

Road vehicles — Direction-of-motion stereotypes for automotive hand controls

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National foreword

This British Standard is the UK implementation of ISO 12214:2010. It supersedes BS ISO 12214:2002 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AUE/12, Safety related to occupants.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Road vehicles — Direction-of-motion stereotypes for automotive hand controls

*Véhicules routiers — Stéréotypes de sens d'action sur les commandes
manuelles dans l'automobile*



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Foreword

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The main task of technical committees is to prepare International Standards. 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.

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

ISO 12214 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 13, *Ergonomics applicable to road vehicles*.

This second edition cancels and replaces the first edition (ISO 12214:2002), of which it constitutes a minor revision.

The following significant changes have been made to the first edition:

- incorporation of recommendations for right stalk controls in 3.3.5.3;
- addition of a second note to Figure 1;
- revision of angle callout for vertical/longitudinal inclined surface power mirror control in Figure 3 to between 0° and 30°;
- deletion of angle callout for angled up/down from horizontal 2 × 2 toggle or rocker power window control in Figure 4;
- new drawing for angled up/down from horizontal push/pull power window control in Figure 4 and revision of angle callout to between 0° and 45°.

Introduction

Drivers develop expectations regarding the operating motions of various types of controls as a result of their accumulated experience with vehicle controls. To simplify the operation of controls for drivers, the direction-of-motion to operate these controls needs to conform to these expectations, or stereotypes.

The strength of a stereotype varies with the control configuration (control type, location, orientation and mounting plane). Studies have demonstrated that stereotype strength is not related to driver age, gender, or left- or right-handedness. Failure to conform to direction-of-motion stereotypes can lead to actuation errors, longer operating times and an increase in driver workload.

This International Standard is based on past research and general human factor principles. Control labelling and tactile or shape coding are not addressed in this International Standard. However, appropriate labelling and coding can improve the accuracy of control use.