

Bumper Heights for Automobiles

1. Scope

This standard specifies bumper heights for passenger cars⁽¹⁾, trucks⁽¹⁾ and buses⁽¹⁾ among the ordinary cars⁽²⁾, compact cars⁽²⁾ and light cars⁽²⁾. However, it does not specify the bumpers for the following cars.

- (1) Motorcycles
- (2) Motor tricycle
- (3) Cars for special use
- (4) Rear parts of ordinary cars⁽¹⁾ used for transport of goods
- (5) Rear parts of trucks among compact cars⁽¹⁾ and light cars⁽¹⁾ used for transport of goods

Note ⁽¹⁾ Cars specified by Notification of the Ministry of Transport No. 599 "Classification of Uses etc. of Automobiles" issued in 1974.
⁽²⁾ Cars specified by **Attached Table 1**, Section 2, Enforcement Regulations, Road Transport Act.

2. Purpose

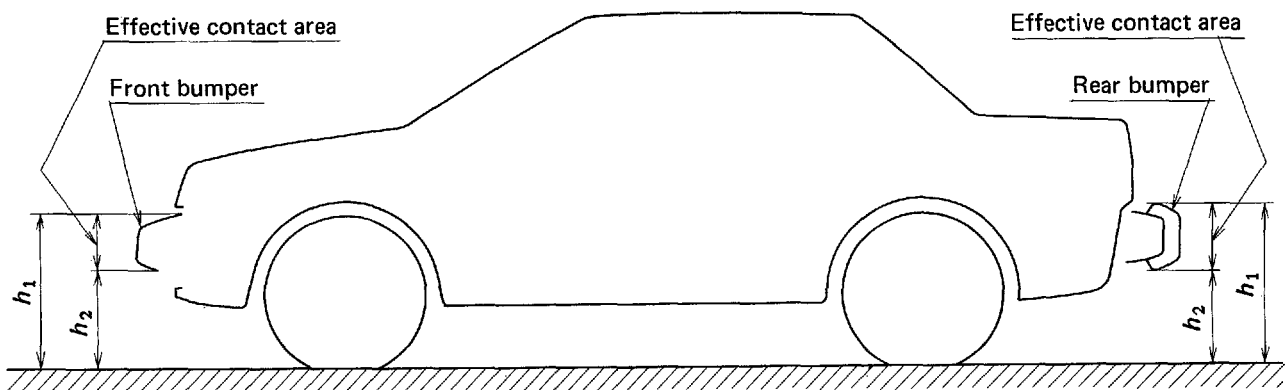
This standard aims to unify the bumper heights so that the bumpers of all cars will be in contact with one another under any condition from empty state to fully loaded state on general roads to protect lamps, important component parts and outside panels of cars from being damaged seriously when cars collide with one another while their drivers are parking or driving at low speeds in a traffic jam.

3. Definitions

Meanings of major terms to be used in this standard shall be as follows;

- (1) **State of empty car:** A state of car which is equipped with all items necessary for travel including full of fuel, lubricating oil, coolant, brake fluid, etc.
- (2) **State of car with maximum load:** State of car which is equally loaded with full passenger capacity and maximum goods weight.
- (3) **Bumper:** Protective buffers of cars to be installed to front and rear of cars. One bumper consists of several horizontal elements or vertical elements or both of them.
- (4) **Horizontal elements:** Members set almost horizontally to secure the effective contact area of a bumper.
- (5) **Vertical elements:** Members set almost vertically to secure the effective contact area of a bumper.
- (6) **Bumper heights:** Heights of the top (h_1) and the bottom (h_2) of the effective contact area of a bumper above the ground (See Fig. 1).
- (7) **Effective contact area:** Area between the top (h_1) and the bottom (h_2) of a bumper (See Fig. 1).

Fig. 1 Bumper Height and Effective Contact Area



Reference Standards: JIS D 0102

Glossary of Terms Relating to Automobiles — Dimensions, Masses, Weights and Performances of Automobiles

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Rear Underrun Protection for Trucks and Trailers