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Replaces GB/T 17867-1999

Location of Hand Controls, Indicators and Tell-Tales in
Motor Vehicles

汽车手操纵件、指示器及信号装置的位置

(ISO 4040:2009, Road vehicles - Location of hand controls, indicators and tell-tales in motor vehicles,
MOD)

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FOREWORD

This document is drafted in accordance with the rules given in GB/T 1.1-2020 “*Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents*”.

This document replaces GB/T 17867-1999 “*Passenger cars-Location of hand controls, indicators and tell-tales*”. In addition to structural adjustments and editorial modifications, the following technical deviations have been made with respect to GB/T 17867-1999:

- a) Modified the application scope of this standard and added the relevant requirements for vehicles of Categories M₂, M₃ and N (See Clause 1 vs. Clause 1 of GB/T 17867-1999);
- b) Added the normative references, i.e., GB 4094, GB/T 4094.2, GB/T 4782, GB/T 12673, GB/T 15089 and GB/T 29120 (See Clause 3);
- c) Modified some terms and definitions (See Clause 3 vs. Clause 3 of GB/T 17867-1999);
- d) Deleted some terms and definitions (See Clause 3 of GB/T 17867-1999);
- e) Added the description of information concerning controls (See 4.1);
- f) Added the requirements for locations of mechanical controls and virtual controls (See 4.2);
- g) Added the requirements for locations of controls for vehicles of Categories M₂, M₃ and N (See 4.3);
- h) Added the requirements for locations of head lamp, head lamp optical warning, and direction-indicator lamp (See 4.4);
- i) Modified the requirements for location of audible control (See 4.6 vs. 4.4 of GB/T 17867-1999);
- j) Modified the requirements for location of hand control of parking brake (See 4.7 vs. 4.5 of GB/T 17867-1999);
- k) Added the requirements for locations of hand control of retarder (See 4.8) and control of gear selector (excluding paddle shift) (See 4.9);
- l) Deleted the note “hand-operated” in the bracket of windscreen washer and wiper control, and modified the requirements for their locations (See 4.10 vs. 4.6 of GB/T 17867-1999);
- m) Added the requirements for location of ignition switch control for vehicles of Categories M₂, M₃ and N (See 4.11);
- n) Added the requirements for location of hazard warning control for vehicles of Categories M₂, M₃ and N (See 4.12);
- o) Added the requirements for locations of head-up display control, around view monitor control, backing aid control, and full-speed adaptive cruise control (See 4.13 to 4.16);
- p) Modified the secondary operational surfaces to be avoided when operating the master lighting switch [See 4.17 a) vs. Table 1 of GB/T 17867-1999];
- q) Deleted the operation mode of rotation approximately about axis of control to be avoided during the headlamp beam switching [See 4.17 b) vs. Table 1 of GB/T 17867-1999];
- r) Modified the operation mode to be avoided for the audible control [See 4.17 c) vs. Table 1 of GB/T 17867-1999];
- s) Modified the secondary operational surfaces to be avoided when operating the stalk control of windscreen wiper [See 4.17 d) vs. Table 1 of GB/T 17867-1999];
- t) Modified the secondary operational surfaces to be avoided when operating the stalk control of windscreen washer and modified the preferred mode when operating the stalk control of windscreen washer [See 4.17 e) vs. Table 1 of GB/T 17867-1999];
- u) Added the requirements for arrangement of functional combination of direction indicator lamp and retarder controls for Category N vehicles (See 5.3);
- v) Modified the Chinese name of “speedometer”, and modified its visibility requirements (See 6.1 vs. 6.1

of GB/T 17867-1999);

- w) Deleted the visibility requirements for fuel level indicator (See 6.2 of GB/T 17867-1999);
- x) Added the visibility requirements when the fuel level, SOC of traction battery, and air brake reservoir pressure indicators display a critical condition (See 6.2 vs. 6.3 of GB/T 17867-1999);
- y) Added the visibility requirements when the tell-tales display a warning/fault/failure state (See 6.3);
- z) Deleted the visibility requirements for the battery charging condition and the automatic transmission (if mounted on the instrument panel or steering column) (See 6.4 of GB/T 17867-1999);
- aa) Added the visibility requirements for traction battery temperature and engine coolant temperature indicators, and added the visibility requirements for appropriate indicators of vehicles of Categories M₂, M₃ and N (See 6.4);
- bb) Deleted the visibility requirements for brake and engine oil pressure (See 6.5 of GB/T 17867-1999);
- cc) Added the visibility requirements for SOC of traction battery and loading/unloading tell-tales, and added the visibility requirements for appropriate tell-tales of vehicles of Categories M₂, M₃ and N (See 6.5);
- dd) Deleted the visibility requirements for the case where the master tell-tale which is illuminated simultaneously with the individual tell-tale (See 6.6 of GB/T 17867-1999).

This document is modified in relation to ISO 4040:2009 “Road vehicles - Location of hand controls, indicators and tell-tales in motor vehicles”.

With respect to ISO 4040:2009, major structural adjustments have been made to this document, and a list of the clauses in this document and the equivalent clauses in ISO 4040:2009 is given in Annex A.

There are technical deviations between this document and ISO 4040:2009. The clauses involving with these deviations have been marked with a vertical single line (|) in the outer page margins. A list of technical deviations, together with their justifications, is given in Annex B.

The following editorial changes have been made to this document:

- Modified the standard name into “Location of hand controls, indicators and tell-tales in motor vehicles”;
- Deleted the note contained in the scope of ISO 4040:2009;
- Deleted the instructions to the reference to relevant documents contained in 3.1, 3.11 and 3.13 of ISO 4040:2009;
- Modified the graphical labels of zone 1, zone 2 and zone 3 into the numbering, and explained in the “key” (See Figure 3);
- In the definition of term “visible”, modified the reference to an ISO standard into the reference to Annex C (See 3.9);
- Incorporated the Example of identification into the “Note” (See 3.11);
- Modified “head lamp beam switching (high beam, main beam to low beam, dipped beam)” into “head lamp (high beam, switching between high beam and low beam, low beam)”, and modified “turn signals” into “direction-indicator lamp” (See 4.4);
- Modified “audible warning (horn)” into “audible (e.g., horn)” and modified “Additional audible warning” into “Additional audible (e.g., acoustic alarm for running at low speed)” (See 4.6);
- Modified “rotary (e.g., key) ignition switch control” into “ignition switch control” (See 4.11);
- Modified “rotation approximately about the axis of the control” into “rotation approximately about the steering-wheel axis”, modified “direction indication (turn signals)” into “direction-indicator lamp”, and modified “optical warning (momentary high beam warning)” into “momentary high beam warning” (See 4.17);
- Added a graphical label of “steering-wheel axis”, and modified “rotation approximately about the axis of the control” into “rotation approximately about the steering-wheel axis” (See Figure 4);

- Deleted the note “(if power-operated)” to the windscreen washing on/off;
- Modified “optical warning” into “headlamp optical warning” (See 5.1);
- Modified the Chinese name of “fuel level”, “engine oil pressure”, and “parking brake”; modified “high/main beam” into “headlamp high beam tell-tale”, modified “turn signal direction indicator” into “direction indicator lamp”, and modified “automatic transmission (if mounted on the instrument panel or steering column)” into “automatic transmission (if mounted on the instrument panel)” (See 6.5)
- Added Annex C (Informative) Determination of Eyellipse for Vehicles of Category M₁.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The organizations issuing this document shall not be held responsible for identifying any or all such patent rights.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document was prepared by SAC/TC 114 (National Technical Committee on Road Vehicles of Standardization Administration of China).

This document was drafted by China Automotive Technology Research Center Co., Ltd., Shanghai Automotive Group Co., Ltd., Guangzhou Automotive Group Co., Ltd., China Automotive Research Software Evaluation (Tianjin) Co., Ltd., Pan Asia Automotive Technology Center Co., Ltd., and Anhui Jianghuai Automobile Group Co., Ltd.

Chief drafters of this document are Ju Weinan, Cao Lijuan, Zhao Mengyang, Cao Yong, Sun Zhipeng, Liu Liping, Zhang Ziliang, Hua Bo, Dong Changqing, Wang Furui, Ma Hongxia, Yu Chunjie, Shao Xuebin, Xia Weiqun, Sun Suozhu, and Tong Ronghui.

This document was first issued in 1999, and this edition is the first revision.

Location of Hand Controls, Indicators and Tell-Tales in Motor Vehicles

1 SCOPE

This document specifies the requirements for location of controls, requirements for modes of operation for stalk controls, requirements for combining functions into multifunction controls, and requirements for display visibility of indicators and tell-tales in motor vehicles.

This document is applicable to the vehicles of Categories M and N.

2 NORMATIVE REFERENCES

The following normative documents contain provisions which, through normative reference in this text, constitute essential provision of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendment) applies.

GB 4094	Symbols for controls, indicators and tell-tales of motor vehicles
GB/T 4094.2	Electric vehicles—Symbols for controls, indicators and tell-tales
GB/T 4782	Road vehicles—Controls, indicators and tell-tales—Vocabulary
GB/T 12673	Motor vehicle main dimensions measurement method
GB/T 15089	Classification of power-driven vehicles and trailers
GB/T 29120	Procedure for H-point and R-point Determination (GB/T 29120-2012, ISO 6549:1999, ISO 20176:2006, MOD)

3 TERMS AND DEFINITIONS

For the purpose of this document, the terms and definitions given in GB 4094, GB/T 4094.2, GB/T 4782, GB/T 12673, GB/T 15089 and GB/T 29120, as well as the following apply.

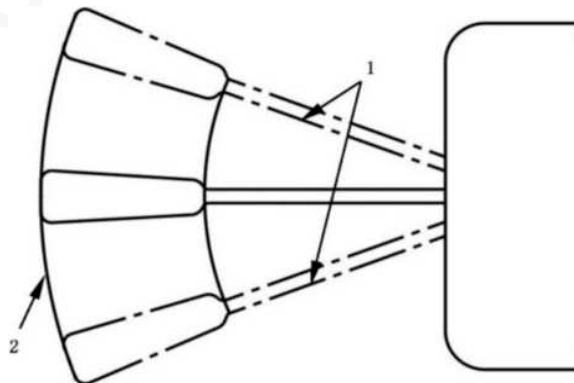
3.1 reference plane

vertical plane parallel to the longitudinal axis of the motor vehicle, passing through the steering wheel axis and within a zone 50 mm to either side of the R-point designated for driver's seat

3.2 operational area of control

area swept by those parts of a control activated by the hand while the possible movable modes or positions are set in the manner intended by the designer

Example: See Figure 1.



Key

- 1 extreme location of the control;
- 2 operational area of the control.

Figure 1 Example of operational area of a control

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