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Road vehicles — Wheels and rims — Use, general maintenance and safety requirements and out-of-service conditions

Véhicules routiers — Roues et jantes — Exigences en matière d'utilisation, de maintenance générale et de sécurité, et conditions de mise hors service

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 33, *Vehicle dynamics and chassis components*.

This second edition cancels and replaces the first edition (ISO 14400:2005), which has been technically revised.

The main changes are as follows:

— added off-road vehicles to the scope since the sections apply equally to that as well as road vehicles.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The purpose of this document is to ensure the safe operation of vehicles. The wheel is a highly stressed component of the vehicle that in service may be subject to extreme forces. Therefore, it is absolutely necessary to handle these parts with care and to pay particular attention to their mounting, removal and maintenance in order to ensure safe operations and to prevent servicing accidents.

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Road vehicles — Wheels and rims — Use, general maintenance and safety requirements and out-of-service conditions

1 Scope

This document specifies requirements for the use, general maintenance and safety of wheels and rims including multi-piece wheels and rims. This document defines their out-of-service conditions, such as cracked, worn and bent wheels and rim components. It is applicable to wheels intended for use on road as defined in ISO 3833 and off road vehicles. This document does not include mopeds and motorcycles.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3911, *Wheels and rims for pneumatic tyres — Vocabulary, designation and marking*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3911 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Use and general maintenance requirements

WARNING — On multi-piece rims, the use of the wrong ring components can result in catastrophic wheel failure.

4.1 Wheel and wheel components

Wheels or parts of wheels which cannot be identified shall not be used even if they seem to have the correct functions and the identical dimensions. The characteristics of the wheel centre shall correspond exactly to vehicle parts, especially the axle hub and the brake, in order to guarantee a proper fitting and an effective load transmission.

A neutral non-aggressive mounting paste or liquid shall be used to lubricate the tyre beads. The hub, studs, nuts and the wheel attachment face shall be carefully cleaned. In the case of multi-piece wheels, all contact surfaces shall be cleaned.

Inspect parts for out-of-service conditions, see Clause 6. If cleaning does not restore the original condition for the mating surfaces or if the parts have any of the conditions described in Clause 6, the parts shall be replaced.

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