

ASABE/ISO 3463:2006 SEP2017

Tractors for agriculture and forestry — Roll-over protective structures (ROPS) — Dynamic test method and acceptance conditions



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# **Tractors for agriculture and forestry — Roll-over protective structures (ROPS) — Dynamic test method and acceptance conditions**

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**Keywords:** Roll-over, ROPS, Safety, Test procedure, Tractor

## **0 Foreword**

**0.1** ASABE/ISO 3463:2006 SEP2017, Tractors for agriculture and forestry — Roll-over protective structures (ROPS) — Dynamic test method and acceptance conditions, is an adoption without modification of the identically titled ISO standard ISO 3463:2006, Tractors for agriculture and forestry — Roll-over protective structures (ROPS) — Dynamic test method and acceptance conditions.

**0.2** ASABE/ISO 3463:2006 SEP2017 specifies a dynamic test method and the acceptance conditions for roll-over protective structures (cab or frame) of wheeled tractors for agriculture and forestry.

It is applicable to tractors having at least two axles for wheels mounted with pneumatic tyres, or having tracks instead of wheels, with an unballasted tractor mass of not less than 600 kg, but generally less than 6 000 kg, and with a minimum track width of the rear wheels greater than 1 150 mm.

**0.3** Three normative references are listed in ISO 3463:2006. These references have been reviewed and accepted as part of the adoption of the ISO document in ASABE adoption number.

**0.4** This standard has been approved as an American National standard by ANSI (American National Standard Institute). The original content of ISO 3463 was based on SAE J2194. The 2004 SAE-ASABE MOU gives ASABE copyright and royalty-free publishing rights to SAE J2194 and international derivative standards.

**0.5** Product labelled to reference ISO 3463 shall be deemed compliant to ASABE/ISO 3463.

Text of ISO 3463:2006, Tractors for agriculture and forestry — Roll-over protective structures (ROPS) — Dynamic test method and acceptance conditions, follows.

## **1 Scope**

This International Standard specifies a dynamic test method and the acceptance conditions for roll-over protective structures (cab or frame) of wheeled tractors for agriculture and forestry.

It is applicable to tractors having at least two axles for wheels mounted with pneumatic tyres, or having tracks instead of wheels, with an unballasted tractor mass of not less than 600 kg, but generally less than 6 000 kg, and with a minimum track width of the rear wheels greater than 1 150 mm.

## 2 Normative references

The following referenced documents are indispensable for the application 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 630, Structural steels — Plates, wide flats, bars, sections and profiles

ISO 5353:1995, Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point

ASTM A370, Standard Test Methods and Definitions for Mechanical Testing of Steel Products

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **roll-over protective structure**

##### **ROPS**

framework protecting drivers of agricultural and forestry tractors that minimizes the likelihood of driver injury resulting from accidental overturning during normal operation

NOTE: The ROPS is characterized by the provision of space for a clearance zone, either inside the envelope of the structure or within a space bounded by a series of straight lines from the outer edges of the structure to any part of the tractor that might come into contact with flat ground and that is capable of supporting the tractor in that position if the tractor overturns.

### 3.2

#### **tractor mass**

mass of the unladen tractor in working order with tanks and radiators full, roll-over protective structure with cladding, and any track equipment or additional front-wheel drive components required for normal use

NOTE: Not included are the operator, optional ballast weights, additional wheel equipment, special equipment and loads.

### 3.3

#### **reference mass**

$m_t$

mass, not less than the tractor mass, selected by the manufacturer for calculation of the energy inputs to be used in the tests

### 3.4

#### **impact test**

application of a dynamic load produced by a block acting as a pendulum

### 3.5

#### **crushing test**

application of a vertical load through a beam placed laterally across the uppermost members of the roll-over protective structure.

### 3.6

#### **longitudinal median plane**

longitudinal plane of symmetry

zero Y plane

vertical plane Y passing through the mid-points of AB, perpendicular to AB, A and B being such that