INTERNATIONAL STANDARD

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Third edition
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Agricultural tractors — Test procedures —

Part 3: Turning and clearance diameters

Tracteurs agricoles — Méthodes d'essai —

Partie 3: Diamètres de braquage et de dégagement

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee 2, *Common tests*.

This third edition cancels and replaces the second edition (ISO 789-3:1993), which has been technically revised.

ISO 789 consists of the following parts, under the general title *Agricultural tractors — Test procedures*:

— *Part 1: Power tests for power take-off*

— *Part 2: Rear three-point linkage lifting capacity*

— *Part 3: Turning and clearance diameters*

— *Part 4: Measurement of exhaust smoke*

— *Part 5: Partial power PT0 – Non-mechanically transmitted power*

— *Part 6: Centre of gravity*

— *Part 7: Axle power determination*

— *Part 8: Engine air cleaner*

— *Part 9: Power tests for drawbar*

— *Part 11: Steering capability of wheeled tractors*

— *Part 12: Low temperature starting*

ISO/OECD 789 consists of the following parts, under the general title *Agricultural tractors – Test procedures*:

— *Part 10: Hydraulic power at tractor/implement interface*

Agricultural tractors — Test procedures —

Part 3: Turning and clearance diameters

1 Scope

This part of ISO 789 specifies a method of determining the turning and clearance diameters of wheeled agricultural tractors.

It applies to wheeled agricultural tractors having at least two axles fitted with pneumatic tyres.

2 Terms and definitions

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

2.1
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]

2.2
track
tread
<wheeled tractor> distance at ground level between two vertical planes passing through the centreline of ground contact of the tires parallel to the median plane of the tractor with the wheels in the straight ahead position

Note 1 to entry: In the case of dual wheels, it is the distance at ground level between two planes passing through the centreline of the dual wheels.

Note 2 to entry: See Figure 1.

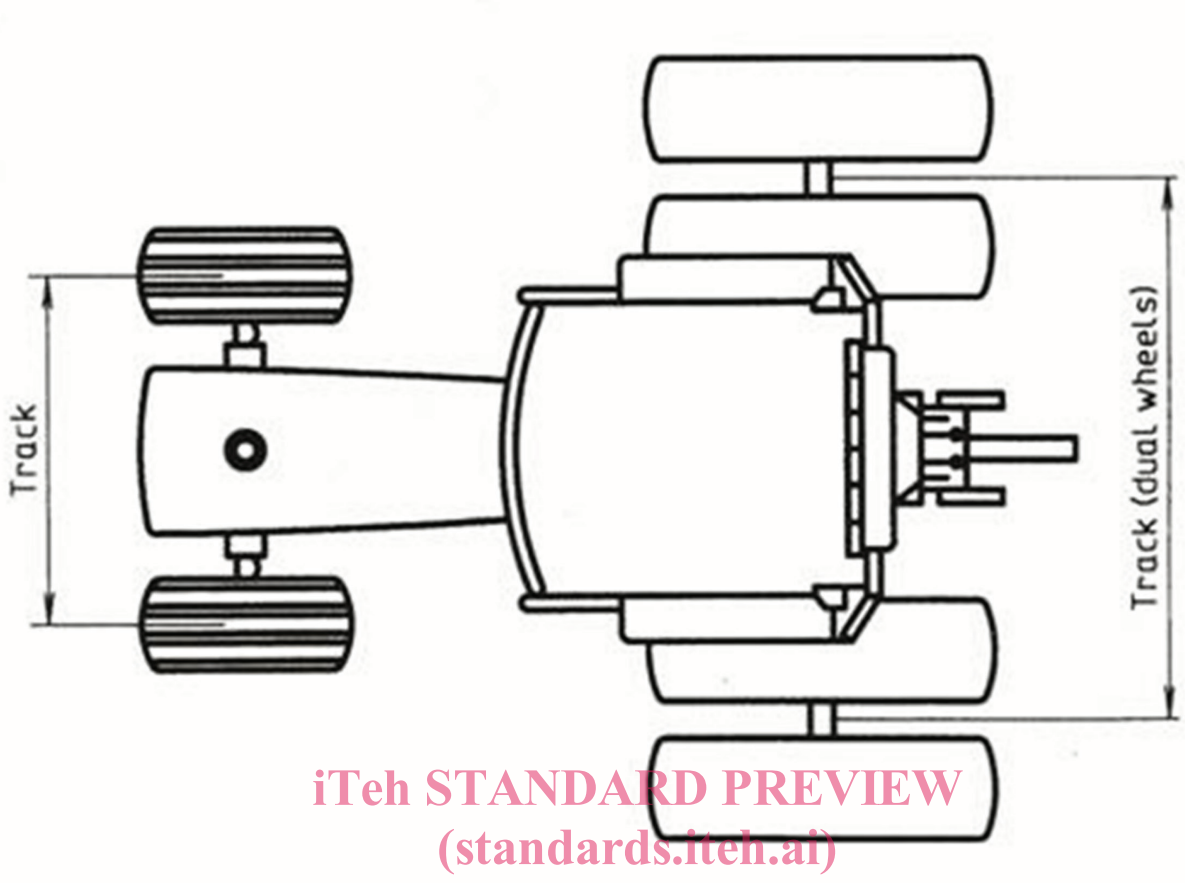

Figure 1 — Track (tread) of the wheeled tractor

2.3
wheelbase
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.

Note 2 to entry: See Figure 2.

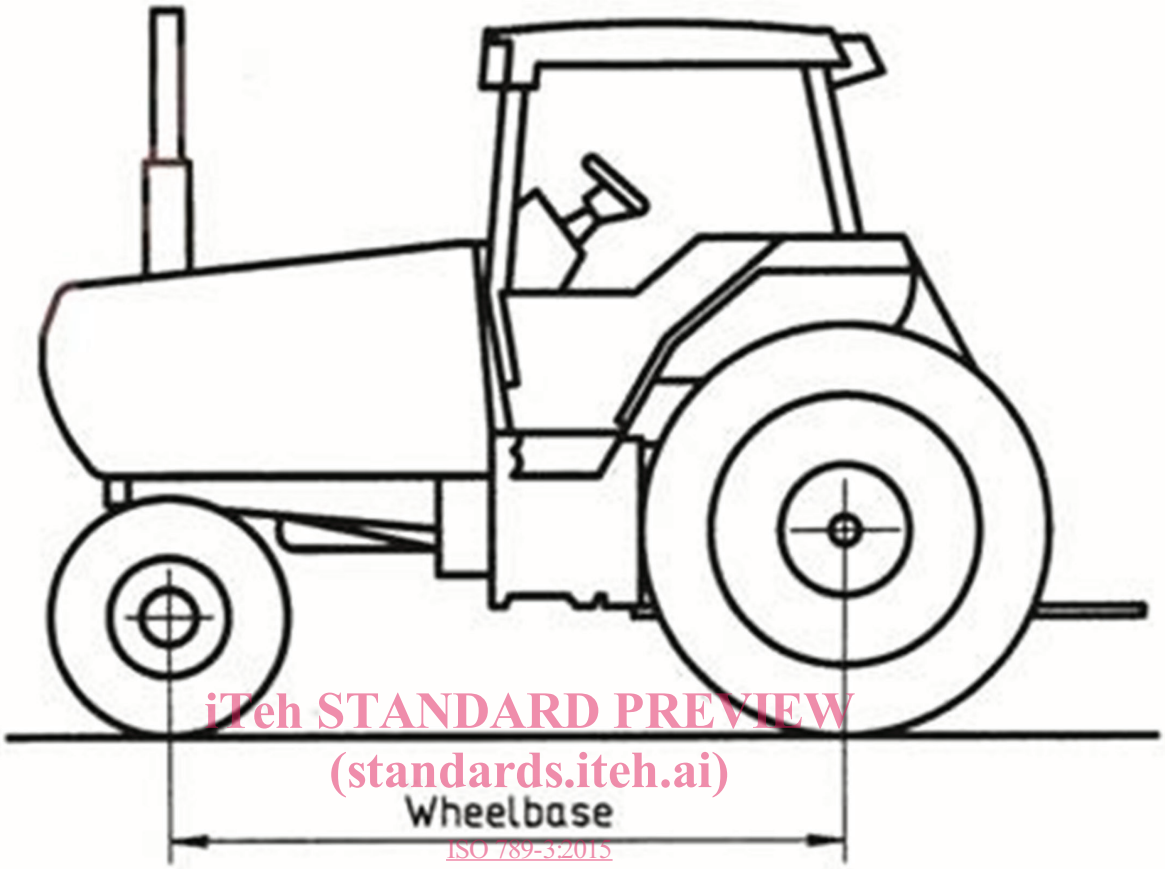

Figure 2 — Wheelbase of the wheeled tractor

2.4
turning diameter
diameter of the circular path described by the centre of tire contact with the surface of the test site of the wheel describing the largest circle when the tractor is executing its sharpest practicable turn under the test conditions described in Clause 5

Note 1 to entry: See Figure 3.

2.5
clearance diameter
diameter of the smallest circle which will enclose the outermost points of projection of the tractor and its equipment while executing its sharpest practicable turn

Note 1 to entry: See Figure 3.

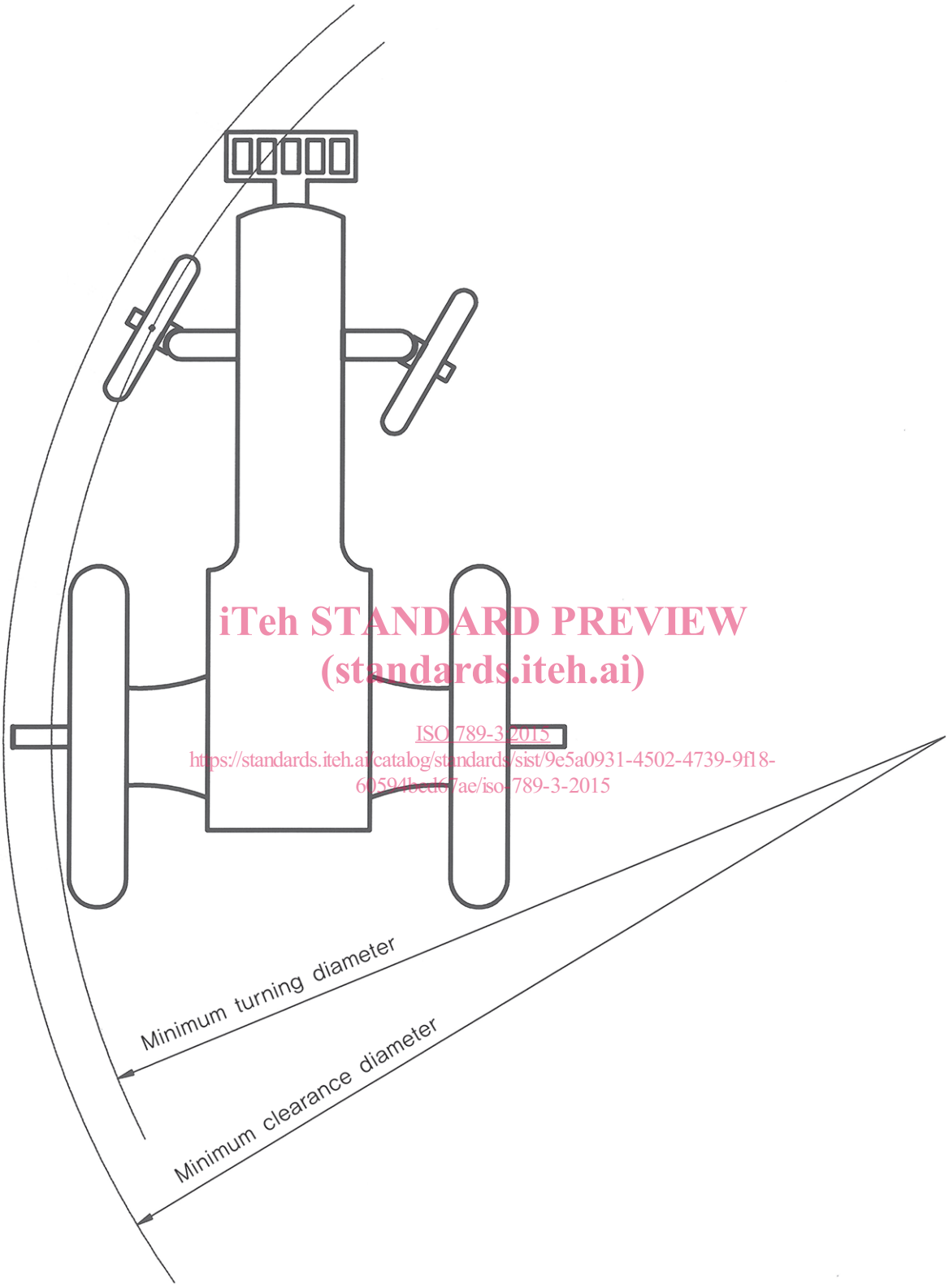

Figure 3 — Tractor turning configurations

3 Apparatus

3.1 Tape measure, of length greater than the turning and clearance diameters to be measured, having a tolerance within ± 0,5 %.

3.2 Plumb-line, if required, for measuring clearance diameters.

3.3 GPS equipment for alternate test, corrected GPS having a measurement accuracy sufficient to produce a linear measurement tolerance of ± 0,5 %.

4 General requirements

4.1 Test area

The test area shall be a compacted or paved dry surface affording good tire adhesion, capable of displaying legible markings, and resistant to defacement by turning machines. The test surface shall be visually flat, with no more than 3 % grade in any direction.

In selecting the test area used for GPS measurement, take into consideration the effects of obstructions (e.g. tall buildings, trees, etc.) on GPS accuracy.

4.2 Tractor test requirements

4.2.1 Tire and wheel equipment

The tractor to be tested shall be in its operating state, and the attachments with which it is equipped and their positions shall be noted.

The tire, wheel and fender equipment shall be that commonly used in the country for which the tractor is intended, i.e. as specified by the manufacturer, and shall be stated in the test report. Generally, dual wheeled tractors or tractors with added ballast should not be tested unless it is the only specification presented by the manufacturer. Tire pressures, tractor ballast and use of duals on front or rear shall be recorded in the test report. If steering and/or axle oscillation stops and fenders are part of standard equipment, then these shall be positioned according to the manufacturer's instructions.

4.2.2 Track (tread) setting

A track (tread) setting of 1 500 mm ± 25 mm shall be used. If this is not possible, the nearest setting specified by the manufacturer shall be used. Additional measurement may be made at other track settings specified by the manufacturer. Front and rear track settings shall be as nearly as possible the same and shall be recorded.

4.2.3 Other settings

4.2.3.1 Tractors which have all wheels steerable, or which incorporate devices for disconnecting either or both axles, shall be tested in each operating condition in which the tractor is intended to be used.

Results shall be recorded for each operating condition.

4.2.3.2 Tractors which have more than one powered axle, and which have devices for disconnecting the power to any of the axles, shall be tested in each operating condition in which the tractor is intended to be used.

Results shall be recorded for each operating condition.