

AS/NZS 2153.1:1997
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Australian/New Zealand Standard®

**Tractors and machinery for
agriculture and forestry—
Technical means for ensuring safety**

Part 1: General

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Department of Labour, New Zealand
Department of Primary Industries, Qld
National Farmers Federation
NSW Agriculture
Safety Institute of Australia
Tractor and Machinery Association of Australia
University of Melbourne
Victorian WorkCover Authority
WorkCover New South Wales
WorkSafe Western Australia

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME/65, Agricultural Tractors and Machinery, to supersede, in part, AS 2153—1978, *Rules for the guarding of agricultural tractors and machinery*.

The objective of this Standard is to provide designers, manufacturers, suppliers, employers and users of agricultural tractors and machinery with specifications covering technical means to minimize the risks to health and safety of employees and others working with or otherwise near agricultural tractors and machinery.

This Standard is identical with and has been reproduced from ISO 4254-1:1989, *Tractors and machinery for agriculture and forestry—Technical means for ensuring safety*, Part 1: *General*.

Statements expressed in mandatory terms in notes to text, tables and figures are deemed to be requirements of this Standard.

As this Standard is reproduced from an International Standard, the following applies:

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The guarding of agricultural tractors and machinery presents problems which vary significantly from those associated with industrial machinery. These problems include dangers arising from their mobility and the fact that many pieces of agricultural machinery use crop-engaging tools while operating over sometimes difficult terrain.

These factors introduce a number of risks to health and safety which can be extremely difficult to mitigate. The current state of design for agricultural machinery takes account of the hazards and risks associated with that machinery as well as worldwide safety requirements; however, because of the dangerous nature of many of the crop-engaging components and some of the servicing requirements, it may also be necessary in some circumstances to put in place additional protective measures, safework procedures and, as a last resort, personal protection devices.

It is therefore essential that employers and others who may be near agricultural tractors and machinery identify the hazards, assess the risks associated with machinery, and take steps to minimize the risk in accordance with the procedures given in AS 4024.1, *Safeguarding of machinery*, Part 1: *General principles*.

It is not always practicable to utilize the same solution in an agricultural environment as would be applied in a manufacturing or factory environment. An example of this is the use of non-interlocking guards over some pieces of agricultural machinery, where in a manufacturing plant, the same type of hazard may well require that a guard be interlocked with the machine controls to prevent access to the danger point. This type of anomaly is recognized by the International Standard from which this series of Standards was reproduced.

Additional issues include access to the equipment for maintenance, cleaning and unblocking, as well as the probability of children being present near operating farm machinery. Much of the maintenance and in-use servicing is performed by the operator, who may not have as high a level of mechanical knowledge as a person performing the same duties in an industrial environment. This too can lead to added risk for users of agricultural tractors and machinery.

Agricultural machinery has a number of dangerous elements, the guarding of which presents several problems. Technical means for their solution is provided in the various Parts of this AS/NZS 2153 series of Standards.

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