

OPERATING AERIAL WORK PLATFORMS SAFELY

PROGRAM SYNOPSIS:

Aerial work platforms are an essential tool used to safely elevate personnel. These useful platforms come in various sizes and configurations, including scissor lifts, boom lifts and articulating boom lifts. When a maintenance or construction worker must perform a task at an elevated working position, these powerful machines are often called on to do the job. This program discusses some of the common hazards that aerial work platform operators must consider when using this equipment as well as the safe work practices and operating techniques that must be followed to ensure everyone's safety during the use of an aerial work platform.

Topics include the pre-operational inspection, testing the operating controls, inspecting the path of travel, driving safely, raising the lift safely, safe work practices and lowering the lift.

PROGRAM OUTLINE:

TRAINING AND AUTHORIZATION

- Before operating an aerial work platform, the operator must be properly trained and qualified as well as authorized by their employer to do so.
- There are many types and styles of aerial lifts and each type has unique operating and stability characteristics. This is why operators must be trained on the specific type of lift they will be operating and must receive additional training before being allowed to operate any other type of lift.
- Operator training will include an understanding of common hazards, such as the factors that affect stability and preventing tip overs, avoiding power lines and fall protection.
- Operator training will also include instruction for the proper operation of all lift controls, including the emergency stop controls and other emergency controls.
- Operators must also have an understanding of the information contained in the equipment operator's manual and the location and meaning of the various safety decals displayed on the equipment.
- Operators must also be trained to perform a thorough pre-operational inspection of the equipment before use.
- Finally, before becoming authorized to use an aerial work platform, an operator must be able to demonstrate the skills and knowledge needed to safely operate the specific type of lift for which they have been trained.
- Operators who are involved in an incident or are observed operating a lift improperly may lose their operating privileges or may be asked to undergo retraining.

THE PRE-OPERATIONAL INSPECTION

- The pre-operational inspection is an important part of using any lift.
- Its purpose is to verify that the equipment and all of its components are in safe operating condition. Remember, your life depends on the proper operation of your lift.
- Start your initial inspection by locating the owner's and maintenance manuals. These manuals must stay onboard the lift at all times. This is important so that the manual can be consulted when additional information about the lift is needed.
- Next, circle the lift and look for any loose or broken parts, fluid leaks, structural damage or any other indicators of damage or unsafe conditions.
- Pay special attention to fuel and hydraulic lines, air hoses, cables and wire harnesses. Make sure that they are free of damage and show no signs of leaking.

- Check the tires for proper tread, excessive wear, cuts or embedded objects. When applicable, make sure all tires are inflated to the manufacturer's recommended air pressure.
- Many lifts have fluid levels that must be checked. Be sure oil, hydraulic fluid, fuel and coolant are all at the appropriate level.
- All safety and warning placards must be in place and legible.
- Inspect the lift's guardrails and gates. They should not have cracked welds or any missing parts.
- If the lift has a swinging gate, it must only swing inward. Verify that it cannot swing outwards.
- Some styles of lifts have outriggers or stabilizers. If this is the case, ensure they operate properly and are not damaged or broken.
- Depending on the make and model of your platform, the manufacturer may recommend additional checks before use. Consult the owner's manual or ask your supervisor if you are unsure about a lift's inspection requirements.

TESTING THE OPERATING CONTROLS

- Upon conclusion of the initial inspection of the lift, you must then test the lift's operating and emergency controls.
- Aerial work platforms have two sets of controls. This allows the lift to be operated from the ground as well as from the platform.
- The controls on the body of the lift are generally referred to as the lower level controls while the controls on the platform are usually called the upper level controls. The function of all of these controls must be tested and verified prior to use.
- Start with testing the function of the lower level controls. Test each movement of the platform to make sure all controls are working properly.
- Also, confirm that the lower level emergency stop is functioning as it should. Then turn the selector switch to select the upper level controls so they may be tested.
- In addition to the controls used to maneuver the platform, the upper level controls also include the driving controls for the lift.
- Test the forward and reverse controls as well as the steering controls. Also, test that the brakes are functioning properly.
- Then test the controls that lift, lower and manipulate the platform to make sure each control works as expected.
- Many lifts feature a two-hand control system which requires a separate button be held down before any control can be activated. When present, this system must be verified operational. It prevents the inadvertent movement of the lift if the controls are accidentally bumped.
- Other types of lifts feature a foot pedal for this same purpose. If this is the case, test it to ensure that all movement is stopped when the foot pedal is released.
- Finally, be sure to test the upper level emergency stop button.
- If you discover any defects or damage during the pre-operational inspection, follow your company's procedure for removing the vehicle from service so it can be properly repaired. Never operate a defective or damaged lift.

INSPECTING THE PATH OF TRAVEL

- Many injuries and incidents involving aerial work platforms occur while the lift is in motion. One way to prevent these incidents is to inspect the intended path of travel for obstacles and hazards before moving the lift.
- Inspect the route and look for any debris or obstacles that are in the way. Remove any items that are in your path or may interfere with your ability to maneuver the lift into position.
- Also look for drop offs, soft or unstable soil, slopes, pot holes or curbs. These items can cause a lift to become unlevelled and can contribute to a tip-over.
- If there are any bridge plates, grates or other covers in your path, make sure they are securely in place and can support the weight of your lift.
- It is also important to look overhead. Make sure your path allows for proper clearance under overhead obstacles.
- If the work zone or travel route is in the path of an overhead crane, the crane must be locked and tagged out of service to prevent any collisions between moving crane loads and the aerial work platform.

MOUNTING THE LIFT AND DRIVING SAFELY

- Let's now discuss how to properly mount the lift and some safe driving considerations to ensure that you and the lift arrive at the selected work area safely.
- First, inform any co-workers in the affected areas that you are preparing to move the vehicle to the work zone. Then, check to make sure no one is around or under the lift.
- To mount the lift, face the vehicle squarely and climb into the platform while maintaining a good grip and three points of contact while climbing. Watch your head if you are required to duck under a fixed guardrail.
- Avoid grabbing or bumping any operational controls when mounting the lift and avoid stepping on any foot controls. Immediately close any access gates and secure any chains or guardrails after mounting.
- Once safely inside the platform, attach your lanyard to one of the manufacturer's approved anchor points. Do not connect your lanyard to the guardrail.
- Before first moving the lift, and when maneuvering in tight spaces, check the position of the wheels to make sure you understand which direction the lift will go.
- Boom lifts have a decal which indicates which direction is forward travel and which direction is reverse travel. Again, make sure you understand which direction the lift will go before moving it.
- When driving the lift, keep the platform fully lowered and travel at a speed that will allow you to avoid obstructions and co-workers safely.
- Many lifts have a selector switch which restricts the lift's speed. If this is the case, place the lift in slow mode when operating in tight areas, near drop offs or while elevated.
- While driving, face the direction of travel and frequently check clearances around, above and below the unit. If your view is obstructed, have a co-worker serve as a spotter to help guide you around obstacles and to watch for other moving equipment.
- Refrain from making sharp turns and sudden stops, especially when traveling at higher speeds. These types of maneuvers can quickly lead to injury.
- Plan ahead and slow down before you need to turn or stop.

- Before driving up or down an incline, make sure its grade does not exceed your vehicle's recommended rating for these surfaces. Always fully lower the lift before driving on an incline.
- If you need to stop the vehicle and leave it unattended, lower the platform, shut off the engine and apply the parking brake if it has one. Then follow your organization's policy for preventing unauthorized use which may include removing the key or other means.

RAISING THE LIFT SAFELY

- Once you have arrived at the work zone, you must make sure the vehicle is stable and level before raising the platform.
- Upon arrival, make sure you have parked the lift on a firm, flat surface.
- If you are outdoors, take note of the wind conditions. Do not raise the platform if winds exceed the manufacturer's recommendations.
- The lift will be equipped with a tilt alarm that will activate if the vehicle is more than five degrees out of level. Do not elevate the lift on a sloped surface.
- If the lift is equipped with stabilizing devices such as outriggers, they must be deployed. The feet of any stabilizers must be placed on firm ground and the stabilizers adjusted to ensure the lift is level.
- Scan the area above, below and around the platform for other personnel or hazards before raising, rotating or extending the lift's platform.
- Be aware of the lift's weight capacity. The total weight of all tools, equipment and personnel must not exceed this weight capacity.
- You can verify the weight capacity of your lift by referring to the owner's manual or checking the appropriate warning decal or the lift's data plate. An overloaded lift will become too top heavy when elevated and may become unstable and turn over.
- Always keep hands and other body parts inside the platform while the platform is in motion. This is to prevent crushing or pinching body parts against stationary objects.
- Always stay alert to overhead obstacles that could strike your head as the lift moves or as you perform your work.
- To avoid electrocution, be extra cautious when elevating in the vicinity of power lines and other electrical equipment. Maintain a minimum clearance of 10 feet from energized parts or wires up to 50,000 volts. Refer to the owner's manual for clearance distances for higher voltages.

SAFE WORK PRACTICES

- Let's now discuss some safe work practices to follow once you have reached the working position.
- Keep the platform floor free of obstacles and debris that could cause a slip or trip. Make sure tools, power cords and other equipment are located in areas where you will not be standing or walking.
- You should be able to perform your work with both feet on the floor. If you can't reach your work, you must raise the platform or reposition it.
- Never stand or sit on the guardrails and never use stools, ladders or other objects to reach higher. Again, you must work with your feet flat on the floor.

- Keep your lanyard connected to the manufacturer's approved tie off point at all times while you are on the platform. The purpose of wearing a harness and lanyard is to keep you safely inside the platform while you work. The platform's guardrails serve as the primary source of fall protection. Never connect your lanyard to any object outside the platform.
- While performing your work, be careful not to exceed your lift's horizontal load or "side load" rating. Excessive side loads can cause a lift to tip over. This important information can be found in the owner's manual and is also frequently displayed on the lift itself.
- Also, stay alert when using cables, ropes and hoses. Should these items become entangled while moving the lift, the forces generated can easily cause a tip-over.
- Using your platform as a crane to hoist loads, or using a rope to hoist tools and supplies, can also make the lift unstable and dramatically increase the likelihood of a tip-over. Never engage in this dangerous practice.
- When it becomes necessary to drive the lift while working, the best practice is to lower the lift fully before driving it to a new position.

LOWERING AND DISMOUNTING THE LIFT

- When you have concluded the elevated work, it is important that you lower the lift in a safe manner and then park and dismount the lift safely.
- When your work is complete and you are ready to lower the platform, make sure that the surrounding area is clear of equipment, personnel and other obstructions.
- The lowering mechanisms on the lift can create a severe pinch point hazard to any nearby personnel.
- As the lift lowers, keep body parts inside the guardrails and keep an eye on any cords or cables to ensure that they do not become entangled.
- Make sure the lift or any of its mechanisms do not become caught on any solid object while lowering.
- When all work is complete and the lift is fully lowered, it should be returned to its proper storage location.
- When dismounting the lift, face the vehicle and maintain three-points of contact while carefully descending to the floor or ground.
- As the operator of an aerial work platform, you carry a large responsibility. Put your training into practice by choosing to operate your lift in a safe and careful manner. Always remember, the person most responsible for your safety is you.

PREPARE FOR THE SAFETY MEETING

Review each section of this Leader's Guide as well as the program. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader's Guide and ask each participant to complete them.

Make an attendance record and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your video equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the program.

CONDUCTING THE PRESENTATION

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to discuss some of the common hazards that aerial work platform operators must consider when using this equipment as well as the safe work practices and operating techniques that must be followed to ensure everyone's safety during the use of an aerial work platform.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Lead discussions about specific types of lifts used at your facility and hazards operators may encounter while they perform their job tasks.

After watching the program, the viewer should be able to explain the following:

- What to look for when conducting the pre-operational inspection;
- How to properly test the operating controls;
- What hazards to check for when inspecting the path of travel;
- How to drive the lift safely;
- How to safely raise the lift;
- Which safe work practices to follow while working on the platform;
- How to properly lower and dismount from the platform.

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REVIEW QUIZ

Name _____ Date _____

Please provide answers to the following to show how well you understand the information presented during this program.

1. You should begin your initial pre-operational inspection of a lift by _____.
 - a. Circling the lift to look for unsafe conditions
 - b. Checking the tires for excessive wear or cuts
 - c. Locating the owner's and maintenance manuals

2. If a lift has a swinging gate, it must only swing _____.
 - a. Inward
 - b. Outward

3. Only the lower level controls of a lift must be tested and verified before use.
 - a. True
 - b. False

4. The _____ level controls include the driving controls for a lift.
 - a. Upper
 - b. Lower

5. If you discover any defects or damage during the pre-operational inspection, you should follow your company's procedure for removing the vehicle from service so it can be properly repaired.
 - a. True
 - b. False

6. When inspecting the path of travel, you should look for _____.
 - a. Drop offs
 - b. Soft soil
 - c. Pot holes
 - d. Curbs
 - e. All of the above

7. Once you are safely inside the platform after mounting, you should attach your lanyard to one of the approved anchor points or the guardrail.
 - a. True
 - b. False

8. When driving the lift on an incline, you should keep the platform fully lowered.
 - a. True
 - b. False

9. The tilt alarm on a lift will activate when the vehicle is more than _____ out of level.
 - a. 5 degrees
 - b. 10 degrees
 - c. 15 degrees

10. What should you do if you are unable to reach your work while on the platform?
 - a. Stand on the guardrail
 - b. Use a stool or a ladder
 - c. Raise or reposition the platform

ANSWERS TO THE REVIEW QUESTIONS

1. c

2. a

3. b

4. a

5. a

6. e

7. b

8. a

9. a

10. c