
CHAPTER 2
DETAILS OF SAFETY REGULATIONS THAT APPLY TO
MOTOR VEHICLES

Section 2
Details of Safety Regulations That Apply to
Motor Vehicles, etc. to Be Newly Used for Operation,
Except for Designated Motor Vehicles, etc.

Article 83

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

- (1) Cases where the initial inspection is conducted pursuant to the provision of Paragraph 1 of Article 59 of the Act, or cases where the preliminary inspection is carried out pursuant to the provision of Paragraph 1 of Article 71 of the Act in connection with motor vehicles, except designated motor vehicles, etc. (except cases where the initial inspection or preliminary inspection is performed for motor vehicles subjected to deletion registration pursuant to the provision of Article 16 of the Act or motor vehicles for which motor vehicle inspection certificates have been returned pursuant to the provision of Paragraph 4 of Article 69 of the Act);
- (2) Cases where motor vehicles (except designated motor vehicles, etc.) provided for in Article 99 of the Act are to be newly used for operation;
- (3) Cases where mini-sized motor vehicles exempted from inspection and small-sized special motor vehicles (except those type-approved pursuant to the provision of Paragraph 1 of Article 62-3 of the Enforcement Regulations) provided for in Paragraph 1 of Article 58 of the Act are to be newly used for operation.

Article 84 (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 85 (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 clearance between the sections other than the ground-contact section of a motor vehicle and the ground (hereinafter referred to as 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 86 (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 87 (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)

$$A = a \cdot b$$

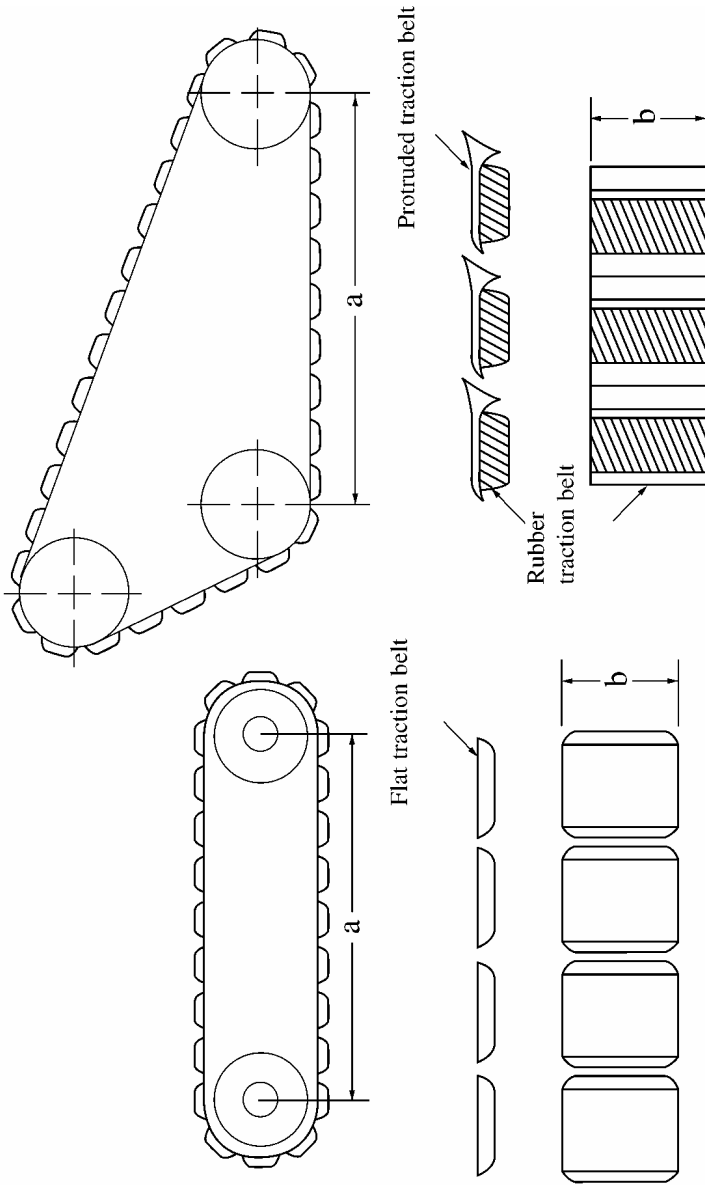
where:

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 88 (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 Attachment 1 "Technical Standard for Speed Limitation Devices for Large-Sized Trucks."

Article 89 (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 2 “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 90 (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 91 (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 the requirements prescribed in Attachment 6 “Technical Standard for Steering System Impacts.” In this case, the steering system enumerated in each of the following Items 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., which exhibit no damage liable to hamper its function;
 - (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, which exhibit no damage liable to hamper its function;

- (3) Those for which a document proving compliance with the requirements prescribed in Attachment 6 “Technical Standard for Steering System Impacts” has been submitted.

3. Those devices enumerated in each of the following Items, for which the implementation of a destructive test is proved to be extremely difficult, shall be regarded as complying with the requirements of Paragraph 2 of Article 11 of the Safety Regulation, under the provision of the proviso of Article 1-3 of the Safety Regulations.

- (1) Those which come under all of the following Items:
 - A. Those in which the horizontal distance parallel to the longitudinal centre line of the motor vehicle between the front edge of the driver’s seat (in the mid-point position for the seat concerned that is adjustable in a fore-and-aft direction) and the front edge of the motor vehicle is equal to or longer than 750 mm;
 - B. Of the surfaces of the steering wheel that faces the driver’s side, those having no irregularity nor sharp protrusion with a radius of curvature less than 2.5 mm at a section where a 165 mm diameter sphere can be contacted.
- (2) Those for which a document proving compliance with the Agreement Regulation No. 94 has been submitted;
- (3) Those for which a document proving compliance with the Federal Motor Vehicle Safety Standard No. 203 has been submitted;
- (4) Those for which a document proving compliance with the Federal Motor Vehicle Safety Standard No. 208 has been submitted.

Article 92 (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 in each of the following Items. 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 in Attachment 9 “Technical Standard for Immobilizer” (except the provisions of Paragraph 5-3-8 and Attached Sheet 1). 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.

Article 93 (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 requirements prescribed in Attachment 10 “Technical Standard for Brake Systems of Trucks and Buses” and Attachment 11 “Technical Standard for Anti-Lock Brake System” as well as 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;

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- 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 requirements prescribed in Attachment 12 “Technical Standard for Passenger Motor Vehicle Brake System” as well as the following requirements. However, the requirement of “must satisfy the requirements in Paragraph 3-1 (A)” appearing in Item (a), Paragraph 5-2 of Annex 3 “Distribution of Braking Among the Axles of Vehicles” of Attachment 12 “Technical Standard for Passenger Motor Vehicle Braking System” shall read as “must satisfy the requirements of Paragraph 3-1 (A), or the curve of the rear axle must be below the straight line $z = 0.9k$ for all braking rates from 0.15 to 0.8 (see Fig. 2),” and the phrase “25% above the reference level” appearing in Paragraphs 2-2-2-2 and 2-3-2-2 of Annex 7 “Tests with Regard to Electromagnetic Compatibility of Braking System of Passenger Motor Vehicles” of Attachment 12 “Technical Standard for Passenger Motor Vehicle Braking System” shall read as “80% of the reference level.”

- (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 requirements prescribed in Attachment 13 “Technical Standard of Two-Wheeled Vehicle Brake System” and 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*.

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- (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 requirements prescribed in Attachment 14 "Technical Standard for Brake Fluid Leakage Warning Devices" and 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).

- (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 requirements prescribed in Attachment 11 "Technical Standard for Anti-Lock Brake System" and Attachment 15 "Technical Standard for Brake System for Trailers" as well as 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 94 (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 Attachment 93 “Technical Standard for Prevention of Lag in Braking Coupled Motor Vehicles” and the requirements prescribed in the next Paragraph through Paragraph 7.

2. The brake systems 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 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.

7. 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 95 (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 96 (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.

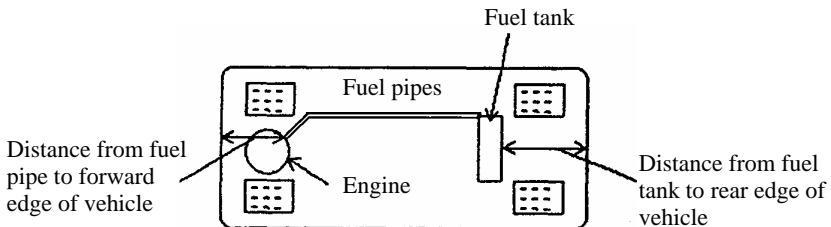
- (1) The fuel tank and its piping shall be secure and fixed so that they may not be damaged by vibrations, impacts, etc. In this case, the fuel tank and its piping enumerated below shall be regarded as not complying with this requirement.

-
- 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) Plastic fuel tanks mounted on motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less shall comply with the requirements prescribed in Attachment 16 “Technical Standard for Plastic Fuel Tanks for Passenger Motor Vehicles.”
- (3) The filler and gas vent of a fuel tank shall not leak fuel when the vehicle is shaken.
- (4) 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.
- (5) The filler and gas vent of a fuel tank shall be located at least 200 mm away from any exposed electric terminals or switches;
- (6) 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 Items (1) and (2) 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 the requirements prescribed in Attachment 17 “Technical Standard for Fuel Leakage in Collisions, etc.” In this case, the fuel system enumerated in each of the following Items 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. which exhibit no damage, etc. liable to hamper their functions;
- (2) Fuel systems for which the document proving compliance with the Safety Regulations has been submitted.

4. Those devices enumerated in each of the following Items, for which the implementation of a destructive test is proved to be extremely difficult, shall be regarded as complying with the requirements of Paragraph 2 of Article 15 of the Safety Regulations, under the provision of the proviso of Article 1-3 of the Safety Regulations.

- (1) Fuel tanks and piping which meet all the requirements below;
 - A. The horizontal distance from the most forward edge of the fuel tank and pipings to the front edge of the motor vehicle, parallel to the longitudinal centre line of the motor vehicle, is 420 mm or more, and the horizontal distance from the most rearward edge of the fuel tank and pipings to the rear edge of the motor vehicle, parallel with the longitudinal centre line of the motor vehicle, is 65 mm or more.



- B. The fuel tank and pipes (excluding those provided in the wheelbase) shall not be exposed to outside, excluding the underside exposure.
 - C. Fuel systems having no sharp projection near the fuel tank and pipes which may cause damage in collision.
- (2) Fuel systems for which the document proving compliance with Regulation No. 34 of the “Agreement concerning the Adoption of

Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts Which Can Be Fitted and/or Be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of These Prescriptions” has been submitted.

Article 97 (Fuel System of Motor Vehicles Whose Fuel Is Producer Gas)

The requirements prescribed in the Announcement 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 98 (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 (4) through (6), Paragraph 1 of Article 96. 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 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 the requirements prescribed in Attachment 100 “Technical Standard for Fuel Systems of Motor Vehicles Fueled by Compressed Hydrogen Gas.” In this case, the compliance with this Technical Standard shall be evident from a document describing the results of tests, etc. conducted by a public testing institute, etc. designated separately.

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 the requirements prescribed in Attachment 17. In this case, devices enumerated in each of the following Items shall be regarded as complying with this requirement:

- (1) Devices 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., which exhibit no damage liable to hamper their functions; and
- (2) Devices for which the document proving compliance with the requirements prescribed in Attachment 17 has been submitted.

5. Those devices enumerated in each of the following Items, for which the implementation of a destructive test is proved to be extremely difficult, shall be regarded as complying with the requirements of the preceding Paragraph, under the provision of the proviso of Article 1-3 of the Safety Regulations:

- (1) Gas containers, container main valves and container safety valves shall be installed at a position where the horizontal distance from the most forward edge thereof to the front edge of the motor vehicle, parallel to the longitudinal centre line of the motor vehicle, is 420 mm or more, and the horizontal distance from the most rearward edge thereof to the rear edge of the motor vehicle, parallel to the longitudinal centre line of the motor vehicle is 300 mm or more; and
- (2) The installation section of a gas container shall not be broken by acceleration of $\pm 196 \text{ m/s}^2$ in the running direction under a condition that the gas container is filled with compressed hydrogen gas at the general-use pressure (referring to the general-use pressure of Paragraph 2-4 of Attachment 100). In this case, the compliance with the requirements concerning the acceleration shall be proven by a method of calculation or by the motor vehicle manufacturer.

Article 99 (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 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 vehicles (except motor cycles with or without sidecar) shall be the requirements prescribed in Attachment 101 “Technical Standard for Protection of Occupants Against High Voltage in Fuel Cell Vehicles.” In this case, the following electrical systems shall be regarded as complying with this requirement:

- (1) Electrical systems having the same construction and provided at the same position as the electrical system mounted on designated motor vehicles, etc., which exhibit no looseness or damage liable to hamper their functions; and
- (2) Those for which the document proving compliance with the requirements prescribed in Attachment 101 has been submitted.

Article 100 (Frame and Body)

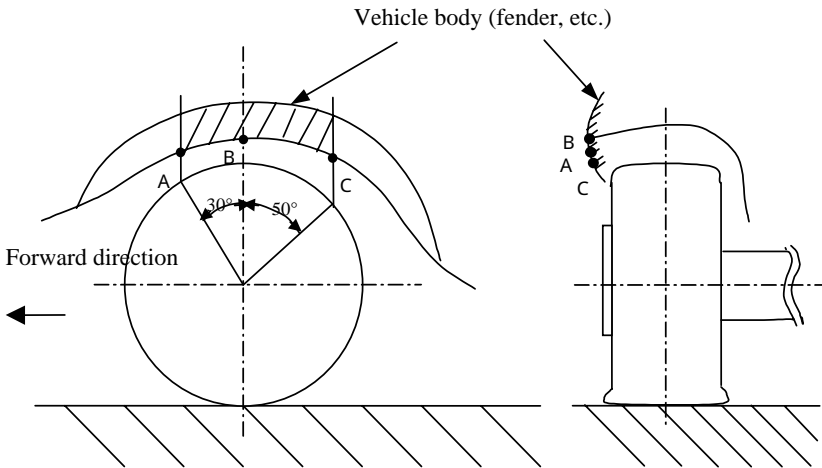
1. The requirements prescribed in the Announcement of Item (1), Paragraph 1 of Article 18 of the Safety Regulations in connection with the strength, installation method, etc. of the frame and body shall be the requirements prescribed in each of the following Items.

- (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.

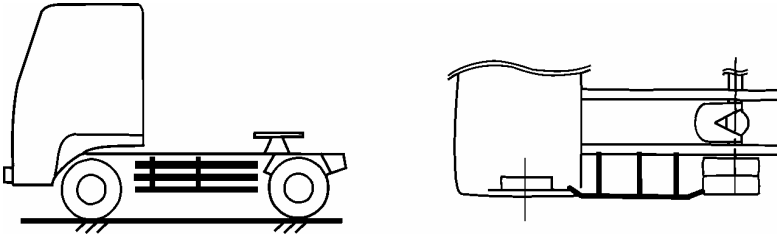
(Referential diagram)



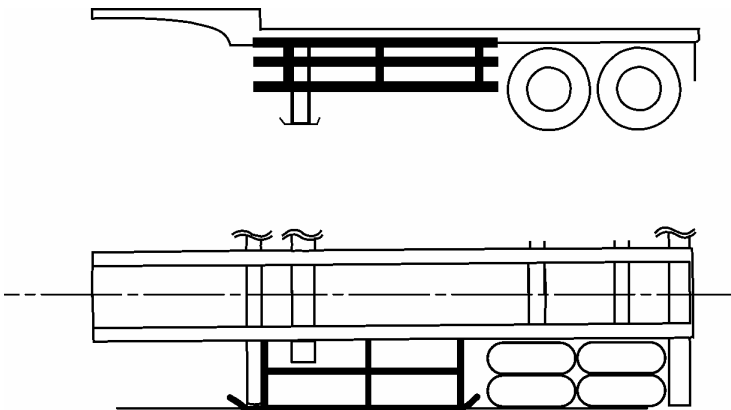
- (2) Rear wheels of an ordinary-sized motor vehicles for carriage of goods which are equipped with pedestrian protection side-guards, etc. which comply with the requirements of Paragraph 1 of Article 18-2 of the Safety Regulations and whose flat portions are at the outer side of the straight line which 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.

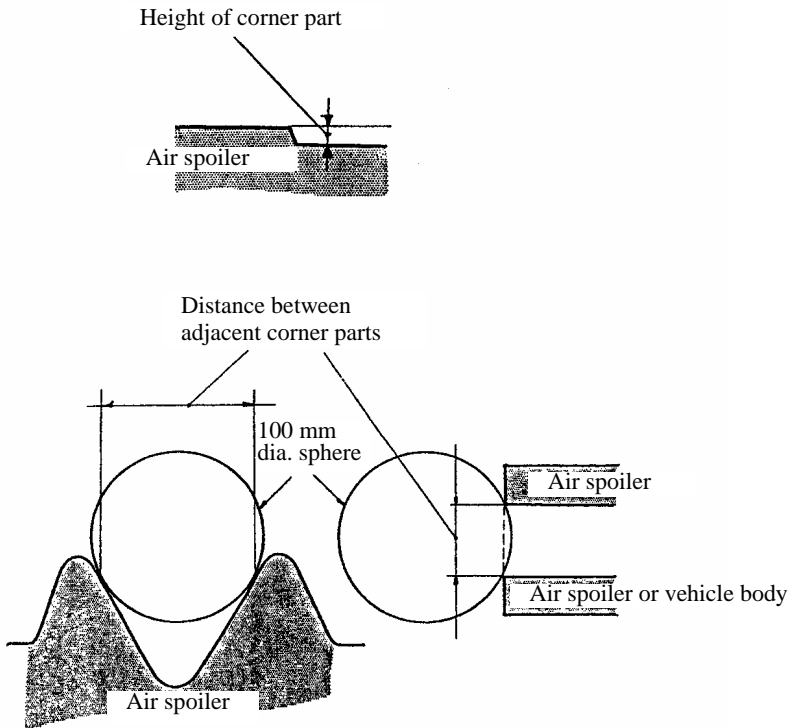
Height of corner parts (h)	Shape of corner parts	Distance of adjacent corner parts (δ)	Shape of corner parts
h < 5 mm	The corner parts shall not have any parts pointed outward or sharp edge.	$25 < \delta \leq 40$ mm	The curvature radius of the corner of the corner parts shall be 1.0 mm or more.
		$\delta \leq 25$ 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. The following air spoiler which exhibits no damage, etc. shall be

regarded as complying with the requirements prescribed in Item (3) of the preceding Paragraph.

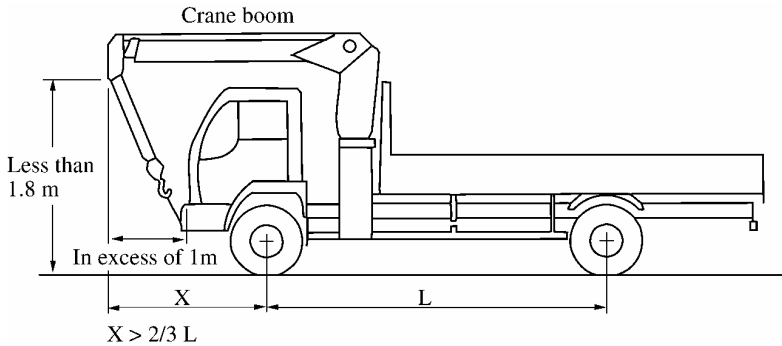
- (1) Air spoilers having the same construction and provided at the same position as the air spoiler mounted on designated motor vehicles, etc.;
- (2) Air spoilers having the same construction and provided at the same position as the air spoiler mounted on motor vehicles for which device type designation 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 installed on 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 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 $\frac{2}{3}$ 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 complying with the requirement of Paragraph 2, notwithstanding the provisions of Items (2) through (5) of the preceding Paragraph.

(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 motor vehicles used exclusively for carriage of passengers and motor vehicles whose shape is similar to that of motor vehicles used exclusively for carriage of passengers (e.g. trucks used for carriage of passengers, police patrol motor vehicles, etc.), and which 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 not projected above the outermost point of the vehicle body in close proximity to the antenna.
- (3) Designated motor vehicles, etc. which comply with Attachment 20 “Technical Standard for External Projections,” Attachment 21 “Technical Standard for Luggage Racks of External Projection” and Attachment 22 “Technical Standard for Radio Receiving and Transmitting Aerials of External Projections,” and whose external shape of the vehicle body and other shape of motor vehicles have the same construction as those of designated motor vehicles, etc. and which exhibit no damage liable to hamper their functions.
- (4) Those which have the same construction as the external projections for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, and which exhibit no damage liable to hamper their functions.

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 $\frac{1}{2}$ ($\frac{2}{3}$ 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 $\frac{11}{20}$ 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 of the frame and body in the event of frontal collision shall be the requirements prescribed in Attachment 23 “Technical Standard for Occupant Protection in Frontal Collision.” In this case, the frame and body enumerated in each of the following Items shall be regarded as complying with this requirement.

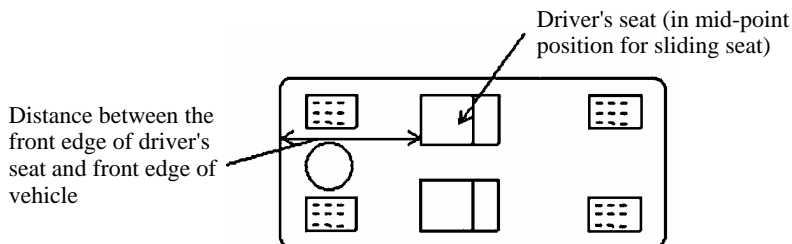
- (1) Frames and bodies in which the forward section of the driver’s seat is of the same construction as that of the designated motor vehicle, etc., which exhibit no damage liable to hamper the frontal-impact absorbing performance.
- (2) Motor vehicles for which the document proving compliance with the requirements prescribed in Attachment 23 “Technical Standard for Occupant Protection in Frontal Collision” has been submitted.

9. Those devices enumerated in each of the following Items, for which the implementation of a destructive test is proved to be extremely difficult, shall be regarded as complying with the requirements of Paragraph 2 of Article 18 of the Safety Regulations, under the provision of the proviso of Article 1-3 of the Safety Regulations.

- (1) Those which come under all of the following Items:
 - A. The horizontal distance parallel to the longitudinal centre line of the motor vehicle between the front edge of the driver’s seat (in the mid-point position for the seat concerned that is adjustable in a

fore-and-aft direction) and the front edge of the vehicle is equal to or longer than 750 mm.

(Figure)



B. The surface of the section located in front of the driver's seat and the seat which is parallel thereto and adjacent to the side of the motor vehicle is covered with impact-absorbing material and has no sharp projection.

- (2) Those for which the document proving compliance with Agreement Regulation No. 94 has been submitted.

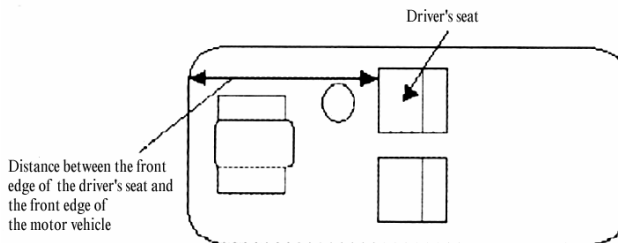
10. The requirements prescribed in the Announcement of Paragraph 3 of Article 18 of the Safety Regulations in connection with the occupant protection performance of the frame and body in the event of offset collision shall be the requirements prescribed in Attachment 100 "Technical Standard for Passenger Protection at Time of Offset Collision." In this case, the frame and body enumerated in each of the following Items 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., which exhibit no damage liable to hamper the frontal-impact absorbing performance;
- (2) Those for which a document proving compliance with the requirements prescribed in Attachment 100 "Technical Standard for Passenger Protection at Time of Offset Collision" has been submitted;
- (3) Those for which a document proving compliance with the Agreement Regulation No. 94 has been submitted.

11. Those devices enumerated in each of the following Items, for which the implementation of a destructive test is proved to be extremely difficult, shall be regarded as complying with the requirements of Paragraph 3 of Article 18 of the Safety Regulations, under the provision of the proviso of Article 1-3 of the Safety Regulations.

- (1) Those which come under all of the following Items:
- A. Those in which the horizontal distance parallel to the longitudinal centre line of the motor vehicle between the front edge of the driver's seat (in the mid-point position for the seat concerned that is adjustable in a fore-and-aft direction) and the front edge of the motor vehicle is equal to or longer than 750 mm;

(Figure)



- B. The surface of the section located in front of the driver's seat and the seat which is parallel thereto and adjacent to the side of the motor vehicle is covered with impact-absorbing material and has no sharp projection.
- (2) Those for which a document proving compliance with the Federal Motor Vehicle Safety Standard No. 208 has been submitted.

12. The requirements prescribed in the Announcement of Paragraph 4 of Article 18 of the Safety Regulations in connection with the occupant protection performance of the frame and body in the event of lateral collision shall be the requirements prescribed in Attachment 24 "Technical Standard for the Protection of the Occupants in the Event of A Lateral Collision." In this case, those enumerated in each of the following Items 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, and which exhibit no

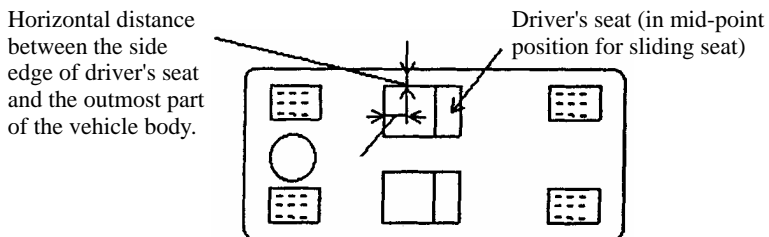
damage liable to hamper the side-impact absorbing performance.

- (2) Those 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, and which exhibit no damage liable to hamper the side-impact absorbing performance.
- (3) Those for which the document proving compliance with the requirements prescribed in Attachment 24 “Technical Standard for the Protection of the Occupants in the Event of A Lateral Collision” is submitted.

13. Those devices enumerated in each of the following Items, for which the implementation of a destructive test is proved to be extremely difficult, shall be regarded as complying with the requirements of Paragraph 4 of Article 18 of the Safety Regulations, under the provision of the proviso of Article 1-3 of the Safety Regulations.

- (1) Those which come under all of the following Items:
 - A. The horizontal distance from the outmost side edge (the edge section of both edges of the seat, that has been measured at right angles in the depth direction at a distance of 20 cm in the depth direction from the centre of the front edge of the seat) of the driver's seat (in the mid-point position for the seat concerned that is adjustable in a fore-and-aft direction) to the outmost side edge of the vehicle body is 130 mm or more.

(Figure)



- B. The surface of the section located at the side of the driver's seat and the seat which is parallel thereto and adjacent to the side of the motor vehicle is covered with impact-absorbing material and has no sharp projection.

- (2) The motor vehicles for which the document proving compliance with Federal Motor Vehicles Safety Standards No.214 has been submitted.

14. 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 the requirements prescribed in each of the following Items (the requirement of Item (1) in the case of frames and bodies to which the provisions of Section 2 apply pursuant to the provision of Item (3), Paragraph 2 of Article 161):

- (1) The hood (those equivalent to the hood, such as the front panel, in the case of motor vehicles equipped with no hood) shall have no sharp protrusion on its surface.
- (2) Attachment 99 “Technical Standard for Protection of Heads of Pedestrians” shall be complied with. In this case, any of the following Items shall be regarded as complying with this requirement.
 - A. Frames and bodies having the same material and construction of the hood (those equivalent to the hood, such as the front panel, in the case of motor vehicles equipped with no hood) as those of designated motor vehicles, etc., and exhibiting no damage liable to hamper the performance concerning the protection of the heads of pedestrians.
 - B. Those for which the document proving compliance with the requirements prescribed in Attachment 99 “Technical Standard for Protection of Heads of Pedestrians” is submitted.

15. Those devices enumerated in each of the following Items, for which the implementation of a destructive test is proved to be extremely difficult, shall be regarded as complying with the requirements of Paragraph 4 of Article 18 of the Safety Regulations, under the provision of the proviso of Article 1-3 of the Safety Regulations.

- (1) The hood (those equivalent to the hood, such as the front panel, in the case of motor vehicles equipped with no hood) shall have no sharp protrusion on its surface.
- (2) Those for which the document proving compliance with the European Union Directives 2003/102/EC is submitted.

16. 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.

17. 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 101 (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, pedestrian protection side guards whose flat section has the shape of integral sheets, grating, mesh, rods (3 pcs. or more) or shape similar to these shall be regarded as complying with this requirement.

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.

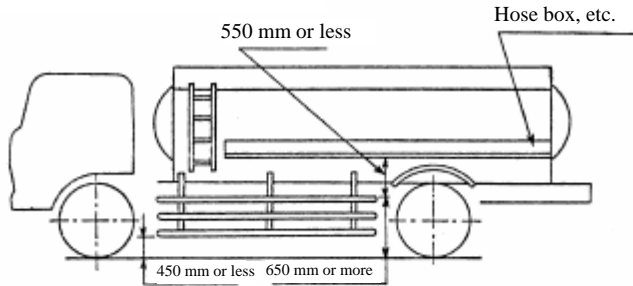
3. The “motor vehicles which are constructed as prescribed in the Announcement in connection with the construction by which pedestrians, bicycle riders, etc. are not likely to be caught under the rear wheels of the motor vehicle concerned” in the proviso of Paragraph 1 of Article 18-2 of the Safety Regulations 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.

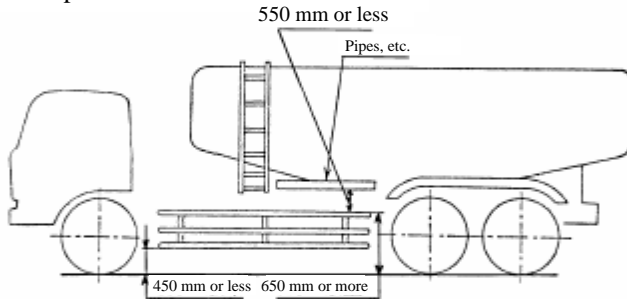
- (1) The pedestrian protection side guard shall be mounted so that, in the unloaded state, the height of its lower edge is 450 mm or less above the ground and the height of its upper edge is 650 mm or more above the ground.
- (2) The pedestrian protection side guard shall be mounted so that the distance 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)

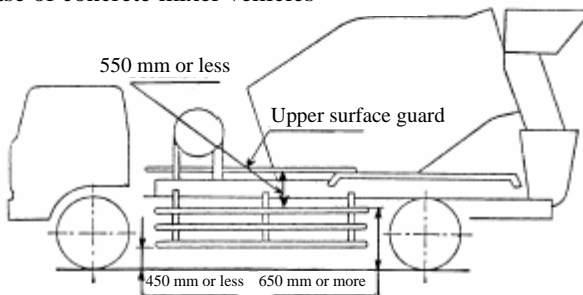
(1) Case of tank trucks



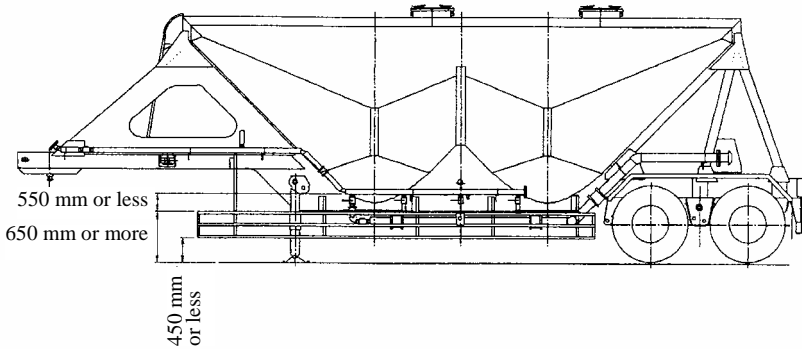
(2) Case of powder cement motor vehicles



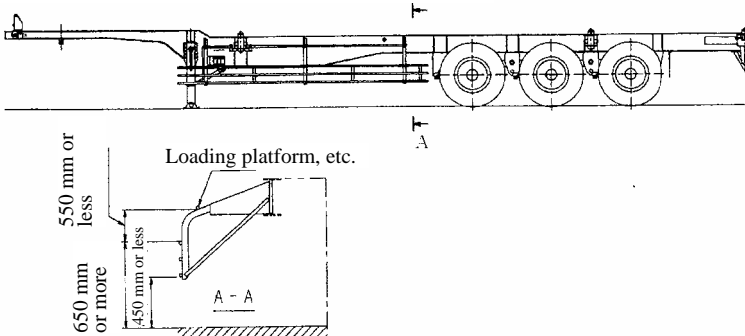
(3) Case of concrete mixer vehicles



(4) Case of powder cement semi-trailers



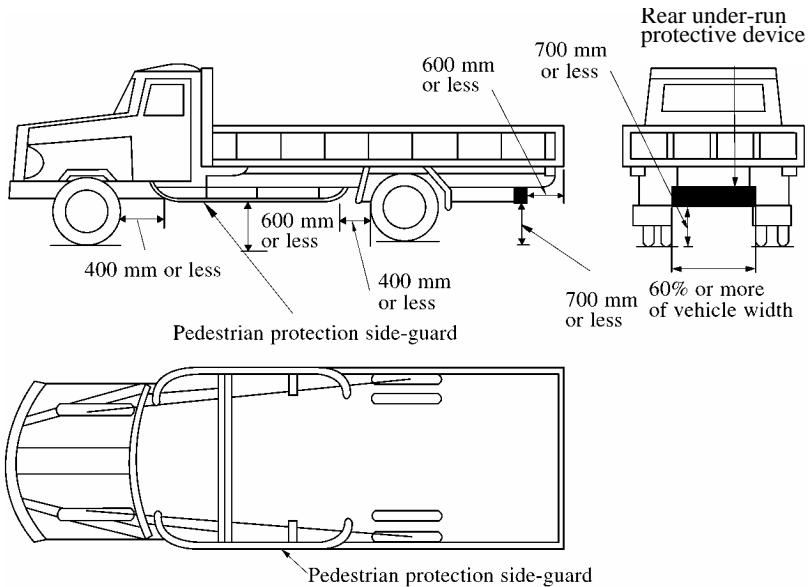
(5) Case of container semi-trailers



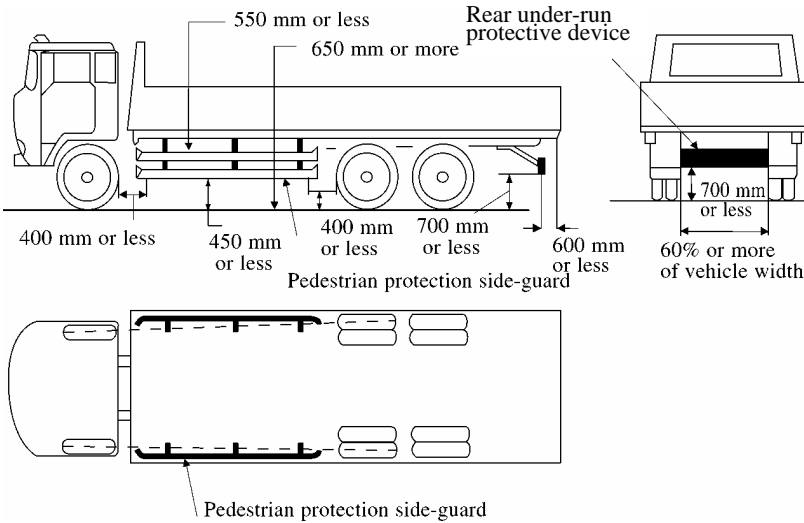
- (3) The pedestrian protection side guard shall be mounted so that the distance between a vertical plane, which includes the forward end of the flat section (except the curved section. Hereinafter the same) thereof and is perpendicular to the longitudinal centre plane of the motor vehicle, and a vertical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

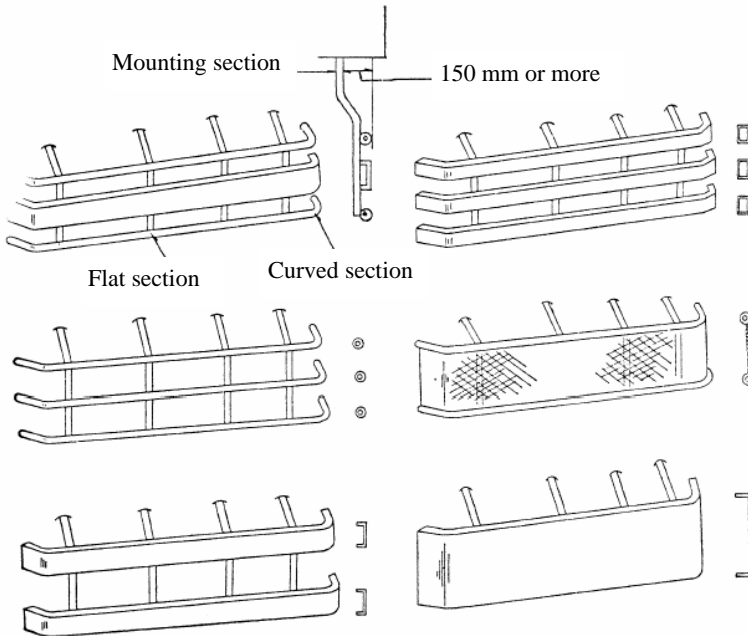


(Example 2) (Example of installation on large-sized truck with a gross vehicle weight of 8 tons or more, or with a maximum loading capacity of 5 tons or more)



(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 102 (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 comply with the requirements prescribed in Attachment 25 “Technical Standard for Rear Underrun Protection Devices.” 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 103 (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 104 (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 requirements prescribed in the Announcement of Paragraph 4 of Article 20 of the Safety Regulations shall be the requirements prescribed in Attachment 27 "Technical Standard for Flame-Resistant Interior Materials for Motor Vehicles." In this case, those enumerated in each of the following Items shall be regarded as complying with this requirement.

- (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 the requirements prescribed in Attachment 28 “Technical Standard for Instrument Panel Impact Absorption.” 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 the instrument panel 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.

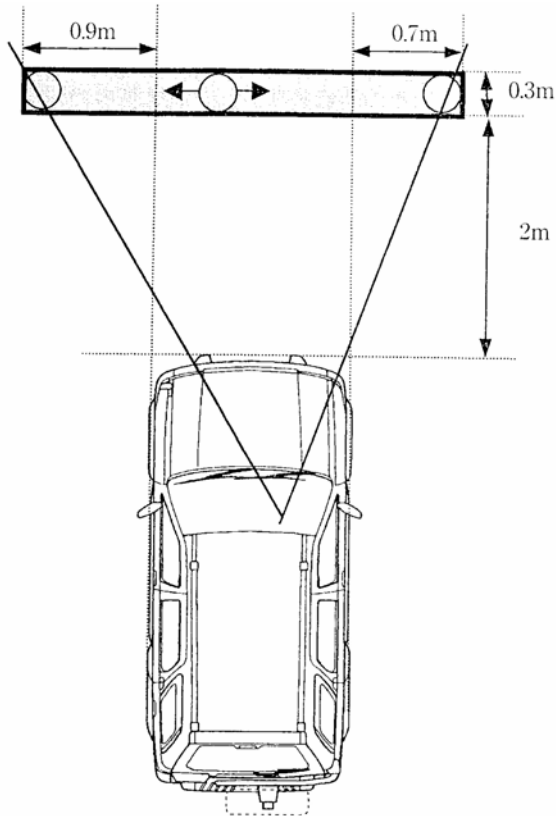
Article 105 (Driver’s Seat)

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)

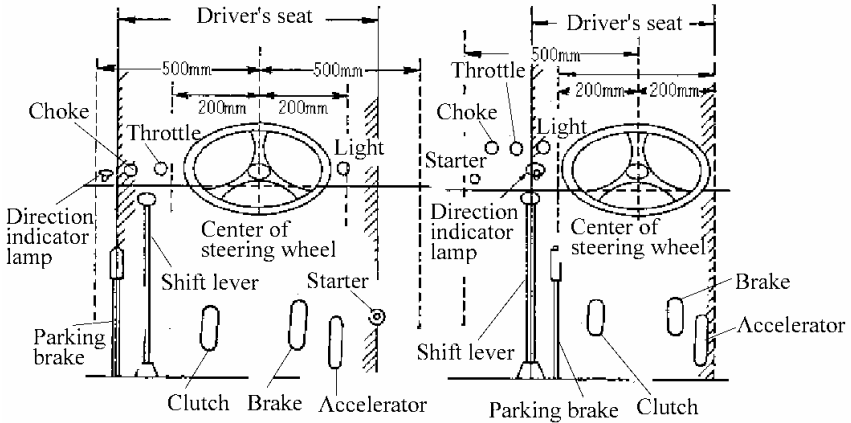


- (2) The driver's seat of motor vehicles other than those provided for in the preceding Item shall have a field of vision necessary for driving.
- (3) The driver's seat shall be such one that the driving operations may not be hampered by occupants, loaded goods, etc. In this case, the following driver's 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 106 (Seats)

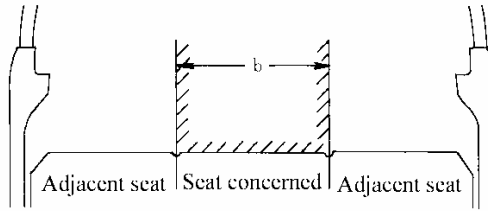
1. The requirements prescribed in the Announcement of Paragraph 1, Article 22 of the Safety Regulations in connection with a space for sitting in and direction of the seats concerned shall be the requirements enumerated in each of the following Items.
- (1) The driver's seat of a motor vehicle shall be the range up to the outermost device among those enumerated in each Item, Paragraph 1 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 200 mm to the right and to the left from the centre of the steering wheel.



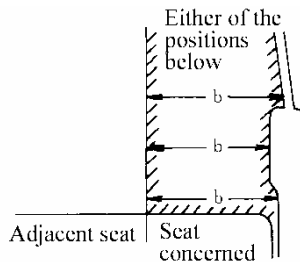
- (2) The seats for passengers other than the driver of a motor vehicle (except saddle-type seats and seats for infants of a motor vehicle which is used exclusively for carriage of children (hereinafter referred to as “infant-carrying vehicle”)) shall have a space of 400 mm or more in width for sitting-in 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.

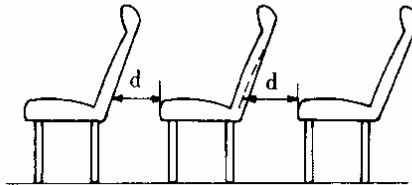
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- A. In the case of seats (except seats for infant of an infant-carrying vehicle) of a motor vehicle (except emergency motor vehicles) with a passenger capacity of 11 persons or more, 200 mm;
 - B. In the case of seats for infant of an infant-carrying 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

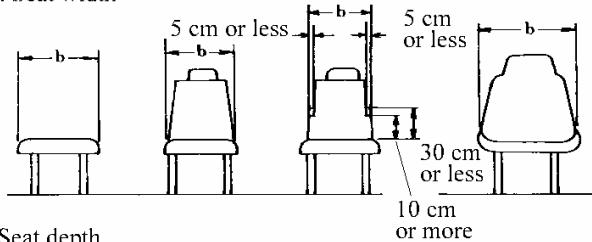
d: Space



(Example)

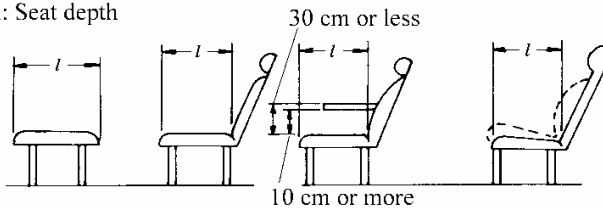
(1) Seat width

b: Seat width



(2) Seat depth

l: Seat depth



- (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.

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 can not 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 Attachment 30 “Technical Standard for Seats and Seat Anchorages.” In this case, 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 these requirements.
- (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 107 (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 108 (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 Attachment 31 “Technical Standard for Seat Belt Anchorages.”

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 Attachment 32 “Technical Standard for Seat Belt Assemblies.” In this case, 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 this requirement.

7. 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 109 (Head Restraints)

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 Attachment 34 “Technical Standard for Head Restraints.” In this case, the following head restraints, which exhibit no damage to injure the heads, etc. of the occupants shall be regarded as complying with these requirements.

- (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 110 (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 Attachment 35 “Technical Standard for Child Restraints.”

2. The child restraints enumerated below shall be regarded as not complying with the requirements of the preceding Paragraph.

- (1) Front-facing child seats in which rigid structures are not covered with padding materials that reduce physical impacts to the front of the children’s bodies.
- (2) 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, or child restraints in which it is difficult to restrain or retain a child in place easily in the device.
- (3) Child restraints liable to be loosened or deformed by impacts, vibration, etc.
- (4) Child restraints whose construction will not permit a protector or a third party to rescue the child readily in the event of emergency.

3. The child restraints enumerated below which exhibit no damage, etc. liable to injure children shall be regarded as complying with the requirements of Paragraph 1.

- (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 111 (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.

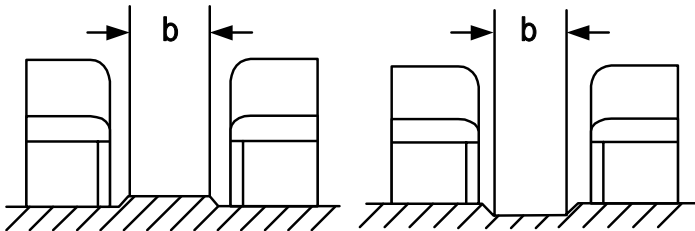
2. The “effective width” and “effective height” provided for in the preceding Paragraph shall be the width and height of those sections which can be used effectively as the aisles. In cases where the effective width of the aisle varies because of the slide, etc. of the seats, the effective width shall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

(Example)

A. Effective width

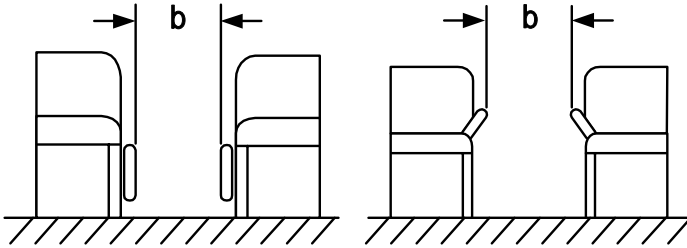
(1) Cases where aisle and seat floor surface differ in height:

b: Effective width



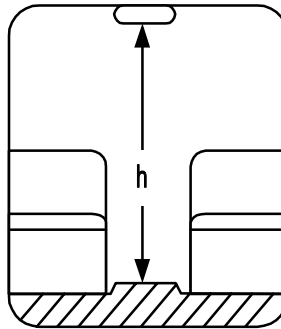
(2) Cases where part of seat protrudes above aisle:

b: Effective width



B. Effective height

b: Effective width

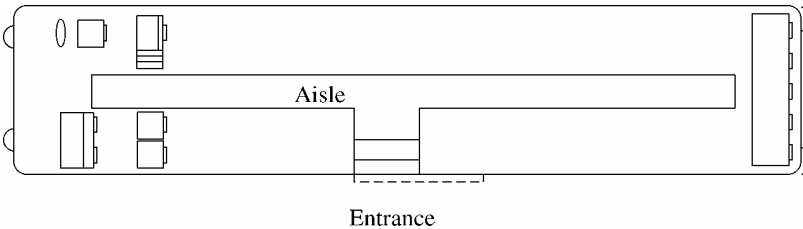


3. Those seats whose positional relationship with the aisle which leads from the entrance to the seat comes under one of the following Items given below shall be regarded as “leading to any seat” provided for in Paragraph 1 in respect to the seat concerned.

- (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.

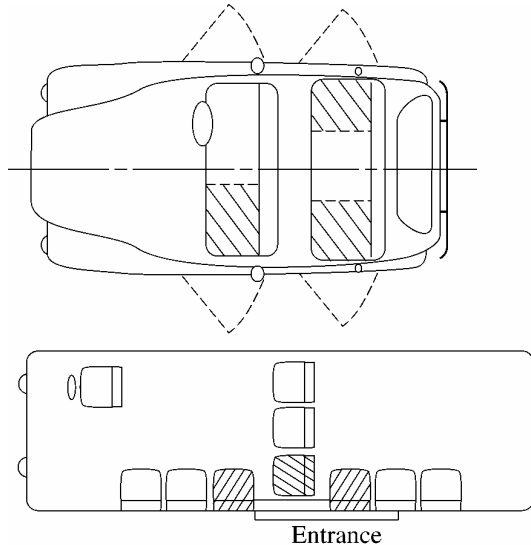
(Referential diagram)



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.

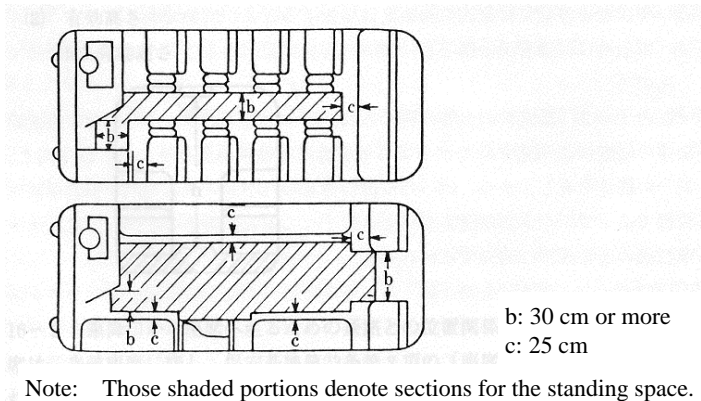
Article 112 (Standing Space)

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)



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 m².

Article 113 (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.

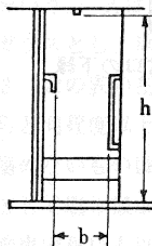
2. The requirements prescribed in the Announcement of Paragraph 4 of Article 25 of the Safety Regulations in connection with the construction of doors provided at entrances shall be the requirements prescribed in Attachment 36 “Technical Standard for Prevention of Door Opening.” In this case, the doors 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 111);

(Referential diagram)

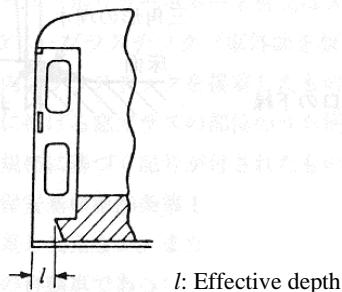


b: Effective width
h: Effective height

- (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 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.

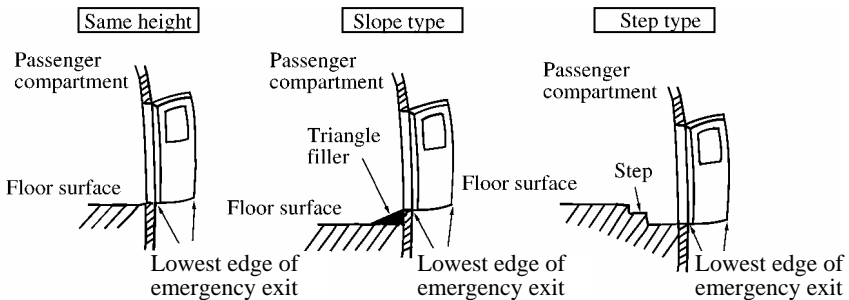
Article 114 (Emergency Exits)

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 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 115 (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 116 (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 98 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 98 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 98 shall apply mutatis mutandis;
- (4) For the installation of the gas transport device and piping, the requirement of Item (4), Paragraph 1 of Article 98 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 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 117 (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, 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) and 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 Attachment 37 “Technical Standard for Window Glass.” 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.

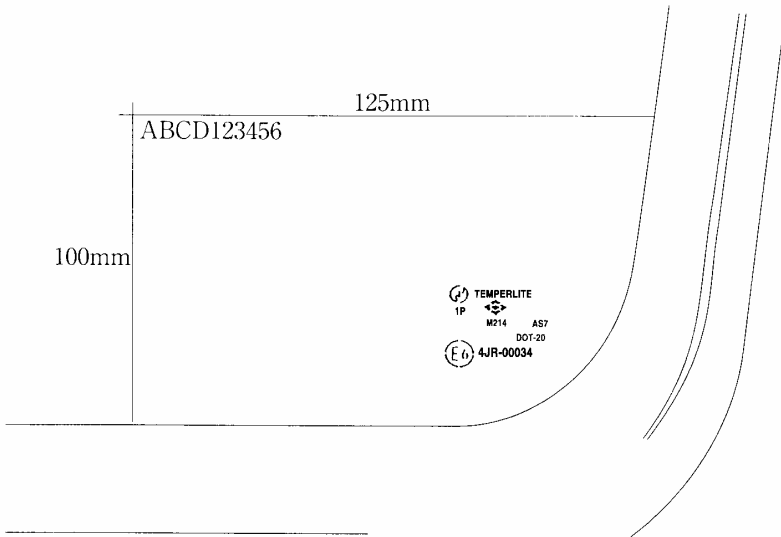
2. The “safety glass” in Paragraph 1 of Article 29 of the Safety Regulations shall refer to the laminated glass, toughened glass, zone toughened glass, organic glass (referring to hard synthetic resin material, such as polycarbonate material or methacrylic material), or glass-plastic (referring to one 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).

3. 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.
4. 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.

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- 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 (except the area which overlaps the test zone A), 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;



5. “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.

6. 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 4.

- (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.

7. 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 Paragraph 1.

8. 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 Paragraph 1.

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 118 (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 119 (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. However, the requirements of Items (1), (3) and (5) shall not apply to ordinary-sized motor vehicles and small-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less (including motor cycles (including motor cycles with sidecar. Hereinafter the same in this Article.)). Moreover, the requirements of Items (1) through (6), (10) and (11) shall not apply to motor cycles, and the requirements of Items (5) and (6) shall not apply to fuel cell vehicles whose fuel is compressed hydrogen gas and liquefied hydrogen gas.

[JE05-Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Gasoline•LPG Motor Vehicles (with GVW exceeding 3.5 tons)]

- (1) Of gasoline- or liquefied petroleum gas-fueled ordinary-sized motor vehicles and small-sized motor vehicles, those with a gross vehicle weight exceeding 3.5 tons shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons and nitrogen oxides contained in the exhaust emission generated when the motor vehicle is operated according to the JE05-mode method provided for in Attachment 41

“Measurement Procedure for Exhaust Emission of Heavy-Duty Motor Vehicles” and emitted from the exhaust pipe to the atmosphere shall be divided by the work done, expressed in kWh, generated when the motor vehicle is operated according to the said JE05-mode method, respectively. The thus-obtained values shall not exceed 21.3 in the case of carbon monoxide; 0.31 in the case of non-methane hydrocarbons; and 0.9 in the case of nitrogen oxides.

[10•11/15-Mode Mean Value Regulations at Time of Completion Inspection, etc. for Gasoline•LPG Motor Vehicles (with GVW of 3.5 tons or less)]

- (2) Of gasoline- or liquefied petroleum gas-fueled ordinary-sized motor vehicles, small-sized motor vehicles and mini-sized motor vehicles, motor vehicles other than those subjected to the application of the provision of Item (1) shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass per running distance of 1 km, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons and nitrogen oxides contained in the exhaust emission generated when the motor vehicle is operated according to the 10•15-mode method provided for in Attachment 42 “Measurement Procedure for Exhaust Emission of Light- and Medium-Duty Motor Vehicles” and emitted from the exhaust pipe to the atmosphere shall be multiplied by 0.88. Also, the emission mass per running distance of 1 km, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons and nitrogen oxides contained in the exhaust emission generated when the motor vehicle is operated according to the 11-mode method provided for in the said Attachment and emitted from the exhaust pipe to the atmosphere shall be multiplied by 0.12. The sum of these products shall not exceed the value posted in the “Carbon monoxide,” “Non-methane hydrocarbons” and “Nitrogen oxides” 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	Non-methane hydrocarbons	Nitrogen oxides
A. Ordinary-sized motor vehicles, small-sized motor vehicles or mini-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less	1.92	0.08	0.08
B. Ordinary-sized motor vehicles or small-sized motor vehicles with a gross vehicle weight of 1.7 tons or less, except those posted in Item A	1.92	0.08	0.08
C. Ordinary-sized motor vehicles or small-sized motor vehicles with a gross vehicle weight of 3.5 tons or less, except those posted in Items A and B	4.08	0.08	0.10
D. Mini-sized motor vehicles, except those posted in Item A	6.67	0.08	0.08

[JE05-Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Diesel Motor Vehicles (with GVW exceeding 3.5 tons)]

- (3) Of diesel-powered ordinary-sized motor vehicles and small-sized motor vehicles, those with a gross vehicle weight exceeding 3.5 tons shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons, nitrogen oxides and particulate matters contained in the exhaust emission generated when the motor vehicle is operated according to the JE05-mode method provided for in Attachment 41 "Measurement Procedure for Exhaust Emission of Heavy-Duty Motor Vehicles" and emitted from the exhaust pipe to the atmosphere shall be divided by the work done, expressed in kWh, generated when the motor vehicle is operated according to the said JE05-mode method, respectively. The thus-obtained values shall not exceed 2.95 in the case of carbon monoxide; 0.23 in the case of non-methane hydrocarbons; 2.7 in the case of nitrogen oxides; and 0.036 in the case of particulate matters.

[10•11/15-Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Diesel Motor Vehicles (with GVW of 3.5 tons or less)]

- (4) Of diesel-powered ordinary-sized motor vehicles and small-sized motor vehicles, motor vehicles other than those subjected to the application of the provision of Item (3) shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass per running distance of 1 km, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons, nitrogen oxides and particulate matters contained in the exhaust emission generated when the motor vehicle is operated according to the 10•15-mode method provided for in Attachment 42 “Measurement Procedure for Exhaust Emission of Light- and Medium-Duty Motor Vehicles” and emitted from the exhaust pipe to the atmosphere shall be multiplied by 0.88. Also, the emission mass per running distance of 1 km, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons, nitrogen oxides and particulate matters contained in the exhaust emission generated when the motor vehicle is operated according to the 11-mode method provided for in the said Attachment and emitted from the exhaust pipe to the atmosphere shall be multiplied by 0.12. The sum of these products shall not exceed the value posted in the “Carbon monoxide,” “Non-methane hydrocarbons,” “Nitrogen oxides” and “Particulate matters” 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	Non-methane hydrocarbons	Nitrogen oxides	Particulate matters
A. Ordinary-sized motor vehicles or small-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less and with a vehicle weight of 1,265 kg or less	0.84	0.032	0.19	0.017
B. Ordinary-sized motor vehicles or small-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less, except those posted in Item A	0.84	0.032	0.20	0.019
C. Ordinary-sized motor vehicles or small-sized motor vehicles with a gross vehicle weight of 1.7 tons or less, except those posted in Items A and B	0.84	0.032	0.19	0.017
D. Ordinary-sized motor vehicles or small-sized motor vehicles with a gross vehicle weight of 3.5 tons or less, except those posted in Items A through C	0.84	0.032	0.33	0.020

[JE05-Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Motor Vehicles Fueled by Other Fuel (with GVW exceeding 3.5 tons)]

- (5) Of ordinary-sized motor vehicles and small-sized motor vehicles fueled by fuel other than gasoline, liquefied petroleum gas or diesel fuel, those with a gross vehicle weight exceeding 3.5 tons shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by

carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons, nitrogen oxides and particulate matters contained in the exhaust emission generated when the motor vehicle is operated according to the JE05-mode method provided for in Attachment 41 “Measurement Procedure for Exhaust Emission of Heavy-Duty Motor Vehicles” and emitted from the exhaust pipe to the atmosphere shall be divided by the work done, expressed in kWh, generated when the motor vehicle is operated according to the said JE05-mode method, respectively. The thus-obtained values shall not exceed 21.3 in the case of carbon monoxide; 0.31 in the case of non-methane hydrocarbons; 2.7 in the case of nitrogen oxides; and 0.036 in the case of particulate matters.

[10•11/15-Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Motor Vehicles Fueled by Other Fuel (with GVW of 3.5 tons or less)]

- (6) Of ordinary-sized motor vehicles, small-sized motor vehicles and mini-sized motor vehicles fueled by fuel other than gasoline, liquefied petroleum gas and diesel fuel, motor vehicles other than those subjected to the application of the provision of Item (5) shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass per running distance of 1 km, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons, nitrogen oxides and particulate matters contained in the exhaust emission generated when the motor vehicle is operated according to the 10•15-mode method provided for in Attachment 42 “Measurement Procedure for Exhaust Emission of Light- and Medium-Duty Motor Vehicles” and emitted from the exhaust pipe to the atmosphere shall be multiplied by 0.88. Also, the emission mass per running distance of 1 km, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of non-methane hydrocarbons), of carbon monoxide, non-methane hydrocarbons, nitrogen oxides and particulate matters contained in the exhaust emission generated when the motor vehicle is operated according to the 11-mode method provided for in the said Attachment and emitted from the exhaust pipe to the atmosphere shall be multiplied by 0.12. The sum of these products shall not exceed the value posted in the “Carbon monoxide,” “Non-methane hydrocarbons,” “Nitrogen oxides” and “Particulate matters” 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	Non-methane hydrocarbons	Nitrogen oxides	Particulate matters
A. Ordinary-sized motor vehicles, small-sized motor vehicles or mini-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less and with a vehicle weight of 1,265 kg or less	1.92	0.08	0.19	0.017
B. Ordinary-sized motor vehicles, small-sized motor vehicles or mini-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less, except those posted in Item A	1.92	0.08	0.20	0.019
C. Ordinary-sized motor vehicles or small-sized motor vehicles with a gross vehicle weight of 1.7 tons or less, except those posted in Items A and B	1.92	0.08	0.19	0.017
D. Ordinary-sized motor vehicles or small-sized motor vehicles with a gross vehicle weight of 3.5 tons or less, except those posted in Items A through C	4.08	0.08	0.33	0.020
E. Mini-sized motor vehicles, except those posted in Items A and B	6.67	0.08	0.20	0.019

[8-Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Diesel Large-Sized Special Motor Vehicles]

- (7) Diesel-powered large-sized special motor vehicles (except type-designated motor vehicles and motor vehicles with

type-designated exhaust emission control device) shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of hydrocarbons), of carbon monoxide, hydrocarbons, nitrogen oxides and particulate matters contained in the exhaust emission generated when the motor vehicle is operated according to the diesel-powered special motor vehicle 8-mode method provided for in Attachment 43 “Measurement Procedure for 8-Mode Exhaust Emission of Diesel-Powered Special Motor Vehicles” and emitted from the exhaust pipe to the atmosphere shall be divided by the work done, expressed in kWh, generated when the motor vehicle is operated according to the same method. The thus-obtained values shall not exceed the value posted in the “Carbon monoxide,” “Hydrocarbons,” “Nitrogen oxides” and “Particulate matters” 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	Nitrogen oxides	Particulate matters
A. Large-sized special motor vehicles equipped with an engine with rated output of 19 kW or more and less than 37 kW	6.50	1.95	10.40	1.04
B. Large-sized special motor vehicles equipped with an engine with rated output of 37 kW or more and less than 75 kW	6.50	1.69	9.10	0.52
C. Large-sized special motor vehicles equipped with an engine with rated output of 75 kW or more and less than 130 kW	6.50	1.30	7.80	0.39
D. Large-sized special motor vehicles equipped with an engine with rated output of 130 kW or more and less than 560 kW	4.55	1.30	7.80	0.26

[Motor Cycle Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Gasoline Motor Cycles]

- (8) Gasoline-fueled motor cycles shall comply with the following requirements at the time of the initial inspection, etc.:

The emission mass per running distance of 1 km, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent in the case of hydrocarbons), of carbon monoxide, hydrocarbons and nitrogen oxides contained in the exhaust emission generated when the motor vehicle is operated according to the motor cycle mode method provided for in Attachment 44 "Measurement Procedure for Motor Cycle Mode Exhaust Emission" and emitted from the exhaust pipe to the atmosphere shall not exceed the value posted in the "Carbon monoxide," "Hydrocarbons" and "Nitrogen oxides" 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	Nitrogen oxides
A. Small-sized motor vehicles or mini-sized motor vehicles with a four-cycle engine	20.0	2.93	0.51
B. Small-sized motor vehicles or mini-sized motor vehicles with a two-cycle engine	14.4	5.26	0.14

[Idling Regulations for Gasoline • LPG Motor Vehicles]

- (9) 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	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

[Diesel Smoke Mode Regulations at Time of Completion and Initial Inspections, etc. for Diesel Motor Vehicles]

- (10) Of diesel-powered motor vehicles, those of Items (3), (4) and (7) shall comply with the following requirements at the time of the initial inspection, etc.:

The degree of pollution by diesel smoke contained in the exhaust emission generated when the motor vehicle is operated according to the diesel smoke 4-mode method provided for in Attachment 45 “Measurement Procedure for Diesel 4-Mode Smoke” and emitted from the exhaust pipe to the atmosphere shall not exceed 25%.

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

- (11) 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 accelerator pedal is depressed 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 the preceding Paragraph 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 the preceding Paragraph 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 pursuant to Attachment 47 “Technical Standard for Heat-Damage Warning Devices, etc. Concerning Exhaust Emission Control Devices of Motor Vehicles” 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 the preceding Paragraph:

- 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”) and which complies with Attachment 47 “Technical Standard for Heat-Damage Warning Devices, etc. Concerning Exhaust Emission Control Devices of Motor Vehicles.” 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 the preceding Paragraph 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 and which complies with Attachment 48 “Technical Standard for On-Board Diagnostic (OBD) System for Exhaust Emission Control Devices of Motor Vehicles.” 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 the emission mass, expressed in gram (the value, expressed in gram, that has been converted from the value expressed in volumetric ratio by carbon equivalent), of hydrocarbons evaporated from the fuel, that is measured according to the operating conditions and measurement conditions provided for in Attachment 49 "Measurement Procedure for Fuel Evaporative Emissions" shall not exceed 2.0 g. 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. Moreover, exhaust pipes which are not mounted securely or exhibit damage shall be regarded as not complying with this requirement.
- (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.

Article 120 (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 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 play.
- (6) Only the following headlamps with driving beam which exhibit no damage, etc. liable to hamper its function may be used as an adaptive front lighting system with driving beam (referring to headlamps with driving beam capable of illuminating the curved section of road ahead of the motor vehicle more intensively. Hereinafter the same.):
- A. Adaptive front lighting systems 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 systems with driving beam type-designated pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or adaptive front lighting systems 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.
 - (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.
 - (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.

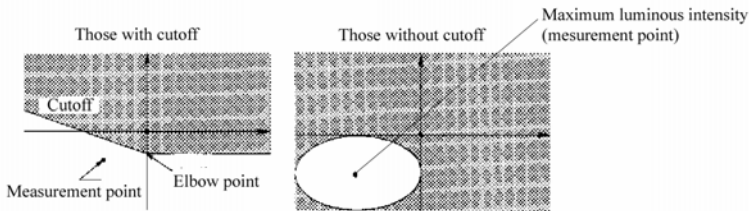
- (iii) The battery shall be charged and the engine shall be running.
 - (iv) In cases where a headlamp tester (for driving beam) is used, the light-receiving unit concerned shall face normally the headlamp with passing beam.
 - (v) In cases where there is the possibility that proper measurement is hindered, 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 (referring to headlamps with passing beam capable of illuminating the curved section of road ahead of the vehicle more intensively. Hereinafter the same.):
 - 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)."

- (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. However, for the equipment of the aim adjusting device, the requirements shall be those prescribed in Attachment 52 “Technical Standard for Installation of Lamps, Reflex Reflectors and Direction Indicator lamps” in the case of motor vehicles other than motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds.

- (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.

Article 121 (Front Fog Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 33 of the Safety Regulations in connection with the colour of light, brightness, etc. of the front fog lamps shall be the requirements enumerated in each of the following Items.

- (1) The beams of front fog lamps shall not disturb other traffic.
- (2) The colour of light of a front fog lamp shall be white or selective yellow, and all front fog lamps shall be the same in the colour of light.
- (3) The front fog lamp shall comply with the requirements of Items (5) and (6), Paragraph 1 of the preceding Article, in addition to that provided for in each of the preceding Items.

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

3. The requirements prescribed in the Announcement of Paragraph 3, Article 33 of the Safety Regulations in connection with the installation position, installation method, etc. of the front fog lamps 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 front fog lamps 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 front fog lamps shall be wired so that three or more units do not light at a time.
- (2) The front fog lamps 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 0.8 m or less above the ground and is at a height of or below the horizontal plane including the upper edge of the illuminating surface of the headlamp with passing beam (for front fog lamps installed to large-sized special motor vehicles, small-sized special motor vehicles 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 a height of 0.8 m or less above the ground because of the vehicle construction, at a minimum mountable height at which the upper edge of the illuminating surface thereof is at a height of or below the horizontal plane including the upper edge of the illuminating surface of the headlamp with passing beam) and the lower edge is at a height of 0.25 m or more above the ground.
- (3) The front fog lamps 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 or below the horizontal plane including the centre of the illuminating surface of the headlamp with passing beam.
- (4) The front fog lamps 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 (for front fog lamps installed to large-sized special motor vehicles, small-sized special motor vehicles 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 because of the vehicle construction, at an outermost mountable position). However,

this provision shall not apply to the front fog lamps installed to the motor vehicles provided for in the proviso of Item (1), Paragraph 2 of the preceding Article.

- (5) The illuminating surface of the front fog lamp to be provided on motor vehicles other than large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles shall be visible from every position in the range enclosed by the planes 5° above and 5° below the horizontal plane, including the horizontal line which passes the centre of the front fog lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 10° inward of the front fog lamp and 45° outward of the front fog lamp from the vertical plane that includes the centre of the front fog lamp and is parallel to the forward direction of the motor vehicle.
- (6) A device shall be provided, which indicates the on-off state of the front fog lamp to the driver in his seat.
- (7) The front fog lamps shall comply with the requirements of Items (6) and (11), Paragraph 2 of the preceding Article, in addition to those provided for in each of the preceding Items.
- (8) The front fog lamps shall be such ones that can be turned on and off, regardless of the on-off condition of the headlamp with driving beam and headlamp with passing beam.
- (9) The front fog lamps shall be so constructed that they 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 front fog lamp 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.
- (10) The front fog lamps shall not flash. However, this provision shall not apply to cases provided for in the proviso of the preceding Item.
- (11) The direct light or reflected light of the front fog lamp shall not hamper the driving operations of the motor vehicle equipped with the front fog lamp concerned and of other motor vehicles.
- (12) The front fog lamps shall be mounted in such a way that the

performance provided for in Paragraph 1 may not be hampered. For example, the lamp mountings shall not be loose or exhibit no excessive play.

4. The front fog lamps enumerated in each of the following Items 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) Front fog lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Front fog lamps having the same construction and provided at the same position as front fog lamps 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 front fog lamps having the performance equivalent to it.

Article 122 (Cornering Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 33-2 of the Safety Regulations in connection with the colour of light, brightness, etc. of the cornering lamps shall be the requirements enumerated in each of the following Items.

- (1) The beams from the cornering lamps shall not disturb other traffic. In this case, cornering lamps whose luminous intensity is 12,000 cd or less and which function normally shall be regarded as complying with this requirement.
- (2) The main photometric axis of a cornering lamp shall not strike the road surface behind the mounting section; in the case of one mounted on the left side, the road surface on the right side from the mounting section; and in the case of one mounted on the right side, the road surface on the left side from the mounting section.
- (3) The colour of light of a cornering lamp shall be white.
- (4) The cornering lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

2. The cornering lamp having the same construction and provided at the

same position as those mounted on designated motor vehicles, etc. which exhibits no damage, etc. liable to hamper its function shall be regarded as complying with each Item of the preceding Paragraph.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 33-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the cornering lamps 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 cornering lamps 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 cornering lamp shall be constructed so that it may be illuminated only when the headlamps with passing beam or the headlamps with driving beam are illuminated.
- (2) The cornering lamp at each side of a motor vehicle shall be constructed that it may be illuminated only when the direction indicator lamp on the same side is operated or the steering system is turned from the straight-ahead condition to the same side.
- (3) The cornering lamp shall be constructed that it may be turned off automatically when the operation of the direction indicator lamp is finished or the steering angle of the steering system returns to the straight-ahead condition.
- (4) The cornering lamp shall be mounted so that the lower edge of the illuminating surface thereof is at a height of 0.25 m or more above the ground, and the upper edge is at a height of 0.9 m or less above the ground and at a height of or below the horizontal plane including the upper edge of the illuminating surface of the headlamp with passing beam.
- (5) The cornering lamp 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.
- (6) The extreme rear edge of the illuminating surface of the cornering lamp shall be within 1 m from the front end of the motor vehicle.
- (7) The cornering lamp shall be such one that the direction of its beam is not liable to be disturbed readily by vibration, shocks, etc.

- (8) The cornering lamp shall not flash.
 - (9) The direct light or reflected light of the cornering lamp shall not hamper the driving operations of the motor vehicle equipped with the cornering lamp concerned and of other motor vehicles.
 - (10) The cornering lamps shall be mounted in such a way that the performance provided for in Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following cornering lamps enumerated below which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with each Item of the preceding Paragraph.
- (1) Cornering lamps having the same construction and provided at the same position as those mounted on designated motor vehicles;
 - (2) Cornering lamps having the same construction and provided at the same position as the cornering lamp 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.

Article 123 (Position lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 34 of the Safety Regulations in connection with the colour of light, brightness, etc. of the position lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the position lamps shall be handled 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 illuminating light of a position lamp shall be clearly visible at night at a distance of 300 m from the front of the vehicle, and the beams from the position lamps shall not disturb other traffic. The position lamp with a light source of 5 watts or more and an illuminating surface of 15 cm² or more (for position lamps installed to motor vehicles manufactured on or after January 1, 2006, the light source shall be 5 watts or more and 30 watts or less, and the illuminating surface shall be 15 cm² or more.) that operates normally shall be regarded as complying with this requirement.

- (2) The colour of light of a position lamp shall be white. However, the colour of light may be amber in the case of the position lamp that is integral, from the standpoint of the vehicle construction, with the direction indicator lamp, hazard warning lamp or side marker lamp, and in the case of those installed to motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds.
- (3) The illuminating surface of the position lamp shall be visible from every position in the range enclosed by the planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the position lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 45° inward of the position lamp and 80° outward of the position lamp from the vertical plane that includes the centre of the position lamp and is parallel to the forward direction of the motor vehicle.
- (4) The position lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

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

3. The requirements prescribed in the Announcement of Paragraph 3, Article 34 of the Safety Regulations in connection with the installation position, installation method, etc. of the position lamps 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 position lamps 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 position lamps shall be two or four. However, motor vehicles with a width of 0.8 m or less, whose headlamps with passing beam are mounted so that the outermost edge of the illuminating surface thereof is within 400 mm from the outermost part of the motor vehicle, may be provided with no position lamp on these sides.

- (2) The position lamps 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 2.1 m or less above the ground and the lower edge is at a height of 0.35 m or more above the ground.
- (3) The position lamps 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 2 m or less above the ground.
- (4) The position lamps shall be mounted so that the outermost edge of the illuminating surface thereof is within 400 mm (150 mm for trailers) from the outermost part of the motor vehicle.
- (5) The position lamps provided on both sides at the front end of a motor vehicle shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle. However, this provision shall not apply to position lamps installed to motor vehicles in which the right and left sides at the front end are not symmetric.
- (6) A device shall be provided, which indicates the on-off state of the position lamps 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 and motor vehicles provided with instruments, etc. which are located in front of the driver's seat and other front seats in parallel to the driver's seat and go on in interlocking with the position lamps.
- (7) The position lamps installed to the motor vehicles in parentheses of Item (4), Paragraph 6 of Article 39 and the motor vehicles in parentheses of Item (4), Paragraph 3 of Article 40 shall be constructed so as not to be turned off when the headlamps or front fog lamps are illuminated.
- (8) The position lamps shall be so constructed that they can be turned on and off simultaneously with the rear position lamps, front-end outline marker lamps, rear-end outline marker lamps, side marker lamps and number plate lamps. However, this provision shall not apply to cases where the motor vehicle is equipped with position lamps shared in common with parking lamps, rear position lamps shared in common with parking lamps, and parking lamps shared in common with

position lamps, rear position lamps and side marker lamps.

- (9) The position lamps shall not flash.
- (10) The direct light or reflected light of the position lamp shall not hamper the driving operations of the motor vehicle equipped with the position lamp concerned and of other motor vehicles.
- (11) Position lamps, in combination with either direction indicator lamps or hazard warning lamps, mounted on each side at the front shall be wired so that, when the direction indicator lamps or hazard warning lamps are in operation, one or both at the side where the direction is indicated will be put out, notwithstanding the requirement of Items (7) and (9).
- (12) The position lamps shall be mounted in such a way that the performance (in cases where the upper edge of the illuminating surface of the position lamp is at a height of less than 0.75 m above the ground, "15° below" in the requirement of Item (3) of the preceding Paragraph shall read as "5° below"; and in cases where the side marker lamp mounted at the front section of motor vehicles (except motor cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds, and trailers) used exclusively for carriage of passengers with a passenger capacity of less than 10 persons, or of motor vehicles (except three-wheeled motor vehicles and trailers) used for carriage of goods with a gross vehicle weight of 3.5 tons or less, has a performance complementing the performance provided for in the said Item, "80° outward" in the requirement of the said Item shall read as "45° outward.") provided for in Paragraph 1 (except the provision concerned with Item (3) of the said Paragraph in the case of large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles) may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.

4. The following position lamps 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) Position lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Position lamps having the same construction and provided at the same position as the position lamp 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 position lamps having the performance equivalent to it.

Article 124 (Front-End Outline Marker Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 34-2 of the Safety Regulations in connection with the colour of light, brightness, etc. of the front-end outline marker lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the front-end outline marker lamps shall be handled 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 illuminating light of a front-end outline marker lamp shall be clearly visible at night at a distance of 300 m from the front of the vehicle, and the beams from the position lamps shall not disturb other traffic. In this case, the front-end outline marker lamp with a light source of 5 watts or more and 30 watts or less, and an illuminating surface of 15 cm² or more that operates normally shall be regarded as complying with this requirement.
- (2) The colour of light of the front-end outline marker lamp shall be white.
- (3) The front-end outline marker lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

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

3. The requirements prescribed in the Announcement of Paragraph 3,

Article 34-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the front-end outline marker lamps 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 front-end outline marker lamps 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 front-end outline marker lamps installed to motor vehicles other than trailers shall be mounted so that the upper edge of the illuminating surface thereof is at least at a height of the horizontal plane which includes the uppermost edge of the front windshield.
- (2) The front-end outline marker lamps installed to trailers shall be mounted at a maximum mountable height.
- (3) The front-end outline marker lamps 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.
- (4) The front-end outline marker lamps provided on both sides at the front end of a motor vehicle shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle (except for front-end outline marker lamps installed to motor vehicles in which the right and left sides at the front end are not symmetric).
- (5) The front-end outline marker lamps shall be mounted at such a position that, when the illuminating surface thereof and the illuminating surface of the position lamp are projected on a vertical plane perpendicular to the longitudinal centre plane of the motor vehicle, these projected illuminating surfaces are located at least 200 mm apart from each other.
- (6) The illuminating surface of the front-end outline marker lamp shall be visible from every position in the range enclosed by the planes 20° above and 5° below the horizontal plane, including the horizontal line which passes the centre of the front-end outline marker lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the plane 80° outward of the front-end outline marker lamp from the vertical plane that includes the centre of the front-end outline marker lamp and is parallel to the forward direction of the motor vehicle.

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- (7) The front-end outline marker lamps shall be constructed so as not to be turned off when the position lamps are on.
 - (8) The front-end outline marker lamps shall not flash.
 - (9) The direct light or reflected light of the front-end outline marker lamp shall not hamper the driving operations of the motor vehicle equipped with the front-end outline marker lamp concerned and of other motor vehicles.
 - (10) The front-end outline marker lamps shall be mounted in such a way that the performance provided for in the Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following front-end outline marker lamps 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) Front-end outline marker lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Front-end outline marker lamps having the same construction and provided at the same position as the front-end outline marker lamp 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 front-end outline marker lamps having the performance equivalent to it.

Article 125 (Front Reflex Reflectors)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 35 of the Safety Regulations in connection with the colour of reflecting light, brightness, shape of reflecting surface, etc. of the front reflex reflectors shall be the requirements enumerated in each of the following Items. In this case, the reflecting surface of the front reflex reflectors shall be handled 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 reflected light of a front reflex reflector, when illuminated by a headlamp with driving beam (referring to the headlamp with driving beam provided for in Item (1), Paragraph 1, Article 39 (except those 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 and small-sized special motor vehicles for agricultural use) Hereinafter, the same in Articles 45 and 51.) located 150 m ahead of the front reflex reflector concerned at night, shall be clearly visible at that projection position. In this case, front reflex reflectors with a reflecting surface of 10 cm² or more shall be regarded as complying with this requirement.
 - (2) The reflecting surface of a front reflex reflector shall be neither a letter nor a triangle in shape. In this case, the shapes similar to simple letters or figures, such as O, I, U and 8, shall be regarded as complying with this requirement.
 - (3) The colour of reflecting light of the front reflex reflector shall be white.
 - (4) The front reflex reflectors shall not have broken reflex reflectors, or reflex reflectors whose reflecting surfaces are badly smeared.
2. The following front reflex reflectors 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) Front reflex reflectors having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Front reflex reflectors for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or front reflex reflectors having the performance equivalent to it.
3. The requirements prescribed in the Announcement of Paragraph 3, Article 35 of the Safety Regulations in connection with the installation position, installation method, etc. of the front reflex reflectors shall be the requirements provided for in each of the following Items. In this case, the measuring methods for the reflecting surface, numbers and installation position of the front reflex reflectors 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 front reflex reflectors shall be mounted so that the upper edge of the reflecting surface thereof is at a height of 1.5 m or less above the ground and the lower edge is at a height of 0.25 m or more above the ground.
 - (2) The front reflex reflectors shall be mounted so that the outermost edge of the reflecting surface thereof is within 400 mm from the outermost part of the motor vehicle.
 - (3) The reflecting surface of the front reflex reflector to be provided on motor vehicles other than large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles shall be visible from every position in the range enclosed by the planes 10° above and 10° below (in cases where the upper edge of the reflecting surface of the front reflex reflector is at a height of less than 0.75 m, the plane 5° below) the horizontal plane, including the horizontal line which passes the centre of the front reflex reflector and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 30° inward (the plane 10° inward in the case of the front reflex reflector to be mounted on trailers) of the front reflex reflector and 30° outward of the front reflex reflector from the vertical plane that includes the centre of the front reflex reflector and is parallel to the forward direction of the motor vehicle.
 - (4) The mounting positions of the front reflex reflectors shall comply with the requirements of Item (5), Paragraph 3 of Article 123, in addition to those provided for in each of the preceding Items.
 - (5) The front reflex reflector shall be so mounted that it will not indicate to the rear of the motor vehicle.
 - (6) The front reflex reflector shall be mounted in such a way that the performance provided for in the Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following front reflex reflectors 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) Front reflex reflectors having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;

- (2) Front reflex reflectors having the same construction and provided at the same position as the front reflex reflector 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 front reflex reflectors having the performance equivalent to it.

Article 126 (Side Marker Lamps and Side Reflex Reflectors)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 35-2 of the Safety Regulations in connection with the colour of light, brightness, etc. of the side marker lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the side marker lamps shall be handled 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 illuminating light of a side marker lamp shall be clearly visible at night at a distance of 150 m from the side of the vehicle, and the beams from the position lamps shall not disturb other traffic. In this case, the side marker lamp with a light source of 3 watts or more and 30 watts or less, and an illuminating surface of 10 cm² or more that operates normally shall be regarded as complying with this requirement.
- (2) The colour of light of the side marker lamp shall be amber. However, the colour of light may be red in the case of the side marker lamp that is provided at the rear end and is integral, from the standpoint of construction, with the rear position lamp, rear-end outline marker lamp, rear fog lamp, stop lamp or rear reflex reflector, or shared in common with these lamps.
- (3) The illuminating surface of a side marker lamp to be provided on ordinary-sized motor vehicles with a length exceeding 6 m shall be visible from every position in the range enclosed by the planes 10° above and 10° below the horizontal plane, including the horizontal line which passes the centre of the side marker lamp and is parallel to the forward direction of the motor vehicle, and enclosed by the planes 45° forward and 45° rearward of the vertical plane which passes the centre of the side marker lamp and is perpendicular to the forward direction of the motor vehicle.

(4) The illuminating surface of a side marker lamp to be provided on motor vehicles with a length of 6 m or less shall be visible from every position in the range enclosed by the planes 10° above and 10° below the horizontal plane, including the horizontal line which passes the centre of the side marker lamp and is parallel to the forward direction of the motor vehicle, and enclosed by the planes 30° forward and 30° rearward of the vertical plane which passes the centre of the side marker lamp and is perpendicular to the forward direction of the motor vehicle.

(5) The side marker lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

2. The following side marker lamps 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) Side marker lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;

(2) Side marker lamps for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or side marker lamps having the performance equivalent to it.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 35-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the side marker lamps 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 side marker lamps 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 side marker lamps installed to motor vehicles other than motor cycles with or without side car 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 2.1 m or less above the ground and the lower edge is at a height of 0.25 m or more above the ground.

(2) The side marker lamps 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 2 m or less above the ground.

- (3) The side marker lamps installed to ordinary-sized motor vehicles with a length exceeding 6 m shall be mounted so that the distance between the illuminating surfaces thereof is within 3 m (at a mountable position within 4 m in the case of side marker lamps installed to motor vehicles used for snow removal, civil engineering work and other special use, which cannot be mounted in such a way that the distance between the illuminating surfaces of the side marker lamps may be within 3 m because of the vehicle construction).
- (4) The side marker lamps installed to ordinary-sized motor vehicles with a length exceeding 6 m shall be mounted so that the extreme front end of the illuminating surface of at least one side marker lamp on right and left sides, respectively, is $\frac{1}{3}$ or more of the length of the motor vehicle concerned from the front end of the motor vehicle, and the rearmost edge of the illuminating surface thereof is $\frac{1}{3}$ or more of the length of the motor vehicle concerned from the rear end of the motor vehicle.
- (5) The side marker lamps installed at the front end of a motor vehicle with a length exceeding 6 m shall be mounted so that the extreme front end of the illuminating surface thereof is within 3 m from the front end of the motor vehicle (at a mountable position near the front end of the motor vehicle in the case of side marker lamps installed to motor vehicles used for snow removal, civil engineering work and other special use, which cannot be mounted within 3 m from the front end of the motor vehicle because of the vehicle construction).
- (6) The side marker lamps installed at the rear end of a motor vehicle with a length exceeding 6 m shall be mounted so that the rearmost end of the illuminating surface thereof is within 1 m from the rear end of the motor vehicle (at a mountable position near the rear end of the motor vehicle in the case of side marker lamps installed to motor vehicles used for snow removal, civil engineering work and other special use, which cannot be mounted within 1 m from the rear end of the motor vehicle because of the vehicle construction).
- (7) The side marker lamps installed at the front end of a motor vehicle with a length of 6 m or less shall be mounted so that the extreme front end of the illuminating surface thereof is within $\frac{1}{3}$ of the length of the motor vehicle concerned from the front end of the motor vehicle.
- (8) The side marker lamps installed at the rear end of a motor vehicle with

a length of 6 m or less shall be mounted so that the rearmost edge of the illuminating surface thereof is within 1/3 of the length of the motor vehicle concerned from the rear end of the motor vehicle.

- (9) The side marker lamps shall comply with the requirements provided for in Item (1), Paragraph 3 of the next Article. However, the side marker lamps which serve also as direction indicator lamps or auxiliary direction indicator lamps (hereinafter referred to as the “direction indicator lamps, etc.” in this Article) shall be constructed so that, when the direction indicator lamp, etc. is in operation, the side marker lamp which is serving as the said direction indicator lamp, etc. in operation is turned off. Furthermore, in the case of side marker lamps (except those installed to motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds) complementing the performance of the direction indicator lamp provided at the front end or the rear end pursuant to the provision of Paragraph 3 of Article 41 of the Safety Regulations, they shall be constructed so that, when the direction indicator lamp, etc. is in operation, the side marker lamp flashes simultaneously with the said direction indicator lamp, etc. in operation.
- (10) The side marker lamp other than those shared in common with the direction indicator lamp, etc. shall be so constructed that, when the hazard warning lamps are in operation, the side marker lamp flashes simultaneously with the said hazard warning lamp.
- (11) The direct light or reflected light of the side marker lamp shall not hamper the driving operations of the motor vehicle equipped with the side marker lamp concerned and of other motor vehicles.
- (12) The side marker lamp whose colour of light is red shall be mounted so that it will not indicate to the front.
- (13) The side marker lamps shall be mounted in such a way that the performance (in cases where the upper edge of the illuminating surface of the side marker lamp is at a height of less than 0.75 m above the ground, “10° below” in the requirement of Item (3) of the preceding Paragraph shall read as “5° below”; and in cases where the side marker lamp (only limited to those whose colour of light is amber) mounted at the front section or the rear section of motor vehicles (except motor cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds, and trailers) used exclusively for carriage of passengers with a passenger capacity of less than 10 persons, or of motor vehicles (except three-wheeled

motor vehicles and trailers) used for carriage of goods with a gross vehicle weight of 3.5 tons or less, has a performance complementing the performance of the direction indicator lamp mounted at the front section or the rear section, that is provided for in “a” in the Table of Item (3), Paragraph 1 of Article 56, “80° outward” in the requirement of “a” in the same Table shall read as “45° outward.”) provided for in Paragraph 1 (except the provision concerned with Item (3) of the said Paragraph in the case of large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles) may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.

4. The following side marker lamps 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) Side marker lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Side marker lamps having the same construction and provided at the same position as the side marker lamp 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 side marker lamps having the performance equivalent to it.

5. The requirements prescribed in the Announcement of Paragraph 4, Article 35-2 of the Safety Regulations in connection with the colour of reflecting light, brightness, shape of reflecting surface, etc. of the side reflex reflectors shall be the requirements enumerated in each of the following Items. In this case, the reflecting surface of the side reflex reflectors shall be handled 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 reflecting light of a side reflex reflector, when lit by a headlamp with driving beam located 150 m from the side of the side reflex reflector concerned at night, shall be clearly visible at that projection position. In this case, the side reflex reflector with a reflecting surface of 10 cm² or more shall be regarded as complying with this requirement.
- (2) The reflecting surface of a side reflex reflector shall be neither a letter nor a triangle in shape. In this case, the shapes similar to simple letters

or figures, such as O, I, U and 8, shall be regarded as complying with this requirement.

- (3) The colour of reflecting light of the side reflex reflector shall be amber. However, the colour of light may be red in the case of the side reflex reflector that is provided at the rear end and is integral, from the standpoint of construction, with the rear position lamp, rear-end outline marker lamp, rear fog lamp, stop lamp or side marker lamp provided at the rear end.
- (4) The side reflex reflectors shall not have broken lamps or reflex reflectors, or lamps or reflex reflectors whose lens surfaces or reflecting surfaces are badly smeared.

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

7. The requirements prescribed in the Announcement of Paragraph 5, Article 35-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the side reflex reflectors shall be the requirements provided for in each of the following Items. In this case, the measuring methods for the reflecting surface, numbers and installation position of the side reflex reflectors 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 side reflex reflectors 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 reflecting surface thereof is at a height of 1.5 m or less above the ground and the lower edge is at a height of 0.25 m or more above the ground.
- (2) The reflecting surface of the side reflex reflector to be provided on motor vehicles other than motor cycles with or without sidecar,

three-wheeled motor vehicles and mini-sized motor vehicles with caterpillar tracks and sleds shall be visible from every position in the range enclosed by the planes 10° above and 10° below (in cases where the upper edge of the reflecting surface of the side reflex reflector is at a height of less than 0.75 m, the plane 5° below) the horizontal plane, including the horizontal line which passes the centre of the side reflex reflector and is parallel to the forward direction of the motor vehicle, and enclosed by the planes 45° forward and 45° backward of the side reflex reflector from the vertical plane that includes the centre of the side reflex reflector and is perpendicular to the forward direction of the motor vehicle.

- (3) The mounting positions of the side reflex reflectors shall comply with the requirements of Items (2) through (8) of Paragraph 3, in addition to those provided for in the two preceding Items.
 - (4) The side reflex reflector shall be mounted so that the reflecting light of the side reflex reflector whose colour of reflecting light is red will not indicate to the rear of the motor vehicle.
 - (5) The side reflex reflector shall be mounted in such a way that the performance provided for in Paragraph 5 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
8. The following side reflex reflectors 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) Side reflex reflectors having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Side reflex reflectors having the same construction and provided at the same position as the side reflex reflector 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 side reflex reflectors having the performance equivalent to it.

Article 127 (Number Plate Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 36 of the Safety Regulations in connection with the colour of light,

brightness, etc. of the number plate lamps shall be the requirements enumerated in each of the following Items.

- (1) The number plate lamp shall illuminate in such a way that the indications, such as numbers, of the motor vehicle registration number plate, the number plate permitting temporary operation, the number plate permitting forwarding operation or the vehicle number plate can be clearly visible from a distance of 20 m to the rear at night. In this case, the number plate lamps which have an illumination intensity of 30 lux or more at the number plate surface when subjected to the measurement by a number plate lamp tester and operate normally shall be regarded as complying with this requirement.
- (2) The colour of light of the number plate lamp shall be white.
- (3) The number plate lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

2. The following number plate lamps 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) Number plate lamps having the same construction and provided at the same position as the number plate lamp mounted on designated motor vehicles, etc.;
- (2) Illuminated character type motor vehicle registration number plates provided at the rear, which has been recognized as complying with Paragraph 3 of Article 11 of the Enforcement Regulations.

3. The requirement prescribed in the Announcement of Paragraph 3 of Article 36 of the Safety Regulations in connection with the installation position, installation method, etc. of the number plate lamps shall be the requirements provided for in each of the following Items.

- (1) The number plate lamps shall be constructed so as not to be turned off at the driver's seat, or constructed so as not to be turned off when the headlamps, front fog lamps or position lamps are on. However, a device may be provided, which prevents the number plate lamps from being turned on when the headlamps or front fog lamps are turned on, except cases where the headlamps must be turned on pursuant to the provision of Paragraph 1 of Article 52 of the Road Traffic Act.
- (2) The number plate lamp shall not flash.

- (3) The direct light or reflected light of the number plate lamp shall not hamper the driving operations of the motor vehicle equipped with the number plate lamp concerned and of other motor vehicles.
 - (4) The number plate lamp shall be mounted in such a way that the performance provided for in Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following number plate lamps 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) Number plate lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Number plate lamps having the same construction and provided at the same position as number plate lamps 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 number plate lamps having the performance equivalent to it.

Article 128 (Rear Position Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 37 of the Safety Regulations in connection with the colour of light, brightness, etc. of the rear position lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the rear position lamps shall be handled 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 illuminating light of a rear position lamp shall be clearly visible at night at a distance of 300 m from the rear of the vehicle, and the beams from the rear position lamps shall not disturb other traffic. In this case, the rear position lamp with a light source of 5 watts or more, and an illuminating surface of 15 cm² or more (for rear position lamps installed to motor vehicles manufactured on or after January 1, 2006, a light source of 5 watts or more and 30 watts or less, and an illuminating surface of 15 cm² or more) that operates normally shall be

regarded as complying with this requirement.

- (2) The colour of light of a rear position lamp shall be red.
- (3) The illuminating surface of the rear position lamp shall be visible from every position in the range enclosed by the planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the rear position lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 45° inward of the rear position lamp and 80° outward of the rear position lamp from the vertical plane that includes the centre of the rear position lamp and is parallel to the forward direction of the motor vehicle.
- (4) The rear position lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

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

3. The requirements prescribed in the Announcement of Paragraph 3, Article 37 of the Safety Regulations in connection with the installation position, installation method, etc. of the rear position lamps 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 rear position lamps 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 rear position lamp shall comply with the requirements of Item (1), Paragraph 3 of the preceding Article which apply *mutatis mutandis*.
- (2) The rear position lamps 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 2.1 m or less above the

ground and the lower edge is at a height of 0.35 m or more above the ground (at a maximum mountable height for rear position lamps installed to semi-trailers, which cannot be mounted at that height of 0.35 or more above the ground because of the vehicle construction).

- (3) The rear position lamps 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 2 m or less above the ground.
- (4) The rear position lamps provided on both sides at the rear end of a motor vehicle shall be mounted so that the outermost edge of the illuminating surface of the outermost rear position lamp is within 400 mm from the outermost part of the motor vehicle.
- (5) The rear position lamps provided on both sides at the rear end of a motor vehicle shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle (except the rear position lamps of motor vehicles in which the right and left sides at the rear end are not symmetric).
- (6) A device shall be provided, which indicates the on-off state of the rear position lamps 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 and motor vehicles provided with instruments, etc. which are located in front of the driver's seat and other front seats in parallel to the driver's seat and go on in interlocking with the rear position lamps.
- (7) The rear position lamps shall not flash.
- (8) The direct light or reflected light of the rear position lamp shall not hamper the driving operations of the motor vehicle equipped with the rear position lamp concerned and of other motor vehicles.
- (9) The rear position lamps shall be mounted in such a way that they will not indicate to the front of the motor vehicle.
- (10) The rear position lamps shall be mounted in such a way that the performance (in cases where the upper edge of the illuminating surface of the rear position lamp is at a height of less than 0.75 m above the ground, "15° below" in the requirement of Item (3) of the preceding Paragraph shall read as "5° below"; and in cases where the side marker lamp mounted at the front section of motor vehicles (except motor

cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds, and trailers) used exclusively for carriage of passengers with a passenger capacity of less than 10 persons, or of motor vehicles (except three-wheeled motor vehicles and trailers) used for carriage of goods with a gross vehicle weight of 3.5 tons or less, has a performance complementing the performance provided for in the said Item, “80° outward” in the requirement of the said Item shall read as “45° outward.”) provided for in Paragraph 1 (except the provision concerned with Item (3) of the said Paragraph in the case of large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles) may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.

4. The following rear position lamps 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) Rear position lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Rear position lamps having the same construction and provided at the same position as the rear position lamp 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 rear position lamps having the performance equivalent to it.

Article 129 (Rear Fog Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 37-2 of the Safety Regulations in connection with the colour of light, brightness, etc. of the rear fog lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the rear fog lamps shall be handled 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 beams from the rear fog lamps shall not disturb other traffic. In this case, the rear fog lamp with a light source of 35 watts or less and an illuminating surface of 140 cm² or less that shall operate normally shall be regarded as complying with this requirement.

- (2) The colour of light of the rear fog lamp shall be red.
- (3) The rear fog lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

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

3. The requirements prescribed in the Announcement of Paragraph 3, Article 37-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the rear fog lamps 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 rear fog lamps 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 rear fog lamps shall be two or less.
- (2) The rear fog lamp shall be constructed so as to be turned on only when the headlamps or front fog lamps are on and so as to be turned off when either the headlamps or the front fog lamps are on.
- (3) The rear fog lamp shall be so constructed that it may comply with either one of the following requirements.

A. When the engine is stopped and the door at the driver's seat is opened, if the switch of the rear fog lamps is in the ON position, the alarm with audible sound shall be set off so as to tell the driver in his seat of this ON state.

B. When the rear fog lamps are turned on with the headlamps or front fog lamps are turned off, the rear position lamps shall be on. Furthermore, the rear fog lamps shall be kept turned off until they are turned on again, when the headlamps or front fog lamps are turned on after the rear position lamps have been turned off.

- (4) The rear fog lamps 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 m or less above the ground and the lower edge is at a height of 0.25 m or more above the ground.
- (5) The rear fog lamps 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 m or less above the ground.
- (6) The illuminating surface of a rear fog lamp shall be located 100 mm or more apart from the illuminating surface of the stop lamp.
- (7) The illuminating surface of the rear fog lamp to be provided on motor vehicles other than large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles shall be visible from every position in the range enclosed by the planes 5° above and 5° below the horizontal plane, including the horizontal line which passes the centre of the rear fog lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 25° inward of the rear fog lamp and 25° outward of the rear fog lamp from the vertical plane that includes the centre of the rear fog lamp and is parallel to the forward direction of the motor vehicle.
- (8) When a rear fog lamp is provided, it shall be installed so that the centre of the rear fog lamp concerned may come on the longitudinal centre line of the motor vehicle or come at the right side therefrom.
- (9) A device shall be provided, which indicates the on-off state of the rear fog lamps to the driver in his seat.
- (10) The mounting positions of the rear fog lamps on both sides at the rear end of a motor vehicle shall comply with the requirements of item (5), Paragraph 3 of Article 128, in addition to those provided for in Items (4) through (7).
- (11) The rear fog lamp shall not flash.
- (12) The direct light or reflected light of the rear fog lamp shall not hamper the driving operations of the motor vehicle equipped with the rear fog lamp concerned and of other motor vehicles.

- (13) The rear fog lamp shall be so mounted that it will not indicate to the front of the motor vehicle.
 - (14) The rear fog lamp shall be mounted in such a way that the performance provided for in Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following rear fog lamps 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) Rear fog lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Rear fog lamps having the same construction and provided at the same position as the rear fog lamp 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 rear fog lamp having the performance equivalent to it.

Article 130 (Parking Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 37-3 of the Safety Regulations in connection with the colour of light, brightness, etc. of the parking lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the parking lamps shall be handled 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 illuminating light of a parking lamp at the front or the rear shall be clearly visible at night at a distance of 150 m from the front or the rear of the vehicle, respectively. As for a parking lamp on each side, its illuminating light shall be clearly visible at night at a distance of 150 m from the front and the rear of the vehicle, and its beams shall not disturb other traffic. In this case, the parking lamp with a light source of 3 watts or more and 30 watts or less, and an illuminating surface of 10 cm² or more that operates normally shall be regarded as complying with this requirement.

- (2) The colour of light of a parking lamp at the front shall be white; the colour of light of a parking lamp at the rear shall be red; and the colour of light of a parking lamp on each side shall be white in the forward direction of the motor vehicle and red in the backward direction of the motor vehicle. However, the colour of light may be amber in the case of a parking lamp that is integral, from the standpoint of construction, with the side marker lamp or the direction indicator lamp provided on each side of the motor vehicle.
 - (3) The illuminating surface of a parking lamp at the front or the rear shall be visible from every position in the range enclosed by the planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the parking lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by a vertical plane that includes the centre of the parking lamp and is parallel to the forward direction of the motor vehicle and a plane 45° outward of the parking lamp from the said vertical plane.
 - (4) The illuminating surface of a parking lamp on each side shall be visible from every position in the range enclosed by the planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the parking lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by a vertical plane that includes the centre of the parking lamp and is parallel to the forward direction of the motor vehicle and a vertical plane 45° outward of the parking lamp from the said vertical plane in the forward direction, as well as in the range enclosed by the planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the parking lamp and is parallel to the forward direction of the motor vehicle, and enclosed by a vertical plane that includes the centre of the parking lamp and is parallel to the forward direction of the motor vehicle and a vertical plane 45° outward of the parking lamp from the said vertical plane in the rearward direction.
 - (5) The parking lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.
2. The following parking lamps 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) Parking lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;

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- (2) Parking lamps for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or parking lamps having the performance equivalent to it.
3. The requirements prescribed in the Announcement of Paragraph 3, Article 37-3 of the Safety Regulations in connection with the installation position, installation method, etc. of the parking lamps 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 parking lamps 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 parking lamp provided on each side of the front or the rear shall be mounted so that the outermost edge of the illuminating surface thereof is within 400 mm (within 150 mm in the case of trailers) from the outermost part of the motor vehicle.
- (2) The parking lamp provided on each side of the front or the rear shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle. However, this provision shall not apply to parking lamps installed to motor vehicles in which the right and left sides at the front or the rear are not symmetric.
- (3) The parking lamps at the rear shall be wired so that all of them will be lit simultaneously. However, for motor vehicles other than those with a length of 6 m or more or a width of 2 m or more may be constructed so that the parking lamp only on the right side or only on the left side may be turned on.
- (4) The parking lamps at the front shall be so constructed that they may be turned on only when the parking lamps at the rear (in cases where a tractor and a trailer are coupled, the rear of the trailer) are lit.
- (5) The parking lamps shall be wired so that they may be turned on while the engine is not in operation.
- (6) The parking lamps shall not flash.
- (7) The direct light or reflected light of the parking lamp shall not hamper the driving operations of the motor vehicle equipped with the parking lamp concerned and of other motor vehicles.
- (8) The parking lamp whose colour of light is red shall be so mounted that

it will not indicate to the front of the motor vehicle.

- (9) The parking lamps shall be mounted in such a way that the performance (in cases where the upper edge of the illuminating surface of the parking lamp is at a height of less than 0.75 m above the ground, “15° below” in the requirements of Items (3) and (4) of the preceding Paragraph shall read as “5° below”) provided for in Paragraph 1 (except the provisions concerned with Items (3) and (4) of the said Paragraph in the case of large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles) may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following parking lamps enumerated below which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with the requirements prescribed in each of the preceding Items.
- (1) Parking lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Parking lamps having the same construction and provided at the same position as the parking lamp 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 parking lamps having the performance equivalent to it.

Article 131 (Rear-End Outline Marker Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 37-4 of the Safety Regulations in connection with the colour of light, brightness, etc. of the rear-end outline marker lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the rear-end outline marker lamps shall be handled 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 illuminating light of a rear-end outline marker lamp shall be clearly visible at night at a distance of 300 m from the rear of the vehicle, and the beams from the rear-end outline marker lamps shall not disturb other traffic. In this case, the rear-end outline marker lamp with a light source of 5 watts or more and 30 watts or less, and an

illuminating surface of 15 cm² or more that operates normally shall be regarded as complying with this requirement.

- (2) The colour of light of the rear-end outline marker lamp shall be red.
- (3) The rear-end outline marker lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

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

3. The requirements prescribed in the Announcement of Paragraph 3, Article 37-4 of the Safety Regulations in connection with the installation position, installation method, etc. of the rear-end outline marker lamps 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 rear-end outline marker lamps 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 rear-end outline marker lamps shall be mounted at a maximum mountable height.
- (2) The rear-end outline marker lamps 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.
- (3) The rear-end outline marker lamps provided on both sides shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle (except for rear-end outline marker lamps installed to motor vehicles in which the right and left sides are not symmetric).

- (4) The rear-end outline marker lamps shall be mounted at such a position that, when the illuminating surface thereof and the illuminating surface of the rear position lamp are projected on a vertical plane perpendicular to the longitudinal centre plane of the motor vehicle, these projected illuminating surfaces are located at least 200 mm apart from each other.
 - (5) The illuminating surface of the rear-end outline marker lamp shall be visible from every position in the range enclosed by the planes 5° above and 20° below the horizontal plane, including the horizontal line which passes the centre of the rear-end outline marker lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the vertical plane that includes the centre of the rear-end outline marker lamp and is parallel to the forward direction of the motor vehicle and the plane 80° outward of the rear-end outline marker lamp from the said vertical plane.
 - (6) The rear-end outline marker lamps shall be constructed so as not to be turned off when the rear position lamps are on.
 - (7) The rear-end outline marker lamps shall not flash.
 - (8) The direct light or reflected light of the rear-end outline marker lamp shall not hamper the driving operations of the motor vehicle equipped with the rear-end outline marker lamp concerned and of other motor vehicles.
 - (9) The rear-end outline marker lamps shall be so mounted that it will not indicate to the front of the motor vehicle.
 - (10) The rear-end outline marker lamps shall be mounted in such a way that the performance provided for in Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following rear-end outline marker lamps 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) Rear-end outline marker lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;

- (2) Rear-end outline marker lamps having the same construction and provided at the same position as the rear-end outline marker lamp 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 rear-end outline marker lamps having the performance equivalent to it.

Article 132 (Rear Reflex Reflectors)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 38 of the Safety Regulations in connection with the colour of reflecting light, brightness, shape of the reflecting surface, etc. of the rear reflex reflectors shall be the requirements enumerated in each of the following Items. In this case, the reflecting surface of the rear reflex reflectors shall be handled 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 reflecting surface of a rear reflex reflector (except those installed to trailers) shall be neither a letter nor a triangle in shape. In this case, the shapes similar to simple letters or figures, such as O, I, U and 8, shall be regarded as complying with this requirement.
 - (2) The reflecting surface of a rear reflex reflector installed to a trailer shall be either an equilateral triangle or a hollow equilateral triangle with a stripe whose width is at least one fifth of the side. In either case, each side of the triangle shall be 150 mm or more, but not exceeding 200 mm in length.
 - (3) The reflected light of a rear reflex reflector, when illuminated by a headlamp with driving beam located 150 m to the rear of the rear reflex reflector concerned at night, shall be clearly visible at that projection position. In this case, rear reflex reflectors with a reflecting surface of 10 cm² or more shall be regarded as complying with this requirement.
 - (4) The colour of reflected light by the rear reflex reflector shall be red.
 - (5) The rear reflex reflectors shall not have broken reflex reflectors, or reflex reflectors whose reflecting surfaces are badly smeared.
2. The following rear reflex reflectors 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) Rear reflex reflectors having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Rear reflex reflectors for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or rear reflex reflectors having the performance equivalent to it.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 38 of the Safety Regulations in connection with the installation position, installation method, etc. of the rear reflex reflectors shall be the requirements provided for in each of the following Items. In this case, the measuring methods for the reflecting surface, numbers and installation position of the rear reflex reflectors 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 rear reflex reflectors 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 reflecting surface thereof is at a height of 1.5 m or less above the ground and the lower edge is at a height of 0.25 m or more above the ground.
- (2) The rear reflex reflectors 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 reflecting surface thereof is at a height of 1.5 m or less above the ground.
- (3) The rear reflex reflectors provided at the outermost part of a motor vehicle shall be mounted so that the outermost edge of the reflecting surface thereof is within 400 mm from the outermost part of the motor vehicle. However, those installed to motor cycles and mini-sized motor vehicles with caterpillar tracks and sleds may be mounted so that the centre of the reflecting surface thereof is on the longitudinal centre plane, and those installed to motor cycles with sidecar may be mounted so that the centre of the reflecting surface thereof is on the longitudinal centre plane of the motor cycle.
- (4) The reflecting surface of the rear reflex reflector installed to motor vehicles other than large-sized special motor vehicles (except pole trailers), small-sized special motor vehicles and trailers shall be visible

from every position in the range enclosed by the planes 10° above and 10° below (in cases where the upper edge of the reflecting surface of the rear reflex reflector is at a height of less than 0.75 m, the plane 5° below) the horizontal plane, including the horizontal line which passes the centre of the rear reflex reflector and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 30° inward of the rear reflex reflector and 30° outward of the rear reflex reflector from the vertical plane that includes the centre of the rear reflex reflector and is parallel to the forward direction of the motor vehicle.

- (5) The reflecting surface of the rear reflex reflector installed to trailers other than large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles shall be visible from every position in the range enclosed by the planes 15° above and 15° below (in cases where the upper edge of the reflecting surface of the rear reflex reflector is at a height of less than 0.75 m, the plane 5° below) the horizontal plane, including the horizontal line which passes the centre of the rear reflex reflector and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 30° inward of the rear reflex reflector and 30° outward of the rear reflex reflector from the vertical plane that includes the centre of the rear reflex reflector and is parallel to the forward direction of the motor vehicle.
 - (6) The mounting positions of the rear reflex reflectors on both sides at the rear shall comply with the requirements of Item (5), Paragraph 3 of Article 128, in addition to those provided for in each of the preceding Items.
 - (7) The rear reflex reflector shall be so mounted that it will not indicate to the front of the motor vehicle.
 - (8) The rear reflex reflector shall be mounted in such a way that the performance provided for in Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following rear reflex reflectors 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) Rear reflex reflectors having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;

- (2) Rear reflex reflectors having the same construction and provided at the same position as the rear reflex reflector 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 rear reflex reflectors having the performance equivalent to it.

Article 133 (Large-Sized Rear Reflex Reflectors)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 38-2 of the Safety Regulations in connection with the colour of reflecting light, brightness, shape of reflecting surface, etc. of the large-sized rear reflex reflectors shall be the requirements enumerated in each of the following Items. In this case, the reflecting surface of the large-sized rear reflex reflectors shall be handled 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 large-sized rear reflex reflector shall be in the form of a rectangular with four sides each 130 mm or more in length, which consists of a reflecting surface and a fluorescent surface.
- (2) The area of the reflecting surface of a large-sized rear reflex reflector (in cases where two or more large-sized rear reflex reflectors are provided, the total area of the reflecting surfaces thereof) shall be 800 cm² or more.
- (3) The area of the fluorescent surface of a large-sized rear reflex reflector (in cases where two or more large-sized rear reflex reflectors are provided, the total area of the fluorescent surfaces thereof) shall be 400 cm² or more.
- (4) The large-sized rear reflex reflector shall comply mutatis mutandis with the requirements provided for in Item (3), Paragraph 1 of the preceding Article.
- (5) The fluorescent light of the large-sized rear reflex reflector shall be clearly visible in the daytime from a distance of 150 m to the rear.
- (6) The colour of reflecting light by the large-sized rear reflex reflector shall be yellow.
- (7) The colour of fluorescent light of the large-sized rear reflex reflector

shall be red.

- (8) The large-sized rear reflex reflectors shall not have broken reflex reflectors, or reflex reflectors whose reflecting surfaces are badly smeared.

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

3. The requirements prescribed in the Announcement of Paragraph 3, Article 38-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the large-sized rear reflex reflectors shall be the requirements provided for in each of the following Items. In this case, the measuring methods for the reflecting surface, numbers and installation position of the large-sized rear reflex reflectors 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 large-sized rear reflex reflectors shall be four or less.
- (2) The large-sized rear reflex reflectors shall be mounted so that the upper edge thereof is at a height of 1.5 m or less above the ground.
- (3) The large-sized rear reflex reflectors shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle (except large-sized rear reflex reflectors installed to motor vehicles in which the right and left sides at the rear end are not symmetric).
- (4) The large-sized rear reflex reflector shall be so mounted that it will not indicate to the front of the motor vehicle.
- (5) The large-sized rear reflex reflector shall be mounted in such a way

that the performance provided for in Paragraph 1 may not be hampered. For example, the mountings or lens mountings shall not be loose or exhibit no excessive play.

4. The large-sized rear reflex reflectors having the same construction and provided at the same position as those mounted on designated motor vehicles, etc., 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.

Article 133-2 (Retro-Reflective Marking Materials)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 38-3 of the Safety Regulations in connection with the colour of the reflecting light, brightness, shape of the reflecting section, etc. of the retro-reflective marking material shall be the requirements enumerated in each of the following Items:

- (1) The retro-reflective marking material shall be tape or sheet. In the case of tape, its width shall be 50 mm or more, but 60 mm or less.
- (2) The retro-reflective marking material shall not be damaged, or the retro-reflecting surface shall not be smeared significantly.
- (3) The colour of reflecting light of the strip retro-reflective marking material (tape-like retro-reflective marking material placed on the sides or on the rear face of a motor vehicle so that the whole length or whole width of the motor vehicle may be recognized; the same shall apply hereinafter) or contour marking retro-reflective marking material (tape-like retro-reflective marking material placed on the sides or on the rear of a motor vehicle so that the contour of the motor vehicle's sides or rear is identified; the same shall apply hereinafter) shall be either white or yellow for those to be placed on the sides of a motor vehicle; and either red or yellow for those to be placed on the rear face of a motor vehicle.
- (4) The distinctive marking retro-reflective marking material (retro-reflective marking material placed inside the contour marking reflective material placed on the sides of a motor vehicle; the same shall apply hereinafter) shall such one whose coefficient of retro-reflection is essentially lower than that of the contour marking retro-reflective marking material.

2. The following retro-reflective marking materials enumerated below 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) Retro-reflective marking materials having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Retro-reflective marking materials for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or retro-reflective marking materials having the performance equivalent to it.

3. The requirements prescribed in the Announcement of Paragraph 3 of Article 38-3 of the Safety Regulations in connection with the installation position and installation method of retro-reflective marking materials shall be the requirements enumerated below:

- (1) Retro-reflective marking materials shall be strip retro-reflective marking materials or contour marking retro-reflective marking material. Contour marking retro-reflective marking materials may be used, at the same time, with distinctive marking retro-reflective marking materials.
- (2) Strip retro-reflective marking materials may be made of an element or several elements in such a way that conforms to the shape of the motor vehicle, and shall be installed as close as possible parallel to the ground.
- (3) Strip retro-reflective marking materials shall be installed in such a way that identifies at least 80% of the length and width of the motor vehicle.
- (4) In the case of non-continuous strip retro-reflective marking materials, the distance between all the retro-reflective marking materials shall not exceed 50% of the length of the shortest retro-reflective marking material.
- (5) Strip retro-reflective marking materials shall be installed in such a way that the lower edge thereof may be at a height of 0.25 m or more above the ground.
- (6) Contour marking retro-reflective marking materials may be made of an element or several elements in such a way that conforms to the shape

of the motor vehicle, and shall be installed as close as possible parallel or perpendicular to the ground.

- (7) Contour marking retro-reflective marking materials shall be installed in such a way that identifies as close as possible the overall shape of the side and rear face of the motor vehicle.
- (8) In the case of non-continuous contour marking retro-reflective marking materials, the distance between all the retro-reflective marking materials shall not exceed 50% of the length of the shortest retro-reflective marking material.
- (9) Of contour marking retro-reflective marking materials, the retro-reflective marking material installed at the lowest part shall be installed in such a way that the lower edge thereof may be at a height of 0.25 m or more above the ground.
- (10) Distinctive marking retro-reflective marking materials shall only be placed within the contour marking retro-reflective marking materials on the side of a motor vehicle, provided they do not impair the effectiveness of the mandatory lamps, etc.

4. The following retro-reflective marking materials 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) Retro-reflective marking materials having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Retro-reflective marking materials having the same construction and provided at the same position as the retro-reflective marking material 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 retro-reflective marking materials having the performance equivalent to it.

Article 134 (Stop Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 39 of the Safety Regulations in connection with the colour of light,

brightness, etc. of the stop lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the stop lamps shall be handled 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 illuminating light of a stop lamp shall be clearly visible in the daytime from a distance of 100 m to the rear, and the beams from the stop lamps shall not disturb other traffic. The stop lamp with a light source of 15 watts or more, and an illuminating surface of 20 cm² or more (for stop lamps installed to motor vehicles manufactured on or after January 1, 2006, the light source shall be 15 watts or more and 60 watts or less, and the illuminating surface shall be 20 cm² or more.) that operates normally shall be regarded as complying with this requirement.
 - (2) The stop lamp shared in common with the rear position lamp shall be so constructed that the luminous intensity when both lamps are lit at the same time is 5 times or more that of the rear position lamp when lit independently.
 - (3) The colour of light of a stop lamp shall be red.
 - (4) The illuminating surface of the stop lamp shall be visible from every position in the range enclosed by the planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the stop lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 45° inward of the stop lamp and 45° outward of the stop lamp from the vertical plane that includes the centre of the stop lamp and is parallel to the forward direction of the motor vehicle.
 - (5) The stop lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.
2. The following stop lamps 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) Stop lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Stop lamps for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or

stop lamps having the performance equivalent to it.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 39 of the Safety Regulations in connection with the installation position, installation method, etc. of the stop lamps 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 stop lamps 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 stop lamps and auxiliary stop lamps shall be constructed so as to be turned on only when the service brake system (in cases where a tractor is coupled with a trailer, the service brake system of the tractor or trailer concerned.) or the auxiliary brake system (which refers to a brake system that reduces the speed of the running vehicle, assisting the service brake system, such as a retarder and exhaust brake) is operated. However, in the case of an auxiliary brake system whose deceleration ability is 2.2 m/s^2 or less when a motor vehicle under the unloaded state is decelerated on a dry, flat, paved road at a speed of 80 km/h (in the case of motor vehicles whose maximum speed is less than 80 km/h, its maximum speed), the stop lamps may be constructed so as not to be turned on during the operation of the auxiliary brake system.
- (2) The stop lamps 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 2.1 m or less above the ground and the lower edge is at a height of 0.35 m or more above the ground (at a maximum mountable height for stop lamps installed to semi-trailers, which cannot be mounted at that height of 0.35 or more above the ground because of the vehicle construction).
- (3) The stop lamps 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 2 m or less above the ground.
- (4) The mounting positions of the stop lamps on both sides at the rear end of a motor vehicle shall comply with the requirements of Items (4) and (5), Paragraph 3 of Article 128, in addition to those provided for in the two preceding Items.
- (5) The stop lamps shall not flash.

- (6) The direct light or reflected light of the stop lamp shall not hamper the driving operations of the motor vehicle equipped with the stop lamp concerned and of other motor vehicles.
 - (7) The stop lamps shall be mounted in such a way that they will not indicate to the front of the motor vehicle.
 - (8) The stop lamps shall be mounted in such a way that the performance (in cases where the upper edge of the illuminating surface of the stop lamp is at a height of less than 0.75 m above the ground, “15° below” in the requirement of Item (4) of the preceding Paragraph shall read as “5° below”) provided for in Paragraph 1 (except the provision concerned with Item (4) of the said Paragraph in the case of large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles) may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following stop lamps 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) Stop lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Stop lamps having the same construction and provided at the same position as the stop lamp 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 stop lamps having the performance equivalent to it.

Article 135 (Auxiliary Stop Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 39-2 of the Safety Regulations in connection with the colour of light, brightness, etc. of the auxiliary stop lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the auxiliary stop lamps shall be handled 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 beams of auxiliary stop lamps shall not disturb other traffic.
 - (2) The auxiliary stop lamp shall comply with the requirements of items (3) and (4), Paragraph 1 of the preceding Article, in addition to those provided for in the preceding Item. In this case, “planes 15° above and 15° below” appearing in the requirement of Item (4) of the said Paragraph shall read as “planes 10° above and 10° below,” and “plane 45°” shall read as “plane 10°.”
 - (3) The auxiliary stop lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.
2. The following auxiliary stop lamps 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) Auxiliary stop lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Auxiliary stop lamps for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or auxiliary stop lamps having the performance equivalent to it.
3. The requirements prescribed in the Announcement of Paragraph 3, Article 39-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the auxiliary stop lamps 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 auxiliary stop lamps shall be handled 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 auxiliary stop lamps shall be one. This shall not apply to cases where one each auxiliary stop lamp is mounted on both sides of the longitudinal centre plane of the motor vehicle pursuant to the provision of the proviso in Item (3).
 - (2) The auxiliary stop lamp be mounted so that the lower edge of the illuminating surface thereof is at a height of 0.85 m or more above the ground, or above the level 0.15 m lower than the lowermost end of the rear window, and is above the horizontal plane including the upper edge of the illuminating surface of the stop lamp.

- (3) The centre of the illuminating surface of the auxiliary stop lamp shall be on the longitudinal centre plane of the motor vehicle. However, in cases where the centre of the illuminating surface of the auxiliary stop lamp cannot be located on the longitudinal centre plane of the motor vehicle because of the vehicle construction, the centre of the illuminating surface thereof may be located within 150 mm from the longitudinal centre plane of the motor vehicle, or one each auxiliary stop lamp may be mounted on both sides on the longitudinal centre plane of the motor vehicle. In this case, the auxiliary stop lamps provided on both sides shall be mounted each at the mountable position nearest to the longitudinal centre plane of the motor vehicle.
 - (4) The auxiliary stop lamp shall not be shared in common with a rear position lamp.
 - (5) The auxiliary stop lamp shall be constructed so as to be turned on only when the stop lamp is turned on.
 - (6) The auxiliary stop lamps shall not flash.
 - (7) The direct light or reflected light of the auxiliary stop lamp shall not hamper the driving operations of the motor vehicle equipped with the auxiliary stop lamp concerned and of other motor vehicles.
 - (8) The auxiliary stop lamp shall be mounted in such a way that it will not indicate to the front of the motor vehicle.
 - (9) The auxiliary stop lamp shall be mounted in such a way that the performance provided for in Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following auxiliary stop lamps 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) Auxiliary stop lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Auxiliary stop lamps having the same construction and provided at the same position as the auxiliary stop lamp 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 auxiliary stop lamps having the performance equivalent to it.

Article 136 (Reversing Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 40 of the Safety Regulations in connection with the colour of light, brightness, etc. of the reversing lamps shall be the requirements enumerated in each of the following Items.

- (1) The illuminating light of a reversing lamp shall be clearly visible in the daytime at a distance of 100 m to the rear, and the beams from the reversing lamps shall not disturb other traffic. In this case, the reversing lamp whose light source is 15 watts or more and 75 watts or less, and whose illuminating surface is 20 cm² or more (for reversing lamps installed to motor vehicles manufactured on or before December 31, 2005, the luminous intensity shall be 5,000 cd or less (300 cd or less in the case of reversing lamps mainly indicating to the rear)) that operates normally shall be regarded as complying with this requirement.
- (2) The colour of light of a reversing lamp shall be white.
- (3) The reversing lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

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

3. The requirements prescribed in the Announcement of Paragraph 3, Article 40 of the Safety Regulations in connection with the installation position, installation method, etc. of the reversing lamps shall be the requirements provided for in each of the following Items.

- (1) The number of reversing lamps shall be two or less.

- (2) The reversing lamps shall be constructed so as to be turned on only when the transmission system (for trailers, the transmission system of the tractor) is in the reverse position and the operating device for the engine is in the start position.
- (3) The reversing lamps installed to motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons (except motor cycles with or without sidecar, mini-sized motor vehicles with caterpillar tracks and sleds and trailers) and motor vehicles used for the transport of goods with a gross vehicle weight of 3.5 tons or less (except mini-sized motor vehicles with caterpillar tracks and sleds, and trailers) shall be installed so that the upper edge of the illuminating surface thereof may be at a height of 1.2 m or less above the ground and the lower edge may be at a height of 0.25 m or more above the ground.
- (4) The illuminating surface of the reversing lamp installed to motor vehicles other than large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles shall be visible from every position in the range enclosed by the planes 15° above and 5° below the horizontal plane, including the horizontal line which passes the centre of the reversing lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 45° inward of the reversing lamp (in cases where the reversing lamp is mounted on both sides at the rear end, 30° inward of the reversing lamp) and 45° outward of the reversing lamp from the vertical plane that includes the centre of the reversing lamp and is parallel to the forward direction of the motor vehicle. However, in the case of motor vehicles in which the white front fog lamp that has been type-designated pursuant to the provision of Paragraph 1 of Article 75-2 of the Act (hereinafter referred to as the “type designated front fog lamp” in this Article) is installed as a reversing lamp, the illuminating surface of the reversing lamp shall be visible from every position in the range enclosed by the planes 5° above and 5° below the horizontal plane, including the horizontal line which passes the centre of the reversing lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by the planes 45° inward of the reversing lamp (in cases where the type designated front fog lamp is mounted as a reversing lamp on both sides at the rear end, 10° inward of the reversing lamp) and 45° outward of the reversing lamp from the vertical plane that includes the centre of the reversing lamp and is parallel to the forward direction of the motor vehicle.

- (5) The reversing lamps shall comply with the requirement of Item (5), Paragraph 3 of Article 128, in addition to those provided for in each of the preceding Items.
 - (6) The reversing lamps shall not flash.
 - (7) The direct light or reflected light of the reversing lamp shall not hamper the driving operations of the motor vehicle equipped with the reversing lamp concerned and of other motor vehicles.
 - (8) The reversing lamps shall be mounted in such a way that the performance (in cases where the type designated front fog lamp is mounted as a reversing lamp, the performance of the type designated front fog lamp concerned) provided for in Paragraph 1 may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.
4. The following reversing lamps 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) Reversing lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Reversing lamps having the same construction and provided at the same position as reversing lamps 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 reversing lamps having the performance equivalent to it.

Article 137 (Direction Indicator Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 41 of the Safety Regulations in connection with the colour of light, brightness, etc. of the direction indicator lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the direction indicator lamps shall be handled 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) Direction indicator lamps when lit shall be visible in the daytime at a

distance of 100 m (30 m for direction indicator lamps mounted on each side of the vehicle pursuant to the requirements of Items (3) and (4) of Paragraph 3 (except the direction indicator lamps to be mounted at the centre on each side) and pursuant to the requirement of Item (5) or Item (6) of Paragraph 3 (except the direction indicator lamps to be mounted at the centre on each side pursuant to the requirement of Item (4)) in the intended direction. Furthermore, the beams from the direction indicator lamps shall not disturb other traffic. In this case, the direction indicator lamp that has the performance posted in the Table 1 given below (Table 2 in the case of motor vehicles manufactured on or before December 31, 2005) and operates normally shall be regarded as complying with this requirement.

Table 1

Kind of direction indicator lamps	Category of motor vehicles	Requirements	
		Wattage of light source	Area of illuminating surface
a. Direction indicator lamps for showing direction for the front or rear	Motor vehicles whose length is 6 m or more, manufactured on or after April 1, 1960	15 W or more, but not more than 60 W	40 cm ² or more
	Motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds, manufactured on or after April 1, 1960		7 cm ² or more
	Motor cycles with or without sidecar, manufactured on or before March 31, 1960	15 W or more	-
	Others	15 W or more, but not more than 60 W	20 cm ² or more
b. Direction indicator lamp to be provided on each side of the motor vehicle in accordance with the provision of Items (3), (4), (5) or (6), Paragraph 3 (except those prescribed in Item (9), Paragraph 4)	Motor vehicles whose length is 6 m or more, manufactured on or after April 1, 2010	6 W or more, but not more than 60 W	20 cm ² or more (*1)
	Motor vehicles whose length is 6 m or more, manufactured between October 1, 1969, and March 31, 2010	3 W or more, but not more than 60 W	20 cm ² or more (*1)
	Motor vehicles manufactured on or before September 30, 1969	3 W or more	20 cm ² or more (*2)
	Others	3 W or more, but not more than 30 W	10 cm ² or more (*1)
c. Direction indicator lamp to be provided on each side of the motor vehicle in accordance with the provision of Item (9) of Paragraph 4		15 W or more, but not more than 60 W	40 cm ² or more (*1)

- *1: The area refers to the projected area of each illuminating surface on the longitudinal centre plane of the motor vehicle and the projected area on a vertical plane intersected with the longitudinal centre plane of the motor vehicle at an angle of 45 degrees.

- *2: The area refers to the projected area of each illuminating surface on the longitudinal centre plane of the motor vehicle (in the case of direction indicator lamps for showing direction exclusively for the side at the rear, the projected area on a vertical plane intersected with the longitudinal centre plane of the motor vehicle at an angle of 45 degrees).

Table 2

Kind of direction indicator lamps	Category of motor vehicles	Requirements	
		Wattage of light source	Area of illuminating surface
a. Direction indicator lamps for showing direction for the front or rear	Motor vehicles whose length is 6 m or more, manufactured on or after April 1, 1960	15 W or more	40 cm ² or more
	Motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds, manufactured on or after April 1, 1960		7 cm ² or more
	Motor cycles with or without sidecar, manufactured on or before March 31, 1960		-
	Others		20 cm ² or more
b. Direction indicator lamp to be provided on each side of the motor vehicle in accordance with the provision of Items (3), (4), (5) or (6), Paragraph 3 (except those prescribed in Item (9), Paragraph 4)	Motor vehicles whose length is 6 m or more, manufactured on or after October 1, 1969	3 W or more	20 cm ² or more (*1)
	Motor vehicles manufactured on or before September 30, 1969	3 W or more	20 cm ² or more (*2)
	Others	3 W or more	10 cm ² or more (*1)
c. Direction indicator lamp to be provided on each side of the motor vehicle in accordance with the provision of Item (9) of Paragraph 4		15 W or more	40 cm ² or more (*1)

- *1: The area refers to the projected area of each illuminating surface on the longitudinal centre plane of the motor vehicle and the projected area on a vertical plane intersected with the longitudinal centre plane of the motor vehicle at an angle of 45 degrees.
- *2: The area refers to the projected area of each illuminating surface on the longitudinal centre plane of the motor vehicle (in the case of direction indicator lamps for showing direction exclusively for the side at the rear, the projected area on a vertical plane intersected with the longitudinal centre plane of the motor vehicle at an angle of 45 degrees).
- (2) The colour of light of a direction indicator lamp shall be amber.
- (3) The indicating surface of a direction indicator lamp shall be visible from every position in the range specified in the right column of the table below according to the category of direction indicator lamps specified in the left column of the said table.

Category of direction indicator lamps	Range
<p>a. Direction indicator lamps to be mounted on front or rear of motor vehicles</p>	<p>Range enclosed by planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the direction indicator lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by planes 45° inward of the direction indicator lamp and 80° outward of the direction indicator lamp from the vertical plane that includes the centre of the direction indicator lamp and is parallel to the forward direction of the motor vehicle;</p>
<p>b. Direction indicator lamps to be mounted on both sides of motor vehicles other than those specified in “c” and “d” (except direction indicator lamps provided for in Item (9), Paragraph 4)</p>	<p>Range enclosed by planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the direction indicator lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by planes 5° outward of the direction indicator lamp and 60° outward of the direction indicator lamp from the vertical plane which includes the centre of the direction indicator lamp and is parallel to the forward direction of the motor vehicle and lies backward from the centre of the direction indicator lamp;</p>
<p>c. Direction indicator lamps to be mounted on both sides of motor vehicles specified in the following Items (1) to (4) inclusive (except those with a length of 6 m or less) and motor vehicles specified in Items (5) and (6) (except those specified in Item (9) of Paragraph 4):</p> <p>(1) Motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or more;</p>	<p>Range enclosed by planes 30° above and 5° below the horizontal plane, including the horizontal line which passes the centre of the direction indicator lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by planes 5° outward of the direction indicator lamp and 60° outward of the direction indicator lamp from the vertical plane which includes the centre of the direction indicator lamp and is parallel to the forward direction of the motor vehicle and lies backward from the centre of the direction indicator lamp;</p>

Category of direction indicator lamps	Range
<p>(2) Motor vehicles having a shape similar to those used exclusively for carriage of passengers with a passenger capacity of 10 persons or more;</p> <p>(3) Motor vehicles used for carriage of goods with a gross vehicle weight of 3.5 tons or less;</p> <p>(4) Motor vehicles having a shape similar to those used for carriage of goods with a gross vehicle weight of 3.5 tons or less;</p> <p>(5) Motor vehicles used for carriage of goods with a gross vehicle weight exceeding 3.5 tons;</p> <p>(6) Motor vehicles having a shape similar to those used for carriage of goods with a gross vehicle weight exceeding 3.5 tons;</p>	
<p>d. Direction indicator lamps to be mounted on both sides of motor cycles with or without sidecar, three-wheeled motor vehicles and mini-sized motor vehicles with caterpillar tracks and sleds (limited to those in which direction indicator lamps are mounted only on one side).</p>	<p>Range enclosed by planes 15° above and 15° below the horizontal plane, including the horizontal line which passes the centre of the direction indicator lamp and is perpendicular to the forward direction of the motor vehicle, and enclosed by planes 5° inward of the direction indicator lamp and 45° outward of the direction indicator lamp from the vertical plane which includes the centre of the direction indicator lamp and is parallel to the forward direction of the motor vehicle (limited to the plane that lies forward from the centre of the direction indicator lamp), and range enclosed by planes 5° inward of the direction indicator lamp and 60° outward of the direction indicator lamp from the vertical plane which includes the centre of the direction indicator lamp and is parallel to the forward direction of the motor vehicle (limited to the plane that lies backward from the centre of the direction indicator lamp)</p>

(4) The direction indicator lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

2. The following direction indicator lamps 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) Direction indicator lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;

(2) Direction indicator lamps for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, or direction indicator lamps having the performance equivalent to it.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 41 of the Safety Regulations in connection with the installation position, installation method, etc. of the direction indicator lamps shall be the requirements provided for in each of the following Items and the next Paragraph.

(1) Motor vehicles shall be provided with direction indicator lamps at least one each at the right and left sides thereof. Each lamp shall be mounted so that its indicating surface is visible at a distance of 30 m from the front and the rear on the longitudinal centre line of the motor vehicle. However, this provision shall not apply to motor vehicles with a maximum speed of less than 20 km/h, in which the distance between the centre of the steering wheel and the outermost part of the motor vehicle is less than 650 mm and the driver's seat is not located inside the vehicle compartment, and to trailers.

(2) Motor vehicles shall be provided with a direction indicator lamp on each side at the rear end. However, this provision shall not apply to motor cycles with or without sidecar, mini-sized motor vehicles with caterpillar tracks and sleds, large-sized special motor vehicles, small-sized special motor vehicles, motor vehicles with a width of 0.8 m or less, and motor vehicles in the proviso of the preceding Item.

(3) Motor vehicles (except ordinary-sized motor vehicles with a gross vehicle weight of 8 tons or more or with a maximum loading capacity of 5 tons or more (except tractors drawing semi-trailers, motor vehicles with a passenger capacity of 11 persons or more, and motor vehicles which have a shape similar to the motor vehicles with a passenger capacity of 11 persons or more (hereinafter referred to as the

“large-sized trucks, etc.”), motor cycles with or without sidecar, mini-sized motor vehicles with caterpillar tracks and sleds, motor vehicles with a width of 0.8 m or less and motor vehicles in the proviso of Paragraph 1) shall be provided with a direction indicator lamp on each side thereof.

- (4) Large-sized trucks, etc. shall be provided with direction indicator lamps at the front (except trailers) and at the centre on each side thereof.
- (5) Tractors (except motor vehicles in the proviso of Item (2) (except large-sized special motor vehicles and small-sized special motor vehicles)) coupled with trailers (except cases where tractors or trailers are large-sized trucks, etc.) shall be provided with direction indicator lamps in compliance with the requirements of the texts of Items (1) and (2) and the requirement of Item (3) in the coupled condition.
- (6) Tractors and trailers which are categorized as large-sized trucks, etc., shall be provided with direction indicator lamps each at the centre on each side in compliance with the requirement of the texts of Item (4). In addition, when tractors (except motor vehicles in the proviso of Item (2) (except large-sized special motor vehicles and small-sized special motor vehicles)) are coupled with trailers (limited to cases where tractors or trailers are large-sized trucks, etc.), tractors or trailers shall be provided with direction indicator lamps each on each side in the coupled condition in compliance with the requirements of the texts of Items (1) and (2).
- (7) Motor vehicles provided for in the proviso of Item (1) (except trailers) with a length of 6 m or more and tractors (limited to motor vehicles in the proviso of Item (2) (except large-sized special motor vehicles and small-sized special motor vehicles)) or trailers whose length is 6 m or more when coupled shall be provided with direction indicator lamps in compliance with the requirement of the text of Item (1).

4. Direction indicator lamps shall be mounted in such a way the following requirements may be complied with. In this case, the measuring methods for the illuminating surface, numbers and installation position of the direction indicator lamps 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) Direction indicator lamps shall flash at a fixed rate of 60 to 120 cycles per minute.

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- (2) Direction indicator lamps shall be mounted symmetrically with respect to the longitudinal centre plane of the motor vehicle (except motor vehicles in which the right and left sides are not symmetric).
 - (3) Of the direction indicator lamps for the front or the rear, installed to motor vehicles other than motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds, the innermost ones shall be mounted so that the distance between the innermost edges of the respective illuminating surfaces is 600 mm or more (400 mm or more for motor vehicles with a width of less than 1,300 mm), and the outermost ones (except those for the rear which are installed to tractors drawing semi-trailers) shall be mounted each so that the outermost edge of the indicating surface thereof is within 400 mm from the outermost part of the vehicle.
 - (4) Direction indicator lamps 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-to-centre distance between the respective illuminating surfaces is 300 mm or more for those for the front (250 mm or more for those with a light source of 8 watts or more) and 150 mm or more for those for the rear. Furthermore, in cases where two or more headlamps or rear position lamps are provided, those for the front shall be located farther outward than the outermost headlamps, and those for the rear, farther outward than the outermost rear position lamps.
 - (5) Direction indicator lamps 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 indicating surface thereof is at a height of 2.1 m or less above the ground (2.3 m or less above the ground for those installed to large-sized special motor vehicles and small-sized special motor vehicles and those provided on each side of motor vehicles) and the lower edge is at a height of 0.35 m or more above the ground (at a maximum mountable height for those installed to semi-trailers, which cannot be mounted at that height of 0.35 m or more above the ground because of the vehicle construction).
 - (6) Direction indicator lamps 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 indicating surface thereof is at a height of 2.3 m or less above the ground.

- (7) Direction indicator lamps to be provided on each side of motor vehicles provided for in Items (3) and (5) of the preceding Paragraph shall be mounted so that the most forward edge of the illuminating surface thereof is within 2.5 m (within 2.5 m or 60% of the vehicle length (in cases where a tractor is coupled with a trailer, the length in the coupled condition of the tractor and the trailer. Hereinafter the same in this Paragraph) in the case of large-sized special motor vehicles and small-sized special motor vehicles; within 60% of the vehicle length in the case of motor vehicles with a length of 6 m or more (except motor vehicles used exclusively for carriage of passengers with a passenger capacity of less than 10 persons, motor vehicles used for carriage of goods with a gross vehicle weight of 3.5 tons or less, motor vehicles having a shape similar to these motor vehicles)) from the front end of the motor vehicle.
- (8) Direction indicator lamps to be provided on each side at the front of motor vehicles provided for in Item (4) of the preceding Paragraph shall be mounted between the front end of the motor vehicle and the outer rear end of the driver's compartment or passenger compartment.
- (9) Direction indicator lamps to be provided on each side at the centre of motor vehicles provided for in Items (4) and (6) of the preceding Paragraph shall be mounted so that the most forward edge of the illuminating surface thereof is within 2.5 m from the outer rear end of the driver's compartment or passenger compartment (within 4.5 m from the front end of the motor vehicle in the case of trailers) and that the illuminating surface is visible from every position at a height of 1 m to 1.6 m above the ground, that is located on the vertical plane parallel to the longitudinal centre plane of the motor vehicle and 1 m outward from the outermost part of the vehicle, and that corresponds to a distance from 1 m ahead of the mounting position of the direction indicator lamp concerned to the rear end of the motor vehicle.
- (10) Direction indicator lamps (except direction indicator lamps provided for in the preceding Item) to be provided on each side of motor vehicles provided for in Item (6) of the preceding Paragraph shall be mounted so that the most forward edge of the illuminating surface thereof is within 60% of the length from the front end of the tractor.
- (11) In cases where the driver in his seat cannot confirm directly and readily the operation of direction indicator lamps (excepts direction indicator lamps mounted on each side of the motor vehicle), a device shall be provided to tell the driver of the operating condition of the direction indicator lamps.

- (12) Direction indicator lamps shall be such ones which can be turned on and turned off regardless of the illumination condition of other lamps. However, this provision shall not apply to direction indicator lamps installed to motor cycles with or without sidecar and mini-sized motor vehicles with caterpillar tracks and sleds.
- (13) Direction indicator lamps provided on each side of a motor vehicle may be so constructed that, when the hazard warning lamps are in operation, the direction indicator lamps concerned will flash simultaneously with the hazard warning lamps concerned.
- (14) The direct light or reflected light of the direction indicator lamp shall not hamper the driving operations of the motor vehicle equipped with the direction indicator lamp concerned and of other motor vehicles.
- (15) Direction indicator lamps shall be mounted in such a way that the performance (in cases where the upper edge of the illuminating surface of the direction indicator lamp is at a height of less than 0.75 m above the ground, “15° below” in the requirement concerned with “a”, “b” and “d” of the table of Item (3) of Paragraph 1 shall read as “5° below”; and in cases where the side marker lamp (limited only to those whose colour of light is amber) mounted at the front or rear section of motor vehicles (except motor cycles with or without sidecar, three-wheeled motor vehicles, mini-sized motor vehicles with caterpillar tracks and sleds, trailers, and motor vehicles with a length of 6 m or more) used exclusively for carriage of passengers with a passenger capacity of less than 10 persons, or of motor vehicles (except three-wheeled motor vehicles, trailers and motor vehicles with a length of 6 m or more) used for carriage of goods with a gross vehicle weight of 3.5 tons or less, has a performance complementing the performance of the direction indicator lamp mounted at the front or rear section, provided for in “a” of the said table, “80° outward” in the requirement concerned with “a” of the said table shall read as “45° outward”) provided for in Paragraph 1 (except the requirement concerned with “a” of the table of Item (3) of the said Paragraph in the case of motor cycles with or without sidecar, three-wheeled motor vehicles, and mini-sized motor vehicles with caterpillar tracks and sleds, and except the requirement concerned with “a” and “b” of the said table in the case of large-sized special motor vehicles (except pole trailers) and small-sized special motor vehicles) may not be hampered. For example, the lamp mountings or lens mountings shall not be loose or exhibit no excessive play.

5. The following direction indicator lamps 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) Direction indicator lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
- (2) Direction indicator lamps having the same construction and provided at the same position as the direction indicator lamp 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 direction indicator lamps having the performance equivalent to it.

Article 138 (Auxiliary Direction Indicator Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 41-2 of the Safety Regulations in connection with the colour of light, brightness, etc. of the auxiliary direction indicator lamps shall be the requirements enumerated in each of the following Items. In this case, the illuminating surface of the auxiliary direction indicator lamps shall be handled 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 requirements of Item (2), Paragraph 1 of the preceding Article shall apply mutatis mutandis to the auxiliary direction indicator lamps.
- (2) The auxiliary direction indicator lamps shall not have broken lamps, or lamps whose lens surfaces are badly smeared.

2. The auxiliary direction indicator lamp having the same construction and provided at the same position as the auxiliary direction indicator lamp mounted on designated motor vehicles, etc. which exhibits no damage, etc. liable to hamper its function shall be regarded as complying with each Item of the preceding Paragraph.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 41-2 of the Safety Regulations in connection with the installation position, installation method, etc. of the auxiliary direction indicator lamps 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 auxiliary direction indicator lamps 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 requirements of Items (2), (5), (6), (13) and (14) Paragraph 4 of the preceding Article shall apply mutatis mutandis to the auxiliary direction indicator lamps.
 - (2) The auxiliary direction indicator lamps shall flash in interlocking with the direction indicator lamp.
4. The auxiliary direction indicator lamp having the same construction and provided at the same position as the auxiliary direction indicator lamp mounted on designated motor vehicles, etc. which exhibits no damage, etc. liable to hamper its function shall be regarded as complying with each Item of the preceding Paragraph.

Article 139 (Hazard Warning Lamps)

1. The requirements prescribed in the Announcement of Paragraph 2, Article 41-3 of the Safety Regulations in connection with the colour of light, brightness, etc. of the hazard warning lamps shall be the requirements prescribed in Paragraph 1 of Article 137 (except “b”, “c” and “d” in the table of Item (3)) (except those concerned with the direction indicator lamps mounted on each side of motor vehicles).

2. The hazard warning lamps having the same construction and provided at the same position as hazard warning lamps mounted on designated motor vehicles, etc. which exhibit no damage, etc. liable to hamper its function shall be regarded as complying with the requirements of the preceding Paragraph.

3. The requirements prescribed in the Announcement of Paragraph 3, Article 41-3 of the Safety Regulations in connection with the installation position, installation method, etc. of the hazard warning lamps 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 hazard warning lamps 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 provisions (except those for the direction indicator lamps mounted

on each side of motor vehicles) of Items (1), (2) and (5) through (7), Paragraph 3 as well as Paragraph 4 (except Items (7) through (10) and (13)) of Article 137 shall apply mutatis mutandis to hazard warning lamps. However, in cases where hazard warning lamps operate as lamps indicating that theft, accidents inside the vehicle compartment and other emergency situations are taking place (hereinafter referred to as the “emergency lamp”), such hazard warning lamps may be constructed not to comply with the requirements prescribed in Item (1), Paragraph 4 of the same Article. In this case, such construction that turns on the hazard warning lamps within a length of time not exceeding three seconds in order to indicate to the outside that the theft-control device (which means a device to make motor vehicles incapable of running by engine power, specified by the 74/61/EEC (European Economic Community Directives)) is set or released shall be regarded as complying with the requirements of the proviso.

- (2) Hazard warning lamps shall be so constructed that all of them operate simultaneously.
 - (3) Hazard warning lamps mounted symmetrically shall be so constructed that they flash simultaneously.
4. The following hazard warning lamps 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) Hazard warning lamps having the same construction and provided at the same position as those mounted on designated motor vehicles, etc.;
 - (2) Hazard warning lamps having the same construction and provided at the same position as the parking lamp 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 hazard warning lamps having the performance equivalent to it.

Article 140 (Restrictions on Other Lamps, etc.)

1. The requirements prescribed in the Announcement of Article 42 of the Safety Regulations shall be the following requirements.
2. No motor vehicles shall be provided with such lamps which are amber in the colour of light for illumination of, or indication to, the rear and the upper

edges of the illuminating surfaces of which are at a height of 2.5 m or less above the ground or which are red in the colour of light, except the following lamps:

- (1) Side marker lamps;
- (1-2) Rear position lamps;
- (1-3) Rear fog lamps;
- (1-4) Parking lamps;
- (1-5) Rear-end outline marker lamps;
- (2) Stop lamps;
- (2-2) Auxiliary stop lamps;
- (3) Direction indicator lamps;
- (4) Auxiliary direction indicator lamps;
- (4-2) Hazard warning lamps;
- (5) Warning lamps of emergency motor vehicles;
- (6) Identification lamps of motor vehicles carrying gunpowder or radioactive materials, etc.;
- (7) Marker lamps for the rear of motor vehicles for passenger carrying business mounted at a height of more than 2.5 m above the ground (except for the lamp provided for in (1-5))
- (8) “The Last Bus” indication lamps on passenger buses;
- (9) “Vacant” indication lamps and fare-indication lamps of taxis;
- (10) Emergency lamps of motor vehicles for passenger carrying business;
- (11) Red lamps provided at the step lift for moving up/down of wheelchairs in buses for passenger carrying business, which cannot be turned on at the driver’s seat, and other lamps not turned on during running;
- (12) Lamps that operate in interlocking with the overload prevention device

mounted on mobile cranes provided for in Item (8), Paragraph 1 of Article 1 of the Enforcement Order of the Industrial Safety and Health Law.

3. No motor vehicles shall be provided with such lamps which are white in the colour of light for illumination of, or indication to, the rear, except the following lamps. In this case, white lamps having the same construction and provided at the same position as white lamps (so-called coach lamps) mounted on each side of designated motor vehicles, etc. shall be regarded as complying with this requirement.

- (1) Number plate lamps;
- (2) Reversing lamps;
- (3) Compartment lamps;
- (4) Route-board illumination lamps of passenger buses;
- (5) Carrier-name-plate illumination lamps of taxis;
- (6) Lamps for work whose construction comes under each of the following Items, and other lamps not turned on during running;
 - A. Lamps which cannot be turned on at the driver's seat;
 - B. Lamps equipped with a device which enables the driver in his seat to confirm that they are illuminated;

4. No motor vehicle (except passenger buses) shall have lamps whose colour of light is purple, above the front windshield.

5. No motor vehicle shall have lamps likely to be mistaken for the speed indicator lamps of the speed indicating device above the front windshield.

6. No motor vehicle shall have a flashing lamp or a lamp whose intensity may vary, except the following lamps:

- (1) Adaptive front lighting system;
- (2) Side marker lamps;
- (3) Direction indicator lamps;

-
- (4) Auxiliary direction indicator lamps;
 - (5) Hazard warning lamps;
 - (6) Warning lamps of emergency motor vehicles;
 - (7) Lamps of motor vehicles for road maintenance service;
 - (8) Electric indicators capable of continuously indicating the destination, etc. of passenger buses;
 - (9) Emergency lamps (only limited to those mounted on motor vehicles for passenger carrying business, or those shared in common with compartment lamps);
 - (10) Lamps that operate in interlocking with the overload prevention device mounted on crane trucks provided for in Item (8), Paragraph 1 of Article 1 of the Enforcement Law of Labor, Safety and Health Act (Cabinet Order No. 318 of 1972);
 - (11) Lamps which are constructed so that their flashing or the variation in luminous intensity can be made only manually.

7. No motor vehicle shall have a red reflex reflector at the front, or a white reflex reflector at the rear. In this case, the reflective objects having the same construction and provided at the same position as red front reflective objects mounted on designated motor vehicles, etc. shall be regarded as complying with this requirement.

8. The direct light or the reflected light from the lamps installed to a motor vehicle shall not interfere with the driving operation of the motor vehicle concerned and any other motor vehicle.

9. The lamps enumerated in Item (1) through (2-2) and (7) of Paragraph 2 (for the lamps of Item (1) of the same Paragraph, only those of red colour provided on both sides at the rear end of the motor vehicle; and for the lamps of Item (1-4) of the same Paragraph, only those provided at the rear end of the motor vehicle) shall not illuminate nor indicate to the front. In this case, those having the same construction and provided at the same position as the lamps which have red illuminating surfaces extending to the sides and indicate to the rear, mounted on designated motor vehicles, etc., shall be regarded as complying with this requirement.

10. The lamps installed to motor vehicles shall be 300 cd or less in luminous

intensity, except the headlamps, front fog lamps, cornering lamps, side marker lamps, number plate lamps, parking lamps at the rear end, stop lamps, reversing lamps, direction indicator lamps, auxiliary direction indicator lamps, hazard warning lamps, speed indication lamps of speed indication devices, vehicle compartment lamps, warning lamps of emergency motor vehicles, lamps of motor vehicles for road maintenance service, identification lamps of motor vehicles loaded with gunpowder, radioactive substances, etc., emergency lamps of motor vehicles for passenger carrying business, and lamps not turned on during running (except the parking lamps at the front end).

11. The identification lamps of motor vehicles loaded with gunpowder, radioactive substances, etc., shall not be in combination with other lamps.

Article 141 (Horns)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 43 of the Safety Regulations in connection with the tone, sound level, etc. of the audible warning device of a horn shall be that the sound of the audible warning device of a horn emits a continuous sound, and the sound level and tone are uniform. In this case, the following audible warning devices of a horn shall be regarded as not complying with this requirement:

- (1) Those which emit intermittent sound automatically;
- (2) Those whose sound level or tone varies automatically;
- (3) Those whose sound level or tone can be easily changed by the driver at the driver's seat.

2. The requirements prescribed in the Announcement of Paragraph 3 of Article 43 of the Safety Regulations in connection with the tone, sound level, etc. of a horn shall be the requirements prescribed in each of the following Items.

- (1) The sound level of a horn (if two or more horns are operating simultaneously, the sum thereof) shall be 93 dB or more, but not exceeding 112 dB (83 dB or more, but not exceeding 112 dB in the case of a horn installed to motor cycles with a power of 7 kW or less) measured at a distance of 7 m to the front of the motor vehicle;
- (2) The horn shall not be a siren or bell.

3. When the sound level is not likely to be within the range given in Item (1) of the preceding Paragraph, it shall be measured by a sound level meter in accordance with each of the following Items.

- (1) Prior to the operation, the sound level meter shall be thoroughly warmed up and shall be calibrated.
- (2) The microphone shall be placed at a height where the sound level is the greatest in a range from 0.5 m to 1.5 m above the ground at a distance of 7 m from the forward edge of the motor vehicle on the longitudinal centre line of the motor vehicle, horizontally and in parallel with the longitudinal centre line of the motor vehicle so that it faces toward the motor vehicle.
- (3) The audibility compensator circuit shall be set to “A”-weighting characteristics.
- (4) The engine shall be stopped.
- (5) The measurement site shall be a virtually level place that is not affected by reflecting sounds due to surrounding objects.
- (6) The measured values shall be handled as follows.
 - A. The measurement shall be conducted twice. The measured value of less than 1 dB shall be discarded.
 - B. If the difference between two measured values exceeds 2 dB, these measured values shall be nullified. Nevertheless, if each of these measured values is not in the range provided for in Item (1) of the preceding Paragraph, these measured values shall be valid.
 - C. The mean value of these two measured values (if the measured values have been compensated in accordance with Item D. below, the compensated value) shall be regarded as the sound level.
 - D. When the difference in measured value between sound level to be measured and the ambient noise level is 3 dB or more and less than 10 dB, the compensation value specified in the table below shall be deducted from the measured value. If the said difference is less than 3 dB, the measured values shall be nullified.

Difference in measured value between noise level to	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---

be measured and ambient noise level							
Compensating values	3	2	1				

4. Notwithstanding the provisions of the preceding Paragraph, the measurement can be conducted according to the following Items for the motor vehicles manufactured on or before December 31, 2003.

- (1) Prior to the operation, the sound level meter shall be warmed up thoroughly and shall be calibrated.
- (2) The microphone shall be placed at a height of 1 m above the ground at a distance of 2 m from the forward edge of the motor vehicle on the longitudinal centre line of the motor vehicle, horizontally and in parallel with the longitudinal centre line of the motor vehicle so that it faces the motor vehicle.
- (3) The audibility compensator circuit shall be set to “C”-weighting characteristics.
- (4) The engine shall be stopped.
- (5) The measurement site shall be a virtually level place that is not affected by reflecting sounds due to surrounding objects.
- (6) With regard to the handling of the measured values, the provisions of Item (6) of the preceding Paragraph shall apply mutatis mutandis.

Article 142 (Emergency Signals)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 43-2 of the Safety Regulations in connection with the colour of light, brightness, installation position, etc. of an emergency signal shall be the requirements prescribed in each of the following Items:

- (1) Emergency signal equipment shall be capable of displaying a red light which is visible from a distance of 200 m at night;
- (2) Emergency signal equipment shall be self-illuminating type;
- (3) Emergency signal equipment shall be stored where it is easily accessible to the user.

- (4) Emergency signal equipment shall be constructed so that it may not be damaged nor actuated as a result of vibration, shocks, etc.
2. Those enumerated in each of the following Items shall be regarded as not complying with the requirements of the preceding Paragraph:
 - (1) Red signal lamps where the lens of the luminescent surface of the red lamp is less than 35 mm in diameter;
 - (2) Red signal lamps incorporating bulbs which do not have performance rating of 2.5V, 0.3A or equivalent;
 - (3) Red signal lamps incorporating batteries which do not have performance rating of R14P (“Manganese UM-2 dry cell”) specified in JIS C8501 “Carbon Zinc Batteries” or LR6 (“Alkaline Manganese UM-3 dry cell”) specified in JIS C8511 “Alkaline Primary Batteries” or equivalent;
 - (4) Red signal lamps which exhibit damage or whose lens surfaces are smeared badly or whose performance has dropped significantly due to worn or dead batteries;
 - (5) Smoke flares which do not have performance ratings of JIS D5711 “Red Fusee for Motor Vehicles” or equivalent;
 - (6) Smoke flares whose performance has dropped significantly due to damage or absorbed humidity.

Article 143 (Warning Reflex Reflectors)

The requirements prescribed in the Announcement of Article 43-3 of the Safety Regulations in connection with the shape of the warning reflex reflector, colour of reflected light, brightness, etc. shall be the requirements prescribed in each of the following Items:

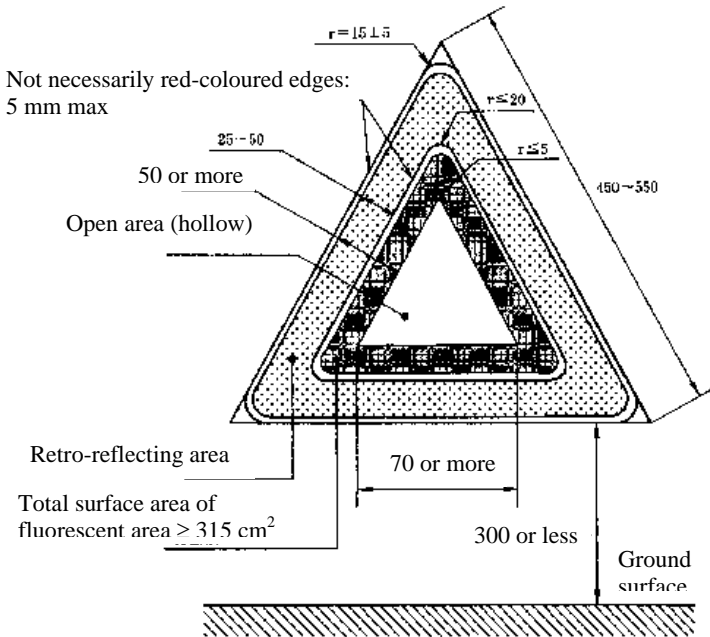
- (1) The reflecting surface of a warning reflex reflector shall be a hollow equilateral triangle with a stripe of 50 mm or more in width, with the apex directed upwards, each side of which shall be 400 mm or more;
- (2) The reflected light from a warning reflex reflector shall be clearly visible at a distance of 150 m at night when illuminated by headlamps with high beam;

- (3) Warning reflex reflectors shall reflect a red light;
- (4) Warning reflex reflectors shall be constructed so that they stand upright on the ground.

Article 144 (Warning triangles)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 43-4 of the Safety Regulations in connection with the shape, brightness of fluorescent or reflecting light, colour, etc. of a warning triangle shall be the requirements prescribed in each of the following Items:

- (1) The warning triangle shall be a hollow equilateral triangle, with its apex directed upwards, consisting of a reflecting surface and a fluorescent surface, as indicated in the form prescribed in the following figure;



Remarks: The unit of the length in the figure is mm.

- (2) The reflected light from a warning triangle shall be clearly visible at a distance of 200 m at night when illuminated by headlamps with high beam;
- (3) The fluorescent light of a warning triangle shall be clearly visible in the daytime from a distance of 200 m;
- (4) The colour of the reflecting light and fluorescent light of a warning triangle shall be red;
- (5) Warning triangles shall stand upright on the ground;
- (6) Warning triangles shall be able to be assembled easily;
- (7) Warning triangles shall be stored at a place readily accessible to the user.

2. Warning triangles having the same construction as the warning triangles for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act, which exhibits no damage, etc. liable to hamper their function, shall be regarded as complying with the requirements prescribed in each Item of the preceding Paragraph.

Article 145 (Unauthorized-Use Warning Devices)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 43-5 of the Safety Regulations in connection with the performance, etc. of unauthorized-use detection and warning of an unauthorized-use warning device shall be the requirements prescribed in Attachment 78 “Technical Standard for Unauthorized-Use Warning Devices” (except the provisions of Paragraph 3-2, Item (b) of Paragraph 4-1-2-1, Paragraph 5-2-12, and Attached Sheet 1). In this case, the following unauthorized-use warning devices shall be regarded as not complying with this requirement.

- (1) Unauthorized-use warning devices which emit audible and optical alarm in other cases than cases where a theft of a motor vehicle equipped with an unauthorized-use warning device is attempted or taking place, or when the operation to change the setting condition of an unauthorized-use warning device has been carried out. However, this provision shall not apply to devices (only limited to such one that cannot be confused with the sound of a horn in the case of a device which gives an audible alarm; only limited to such one that cannot be confused with the warning lamp of an emergency motor vehicle in the case of a device which gives an optical alarm and limited to such one whose light intensity will not exceed 0.5 cd in the case of a lamp installed outside the passenger compartment) for providing information on the setting condition of the unauthorized-use warning device.
- (2) Unauthorized-use warning devices which can be operated so that the unauthorized-use warning device can be activated while the engine is running.

2. The unauthorized-use warning device having the same construction and provided at the same position as unauthorized-use warning devices mounted on designated motor vehicles, etc. which exhibits no damage, etc. liable to hamper their function shall be regarded as complying with the requirement of the preceding Paragraph.

Article 146 (Rear-View Mirrors, etc.)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 44 of the Safety Regulations in connection with the performance, etc. concerning the field of vision of the driver by means of the rear-view mirror concerned, protection of pedestrians, etc. of rear-view mirrors mounted on motor vehicles (except motor cycles with or without sidecar and three-wheeled motor vehicles that are equipped with a handle bar type steering equipment and with no passenger room (except those in which the driver in his seat can clearly recognize the traffic conditions near the left side of the motor vehicle itself. Hereinafter the same in this Article)) shall be the requirements prescribed in each of the following Items. However, the provisions of Items (2) and (3) shall not apply to rear-view mirrors mounted on motor cycles with or without sidecar, large-sized special motor vehicles, small-sized special motor vehicles for agricultural use and motor vehicles with a maximum speed of less than 20 km/h, and the provision of Item (3) shall not apply to ordinary-sized motor vehicles (except those used exclusively for carriage of passengers) and motor vehicles with a passenger capacity of 11 persons or more.

- (1) The mounting of a rear-view mirror shall be easily adjustable and designed to be kept in a certain direction.
- (2) The rear-view mirror, the height of whose lowest part that protrudes beyond the outermost part of the vehicle body in the vicinity of the mounting section is 1.8 m or less above the ground, shall be constructed so that the impact in instances where the section concerned hits pedestrians, etc. may be reduced.
- (3) The mirror provided inside the compartment shall comply with the requirements prescribed in Attachment 80 “Technical Standard for Impact Reduction of Inside Rear-View Mirrors.”
- (4) The mirror shall enable a driver in his or her seat to clearly recognize the traffic conditions of other vehicles at each side of the right and left of the motor vehicle (of the trailer when drawing a trailer), straight backwards up to 50 m, and the traffic conditions near the left side (except the area which the driver in his seat may directly confirm) of the motor vehicle itself (of the tractor and trailer when drawing a trailer of a larger width than the tractor). However, rear-view mirrors may enable a driver to recognize clearly the traffic conditions straight backwards up to 50 m at each side of the right and left of a motor cycle with or without sidecar and a mini-sized motor vehicle with caterpillar and sleds, and at the right side only for a small-sized special motor vehicle, straight backwards up to 50 m. In this case, rear-view mirrors

whose mounting is not secure or rear-view mirrors whose surface has considerable distortion, cloudiness or cracking shall be regarded as not complying with this requirement.

- (5) In the case of outside rear-view mirrors mounted on ordinary-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less, ordinary-sized motor vehicles used for the transport of goods (except motor vehicles with a gross vehicle weight exceeding 2.8 tons), small-sized motor vehicles and mini-sized motor vehicles (except trailers, motor cycles with or without sidecar, and mini-sized motor vehicles with caterpillar tracks and sleds), the angle between a vertical plane passing through the centre of the eye point and the centre of the rear-view mirror and the longitudinal centre plane of the motor vehicle is 55° or less (75° or less in the case of left-hand drive vehicles) in the forward direction in the case of a rear-view mirror mounted on the right side and 75° or less (55° or less in the case of left-hand drive vehicles) in the forward direction in the case of a rear-view mirror mounted on the left side, respectively. In this case, the mirror surface of a rear-view mirror shall be adjusted to and held in the normal position of use.

2. Rear-view mirrors having the same construction and provided at the same position as the rear-view mirrors mounted on designated motor vehicles, etc. which exhibit no damage, etc. liable to hamper their function shall be regarded as complying with the requirements of each Item of the preceding Paragraph.

3. The requirements prescribed in the Announcement of Paragraph 3 of Article 44 of the Safety Regulations in connection with the performance, etc. concerning the field of vision of the driver by means of the rear-view mirror concerned, protection of pedestrians, etc. of rear-view mirrors mounted on motor cycles with or without sidecar and three-wheeled motor vehicles that are equipped with a handle bar type steering equipment and with no passenger room shall be the requirements prescribed in each of the following Items.

- (1) The mounting of a rear-view mirror shall be easily adjustable and shall be able to be kept in a certain direction.
- (2) The rear-view mirror shall be constructed so that it may reduce the impact in the event of contact with pedestrians, etc., thus causing no injury to the pedestrians, etc.
- (3) The rear-view mirror shall be constructed to enable the driver to

recognize the backward traffic conditions clearly and easily.

4. The rear-view mirrors enumerated below shall be regarded as not complying with the requirement prescribed in Item (3) of the preceding Paragraph. However, the rear-view mirrors mounted on motor vehicles manufactured on or before December 31, 2006, may not conform to the provisions of Items (2) through (4).

- (1) Rear-view mirrors whose surface has considerable distortion, cloudiness or cracking.
- (2) Rear-view mirrors whose surface area is less than 69 cm².
- (3) Rear-view mirrors with a circular form surface whose diameter is less than 94 mm or more than 150 mm.
- (4) Rear-view mirrors with a surface of other form than circular shape, not enveloping a circular of 78 mm diameter, nor included in a rectangle with 120 mm vertical side and 200 horizontal side (or 120 mm horizontal side and 200 vertical side).

5. The requirements prescribed in the Announcement of Paragraph 4 of Article 44 of the Safety Regulations in connection with the installation position, installation method, etc. of the rear-view mirrors in the preceding Paragraph shall be the requirements prescribed in each of the following Items.

- (1) The rear-view mirror shall be mounted in such a way that the centre line of the reflective surface of the rear-view mirror is located at more than 280 mm outside the vertical plane passing through the centre of the steering system and parallel to the forward direction. In this case, rear-view mirrors whose mounting is not secure shall be regarded as not complying with this requirement.
- (2) The rear-view mirror shall be mounted in such a way that the driver in his seat may adjust its direction easily.
- (3) The rear-view mirror shall be mounted both on the right and left sides of the vehicle (in the case of motor vehicles with a maximum speed of 50 km/h or less, on its both side or right side).

6. The following rear-view mirror which exhibits no damage, etc. liable to hamper its function shall be regarded as complying with the requirements prescribed in each Item of Paragraph 3 and each Item of the preceding

Paragraph.

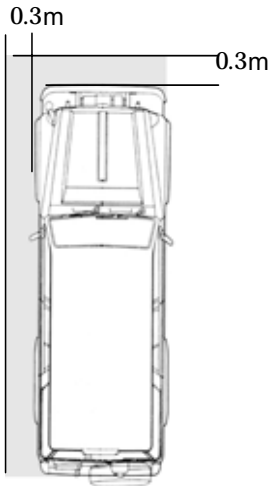
- (1) Rear-view mirrors having the same construction and provided at the same position as the rear-view mirrors mounted on designated motor vehicles, etc.;
- (2) Rear-view mirrors having the same construction and provided at the same position as the rear-view mirrors for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act.

7. The obstacle prescribed in the Announcement of Paragraph 5 of Article 44 of the Safety Regulations shall be a round column having a height of 1 m and a diameter of 30 cm, that is enumerated in the following Table.

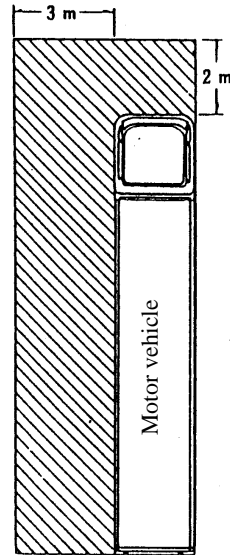
Motor vehicles	Obstacles
(1) Small-sized motor vehicles, mini-sized motor vehicles and ordinary-sized motor vehicles (except motor vehicles of the next Item, motor cycles with or without sidecar, three-wheeled motor vehicles and mini-sized motor vehicles with caterpillar tracks and sleds)	Obstacles which are located between a vertical plane at a distance of 0.3 m from the front end of the motor vehicle and the motor vehicle as well as between a vertical plane at a distance of 0.3 m from the left side of the motor vehicle and the motor vehicle and which are in contact with the motor vehicle concerned
(2) Ordinary-sized motor vehicles with a gross vehicle weight of 8 tons or more or with a maximum loading capacity of 5 tons or more in which a sizable part of the engine is located underneath the driver's compartment (except motor vehicles with a passenger capacity of 11 persons or more, motor vehicles having a shape similar to motor vehicles with a passenger capacity of 11 persons or more, one-side cab type motor vehicles in which the engine is located at the side of the driver's compartment, crane trucks, etc. in which the engine is located behind the driver's compartment or passenger compartment)	Obstacles which are located between a vertical plane at a distance of 2 m from the front end of the motor vehicle and the motor vehicle as well as between a vertical plane at a distance of 3 m from the left outermost side of the motor vehicle and the motor vehicle

(Reference diagram) Range of field of vision

a) Related to Item (1)



b) Related to Item (2)



8. The requirements prescribed in the Announcement of Paragraph 6 of Article 44 of the Safety Regulations in connection with the performance, etc. of a mirror for confirming the obstacle and other devices concerning the field of vision of the driver, protection of pedestrians, etc. by means of the said device shall be the requirements prescribed in each of the following Items.

- (1) Mirrors or other devices shall enable the driver in his seat to discern at least part (except sections where confirmation from the driver's seat is hindered by the A-pillar, windshield wipers, rear-view mirrors or steering wheel) of an obstacle enumerated in each Item of the preceding Paragraph. However, this provision shall not apply to motor vehicles which are so constructed that the driver in his seat can discern at least part of an obstacle enumerated in each Item of the preceding Paragraph directly or by means of a rear-view mirror.
- (2) Mirrors or other devices, the height of whose lowest part that protrudes beyond the outermost part of the vehicle body in the vicinity of the mounting section is 1.8 m or less above the ground, shall be constructed so that the impact in instances where the section concerned hits pedestrians, etc. may be reduced.

9. Rear-view mirrors whose mounting is not secure or rear-view mirrors whose surface has considerable distortion, cloudiness or cracking shall be regarded as not complying with the requirement of Item (1) of the preceding Paragraph.

10. The mirrors or other devices having the same construction and provided at the same position as the mirrors or other devices mounted on designated motor vehicles, etc. which exhibit no damage, etc. liable to hamper their function shall be regarded as complying with the requirements of each Item of Paragraph 8.

Article 147 (Windshield Wipers, etc.)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 45 of the Safety Regulations in connection with the performance, etc. of windshield wipers concerning ensuring of a view shall be that, in the case of windshield wipers provided at the windshield glass of motor vehicles, they shall be automatic windshield wipers to ensure a view immediate before the windshield glass (In cases where wipers are provided on right and left sides, they shall operate together). In this case, wiper blades whose performance has dropped significantly due to aging, etc. shall be regarded as not complying with this requirement.

2. Windshield wipers having the same construction and provided at the same position as the windshield wipers mounted on designated motor vehicles, etc. which exhibit no damage, etc. liable to hamper their function shall be regarded as complying with the requirement of the preceding Paragraph.

3. The requirements prescribed in the Announcement of Paragraph 2 of Article 45 of the Safety Regulations in connection with the performance, etc. of windshield washing systems and windshield defrosting and demisting systems concerning ensuring of a view shall be the requirements prescribed in each of the following Items:

- (1) The windshield washing system shall be so constructed that it may eject an adequate amount of washing liquid to ensure a view in immediate front of the windshield, when the outside surface of the windshield is soiled. In this case, the windshield washing system where the washing liquid comes within the wiping area of the windshield wiper when it is squirted shall be regarded as complying with this requirement;

- (2) The defrosting and demisting system of ordinary-sized motor vehicles, small-sized motor vehicles or small-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less shall have such a performance capable of ensuring a view in immediate front of the windshield when the windshield is significantly misted with water droplets, etc.;
- (3) The defrosting and demisting system shall not be likely damaged nor actuated as a result of vibration, impact, etc. while running.

4. Defrosting and demisting systems having the same construction and provided at the same position as the defrosting and demisting system mounted on designated motor vehicles, etc. which exhibit no damage, etc. liable to hamper their function shall be regarded as complying with the requirement of Item (2) of the preceding Paragraph.

5. With regard to the performance, etc. of sunvisors mounted on motor vehicles (except motor vehicles with a passenger capacity of 11 persons or more, large-sized special motor vehicles, small-sized special motor vehicles for agricultural use and motor vehicles with a maximum speed of less than 20 km/h) concerning the protection of occupants, the requirements prescribed in the Announcement of Paragraph 3 of Article 45 of the Safety Regulations shall be the requirements prescribed in Attachment 87 "Technical Standard for Sunvisor Impact Absorption."

6. Sunvisors having the same construction and provided at the same position as the sunvisor mounted on designated motor vehicles, etc. which exhibit no damage, etc. liable to hamper their function shall be regarded as complying with the requirement of the preceding Paragraph.

7. Sunvisors which are padded with impact-absorbing materials and have no spot-contact-feeling of the inner hard structure shall be regarded as complying with the requirement of Paragraph 5.

Article 148 (Speedometers, etc.)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 46 of the Safety Regulations in connection with the installation position, accuracy, etc. of speedometers shall be the requirements prescribed in each of the following Items.

- (1) The speedometer shall be constructed so that the driver may easily confirm the speed while the motor vehicle is moving. In this case, the

following speedometers shall be regarded as not conforming with this requirement.

- A. Speedometers whose speed readings are not indicated in km/h;
 - B. Speedometers which do not fall under any of those with illuminating equipment, those of self-illuminating type or those with the indication plate and pointer coated with self-illuminating paint (except motor vehicles of Paragraph 1 of Article 56 of the Safety Regulations, which are operated only during daytime), or speedometers likely to cause dizziness to the driver;
 - C. Speedometers of digital type, which have no sufficient brightness or contrast during daytime and nighttime;
 - D. Speedometers which are not included in the direct field of vision for the driver in his seat and in his driving position.
- (2) The indication of the speedometer shall be not less than the actual speed of the motor vehicle and free of significant error during running on an even, paved road. In this case, the following speedometers shall be regarded as not complying with this requirement.
- A. In the case of motor vehicles manufactured on or before December 31, 2006, speedometers in which the speed measured by means of a speedometer tester, according to the driver's signal at the moment when the speedometer of the motor vehicle indicates 40 km/h (the maximum speed in the case of motor vehicles with a maximum speed of 40 km/h or less) does not meet the following requirements.

- ① In the case of motor vehicles other than motor cycles with or without sidecar, three-wheeled motor vehicles, and mini-sized motor vehicles with caterpillar tracks or sleds, the measured speed reading shall meet the following formula:

$$10 (V_1 - 6) / 11 \leq V_2 \leq (100/90) V_1$$

where:

V_1 = Speed reading by on-vehicle speedometer (unit: km/h)

V_2 = Speed reading measured by speedometer tester (unit: km/h)

- ② In the case of motor cycles with or without sidecar, three-wheeled motor vehicles and mini-sized motor vehicles with caterpillar tracks or sleds, the measured speed reading shall meet the following formula:

$$10 (V_1-8) / 11 \leq V_2 \leq (100/90) V_1$$

where:

V_1 = Speed reading by on-vehicle speedometer (unit: km/h)

V_2 = Speed reading measured by speedometer tester (unit: km/h)

- B. In the case of motor vehicles manufactured on or after January 1, 2007, notwithstanding the provision of Item A., speedometers in which the speed measured by means of a speedometer tester, according to the driver's signal at the moment when the speedometer of the motor vehicle indicates 40 km/h (the maximum speed in the case of motor vehicles with a maximum speed of 40 km/h or less) does not meet the following requirements.

- ① In the case of motor vehicles other than motor cycles with or without sidecar, three-wheeled motor vehicles, and mini-sized motor vehicles with caterpillar tracks or sleds, the measured speed reading shall meet the following formula:

$$10 (V_1-6) / 11 \leq V_2 \leq V_1$$

where:

V_1 = Speed reading by on-vehicle speedometer (unit: km/h)

V_2 = Speed reading measured by speedometer tester (unit: km/h)

- ② In the case of motor cycles with or without sidecar, three-wheeled motor vehicles and mini-sized motor vehicles with caterpillar tracks or sleds, the measured speed reading shall meet the following formula:

$$10 (V_1-8) / 11 \leq V_2 \leq V_1$$

where:

V_1 = Speed reading by on-vehicle speedometer (unit: km/h)

V_2 = Speed reading measured by speedometer tester (unit: km/h)

2. The speedometers enumerated in each of the following Items which exhibit no damage, etc. liable to hamper their function shall be regarded as complying with the requirements prescribed in Item (1) of the preceding Paragraph.

- (1) Speedometers having the same construction and provided at the same position as the speedometer mounted on designated motor vehicles, etc.;
- (2) Speedometers having the same construction and provided at the same position as the speedometer for which device type designation has been granted pursuant to the provision of Paragraph 1 of Article 75-2 of the Act.

Article 149 (Fire Extinguishers)

1. The nomenclature and quantity prescribed in the Announcement of Item (3), Paragraph 1 of Article 47 of the Safety Regulations shall be the nomenclature and quantity posted in the following table.

Nomenclature	Quantity (kg)
(1) Oil paper, oil cloth, etc.	750
(2) Waste silk	750
(3) Oil cake	2,000
(4) Flammable solid, etc.	1,500
(5) Flammable liquid, etc.	2,000
(6) Cotton, etc.	2,000
(7) Wood wool	2,000
(8) Straw, etc.	2,000
(9) Synthetic resin, etc.	2,000
(10) Matches	150

2. The requirements prescribed in the Announcement of Paragraph 2 of Article 47 of the Safety Regulations in connection with the kind of the extinguishing agent of the fire extinguisher, construction, installation position, etc. shall be the requirements prescribed in each of the following Items:

- (1) Fire extinguishers to be provided on motor vehicles enumerated in Items (1) through (5), Paragraph 1 of Article 47 of the Safety Regulations shall be the ones that are applicable for extinguishing the carried good posted in the following table. However, in the case of motor cycles with or without sidecar, mini-sized motor vehicles or small-sized special motor vehicles, the filling capacity of the applicable fire extinguisher may be the capacity posted in Items A through E of the next Item.

Carried goods		Dangerous articles										Inflam- mable articles	High- pres- sure gas				
		1st class			2nd class			3rd class									
		Gunpowder	Peroxide of alkali metals or those containing these	Other miscellaneous article	Iron powder, metal powder or magnesium or those containing any of these	Combustible solids	Other miscellaneous article	Water prohibition goods	Goods other than water prohibition goods								
Fire extinguishers																	
Fire extinguishers ejecting atomized reinforcing agent with a filling capacity of 8 liters or more		○		○			○	○			○	○	○	○			○
Fire extinguishers ejecting carbon dioxide with a filling capacity of 3.2 kg or more							○				○			○			○
Fire extinguishers ejecting monochloride monobromomethane with a filling capacity of 2 liters or more							○				○			○			○
Fire extinguishers ejecting dibromide tetrafluoride ethane with a filling capacity of 1 liter or more							○				○			○			○
Fire extinguishers ejecting fire extinguishing powder	With a filling capacity of phosphates, etc. of 3.5 kg or more			○			○	○			○			○			○
	With a filling capacity of bicarbonate of natrium or potassium of 3.5 kg or more		○		○		○				○			○			○

Remarks:

- *1: The ○ mark shows that the fire extinguisher concerned is applicable for extinguishing the carried goods.
- *2: “Phosphates, etc.” means phosphates, sulphates and other flame-proof materials.
- (2) Fire extinguishers mounted on motor vehicles of Paragraph 1 of Article 47 of the Safety Regulations (except motor vehicles provided for in the preceding Item) shall be such ones enumerated below:
- A. Fire extinguishers ejecting atomized reinforcing agent with a filling capacity of 6 liters or more;
 - B. Fire extinguishers ejecting carbon dioxide with a filling capacity of 2.2 kg or more;
 - C. Fire extinguishers ejecting monochloride monobromomethane with a filling capacity of 1 liter or more;
 - D. Fire extinguishers ejecting dibromide tetrafluoride ethane with a filling capacity of 0.4 liter or more;
 - E. Fire extinguishers ejecting fire extinguishing powder with a filling capacity of 1.8 kg or more.
- (3) Fire extinguishers mounted on motor vehicles of Paragraph 1 of Article 47 of the Safety Regulations shall comply with the following requirements in addition to the provisions of the preceding two Items:
- A. The structure and performance of fire extinguishers shall comply with the technical standards provided for in Paragraph 2 of Article 21-2 of the Fire Prevention Act;
 - B. Fire extinguishers shall not be damaged nor actuated by vibration, impacts, etc. while the motor vehicle is running;
 - C. Fire extinguishers shall be installed where it may easily be detached when needed;
 - D. Fire extinguishers shall be located at the following places:
 - ① Places convenient for watchman’s use in the case of motor

vehicles carrying gunpowders, etc. or tractors drawing the said motor vehicle;

- ② Places convenient for use by drivers, assistants, conductors, watchmen or persons in charge in the case of motor vehicles other than those in Item ①.
- (4) Fire extinguishers with an indication pursuant to the provision of Paragraph 3 of Article 38 of the Ministry Ordinance Prescribing Technical Standards for Fire Extinguishers (Ministry of Home Affairs Ordinance No. 27 of 1964) shall be regarded as complying with the requirements of Items A and B of the preceding Item.

Article 150 (Pressure Containers and Accessories Thereof)

1. The requirements prescribed in the Announcement of Article 48 of the Safety Regulations in connection with the standards, indication, installation, etc. of the pressure containers and accessories thereof of motor vehicles shall be the requirements prescribed in each of the following Items:

- (1) Pressure containers shall comply with the standards prescribed by the Minister of Health, Labour and Welfare, based on the provision of Article 42 of the Industrial Safety and Health Law (Law No. 57 of 1972) in connection with the second class pressure containers provided for in Item (7) of Article 1 of the Enforcement Order of the Industrial Safety and Health Law (Cabinet Order No. 318 of 1972);
- (2) Pressure containers for compressed air shall have a drain cock;
- (3) Pressure containers shall have an indication of the maximum permissible pressure at a place easily seen under a condition where the pressure container is mounted on a motor vehicle;
- (4) Pressure containers shall be installed at a place convenient for inspection;
- (5) Pressure containers and conduits thereof shall be so mounted that they may not be damaged by vibrations, impacts, etc. while the motor vehicle is running;
- (6) Pressure containers shall have a pressure gauge to indicate the internal pressure of the container at a position easily seen by the driver;

- (7) The pressure gauge scale shall indicate the minimum effective working pressure of the system operated by the compressed gas.
- (8) The pressure gauge of Item (6) shall be equipped with an illuminating device or a luminous painted dial plate and pointer.

2. When a detailed statement which bears a “pass stamp” provided for in Article 4 of the Machinery Verification Regulations (Ministry of Labour Ordinance No. 45 of 1972) is submitted, the pressure container shall be regarded as complying with the requirements of Item (1) of the preceding Paragraph.

Article 151 (Tachographs)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 48-2 of the Safety Regulations in connection with the recording performance, accuracy, etc. of tachographs shall be the requirements prescribed in each of the following Items:

- (1) The tachograph shall be so constructed that it can automatically record the following data of the motor vehicle concerned over 24 successive hours:
 - A. Speed of the motor vehicle at every moment;
 - B. Vehicle running distance during any period.
- (2) The record of momentary speed by the tachograph shall be not less than the actual vehicle speed, and free of significant errors, when the motor vehicle is running on an even, paved road.

2. Tachographs 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, which have normal functions shall be regarded as complying with the requirement of the preceding Paragraph.

Article 152 (Speed Indication Devices)

1. The requirements prescribed in the Announcement of Paragraph 2 of Article 48-3 of the Safety Regulations in connection with the indicating method of the speed indication device, colour of light, brightness, accuracy, etc. shall be the requirements prescribed in each of the following Items:

- (1) The speed indication device shall be wired so as to automatically turn on the number of lamps (hereinafter referred to as the “speed indication lamps”) posted in the right column of the following table when the motor vehicle is running at a speed posted in the left column of the same table. In this case, the speed at which the left speed indication lamp begins to be illuminated shall be the lowest speed possible technically and shall not exceed 20 km/h in any case.

Speed exceeding 60 km/h	3 lamps
Speed exceeding 40 km/h, but 60 km/h or less	2 lamps
Speed of 40 km/h or less	1 lamp

- (2) The speed indication lamp shall not be provided with a manual switch, etc. which can readily turn off the speed indication lamps, except the power supply switch of the motor vehicle.
- (3) The number of speed indication lamps when lit shall be clearly visible at a distance of 100 m ahead of the motor vehicle.
- (4) The colour of light of a speed indication lamp shall be yellowish green.
- (5) The indication of the speed indication lamp shall be free of significant errors when the motor vehicle is running on a level, paved road.
- (6) The speed indication device shall have a pilot lamp or other tell-tale device which informs the driver in his seat of the operating condition thereof.

2. The requirements prescribed in the Announcement of Paragraph 3 of Article 48-3 of the Safety Regulations in connection with the installation position, installation method, etc. of the speed indication device shall be the requirements prescribed in each of the following Items:

- (1) The speed indication lamps shall be mounted above the windshield glass and at a height of 1.8 m or more above the ground. In this case, the installation position shall be measured according to the central position of the illuminating surface.
- (2) The speed indication lamps shall be arranged horizontally. The order of lighting shall be the left lamp, right lamp and middle lamp. In this case, three speed indication lamps of the speed indication device shall be arranged virtually horizontally and spaced equally. The interval

between the lamps shall be 300 mm \pm 50 mm. Furthermore, the middle lamp shall be located near the motor vehicle longitudinal centre line.

- (3) The illuminating surface of a speed indication lamp shall have a projected area of 40 cm² or more on the vertical plane perpendicular to the motor vehicle longitudinal centre line.

Article 153 (Emergency Motor Vehicles)

The requirements prescribed in the Announcement of Paragraphs 1 and 2 of Article 49 of the Safety Regulations in connection with the colour of the warning lamp mounted on emergency motor vehicles, brightness, sound level of the siren and paint colour of the vehicle body shall be the requirements prescribed in each of the following Items:

- (1) The warning lamp shall display a red light clearly visible from a distance of 300 m to the front. In this case, red lamps which function in interlocking with the warning lamp shall be regarded as complying with this requirement;
- (2) The sound level of a siren shall be, when measured at a distance of 20 m to the front, 90 dB or more and 120 dB or less. In this case, when it is recognized that the sound level of the siren is likely to be out of this range, the sound level shall be measured by means of a sound level meter according to the method given below:
 - A. Prior to the operation, the sound level meter shall be warmed up thoroughly and calibrated after the warming-up period.
 - B. The microphone shall be placed at a height of 1 m above the ground at a distance of 20 m from the forward edge of the motor vehicle on the motor vehicle longitudinal centre line, horizontally and in parallel with the motor vehicle longitudinal centre line so that it faces the motor vehicle;
 - C. The audibility compensator circuit shall be set to the "C"-weighting characteristics;
 - D. The engine shall be stopped;
 - E. The measurement site shall be virtually level place that is not affected by reflecting sounds due to surrounding objects;

F. The measured values shall be handled as follows:

- ① The measurement shall be conducted twice. The measured value of the noise level of less than 1 dB shall be discarded;
- ② If the difference in noise levels between two measured values exceeds 2 dB, the these two measured values shall be nullified. However, if each of these measured values is within the range provided for in this Announcement, it shall be valid;
- ③ The mean value of these two measured values (the compensated value in cases where the measured values have been compensated in accordance with Item ④) shall be regarded as the noise level;
- ④ When the difference in measured value between the noise level to be measured and the ambient noise level is 3 dB or more and less than 10 dB, the compensation value specified in the following table shall be deducted from the measured value. If the said difference is less than 3 dB, the measured values shall be nullified.

(Unit: dB)

Difference in measured value between noise level to be measured and ambient noise level	3	4	5	6	7	8	9
Compensation value	3	2	1				

- (3) The paint colour of the vehicle body of emergency motor vehicles shall be red in the case of fire-fighting motor vehicles; and white in the case of other emergency motor vehicles. However, this provision shall not apply to police motor vehicles, motor vehicles used by the Public Prosecutor's Office for criminal investigations or motor vehicles used by the Defense Agency for emergency purpose, motor vehicles used for emergency surveillance at prisons or other reformatories, motor vehicles used for interning suspects or exercising surveillance over prisoners at Immigration Centres or Regional Immigration Bureaus, motor vehicles used for emergency public services, motor vehicles used by the Japan Coast Guard and handled as emergency motor vehicles, and motor vehicles used by the Ministry of Public Management, Home Affairs, Posts and Telecommunications to detect illegal radio stations.

- (4) When most part of the body of an emergency motor vehicle is painted in the colour prescribed in the preceding Item, it shall be regarded as complying with the requirements of the preceding Item.

Article 154 (Motor Vehicles for Road Maintenance)

The requirements prescribed in the Announcement of Article 49-2 of the Safety Regulations in connection with the colour of the lamp mounted on motor vehicles for road maintenance, brightness, etc. shall be the requirements prescribed in each of the following Items:

- (1) The lamp shall be a flashing yellow lamp.
- (2) The lamp shall be clearly visible from a distance of 150 m.

Article 155 (Motor Vehicles for Passenger Carrying Business)

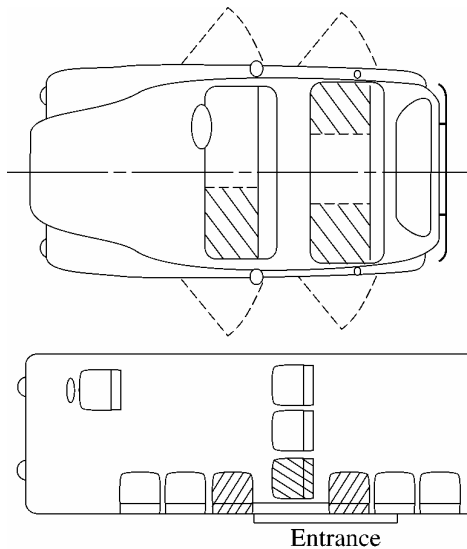
1. The requirements prescribed in the Announcement of Article 50 of the Safety Regulations in connection with the performance and construction necessary for being used for the passenger carrying business shall be the requirements prescribed in Attachment 91 “Construction Requirements for Articulated Buses,” Attachment 92 “Construction Requirements for Double-Decker” and Attachment as well as the following requirements. In this case, if motor vehicles used for passenger carrying business are no longer used for passenger carrying business without making any changes in construction and devices, they shall be regarded as not liable to fail to comply with the Safety Regulations.

- (1) The suspension system and passengers’ seats shall not give uncomfortable vibrations and impacts to passengers thereon;
- (2) The passenger compartment shall be constructed so that proper lighting is available;
- (3) The passenger compartment shall have adequate compartment lamps;
- (4) The side window of the driver’s seat shall be constructed to open 270 mm or more in both effective width and effective height by a simple operation;
- (5) The entrances only for the seats directly accessible from the entrance (except the entrance only for the driver) shall be 900 mm or more in

effective height and 470 mm or more in effective opening width (which means the minimum opening width on the horizontal plane at a height of 800 mm above the lower edge of the entrance, when the door is fully opened; hereinafter the same). In this case, the following seats which are readily accessible from the entrance shall be regarded as examples of the seats directly accessible from the entrance. The effective height and effective opening width of the entrance shall be the height and width of the section which can be used effectively as the entrance.

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

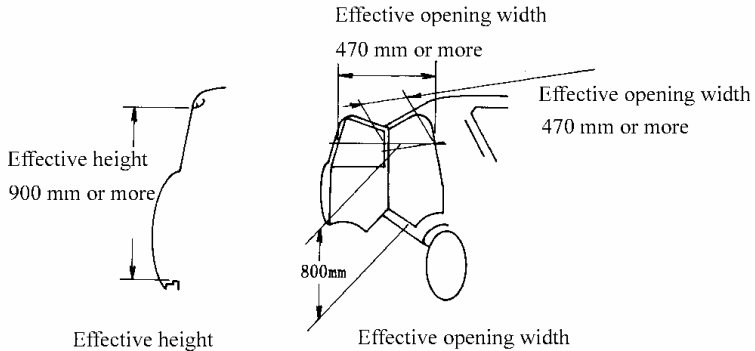
(Referential diagram)



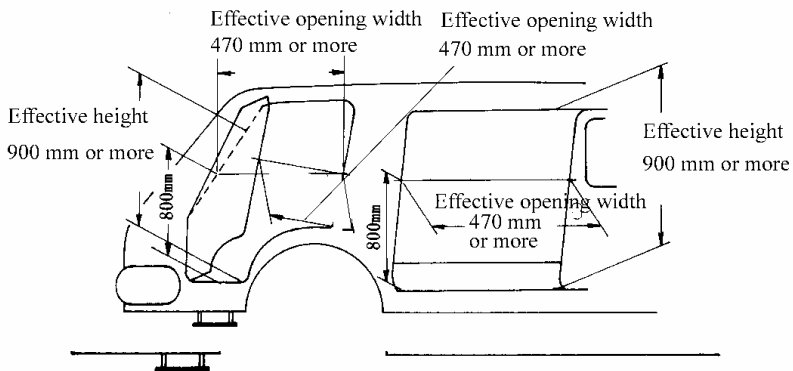
(Note) Those shaded portions denote seats provided next to the entrance.

(Reference diagram)

(Box type)



(Station wagon type)



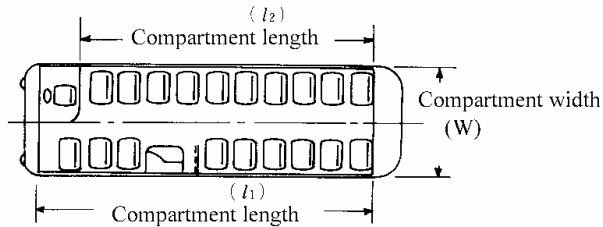
2. Motor vehicles for passenger carrying business with a passenger capacity of 11 persons or more shall comply with the following requirements, in addition to the provisions of the preceding Item:

- (1) The compartment lamp shall illuminate the interior of the compartment evenly and the light source shall be 5 W (2 W for fluorescent lamps) or more per square meter of the compartment floor area (the product that is obtained by multiplying the compartment length (the mean length if the compartment length differs between the right and left sides) by the compartment width).

(Formula)

$$\text{Compartment floor area} = \left(\frac{l_1 + l_2}{2} \right) \times w$$

(Reference diagram)



- (2) The step attached to an entrance shall be 300 mm or more in effective depth. However, if it is difficult for a step other than the lowest one to have the said dimension, due to the door of the entrance, etc., it may be so constructed that an effective depth of 300 mm or more is secured at the part where an effective width of the entrance is as long as 350 mm or more (290 mm or more if the height to the next upper step is 250 mm or less).
- (3) Motor vehicles other than those of the next Paragraph shall be equipped with a seat for the conductor near the entrance in such a way that it may not hinder entry/exit of the passengers and business of the conductor. In this case, the seat for the conductor may be a standing space or a seat.
- (4) Of motor vehicles other than those of the next Paragraph, motor vehicles in which the distance between the driver's seat and the seat for the conductor (referring to the shortest distance between the centres of these seats, respectively, measured parallel to the floor surface. In this case, if the position of the seat for the conductor cannot be determined clearly, the rear edge of the entrance opening section at the side of the vehicle body shall be regarded as the position of the conductor) is 3 m or more shall be equipped a communication device, such as buzzers, (whereby the conductor can communicate to the driver). If there are two entrances and two conductors are onboard, buzzers or other communication devices may be such that the communication from one conductor is relayed by the other conductor.

- (5) Entrance doors actuated by a mechanical power shall be provided, near the entrance concerned, with a device to open the door manually in the event of failure, etc. Furthermore, the location of the device and how to open the door shall be indicated.

3. Motor vehicles for passenger carrying business (except trailers) with a passenger capacity of 11 persons or more intended to operate without a conductor shall comply with the following requirements (the requirements of Items (1) through (6) for motor vehicles for passenger carrying business with a passenger capacity of 30 persons or more without a standing capacity, that are running regularly along fixed routes; the requirements of Items (1) through (3) and Item (5) for motor vehicles for passenger carrying business with a passenger capacity of 29 person or less without a standing capacity, that are running regularly along fixed routes; and the requirements of Items (1), (3) and (5) for motor vehicles other than those for passenger carrying business that are running regularly along fixed routes), in addition to the provisions of the preceding two Items.

- (1) The entrance door shall be so constructed that passengers may not open it easily. Furthermore, in the case of the entrance door of one-man-operated buses, the method of opening the door for an emergency case shall be indicated in the vicinity of the door.
- (2) The entrance door shall be so constructed that the driver in his seat may control its opening and closing.
- (3) The entrance door shall be so constructed that the motor vehicle may not be started with any door (except the doors of the entrance which is located near the driver's seat so that the driver may discern directly the opening and closing conditions thereof) opened, and an indicator lamp or other device which informs the driver in his seat of the doors' opening and closing conditions shall be provided. In this case, if the forward edge of the opening section of the entrance is located behind a vertical plane that includes a point 200 mm from the forward edge of the driver's seat and is perpendicular to the vehicle longitudinal centre plane, the entrance concerned shall not be regarded as "the entrance which is located near the driver's seat." Moreover, with regard to "the motor vehicle may not be started with any door opened," if an unlocking device can be operated in the driver's seat, such system shall be regarded as examples not complying with this requirement.
- (4) An indicator lamp or other device which informs the driver in his seat whether a passenger is on the step of an entrance shall be provided for

each entrance (except the entrances which are located near the driver's seat so that the driver may discern directly the presence of passengers).

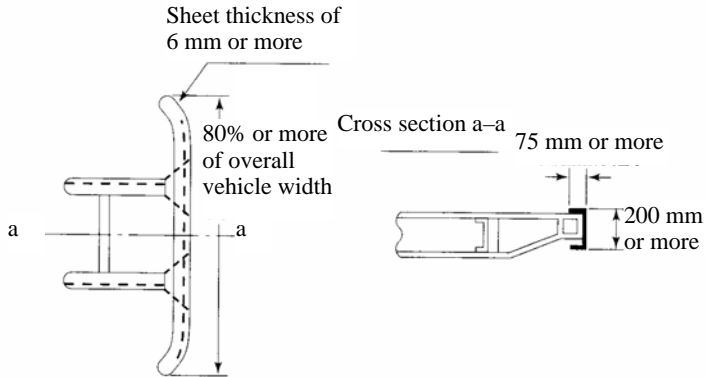
- (5) Mirrors or other devices which allow the driver in his seat to discern the conditions near the entrance and inside the compartment shall be provided.
 - (6) Broadcasting equipment which allows the driver in his seat to announce to passengers (limited only to those which will not require the driver to hold a microphone in his hand when announcing) shall be provided.
 - (7) Buzzers or other devices which allow passengers to signal to the driver that they wish to get off shall be provided near the passengers.
4. Motor vehicles for passenger carrying business with a passenger capacity of 10 persons or less shall comply with the following requirements, in addition to the provisions of Paragraph 1.
- (1) The space between the front edge of a seat used for passengers and a seat located ahead thereof or the partition, etc. (referring to 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 the seat located ahead thereof, partition, etc. (excluding local protrusions) in a condition that the seatback is reclined 30° backward from the vertical plane in the case of the driver's seat (including a seat that operates as a unit integral with the driver's seat or a seat parallel to the driver's seat) equipped with reclining mechanisms; in a condition that sliding mechanisms are adjusted so that the space may become the shortest distance in the case of seats equipped with sliding mechanisms) shall be 200 mm or more (400 mm or more in the case of a seat facing with the seat located ahead thereof).
 - (2) The method of opening the door shall be indicated at or near the entrance door opening control device.
 - (3) The driver's seat and seats adjacent to the side of the motor vehicle shall be equipped with head restraints complying with the requirements of Article 109.

Article 156 (Motor Vehicles with Gas-Transporting Containers)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 50-2 of the Safety Regulations in connection with the strength, installation position, etc. of the bumper and other buffer systems of motor vehicles provided with gas-transporting containers and motor vehicles having other construction and devices for transporting gas containers shall be the requirements prescribed in each of the following Items:

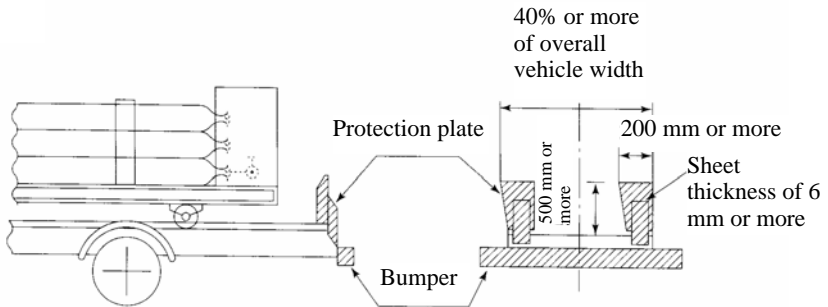
- (1) Motor vehicles provided with a gas-transporting container and motor vehicles having other construction and devices for transporting gas containers shall be equipped with bumpers and other buffer systems at the rear of the chassis so that the gas container and accessories thereof may be protected from damage in the event of collision. In this case, the “motor vehicles provided with a gas-transporting container” shall mean any motor vehicle provided with a gas container fixed to the chassis for transporting high-pressure gas (high-pressure gas tank lorry). Furthermore, the “motor vehicles having other construction and devices for transporting gas containers” shall mean any motor vehicle capable of loading containers used exclusively for the storage of gas containers and equipped with mechanical devices for facilitating the loading and unloading of containers and securing devices for securing the containers to the motor vehicle (hereinafter referred to as the “container motor vehicle with loading and unloading device”).
- (2) The “bumper” in the preceding Item shall mean a device having the construction, as indicated in Fig. 1, consisting of the main body and an installation section connecting the main body to the chassis and shall comply with the requirements prescribed below:
 - A. The bumper shall have adequate strength and rigidity and shall be installed securely to the chassis;
 - B. The edge of the main body as well as the installation section shall be so constructed that pedestrians and other motor vehicles may not be injured;
 - C. The main body shall be installed symmetrically in relation to the motor vehicle longitudinal centre line. Furthermore, its length shall be at least 80% of the width of the motor vehicle concerned;
 - D. The bumper shall not hamper the indication of the motor vehicle registration number plate and lamps, etc.

Fig. 1



- (3) The device (protection plate) to be mounted on a container motor vehicle with loading and unloading device, as indicated in Fig. 2, shall be regarded as “other buffer system.” In this case, a bumper complying with the requirements of the preceding Item shall be installed in addition to the protection plate.

Fig. 2

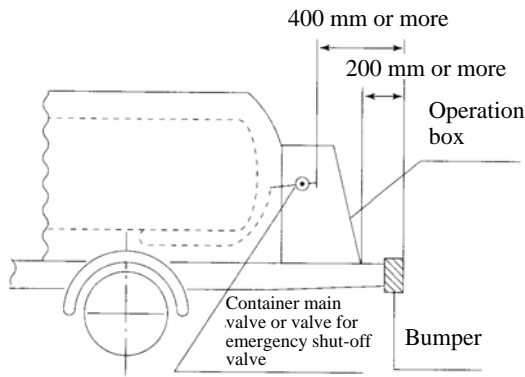


2. The requirements prescribed in the Announcement of Paragraph 2 of Article 50-2 of the Safety Regulations shall be that the buffer system of the preceding Paragraph be located at a sufficient distance from the rear surface of the gas-transporting container and accessories thereof. In this case, the

phrase “located at a sufficient distance” shall mean the compliance with the requirements prescribed in each of the following Items:

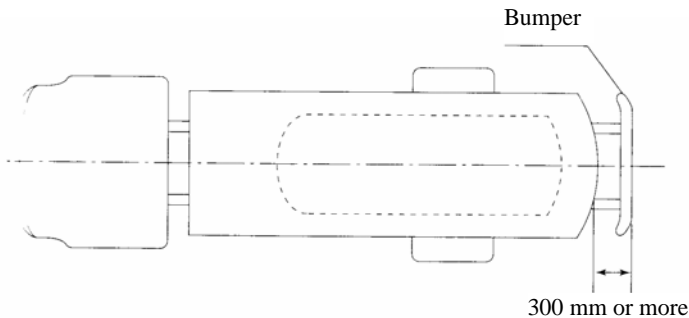
- (1) In the case of containers with rear valve (referring to containers in which the valve used for sending and receiving gas (hereinafter referred to as the “container main valve”) is provided at the rear surface thereof), the distance from the container main valve and valve for the emergency shut-off device to the rear surface of the bumper shall be at least 40 cm, as indicated in Fig. 3.

Fig. 3 Containers with rear valve



- (2) In the case of containers other than those with rear valve, the distance from the rear surface of the container to the rear surface of the bumper shall be at least 30 cm, as indicated in Fig. 4.

Fig. 4 Those other than containers with rear valve



- (3) In cases where the container main valve, valve for the emergency shut-off device, and other main accessories are housed in the operation box, in addition to complying with the requirements of the preceding two Items, the distance from the operation box to the rear surface of the bumper shall be at least 20 cm, as indicated in Fig. 3.

Article 157 (Motor Vehicles Carrying Gunpowder)

1. The requirements prescribed in the Announcement of Article 51 of the Safety Regulations in connection with the construction, devices, etc. of motor vehicles carrying gunpowder shall be the requirements prescribed in each of the following Items:

- (1) No fuel system shall employ an acetylene gas generator nor gas generator;
- (2) The loading platform and any other places where gunpowder is loaded shall be separated from the engine by non-flammable walls;
- (3) The electric wiring on the outside of the vehicle body and at the loading platform and any other places where gunpowder is loaded shall be covered with insulators and firmly fixed to the vehicle body;
- (4) Electric terminals, circuit breakers and any other electric equipment which is likely to spark, located on the outside of the vehicle body and at the loading platform and any other places where gunpowder is loaded, shall be properly covered.

2. Each of the following Items shall be regarded as not complying with the requirements of Item (3) or (4) of the preceding Paragraph:

- (1) The insulator of the electric wiring is broken;
- (2) The electric wiring is likely to be damaged by the contact, etc. with other metal sections;
- (3) The terminal cover of the battery or the terminal cover of the electric wiring is broken.

Article 158 (Motor Vehicles Carrying Dangerous Articles)

1. The requirements prescribed in the Announcement of Article 52 of the Safety Regulations in connection with the construction, devices, etc. of motor vehicles carrying dangerous articles shall be the requirements prescribed in each of the following Items:

- (1) No fuel system shall employ an acetylene gas generator nor gas generator;
- (2) The electric wiring on the outside of the vehicle body and at the loading platform and any other places where dangerous articles are loaded shall be covered with insulators and firmly fixed to the vehicle body;
- (3) Electric terminals, circuit breakers and any other electric equipment which is likely to spark, located on the outside of the vehicle body and at the loading platform and any other places where dangerous articles are loaded, shall be properly covered.

2. Each of the following Items shall be regarded as not complying with the requirements of Item (2) or (3) of the preceding Paragraph:

- (1) The insulator of the electric wiring is broken;
- (2) The electric wiring is likely to be damaged by the contact, etc. with other metal sections;
- (3) The terminal cover of the battery or the terminal cover of the electric wiring is broken.

3. With regard to motor vehicles carrying dangerous articles of the specified quantities or greater posted in Attached Table 3 of the Cabinet Order for Control of Dangerous Articles, in addition to the provision of Paragraph 1, the loading platform and any other places where dangerous articles are loaded shall be separated from the engine by non-flammable walls.

4. Motor vehicles which are provided with a tank on the chassis for the purpose of carrying explosive liquids shall comply with the requirements prescribed in each of the following Items, in addition to the provisions of Paragraphs 1 and 3:

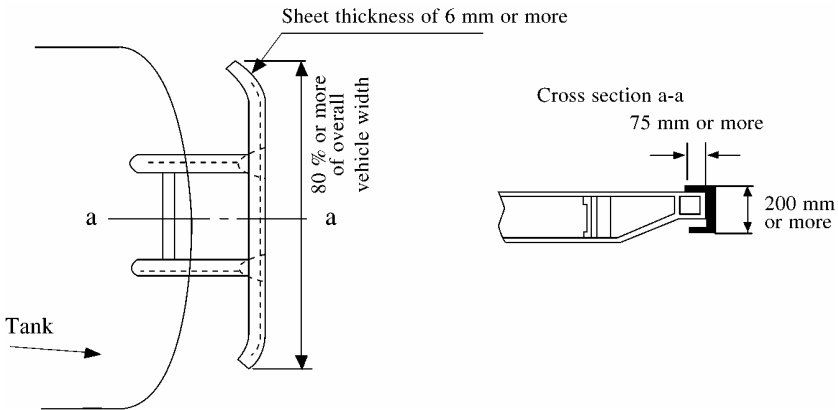
- (1) The motor vehicles shall have pneumatic rubber tyres and be equipped with bumpers or other buffer systems at the rear of the chassis so that

the tanks and accessories thereof may be protected from damage in the event of collision;

- (2) The tanks and accessories thereof shall be constructed so that they comply with the requirements of Article 15 (except Item (1) of Paragraph 1) of the Cabinet Order for Control of Dangerous Articles or shall have special construction or equipment approved under the provision of Article 23 of the said Order to have at least the performance equivalent to those complying with the requirements of Article 15 (except Item (1) of Paragraph 1) of the said Order;
- (3) The tanks shall be firmly secured to the chassis to be free from any movement or damage;
- (4) The exhaust pipes and silencers shall be free from any leakage of exhaust gas from the joints, etc., and shall have proper heat insulating measures at the part where the distance from the surface of the tank is less than 200 mm;
- (5) No exhaust pipes and silencers of a motor vehicle carrying explosive liquids enumerated in the Item "Class 4" of the Attached Table of the Fire Prevention Act shall be located just under the valve or joints of the tank or accessories thereof.

5. Devices mounted symmetrically relative to the motor vehicle longitudinal centre line, whose length is 80% or more of the width of the motor vehicle concerned and which has adequate strength and rigidity and is mounted securely to the chassis to protect the tank from damage, shall be regarded as complying with the requirements of Item (1) of the preceding Paragraph.

(Reference diagram)



6. As for the tank, when a tank certificate is submitted, the tank concerned and accessories thereof shall be regarded as complying with the requirements of Item (2) of Paragraph 4.

Article 159 (Passenger Capacity and Maximum Loading Capacity)

1. The requirements prescribed in the Announcement of Paragraph 1 of Article 53 of the Safety Regulations in connection with the passenger capacity of a motor vehicle shall be the requirements prescribed in each of the following Items:

- (1) The passenger capacity shall be the total capacity of the driver's seat, seats, devices corresponding to seats and standing space. In this case, beds provided on patient carrying vehicles, vehicles for transporting physically handicapped persons or ambulances as well as spaces and devices for securing wheelchairs at a space provided exclusively for accommodating wheelchairs shall be handled as devices corresponding to seats.
- (2) The seating capacity for contiguous seats shall be the value determined pursuant to the following Items:
 - A. For motor vehicles other than infant-carrying motor vehicles, an integer obtained by dividing the width of the seat concerned by 40 cm shall be used. However, the value obtained by the

following calculation may be used: subtract 76 cm from the seat width; the thus-obtained value is divided by 40 cm to determine an integer to which 2 is added.

- B. For infant-carrying motor vehicles, an integer obtained by dividing the seat width by 27 cm shall be used.
- (3) The capacity of a standing space shall be an integer obtained by dividing the total area of the standing space by 0.14 cm^2 .
- (4) In the case of bus type motor vehicles with a standing space of a passenger capacity of 11 persons or more, which are equipped with auxiliary seats, the passenger capacity shall be calculated with these auxiliary seats in their folded state. However, in the case of motor vehicles enumerated below in which passengers will not be carried in excess of the passenger capacity, it is permissible to calculate the passenger capacity with these auxiliary seats in their use state:
- A. General chartered motor vehicles for passenger carrying business;
 - B. Of passenger buses, those used for long-distance expressway and regular sightseeing business use;
 - C. Motor vehicles for specific passenger carrying business.
- (5) The passenger capacity of infant-carrying motor vehicles shall be the sum of an integer that is obtained by dividing the passenger capacity of children by 1.5 and the passenger capacity of adults.

2. The requirements prescribed in the Announcement of Paragraph 1 of Article 53 of the Safety Regulations in connection with the maximum loading capacity of a motor vehicle shall be the requirements prescribed in each of the following Items:

- (1) The maximum loading capacity shall be calculated as follows:
- A. The maximum loading capacity of trucks (except the case of Item B) shall be calculated according to the circulars enumerated below. Here, in the case of designated motor vehicles, etc. in which the construction, etc. of the vehicle body has been changed (except motor vehicles designated by the Minister of Land, Infrastructure and Transport), the maximum loading capacity shall be designated within the loading capacities of

standard motor vehicles that employ the chassis of the motor vehicle concerned.

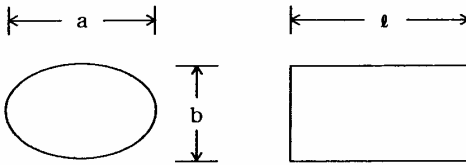
- ① Attachment 95 “Technical Standard for Running Performance of Motor Vehicles”
 - ② Attachment 96 “Technical Standard for Running Performance of Coupled Motor Vehicles”
- B. In cases where the use is changed from the passenger motor vehicle or the bus to the truck (including cases where the maximum loading capacity is designated to special-purpose motor vehicles), the maximum loading capacity shall be calculated as follows, in addition to Item A ①.
- ① In the case of designated motor vehicles, etc. for which the permissible limits of the gross vehicle weight and axle weight are clear from the specification table or the like, the maximum loading capacity shall be designated within a range not exceeding the said permissible limits.
 - ② In the case of motor vehicles for which the permissible limits of the gross vehicle weight and axle weight are indicated by means of a label showing that the Federal Motor Vehicle Safety Standards are complied with, the maximum loading capacity shall be designated within a range not exceeding the said permissible limits (including the permissible limit of the maximum loading capacity in cases where the permissible limit of the maximum loading capacity is also indicated).
 - ③ In the case of motor vehicles for which the permissible limits of the gross vehicle weight and axle weight are clear by means of a compliance certificate of a complete motor vehicle issued by the motor vehicle manufacturer pursuant to the European Economic Community directive, the maximum loading capacity shall be designated within a range not exceeding the said permissible limits.
 - ④ In the case of designated motor vehicles, etc. for which the permissible limits of the gross vehicle weight and axle weight are not clear, the maximum loading capacity shall be designated within a range not exceeding the maximum gross vehicle weight in the variant classification of the same type.

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- ⑤ In the case of motor vehicles other than those provided for in Items ① through ④, the maximum loading capacity shall be designated within a range not exceeding the weight obtained by multiplying the capacity of the riding accommodation that has been removed by 55 kg.
- (2) The fifth wheel load shall be calculated in the same way as the provisions of the preceding Item.
- (3) Of semi-trailers approved for relaxation of the application in connection with Items of the Safety Regulations in which the regulated value is exceeded on conditions that only indivisible goods are transported pursuant to the provision of Article 55 of the Safety Regulations, the maximum loading capacity (reference maximum loading capacity) of standard relaxation semi-trailers in cases where divisible goods are transported within the range of the Safety Regulations shall be calculated according to the provision of Item (1).
- (4) For motor vehicles that employ a tank, etc. as a loading accommodation (except tank motor vehicles carrying dangerous articles, tank motor vehicles carrying high-pressure gas and tank motor vehicles used exclusively for transport of powdered goods), the tank volume (for the tank volume of 1,000 liters or less, the volume less than 10 liters is rounded off; in the same way, for the tank volume exceeding 1,000 liters but 5,000 liters or less, the volume less than 50 liters is rounded off (If the last two figures are 50 liters or more and less than 100 liters, they are counted as 50 liters.); and for the tank volume exceeding 5,000 liters, the volume less than 100 liters is rounded off (the same applies in Items (5) and (8) below)) shall be multiplied by the specific gravity of the loaded goods concerned enumerated in the table below to obtain a value (which can be multiplied by a value from 0.9 to 1.0) which shall be used as the weight of loaded goods (the weight less than 10 kg is rounded off; the same applies in Items (5), (6), (7) and (8)).

Moreover, for tanks whose volume is difficult to be calculated, it shall be determined by approximation of the volume of the tank concerned according to the examples below (the same applies in Items (5), (6) and (8) below).

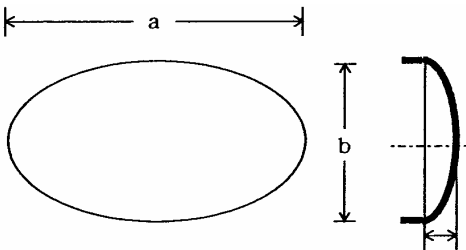
A. Oval tanks

① Calculation of cylinder



$$V = \frac{\pi a b}{4} \ell$$

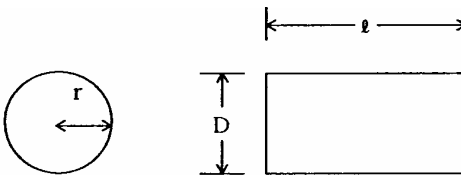
② Calculation of end plates



$$V = \frac{\pi a b}{4} \frac{\ell}{2}$$

B. Cylinder tanks

① Calculation of cylinder

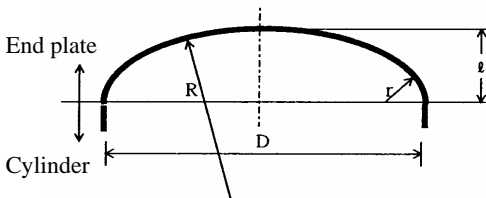


$$V = \pi r^2 \ell$$

$$= \frac{\pi}{4} D^2 \ell$$

② Calculation of end plates

a. 10% dish type end plate



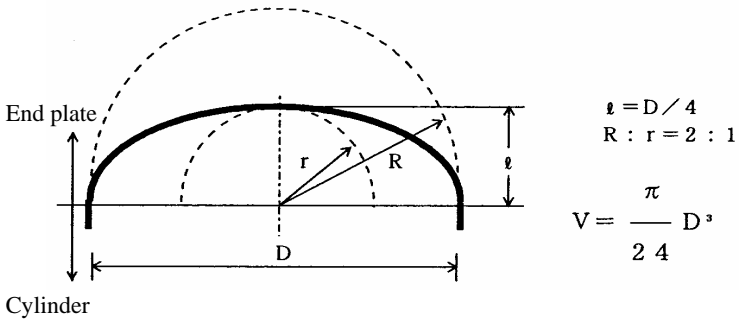
$$D = R$$

$$r = 0.1 D$$

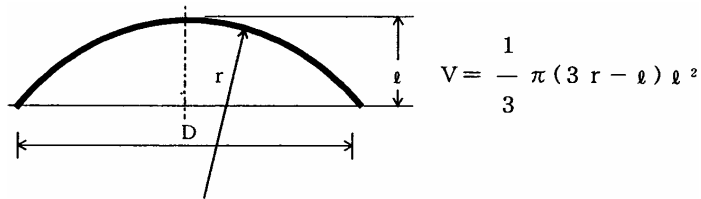
$$\ell = 0.194 D$$

$$V = 0.09896 D^3$$

b. 2:1 semi-oval end plate



c. Spherical end plate



(Table of Specific Gravity (Example))

Nomenclature of loaded articles	Specific gravity
Asphalt solution	0.90
Formalin	1.05
Water, sea water, milk, excrement	1.00

- (5) As regards tank motor vehicles carrying dangerous articles, the value obtained by multiplying the tank volume (which shall be multiplied by a value from 0.90 to 0.95) by the specific gravity of the loaded article concerned enumerated in the table below shall be used as the weight of the loaded article. Here, in the case of tank motor vehicles whose installation is approved pursuant to the provisions of the Fire Prevention Act as a tank motor vehicle for carrying several kinds of dangerous goods within the range in which the category of the dangerous article is the same category pursuant to the provisions of the Fire Prevention Act, the value calculated, based on the tank volume, by

a value of an article for which the installation has been approved among those given in the installation permit concerned shall be used as the weight of the loaded article.

(Table of Specific Gravity (Example))

Nomenclature of loaded goods	Specific gravity
Category 4	
Petroleum class 1	
Gasoline	0.75
Alcohols	
Alcohol	0.80
Acetate	
Acetic ester	0.90
Petroleum class 2	
Kerosene	0.80
Light oil	0.85
Acetic acid	1.06
Petroleum class 3	
Heavy oil	0.93
Petroleum class 4	
Lubricating oil	0.95

- (6) As regards tank motor vehicles carrying high-pressure gas, the value obtained by the calculation method of the mass of the liquefied gas provided for in Article 45 of the Safety Regulations for Containers shall be used as the weight of the loaded article. In this case, the tank capacity shall be the value stamped or the value stamped on the sticker pursuant to the provision provided for in Article 45 of the High-Pressure Gas Control Act.
- (7) For concrete mixers and agitator trucks, the maximum mixing capacity of the drum shall be multiplied by 2.4 tons/m^3 (2.2 tons/m^3 in the case of dry types where only cement and aggregate are loaded into the drum; and the value concerned in cases where the virtual specific gravity of goods to be transported is apparent by a reliable data) and shall be multiplied by a figure of 0.9 to 1.0. Next, the weight of the full water tank shall be added to the aforesaid value. The thus-obtained

sum shall be used as the weight of the loaded article.

However, for dry types, a study shall be made under two conditions: one under which only cement and aggregate are loaded into the drum; and the other under which ready-mixed concrete is prepared in the drum. Here, the weight of the water in the water tank when only cement and aggregate are loaded into the drum shall be represented by the weight when the water tank is filled fully with water. On the other hand, the weight of the water in the water tank when ready-mixed concrete is prepared in the drum shall be represented by the value which is obtained by subtracting the product of the maximum mixing capacity of the drum multiplied by 200 kg/m^3 from the weight of the water tank which is filled fully with water.

- (8) For tank motor vehicles used exclusively for transport of powdered goods, the tank volume shall be multiplied by the virtual specific gravity in the next table (the value concerned in cases where the virtual specific gravity of goods to be transported is apparent by a reliable data). This product shall be further multiplied by a figure of 0.9 to 1.0. The thus-calculated figure shall be used as the weight of the loaded article.

(Table of Virtual Specific Gravity)

Nomenclature of loaded goods	Virtual specific gravity
Loose cement	1.0
Flyash	0.8
Livestock feed	0.5
Vinyl powder	0.45
Flour	0.5
Carbon black	0.32

- (9) For special-purpose motor vehicles with a specified loading capacity, except those without a specified maximum loading capacity, the maximum loading capacity shall be calculated according to the provisions of Items (1) through (8).

Article 160 (Temporary Passenger Capacity)

The requirements prescribed in the Announcement of Paragraph 2 of Article 54 of the Safety Regulations in connection with the temporary passenger capacity shall be the sum of the seating capacity and the standing capacity calculated without applying the provision of Paragraph 2 of Article 112. In this case, the standing capacity shall be the integral value obtained by dividing the sum of the standing spaces by 0.14 m^2 .