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1 Introduction

The Environmental Health & Safety Standard Operating Procedure (SOP) for Elevating Work Platforms was developed by the Department of Environmental Health & Safety in accordance with the University's Policy Statement on Health and Safety and to ensure compliance with the Ontario Occupational Health & Safety Act and Regulations.

The purpose of this Standard Operating Procedure is to ensure that employees performing work using elevating work platforms, are protected from any associated hazard and are aware of safe operating practices. The procedure outlines the necessary steps for operating the equipment safely.

2 Applicable Legislation

- Occupational Health and Safety Act, Industrial Establishments (Reg. 851)
- Occupational Health and Safety Act, Construction Projects (Reg. 231/91)
- Canadian Standards Association (CSA) Standard B354.4-02 Self-Propelled Boom-Supported Elevating Work Platforms
- Canadian Standards Association (CSA) Standard B354.1-04 Portable Elevating Work Platforms
- Canadian Standards Association (CSA) Standard B354.2-01 Self-Propelled Elevating Work Platforms

3 Responsibilities

This section outlines the responsibilities within the University for the implementation of this SOP.

3.1 The Department of Environmental Health & Safety

- Develop an elevating work platform policy and review it as required;
- Ensure that training is made available to all departments on campus;
- Approve trainers that carry out the training components;
- Provide technical support to departments and employees when questions or concerns arise with regard to elevating work platform safety;
- Maintain a database for all elevating work platforms and operators through the cooperation of the University departments;
- Conduct periodic audits to ensure that the all inspections are being completed appropriately; and



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- Arrange for a qualified contractor to conduct the annual inspections and ensure that the inspections take place on the appropriate scheduled basis.

3.2 Department Heads, Directors, Managers and Supervisors

- Contact the Department of Environmental Health & Safety after the purchase of an elevating work platform so that database information can be updated;
- The department must ensure that operators receive theory and practical training from a competent operator/trainers (authorized by the Department of Environmental Health & Safety), or the manufacturer or vendor, or an approved trainer prior to their initial use of a lift. Departments must document the practical training (See Appendix A), if performed in house, and the 18 month evaluations in addition to providing the original training documents to the Department of Environmental Health & Safety;
- Maintain training records of approved operators of elevating work platforms, and conduct periodic audits of operator training records;
- Ensure that the operating and maintenance manuals have been received, made available to each operator, placed in a weather-proof compartment on the lift, and that the “Policy and Owner’s Manual Acknowledgement Form” (Appendix D) has been completed by each operator who uses the lift. This SOP and the owner’s manual shall be reviewed by the operator and Appendix D signed off on an annual basis;
- If buying used equipment, work with the Department of Environmental Health & Safety to ensure that an annual inspection is completed on the lift prior to placing the unit into service;
- The department which owns a lift shall ensure that pre-start inspections, periodic inspections and structural inspections are being performed on the lift in accordance with the manufacturer’s recommendations and this policy;
- The department who owns an elevating work platform shall create a pre-start inspection form, based on the manufacturer’s recommendations that is consistent with the one found in Appendix B. In addition, the department shall create a workplace inspection form that is consistent with the one found in Appendix C, both forms need to include a space where the operator signs and dates the form;
- When renting a lift, departments shall require that a pre-start inspection form for the specific lift that they will be renting is provided by the renter;
- An emergency response plan shall be developed by the department which owns or rents an elevating work platforms to respond to emergency situation which may occur; and
- It’s the responsibility of the department which owns an elevating work platform to record logged machine hours and to arrange for a periodic inspections once they reach 200 hours of usage. They’re also required to arrange for an annual inspection if they reach 700 hours before the regularly scheduled annual inspection date.



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3.3 Operators

- Complete theory and practical training from an approved trainer;
- Read this policy and the owner's manual on an annual basis and sign off on Appendix D;
- Perform pre-start inspections and workplace inspections prior to using an elevating work platform;
- Report any unsafe equipment or working conditions to your supervisor immediately;
- Follow the safe operating procedures found in the operating manual and this SOP when using an elevating work platform;
- Ensure that there is a rescue plan in place and that it has been reviewed by all workers before beginning work; and
- Never work alone.

4.0 Training Program

To become an authorized operator for an elevating work platform, employees must successfully complete a two-part training program: a theory classroom session and a practical evaluation on the elevating work platform that they wish to operate. Fall arrest training, if not included in the elevating work platform training, must also be completed to operate a lift and working at heights training if the lift will be used on a construction site. Employees are not permitted to operate lifts without completing this training (See Fall Protection SOP-Safety-20).

4.1 Classroom Theory Training:

All operators of elevating work platforms shall attend a training class held by a trainer approved by the Department of Environmental Health & Safety prior to using or operating a lift. The contents of the training will include the following:

- Purpose and use of manuals and where they must be located.
- Pre-start inspection process.
- Identification of malfunctions and problems.
- Factors affecting stability.
- Purpose of placards and decals.
- Workplace inspections.
- Safety rules and regulations.
- Operator warnings and instructions.
- The application of fall arrest systems for elevated work platforms.



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- The importance of using real time wind monitoring services such as Environment Canada, The Weather Network or any other similar service and reinforcement of the emergency shut down procedures for the lift.

4.2 Practical Training:

All operators must complete a practical training session on the type of lift that they will be operating. If a practical evaluation has been completed on a model of aerial work platform that is different than the one that they will be using they are required to read the owner's manual and sign off on Appendix D. The selection of the trainer shall be approved by the Department of Environmental Health & Safety. The trainer may be an experienced and competent operator, a representative of the lift manufacturer, a representative of the lift distributor, or a contracted external trainer.

5.0 Inspections

The inspection process is a critical step in preventing elevating work platform accidents that are caused from faulty or worn out equipment. When safety-related concerns have been discovered through the pre-start inspections, periodic inspections or annual inspections, or at any other time, the lift shall be locked out of service until the item(s) have been repaired by an authorized and trained mechanic.

5.1 Workplace Inspections

Before an elevating work platform is used, the operator shall visually check the workplace area where the lift is to be used, identifying potential hazards such as, but not limited to:

- Drop-offs or holes.
- Slopes.
- Bumps and floor obstructions.
- Debris.
- Potential sources of entanglement.
- Overhead obstructions and high voltage conductors.
- Hazardous locations and atmospheres.
- Inadequate surface and support to withstand all load forces imposed by the elevated work platform.
- Wind and weather conditions.
- Visible lightening or active thunderstorm warnings.
- Other weather related concerns are in the forecast.
- Presence of unauthorized people.
- Other possible unsafe conditions.



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Depending on the nature of the workplace and the type of work being performed, additional items may need to be added to this list of criteria. Each department shall create a workplace inspection form that, at a minimum, contains the criteria listed above, and shall contain a space for the operator's signature and date. For their convenience, departments may choose to create a two-sided inspection form, with the pre-start inspection form on one side and the workplace inspection form on the other side. An example of a workplace inspection form can be found in Appendix C.

5.2 Pre-Start Inspections

Prior to use, all elevating work platforms shall be given a pre-start inspection. This involves a visual inspection and functional test that includes the following criteria:

- Operating and emergency controls.
- Safety devices.
- Personal protective devices.
- Air, hydraulic and fuel system leaks.
- Cables and wiring harness.
- Loose or missing parts.
- Tires and wheels.
- Placards, warnings, control markings and operating manual(s).
- Outriggers, stabilizers and other structures.
- Guardrail system.
- Other items specified by manufacturer.

Since each make and model is unique, the inspection criteria may vary. Refer to the owner's manual for specific criteria required for each particular lift that needs to be inspected. If the owner's manual does not have a form that can be dated and signed, the department who owns or rents the lift shall work with the Department of Environmental Health & Safety to create a form based on the owner's manual specifications. The form shall include a space for the operator to sign and date it. An example can be found in Appendix B. Each department shall identify a storage location on the lift or a designated location at the work site for the completed pre-start inspection forms.

5.4 Periodic Inspection

A periodic inspection shall be performed by a qualified person on all elevating work platforms after being in use for 200 hours, or more often if recommended by the manufacturer of the lift. The inspection shall include all items specified by the manufacturer for a periodic inspection. Departments are responsible for tracking the usage of their lift and arranging for a periodic inspection when necessary.



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5.3 Annual Inspection

An annual inspection shall be performed on all elevating work platforms every twelve months (no later than 13 months from the date of the prior annual inspection) or after 700 hours of use. The inspection shall be performed by a qualified person. An approved company shall be contracted through the Department of Environmental Health & Safety with the cooperation of the department who owns the lift to perform the annual inspections. The inspection shall include all items specified by the manufacturer for an annual inspection. Departments are responsible for tracking the usage of their lift and shall notify the Department of Environmental Health & Safety to arrange for an annual inspection if their lift reaches 700 hours of use before its normally scheduled annual inspections.

5.4 Structural Inspection

A structural inspections is required on the lift after 10 years from the manufacture date and then every 5 years after or if any suspected or potential damage occurs due to an accident that could affect the structural integrity or stability of the lift. This inspection needs to be carried out under the direction of a professional engineer. Departments are responsible for tracking the age of their lifts and arranging for structural inspections when necessary.

6.0 Maintenance

All maintenance that is performed on elevating work platforms shall be performed by trained and qualified mechanics. The departments in possession of elevating work platforms are responsible for arranging for the maintenance and repair of their equipment. Battery charging and fueling of elevating work platforms shall be done in a safe environment with adequate ventilation. Where battery charging takes place, a 10 lb. ABC fire extinguisher shall be available within 20 feet of the charging station. Where propane cylinder change-outs are needed, tank storage shall take place in an appropriate location, such as a garage or exterior storage space. While changing out tanks, employees shall wear safety goggles or a face shield, and burn-resistant gloves (insulated leather or cryogenic gloves). Other precautions shall be undertaken as specified by the manufacturer.

7.0 Standard Procedures

To ensure safe practices, the following general procedure shall be used when an authorized employee operates an elevated work platform:

- Select an appropriate lift for the job.
- Operators of elevating work platforms are required to have fall arrest training and to use personal fall protection at all times, if operating on a construction site then working at heights



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training is also required (See Fall Protection SOP-Safety-19). Only lifts equipped with proper anchor points are to be used.

- Perform a workplace inspection in the area that the lift will be used looking for the items outlined in Section 5.1.
- Check the last pre-start inspection for any comments or notes and perform a new pre-start inspection on the lift. Document the inspection, and place it in the reserved storage location on the lift or in a designated location at the work-site.
- Plan your work, ensure that you will not exceed the lifting limit and set up on a firm, flat, level surface. Extend and adjust the outriggers, stabilizers, extendible axles, or other stability enhancing means. If the set up location does not have enough space to do this, the operator shall refer to the owner's manual to ensure that the height, weight, or wind conditions are within the limits of the lift while the stabilizing equipment is not being used.
- Never use an elevating work platform when wind speeds may exceed the manufacturer's recommended maximum wind speeds or when lightning is observed.
- Prior to operation, all operators must wear job specific personal protective equipment.
- No one shall use the lift alone. Whenever the lift is used a second worker must be present to act as a spotter, an emergency lowering person and to enact the rescue plan if necessary. The spotter does not require elevating work platform theory and practical training, however, they must know how to competently use the emergency lowering controls, what to do if the lift contacts electrical wires and how to enact the rescue plan.
- When driving, give way to pedestrians. Maintain a clear view ahead and behind and give clear indication of your intentions. Maintain a safe distance from other vehicles.
- Observe speed limits and ensure that you can make a safe stop at any time. Avoid rapid acceleration, deceleration and quick turns.
- Place barricades and red danger tape around the machine while in operation with signs stating the danger "Work Overhead".
- Adhere to the minimum distances from live power lines as set out below.
- Ensure that the guardrails are installed and are in place and that the load being placed on the lift is within the rated capacity of the lift.
- Only use the elevating work platform for the purpose for which it was designed.
- Weather conditions shall be continuously monitored through a real-time weather service source for the duration of the work.
- If at any time the operator is concerned for their safety they may, at their discretion, lower the lift and stop work.
- When finished using the lift, walk around the machine checking for any leaks or damage that may have occurred during the task.
- Never park or leave the lift in any doorway, entrance, emergency exit or in front of fire extinguishing or alarm equipment.



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- All elevating work platforms must be left in the lowered position when moving and when not in use.
- Remove the key when you leave the lift.

Minimum Distance From Live Power Lines	
Voltage of live power line.....	Minimum Distance
750 to 150,000 volts.....	3 metres
150,001 to 250,000 volts.....	4.5 metres
250,001 volts and over.....	6 metres

If work must be done in close proximity to energized power lines, contact the utilities provider to arrange for insulators to be placed on the lines or to have the power temporarily turned off in order to complete the work.

In the event of an elevating work platform contacting a power line the operator should:

- Stay where they are and keep others away.
- Contact the ERC at extension 36111, or (613)533-6111 if using an external line, and request that they call the Kingston Utilities emergency line at 613-546-1181 to report the accident and have the power shut off.
- Wait until the power is shut off and a utility worker tells you it's safe before exiting the vehicle.
- Only when confirmed safe by a utility worker, move the vehicle off of the power line.

Failure to comply with the manufacturer's instructions for use, or this procedure document could result in the Operator's privilege to use the lift being revoked. This revocation of authorization to operate the lift can be temporary or permanent, at the discretion of the supervisor.

8.0 Markings and Decals

In addition to any other markings or decals that are placed on the lift by the manufacturer, the following information shall be displayed on all elevating work platforms in a clearly visible, accessible area and in a durable manner:

- The make, model, serial number, and manufacturer's name and address.
- The rated workload, including rated number of occupants.
- The maximum platform height.
- Inspection Stickers.



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9.0 Records Retention

Maintenance, inspection and training records shall be maintained for equipment and its operators. Training records shall be maintained by the department which owns the equipment and by the Department of Environmental Health & Safety. The following records shall be maintained:

- Serial number and date of purchase shall be kept for as long as the department owns the lift.
- All operator's manual acknowledgement forms shall be maintained for a period of one year.
- Workplace inspection documents shall be maintained for a period of one year.
- Pre-start inspection documents shall be maintained for a period of one year.
- Periodic, annual and structural inspection documentation shall be maintained for the entire ownership of the lift.
- All records of maintenance performed on the lift shall be maintained for the entire ownership of the lift.
- All training records shall be maintained for ten years.

Revision History:

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Appendix A

Practical Training Evaluation

The Department of Environmental Health & Safety must approve the trainer which is based on his/her experience with the particular lift and/or his/her safety training experience. The training may also be performed by the lift manufacturers or vendors appointed representative. Each operator must be trained on each lift that he/she operates. The practical training evaluations shall consist of a review of the following items:

- a. All safety placards and warnings
- b. All switches, drive mechanisms, adjustments, and controls (both lower and upper controls)
- c. The functional operation of the lift
- d. The use of the outriggers or stabilizing equipment
- e. All gauges, horns, and lights
- f. Proper fueling and/or battery charging procedures
- g. Inspections and the inspection process

Elevating Work Platform:

Lift Manufacturer

Model

Serial #

I certify that I have met with the trainee identified below and have reviewed the operations of the lift identified above and made myself available to answer any questions he/she may have had with regards to the operation of this lift.

Print Trainer's Name

Signature of Trainer

Date

I certify that I have met with the trainer identified above and that he/she has reviewed with me the operations of the specific elevating work platform identified above. I was given an opportunity to ask questions which, if any, were answered to my satisfaction and that I now have the necessary understanding of operations of this lift. I am also certifying that I have received general training on the safe operation of elevating work platforms which covers responsibilities, policy, inspections, platform stability, precautions, safety considerations, standard operating procedures, and other related safety concepts. I have reviewed the operator's manual for this lift and have been given the opportunity to ask questions that I may have had.

Print Trainee's Name

Signature of Trainee

Date

Appendix B

Elevating Work Platform Pre-start Inspection Form

Prior to the use of an elevated work platform by an authorized and trained operator of the lift a pre-start inspection must be completed. Documentation of the inspection shall be maintained by each department, with a copy of the most recent inspection document stored on the lift or in a designated location at the work site. Check off the items that have been inspected or mark the N/A box if the item does not apply to the lift being inspected. If there are any of these items that are not satisfactory, place the lift out of service until the item is corrected. Please also note the task for which the lift will be used in the spot provided.

Department: _____

Make: _____ Model: _____ Serial #: _____

Inspector's Name: _____

Description of Task: _____

Item Inspected	Okay	Not Okay	N/A
Operating controls			
Emergency controls			
Safety devices			
Personal protective devices			
Pneumatic system (leaks)			
Hydraulic system (leaks)			
Fuel system (leaks)			
Battery (fluid, connections)			
Cables and Pulleys			
Wiring harness			
Loose/missing parts (locking pins/bolts)			
Tires and wheels			
Placards, Decals and Warnings			
Operational Manual			
Outriggers/Stabilizers			
Guardrail system and locking gate			
Other items			

Inspection comments:

Inspector's Signature: _____ Date: _____

Appendix C

Elevating Work Platform Workplace Inspection Form

The workplace inspection shall be performed prior to using the lift. One inspection may be performed for multiple tasks taking place in a single room/space per day. The workplace inspection must be performed by the individual who will be using the lift. Documentation of the inspection shall be maintained by each department and provided to the Department of Environmental Health & Safety upon request.

Check off the items that have been inspected and correct any safety issues that were identified prior to using the lift. If the safety issues cannot be corrected then do not use the lift to perform the task. Place any comments in the space provided below.

Department lift belongs to: _____

Building name and room number where lift will be used: _____

Inspector's Name: _____ Date of Inspection: _____

Item observed

- Drop-offs or holes
- Slopes
- Bumps and floor obstructions
- Debris
- Potential sources of entanglement
- Overhead obstructions and high voltage conductors
- Hazardous locations and atmospheres
- Inadequate surface and support to withstand all load forces imposed by the lift
- Wind and weather conditions
- Visible lightening or active thunderstorm warnings
- Other weather related concerns are in the forecast
- Presence of unauthorized people
- Other possible unsafe conditions

Inspection Comments:

Inspector's Name: _____ Date: _____

Appendix D

Policy and Owner's Manual Acknowledgement Form

By signing this document, I am acknowledging that I have received a copy of the operations manual for the elevating work platform identified below. Upon training and authorization by my department, I am expected to operate this lift. I understand that it is my responsibility to review and understand the safe operation of this elevating work platform based on the training I receive and the manufacturer's recommendations. I shall review the operating manual and sign an acknowledgement form on an annual basis. I understand that if, at any time, I have any questions regarding the information found in the user's manual, I can contact my supervisor, the Department of Environmental Health & Safety or the manufacturer to obtain answers.

Equipment Make: _____ Model: _____ Serial #: _____

Name (print): _____ Department: _____

User/Operator's Name (sign): _____ Date: _____