

UNIVERSITY OF MONTANA

VEHICLE-MOUNTED ELEVATING

&

ROTATING WORK PLATFORMS

SAFETY PROGRAM



Environmental Health & Risk Management

The University of Montana Safety Manual – Chapter 20

Table of Contents	Page
I. Introduction	3
II. Purpose	3
III. Scope	3
IV. Responsibilities	3
V. Training Program	5
VI. Lift Inspections	6
VII. Lift Marking	7
VIII. Maintenance	8
IX. Standard Operating Procedure	8
X. Fall Protection	9
XI. Records Retention	9
XII. Appendices	10
Appendix A: Lift Familiarization Training Form	
Appendix B: Operator Manual Acknowledgement Form	
Appendix C: Pre-Use Inspection Form	
Appendix D: Work Zone Inspection Form	

The University of Montana

Safety Manual – Chapter 20

I. Introduction

Vehicle-mounted elevating and rotating work platforms (mobile aerial lifts) are present on the University of Montana Campus which are used by University staff and contractors. The University recognizes that there are potential hazards associated with the use of these lifts. The following safety program is based on OSHA 1910.67 (Vehicle-Mounted Elevating & Rotating Work Platforms) and is designed to ensure that these aerial lifts are operated in a consistent and safe manner.

II. Purpose

The purpose of the vehicle-mounted elevating and rotating work platform safety program is to provide University employees and contractors guidance in the safe and proper use of aerial lifts. The program will cover responsibilities, training, inspection, maintenance, standard operating procedures, fall protection and recordkeeping.

III. Scope

This program applies to all University owned or rented aerial work platforms that are vehicle mounted and have telescoping or articulating booms used to position personnel. **This program does not cover scissor lifts.** Please refer to the U of M Scissor Lift Safety Program for details regarding proper use of this type of lift.

IV. Responsibilities

A) Department Directors:

- Ensure that responsibilities of this program are assigned to individuals within their department
- Actively support the implementation and follow-through of this program within their department
- Ensure that adequate funding is available to support this program

B) Environmental Health & Risk Management (EHRM):

- Develop a vehicle-mounted elevating & rotating work platform safety program and revise it when necessary
- Ensure that initial training is provided to all aerial lift operators through the cooperation from applicable departments.
- Conduct periodic audits of operator training records.

The University of Montana

Safety Manual – Chapter 20

- Provide technical support to departments and employees when questions or concerns arise with regard to aerial platform lift safety.
- Conduct periodic audits to ensure that the inspections are being completed appropriately.

C) Department Managers:

- Contact EHRM prior to the purchase of an aerial lift so that inventory information can be updated.
- If buying used equipment, ensure that an inspection is done on the lift prior to placing the unit in service.
- Ensure that the operating and maintenance manuals have been received.
- If renting a lift, ensure that the U of M lease agreement with Hold Harmless / Indemnification verbiage is present.
- When renting a lift initially, departments shall require that the rental agency provide specific lift familiarization training for the particular lift that they are renting prior to lift use. The form in Appendix A shall be signed by each trainee and the trainer for proper documentation.
- Ensure that all operators of the lift review the operator's manual and sign the acknowledgement form prior to the initial use of the lift (Appendix B).
- The Department must ensure that operators receive specific lift training from competent trainers, the manufacturer or vendor, or an approved contracted trainer before operating an aerial lift. Departments must document this training.
- When safety-related concerns have been discovered through inspections, the lift shall be locked out of service until the item(s) has been repaired.
- When lifts are used outdoors, the Department must ensure that weather conditions are continuously monitored throughout the use of the lift and that an anemometer (wind velocity meter) is attached to the lift's personnel platform or a hand held anemometer is used. **Aerial platform lifts may not be used when wind speeds reach 28 mph or more; when there is a weather warning in effect for winds in excess of 28 mph; when lightning is observed; or when thunderstorm warnings are in effect.**
- The Department must provide and encourage flexibility for the users of the lifts by giving them discretion of lowering the lift at any time if they have concerns for their safety.

D) Operators

- Review the operator's manual prior to the initial lift use. Documentation of this shall be completed using the "Operating Manual Acknowledgement Form" in Appendix B of this document.
- Know and understand the following about the lift that they operate, prior to the initial operation of the lift:

The University of Montana

Safety Manual – Chapter 20

1. Safe operation
 2. Hazardous conditions which jeopardize safety
 3. All control features of the lift
 4. All placard warnings
 5. All safety devices on the lift
 6. Fall arrest system components and anchor locations
 7. Where to locate the user manual
- Perform a Pre-operation inspection of the aerial lift prior to each day's (or shift's) use of the lift. Documentation of the pre-operation inspections shall be performed by completing the Pre-Operation Inspection Form (Appendix C). Aerial lifts that are not in proper operating condition shall be immediately removed from service and reported to the appropriate departmental manager.
 - Prior to setting up the lift at each new location, the operator shall conduct a work zone inspection to identify potential workplace hazards. Weather conditions must be continuously monitored through a real-time weather source and an anemometer must be present on all vertical aerial platform lifts through the duration of the use of the lift outdoors. For vehicle-mounted aerial platform lifts, see the operating manual for wind speed guidelines.
 - Operators must notify their supervisor if the lift does not pass inspection or if any unsafe condition is identified.
 - If at any time, the operators are concerned for their safety, they may, at their discretion, lower the lift and stop their work activities.

V. Training Program

Only trained and authorized operators may operate an aerial platform lift at the University of Montana. To become authorized, staff must successfully complete an initial training program. Operators must demonstrate proficiency in the actual operation of all functions of the equipment

- Factors affecting stability
- When and how to perform inspections
- Safety rules and regulations
- Operator warnings, load capacity and instructions
- The use of fall arrest systems
- The use of wind monitoring equipment, including the lift anemometer for outside lift use, and reinforcement of the operator's authority to come down from the lift if they have safety concerns.

The University of Montana

Safety Manual – Chapter 20

The Familiarization training is specific to the make and model of the lift that they will be operating. The trainer may be an experienced and competent operator, a representative of the lift manufacturer or distributor, or a contracted training provider. Both the trainer and trainee must sign the Specific Lift Familiarization Training Form.

Re-training will be required of any operator that has been involved in an aerial platform lift incident; a different type of aerial lift is used; or when the operator has been observed performing unsafe practices involving the lift.

VI. Lift Inspections

Because each make and model is different, the inspection criteria may differ. Please refer to the operator's manual for the specific criteria required for each particular lift that needs to be inspected. Additional inspections must be conducted after any occurrence that could affect the structural integrity of the equipment.

Pre-Use Inspections

Prior to using an aerial lift, a pre-use inspection shall be conducted to verify that the equipment and all its components are in safe operating condition. Follow the manufacturer's recommendations for the specific lift but it should include a check of:

Vehicle Components

- Proper fluid levels (oil, hydraulic, fuel and coolant)
- Leaks of fluids
- Wheels and tires
- Battery and charger
- Lower-level controls
- Horn, gauges, lights and backup alarms
- Steering and brakes

Lift Components

- Operating and emergency controls
- Personal protective devices
- Hydraulic, air, pneumatic, fuel and electrical systems
- Fiberglass and other insulating components
- Missing or unreadable placards, warnings, or operational, instructional and control markings
- Mechanical fasteners and locking pins
- Cable and wiring harnesses

The University of Montana

Safety Manual – Chapter 20

- Outriggers and stabilizers
- Loose or missing parts
- Guardrail system

Work Zone Inspections

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

- Drop-offs, holes, unstable surfaces
- Slopes, ditches or bumps
- Debris and floor obstructions
- Overhead obstructions and power lines
- Hazardous locations and atmospheres
- Inadequate surface and support to withstand all load forces imposed by the lift
- Wind and weather conditions
- Presence of others in close proximity to the work

Depending on the nature of the workplace and the type of work being performed, additional items may be added to this list of criteria.

Annual Inspection/Certification

An annual inspection must be performed on all aerial platform lifts within thirteen (13) months from the date of the prior annual inspection. The inspection shall be performed by a qualified mechanic who is authorized to perform maintenance duties on the lift. An approved vendor shall be contracted through the U of M Vehicle Garage to inspect and certify the lift.

VII. Lift Marking

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 aerial platform lifts 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

VIII. Maintenance

The University of Montana

Safety Manual – Chapter 20

All maintenance that is performed on aerial lifts shall be performed by trained and experienced professionals. All equipment should be serviced in accordance with the manufacturer's recommendations. Aerial Lift service occurs every 6 months through the University Vehicle Garage. Prior to making **any** modifications to the lift, the University must obtain written permission from the manufacturer. The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.

IX. Standard Operating Procedure

To ensure safe practices, the following standard operating procedure shall be used when an authorized employee operates an aerial platform lift:

- Obtain authorization to use or operate the lift from your immediate supervisor.
- Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position.
- Do not work on aerial lifts covered with snow or ice or other slippery material except as necessary for removal of such material.
- Perform a pre-start inspection on the lift. (Lift controls must be tested each day prior to use to determine that the controls are in safe working condition)
- Perform a work zone inspection in the area that the lift will be used.
- The brakes must be set and outriggers, when used, must be positioned on pads or a solid surface. Wheel chocks must be used before using an aerial lift on an incline.
- Set up work zone warnings, such as cones and signs, when necessary to warn others.
- Boom and basket load limits specified by the manufacturer must not be exceeded.
- Do not carry objects larger than the platform
- A body harness must be worn and a lanyard attached to the boom or basket when working from an aerial lift. (Not for scissor lifts)
- Tying off to an adjacent pole, structure or equipment while working from an aerial lift is prohibited.
- Employees shall always stand firmly on the floor of the basket, and must not sit or climb on the edge of the basket or use planks, ladders or other devices for a work position.
- Do not operate lower level controls unless permission is obtained from the worker(s) in the lift (except in emergencies)
- Do not exceed vertical or horizontal reach limits

The University of Montana

Safety Manual – Chapter 20

- Ensure that wind conditions and horizontal (side) load forces are within acceptable limits per the operator's manual and this policy.
- Do not place or attach fixed or overhanging loads to any part of the machine or attaching fixed or overhanging loads to this machine or push or pull toward any object outside the platform
- Treat all overhead power lines and communication cables as energized, and stay at least ten feet away.
- An aerial lift truck may not be moved when the boom is elevated in a working position with personnel in the basket, except for equipment which is specifically designed for this type of operation.

X. Fall Protection

- Ensure that access gates or openings are closed
- Stand firmly on the floor of the bucket or lift platform
- Do not climb on or lean over the guardrails or handrails
- Do not use planks, ladders or other devices to increase working height
- Use a body harness with a lanyard attached to the boom or bucket for aerial lifts only (Not for scissor lifts)
- Do not tie off to adjacent structures or poles while in the bucket
- Operators shall remain tied-off until the work is finished and the basket has been safely lowered to the ground

XI. Records Retention

Maintenance, inspection and training records shall be maintained for equipment and its operators. The following records must be maintained for three years by each department who owns an aerial platform lift:

- Pre-start inspection documents.
- Work zone inspection documents.
- All training records.
- Annual inspection documentation, all maintenance performed, and all operators' manual acknowledgement forms.

The University of Montana Safety Manual – Chapter 20

Appendix A

University of Montana Aerial Platform & Scissor Lift Specific Lift Familiarization Training Form

This form documents the OSHA-required aerial platform and scissor lift training for University personnel. Each operator must be trained on each aerial platform or scissor lift that he/she operates. The Specific Lift Familiarization Training 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).
- c). The functional operation of the lift
- d). The use of outriggers or stabilizing equipment
- e). All gauges, horns, and lights
- f). Proper fueling and/or battery charging procedures
- g). Inspections and the inspection process

Aerial or Scissor Lift: _____
Lift Manufacturer Model Serial #

I certify that I have met with the trainee identified below and have reviewed the operations of the specific 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 aerial platform or scissor lift 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 the operations of this lift. I am also certifying that I have received general training on the safe operation of aerial platform or scissor lifts through the Environmental Health and Risk Management Department or the specific University Department that owns or rents the lift. 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 the Trainee's Name Signature of Trainee Date

Trainer's Department or Company Name: _____

The University of Montana Safety Manual – Chapter 20

Appendix B

Operating Manual Acknowledgement Form

By signing this document, I am certifying that I have received a copy of the operations manual for the aerial platform lift shown below. Upon training and authorization by my department, I am expected to operate this lift in a safe manner. I understand that it is my responsibility to review and understand the safe operation of this aerial platform or scissor lift based on the training I receive and the manufacturer's recommendations. I understand that if, at any time, I have any questions regarding the information found in the user's manual, I can contact Environmental Health & Risk Management, my supervisor, or the manufacturer to obtain answers.

Aerial Lift Make: _____ Aerial Lift Model: _____

Name (print): _____ Department: _____

Operator's signature: _____ Date: _____

The University of Montana
Safety Manual – Chapter 20

Appendix C

Aerial Platform & Scissor Lift Pre-Start Inspection Form

The pre-start inspection shall be performed prior to each day's or shift's use of the aerial platform lift by an authorized and trained operator of the lift. Documentation of the inspection shall be maintained by each department, with a copy of the most recent inspection document stored on the lift.

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. Place any comments in the space provided below. If there are any of these items that are not satisfactory, place the lift out of service until the item is corrected.

Department lift belongs to: _____

Make of lift: _____ Model of lift: _____ Serial #: _____

Inspector's Name: _____ Date of inspection: _____

Item Inspected	OK	Not OK	N/A
Operating controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal protective devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pneumatic system (leaks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydraulic system (leaks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel System (leaks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wiring harness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loose/missing parts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tires and wheels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placards and warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outriggers/Stabilizers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guardrail system & locking gate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anemometer present (outdoor usage)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

Inspector's Signature: _____ Date: _____

The University of Montana
Safety Manual – Chapter 20

Appendix C

Aerial Platform & Scissor Lift Work Zone Inspection Form

The work zone inspection shall be performed prior to using the aerial platform or scissor lift. One inspection may be performed for multiple tasks taking place in a single room/space per day. The work zone 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 EHRM on a monthly basis.

Check off the items that have been inspected and abate any safety issues that were identified prior to using the lift. Place any comments in the space provided below.

Department lift belongs to: _____

Location; bldg. or room number where lift will be used: _____

Inspector's Name: _____

Date of Inspection: _____

Item Observed	Completed	N/A
Drop-offs or holes	<input type="checkbox"/>	<input type="checkbox"/>
Slopes	<input type="checkbox"/>	<input type="checkbox"/>
Bumps or floor obstructions	<input type="checkbox"/>	<input type="checkbox"/>
Debris	<input type="checkbox"/>	<input type="checkbox"/>
Overhead obstructions	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous locations and atmospheres	<input type="checkbox"/>	<input type="checkbox"/>
Inadequate surface and support	<input type="checkbox"/>	<input type="checkbox"/>
Wind and weather conditions	<input type="checkbox"/>	<input type="checkbox"/>
- Wind readings & forecasts indicate <28 mph		
- No lightning visible or forecasted		
- No other severe weather forecasted		

Do not operate lift when winds reach 28 mph or more, when a wind warning is in place of 28 mph winds or greater, or when lightning is observed or thunderstorms are in effect.

Presence of unauthorized people	<input type="checkbox"/>	<input type="checkbox"/>
Other possible unsafe conditions	<input type="checkbox"/>	<input type="checkbox"/>

Inspector's signature: _____

Date: _____