehicles with a height of the centre of the illuminating surface concerned exceeding 1 m, between the plane 0.41 degree and the plane 1.16 degree downward), including the centre of the illuminating surface of the headlamp with passing beam, and by the vertical planes oriented one degree to the right and left sides, respectively, from the vertical plane parallel to the longitudinal centre line of the motor vehicle, or, at a distance of 10 m in front of the motor vehicle, within the range enclosed by the straight line 20 mm downward and the straight line 150 mm downward from the horizontal line including the centre of the illuminating surface (in the case of motor vehicles with a height of the centre of the illuminating surface concerned exceeding 1 m, the straight line 70 mm downward and the straight line 200 mm downward) and by the straight lines 180 mm to the right and left sides, respectively, from the vertical plane parallel to the longitudinal centre line of the motor vehicle, including the centre of the illuminating surface concerned.

- (b) The luminous intensity shall be at least 6,400 cd per headlamp at the position where the plane 0.6 degree (in the case of motor vehicles with a height of the centre of the illuminating surface concerned exceeding 1 m, 0.9 degree) downward from the horizontal plane, including the centre of the illuminating surface of the headlamp with passing beam, intersects with the vertical planes 1.3 degrees to the right and left sides, respectively, from the vertical plane parallel to the longitudinal centre line of the motor vehicle, or, at a distance of 10 m in front of the motor vehicle, at the intersection of the straight line 110 mm (in the case of motor vehicles with a height of the centre of the illuminating surface concerned exceeding 1 m, 160 mm) downward from the horizontal plane including the centre of the illuminating surface concerned, with the straight line 230 mm leftward from the vertical plane parallel to the longitudinal centre line of the motor vehicle, including the centre of the illuminating surface concerned.
- (ii) In the case of headlamps with passing beam without cutoff

- (a) The maximum luminous intensity point shall be lower than the horizontal plane including the centre of the illuminating surface, and on the left side of the vertical plane parallel to the longitudinal centre line of the motor vehicle.
 - (b) The luminous intensity at the maximum luminous intensity point shall be at least 6,400 cd per headlamp.
- ② Cases where it is impossible to conduct the measurement with the headlamp tester (for passing beam):
- (i) In the case of headlamps with passing beam with cutoff
 - (a) By throwing the rays of the headlamp with passing beam on a screen (including an accessory screen of the tester), wall, etc., it shall be visually checked that the elbow point is located in the range provided for in Item ① (i) (a).
 - (b) The luminous intensity at the position provided for in Item ① (i) (b) (or the maximum luminous intensity point when the said position is not available) shall be at least 6,400 cd per headlamp.
 - (ii) In the case of headlamps with passing beam without cutoff
 - (a) The maximum luminous intensity point shall be in the location provided for in Item ① (ii) (a).
 - (b) The luminous intensity at the maximum luminous intensity point shall be at least 6,400 cd per headlamp.

(Reference diagram) An example of the light distribution characteristics of headlamps with passing beam when the beams are projected on a screen



- (2) For those motor vehicles with a maximum speed of less than 20 km/h which are equipped with headlamps with driving beam whose luminous intensity is 10,000 or more, the beams of the headlamp with passing beam shall not disturb other traffic.
 - (3) The headlamp with passing beam shall comply with the requirements of Items (3) through (6) of Paragraph 1.
 - (4) Only the following headlamps with passing beam which exhibit no damage, etc. liable to hamper their function may be used as adaptive front lighting system with passing beam:
 - A. Adaptive front lighting system with passing beam having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - B. Adaptive front lighting system with passing beam type-designated pursuant to the provision of Paragraph 1 of Article 75-2 of the Act or adaptive front lighting system with passing beam having the equivalent performance.
6. The requirements prescribed in the Announcement of Paragraph 6, Article 32 of the Safety Regulations in connection with the installation position, installation method, etc. of the headlamps with passing beam shall be the requirements provided for in each of the following Items. In this case, the measuring methods for the illuminating surface, numbers and installation position of the headlamps with passing beam shall be in accordance with the Attachment 94 “Measuring Method of Illuminating Surfaces, Numbers and Installation Positions of Lamps, etc. (Related to Sections 2 and 3 of Chapter 2).”
- (1) The number of headlamps with passing beam shall be two. However,

the number shall be one or two for motor cycles with or without sidecar, mini-sized motor vehicles with caterpillar tracks and sleds, motor vehicles with a maximum speed of less than 20 km/h, and motor vehicles with a width of 0.8 m or less.

- (2) The headlamps with passing beam installed to motor vehicles other than motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds shall be mounted so that the upper edge of the illuminating surface thereof is at a height of 1.2 m or less above the ground (at a minimum mountable height for headlamps with passing beam installed to large-sized special motor vehicles, small-sized special motor vehicles for agricultural use (small-sized special motor vehicles in the case of motor vehicles with a maximum speed of less than 20 km/h), and motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, which cannot be mounted at that height of 1.2 m or less above the ground because of the vehicle construction) and the lower edge is at a height of 0.5 m or more above the ground (at a maximum mountable height for headlamps with passing beam installed to large-sized special motor vehicles, small-sized special motor vehicles for agricultural use (small-sized special motor vehicles in the case of motor vehicles with a maximum speed of less than 20 km/h), and motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, which cannot be mounted at that height of 0.5 m or more above the ground because of the vehicle construction).
- (3) The headlamp with passing beam installed to motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds shall be mounted so that the centre of the illuminating surface thereof is at a height of 1.2 m or less above the ground.
- (4) The headlamp with passing beam shall be mounted so that the outermost edge of the illuminating surface thereof is within 400 mm from the outermost part of the motor vehicle (at a mountable outermost position for headlamps with passing beam installed to large-sized special motor vehicles, small-sized special motor vehicles for agricultural use (small-sized special motor vehicles in the case of motor vehicles with a maximum speed of less than 20 km/h), and motor vehicles used for snow removal, civil engineering work and other special use that have been designated by the Director-General of District Transport Bureau, which cannot be mounted within 400 mm from the outermost part of the motor vehicle because of the vehicle

construction). However, this shall not apply to the headlamps with passing beam installed to motor cycles with or without sidecar, mini-sized motor vehicles with caterpillar tracks and sleds, motor vehicles with a maximum speed of less than 20 km/h, and motor vehicles with a width of 0.8 m or less.

- (5) The headlamp with passing beam to be mounted on motor vehicles whose front end is symmetrical shall be mounted symmetrically with respect to the longitudinal centre plane. However, in the case of motor cycles having a headlamp with driving beam at the side of the headlamp with passing beam, it is only necessary that the centres of the headlamp with driving beam and the headlamp with passing beam be located symmetrically with respect to the longitudinal centre plane of the motor vehicle.
- (6) The operation device for the headlamp with passing beam shall be so constructed that, when the driver turns on the headlamp with passing beam, all headlamps with driving beam shall be turned off.
- (7) The headlamp with passing beam equipped with a discharge type light source shall be so constructed that it cannot be turned off when the headlamp with driving beam is illuminated.
- (8) The headlamp with passing beam shall be so constructed that it cannot be turned on when the position lamps, rear position lamps, front-end outline marker lamps, rear-end outline marker lamps, number plate lamps and side marker lamps are extinguished. However, this provision shall not apply to cases where it is necessary to make the headlamp with passing beam flash intermittently at a short interval or illuminate alternatively only by manually, except cases where the headlamps must be turned on pursuant to the provision of Paragraph 1 of Article 52 of the Road Traffic Act.
- (9) The headlamp with passing beam shall not flash. However, this provision shall not apply to cases provided for in the proviso of the preceding Item.
- (10) The direct light or reflected light of the headlamp with passing beam shall not hamper the driving operations of the motor vehicle equipped with the headlamp with driving beam concerned and of other motor vehicles.
- (11) The headlamp with passing beam shall be such one that the direction of its beam is not liable to be disturbed readily by vibration, shocks, etc.,

such as exhibiting looseness, excessive play, etc. at its attaching section.

- (12) The headlamp with driving beam and headlamp with passing beam installed to motor cycles with or without sidecar shall be so constructed that either of them stays lit at all times while the engine is in operation.
- (13) The headlamp with passing beam shall be mounted in such a way that the performance provided for in Paragraph 5 may not be hampered. In this case, those lamps where objects changing the photometric axis are affixed on the lens surface, etc. of the lamp, thus significantly affecting the light distribution, shall be regarded as not complying with these requirements.

7. The following headlamps with passing beam which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with the requirements prescribed in each Item of the preceding Paragraph.

- (1) Headlamps with passing beam having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Headlamps with passing beam having the same construction and provided at the same position as headlamps with passing beam mounted on motor vehicles for which device type designation has been granted in connection with the installation of lamps, reflex reflectors and direction indicator lamps pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or headlamps with passing beam having the performance equivalent to it.

8. The requirements prescribed in the Announcement of Paragraph 7, Article 32 of the Safety Regulations in connection with the performance, etc. of adjusting the aiming direction of the headlamps shall be the requirements enumerated in each of the following Items.

- (1) The headlamp aim adjusting device shall be capable of preventing the beam from a headlamp with passing beam without fail from disturbing other traffic in every riding or loading condition of the vehicle;
- (2) The headlamp aim adjusting device shall be such that the aiming direction of the headlamp cannot be adjusted right and left;
- (3) A manual type headlamp aim adjusting device shall be able to be operated easily and properly by the driver in his seat. In this case, the

manual type headlamp aim adjusting device whose control positions are not indicated by letters, figures or marks, at positions easily seen by the driver in his seat without assuming a strained posture, corresponding to the condition of Item (1) A. ① of Paragraph 1 and main conditions concerned with passenger accommodation or loading, shall be regarded as examples not complying with this requirement.

9. The following headlamp aim adjusting device enumerated which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with the requirements prescribed in each Item of the preceding Paragraph.

- (1) Headlamp aim adjusting devices having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Headlamp aim adjusting devices having the same construction and provided at the same position as the headlamp aim adjusting device mounted on motor vehicles for which device type designation has been granted in connection with the installation of lamps, reflex reflectors and direction indicator lamps pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or headlamp aim adjusting devices having the performance equivalent to it.

10. The requirements prescribed in the Announcement of Paragraph 9, Article 32 of the Safety Regulations in connection with the cleaning performance, etc. of the lens surface of headlamps shall be the requirements prescribed in each of the following Items.

- (1) Headlamp cleaners shall have a washing performance sufficient to recover the luminous intensity of the headlamps when the outside of the lens surface of the headlamp is smeared.
- (2) The performance of the headlamps prescribed in Paragraphs 1 and 5 shall not be hampered. In this case, the headlamp cleaner which does not cover the illuminating surface in excess of 20% of the surface area of the illuminating surface of the headlamp with passing beam; or in excess of 10% of the surface area of the illuminating surface of the headlamp with driving beam shall be regarded as complying with these requirements.
- (3) The headlamp cleaner shall not be damaged nor be actuated due to vibrations, impacts, etc. during running.
- (4) The headlamp cleaner shall not be liable to injure pedestrians, etc.,

when it comes in contact with them. For example, the headlamp cleaner shall have no sharp outward protrusion.

11. The following headlamp cleaners which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with the requirements prescribed in each Item of the preceding Paragraph.

- (1) Headlamp cleaners having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Headlamp cleaners for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or headlamp cleaners having the performance equivalent to it.

12. The requirements prescribed in the Announcement of Paragraph 10, Article 32 of the Safety Regulations in connection with the installation position, installation method, etc. of the headlamp cleaners shall be the requirements prescribed in each of the following Items.

- (1) The headlamp cleaner shall be such one that can be operated easily by the driver in his seat.
- (2) The headlamp cleaner shall be mounted in such a way that it may not hamper the performance of the lamps, reflex reflectors and indicating devices.

13. The following headlamp cleaners and headlamp mounting devices enumerated below which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with the requirements prescribed in each Item of the preceding Paragraph.

- (1) Headlamp cleaners and headlamp mounting devices having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Headlamp cleaners and headlamp mounting devices for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or headlamp cleaners and headlamp mounting devices having the performance equivalent to it.