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EARTH-MOVING MACHINERY—TESTS AND MEASUREMENTS

Part 5—MEASUREMENT OF THE MASSES OF WHOLE MACHINES, THEIR EQUIPMENT AND COMPONENTS

(ISO Title: Earth-moving machinery—Methods of measuring the masses of whole machines, their equipment and components)

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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.
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 6016—1982, *Earth-moving machinery—Methods of measuring the masses of whole machines, their equipment and components*.
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'.

Earth-moving machinery—Tests and measurements Part 5—Measurement of the masses of whole machines, their equipment and components

1 Scope and field of application

This International Standard specifies methods for determining the masses of whole machines, their equipment or components using weighbridges, pressure dynamometers (load cells) or extension dynamometers.

It applies to wheeled and tracked earth-moving machinery.

2 Definitions

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

2.1 machine: The wheeled or tracked machine, the mass of which is to be measured.

2.2 equipment: The complete set of assemblies and elements ready to be mounted to the base machine (for example, working tool, arms, hydraulic cylinders or sheave block cables, put together depending on machine application).

2.3 components: Major items that make up the whole base machine and which, from time to time, may be removed for repair or replacement, such as gearbox, axles, fuel tanks, cab.

2.4 operating mass of the machine: The mass of the base machine with all standard equipments, operator (75 ± 3 kg), full fuel tank, full lubricating, hydraulic and cooling systems; and where provided, with empty bucket, body or bowl.

NOTES

1 Empty means a machine without any payload.

2 Machine mass at different specific conditions and with different outfits may be measured as necessary, one of the measurements always being that of the operating mass of the machine.

3 Definitions 2.2 and 2.3 are under review by ISO/TC 127/SC4, and are included here for information.

2.5 simple measurement: The measurement when the result is obtained as the indication of one measuring device, or as a sum of the indications of several measuring devices acting simultaneously.

2.6 complex measurement: The measurement when the result is obtained as a sum of the indications of several measuring devices acting successively.

2.7 apparatus: The complete set of equipment and devices required to determine the mass of a machine or its equipment or components.

2.8 'left-hand' and 'right-hand' side of a machine: Defined accordingly, when facing the primary direction of travel.

2.9 'Front axle' and 'rear axle' of a machine: Defined accordingly, for the primary direction of travel.

3 Preparation for testing

The machine shall be clean and equipped according to the manufacturer's instructions.

In case of a complex measurement, the same fixed position of the equipment in relation to the base machine shall be secured for all measurements.

Articulated machines should normally be tested in a straight line.

Wheeled machines shall be tested with the brakes released. Where necessary tracked machines shall be manoeuvred till the contact-grousers are level on each side.

It is essential to ensure that the ground reactions in the horizontal plane are zero.