INTERNATIONAL STANDARD

Passenger cars — Location of hand controls, indicators and tell-tales

Voitures particulières — Emplacement des commandes manuelles, des indicateurs et des témoins

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4040 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 13, *Ergonomics applicable to road vehicles.*

This third edition cancels and replaces the second edition (ISO 4040:1983), which has been technically revised.

Introduction

There is a recognized potential for errors in the selection of controls essential to the safe operation of a vehicle if these controls are not similarly located in all vehicles. Therefore the standardization of these control locations must be considered a logical and beneficial design objective since drivers have an ever-increasing opportunity to change from one vehicle to another.

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Passenger cars — Location of hand controls, indicators and tell-tales

1 Scope

This International Standard lays down the location of the controls in road vehicles, by subdividing the space within reach of drivers into specific zones to which certain controls essential to the safe operation of vehicles are assigned.

It also specifies certain combinations of functions for multifunction controls and the degree to which certain indicators and tell-tales shall be visible.

A specification for a control, indicator or tell-tale does not imply that the item must be fitted.

This International Standard applies to hand-operated controls, to indicators, and to tell-tales for left and right-hand drive passenger cars as defined in ISO 3833.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2575:1995, *Road vehicles — Symbols for controls, indicators and tell-tales.*

ISO 3833:1977, *Road vehicles — Types — Terms and definitions.*

ISO 3958:1996, *Passenger cars — Driver hand-control reach.*

ISO 4513:1978, *Road vehicles — Visibility — Method for establishment of eyellipses for driver's eye location.*

ISO 6549:—[1], *Road vehicles — Procedure for H-point determination.*
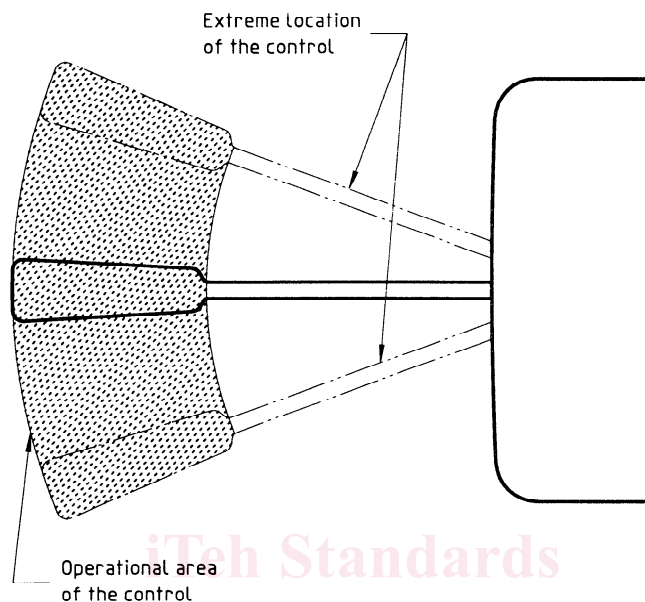
3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 reference plane: Vertical plane parallel to the longitudinal axis of the car within a zone 50 mm to either side of the centre of the designated seating position for the driver at the R-point as defined in ISO 6549.
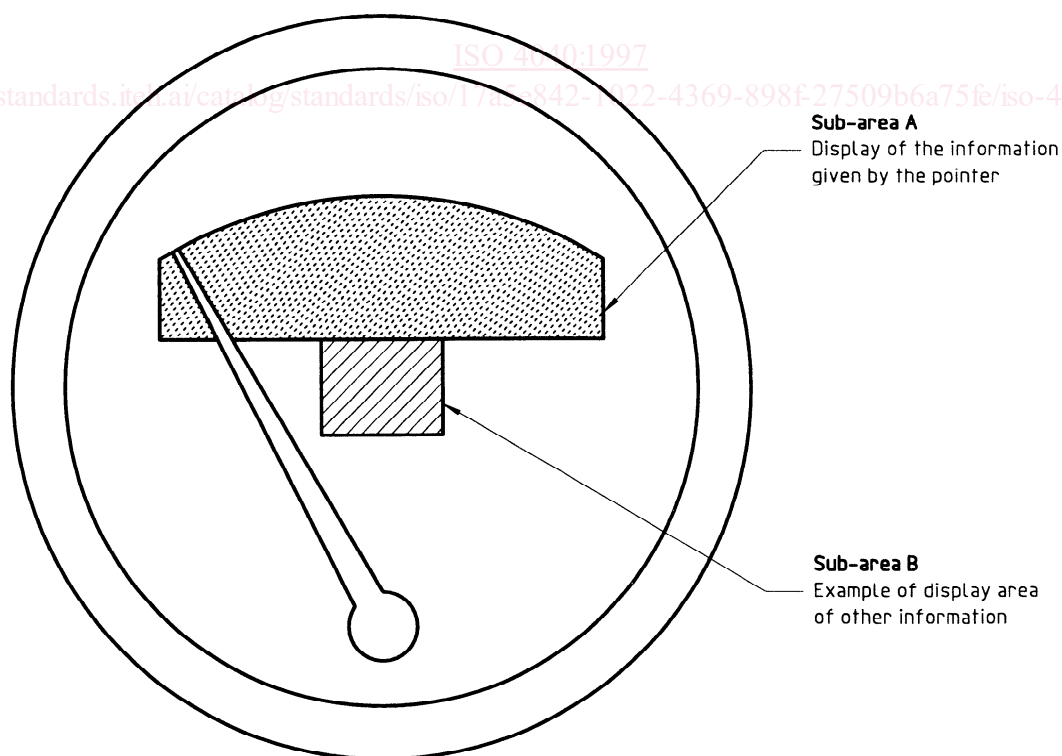
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1) To be published. (Revision of ISO 6549:1980)

3.2 operational area of a control: Area swept by those parts of a control which are activated by the hand while the possible modes or positions are selected in the manner intended by the designer. (See figure 1, for example.)

3.3 display area of an indicator or tell-tales: Area which includes the identification of the quantity displayed and those portions required to determine its level at any point within the usable capacity of the instrumentation. It need not include, for example, bezels or the manufacturer's type number. (See figure 2, for example.)

Extreme location of the control

Operational area of the control

Figure 1 — Example of operational area of a control

Sub-area A
Display of the information given by the pointer

Sub-area B
Example of display area of other information

Figure 2 — Example of display area of indicators