

AS 2955.8—1988/ISO 7457—1983

Australian Standard<sup>®</sup>

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**EARTH-MOVING MACHINERY—  
TESTS AND MEASUREMENTS**

**Part 8—MEASUREMENT OF  
TURNING DIMENSIONS  
OF WHEELED MACHINES**

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(ISO Title: Earth-moving machinery—Measurement of turning dimensions of wheeled machines)

This Australian Standard was prepared by Committee ME/63, Earthmoving Equipment. It was approved on behalf of the Council of the Standards Association of Australia on 3 March 1988 and published on 17 June 1988.

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The following interests are represented on Committee ME/63:

Australian Mining Industry Council  
Bureau of Steel Manufacturers of Australia  
Construction Equipment Importers and Manufacturers of Australia  
Department of Administrative Services  
Department of Conservation, Forests and Lands, Vic.  
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First published as AS 2955.8/ISO 7457—1988.

PUBLISHED BY STANDARDS AUSTRALIA  
(STANDARDS ASSOCIATION OF AUSTRALIA)  
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 5012 0

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## FOREWORD

1. This Australian Standard corresponds with ISO 7457—1983, *Earth-moving machinery—Measurement of turning dimensions of wheeled machines*.
2. Introduction to and complete listing of the SAA series of earth-moving machinery Standards (AS 2951 to AS 2958) is available on request.
3. For the purpose of this Australian Standard the words 'International Standard' should be replaced by 'Australian Standard'.
4. ISO Standard referred to in this Standard corresponds with the following Australian Standard:

ISO Standard	Australian Standard
ISO 6165	AS 2951.1
5. ISO Standard 5010 is also referred to in this Standard but has no corresponding Australian Standard at time of publication.

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# Earth-moving machinery—Tests and measurements

## Part 8—Measurement of turning dimensions of wheeled machines

### 1 Scope

This International Standard specifies the methods of measuring the turning radius, turning diameter, machine clearance diameter, and inside and outside tyre clearance diameters, described in the horizontal plane by a wheeled earth-moving machine with its equipment when executing a turn.

### 2 Field of application

This International Standard applies to all types of steerable wheeled earth-moving machinery. It applies irrespective of the type of steering used.

### 3 References

ISO 5010, *Earth-moving machinery—Steering capability—Rubber-tyred machines*.

ISO 6165, *Earth-moving machinery—Basic types—Vocabulary*.

### 4 Definitions

For the purposes of this International Standard, the following definitions apply:

**4.1 turning centre:** The point about which all turns of constant radius are made. (See figure 1.)

**4.2 turning diameter:** The diameter of the circular path described by the centre of tyre contact with the surface of the test site of the wheel describing the largest circle when the machine is executing its sharpest practicable turn under the test conditions described in clause 8. (See figure 1.)

**4.3 turning radius:** Turning radius =  $1/2 \times$  turning diameter (as defined in 4.2). (See figure 1.)

**4.4 machine clearance diameter:** The diameter of the smallest circle which will enclose the outermost points of projection of the machine and its equipment

when it executes its sharpest practical turn, under the conditions described in clause 8. (See figure 1.)

As the machine clearance diameter is affected by the type of equipment fitted, the latter should be stated in the test report.

**4.5 outer and inner tyre clearance diameter:** The diameter of the circular path described by the outermost point of the loaded (lower) section of the tyre located on the vertical diameter of the outermost wheel and also that of the innermost point of the innermost wheel when the machine is executing its sharpest practical turn under the conditions described in clause 8. (See figure 2.)

NOTE—The criteria for the state of loading of the machine as given in clause 7 shall be observed.

**4.6 non-stop 180° turn width:** The minimum road width required for the tyre paths of the machine as it makes a 180° turn without stopping.

### 5 Test area

The test area shall be a compacted or paved surface affording good tyre 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. The test area shall be large enough to accommodate the test machine as it negotiates the appropriate tests.

### 6 Test equipment

The following equipment or its equivalent shall be provided.

**6.1 A steel tape,** readable to 1 cm and of greater length than the diameter (or radii) to be measured.

**6.2 A plumb line,** as required in the measurement of clearance diameter (or radii).

**6.3 Apparatus for the measurement of pedal effort,** as required for the execution of test.