



CONSTRUCTION
Training Group

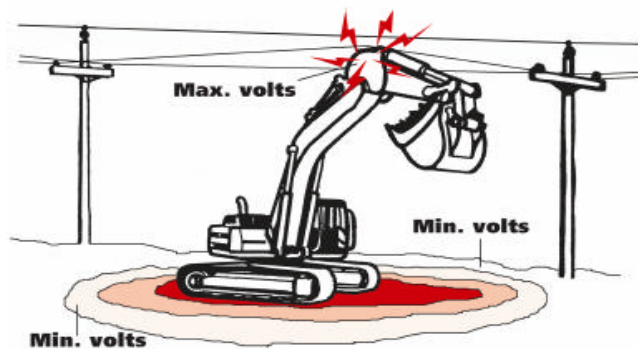
LEARNER GUIDE

Scissor Lift

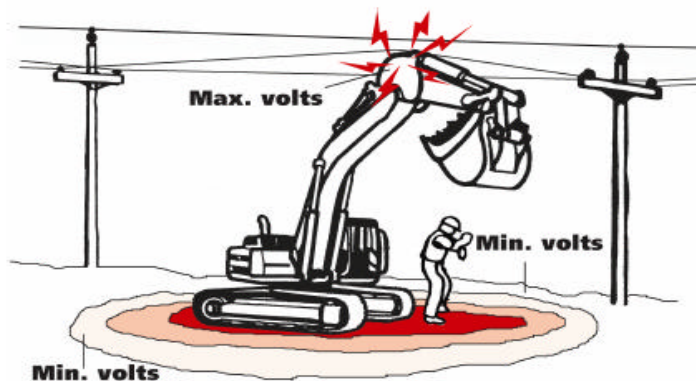
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Diagram 1:



If anything touches a high-voltage power line or if a power line falls to the ground, electricity will flow to the ground, energising the tree or equipment and anything in contact with it. The surrounding ground may be extremely hazardous. The voltage gradually decreases from the point of contact until it reaches zero. The safe distance shown here—10 metres — is for line voltages up to and including 66 kV (66,000 V).



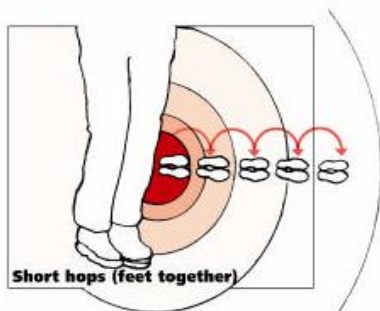
Step potential

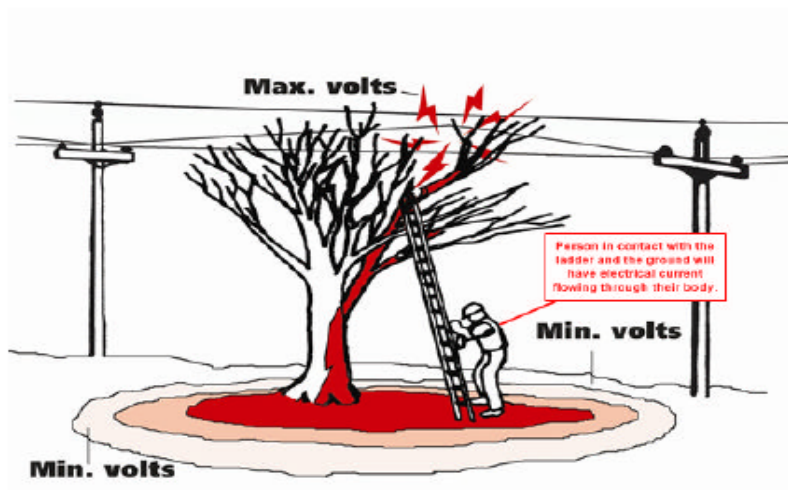
Step potential is the voltage difference between two places that are a step apart on energised ground. For example, if you are standing on energised ground, there could be a significant difference in voltage between where one foot and the other are placed, and an electric current could flow up one leg and down the other.

Step potential: If your feet are spread apart on energised ground, electricity can flow through your body from the area of higher voltage to the area of lower voltage.

If your feet are close together and touching, you are fairly safe. Since there is almost no voltage difference between the places your feet stand, there is little reason for electricity to seek a path through your body.







Touch potential

Touch potential is another danger that comes from the difference in voltage. It occurs when you touch something that is energised while standing on the lower voltage ground. For example, if some equipment is in contact with a power line, it will be energised to the same voltage as the power line; the surrounding ground will be energised to a lower voltage. If you touch the energised equipment or tree at the same time as you touch the ground with your feet, electricity will flow through your body from the higher voltage equipment to the lower voltage ground.

Touch potential: Trees and equipment become energised when they contact a power line. Electricity can flow through a worker who touches the energised tree or equipment, often causing serious injury or death.

Currents greater than 75 mA can cause ventricular fibrillation (rapid, ineffective heartbeat) and will cause death in a few minutes.

NATIONAL OH&S CERTIFICATION STANDARD

CRANES AND HOISTS

SCISSOR LIFT

ASSESSMENT INSTRUMENT

ORAL / WRITTEN ASSESSMENT

JUNE 1995

CRANES AND HOISTS

SCISSOR LIFT PLATFORMS

ASSESSMENT

Part 1 Performance

Part 2 Oral / Written

JUNE 1995

Pre-Operational Checks – Covered in Performance Assessment

SITE / JOB PLANNING:

Questions 1, 5, 6, 7, 8, 9, 10 and 18 are compulsory

1. What safety equipment must be worn at all times by the person working in the basket of a Scissor Lift?

Safety harness worn correctly, if an risk assessment indicates it is required. safety helmets, rubber soled shoes, and goggles and respirators as required.

2. Why is it important to consult with relevant workplace personnel / OH&S officers before commencing work on sites?

To ensure that the operator is aware of any workplace rules and procedures developed in that workplace are adhered to.

3. What is the importance of cooperating with workplace rules and procedures?

The importance of cooperation with relevant statutory and workplace rules and procedures is in line with the obligations and duty of care of every person in the workplace.

4. (5) What procedures should you follow in preparing an operational plan for a Scissor Lift?

Job requirements, priorities, workplace rules and procedures, identified hazards and hazard control measures.

5. (6) What types of hazards would you consider for incorporation into your work plan?

Unstable ground, power lines, overhead services, underground services, dangerous materials, personnel.

6. (7) What hazard control strategies would need to be included in the plan for the elevation procedures?

Any site hazards – trenches, obstructions in work area, public safety.

7. (8) What precautions must be observed when working near overhead powerlines?

Never work closer than minimum distance specified in AS2550.

8. (9) What is the minimum distance a Scissor Lift is allowed to set-up near overhead powerlines?

You must stay 6.4m from domestic powerlines and 10m from high voltage transmission lines

OR

With a qualified Spotter, you can operate between 3 to 6.4m from domestic powerlines and 8 to 10m from high voltage transmission lines.

9. (10) How do you determine the allowable load of the Scissor Lift?

By adding weight of the gear and tools and personnel together, and the answer must not exceed the SWL of the Scissor Lift

10. (15) What would underground services such as electrical, water, gas, sewer, telephone have any effect on the positioning of the Scissor Lift?

Yes, the force exerted can cause damage or ground collapse which could cause the Scissor Lift to tip over.

11. (16) Should a Scissor Lift be set up next to open trenches or excavations? What general rule / principle would apply regarding safe distances?

No. As a general rule, the distance of the machine from the edge of the excavation should be at least the same as the depth of the hole (1 metre depth, 1 metre away).

12. (17) When chemicals are being used from the basket of a Scissor Lift, what precautions must be observed?

Avoid having different classes of hazardous substances in the platform at the same time, use PPE and check material safety data sheets.

13. (18) You are helping a workmate who is working above the Scissor Lift basket. The person faints and then disappears. What would you do?

Call out – if the person fails to answer, bring platform down using the ground controls. Call for or apply First Aid.

14. (19) What first aid facilities may be available to you at a work site?

The operator should become aware of first aid facilities that are available at the workplace.

15. (20) At what wind speed would you cease operation of a Scissor Lift?

As per Operational Manual or Manufacturers' Specifications.

SET UP SCISSOR LIFT:

Questions 23, 24 and 25 are compulsory

16. (23) If the ground in which you are required to set up the Scissor Lift up on is soft or waterlogged, what steps must be taken to assess the situation and, if appropriate, to improve the load distribution under the Scissor Lift?

Assess ground conditions, and put down steel plates to distribute the weight.

17. (24) You are working the Scissor Lift when you notice the machine seems to be leaning to one side. What would you do?

Lower the platform, check ground conditions before re-using.

18. (25) A Scissor Lift is required to be set up on a level clear site adjoining a four-storey building. You are aware that the building has two floors of car park below ground level. What hazard can arise when working close to the building?

Filled ground close to building and possibility of ground collapse and Scissor Lift could tip.

OPERATOR SCISSOR LIFT:

Questions 20, 21 and 22 are compulsory

19. (26) When interference (tampering) is identified, to whom should the Scissor Lift driver report any faults?

To an authorised person.

20. (27) If the Scissor Lift was to come into contact with the power lines, what must be done?

Remain in basket until power is turned off, warn other people to keep away, and have the machine checked before further use.

21. (28) What must be done with the safety harness upon entering the work platform?

Securely fitted to the person and clipped onto anchorage point.

22. (29) Movements do not stop when the controller is brought to neutral. You stop the motion by releasing the dead man controller. Then what should you do?

Get someone to bring the platform down manually.

23. (36) Why do Scissor Lifts have a second set of controls at the base?

In case of an Emergency.

24. (48) You are working but feel the platform drop slightly. What would you do?

Cease work immediately and check for defects and set up.

SHUT DOWN SCISSOR LIFT:

Question 47 is compulsory

25. (47) What post-operation checks are needed to be made for inclusion in a logbook report? *Visual checks -*

Hydraulic rams and lines, controls for leaks. Check for cracks at welds, dents / damage, and safety devices.

NATIONAL OH&S CERTIFICATION STANDARD

CRANES AND HOISTS

SCISSOR LIFT PLATFORMS

PERFORMANCE ASSESSMENT

SCISSOR LIFT PLATFORMS

(Performance Assessment)

Assessor Guidelines - Specific

1. The Assessment Performance comprises thirteen (13) items covering the following operating areas:
 - 1) Pre-Operational Checks
 - 2) Site / Job Planning
 - 3) Set up Scissor Lift
 - 4) Operate Scissor Lift
 - 5) Shut Down Scissor Lift.

The applicant must undertake all performance items. All critical components must be demonstrated / answered correctly. An Assessor must use his/her discretion in assessing competence of non-critical items – at least 75% being ticked for a competent person.
2. The answers provided are only typical of this type of equipment – eg., in shutdown, the sequence varies between the different types of Scissor Lifts.
3. The assessment should be conducted in an area:
 - 1) with sufficient space to operate freely, without obstruction
 - 2) with desirably undisturbed and level ground.
4. The applicant should provide (or be provided with) appropriate personal protective equipment and clothing.
5. The applicant should demonstrate the use of a load chart, if the Scissor Lift being used for the assessment has one. Further questions on load charts are included in the knowledge sections.
6. Item 12 on mobilising of a Scissor Lift **MUST** be asked, even if the Scissor Lift being used cannot be mobilised.

PRE-OPERATIONAL CHECKS

1. Demonstrate what pre-operational checks you would make before you start the Scissor Lift (as if it is the first time you have used it):

- ☐ Oil leaks under the Scissor Lift
 - **Tyre conditions, pressure and obstruction between wheels.**
- ☐ Hydraulic oil $\frac{3}{4}$ full or to dipstick / view glass level
- ☐ Lubrication (grease)
- ☐ Battery
- ☐ Hydraulic hoses, fittings are not damaged, broken or leaking
- ☐ Support gussets at knuckle joints for paint flaking or distortion (a sign of overloading)
- ☐ All load-bearing parts
- ☐ Notice which contains:
 - i) Manufacturers name, year of manufacture, model, serial no.
 - ii) SWL (SWL must be known)
 - iii) Cautions and restrictions of operation
 - iv) Operating instructions plate(s) adjacent to controls
 - v) Supply voltage ratings
 - vi) Weight of Scissor Lift
 - vii) Electrical hazards warning label
- ☐ Height for work
- ☐ Safety harnesses are attached in the work platform for each person who is to be elevated
- ☐ Emergency descent equipment is secure in the platform (where fitted).

2. Start the motor and carry out the appropriate checks:

- ☐ Brakes, steering
- ☐ Lights, horn
- **Attach harness**
- ☐ Self-closing action of platform gate is working
- ☐ Deadman switch to ensure operation
- ☐ SWL – at driving positions
- ☐ Alarm systems.

3. What is the safe working load of this Scissor Lift?

- **The applicant should indicate the SWL on the Scissor Lift used in the assessment.**

4. Demonstrate the use of the load chart on this Scissor Lift (where applicable)

- **Load chart interpreted correctly.**

5. What is the function of the service log book?

- ☐ It explains the service maintenance carried out and any defects found and repaired.

6. Produce the service logbook and explain critical entries.

- ☐ Log book produced and explained.

SITE / JOB PLANNING:

7.

- ☐ The warning signs and instructions are in place and readable.

8. Show where you operate the bleed down emergency descent valves on this Scissor Lift (where fitted).

- **Emergency descent valves identified.**

SET UP SCISSOR LIFT:

9. Set up and prepare your Scissor Lift as if this was a new site.

People who are required to operate a Scissor Lift in the course of their duties must, before going aloft, ensure that:

- (i) The position of the vehicle is satisfactory in relation to the task to be undertaken
- (iv) Wheels are on a sound footing. Avoid soft ground, side slope or other conditions which may affect the stability of the unit.
- (vii) Rotating flashing lights have been set in motion.
- (ix) **All personnel are clear of the path of the basket whilst the basket is being lowered to the entry position.**
- (x) **That movement will not bring any part of the Scissor Lift within the minimum distance from live overhead conductors as specified.**

Note:

The following question is to be asked after the Scissor Lift has been set up.

10.

- **Set up on stable level work surface.**

OPERATE SCISSOR LIFT:

11. Demonstrate the sequence of events involved in raising:

- **Assess task requirements, height, and any workplace hazards.**
- **Ensure that Scissor Lift is set on solid / stable foundation.**
- Place in platform any tools / gear required for task.

- Ensure all persons engaged in working with the Scissor Lift are provided and wearing personal protective equipment (PPE) – ie., safety harness for person/s working in basket; safety helmets and goggles, respirators, suits depending on task.
- Switch mode of operation to Platform. (Ground controls used for emergency).
- **Ensure access and exit from Platform is suitable and safe.**
- **Attach harness.**
- All controls and motions are identified and explained.
- Check all operations are functioning correctly.
- **Operate all motions from ground – eg., raise, lower.**
- **Operate all motions from Platform.**
- All motions are smooth.

Note:

The following question is to be asked after operation demonstrated:

12. If you are required to mobile a Scissor Lift, what precautions must be observed?

- If possible, lower platform to ensure stability.
- Ensure path to travel is clear of obstructions, bricks, etc.
- Keep a good watch out for people at ground level.
- **ensure all warning devices are operating.**

SHUT DOWN SCISSOR LIFT:

13. Demonstrate the sequence of events used in the shut down and stowing of this Scissor Lift?

■ **Identify all obstructions and site hazards**

- ☐ Lower platform
- ☐ Disembark from platform
- ☐ remove all tools/gear from platform
- ☐ remove harness and lanyards, stow in dry suitable place
- ☐ shut down motor
- ☐ isolate fuel supply (if required for specific scissor lift)

SCISSOR LIFT – PERFORMANCE

RELATIONSHIP TO THE NATIONAL CERTIFICATION STANDARD

THE UNITS OF COMPETENCE

The items in the Performance Assessment are intended to assess the competencies of the applicant in the safe use of Scissor Lift Platforms as described in the *National Occupational Health and Safety Certification Standard for Users and Operators of Industrial Equipment*.

These are as follows:

- 1.0 Assess and Secure Equipment and Work Area
- 2.0 Operate Scissor Lift Platform.

Each Unit of Competence is subdivided into elements of competence, for which Performance Criteria are prescribed. The questions in each section of the assessment cover the following competencies:

- 1. Pre-Operational Checks
- 2. Site / Job Planning
- 3. Set Up Scissor Lift
- 4. Operate Scissor Lift
- 5. Shut Down Scissor Lift.

THE RANGE STATEMENT

The Performance Assessment takes into account factors described in the Range Statements, including relevant standards and relevant State / Territory occupational health and safety legislation.

Scissor Lift – Assessment Summary

Form of Assessment	Total number of boxes in the assessment	Number of boxes given ✓ or NA	Number of boxes required to meet standard	Where all boxes given ✓ or NA		Assessment Standard Requirements Achieved *		
Performance	13		11	Yes	No	Yes	No	
Knowledge	25		20	Yes	No	Yes	No	
Assessment completed within the time allowed?						Yes	No	NA

Summary

Candidate is: ☐ Competent Date:

(tick the result obtained) ☐ Not Yet Competent

Name of Assessor: Name of Candidate:

Signature: Signature:

Comments/feedback

(Assessors to make any additional comments which clarify the assessment)

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