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**Agricultural tractors — Test procedures — Part 6: Centre of gravity (ISO 789-6:2019)**

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## **Agricultural tractors — Test procedures —**

### **Part 6: Centre of gravity**

*Tracteurs agricoles — Méthodes d'essai —  
Partie 6: Centre de gravité*



Reference number  
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## 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.

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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 2, *Common tests*.

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](http://www.iso.org/members.html).

This second edition cancels and replaces the first edition (ISO 789-6:1982), which has been technically revised. It also incorporates the Amendment ISO 789-6:1982/Amd.1:1996. The main changes compared to the previous edition are as follows.

- The terms and definitions have been updated to reference ISO 789-13.
- A requirement for a mass in the driver's seat has been added in [5.2](#).
- A requirement for locking the suspension has been added in [5.4](#).
- A new method has been added for alternative determination of vertical coordinate ( $\bar{h}$ ) in [6.3.8](#).
- [Figures 4](#) to [12](#) and [Tables 1](#) to [4](#) have been added to support the method described in [6.3.8](#).

A list of all parts in the ISO 789 series can be found on the ISO website.

## Introduction

This document specifies test procedures for agricultural tractors. It deals with the centre of gravity.

Although there are many possible methods of determining the centre of gravity, the purpose of this document is to specify a simple, practical method, which requires the use of a weighbridge and crane. Alternative methods can be used if they locate the centre of gravity with respect to the specified reference planes and within the specified tolerances.



# Agricultural tractors — Test procedures —

## Part 6: Centre of gravity

### 1 Scope

This document specifies a method of determining the position of the centre of gravity of agricultural tractors.

The method is applicable to agricultural tractors having at least two axles fitted with wheels or tracks.

### 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 789-13:2018, *Agricultural tractors — Test procedures — Part 13: Vocabulary and specimen test report*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 789-13 and the following apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1

##### **agricultural tractor**

self-propelled agricultural vehicle having at least two axles and wheels, or endless tracks, particularly designed to pull agricultural trailers and to pull, push, carry and operate implements used for agricultural work (including forestry work), which may be provided with detachable loading platform

Note 1 to entry: The agricultural vehicle has a maximum design speed of not less than 6 km/h and may be equipped with one or more seats.

[SOURCE: ISO 12934:2013, 3.1]

#### 3.2

##### **wheelbase**

*L*

horizontal distance between the two vertical planes passing through the rotational centrelines of the wheels, where one plane is for the front wheels and the other for the rear wheels

Note 1 to entry: In the case of a tractor equipped with a rear tandem, it is the distance between two vertical planes passing through the centres of the front wheel and the vertical plane midway between the wheel centres of the two axles of the tandem.

[SOURCE: ISO 789-13, 3.2, modified]