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**Australia Wide Forklift Training Centre Pty Ltd**

(also trading as Advanced Heavy Vehicle Driver Training Centre)

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## **TLILIC0005 - Licence to operate a boom-type elevating work platform (boom length 11 metres or more)**



# **LEARNER GUIDE**



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# 1.1 Introduction

This training course is based on the National High Risk Licence Unit of Competency **TLILIC0005 - Licence to operate a boom-type elevating work platform (boom length 11 metres or more)** from the Transport and Logistics Industry Training Package.



## 1.1.1 Course Overview

You will learn how to:

- ◆ Plan your work.
- ◆ Conduct routine checks.
- ◆ Set up the elevating work platform.
- ◆ Operate the elevating work platform.
- ◆ Shut down and secure the elevating work platform.



After you have finished the course you can be assessed for a National High Risk Licence.

## 1.1.2 What is a Boom-Type Elevating Work Platform?

A boom-type elevating work platform is a telescoping device, hinged device, or articulated device, or any combination of these, used to support a platform on which workers, equipment and materials may be elevated to perform work.

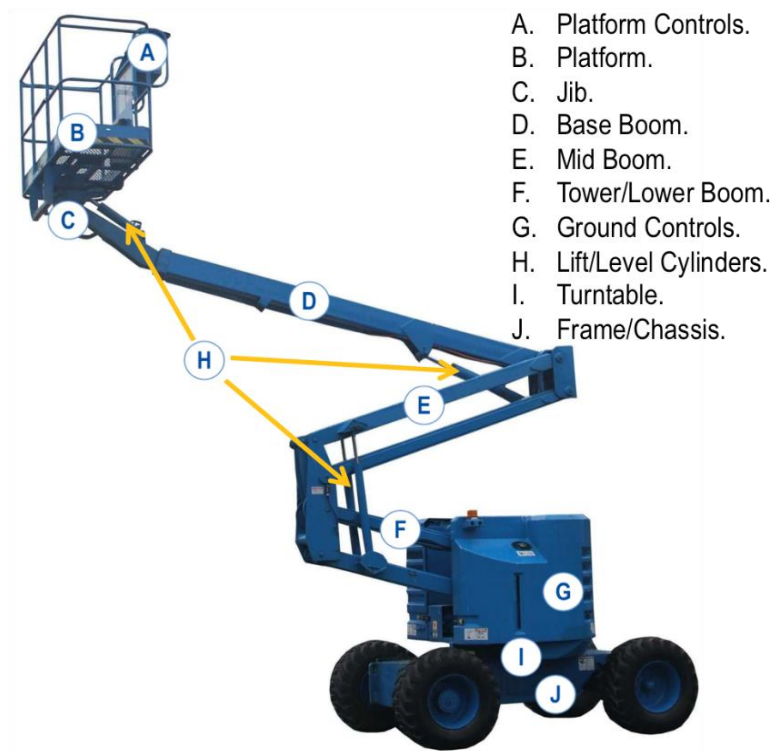


A high risk work licence is required to operate an EWP with a boom over 11 metres in length. **The 11 metre boom length is measured as:**

- a) The vertical distance** from the floor of the platform to the surface supporting the elevating work platform with the platform at its maximum height; or
- b) The nominal reach** measured horizontally from the centre point of rotation to the outer edge of the platform in its most extended position.

### 1.1.3 Parts and Movements of a Knuckle Boom-Type Elevating Work Platform

The parts of a knuckle boom-type EWP are:



The movements of a knuckle boom-type EWP are:



### 1.1.4 Parts and Movements of a Telescopic Boom-Type Elevating Work Platform

The parts of a telescopic boom-type EWP are:



- A. Platform Controls.
- B. Platform.
- C. Jib.
- D. Boom Assembly (Fly Boom & Mid Boom).
- E. Base Boom.
- F. Lift Cylinder.
- G. Upright.
- H. Ground Controls.
- I. Turntable.
- J. Frame/Chassis.

The movements of a telescopic boom-type EWP are:



- Telescoping** in and out.
- Articulating** up and down.
- Hinging** up and down.
- Slewing** right and left.

### 1.1.5 High Risk Work Licence Requirements



Once you pass your assessment you will have 60 days to apply for your licence.

You must renew your licence within 12 months of its expiry otherwise:

- ◆ Your licence can't be renewed.
- ◆ You need to repeat the course and re-apply for your licence.
- ◆ You need to enrol in the course again and be supervised by somebody who has a current licence for the same class.

You can still do high risk work without a licence as long as:

- ◆ You are enrolled in a high risk course for the class, and
- ◆ You are being supervised by somebody who has a licence for the same class.

All HRW licences must be renewed every five years, this can be done at Australia Post outlets.

Your employer might ask you for evidence that you have a high risk licence before you start any high risk work. You can show them:

- ◆ Your licence.
- ◆ Proof from the training company that you have passed your assessment.
- ◆ Proof that you are currently completing a course for high risk work.



**Once you have obtained your High Risk Work Licence, prior to you undertaking work on an unfamiliar EWP, your employer will provide:**

- ◆ **Information**
- ◆ **Training**
- ◆ **Instruction**
- ◆ **Supervision.**

**Failing to work safely can result in the health and safety regulator:**

- ◆ **Suspending or cancelling your licence.**
- ◆ Refusing to renew your licence.
- ◆ Ordering that you are reassessed to ensure you are competent.
- ◆ Directly reassessing you to determine your competency.
- ◆ Taking legal action to prosecute you.



### **Duty of care:**

The EWP operator must take reasonable **care of their own health and the health and safety of others and ensure that their acts or omissions do not affect the health and safety of others.** They must cooperate with anything the employer does to comply with WHS/OHS requirements. Workers, including the EWP operators, must not intentionally or recklessly interfere with or misuse anything provided at the workplace for occupational health and safety.

**Your employer must take steps to ensure that the workplace is as safe as possible for you and other workers. In order to do this, they can:**

- ◆ Provide a safe workplace with minimal risks.
- ◆ **Provide and maintain safe plant, equipment and structures.**
- ◆ **Provide and maintain safe systems/procedures for work.**
- ◆ **Provide facilities that are adequate for the personnel on site.**
- ◆ Provide instruction, training, supervision and information for any work to be undertaken safely, including any time you are required to use an unfamiliar or new EWP.
- ◆ Take action or make arrangements to ensure all equipment, structures, plant and substances used on site are handled and stored in a safe way.

## 1.2 Legislative and Regulatory Requirements

All work activities must be guided by and be comply with the relevant legislation, regulations and work requirements.

Legislation can be broken down into four main types:

Legislation	Explanation
Acts	Laws to protect the health, safety and welfare of people at work.
Regulations	Gives more details or information on particular parts of the Act.
Codes of Practice/Compliance Code	Are practical instructions on how to meet the terms of the law, e.g. <b>Compliance Code: Plant.</b>
Australian Standards	Give you the minimum levels of performance or quality for a hazard, work process or product. e.g. <b>AS 2359.1:2019 Powered industrial trucks General requirements.</b> <b>AS/NZS 1891– Industrial fall arrest systems and devices series</b> <b>AS/NZS 1891.4:2009 – Industrial fall-arrest systems and devices – Selection, use and maintenance</b> <b>AS 2550.10:2006 – Cranes, Hoist and Winches – Safe use – Mobile Elevating Work Platforms.</b>

**Sources of workplace safety information include,** but are not limited to, the following:

- ◆ WHS/OHS policy
- ◆ **Code of Practice/Compliance Code**
- ◆ Manufacturer’s instructions
- ◆ Operations manual
- ◆ **Legislation and regulations**
- ◆ **Relevant Australian standards**
- ◆ WHS/OHS workplace representative
- ◆ Safe working or job procedures
- ◆ Management plans
- ◆ Relevant industry standards, for example, Industry Standard Elevating work platforms For the safe use of elevating work platforms

When planning out your work you will need to think about (things other than hazards):



- ◆ **Communications on site, are they safe and adequate?**
- ◆ Safe access and egress from the EWP.
- ◆ **Location and specifics of the task.**
- ◆ **Permits required for the task.**
- ◆ **Type and availability of equipment required for the task.**
- ◆ **EWP required for the task (capacity, type, reach).**
- ◆ Boom movements to access the task once the EWP is in position.
- ◆ Number of spotters required to safely carry out the task.
- ◆ Skills, experience and qualifications of EWP operators.
- ◆ Suitable safety equipment including appropriate fall arrest harness and
- ◆ Make sure you have access to everything you need before you start setting up the EWP.

## 1.3 Identify and Manage Hazards

HAZARDS CREATE RISK. CHECK FOR HAZARDS.

**A hazard is a thing or situation with the potential to cause harm or damage.**

**A risk is the chance of a hazard causing harm or damage. In other words, a risk is the possibility that harm (death, injury or illness) might occur when exposed to a hazard.**

If you can remove, or at least control a **HAZARD**, you can reduce the **RISK** involved.



Part of your job is to look around to see if you can find any hazards before you start using the EWP.

A good tip is to check:

- ◆ **Above head height** – remember the EWP will be working well above your head!
- ◆ **At eye level** – look around to see if there is anything in the way of where you want to move the platform.
- ◆ **On the ground (and below)** – make sure the path of travel is clear and can bear the weight of the EWP.

**Common workplace hazards and hazards that EWP operators face include:**



- ◆ Ground conditions:
  - ◇ Poor surface condition
  - ◇ Spills
  - ◇ Debris
  - ◇ Underground services
  - ◇ Weight bearing ability
  - ◇ Recently filled trenches
  - ◇ **Slopes (too steep)**

- ◆ Poor lighting



- ◆ Traffic:
  - ◇ **Pedestrians in the way**
  - ◇ **Vehicles in the way**
  - ◇ **Other plant in the way**
- ◆ Overhead hazards:
  - ◇ **Proximity to power lines (too close)**
  - ◇ Overhead service lines
  - ◇ Obstructions
  - ◇ Trees
  - ◇ Scaffolding
  - ◇ Service pipes
  - ◇ Bridges

- ◆ Weather:
  - ◇ Lightning
  - ◇ Storms
  - ◇ **High wind**

- ◆ Surrounding structures:
  - ◇ Buildings in the way
  - ◇ **Obstructions in the way**

- ◆ Site hazards:
  - ◇ Other workers in the way
  - ◇ Equipment and machines
  - ◇ Facilities
  - ◇ Other equipment

- ◆ Dangerous materials



Once a hazard has been identified you need to **talk to the right people**. This can include:



- ◆ **Safety officers**
- ◆ **Site engineers (where applicable)**
- ◆ **Supervisors**
- ◆ Colleagues
- ◆ Managers who are authorised to take responsibility for the workplace or operations
- ◆ Health and Safety Representatives
- ◆ Work Health and Safety Committee members

It is important to communicate with other personnel and safety officers before starting on a worksite:

- ◆ **To make sure that any workplace policies or site-specific procedures and processes are followed**
- ◆ **To identify (or be informed of) any workplace-specific hazards/ground conditions**
- ◆ **To identify hazards and controls**

### 1.3.1 Working Near Power Lines

Working near power lines can be dangerous if you are not careful.

It is very important that you know the safe operating distances for different types of power lines and the steps you must take if your job needs you to work closer than the safe distances.

Distances are different depending on the state or territory you are working in and the voltage of the power lines. **You should check with the local electrical authority for information and advice to find out the voltage of power lines in your work area.**



#### VICTORIA

**In Victoria** the Framework for Undertaking Work Near Overhead and Underground Assets states that equipment must not be closer than the following distances to electric/power lines:

Electric/Power Line Type	Distance
<b>Power Poles – Outside 6.4m and a trained / authorised Spotter is required between 3 to 6.4m</b>	
<b>Towers – Outside 10m and a trained / authorised Spotter is required between 8 to 10m</b>	

Generally, **if you need to work closer than the safe work distance** you must:

- ◆ Contact the local electrical authority for permission to work closer (this is called an exemption).
- ◆ **Have the power lines shut off.** If this is not possible then have the power lines insulated.
- ◆ Use a Spotter (depending on local laws and rules).

## POWER LINE VISUAL INDICATORS

There are a range of different indicators in use across the country to identify the position of overhead power lines.

**Important:** Visual indicators **DO NOT** insulate the power lines so exclusion zones and safe operating distances must still be used, even when any of these systems are in use.

### Tiger Tails and Coloured Markers

**Tiger tails or coloured markers are used to clearly show the location of overhead power lines.** Tiger tails **DO NOT** insulate the power lines so exclusion zones and safe operating distances must still be used, even when tiger tails are in use.



Poles may also be coloured (painted) up to 3m from the ground.

### Marker Balls or Flags

**Marker balls are fixed to the power line and are often red or another bright colour.**



### Safety, Warning and Danger Signs

Signage may also be present to warn of overhead power lines and services.



## CONTACT WITH POWER LINES

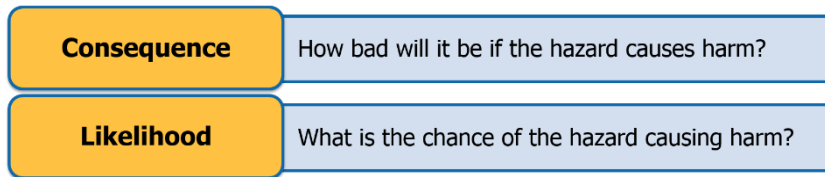
If the EWP makes contact with power lines you must:

1. Warn people to stay away.
2. Try to break contact with the power lines, if possible. Get power turned off, if possible.
3. Stay in the EWP if it is safe. Otherwise jump from the EWP without touching the EWP and the ground at the same time. Keep your feet together and jump or shuffle away from the EWP until you are at least 8m away from it.
4. Report the incident to your supervisor, power company and safety regulator.
5. Tag out and isolate the EWP. Record in the logbook.
6. **DO NOT** use the EWP again until it has been checked and returned to service.

### 1.3.2 Risk Assessment

Once you have identified the hazards on site, or related to the work you will be doing, you need to assess their risk level.

Risk levels are worked out by looking at two factors:



You can use a table like the one shown here to work out the risk level:

	Consequence				
Likelihood	1. Insignificant	2. Minor First Aid Required	3. Moderate Medical Attention and Time Off Work	4. Major Long Term Illness or Serious Injury	5. Catastrophic Kill or Cause Permanent Disability or Illness
1. Rare	Low	Low	Moderate	Moderate	Moderate
2. Unlikely	Low	Low	Moderate	Moderate	High
3. Possible	Low	Moderate	High	High	Extreme
4. Likely	Moderate	Moderate	High	High	Extreme
5. Almost Certain	Moderate	High	High	Extreme	Extreme

For example, a hazard that has a **Major** consequence and is **Almost Certain** to occur has a risk level of **Extreme**.

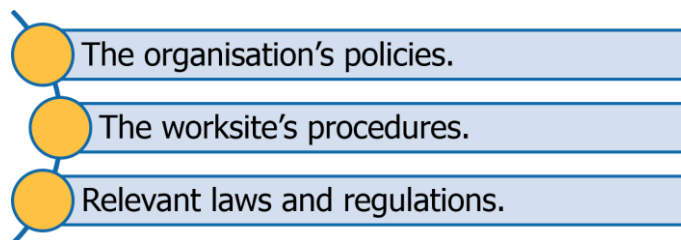
	Consequence				
Likelihood	1. Insignificant	2. Minor First Aid Required	3. Moderate Medical Attention and Time Off Work	4. Major Long Term Illness or Serious Injury	5. Catastrophic Kill or Cause Permanent Disability or Illness
1. Rare	Low	Low	Moderate	Moderate	Moderate
2. Unlikely	Low	Low	Moderate	Moderate	High
3. Possible	Low	Moderate	High	High	Extreme
4. Likely	Moderate	Moderate	High	High	Extreme
5. Almost Certain	Moderate	High	High	<b>Extreme</b>	Extreme

The risk level will help you to work out what kind of action needs to be taken, and how soon you need to act.

The table below is an example of a site risk policy:

Risk Level	Action
<b>Extreme</b>	<p><b>This is an unacceptable risk level</b></p> <p>The task, process or activity <b>must not proceed</b>.</p>
<b>High</b>	<p><b>This is an unacceptable risk level</b></p> <p>The proposed activity can only proceed, provided that:</p> <ol style="list-style-type: none"> <li>1. The risk level has been reduced to as low as reasonably practicable using the hierarchy of risk controls.</li> <li>2. The risk controls must include those identified in legislation, Australian Standards, Codes of Practice etc.</li> <li>3. The risk assessment has been reviewed and approved by the Supervisor.</li> <li>4. A Safe Working Procedure or Work Method Statement has been prepared.</li> </ol> <p>The supervisor must review and document the effectiveness of the implemented risk controls.</p>
<b>Moderate</b>	<p><b>This is an unacceptable risk level</b></p> <p>The proposed activity can only proceed, provided that:</p> <ol style="list-style-type: none"> <li>1. The risk level has been reduced to as low as reasonably practicable using the hierarchy of risk controls.</li> <li>2. The risk assessment has been reviewed and approved by the Supervisor.</li> <li>3. A Safe Working Procedure or Work Method Statement has been prepared.</li> </ol>
<b>Low</b>	<p>The proposed task or process needs to be managed by documented routine procedures, which must include application of the hierarchy of controls.</p>

The action you take will depend on:



### 1.3.3 Hazard Controls

Once hazards and risks have been identified and assessed you need to work out what the best way to manage them will be.

The Hierarchy of Hazard Control is the name given to a range of control strategies used to eliminate or control hazards and risks in the workplace.

**Hazard controls should be applied before you start work, or as soon as a hazard is identified during the work.**





The Hierarchy has six levels.

Hazard controls should be selected prior to starting the task and when hazards are identified during the task. Always start at the top of the list and work your way down.

**ESIEP – Every Saturday I Eat Pie**

Hierarchy Level	Explanation
<b>1. Elimination</b>	Completely remove the hazard. This is the best kind of hazard control.
<b>2. Substitution</b>	Swap a dangerous work method or situation for one that is less dangerous.
<b>3. Isolation</b>	Isolate or restrict access to the hazard.
<b>4. Engineering Controls</b>	Use equipment to lower the risk level.
<b>5. Administrative Controls</b>	Site rules and policies attempt to control a hazard. Includes Safe Work Practices.
<b>6. Personal Protective Equipment</b>	The least effective control. Use PPE while you carry out your work. This should be selected at the planning stage of your work and checked before starting the job.

You may need to use a range of control measures to reduce the risk to an acceptable level.

**1.3.3.1 Personal Protective Equipment**

Personal protective equipment (PPE) can help to reduce the effects or chance of being hurt. Personal protective equipment (PPE) should be checked prior to starting any type of work.



**All operators working in the EWP platform need to have:**

- ◆ **A safety harness and fittings.**
- ◆ Hard hat and chin strap.
- ◆ Rubber soled shoes.



The safety harness must be securely fitted to the operator and connected to an approved anchor point within the platform of the EWP. Common PPE includes:

- ◆ Hard hats
- ◆ Earmuffs
- ◆ Safety goggles
- ◆ Boots
- ◆ Gloves
- ◆ Hi-visibility clothing
- ◆ Respiratory equipment
- ◆ Aprons
- ◆ Arm guards
- ◆ UV-protective clothing and sunscreen

Make sure that, at all times, you have on at least the minimum PPE requirements.

### 1.3.3.2 Specific Control Strategies for Traffic

If the work area is going to be shared with pedestrians, site personnel, vehicles or mobile plant you will need to make sure you have selected **appropriate control measures**.



**These may include:**

- ◆ Flashing hazard lights.
- ◆ **A flag person.**
- ◆ Hoardings, gantries or scaffolding.
- ◆ **Warning signs and barriers.**
- ◆ **Pedestrian and vehicle exclusion zones.**
- ◆ **Using a Traffic Management Plan.**

Implementing a traffic management plan that separates EWP and pedestrians can decrease the likelihood of accidents and injuries caused by EWPs. It is the responsibility of employers and self-employed individuals to inform all individuals at the workplace, including employees, contractors, and visitors, about the EWP traffic management plan and provide proper training and instruction. The EWP traffic management plan should also be included in the workplace induction. All employees should be familiar with and trained in the plan. If a contractor or visitor who has not received training needs to cross an EWP route or enter an EWP working area, they must always be accompanied by someone who has been trained in the plan.

The combination that you choose will need to be clearly outlined in the risk treatment plan.

### 1.3.3.3 Specific Control Strategies for Operating at Night or in Darkened Areas





If EWP operations are being carried out **at night, or in darkened areas, adequate lighting** needs to be provided across the entire work area.

This is to ensure that the operator and associated personnel can see properly and carry out their work safely.



## 1.4 Picking the Right EWP for the Job

Depending on the job at hand there are a number of different EWPs available. The height, reach, safe working load, ground conditions and terrain all play a part in selecting the correct EWP.

Type	Description	Example
<b>Trailer Mounted EWP</b>	<p>These elevating work platforms are mounted on a moveable trailer and can be towed by most vehicles with a tow ball. They have manually adjusted stabilisers to provide stability for the platform while it is being used and have a range of working heights up to 26 metres.</p>	
<b>Self-Propelled EWP with Telescoping Boom</b>	<p>These EWPs are self-propelled units for use on flat slabs or firm unsealed areas.</p> <p>The work platform is elevated using a straight extension (telescoping) boom. There are controls at ground level and on the platform.</p>	
<b>Self-Propelled EWP with Telescoping Knuckle Boom</b>	<p>These EWPs are self-propelled units for use on flat slabs or firm unsealed areas.</p> <p>The work platform is elevated by a boom, which has at least two main sections, with a knuckle between them, and is mounted on a turret that allows slewing. This arrangement permits the boom to reach up and over obstacles.</p> <p>Both sections of the boom may incorporate a telescoping extension. There are controls at ground level and on the platform.</p>	
<b>Vehicle-Mounted EWP</b>	<p>These EWPs are usually road-registered trucks with a boom or knuckle boom mounted on the truck chassis.</p> <p>The boom is mounted on a turret to allow slewing, and outriggers are fitted to the chassis. There are controls at ground level and on the platform.</p>	

# 1.5 Rated Capacity

The other consideration to make when selecting which EWP to use is the rated capacity of the machine. The rated capacity should be clearly **marked on the side of the EWP, data plate, operating manual or contained in the manufacturer’s information under specifications.**

The rated capacity includes the weight of all workers, tools and equipment in the platform.

**For example,** if the rated capacity of an EWP you are operating is 250kg then the **weight of the operator/s and the weight of the equipment** (the total weight in or on the platform) **must not be more than 250kg.**

NEVER overload the EWP – doing this will make the EWP unstable and can cause damage to its structure.



**Check the weight of all items and people that are going in the basket before loading the EWP to make sure the rated capacity is not exceeded.**

<b>MODEL</b>	2019BEWP2			<b>MAX</b>		<b>MAX</b>
<b>SERIAL NO.</b>	208999			3'		3'
<b>MAX PLAT HEIGHT</b>	23.8m	<b>GRADE ABILITY</b>	30%	<b>G.V.W.</b>	15930 kg	THIS ELEVATIONG WORK PLATFORM MEETS OR EXCEEDS THE APPLICABLE REQUIREMENTS OF AUSTRALIAN STANDARD AS1418 PART 10 AS ORIGINALLY MANUFACTURED FOR THE INTENDED APPLICATIONS AND USE. OPTIONAL EQUIPMENT AS FITTED TO THIS MACHINE MEETS OR EXCEEDS THE APPLICABLE AUSTRALIAN STANDARD. COMPONENTS OF THIS MACHINE ARE MANUFACTURED FROM VARIOUS GRADES OF MILD AND HIGH STRENGTH STEELS. OPERATION, INSPECTIONS, MAINTENANCE, MODIFICATIONS OR REPAIRS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS2550.10 AND THE MACHINE MANUALS.
<b>MAX WIND SPEED</b>	12.5 m/s	<b>RATED MAX. LOAD (SWL)</b>	225 kg	<b>MAX. NUMBER PERSONS</b>	2	
<b>MAX. EQUIP</b>		<b>MAX. MANUAL SIDE FORCE</b>		75 kg	400 N	
<b>YEAR OF MANUFACTURE</b>				11 07		
<b>DATE OF COMMISSION</b>				01 08		
<b>SUBSEQUENT ANNUAL INSPECTIONS OR MAJOR REPAIRS:</b>						

Look at this data plate and attempt to answer the following questions:

**Question 1:** What is the rated maximum load for this EWP?  
**225kg**

**Question 2:** You need to carry 65kg of equipment on the platform for a job of work. What is the maximum weight of people allowed on the platform in this case?  
**225 kg – 65 kg = 160 kg**

**Question 3:** What is the maximum platform height for this EWP?

**23.8m**

**Question 4:** What is the maximum incline allowed for this EWP when the platform is in the raised position?

**3 degrees.**

**Question 5:** As per the weather forecast, it will be a windy day with wind speed of 13 m/s. Can you use this EWP? Give your reason.

**No. These winds are higher than the safely rated maximum wind speed 12.5 m/s for the EWP.**

**Question 6:** If two people weighing 65kg and 85 kg are going to occupy this EWP, what is the safe weight of tools and other equipment they could carry?

Combined weight of people = 65 kg + 85 kg = 150kg.

Rated maximum load for this EWP = 225kg

Safe weight of tools and other equipment they could carry = **75kg**

**Question 7:** You are about to use this EWP to paint a building. The paint being used weighs 20 kg per 18 litre drum. Other materials and equipment on the EWP weigh 15 kg.

If you weigh 85 kg, how many drums of paint are allowed on the EWP on each lift?

The weight that can be lifted in addition to personnel and materials and equipment = 225 kg minus 85 kg minus 15 kg = 125 kg

The number of 20 kg drums of paint that can be lifted = 125 kg divided by 20 kg = 6.25 drums

So, **6 drums of paint** could be lifted safely on the EWP.

### 1.5.1 Forces and Loads

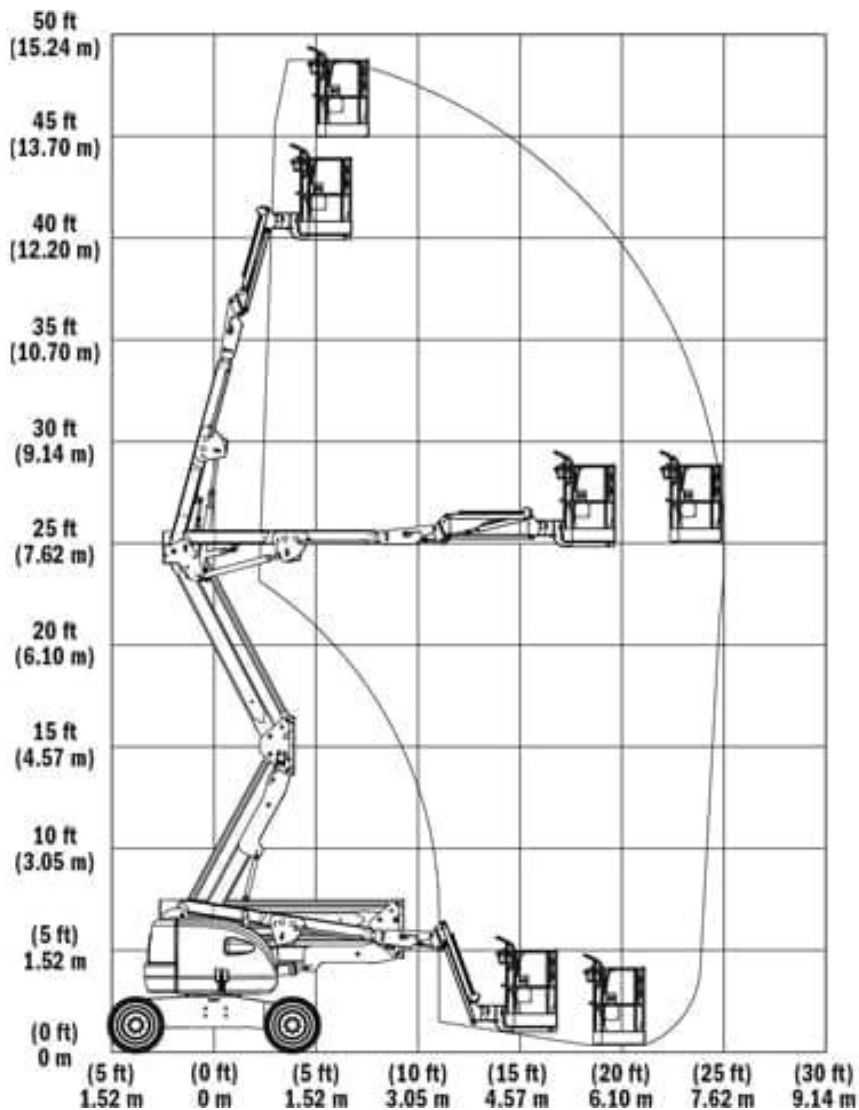
When operating an EWP you need to be aware of the various forces and loads that affect the EWP:

Forces and Load	Explanation
Live Load	The load of all persons and/or materials that are being supported by the EWP.
Dead Load	The weight of the EWP.
Wind Load	The wind loadings, resulting from wind speeds up to the maximum permitted, taking into account the degree of the exposure of the site. Refer AS 2550.

If the load is **too heavy, irregular or poorly placed on the platform**, the load is **insecure and unstable** causing the **EWP and/or load to fall**.

### 1.5.2 EWP Operating Envelope

Refer to the EWP Operating Envelope shown here and attempt to answer the accompanying questions.



**Question 1:** Can this EWP be used to paint a building with 10.7 m height where the EWP can be placed within 3.05 metres of the building?

**YES.** This job is within the EWP Operating Envelope shown here.

**Question 2:** Can this EWP be used to paint a building with 7.62 m height with the EWP positioned 7 metres from the job?

**YES.** This job is within the EWP Operating Envelope shown here.

**Question 3:** Can this EWP be used to paint a building with 10.7 m height with the EWP positioned 9 metres from the job?

**NO.** This job is outside the EWP Operating Envelope shown here.

# 1.6 Communication Methods

As an EWP operator you need to be able to communicate with workers around you while you work, and you need to be able to understand the instructions to use the EWP safely.

These can include:

- Manufacturer's guidelines (instructions, specifications, checklists).
- Industry operating procedures.
- Workplace procedures (work instructions, operating procedures, checklists).

### Workplace communications may take the form of:

- ◆ Verbal and non-verbal language.
- ◆ **Written instructions.**
- ◆ Signage.
- ◆ **Hand signals.**
- ◆ **Fixed channel two-way radios.**
- ◆ Questioning to confirm understanding and appropriate worksite protocol.



You need to decide how you are going to communicate with other workers while you are still **at the planning stage of the job.**

### Situations in which you would use each of the following communication procedures include:

- **Hand signals** – when operating an EWP in a noisy environment; and when the EWP operator's view of the intended path of travel is obstructed.
- **Questioning techniques** – when clarifying work instructions with the Supervisor, clients or team members.
- **Signage** – to alert people to the presence of a moving plant in a worksite; to isolate a work area in order to minimise risk of possible harm; to caution people about worksite requirements such as using correct PPE, access pathways/walkways etcetera.
- **Traffic warning systems** - as part of traffic management at the worksite, e.g. using cones, bollards, traffic lights and traffic signages.
- **Two-way radio** – can be used to instantly communicate with team members even when they are not in sight.
- **Written instructions** – can be used prior to commencing a task, e.g. referring to SWMS, worksite policies and procedures, EWP operating manual etcetera; also, when completing EWP logbooks or reporting maintenance requirements.

Workplace communication helps you to identify workplace policies and procedures that are to be followed and to identify known hazards.

People you may need to communicate with on-site include:

- Safety officers
- Workplace engineers, where applicable
- Supervisors
- Other workers
- Managers

When operating an EWP, **if you are unclear of a signal given by a colleague**, you must:

- **Stop operating the EWP (all motions must be stopped)**
- **Ask your colleague to clarify their last signal.**

## 2.1 Logbook

Each EWP should have a logbook with details specifically for that machine.

Before using the EWP, check the logbook to make sure the EWP is in working order.

These are commonly found in a yellow waterproof pouch attached to the EWP basket. Check and confirm **if the logbook is applicable to the EWP** you are going to operate.



The **EWP logbook is where details are recorded of:**

- ◆ EWP operation (dates, times and operators).
- ◆ **Daily safety checks that have been done.**
- ◆ **Defects that have been identified during checks (Pink Section)**
- ◆ **Action taken to repair or address defects.**
- ◆ Servicing, maintenance and inspections that have been carried out.
- ◆ Pending repairs, if any.

**When you check the logbook**, you need to confirm:

- It is the right logbook for the EWP you are using.
- If there are any defects reported.
- If those defects have been fixed.
- That the logbook is up to date.
- That scheduled maintenance and inspection have been done.



If the service logbook (servicing that has been recorded, scheduled maintenance and defects are fixed) indicates that the EWP has not been tested in accordance with the requirements of Australian standards; AS 2550 or that the EWP has faults that have not yet been repaired you should:

- ◆ Tag out the EWP.
- ◆ **DO NOT** use the EWP.
- ◆ Report the problems to the appropriate person as per site procedures.



**The only person who can remove a lockout tag is the person who applied the tag or an authorised person.**

### **STIRR**

**Stop**

**Tag Out**

**Isolate**

**Record**

**Report (and don't use)**

## **2.2 Pre-Start Checks**

(No Key, No Power)



Always check the EWP before you use it. As the EWP operator, it is the **operator's responsibility to make sure that the EWP is inspected and ready for use.** It is important that the EWP is inspected before starting work as the inspection can ensure that all **equipment is safe to use and suitable for the task.**

Refer to the manufacturer's manual and workplace rules for routine machine check procedures and documents such as inspection checklists. For an example of an EWP Inspection Checklist see Appendix A.

During your **pre-operational checks**:

- ◆ Make sure that there are **no safety tags** on the plant – Only the person who put the tag on and a person who is authorised in accordance with workplace safety procedures are allowed to remove a safety tag. Unless you are authorised never remove safety tags from any plant or equipment.
- ◆ Inspect all **fluid levels**.
- ◆ Ensure there are no **fluid leaks**.
- ◆ Ensure **signage, data plate and safety decals** are present and legible:

These need to be in place and readable to ensure the operator is aware of **the capacities and capabilities of the EWP**.

They also identify **safety features, emergency and standard operating procedures and possible hazards associated with the equipment**.

- ◆ Inspect **tyre condition and pressure** – Ensure these are in line with manufacturer and legal requirements. It is extremely important that the tyres are inflated to the correct pressure as stated on the load chart or in the operator's manual. The capacity and stability of the EWP depends on the tyres being correctly inflated.
- ◆ Inspect **outriggers and packing**.
- ◆ Inspect EWP for any obvious **signs of damage**.
- ◆ Ensure that the **logbook** is present, up to date and all previous defects have been rectified.
- ◆ Check that any **transport locks** are removed (if applicable)
- ◆ Check **slew ring teeth**
- ◆ Check **slew ring mounting bolts**.
- ◆ Inspect the boom/jib for **any structural damage** – this can be **indicated by**:
  - ◇ Cracks in the boom, superstructure or welds.
  - ◇ Bends and/or twists in the boom or superstructure.
  - ◇ **Visual rust from welds or joints.**
  - ◇ **Flaking paint.**
  - ◇ **Loose or missing bolts.**
  - ◇ Oil leaks.
  - ◇ Bent pins



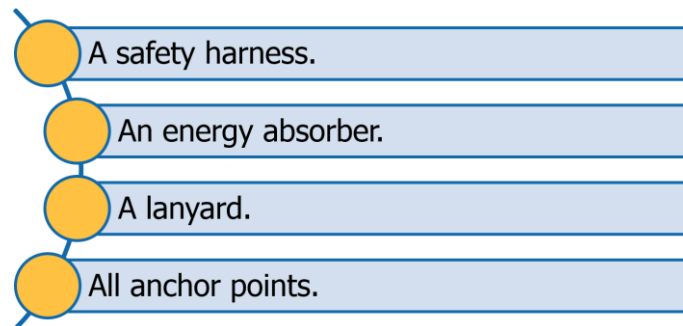
If you find any signs of defect when completing the pre-operational or visual inspection of the EWP you should:



- ◆ **Stop using EWP**
- ◆ **Tag out the EWP.**
- ◆ **Isolate EWP**
- ◆ **Record the defect into the logbook (if appropriate).**
- ◆ **Report the defects to the appropriate person as per site procedures.**
- ◆ **DO NOT use the EWP until the fault has been repaired. (STIRR)**

### 2.2.1 Safety Equipment

You must check all safety equipment before starting up the EWP. Safety equipment that is required by an EWP operator includes:



**The safety harness is the most important piece of protective equipment that an EWP operator uses.**

Check that the harness fits properly and that it is in good condition. When inspecting your harness ensure that you check the:

- ◆ Webbing.
- ◆ Snap hooks.
- ◆ Buckles and adjusters.
- ◆ Sewing.
- ◆ D-rings.



For an example of a harness inspection checklist see Appendix A.



Check the energy absorber and lanyard assembly for damage or wear, and check that it is correctly attached to the harness.

Whenever climbing into the EWP platform always use three points of contact. Check that the gate on the EWP platform closes automatically behind you.

There are specific reinforced anchor points within the EWP platform that the lanyard needs to be attached to.

Check that these anchor points are in good condition and that the lanyard attaches properly, allowing you to move freely in the platform.

The following table provides some examples of safety equipment and their use.

Types of safety equipment	One use of the equipment
Safety harness/es and lanyard	Protects the wearer from falls from heights (falls restraint)
Energy absorbers	It limits the energy of a falling body
Anchor point/s	The safety harness can be attached to these points to ensure stability
Emergency retrieval systems	It enables the prompt lowering of the EWP to the ground in the event of an emergency

### 2.2.2 EWP Controls

Read the operator’s manual if you are not familiar with the EWP to learn where the controls are located.

Check the ground controls are clearly marked. Once in the basket, check that all controls are clearly and properly marked.



### 2.2.3 Start the EWP

If the pre-operational visual inspection shows that there are no faults then start up the EWP according to the manufacturer’s start-up procedure.



## 2.3 Start Up Checks

Keys On



Once the pre-start checks have been completed and the EWP has been started, you should complete **operational checks** including:

- ◆ Checking warning lights and devices are working.
- ◆ Testing communication methods and equipment.
- ◆ **Check steering is working.**
- ◆ **Testing brakes, driving forward and backwards are working.**
- ◆ **Ground/basket controls are working.**

### 2.3.1 Check Controls

Once these checks have been made you should ensure the ground controls are functioning at full capacity.

The **ground controls** are there **to bring the platform to the ground in case of an emergency as well as for testing and maintenance purposes.**

Using the ground controls check the following operations:

- ◆ Lift and lower the boom.
- ◆ Slew the boom to the left and right, making sure there are no potential hazards in performing this function. If the boom cannot be slewed, check that the slew locking pin has been removed.
- ◆ Telescope the boom out to the range required for the tasks to be undertaken and back again.
- ◆ Check the auxiliary power unit on diesel and gas machines. If the machine does not have an auxiliary power unit or emergency lowering valves (taps), refer to the operator's manual for instruction on how to lower the machine in the event of an emergency.





If you are confident that the ground controls are working then check the basket controls:

- ◆ Turn the select switch to platform/basket.
- ◆ Use three points of contact to climb into the EWP basket.
- ◆ Attach your harness and put on your hard hat (safety helmet), rubber-soled steel cap shoes and other PPE as required.
- ◆ Make sure the self-closing action of the platform gate is working.
- ◆ **Test the dead man switch to make sure it is functional – it acts as an interlocked safety device to prevent accidental or unintended movement of the EWP. The EWP will not function unless it is held in position.**
- ◆ Test the automatic levelling device.
- ◆ Check all alarm systems.

Test each of the control levers in the basket to make sure all operations are functioning correctly and smoothly.

Test the following movements/functions:

- ◆ Raise and lower boom.
- ◆ Slew left and right.
- ◆ Telescope boom in and out.
- ◆ Hinging.
- ◆ Articulating.



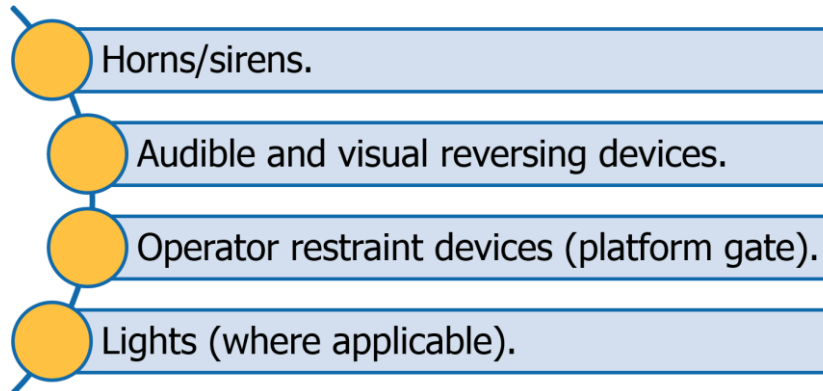
**It is important that throughout the operational checks you test the EWP to the full extent of its capabilities:**

- to ensure that it is functioning correctly and is safe to use, and
- to get familiar with how the machine responds to the controls.

### 2.3.2 Check Safety Devices

Part of the EWP start-up process is checking that all safety devices are working before you start the job.

Safety devices include:



Make sure each of these is working correctly before using the EWP.

## 2.4 Test and Check Communication Equipment



Check that any communication equipment you are planning to use is working properly and is appropriate for the **job before you start the task** (can also be done as part of pre-start checks).

Communication equipment could include:

- ◆ Two-way radios (UHF)
- ◆ Make sure fully charged prior to using.

## 2.5 Report All Faults

**When operating an EWP, if there is an issue or defect with the engine, brakes, hydraulic system, steering or equipment you use, the following may happen:**

- ◆ Possible accidents
- ◆ Injury to people
- ◆ Unstable plant
- ◆ Not able to complete required EWP task

If you find any defects, damage or signs of interference (tampering) during your inspection of the EWP you must:

- ◆ **S - Immediately stop operating the EWP.**
- ◆ **T- Tag out the EWP**
- ◆ **I - Isolate the EWP**
- ◆ **R - Record the fault in the EWP logbook, EWP service book and any other location outlined in site procedures.**
- ◆ **R - Report the fault to an authorised person, such as your supervisor, workplace security or the equipment owner for corrective action to be taken.**



**DO NOT** use the EWP or remove an 'out of service tag' until it has been **fixed, signed off** by a **competent person** as **safe to use** and returned to service.

## 2.6 Ground Conditions



Before setting up the EWP you need to check the ground suitability for the machine.

Check the work area **surface** for the **following factors/hazards** that might influence the safe operation of the EWP:

- ◆ Rough uneven ground.
- ◆ Backfilled ground.
- ◆ Soft soils (sand).
- ◆ Hard compacted soil.
- ◆ Rock.
- ◆ Bitumen.
- ◆ Concrete.

When operating on a surface of **varying gradient (mix of slopes, ramps and flat surface)**, the EWP may lose **stability and fall or cause unexpected boom movement.**

The work area should be flat and able to stand the weight of the machine.

If it is not flat, or if it has a soft base or has been backfilled etc., you will need to make sure you have the required ground cover, such as **steel plates** and/or sleepers, to control the hazards associated with loose or unstable ground.

If you are required to set up the EWP on a concrete slab, ensure that a **qualified engineer** or competent person has **inspected it and provided a report** indicating that the **slab is capable of supporting the EWP and the load.**



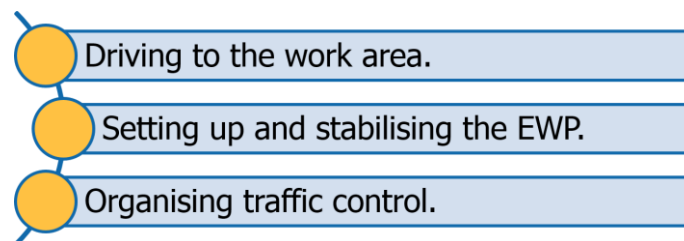


When operating an EWP on/around each of the following **ground conditions, what could happen to an EWP?**

- **Backfilled ground** – the EWP may fall in as the ground may be unstable.
- **Bitumen (damaged, cracked)** – may damage tyres and cause instability of the EWP.
- **Concrete (damaged, cracked)** – may damage tyres and cause instability of the EWP.
- **Hard compacted soil** – may not support the weight of the EWP and the ground can be unpredictable.
- **Potholes** – the EWP may lose control and fall.
- **Railway tracks** – the EWP may get hit by the train.
- **Rough uneven or difficult terrain including sloping surfaces, uneven surfaces, steel decks and grates** – the EWP may fall or lose its load.
- **Soft soils** – the EWP may fall or lose its load.
- **Trench covers** – the EWP may fall in.
- **Water impacted ground** – the EWP may fall in as the ground may be unstable.

## 2.7 Set Up EWP

The set up procedure includes:



### 2.7.1 Drive to the Work Area

**Check that the way is clear before moving the EWP to the work area. Look out for:**

- ◆ **Boom retracted, with platform lowered and level to give clear vision.**
- ◆ The path should be firm, clear of obstacles, drains, rubble, etc.
- ◆ Be aware of other personnel.
- ◆ All safety devices are working.
- ◆ Perform all operations to manufacturer's specifications.
- ◆ Effective traffic management in place.
- ◆ Workers to be made aware of EWP movement.
- ◆ EWP travels at a safe speed.



### 2.7.1.1 Assess Weather Conditions

Before setting up the EWP it is important that you take note of the weather conditions. The **manufacturer guidelines, operator's manual** or **data plate** will outline the maximum wind speed in which operations can continue.

Some **EWPs have their wind speed capacity marked on them** or written **on the data plate**. The **decals and stickers in the platform** may also have this information.



**If the wind speed exceeds manufacture's specifications:**

- **Stop work immediately**
- **Lower the platform**
- Make the EWP safe / secure
- Inform appropriate person



**Operating the EWP in windy conditions can cause hazards** such as:

- ◆ **Uncontrollable slewing movement.**
- ◆ **Tipping over of the EWP.**
- ◆ Falling objects.
- ◆ Dislodgement of power cables from cable guides.
- ◆ Reduced visibility because of debris, dust or insects.

**When operating an EWP in heavy winds, lightening and rain:**

- ◆ Use PPE appropriate for the weather conditions
- ◆ Assess risks
- ◆ Operate the EWP only if safe to do so
- ◆ Stop and notify the supervisor if/when the situation worsens
- ◆ Reassess the weather conditions prior to resuming EWP operations

**When operating an EWP in extreme heat and ultraviolet (UV) exposure:**

- ◆ Use PPE appropriate to the weather conditions
- ◆ Hydrate and use sunscreen
- ◆ Assess risks
- ◆ Operate the EWP only if safe to do so
- ◆ Stop and notify the supervisor if/when the situation worsens
- ◆ Reassess the weather conditions prior to resuming EWP operations

## 2.7.2 Set Up



Before setting up the EWP ensure that you check:

- ◆ **The safe working radii.**
- ◆ **The position of the EWP in relation to the work to be undertaken.**
- ◆ **Adequate clearances from obstructions and hazards.**
- ◆ **Ground conditions.**
- ◆ **Movements of other vehicles and plant.**
- ◆ **EWP range diagram.**

Set the EWP up as close as possible to the work that you are required to do, but at the same time create minimum disturbance to others.

### **Trench collapsing may occur when setting up an EWP next to a recently excavated trench.**

If you have to position the EWP close to **recent excavations or trenches**, the rule of thumb – depending on the soil condition – is that you set up the EWP **as far away from the excavation as it is deep. For example, if the excavation is 2m deep you would not set up closer than 2m to the excavation (the distance away should be at least equal to the depth of the excavation).**



It is important that the EWP is set up level and you can check with **a bubble level indicator or a spirit level.** Some EWPs are also fitted with a **tilt sensor or slope alarm** that will tell you if it is not level.

Make sure the EWP will not be on a slope that exceeds the manufacturer's recommendations.

### **When setting up an EWP close to buildings, you should consider:**



- ◆ The access and egress.
- ◆ Whether the position of the EWP is appropriate.
- ◆ Whether the boom is set up to slew away from the building if possible.
- ◆ **Whether the building needs protection.**
- ◆ **Whether screens are required for fragile and easily damaged parts of the building such as windows.**
- ◆ Underground services.
- ◆ Foundations and structural bearings.
- ◆ Underground structures.
- ◆ **Erosion.**
- ◆ Uncompacted soil or loose backfill.
- ◆ **Safe working radii**
- ◆ Pedestrians or foot traffic
- ◆ Uneven ground/footpaths
- ◆ Weather conditions
- ◆ Exclusion zones
- ◆ Road traffic
- ◆ Overhead hazards.

**When operating an EWP over a body of water, you should take the following additional precautions:**

- ◆ **Wear a life jacket**
- ◆ Set up a Rescue Boat
- ◆ **Ensure there is a Rescue Plan**
- ◆ **Use a Spotter/guide/observer**
- ◆ Have an emergency retrieval system
- ◆ Potentially not be attached to the plant.

### 2.7.2.1 Positioning in a Restricted Space

When setting up an EWP in a confined area ensure that you consider:

- ◆ The access and egress – will the EWP fit in and out of the space?
- ◆ Obstructions and personnel in the area.
- ◆ Is a guide needed?
- ◆ Can the boom be slewed safely?
- ◆ Is there enough room for emergency egress?
- ◆ Will there be a build-up of gas or fumes?



### 2.7.3 Stabilise EWP



**If the EWP has outriggers, you can use steel plates, hardwood packing, baseplates or heavy rubber matting to support the outriggers.**

The outriggers need to be fully extended, unless they are also being used to level the machine.

Never reset the outriggers while the machine is elevated as this can cause major instability and allow the machine to overturn.

Remember to avoid soft ground, sloping surfaces or other conditions that may affect the stability of the unit.

If the work area where you are required to set up the EWP is soft or waterlogged, have a competent person carry out an assessment of the area.

**If the EWP begins to lean to one side while you are using it, immediately lower the platform and check the outriggers to ensure stability.**

**Check the ground conditions and repack the outriggers before continuing.**



If you are setting up next to a building with an underground level or car park, have a competent person assess the ground conditions before you set up.

There is a possibility that the weight of the EWP could cause the walls of the lower levels to crack or collapse.



If the EWP is set up, but one or more of the wheels or outriggers starts to sink you should:

- ◆ Stop operations.
- ◆ Return the EWP to the ground.
- ◆ Relocate the EWP to safer ground.
- ◆ Rectify the sinking if possible. If not possible, relocate the EWP to an area where stability can be maintained.

### 2.7.4 Packing



Selecting the correct packing is important. There are different kinds and sizes of packing available:

- ◆ **Steel plates.**
- ◆ **Mats on timber planks.**
- ◆ **Hardwood packing (pig-styng).**

Pig-sty packing should be arranged so that each layer is at a **90° degree angle** to the one before.

### 2.7.5 Sloping Surface

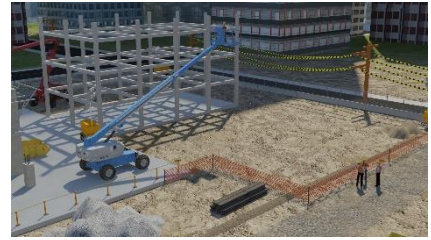
If the EWP is being set up on a sloping surface, position the outriggers/stabilisers on the lower sloping side first, again making sure the area is clear of personnel before lowering the outriggers/stabilisers. This will allow you to level the platform and then engage the remaining stabilisers.



## 2.8 Apply Hazard Control Measures

Once the EWP has been set up it is important to put any hazard control measures into place.

If any new hazards are identified during the operation, ensure that work is stopped until hazard control measures have been put into place and the risk is at an acceptable level.



### 2.8.1 Traffic Control



Before setting up the **EWP on a busy street** you should always **check with the local authorities whether there are any permits required for traffic control, any conditions for operating the EWP at that location or any exclusion zones necessary.**

Place all the required traffic control displays and warning devices.

Warning signs at the front and rear should be placed at a distance of at least 50 metres, but not more than 150 metres, from the vehicle.

Ensure any necessary barricades or road marker cones are placed along the side of the vehicle.

Road marker cones should be arranged to keep traffic clear of the area where the elbow of the boom will be operating.

Extra traffic managements measures may be required.

### 2.8.2 Controls for Personnel

When working with an EWP it is important to ensure the safety of the operator and all other people in the area. It is very important that exclusion zones are put in place.

Exclusion zones ensure that no personnel or objects are at risk of being struck by the EWP when it is in motion or by falling objects.

**Never raise or lower the boom over people. This could result in serious injury or even death and is against regulations.**

**People near or around an EWP could be injured in the following ways:**

- **Be hit or crushed by the EWP while operating.**
- **Being struck by falling objects.**



**We can control this situation by implementing the following controls:**

- **Exclusion zones (using physical barriers)**
- **Signs**
- **Barriers**
- **Spotters or ground controllers.**

**If someone enters the exclusion zone while you are operating an EWP, you must:**

- **Stop work immediately (all motions)**
- **Identify person/s within the exclusion zone**
- Direct spotter/guide to remove the person/s from the exclusion zone
- Lower basket to the ground
- **Report to the appropriate person, as per workplace procedures, to take corrective action**

## 2.9 Store Tools and Equipment



All tools and equipment should be stored or secured in a fixed or removable box or basket.

It is important to **store the tools and equipment securely** on the platform in order to:

- ◆ Prevent them from falling from the EWP platform and injuring people below.
- ◆ **Prevent them from jamming the 'dead man' foot control.**
- ◆ **Prevent them from interfering with safe entry and exit from the EWP.**
- ◆ Ensure a high standard of housekeeping in the EWP platform.
- ◆ **Prevent trip hazards**

**DO NOT** leave tools lying around on the floor of the EWP platform.

## 3.1 Operate EWP

Before operating the EWP make sure hazard controls are in place.

**Before raising the platform**, always look up and around to make sure there are no overhead obstructions, hazards or power lines that might have been overlooked. You should also think about:

- ◆ **The size and weight of loads on the platform**
- ◆ **The safe working radius of the EWP**
- ◆ The surrounding area including visibility, ground conditions, nearby equipment or structures
- ◆ Hanging objects
- ◆ No loose items on the platform
- ◆ Access and egress
- ◆ **Ground conditions**
- ◆ Fall arrest or fall restraints secured to the anchor point



The **path of movement of the boom** needs to be as safe as possible. When you are deciding how you are going to approach the work area with the platform you should think about:

- ◆ **Clearance from structures or obstacles.**
- ◆ The nature and weight of loads on the platform.
- ◆ Stability of the plant.
- ◆ Other workers in the area.
- ◆ Need for spotters.
- ◆ Risk of falling objects.
- ◆ **Power lines and other services.**
- ◆ Speed of boom movements.
- ◆ Stopping distances on the boom.
- ◆ **Any other traffic in the area (people and vehicle).**
- ◆ Adequate lighting.
- ◆ Weather conditions.
- ◆ Items on the platform are secure.

Once you are sure that it is safe you can start the elevation by shifting the control lever. Do not operate the lift at a high speed, especially if you are in a confined area. Raise, slew and telescope the boom to get the platform into the correct position. Elevate the EWP to the full extension required, provided it is safe to do so.

It is important that all EWP operators continually monitor boom and platform movements to **ensure that all aspects of the operation are conducted in a safe and efficient manner. Ensure the hydraulic system is safe.**



The **EWP should not be used as a crane** for lifting anything outside the basket or platform, **and slings should not be attached to the guardrails of the EWP** unless it has been specifically designed for the purpose of shifting loads.



## 3.2 Mobile EWP

Moving an EWP requires special care, because of the greater risk of destabilising the machine. Never move an EWP with its outriggers extended.

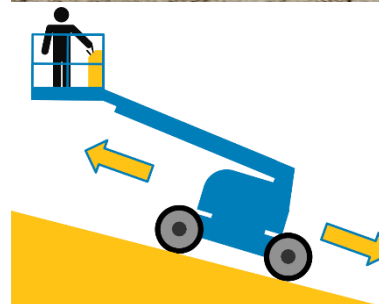
If you have to move an **EWP with an elevated platform**:



- ◆ **Never travel over rough or uneven ground.**
- ◆ If the ground surface has pot holes or is uneven, lower the machine to increase its stability.
- ◆ **Be constantly aware of overhead obstructions such as power lines, services, people, surrounding structures and other machinery.**
- ◆ **Travel at a creeping or extremely slow speed** with the utmost caution, staying alert to make sure the surface is flat with no gradients or speed humps etc. The speed must be **in accordance with the manufacturer's specifications.**
- ◆ Maintain a careful lookout for ground conditions such as potholes, soft, unstable or rough surfaces and anything that will make the machine unstable.

The following safety measures need to be applied when moving an EWP around a worksite:

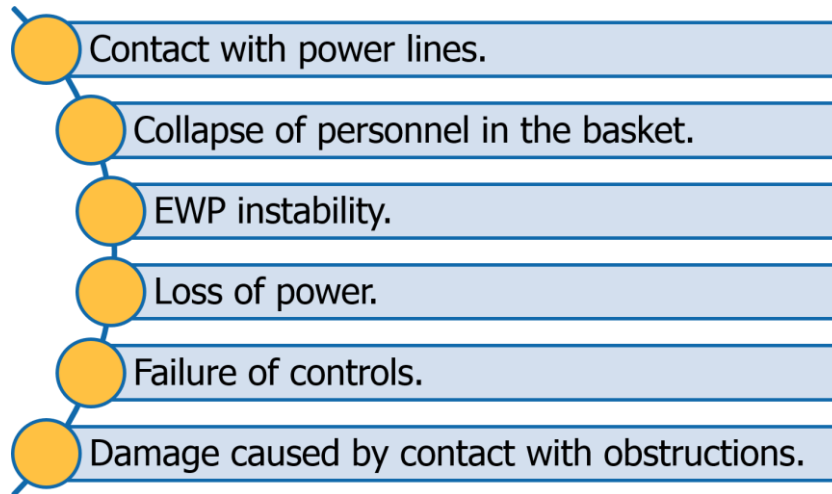
- ◆ **Before moving the EWP ensure that you have determined the path of movement for the boom and all hazards have been identified and all controls have been put in place.**
- ◆ **Retract the boom section(s) of the machine and lower the basket to a level where you can clearly see the path of the EWP to ensure the path is not rough or uneven.**
- ◆ Keep a careful watch out for people at ground level and make sure people are aware of your path of movement.
- ◆ Ensure all warning devices are operating.
- ◆ Ensure that the tyres are inflated to the correct pressure as per the manufacturer's instructions.
- ◆ Wear your harness and have it attached to the anchor point.
- ◆ Make sure the boom is in line with the chassis and the basket is behind the drive wheels.
- ◆ Check that the turntable/basket lock is engaged (where fitted).
- ◆ Be constantly alert for potholes, obstructions, people, other machinery and any other hazards.
- ◆ If the EWP is fitted with axle lockouts ensure that they have been activated.
- ◆ Make all of your steering movements smoothly.
- ◆ Travel at an extremely slow speed (creep), as per the manufacturer's specifications.
- ◆ If you are moving an EWP **across a sloping surface, follow manufacturer's specifications.**
- ◆ If you are moving an EWP up or down a hill:
  - ◇ Always travel with the platform pointing up the hill. This gives the operator a better view over the area and helps to counterbalance the weight of the machine.
  - ◇ Always follow the manufacturer's specifications



## 3.3 Emergency Procedures

Any number of things can go wrong while you are operating the EWP. The best thing you can do is know how to deal with these situations when they happen to give you the best chance of avoiding injury.

Unsafe situations could include:



If an unsafe incident occurs you will need to:

- ◆ Stop work immediately.
- ◆ Tell people in the immediate vicinity.
- ◆ Try to work out what the problem is.
- ◆ Resolve the problem if you can or lower the EWP platform.
- ◆ Record the details of the incident in the logbook.
- ◆ Report the problem to an authorised person or as per workplace requirements.
- ◆ Stop other people from entering the area as it may be unsafe.



Generally, in the case of an emergency, you need to tell other people at the site, fellow workers, safety officers, managers, supervisors and emergency services (000) about it. When you are passing on details make sure you clearly explain:

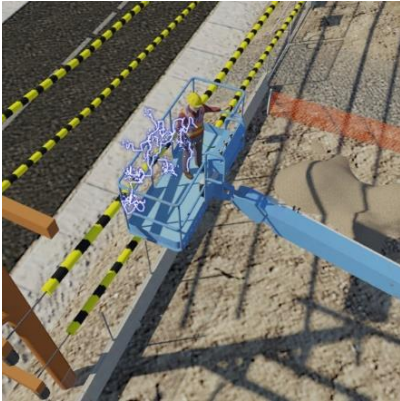
1. That there is an emergency situation.
2. What the emergency is e.g. fire.
3. Where it is or has happened, and if any areas are unsafe.



### 3.3.1 Contact with Power Lines

If the EWP comes into contact with power lines you should:

#### REMEMBER WHAT YOU LEARNED EARLIER.



1. **Warn others to stay away.**
2. **Shut off the power if possible.**
3. **Try to break contact with the power lines if possible.**
4. **Stay on the platform if it is safe to do so. If you have to leave the platform make sure you can jump clear without touching the ground and the EWP at the same time. Land with your feet together and jump or shuffle with your feet together until you are at least 10 meters away from the EWP.**
5. **Report the situation to management, power company and the safety regulator.**
6. **Make sure the EWP is checked properly before it is used again.**
7. **Don't touch metal parts.**
8. **Apply STIRR.**

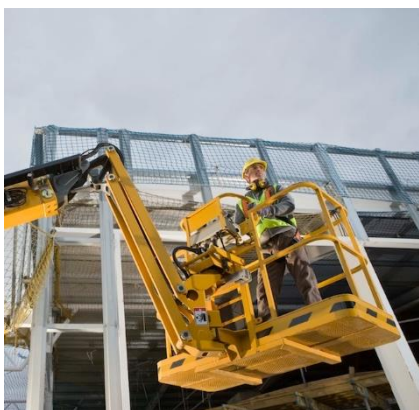
### 3.3.2 Collapse of Personnel in the Basket

If you are on the ground and your workmate up in the basket appears to have fainted and has slumped down inside the basket, you should:

- ◆ Try to make contact with the person (yell out to them or try to contact them through the communication equipment being used).
- ◆ If you get no response, call for first aid or ask someone else to go for first aid assistance.
- ◆ Check for hazards in or around the work area, such as power lines or dangerous materials that might have caused asphyxiation.
  - ◇ If no hazards are found and the machine is safe, switch it to ground controls and lower the person down.
  - ◇ If there is an electrical hazard, do not touch the machine. Call the electrical authority to have the electricity supply shut down and the problem rectified.



### 3.3.3 EWP Starts to Tilt to One Side



**If the EWP begins to tilt:**

- ◆ **Stop work immediately and lower the platform to the ground.**
- ◆ **Get out of the platform, alight from the machine and check out why there is a lean (e.g. packing sinking into a soft or unstable ground surface, or an outrigger hydraulic ram slowly leaking internally).**
- ◆ **If you are not sure, seek advice from a competent person before any attempt is made to elevate the platform again.**
- ◆ **In most cases you will need to relocate the EWP to stable ground.**

### 3.3.4 Motor Cuts Out

If the motor of the EWP cuts out when it was at height, the platform must be lowered to the ground. This can be done by:

- ◆ Communicating with personnel who are on the ground to assist in lowering the EWP.
- ◆ Using the **hydraulic accumulator**, if the EWP is fitted with one, which would have enough pressure to slew if needed and then lower the platform.
- ◆ Using the **battery-operated electro-hydraulic emergency lowering device**, if the EWP is fitted with one, which will allow the platform to be lowered even if the motor has cut out.
- ◆ If the EWP is not fitted with the above options or they haven't worked, the **hydraulic bleed valves**, or **pump down mechanisms**, can be used for emergency lowering.



### 3.3.5 Abnormal Noises and Movements

If at any time during the operation of the EWP there is an abnormal movement of the boom, or abnormal noises, you should immediately stop using the EWP, tag it out of service and report the fault to the appropriate person as per site procedures.

If you hear a loud noise or feel vibrations coming from the boom section whilst operating the EWP you should:



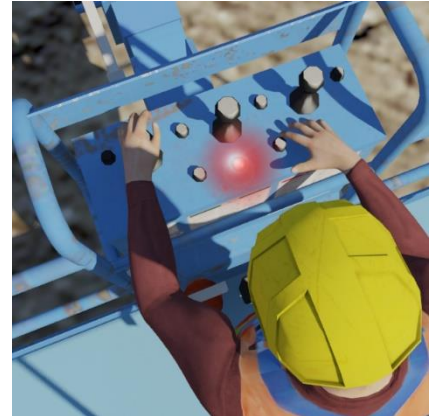
- ◆ Stop and investigate the abnormal noise.
- ◆ Notify all people in the immediate vicinity.
- ◆ Investigate the cause of the problem.
- ◆ Resolve the issue if possible, or lower the EWP platform.
- ◆ Tag out the EWP.
- ◆ Apply STIRR.
- ◆ Record the details in the logbook and report it to an authorised person.
- ◆ Have an inspection carried out to identify whether damage has occurred.
- ◆ Do not use the EWP until any defects have been fixed.



### 3.3.6 Warning Lights, Cut-Outs and Alarms

If during the operation of the EWP you observe any defects through warning lights, cut outs or alarms you should:

- ◆ Stop work and investigate.
- ◆ Identify what the problem is, if possible.
- ◆ Lower the platform (where applicable).
- ◆ Tag the EWP out of service.
- ◆ STIRR.
- ◆ Record the details in the logbook.
- ◆ Report the issue to the appropriate person as per site procedures.
- ◆ DO NOT use the EWP until the defect has been identified and repaired.



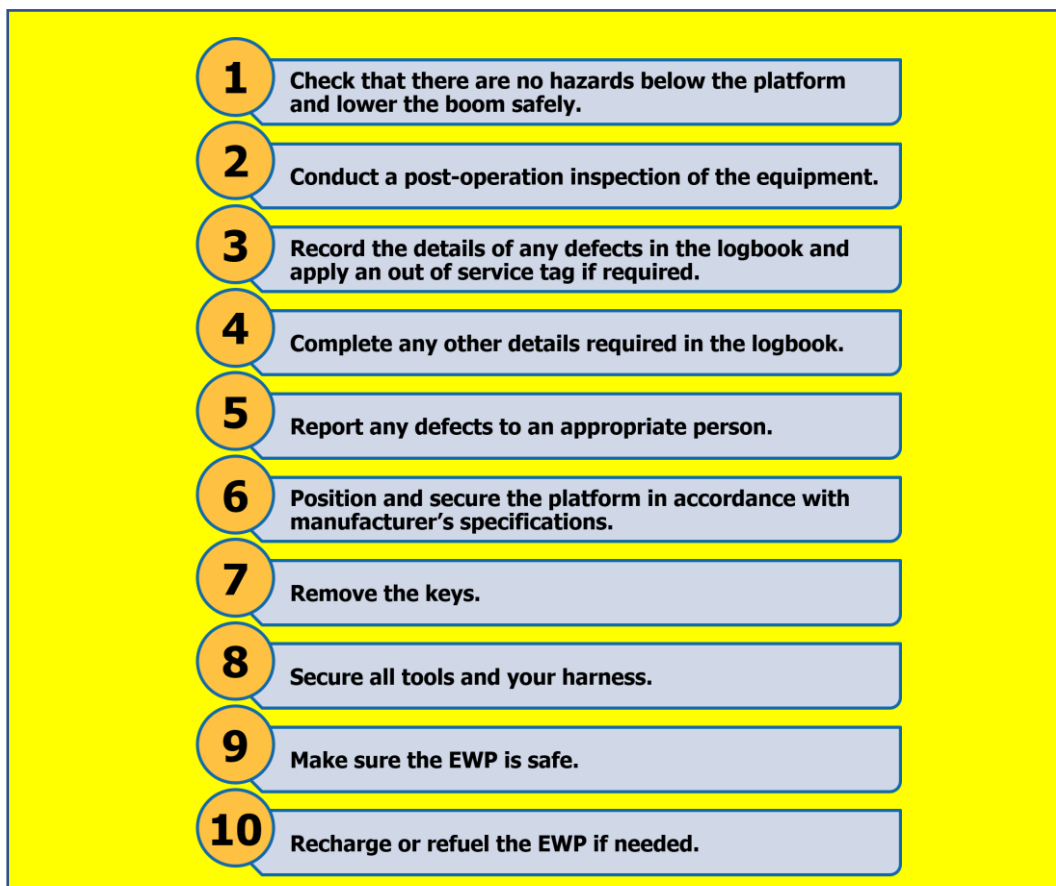
### 3.3.7 Platform Drops, Moves or Tilts

If during the operations of the EWP, you feel the EWP platform drop, move or tilt you should:

- ◆ Cease all work with the EWP immediately and investigate.
- ◆ Tell others in the immediate area what you are doing.
- ◆ Inspect the EWP for defects and check the set-up positioning – to see if the EWP has shifted.
- ◆ Identify the issue and fix it, if possible. If not, lower the platform to the ground and make safe.
- ◆ Tag the EWP out of service.
- ◆ Record details of the problem in the logbook.
- ◆ Report the incident to an authorised person as per site procedures.

## 3.4 Shut Down EWP

Once you have completed the EWP task and are closing down operations for the day, you need to follow the shut down procedures outlined by the manufacturer. Here is an example of a shut down procedure.



### 3.4.1 Shut Down a Trailer or Truck-Mounted EWP

When shutting down a trailer or truck-mounted EWP ensure that you follow the manufacturer's and site instructions. The steps to closing down a trailer or truck-mounted EWP includes:

1. Checking to make sure no hazards are below the boom. Lining the boom up with the chassis and lowering the bottom boom arm into the cradle. Once this is lowered you should then lower the top boom onto the bottom boom.
2. Remove your safety harness, stow it in the cylinder provided in the corner of the basket and refit the lid on the cylinder.
3. Disembark from the platform and gather and stow your tools.
4. Raise the outriggers and pin them (where required).
5. Gather up any packing materials and place them in the designated area.
6. Install the boom locking pin or strap.
7. Turn off the motor or (for a truck-mounted machine) disengage the Power Take Off (PTO).

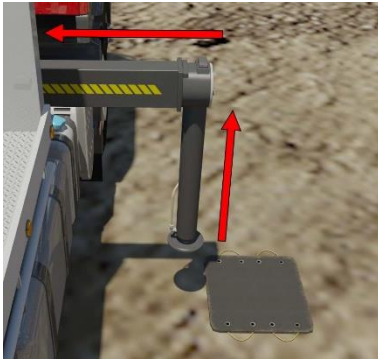


## 3.5 Post-Operational Checks



Check the machine for breakages, other damage or leaks. More specifically, you need to check:

- ◆ All the hydraulic arms, to make sure they have not been damaged or bent during the machine's operation.
- ◆ The boom, for dents or cracks in its welds and joints.
- ◆ The slew ring, for any bending or other damage.
- ◆ The basket, to make sure it is in good working order and has not been damaged.
- ◆ The outriggers/stabilisers, to make sure they are in good order.
- ◆ All safety devices, to make sure that they are intact and operational.



**Report any faults or damage to your supervisor/manager immediately, make sure they are noted in the log for corrective action and, where necessary, make sure warning tags are attached to the machine.**



# Appendix A - EWP Inspection Checklist

Daily Inspection	
Company Name:	Date:
Operator Name:	Site:
Machine Number:	

## Pre-start checks - EWP and safety harness

Checked = ✓

Item to be checked by operator: EWP inspection	✓	*	Fault Report
Battery/water (connection, battery fluid level, security).			
Chassis (slew ring, slew locking device, compliance plate): clear, no damage, suitable for work to be conducted).			.....
All fluid levels (fuel, hydraulic oil, engine oil, coolant).			.....
Correct logbook.			
Work platform and attachments (handrails, safety gate operational, clean, safety harness anchorage points): safe, correctly fitted, no obstructions on the floor, clean, free of grease or other substances, good operating controls.			..... .....
Boom: <ul style="list-style-type: none"> <li>• Cracks, flaking paint or damage</li> <li>• Fibreglass boom for cracks, blisters, colour changes, or wrinkles (where fitted)</li> <li>• Pivot points/pins for damage and for adequate lube and security</li> <li>• Hydraulic hoses for leaks and secure attachment to the EWP</li> <li>• Leaks in hydraulic rams</li> <li>• Control cables for damage.</li> </ul>			..... ..... ..... .....
Evidence of damage: breaks, structural weaknesses (paint separation, stressed welds).			
Fluid leaks.			
Signs and decals, rated capacity label, safety/warning signs, control labels: visible and legible.			
Boom (damage, wear).			
Hydraulics (lines, hoses, rams, connections, leaks).			
Wheels/tracks/tyres (condition, pressure, inflation, damage).			
Outriggers/stabilisers and packing: damage, leaks.			

**Out of Service Tag Attached? Yes / No**

### Safety Harness and Lanyard Inspection Checklist

Item to be checked by operator:	✓	✗	Fault Report
Webbing and energy absorbers: <ul style="list-style-type: none"> <li>• Cuts or tears.</li> <li>• Abrasion damage.</li> <li>• Excessive stretching.</li> <li>• Damage due to contact with heat, corrosives or solvents.</li> <li>• Deterioration due to rotting, contamination, mildew or ultraviolet exposure.</li> </ul>			..... ..... ..... .....
Snap hooks: <ul style="list-style-type: none"> <li>• Distortion of hook or latch.</li> <li>• Cracks or forging folds.</li> <li>• Wear at swivels and latch pivot pin.</li> <li>• Open rollers.</li> <li>• Free movement of the latch over its full travel.</li> <li>• Broken, weak or misplaced latch springs.</li> <li>• Dirt or other obstruction e.g. rust.</li> </ul>			..... ..... ..... .....
Buckles and adjusters: <ul style="list-style-type: none"> <li>• Distortion or other physical damage.</li> <li>• Cracks and forging laps where applicable.</li> <li>• Bent tongues.</li> <li>• Open rollers.</li> </ul>			..... <b>Out of Service Tag Attached? Yes / No</b>
Sewing: <ul style="list-style-type: none"> <li>• Broken, cut or worn threads.</li> <li>• Damage or weakening of threads due to contact with heat, corrosives, solvents or mildew.</li> </ul>			
D-rings: <ul style="list-style-type: none"> <li>• Excessive 'vertical' movement of the straight portion of the D-ring.</li> <li>• Cracks, especially at the intersection of the straight and curved portions.</li> <li>• Distortion or other physical damage of the D-ring.</li> <li>• Excessive loss of cross-section due to wear.</li> </ul>			
Lanyard: <ul style="list-style-type: none"> <li>• Shock absorber (damage, deployed).</li> <li>• Snap hooks/connectors both ends (damage and free movement).</li> <li>• Lanyard webbing (stitching, cuts, tears, contamination).</li> </ul>			

## Operational checks: EWP

Item to be checked by operator: EWP inspection	✓	*	Fault Report
Brakes (hand, travel): secure, on and operable.			
Ground controls (condition, labels readable, emergency lowering control).			.....
Cab (PTO, operating instructions).			.....
Controls – functionality, legible reading.			.....
Throttle control.			.....
'Dead man' switch: functionality including activated and deactivated.			.....
Gauges and alarms (horn, lights, drive indicator).			.....
Warning devices: travel beepers and lights.			.....
Unusual noises.			.....
Anti-crush bar.			.....
Limit device functionality.			.....
Emergency retrieval system from base controls and platform controls – locate, check for security and usability.			.....
Power take off (PTO) is engaged (if applicable to the EWP).			.....
EWP pathway.			.....
Full range of EWP capabilities.			.....
Test lift including use of the ground controls (empty platform).			<b>Out of Service Tag Attached? Yes / No</b>

Action Taken to Repair EWP or safety harness:		
Name:	Date of Repair:	
<b>Return to Service Authority by Supervisor</b>		
Comments:		
Supervisor Name:	Signature:	Date:

## Reference videos

Working with elevating work platforms: <https://www.worksafe.vic.gov.au/working-elevating-work-platforms>

Overhead crush and electrocution hazards when using boom lifts:  
[https://www.youtube.com/watch?v=toK80lrH7vE&feature=emb\\_imp\\_woyt](https://www.youtube.com/watch?v=toK80lrH7vE&feature=emb_imp_woyt)