Australian Standard®

EARTH-MOVING MACHINERY—TESTS AND MEASUREMENTS

Part 6—OPERATOR SEAT—TRANSMITTED VIBRATION

(ISO Title: Earth-moving machinery—Operator seat—Transmitted vibration)

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.

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.
Department of Defence
Department of Forestry, Qld.
Department of Industrial Relations and Employment, N.S.W.
Department of Labour, Vic.
Department of Mines, Qld.
Earth-movers and Road Contractors Association of Australia
Forestry Commission of New South Wales
Local Government Engineers Association of New South Wales
Metal Trades Industry Association of Australia
National Association of Australian State Road Authorities
Rural Water Commission, Vic.
Safety Institute of Australia
Telecom Australia
Tractor and Machinery Association of Australia
Water Board, Sydney

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FOREWORD

1. This Australian Standard corresponds with ISO 7096—1982, *Earth-moving machinery—Operator seat—Transmitted vibration*.
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. Error.

   Clause 3. Title of ISO 5353 incorrect. Should read: *'Earth-moving machinery and tractors and machinery for agriculture and forestry—Seat index point'*.
4. For the purpose of this Australian Standard the words 'International Standard' should be replaced by 'Australian Standard'.
5. ISO Standards referred to in this Standard correspond with the following Australian Standards:

ISO Standard	Australian Standard
ISO 2041	AS 2606
ISO 2631	AS 2670
ISO 5353	AS 2953.3
ISO 6165	AS 2951.1
IEC 225	AS Z41

6. IRIG 106 is also referred to in this Standard but has no corresponding Australian Standard at time of publication.

Earth-moving machinery—Tests and measurements Part 6—Operator seat—Transmitted vibration

1 Scope

This International Standard specifies a method for the measurement, evaluation and acceptance level of the whole body vibration transmitted through the seat to the operator during laboratory simulated machine vertical vibration.

2 Field of application

This International Standard is applicable to seats fitted to earthmoving machines within specified machine classes, each class defined as a group of machines having similar vibration characteristics. See table 2.

3 References

ISO 2041, *Vibration and shock — Vocabulary*.

ISO 2631, *Guide for the evaluation of human exposure to whole-body vibration*.

ISO 4865, *Analog analysis and presentation of vibration and shock data*.[1)]

ISO 5353, *Earth-moving machinery — Seat index point*.

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

IEC Publication 225, *Octave, half-octave and third-octave band filters intended for the analysis of sounds and vibrations*.

IRIG Document 106, Inter Range Instrumentation Group, *Magnetic tape recorder, reproducer standards*.

4 General

The laboratory simulated machine vertical vibration, specified as the test input to the operator seat, is based on representative measured data from machines in typical hard working conditions. The test input for a machine class is a representative envelope for the machines within the class, therefore the laboratory test is more severe than the typical vibration environment of any specific machine.

The specification of procedures, instruments and evaluation methods allows the measurements to be made and reported with an acceptable precision.

The vibration is evaluated in accordance with ISO 2631. The procedure includes means of weighting the vibration level at different frequencies to account for the frequency sensitivity of the human operator.

NOTE — The vibration felt by the operator's feet on the platform or control pedals or by his hands on the steering wheel or control levers is not evaluated in this International Standard.

5 Definitions

The terminology used in this International Standard is generally in accordance with ISO 2041. Additional definitions applicable to this International Standard are given below.

5.1 whole body vibration: Vibration trans-mitted to the body as a whole through the buttocks of a seated operator.

5.2 operator seat: That portion of the machine provided for the purpose of supporting the buttocks of the seated operator, including the seat suspension system.

5.3 frequency analysis: Process of arriving at a quantitative description of the amplitude of a vibration as a function of frequency.

5.4 measuring period: The time duration in which vibration data for analysis is obtained.