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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46648-2025

**Powered ride-on turf care equipment - Roll-over protective
structures (ROPS) - Test procedures and acceptance criteria**

动力驱动的坐骑式草坪养护设备 翻滚保护结构（ROPS） 试验程序和认定准则
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document modifies and adopts ISO 21299:2009 "Powered riding lawn care equipment - Rollover protection structure (ROPS) - Trial".

Verification procedures and certification criteria.

Compared with ISO 21299:2009, this document has undergone the following structural adjustments.

---Appendix A, a) to e), corresponds to A.1 to A.5 in ISO 21299:2009;

---Appendix C, a) to d), corresponds to C.1 to C.4 in ISO 21299:2009.

The technical differences between this document and ISO 21299:2009, and the reasons therefor, are as follows.

---ISO 898-1 and ISO 898-2 have been replaced with the normatively referenced GB/T 3098.1 and GB/T 3098.2 (see Annex A) to...

Adapt to my country's technological conditions and increase operability;

---ISO 5353 (see 3.5 and 6.2.2) has been replaced with the normatively referenced GB/T 6236 to adapt to my country's technical conditions and increase...

Operability.

The following editorial changes have been made to this document.

---ISO 5395 (see Chapter 1) has been replaced by GB/T 38364 (all parts) as cited in the informational reference.

---Note 2 has been added to the scope to reference Appendix B (see Note 2 in Chapter 1).

Please note that some content in this document may involve patents. The issuing

organization of this document assumes no responsibility for identifying patents.

This document was proposed by the National Forestry and Grassland Administration.

This document is under the jurisdiction of the National Forestry Machinery Standardization Technical Committee (SAC/TC61).

1 Scope

This document describes the testing procedures for the tumble protection structure (ROPS) of ride-on lawn care machinery with a machine weight not exceeding 3000 kg.

Order and recognition criteria.

This document does not apply to stand-up riding or semi-trailer single-seat machinery, nor to self-propelled machinery used in agriculture, forestry, or construction.

tractor.

Note 1: Standards for specific products, such as GB/T 38364 (all parts), list whether a certain type of machinery is equipped with ROPS, and related specifications.

His information, such as. seat belt anchor points and seat belts.

Note 2: Appendix B provides information on ROPS standards that have been determined to provide an operator protection level equivalent to that of this document.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 3098.1 Mechanical properties of fasteners - Bolts, screws and studs (GB/T 3098.1-2010, ISO 898-1:2009) MOD) GB/T 3098.2 Mechanical properties of fasteners - Nuts (GB/T 3098.2-2015, ISO 898-2:2012, MOD) GB/T 6236 Driver's Seat Markings for Agricultural and Forestry Tractors and Machinery (GB/T 6236-2008, ISO 5353:1995, MOD)

3 Terms and Definitions

The following terms, definitions, and symbols specified in Table 1 apply to this document.

Attachment

A device designed solely for installation on a specific machine to achieve a specific purpose.

Apply horizontal loads to the rear, front, and sides of the ROPS.

machine mass

The mass of the machine under normal operating conditions, with the level gauge at full scale, including ROPS, excluding the operator.

Note: Machine weight includes the heaviest attachments.