3 The installation of lighting and light-signaling devices

3.1 The principles for regarding applicable type and scope of the installation of lighting and light-signaling devices are as below：

3.1.1 The same vehicle category symbol.

3.1.2 The same type of vehicle body.

3.1.3 The same axle set type.

3.1.4 The same brand and vehicle type series.

3.1.5 The chassis vehicle have had same axle set type.

3.1.6 The same chassis brand.

3.1.7 Chassis manufacturers declareed that the same chassis vehicle type series.

3.2 The installation of lighting and light-signaling devices for motor vehicles and trailers.

3.2.1 Headlamp: Not applicable for trailer.

3.2.1.1 Shall be two-lamp type or four-lamp type, symmetrically installed.

3.2.1.2 The lamp color can be white or light yellow, both lamps shall be identical.

3.2.1.3 The position of headlamps shall be installed such that the centerline of dipped-beam shall be under 1.4 m from the ground level under curb weight (for four-lamp type, it's based on the centerline of top lamps ). The outer edge of illuminating plane for dipped-beam shall be within 40 cm toward the external side of vehicle body (excludes the rear-view mirror).

3.2.1.4 The distance between the inner illuminating planes of main-beam shall be no longer than the dipped-beam one.

3.2.2 The clearance/front position lamp: for the trailer with width less than 1.6m, can be dealt without following requirement.

3.2.2.1 The lamp color shall be white, light yellow or amber, and both lamps shall be identical.

3.2.2.2 Installing position: the top edge of illuminating plane shall be under 2.1 m from the ground level under curb weight condition. Both lamps shall be of the same height.

3.2.3 The tail/rear position lamp:

3.2.3.1 The lamp color shall be red.

3.2.3.2 Installing position: the top edge of illuminating plane shall be under 2.1 m from the ground level under curb weight condition. The outer edge of illuminating plane shall be within 40 cm from the external side of vehicle body (excludes the rear-view mirror). The distance between the inner illuminating planes for the two lamps shall be above one-fourth of the vehicle width and both lamps shall be positioned symmetrically. If there are more than one set of tail/rail position lamps installed, at least one set of

them needs to comply with this requirement.

3.2.4 The stop lamp:

3.2.4.1 The lamp color shall be red. The illumination shall be brighter than the tail/rear position lamp.

3.2.4.2 Installing position: the top edge of illuminating plane shall be under 2.1 m from the ground level under curb weight condition. The distance between the inner illuminating planes for the two lamps shall be above one-fourth of the vehicle width and both lamps shall be positioned symmetrically. If there are more than one set of stop lamps installed, at least one set of them needs to comply with this requirement.

3.2.4.3 When stepping down the brake pedal , the lighting shall be continuous without flashing.

3.2.5 The high mounted/S3 lamp: Required for small passenger vehicles. If other categories of vehicle are equipped with this lamp, requirements below shall be followed.

3.2.5.1 All small passenger vehicles registered after1995/7/1 shall be equipped with the high mounted/S3 lamp therewith.

3.2.5.2 The color of high mounted/S3 lamp shall be red; its lens effective area shall be above 29 cm2.

3.2.5.3 The high mounted/S3 lamp shall be installed on the rear centerline with lamp center higher than the stop lamp. If it's unavailable for the installation, such as the movable parts (like access door, etc.) located therein, then it's allowed to shift the lamp centerline within 15 cm of the rear centerline, or to install two identical stop lamps symmetrically from the rear centerline instead. When stepping down the brake pedal, the lighting of high mounted/S3 lamp(s) shall be continuous without flashing.

3.2.6 The direction indicator/turn signal lamp: Required for motor vehicles. Trailers equipped with the direction indicator/turn signal lamp shall meet following requirements.

3.2.6.1 The color of direction indicator/turn signal lamp shall be amber or yellow, yet when close to light yellow headlamp, it's color shall to be amber. The direction indicator/turn signal lamp installed on the rear side of vehicle can be red color.

3.2.6.2 The top edge of illuminating plane shall be less than 2.3 m from the ground level under curb weight condition . Both lamps shall be installed symmetrically. If there are more than one set of direction indicator/turn signal lamps installed, at least one set of them needs to comply with this requirement.

3.2.6.3 The distance of the inner illuminating planes shall be above 60 cm (above 40 cm, if the vehicle width is below 130 cm). And the distance between the external illuminating plane and the outer edge of vehicle shall be under 40 cm. If installed the side direction indicator/turn signal lamp, this requirement can be ignored. If there are more than one set of direction indicator/turn

signal lamps installed, at least one set of them needs to comply with this requirement.

3.2.6.4 The flash frequency shall be within 60-120 per minute.

3.2.7 The rear registration plate lamp:

3.2.7.1 Shall be white color.

3.2.7.2 Shall be installed above, below or beside the registration plate.

3.2.7.3 Shall have proper shielding protection, and its illumination shall not affect the driving sight of rear-coming vehicles.

3.2.8 The reversing lamp: required for motor vehicles, Trailer equipped with reversing lamp shall also meet following requirements.

3.2.8.1 The quantity of reversing lamp shall be one or two.

3.2.8.2 Shall be white color.

3.2.8.3 Installing position: shall be below 1.2 m above ground on the lamp center in curb weight condition of vehicle.

3.2.8.4 Shall be linked to the transmission device, i.e., turn on when the transmission lever is on “reverse” position.

3.2.9 The hazard-warning lamp:

3.2.9.1 All the motor vehicles registered after1994/7/1 shall be equipped with the hazard-warning lamp therewith.

3.2.9.2 Both lamps shall be turned on simultaneously when activated. The hazard-warning lamp shall also follow the requirement of direction indicator/turn signal lamp.

3.2.10 The top lamp of taxi:

3.2.10.1 Shall be a single lamp.

3.2.10.2 The lamp color shall not be red.

3.2.10.3 Shall use screw (not restricted by drilling type), metal strip or top lamp fixture to install on the front-half part of roof of vehicle. No magnetic fixing type allowed.

3.2.10.4 The lamp switch shall be linked to the service-fee meter.

3.2.11 The non-triangular rear retro-reflecting/reflex reflecting device for motor vehicles: To be complied since 2001/7/1.

3.2.11.1 The reflecting light color shall be red.

3.2.11.2 The reflecting-plane height above ground at the curb weight status shall be: under 1.55 m for upper edge, above 0.25 m for lower edge. Within 40 cm between the outer edge of reflecting plane and vehicle body outer edge (excludes the rear-view mirror) and above 60 cm for distance between inner edges (40 cm if vehicle width is under 130 cm). If there are more than one

set installed, at least one set of them needs to comply therewith.

3.2.12 The triangular rear retro-reflecting/reflex reflecting device for trailers: To be complied since 2001/7/1.

3.2.12.1 The reflecting light color shall be red, the tip of triangular shall be directed upward.

3.2.12.2 The reflecting plane height above ground at the curb weight status shall be: under 0.9 m for upper edge (1.5m, if unavailable due to the vehicle body structure), above 0.25 m for lower edge. Within 40 cm between the outer of reflecting plane and vehicle body (excludes the rear-view mirror) and above 60 cm for distance between inner edges (40 cm if vehicle width is under 130 cm).

3.2.13 The non-triangular front retro-reflecting/reflex reflecting device for trailers: To be complied since 2001/7/1.

3.2.13.1 The reflecting light color shall be transparent (or called white) or yellow.

3.2.13.2 The reflecting plane height above ground at the curb weight status shall be: under 0.9 m for upper edge (1.5m, if unavailable due to the vehicle body structure), above 0.25 m for lower edge. Within 15 cm between the outer edge of reflecting planes and vehicle body and above 60 cm for distance between inner edges (40 cm if vehicle width is under 130 cm).

3.2.14 The non-triangular type intermediate side retro-reflecting/reflex reflecting device for motor vehicle (vehicle length above 6m) and trailers: To be complied since 2001/7/1.

3.2.14.1 The reflecting light color shall be amber in the front and middle portion, red or amber in the rear portion.

3.2.14.2 The reflecting plane height above ground at the curb weight status shall be: under 2 m for upper edge, above 0.25 m for lower edge. Lower than 3m between the outer edges of two adjacent reflecting planes (4 m, if unavailable due to the vehicle body structure). Install at least one reflecting device on the location between one-third and two-thirds of vehicle body. The front edge of reflecting device shall be located no more than 3m away from the front edge of vehicle, and the rear edge of reflecting device be no more than 1m from the vehicle rear end. If the distance between the front & rear reflecting devices is over 3m, add intermediate one according to the vehicle length.

3.2.15 The side marker lamp installed on intermediate side for motor vehicles (vehicle length above 6m) and trailer: To be complied since 2001/7/1.

3.2.15.1 The light color shall be amber in the front and middle portion, red or amber in the rear portion.

3.2.15.2 The illuminating plane height above ground at the curb weight status is: under 2 m for upper edge, above 0.25 m for lower edge. Lower than 3m between the outer edges of two adjacent illuminating planes (4 m, if unavailable due to the vehicle body

structure). Install at least one side marker lamp on the location between one-third and two-thirds of vehicle body. The front edge of illuminating plane shall be located no more than 3m away from the front edge of vehicle, and the rear edge of illuminating plane be no more than 1m from the vehicle rear end. If the distance between the outer edges of front & rear illuminating planes is over 3m, add intermediate one according to the vehicle length.

3.3 Inspection requirements for motorcycle lamps and marks.

3.3.1 Headlamp:

3.3.1.1 Shall be single lamp or double lamps installed symmetrically.

3.3.1.2 The lamp color shall be white or light yellow, and both lamps shall be identical.

3.3.1.3 Installing position: The upper edge of dipped-beam illuminating plane shall be under 1.2 m from the ground level under curb weight, and the lower edge shall be above 0.5 m.

3.3.2 Tail/rear lamp:

3.3.2.1 The lamp color shall be red; the tail lamp shall be turned on when the headlamp is on, and can’t be turned off alone.

3.3.2.2 Installing position: The upper edge of illuminating plane shall be under 1.5 m from the ground level under curb weight, and the lower edge shall be above 0.25 m.

3.3.3 Stop lamp:

3.3.3.1 The lamp color shall be red, illumination shall be brighter than the tail lamp.

3.3.3.2 Shall be single lamp or double lamps installed symmetrically.

3.3.3.3 Installing position: The upper edge of illuminating plane shall be under 1.5 m from the ground level under curb weight, and the lower edge shall be above 0.25 m.

3.3.3.4 When activating the brake, the stop lamp shall keep stable lighting without flashing therewith.

3.3.4 Direction indicator/turn signal lamp:

3.3.4.1 The lamp color shall be amber.

3.3.4.2 The upper edge of illuminating plane shall be less than 1.2 m from the ground level under curb weight status, and the lower edge shall be above 0.35 m.

3.3.4.3 The flash frequency shall be within 60-120 per minute.

3.3.4.4 The new type of motorcycles registered after 2003/1/1 and all type of motorcycles registered after 2005/1/1 shall comply with

the following requirements: the distance between front inner edges of illumination planes for direct lamp shall be above 24 cm, and the distance between rear inner edges shall be above 18 cm.

3.3.5 Registration plate lamp:

3.3.5.1 Shall be white color.

3.3.5.2 Shall be installed above, under, left or right side the registration plate.

3.3.5.3 Shall have proper shielding protection, and its illumination shall not affect the driving sight of rear-coming vehicles.

3.3.6 Rear retro-reflecting/reflex reflecting device:

3.3.6.1 Shall be red color, and not in a triangular shape.

3.3.6.2 The upper edge of illuminating plane shall be under 0.9 m from the ground level under curb weight status, and the lower edge shall be above 0.25 m.

3.4 The vehicle can be installed auxiliary lamps and marks conforming to the following requirements regarding the need of driving safety and specific operation requirements.

3.4.1 End outline marker lamp - for large motor vehicle and trailer:

3.4.1.1 The front lamp shall be white or yellow color; the rear one shall be red.

3.4.1.2 The lamps shall be positioned on the positions to indicate vehicle width and be installed to the vehicle top as possible.

3.4.2 Identification lamp - for large motor vehicle and trailer:

3.4.2.1 The front lamp shall be amber, yellow or green color; the rear one shall be red. The front identification lamp with no speed indicating function shall not be green color.

3.4.2.2 There shall be three lamps in front or rear side each. If the lamps can provide a alternative function of speed indication, all these lamps shall face forward direction.

3.4.3 Cornering lamp:

3.4.3.1 Shall be white or yellow color.

3.4.3.2 One lamp on each side of vehicle. Their operation shall be connected to the direction lamp and provide a stable illumination on the turning direction.

3.4.4 Daytime running lamp:

3.4.4.1 The outer edge of lamp illumination plane shall be within 40 cm from the external side of vehicle body (excludes the rear-view

mirror). The distance of the inner illuminating planes shall be above 60 cm (for the vehicle under 130 cm, the distance shall be above 40 cm). The upper edge shall be less than 1.5 m, the lower edge shall be above 0.25 m.

3.4.4.2 Shall be white or light yellow color, symmetrically installed on both sides.

3.4.4.3 If using the dipped-beam lamp and switch the illumination density to function: same with the requirement specified in dipper-beam lamp. Yet, if using the main-beam lamp and switch the illumination density to function, then the lamp center height above ground at the curb weight status shall be less than 0.9 m.

3.4.5 Working/cargo lamp, spot lamp:

3.4.5.1 Shall be white or light yellow color, installed according to the actual requirement.

3.4.5.2 The on/off switch shall not be connected to other lamps.

3.4.5.3 If it is used during driving and would affect the driving sight of other vehicles, then use suitable fixed device to shield the lamp.

3.4.6 Fog lamp:

3.4.6.1 The quantity of front fog lamps shall be two, positioned symmetrically on both sides of vehicle. The rear fog lamp can be one or two in quantity.

3.4.6.2 The front fog lamp color is restricted by the color of yellow, light yellow or white. The rear fog lamp is restricted by red.

3.4.6.3 The upper edge of front log lamp illumination plane shalln't be higher the upper edge of dipper-beam lamp illumination plane.

3.4.6.4 The front fog lamp shall not be interconnected with headlamp. Unless the headlamp, front fog lamp, clearance/ front position lamp or trail/ rear position lamp is on, the rear fog lamp shall not be turned on alone. When the front fog lamp is equipped, the rear fog lamp shall be arranged that it could be turned off alone.

3.4.6.5 The distance between the rear fog lamp center and stop lamp center shall be over 0.1 m.

3.4.7 Fog lamp – for motorcycle:

3.4.7.1 The quantity of front & rear fog lamps shall be one or two. When only one installed, the basic center shall be on the vertical central plane or the distance between the inner edge of illumination plane and the vertical central plane be less than 0.25 m. If two lamps are installed, they shall be installed symmetrically.

3.4.7.2 The front fog lamp color is restricted by the color of yellow, light yellow or white. The rear fog lamp is restricted by red.

3.4.7.3 The upper edge of front log lamp illumination plane shalln't be higher the upper edge of dipper-beam lamp illumination plane, and shall be 0.25 m above ground. The rear fog lamp shall be 0.25 m to 0.9 m above ground, the distance between he lamp

center and stop lamp center shall be larger than 0.1m.

3.4.7.4 The front fog lamp shall not be interconnected with headlamp. Unless the headlamp or front fog lamp is on, the rear fog lamp shall not be turned on alone. When the front fog lamp is installed, the rear fog lamp shall be arranged that it could be turned off alone.

3.4.8 The non-triangular intermediate side retro-reflecting/reflex reflecting device – for motorcycle:

3.4.8.1 Shall be amber in color, and not in a triangular shape.

3.4.8.2 The reflecting-plane height above ground at the curb weight status shall be between 0.3 m and 0.9 m, shall not be covered by the driver or passenger clothes in normal condition.

3.4.9 The auxiliary stop-lamp for motorcycle:

3.4.9.1 Shall be red in color.

3.4.9.2 The lamp center shall be positioned on the vertical central-plane and above all other rear lamps.

3.4.9.3 Shall keep stable lighting without flashing.

3.4.10 The front position lamp for motorcycle

3.4.10.1 Shall be white or light yellow in color.

3.4.10.2 Shall be single lamp or double lamps installed symmetrically.

3.4.10.3 Installing position: The upper edge of illuminating plane shall be under 1.2 m from the ground level under curb weight, and the lower edge shall be above 0.35 m.

3.4.11 The non-triangular rear retro-reflecting/reflex reflecting device for trailer: same requirements specified in 5.1.11 above.

3.4.12 The front retro-reflecting/reflex reflecting device for motor vehicle: same requirements specified in 5.1.13 above. Yet, the distance between the outer edge of reflecting surface and vehicle body (excludes the rear-view mirror) shall be within 40 cm.

3.4.13 The non-triangular intermediate side retro-reflecting/reflex reflecting device, for motor vehicle of length under 6 m:

3.4.13.1 The reflecting light color shall be amber in the front and middle portion, red or amber in the rear portion.

3.4.13.2 The reflecting-plane height above ground at the curb weight status is: under 2 m for upper edge, above 0.25 m for lower edge. Install at least one intermediate side-reflecting device on the location between one-thirds and two-third of vehicle body.

3.4.14 The side marker lamp installed on intermediate side of motor vehicle of length under 6 m:

3.4.14.1 The light color shall be amber in the front and middle portion, red or amber in the rear portion.

3.4.14.2 The illuminating-plane height above ground at the curb weight status is: under 2 m for upper edge, above 0.25 m for lower edge. Install at least one side marker lamp within front one-third or rear one-third of vehicle body.

3.4.15 The side direction indicator/turn signal lamp of motor vehicle and trailer:

3.4.15.1 Shall be two lamps or four lamps installed symmetrically.

3.4.15.2 Shall be amber or yellow in color.

3.4.15.3 The upper edge of illumination plane height above ground at the curb weight status shall be less than 1.5 m (2.3 m, if unavailable due to the vehicle body structure). Under 1.8 m between the rear-edge of illumination plane and front edge of vehicle body (2.5 m, if unavailable due to the vehicle body structure).

3.4.15.4 The flash frequency shall be within 60-120 per minute.

3.4.16 The parking lamp for motor vehicle and trailer:

3.4.16.1 Whether engine is on or off, the vehicle circuit shall be designed that the lamps on the same side can be turned on & off independently.

3.4.16.2 The front lamp color shall be white, light yellow or amber, and the rear one shall be red. If the function of this lamp is done by other lamps, then it shall follow the original lamp color requirements.

3.4.16.3 The upper edge of illumination plane height above ground at the curb weight condition is less than 1.5 m (2.1 m, if unavailable due to the vehicle body structure). The distance between the outer edge of illuminating surface and vehicle body (excludes the rear-view mirror) shall be within 40 cm. If using the side direction indicator / turn signal lamp as the parking lamb, then it shall follow the side direction indicator / turn signal lamb requirements.

3.4.17 Marking use retro-reflecting/reflex reflecting device:

3.4.17.1 Shall be white, yellow or red in color, and can be used alternately.

3.4.17.2 It shall be installed on the positions that can indicate vehicle length, width or height.

3.5 The other lamps not included in item 5.1 to 5.3 above shall not be installed unless approved by the authorities.