

Australian Standard[®]

Cranes, hoists and winches—Safe use

**Part 10: Mobile elevating work
platforms**



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- Association of Consulting Engineers Australia
 - Australian Industry Group
 - Australian Institute for Non-destructive Testing
 - Bureau of Steel Manufacturers of Australia
 - Construction and Mining Equipment Association of Australia
 - Crane Industry Council of Australia
 - Department for Administrative and Information Services (South Australia)
 - Department of Consumer and Employment Protection, WorkSafe Division (WA)
 - Department of Industrial Relations (Qld)
 - Department of Infrastructure, Energy and Resources (Tasmania)
 - Department of Labour New Zealand
 - Institution of Engineers Australia
 - State Chamber of Commerce
 - Victorian WorkCover Authority
 - WorkCover New South Wales
-

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Australian Standard[®]

Cranes, hoists and winches—Safe use

**Part 10: Mobile elevating work
platforms**

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee ME-005 to supersede AS 2550.10—1994, *Cranes—Safe use, Part 10: Elevating work platforms*.

This Standard incorporates Amendment No. 1 (April 2009). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of the AS 2550 series of Standards is to provide uniform requirements and guidance for the safe use of cranes, hoists and winches.

Most of the changes from the 1994 edition reflect the fact that Part 10 was the first type-specific Standard in the AS 2550 series, and there have been many advances in the requirements for safe use since then, both through technology and identified by experience. Other changes have been made to ensure compatibility with occupational health and safety legislation across Australia.

The principal changes include the following:

- 1 More definitive guidance on most operations and associated procedures, including the use of fall arrest systems/restraint devices; leaving an elevating work platform in the elevated position; and travelling with the elevated work platform.
- 2 More emphasis placed on maintaining elevating work platforms in accordance with the manufacturer's instructions.
- 3 An option to have a structured 'enhanced' periodic inspection and maintenance schedule that incorporates the requirements of a major inspection, or a 'normal' periodic inspection and maintenance schedule coupled with a major inspection.
- 4 The onus has been taken off identified persons for specific tasks, e.g., 'manager' and 'operator'.

Other Standards published in the series are:

AS

2550	Cranes, hoists and winches—Safe use
2550.1	Part 1: General requirements
2550.3	Part 3: Bridge, gantry, portal (including container cranes), jib and monorail cranes
2550.4	Part 4: Tower cranes
2550.5	Part 5: Mobile cranes
2550.6	Part 6: Guided storing and retrieving appliances
2550.7	Part 7: Builders' hoists and associated equipment
2550.11	Part 11: Vehicle-loading cranes
2550.13	Part 13: Building maintenance units
2550.15	Part 15: Concrete placing equipment
2550.16	Part 16: Mast climbing work platforms
2550.20	Part 20: Self-erecting tower cranes

AS/NZS

2250	Cranes—Safe use
2550.9	Part 9: Vehicle hoists

Other Standard under development in this series is:

Part 19: Telescopic handlers

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

Some defined terms or those with specific meaning are highlighted throughout the text in ***Bold Italic***.

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STANDARDS AUSTRALIA

Australian Standard

Cranes, hoists and winches—Safe use

Part 10: Mobile elevating work platforms

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the requirements for the safe use of mobile elevating work platforms, herein referred to as MEWPs. It covers MEWPs of the following three types:

- (a) **Type 1** MEWP for which travelling is only allowed with the MEWP in its stowed position.
- (b) **Type 2** MEWP for which travelling with work platform in elevated travel position is controlled from a point on the chassis.
- (c) **Type 3** MEWP for which travelling with work platform in elevated travel position is controlled from a point on the work platform.

NOTE: Types 2 and 3 can be combined

This Standard is complementary to AS 2550.1, but the requirements given herein take precedence over the corresponding requirements of AS 2550.1.

It does not cover the specific requirements for the use of MEWPs for work in proximity to live electrical equipment and within the no-go zone specified in Clause 5.8 or other specific requirements of the supply authorities in the State or Territory of use. All other requirements given herein apply.

A1 | This Standard does not apply to the operation of firefighting equipment.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1318	Use of colour for the marking of the physical hazards and the identification of certain equipment in industry
1418	Cranes hoists and winches
1418.1	Part 1: General requirements
1418.10(Int)	Part 10: Elevating work platforms
1742	Manual of uniform traffic control devices
1742.13	Part 13: Local area traffic management
2549	Cranes (including hoists and winches)—Glossary of terms
2550	Cranes, hoists and winches—Safe use
2550.1	Part 1: General requirements
4748	Acoustic emission testing of fibreglass-insulated booms on elevating work platforms

AS/NZS

1891	Industrial fall-arrest systems and harnesses (all parts)
2865	Safe working in a confined space
3000	Electrical installations (known as Australian/New Zealand Wiring Rules)
3504	Fire blankets
3788	Pressure equipment—In service inspection
4804	Occupational health and safety management systems—General guidelines on principles, systems and supporting techniques

IEC

61057	Aerial devices with insulating boom used for live working
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ANSI/SIA

A 92.2	Vehicle-mounted elevating and rotating aerial devices
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1.3 DEFINITIONS

For the purpose of this Standard the definitions given in AS 2549, AS 2550.1 and those below apply.

1.3.1 Boom type mobile elevating work platform

A MEWP in which the platform is supported by a hinged member that may be luffed telescoped or slewed.

1.3.2 Chassis

Base of the MEWP.

1.3.3 Competent person

A person who has acquired through training, qualification, experience or a combination of these, the knowledge and skill enabling that person to correctly perform the required task.

NOTE: Different types of MEWP (e.g., self propelled boom lift, scissor lift, vehicle mounted or insulated vehicle mounted MEWPs) require different competencies. Appropriate training and qualifications should demonstrate competencies in the applicable type of MEWP under consideration.

1.3.4 Critical component

One whose failure would result in a risk to the health and safety of persons using the MEWP or in its vicinity.

1.3.5 Extending structure

Structure which is connected to the chassis and supports the *work platform*, and allows movement of the *work platform* to its required position.

1.3.6 Mast

A vertical member of the extending structure that telescopes or slews.

1.3.7 Mobile elevating work platform (MEWP)

A mobile machine (device) that is intended to move persons, tools and material to working positions and consists of at least a *work platform* with controls, an extending structure and a chassis, but does not include mast climbing *work platforms*.

1.3.8 Shall

Indicates that compliance with a statement is mandatory for compliance with the objectives and intent of this Standard.

1.3.9 Should

Indicates a recommendation.

1.3.10 Transportation

Delivery of the MEWP to or from the worksite.

1.3.11 Travelling

Any movement of the chassis except *transportation*.

1.3.12 Work platform

Movable component of the MEWP, other than the chassis, intended for carrying personnel with or without material, e.g., cages, buckets and baskets.

1.4 INSTRUCTIONS

Instructions, in plain English and SI units, shall be prepared, maintained and made readily available to the appropriate personnel, to ensure the safe use of the MEWP. Such *instructions* should include the manufacturer's *instructions*, recommendations and specifications. Where any of these *instructions*, recommendations and specifications are not available from the manufacturer or are deemed inappropriate, they shall be drawn up by a *competent person*. All *instructions* shall be not less than those specified in this Standard.

1.5 COMPETENCY OF PERSONNEL

All activities required to be carried out under this Standard shall be carried out by a *competent person(s)*.

1.6 RISK ASSESSMENT

A risk assessment shall be undertaken by a *competent person* before carrying out operations involving the use of an MEWP. The assessment shall be in writing and shall take into account the following:

- (a) The task to be carried out.
- (b) The range of methods by which the task can be carried out.
- (c) The type of MEWP that will be required or that can be used.
- (d) The hazards involved and the associated risks.
- (e) The actual method and the other requisite plant and material.
- (f) Emergency and rescue procedures.

NOTE: The risk assessment should address the proposed operation rather than each individual lift.

As a result of the risk assessment, the *competent person* shall formulate a safe work method procedure, which shall be monitored for ongoing effectiveness and modified whenever it is found to be deficient, when the task changes or when the associated risks change.

NOTES:

- 1 There may be two forms of a risk assessment: (a) a generic risk assessment that covers all routine work; and (b) a job specific risk assessment for non-routine work which should be carried out for each operation.
- 2 Guidelines on hazard identification and risk assessment procedures are given in AS/NZS 4804.

SECTION 2 PLANNING

The following items shall be considered by *competent persons* and appropriate measures initiated as part of planning for the operation(s) involving a MEWP:

- (a) The selection of the MEWP.
- (b) The setting up of the MEWP.
- (c) Ensuring that the supporting structure is capable of supporting the MEWP.
- (d) Appraising an existing MEWP for suitability for use.
- (e) Availability of competent personnel for all tasks.
- (f) Availability of suitable equipment for the setting up, maintenance, operation and dismantling of the MEWP.
- (g) Condition monitoring of the MEWP and associated equipment.
- (h) The maintenance, inspection and safe operation of the MEWP and associated equipment.
- (i) The preparation, availability and maintenance of *instructions* for the assembly, operation, maintenance and inspection of the MEWP.
- (j) Emergency procedures for the evacuation of personnel from the MEWP, if applicable.
- (k) Procedures to deal with reasonably foreseeable situations.
- (l) Procedures to deal with reasonably foreseeable emergencies.
- (m) Where an MEWP is required to operate in or near buildings or structures, that there are sufficient clearances between the operational path of the MEWP and the building or structure
- (n) Where MEWPs are required to operate in or near buildings or structures, considering MEWP loadings and access at the project design stage.
- (o) Water flow, including tides and floods.
- (p) Weather conditions.
- (q) Interface with members of the public, including pedestrians and vehicular traffic. Where operation occurs on public roads, a traffic management plan be developed and implemented.
- (r) All necessary precautions are taken if working near live electricity.
- (s) Interface with local authorities where necessary to ensure notification has been made and approval granted.

SECTION 3 SELECTION

3.1 GENERAL

The general matters to be considered before selecting a MEWP for a specific operation shall be as given in AS 2550.1. In addition the following shall be considered:

- (a) Working height and reach.
- (b) Mass and bulk of materials, equipment and tools to be elevated.
- (c) Required size and rated capacity of the platform.
- (d) The need for load or moment limiting systems.
- (e) Wind loading.
- (f) Wheel and outrigger or stabilizer loadings imparted to the support surface.
- (g) Need for puncture-proof tyres.
- (h) Electrical insulating characteristics.
- (i) Motive power.
- (j) Environmental considerations (such as exhaust emissions and noise).
- (k) Number of personnel required on the platform.
- (l) Suitability for use on non-level and/or undulating surfaces (by the ability to level the chassis using outriggers) to within the rated operating slope.
NOTE: Consideration should be given to employing MEWPs with two pairs of outriggers on undulating ground surfaces.
- (m) Ability to travel across rough terrain to the work location.
- (n) Ability to work in confined spaces.
- (o) Tail swing, boom elbow swing.
- (p) MEWP dimensions.
- (q) MEWP mass.
- (r) Outrigger and stabilizer base spread dimension.
- (s) *Travelling* characteristics.

3.2 FALL ARREST SYSTEM OR RESTRAINT DEVICE

For boom type MEWPs, the type of fall arrest system or restraint device shall be appropriate for the work being carried out (see Clause 5.15).

3.3 EMERGENCY RETRIEVAL SYSTEM

The emergency retrieval system shall be appropriate for the intended application.

NOTE: For example, where it is intended to work over protruding structures, the emergency retrieval device should provide for horizontal/rotational movement as well as for vertical descent. In some instances, emergency retrieval may require the use of additional auxiliary equipment.

SECTION 4 SITING

4.1 GENERAL REQUIREMENTS

The general requirements for the siting of MEWPs shall be in accordance with AS 2550.1.

Where the platform is elevated without the engagement of stabilizers or outriggers, the danger of instability due to loss of inflation of a tyre shall be considered. If tyre deflation is likely to destabilize the MEWP, puncture-proof tyres or dual wheels shall be used.

The overall stability and safety of the MEWP shall be checked in relation to local conditions of operation. Such conditions of operation may include some or all of the following:

- (a) On soft surfaces and in close proximity to excavation or embankments (see Clauses 4.2 and 4.3).
- (b) In riverbed, tidal and floodwater areas (see Clause 4.4).
- (c) Over or in close proximity to cellars, underground cavities and services (see Clause 4.5).
- (d) On structures such as bridge decks, wharves, jetties and suspended floors (see Clause 4.6).
- (e) On partially completed building frames or other structural supports (see Clause 4.6).
- (f) In orchards (see Clause 4.7).
- (g) On sloping surfaces or undulating ground (see Clause 4.8).
- (h) Proximity to traffic (see Clause 4.12).
- (i) On floating vessels such as barges (see AS 2550.1).

Where there is doubt about the safety of a particular siting, the advice of a **competent person** shall be sought.

The level of the MEWP chassis shall be verified during operations, where appropriate by reference to the level indicators and regular examination of the supporting surface to ensure that there has been no movement that might affect the stability of the MEWP.

4.2 EXCAVATIONS AND EMBANKMENTS

Before placing the MEWP in the vicinity of an excavation or embankment, consideration should be given to siting the MEWP in another location. Where a MEWP is required to work in the vicinity of an excavation or an embankment, the possibility of slip or collapse of the supporting surface shall be evaluated by a **competent person**. Where necessary, the excavation or embankment shall be reinforced.

4.3 SOFT SURFACES

An MEWP shall not travel over or be operated on soft or waterlogged surfaces unless appropriate measures are taken to ensure stability of the base. Mats, steel plates, timber sleepers or similar aids should be used to distribute the operational loads under the support points of the MEWP so that the bearing capacity of the supporting surface is not exceeded.

4.4 RIVERBED, TIDAL OR FLOODWATER AREAS

Appropriate precautions shall be taken to protect MEWPs required to stand in flowing water against specific hazards, such as scouring the surface around the MEWP. The effectiveness of the measures shall be regularly monitored.

4.5 WORKING OVER CELLARS, GROUND CAVITIES OR UNDERGROUND SERVICES

The site shall be checked for the presence of underground cavities, basements or underground services, ducts and the like. Where the check reveals the existence of underground cavities, basements or underground services, precautions shall be taken to ensure the stability of the MEWP and MEWP standing.

4.6 WORKING ON STRUCTURES

Supporting structures such as a bridge, wharf, jetty, building structure or a suspended concrete slab shall be checked by a *competent person* to ensure that they are capable of withstanding the operational forces applied by the MEWP.

4.7 SELF-PROPELLED MEWPs

For self-propelled MEWPs that move continuously within the work area, the work area shall be assessed before work commences to verify the existence of local hazards including, overhead structures, ruts, slopes, slippery and soft conditions, rocks, branches and accumulation of debris, and the current and predicted weather conditions checked.

Particular attention shall be made to ensure that the MEWP is rated for the slopes likely to be encountered.

4.8 LEVELLING

Before elevating the MEWP it shall be located and levelled in compliance with the *instructions* developed in accordance with Clause 1.4. Where the manufacturer's specifications are not known, the *competent person* shall determine the maximum allowable working slope using calculations and tests to AS 1418.10(Int).

NOTES:

- 1 MEWPs incorporating a single set of outriggers require special consideration when used on side slopes. Levelling one end of the MEWP will attempt to twist the vehicle chassis and add to the overturning moment on the downhill side. The slope of the support surface under the wheels should be within the permitted range before the chassis is levelled using the outriggers.
- 2 Adjustment of the section of MEWP with outriggers fitted, while appearing to do so, will not bring the section of MEWP dependent on wheel support back within the manufacturer's specifications.

4.9 OUTRIGGERS OR STABILIZERS

MEWPs fitted with stabilizers or outriggers shall be located on the site in such a manner that the outriggers or stabilizers can be extended and set to the manufacturer's specifications.

Where necessary, suitably prepared packing shall be placed under the outrigger or stabilizer footplates to ensure that the load is distributed over an adequate area.

4.10 WIND

Only MEWPs designed for outdoor use, i.e., for a wind speed 12.5 m/s or greater, shall be used in locations where wind may arise.

An assessment of the likely wind conditions at the proposed location shall be made.

The wind loading shall not exceed that specified by the manufacturer or *competent person*. Any increase in the exposed wind area by the carrying or attachment of signs, panels or materials shall be considered and appropriate measures taken to ensure they do not affect the stability of the MEWP.

4.11 EXHAUST GAS

A MEWP powered by an internal combustion engine should not be used in a poorly ventilated area. Where a MEWP powered by an internal combustion engine is required to operate in a poorly ventilated area, appropriate artificial ventilation shall be provided.

4.12 PROXIMITY HAZARDS

Consideration shall be given to the presence of proximity hazards including the following:

- (a) Overhead power lines (see Clause 5.8).
- (b) Nearby structures.
- (c) Excavations.
- (d) Fixed hazards including the risk of elevating or *travelling* into overhead structures.
- (e) Personnel movement within the MEWP working area.
- (f) Mobile equipment movement within the MEWP's working area, including those parts of the MEWP that may encroach in the path of passing traffic.
- (g) Public access areas including roadways, railways, rivers and aircraft flight paths.
- (h) The effects of electromagnetic radiation (EMR), (e.g., busbars, strobe lights, induction furnaces, welding) on radio, infrared or electronic controls.
- (i) Temporary installations, e.g., scaffold, tilt-up bracing and formwork.
- (j) The vicinity of airfields (applicable to the operating height of the MEWP).
NOTE: In some situations, aircraft warning lights will need to be fitted to the highest part of the MEWP and the boom sections painted in high visibility colours in accordance with AS 1318.
- (k) Obstructions and other hazards within the MEWP's stopping distance.
- (l) The presence of atmospheric contaminants.
- (m) Openings, penetrations and edges of structures.

4.13 ENVIRONMENTAL RESTRICTIONS

Precautions should be taken against the effects of noise, exhaust gases, hydraulic fluids, lubricants, fuel, dust and other environmental pollutants emitted by the MEWP.

SECTION 5 OPERATION

5.1 OPERATIONAL INSTRUCTIONS

5.1.1 General

Instructions shall be established in relation to the operation of the MEWP. Such **instructions** shall detail practices, which shall be established to eliminate or control hazards and potential risks identified in a risk assessment, and shall be issued to the MEWP operators.

The **instructions** shall give directions on all applicable operating procedures detailed in this Standard and all others identified.

5.1.2 Operating instructions

The **instructions** shall include at least the following:

- (a) Pre-operational inspections shall be carried out at the beginning of each working shift in accordance with the pre-operational checklist, and the results entered in the logbook (see Clause 6.4.2).
- (b) Where pre-operational inspections reveal a safety malfunction or potential risk, the MEWP shall not be put in service until the risk has been assessed by a **competent person** and the appropriate action carried out and recorded.
- (c) All malfunctions and hazards shall be reported and properly recorded for assessment by a **competent person** and acted upon as appropriate.
- (d) MEWPs that are deemed to be in an unsafe condition shall be immediately removed from service, tagged and recorded in the logbook.
- (e) The operational area shall be checked for proximity hazards (see Clause 4.12) prior to and during each work shift.
- (f) Areas in which the MEWP may enter during operation shall be clear of personnel, materials, tools and equipment. Care shall be taken to avoid entanglement with ropes, cables and hoses.
- (g) Prior to leaving the MEWP unattended, it shall be positioned at a designated place, all the motions disabled against unauthorized operation and all necessary safeguards implemented. Isolating switches shall be put in the 'off' position and locked where this capability is provided. Keys, if applicable, shall be removed.
- (h) In the event of the operator becoming incapacitated through injury or illness, the MEWP should be lowered to where safe egress/access can be obtained and action taken as appropriate. The cause of the injury or illness to the operator shall be determined and the incident assessed by a **competent person** prior to the MEWP being returned to service. All motions shall be disabled until the MEWP has been assessed as suitable for service and a replacement operator is available.

5.2 MEWP—OPERATION MANAGEMENT

The following requirements apply to operation of the MEWP:

- (a) A logbook shall be supplied and maintained on each MEWP (see Clause 6.6).
- (b) The MEWP shall be operated in compliance with the operational **instructions** developed in accordance with Clause 1.4.

- (c) Only **competent persons** shall be involved in the operation of the MEWP.
NOTE: Operation of certain classes of MEWP may require a Certificate of Competency.
- (d) Personnel who are accommodated on the platform shall have the ability to perform the required work at elevated levels.
- (e) The MEWP shall not be put into operational service until it has been commissioned in accordance with the requirements of AS 1418.10(Int) and evidence to this effect is displayed on the machine.
- (f) The MEWP shall be transported to site and set up in accordance with applicable **instructions**.
- (g) **Instructions** and training applicable to the operation of the MEWP including emergency procedures shall be provided to operators.
- (h) Guarding shall be in place.
- (i) Notices critical to the various relevant operating configurations of the MEWP shall be in plain English and SI units (using diagrams where appropriate) and be legible, clear and permanently displayed prominently on the MEWP.
- (j) Access onto and egress from the **work platform** shall only be at designated positions unless the MEWP is in a breakdown or emergency situation. Where applicable, a procedure shall be developed to allow safe access to the **work platform** where the MEWP is at a location other than its designated landing position.
- (k) A clear and defined pathway for the operators of MEWPs controlled by pendant, radio or infrared shall be provided and maintained.
- (l) Procedures shall be established to deal with reasonably foreseeable emergency situations and operators shall be fully trained in their application.
- (m) Inspections, maintenance and repairs shall be carried out in conformance with the requirements of Section 6 of this Standard.
- (n) Records shall be maintained and retained in accordance with Clause 6.6.
- (o) Appropriate personal protective equipment shall be provided and used, and personnel shall be instructed in the use of such equipment. Where fall arrest systems or fall restraint devices are required, they shall be selected in accordance with AS/NZS 1891.4 and shall comply with the appropriate part(s) of AS/NZS 1891, and be correctly fitted and attached to an anchor point (see Clause 5.15).
- (p) Personnel shall not be under the effects of any drug including alcohol that adversely affects their performance.
- (q) Manufacturer's and other relevant safety bulletins shall be implemented.
- (r) MEWPs shall be correctly secured when out-of-service.

5.3 COMMUNICATION OF IRREGULARITIES

All pertinent details of the MEWP's performance, particularly all irregularities concerning the operation of the MEWP or any abnormal noise or movement, and of all incidences concerning the safe operation of the MEWP in any way whatsoever shall be recorded in the logbook and communicated to the responsible person.

5.4 GENERAL OPERATIONAL REQUIREMENTS

The general requirements for the operation of MEWPs shall be in accordance with AS 2550.1 and operational **instructions**. Operations shall not commence until pre-operational checks are completed in conformance with Section 6.

MEWPs may be used for carrying materials and equipment as well as personnel and tools, providing that their total mass does not exceed the rated capacity of the MEWP and permissible single point loadings are not exceeded. No part of the load shall extend beyond the guardrails of the platform unless otherwise permitted by the manufacturer or a *competent person*.

Persons shall stand on the floor of the MEWP only, not on the handrails or items such as ladders, scaffolding or boxes, either placed on the platform floor or the handrails.

The MEWP shall not be positioned against any structure.

5.5 CONTROL POSITIONS

Other than for maintenance or to effect emergency retrieval, MEWPs shall only be operated from the following control positions:

- (a) For all motions of the *extending structure* (raise, lower, slew and extend) at the controls located on the platform.
- (b) For MEWPs of *type 2* when *travelling*, from the controls located at the chassis.
- (c) For MEWPs of *type 3* when *travelling*, from the controls located at the platform.

5.6 TRAVELLING

5.6.1 General

Only MEWPs designed for travel shall be used to travel, and *travelling* shall comply with the *instructions* developed in accordance with Clause 1.4.

5.6.2 Travel with the platform retracted

Unless otherwise specified by the manufacturer, the boom of a self-propelled boom type MEWP shall be in line with the direction of travel, for travel in excess of creep speed.

NOTE: For crawler track-mounted boom type platforms, caution should be observed when *travelling* on an incline or over a ridge, gutter or culvert, as boom movements may be sudden when the crawler tracks overbalance at their pivot position. This may require the boom to be at right angles to the tracks and creep speed engaged.

Maximum gradients shall not be exceeded (see Clause 5.6.4).

5.6.3 Travelling with the platform elevated

The maximum travel speed while elevated shall be as specified by the manufacturer.

The operator shall have a clear view of the base structure while *travelling* in the MEWP.

Travel with the platform elevated shall be only permitted on firm level surfaces free of undulations, obstructions and potholes, except where otherwise specified by the manufacturer.

5.6.4 Gradients

The gradient on which the MEWP travels, including loading ramps, shall be not greater than the maximum gradient specified by the manufacturer or, where the manufacturer's maximum designated gradient for travel with the platform lowered is not known, it shall be determined by a *competent person*.

Extreme care shall be exercised when *travelling* down a slope.

NOTE: Travel down a slope is more dangerous than *travelling* up, due to reduced longitudinal stability and the increased loading on the braking system of the MEWP.

5.6.5 Vehicle-mounted MEWPs

Persons shall not occupy the *work platform* of a vehicle-mounted MEWP during *travelling*, unless it is *travelling* within the one worksite at speeds no more than 6 km/h and the MEWP has been designed for that purpose.

5.7 TRANSPORTATION

5.7.1 Loading and unloading from vehicles

When a MEWP is loaded onto or unloaded from a vehicle, the following precautions shall be taken:

- (a) Steps shall be taken to prevent unauthorized access to the unloading area.
- (b) The boom of a boom type MEWP shall be loaded with the boom retracted and lowered as far as practicable but shall not obscure clear view of the wheels of the MEWP.
- (c) The maximum gradient of loading ramps, tilt trays or a slide bed shall not exceed the rated gradeability of the MEWP. Otherwise the MEWP shall be loaded onto the vehicle using a winch.

NOTE: For the purpose of loading and unloading only, a fall restraint system, comprising a lanyard and belt, may be used, provided the lanyard length is such that the operator is restrained within the platform at all times.

5.7.2 Securing for transport

When a MEWP is to be transported on a vehicle, it shall be securely attached to the vehicle to prevent movement during *transportation* and in conformance with *instructions* developed in accordance with Clause 1.4.

Road travel of truck-mounted and trailer-mounted MEWPs shall be in accordance with operating *instructions* and local regulations.

When transporting a MEWP, the following precautions shall be taken, as applicable:

- (a) Engaging the MEWP's parking brakes or otherwise secure the MEWP.
- (b) Securing loose items to prevent their movement.
- (c) Securely stowing the outrigger beams and footplates.
- (d) Securing the platform in the stowed position.
- (e) Engaging the slew lock mechanism.
- (f) Securing all door panels, and slide out compartments and decks against movement.

No one shall be on the platform during *transportation*.

5.8 WORKING IN PROXIMITY TO AERIAL CONDUCTORS (OVERHEAD POWER LINES)

5.8.1 General

Clause 5.8 refers to hazards and risks presented by the operation of MEWPs in the vicinity of overhead electrical conductors.

NOTES:

- 1 Occupational Health and Safety authorities and electricity supply bodies in each State may have issued guidelines for the use of cranes and other plant in the vicinity of overhead conductors.
- 2 A conservative approach has been adopted. Separation distances have not been determined based purely on electrical voltages of conductors, nor whether the conductor is bare or insulated. The distances were chosen based on experience and practical considerations, since MEWPs cannot be operated as accurately as arcing distances can be calculated.

Before setting the MEWP into operational configuration, a check for the presence of overhead conductors and power lines shall be undertaken.