

AS 2294.1 Supplement 1—2003

Earth-moving machinery—Protective structures

Part 1: General

Supplement 1: Operator protective structures fitted to plant used in the timber industry (forest operations) (Supplement to AS 2294.1—1997)



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PREFACE

This Supplement was prepared by State Forests, New South Wales with assistance from manufacturers of protective guards, and was provided to Standards Australia Committee ME-063, Earthmoving Equipment in order that it may be made available nationally, as a supplement to AS 2294.1—1997, *Earth-moving machinery—Protective structures*, Part 1: *General*.

This Supplement was originally prepared as an Industry Guidance Note, and as such provides practical detailed guidance to achieving the standard of health and safety required by the *Occupational Health and Safety Act 2000*, and any relevant Regulation for a particular area of work.

A Guidance Note should be followed, unless there is an alternative course of action which achieves the same or a better standard of health and safety in the workplace.

In the text, references are made to the New South Wales *Occupational Health and Safety Act 2000*, and to Regulations under the Act. In particular, users should refer to the New South Wales Occupational Health and Safety Regulation 2001, Chapter 5, Clauses 141(4) and 141(6). In other States and Territories, reference should be made to legislation current in those States and Territories.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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STANDARDS AUSTRALIA

Australian Standard

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1 SCOPE

This Supplement sets out requirements for manufacturers and users of plant used in the timber industry on roll-over protective structures, falling object protective structures and operator protective guards in the form of canopies or cabins fitted to such plant. It is applicable to plant operating on both crown-timber lands and private property.

This Supplement does not apply to the following plant used in the timber industry:

- (a) Fixed plant (sawmill).
- (b) Stationary plant (mobile sawmill/chipping mill).
- (c) Swing saws.
- (d) Chain saws.
- (e) Vehicles (car, utility, truck) used on public roads.
- (f) Log haulage trucks used on public roads.

2 OBJECTIVE

The objective of this Supplement is to provide users of plant in the timber industry with means to assess the suitability of operator protective canopies fitted to such plant.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- | | |
|--------|--|
| 1636 | Tractors—Roll-over protective structures—Criteria and tests |
| 1636.1 | Part 1: Conventional tractors |
| 2294 | Earth-moving machinery—Protective structures |
| 2294.2 | Part 2: Laboratory tests and performance requirements for roll-over protective structures |
| 2294.3 | Part 3: Laboratory tests and performance requirements for falling-object protective structures |
| 4988 | Earth-moving machinery—Hydraulic excavators—Laboratory tests and performance requirements for operator protective guards |

NOTE: An additional list of relevant documents is given in Appendix A.

4 DEFINITIONS

4.1 Falling object protective structures (FOPS)

System of structural members arranged in such a way as to provide operators with reasonable protection from falling objects (for example, trees, rocks, small concrete blocks, tools).

4.2 Forest operations

Includes work in the areas of timber harvesting, site preparation, site clearing, snigging, forwarding, and dump operations.

4.3 Operator protective guards (OPG)

Devices intended to provide object protection to the front, side and top of the operator station. An operator protective guard may include a falling object protective structure.

4.4 Roll over protective structure (ROPS)

System of structural members whose primary purpose is to reduce the possibility of a seat belted operator being crushed should the machine roll over. Structural members include any subframe, bracket, mounting, socket, bolt, pin, suspension or flexible shock absorber used to secure the system to the machine frame, but exclude mounting provisions that are integral with the machine frame.

5 REGULATIONS AND STANDARDS

The New South Wales Occupational Health and Safety Regulation, 2001 sets out the canopy requirements for plant used in industry. AS 2294.2 specifies the minimum performance requirements and test methods for roll-over protective structures, while AS 2294.3 specifies the performance requirements and test methods for falling object structures.

Operator protective guards for hydraulic excavators are dealt with in AS 4988.

6 PROTECTION REQUIREMENTS

6.1 Timber harvesting machinery

All plant and machinery used in the timber harvesting industry shall be fitted with a falling-object protective structure/roll-over protective structure, or an operator protective guard canopy.

6.2 Earth-moving machinery

With the exception of hydraulic excavators, all earthmoving plant used in the forest operations industry manufactured after March 1983, shall be fitted with a ROPS and FOPS canopy.

6.3 Agricultural tractors

All agricultural tractors shall be fitted with a ROPS canopy.

6.4 Sniggers

With the exception of hydraulic excavators, all plant used for snigging of logs, either full time or part time and manufactured after March 1983, shall be fitted with a ROPS and FOPS canopy.

6.5 Alternative exit

On all plant used for forest operations, the cabin/canopy shall be fitted with an emergency exit in addition to the primary entrance. Any alternative escape exit shall be capable of being operated from inside the cabin or canopy.

NOTE: An effective alternative escape exit from the cabin/canopy is required in the event of the primary exit door/opening becoming blocked.

6.6 Hydraulic excavators

All hydraulic excavators shall be fitted with an operator protective guard (OPG).

7 STANDARDS FOR PROTECTIVE STRUCTURES APPLICABLE TO PLANT USED IN THE TIMBER INDUSTRY

7.1 Earth-moving machinery

With the exception of hydraulic excavators, falling object and roll-over protective structures fitted to earth-moving machinery shall comply with AS 2294.3 and AS 2294.2 respectively.

Earth-moving machines to which this requirement applies include—

- (a) wheeled dozer;
- (b) wheeled loader;
- (c) crawler dozer;
- (d) crawler loader;
- (e) self propelled motor grader;
- (f) back hoe loader;
- (g) snigger; and
- (h) wheeled industrial tractor.

7.2 Hydraulic excavators

Operator protective guards fitted to hydraulic excavators shall comply with AS 4988.

7.3 Agricultural tractors

Roll-over protective structures or canopies fitted to agricultural tractors shall comply with AS 1636.1.

8 PLANT USED FOR THE HARVESTING OF TIMBER WITH BOTH A ROPS AND FOPS CANOPY

8.1 Tree felling plant

Except for hydraulic excavators, tree felling plant shall be fitted with both roll-over and falling object protective structures. This requirement applies to plant which includes the following:

- (a) Purpose-built tree felling machinery including—
 - (i) mechanical harvesters;
 - (ii) feller/bunchers; and
 - (iii) bell type tree harvesters.
- (b) Crawler/wheeled tractor fitted with a tree felling head.

8.2 Processing plant

Except for hydraulic excavators, processing machinery shall be fitted with both roll-over and falling object protective structures. This requirement applies to machinery such as—

- (a) processor equipped with mechanical delimber; and
- (b) processor equipped with mechanical crosscutting head.