

Standards of Practice

Powered Industrial Truck/Forklift

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I. PURPOSE

To reduce the risk of physical injury or property damage when operating a powered industrial truck or forklift on a daily or occasional basis.

II. SCOPE

This procedure covers forklift operations that KSU's College of Agriculture can control and over which it can be expected to have an influence. These activities include, but are not limited to training, inspections, and the safe operation of the equipment.

III. CONSEQUENCES OF DEVIATION

This procedure serves as an essential element in identifying and managing risk to staff associated with forklift activities. Ignoring this procedure could result in serious injuries, fatalities, or property damage.

IV. DEFINITIONS

Powered industrial trucks, commonly called forklifts or lift trucks to include those identified in **(Appendix A and by OSHA <https://www.osha.gov/SLTC/etools/pit/forklift/types/classes.html>)** used in many industries, primarily to move materials. They can also be used to raise, lower, or remove large objects or a number of smaller objects on pallets or in boxes, crates, or other containers. Powered industrial trucks can either be ridden by the operator or controlled by a walking operator.

V. RESPONSIBILITIES

The person who has overall responsibility for the department is responsible for the forklift training program and assuring that the required records are provided to EH&S. He/She may delegate any part of the training program to the Operations Trainer(s) to include instruction, forklift performance evaluations, and recordkeeping.

The COA EH&S Department will assist the Operations Trainer in obtaining the required trainer certification through the Forklift: Train the Trainer program. In addition, EH&S will track re-training and issuance of the certificates and wallet cards.

The Department Operations Trainer is responsible to ensure completion of on-line training, operational instruction, and performance evaluation training **(Appendix B)** for departmental employees at the time

of initial hire and provide re-training for forklift operator recertification every three years. After successful course completion the trainer will send a copy of the class roster to EH&S.

Employees who have successfully completed the classroom, operational instruction, and performance evaluation will be issued a valid forklift operator's license from the EH&S Department. Employees must have this license with them at all times while operating powered industrial trucks in order to present to an inspector upon request. Employees are required to participate in retraining every three years to include a performance evaluation.

VI. PRE-OPERATIONAL PROCEDURES

The KSU College of Agriculture requires operators to perform pre-operational equipment checks on powered industrial trucks prior to the beginning of each shift in which those trucks will be utilized. Operators are to complete the Pre-Operational/Daily Lift Truck Checklist (**Appendix C**).

No blank spaces are allowed on the form. If an item does not apply, use the code NIA. Fill out the comment section accurately to reflect any operational or visual defects so that appropriate repairs can be completed, before the truck becomes unsafe to operate. Describe the problem thoroughly so that the repair personnel can pinpoint the trouble immediately (**Appendix D**).

If a completed checklist form is not present on the powered industrial truck, then the truck may not be operated until a checklist is completed.

If the lift truck is safe to operate:

1. Place the completed checklist form on the holder provided on the vehicle. The checklist must remain on the vehicle's holder for the duration of the shift. This serves as a visual notice to all area operators that this piece of equipment was inspected at the beginning of the shift and may be used during the shift without another inspection.
2. At the end of the shift, the checklist should be turned in to the department manager/supervisor. The manager/supervisor is responsible for reviewing the checklists for accuracy, completeness, and any noted defects.

If the lift truck is unsafe to operate:

1. Note that on the checklist.
2. Remove the key from the powered industrial truck and place a DANGER DO NOT OPERATE tag on the steering wheel or control lever of the powered industrial truck.
3. The employee should take the completed checklist to the manager/supervisor and inform them of the problem. The manager/supervisor will complete a work order form and schedule the lift truck for repair.
4. It is against company policy to operate a defective powered industrial truck or one that has a DANGER DO NOT OPERATE tag placed on the steering wheel or control levers. Appropriate disciplinary action will be enforced.

Department manager/supervisor should retain all Pre-Operational/Daily Lift Truck Checklist forms for each vehicle for six months. The file should be updated each month with the previous month's checklists thrown away so that the company always has a constant six-month record retention on these forms should an inspection occur.

VIII. OPERATING PROCEDURE (General) (Read Equipment Operations Manual)

1. Lift trucks should not be driven up to anyone standing in front of a bench or other fixed object.
2. All body parts (hands, arms, head, feet, legs, etc.) are prohibited outside the operator compartment of the truck, between the uprights of the mast or within the reach mechanism or other attachments of the truck.
3. Passengers are not allowed to ride on powered industrial trucks.
4. Operators should not block access to fire or emergency exits, stairways, fire equipment or electrical panels.
5. Under all travel conditions, operate the truck at a speed that will permit it to be brought to a stop in a safe manner.
6. Stunt driving and horse play should be prohibited.
7. The operator should slow down for wet and slippery floors.
8. Running over loose objects on the floor is prohibited.
9. The operator is responsible for cleaning up all fluid leaks (oil, hydraulic, transmission, etc.) from the floor.
10. Operators are required to report lift truck accidents involving personnel, building structures, and equipment to department management.
11. The operator should handle loads only within the capacity rating of the truck.
12. Lift trucks should not be used for any purpose other than what they were designed.
13. No person should be allowed to stand or pass under the elevated portion of any truck whether empty or loaded.
14. Lift trucks should not be started or any of its functions or attachments operated from any position other than from the designated operator's position.
15. If the powered industrial truck is equipped with seat belts or other restraining devices, the operator must use these devices.
16. When using an order picker lift truck, the operator should wear the safety belt harness secured to a lanyard at ALL times during operation of the unit. This includes horizontal as well as vertical operation.
17. The operator should look 360 before traveling with a lift truck, especially when backing up.
18. The operator should observe all traffic regulations and under normal traffic conditions, keep to the right.
19. A safe distance of approximately 3 truck lengths should be maintained when following another lift truck and the operator should keep his/her truck under control at all times.
20. The operator should not pass another truck traveling in the same direction.
21. The operator should yield the right of way to pedestrians at all times.
22. Operators should slow down and sound audible warning device (horn) at cross aisles and other locations where vision is obstructed.
23. The operator must keep a clear view of the path of travel and observe for other traffic, personnel and safe clearances. If the load being carried obstructs forward view, travel with the load trailing.
24. When the forks are empty, the operator should travel with the forks slightly tilted as low to the floor as practical. The operator is responsible for adjusting the height of the forks to a safe level when the operating terrain warrants.
25. When traveling with a load on the forks, the operator should travel with the load as low to the floor as practical with the load tilted back slightly for improved stability.

26. The operator of a narrow aisle reach truck that is unloaded should not travel until the forks are fully retracted and positioned as specified in item #24.
27. When ascending or descending a grade or incline the operator should:
Proceed slowly and with caution.
- Drive with the load positioned upgrade or uphill when the truck is loaded.
 - Tilt or raise the forks and attachments only as far as necessary to clear the road surface.
 - Sound horn before ascending or descending east and west ramps to annex.
28. At no time should a powered industrial lift truck be parked on steep inclines, ramps or dock plates.
29. A powered industrial truck is considered to be ATTENDED when the operator is less than 25 feet from the truck which remains in his view. Before leaving the operator's position, the operator should:
- Bring truck to a complete stop.
 - Place directional controls in neutral.
 - Apply the parking brake.
 - Lower the forks or attachments fully until resting on the floor. When lowering unloaded forks, the forks should be tilted forward first and then lowered to the ground until the tips of the forks come in contact with the ground.
30. A powered industrial truck is considered to be UNATTENDED when the operator is more than 25 feet from the truck which remains in his view, or whenever the operator leaves the truck and it is not in view regardless of distance from the truck. Before leaving the operator's position in this instance, the operator should:
- Follow the procedures in item #30.
 - Stop the engine or turn off the controls.
31. When removing battery covers to add or inspect electrolyte levels, the operator should wear face shield, goggles, rubber gloves, and apron. Protective equipment is not required when filling batteries equipped with an automatic filler.
32. If the lift truck is not put on a charge during off shifts or weekends, the operator should disconnect the battery plug from the truck plug.
- Note:** During normal production operation, the lift truck may remain plugged into the battery when left unattended.
33. To change an LP gas tank, the operator should:
- Put on leather work gloves and goggles.
 - Disconnect lift truck valve from the empty LP cylinder.
 - Replace with full cylinder.
 - Make sure tanks have appropriate GHS Label
- Note:** The pin on the lift truck must fit into the cut out hole(s) provided on the LP cylinder. This is required by law.
- Strap in the cylinder and re-connect the truck valve securely to the cylinder outlet.
 - Open cylinder valve and listen for leaks.
 - If leaking, close cylinder valve and slowly uncouple the fuel valve. Try to reconnect. If still leaking, try a different cylinder and notify department management of faulty cylinder.
 - If no leaks are present, lift truck may be utilized.
 - Shut off propane at end of shift

34. Lift trucks should not be operated with a leak in the fuel system until the leak has been corrected.
35. When unloading or loading semi-trailers the operator should:
- Engage dock lock mechanism and light before entering the trailer.
 - Check condition of dock leveler plate and trailer floor before entering.
36. If the dock lock mechanism is malfunctioning or cannot be secured to the semi-trailer due to trailer damage, the operator should place wheel chocks under the rear wheels of the trailer prior to loading or unloading.
37. When unloading or loading the 28 foot trailers, the operator should follow the procedures outlined in item #36, and in addition:
- Be sure the semi-tractor is coupled to the trailer, or,
 - The fixed jack on the front of the trailer is lowered to the ground to prevent these two trailers from tipping forward.
 - Chock the rear wheels of the trailer if the dock lock device does not work.
38. The operator should use the following backup procedure and sequence:
- Pivot at the waist and inspect the area of operation in the rear of the fork truck, watching for obstructions and pedestrians.
 - Blow the horn to alert any pedestrians that may or may not be visible. " Engage the directional lever to the reverse position.
 - Concentrate on the removal of the forks from the load to avoid any load disturbance, as you back the fork truck out of the load.
 - Stop the forklift truck a safe distance away from the load's resting location and lower the forks to the proper travel height and angle.
39. During load placement, the operator should:
- Square the fork truck with the load resting location.
 - Stop the fork truck a safe distance away from the load resting location.
 - Raise the load to proper entry height.
 - Drive forward with the load and position the load over its resting location.
 - Lower the load to a safe height of 4", if possible.
 - Tilt the load forward to a level position.
 - Lower the load to its resting platform.
 - Back up the unit using proper back up procedures and sequence. (Item #39)
40. During load retrieving, the operator should:
- Square the fork truck with the load resting location.
 - Stop the fork truck a safe distance away from the load resting location.
 - Raise the forks to eye level and level the forks to a horizontal position.
 - Raise the forks to the proper entry height.
 - Enter the load and maintain the clearance around the forks to avoid load disturbance.
 - Raise the load so it is completely suspended from its resting platform.
 - Tilt the load back.
 - Visually inspect the rear area of the fork truck to ensure no pedestrians are behind or around the unit.
 - Back up the unit using proper back up procedures and sequence.
 - Back up the fork truck to a safe distance and stop.
 - Lower the load to the proper travel height.

VIII. TRAINING

Under no circumstances should an employee operate a powered industrial truck/forklift until he/she has successfully completed this company's forklift operation training program. This includes all new operators regardless of claimed previous experience.

The training program includes on-line training, operational training, and performance evaluation on each specific type of powered lift truck to be utilized by the employee in his/her work area.

The departmental manager/supervisor will identify all new employees in the employee orientation program and make arrangements to schedule the classroom instruction for those employees previously identified in this procedure.

Course training consists of:

1. Review of equipment manufacturer operations manual by employee.
2. Completion of interactive computer-based training software and successful completion of examination.

The computer-based training program covers:

- Types of vehicles;
 - Nomenclature/operating principles of a powered industrial truck; and
 - Preventive maintenance/pre-operational equipment checks; safe operating rules.
3. Review of Forklift Standard of Practice with employee.

Operational training consists of:

1. Pre-operational checklist procedures (see Daily Lift Truck Checklist at end of these procedures or use the equipment manufacturer specified checklist).
2. Operational review of each powered industrial truck the employee is expected to operate. This includes:
 - Pre-operational checklist procedures;
 - Proper use of controls;
 - Maneuvering skills;
 - Selecting and picking up loads,
 - Driving with a load;
 - Stacking and moving loads;
 - Dock safety; and
 - Re-fueling/charging operations.

Remember: Forklifts operate much different from a car. Know the differences.

Note: In addition, to the training outlined in this SOP, employees using Skid Loaders must take the CITI Skid Loader on-line training. Log on instructions are located at http://www.ksre.k-state.edu/agsafe/training/CITI%20WPS%20Training%20Instructions_06.21.16.pdf.

IX. RELATED DOCUMENTS & TOOLS






- OSHA Standard 29CFR 1910.178
- JJ Keller, "Written Safety Plan Forklifts"
- ANSI/SIA A92.6 – 2006 (Self-Propelled Elevated Work Platforms)

Revision Log			
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Controlled documents are maintained electronically.
Printed documents are UNCONTROLLED.
Prior to relying on a printed document, verify that it is current.

Appendix A

Example of Forklifts

	Forklift
	Stand Behind Forklift.
	Skid Steer with Vertical Mast Forks or Skid Loaders used predominantly for material handling and not earth moving.
	Tractor with Forks
	Walkie Stacker Additional forklift types can be found at https://www.osha.gov/SLTC/etools/pit/forklift/types/classes.htm

Forklift Operator Evaluation Form (APPENDIX B)

Instructions: Use this checklist during the field session to evaluate operator proficiency. It can also be used for period evaluation to ensure that operators are continuing to operate forklifts properly.

Operator Name	Evaluator Name
Date of Evaluation	Equipment Operated

OPERATOR BEHAVIORS	RATING	COMMENTS
Pre-use Inspection		
1. Follow Operator's Daily Checklist.	GOOD FAIR POOR N/A	
2. Look for Damage.	GOOD FAIR POOR N/A	
3. Document all findings on the checklist	GOOD FAIR POOR N/A	
Picking Up The Load		
1. Square up on the center of the load.	GOOD FAIR POOR N/A	
2. Stop with the fork tips about 1 foot from the load.	GOOD FAIR POOR N/A	
3. Clear personnel from the area near the load.	GOOD FAIR POOR N/A	
4. Level the forks; then slowly drive forward until the load contacts the carriage.	GOOD FAIR POOR N/A	
5. Lift the load carefully and smoothly until it is clear.	GOOD FAIR POOR N/A	
6. Tilt the mast back slightly to stabilize the load.	GOOD FAIR POOR N/A	
7. Look over both shoulders.	GOOD FAIR POOR N/A	
8. After out and stopped, lower the load to travel height.	GOOD FAIR POOR N/A	
Traveling		
1. Do not raise or lower the load and forks while traveling.	GOOD FAIR POOR N/A	
2. Maintain a safe speed.	GOOD FAIR POOR N/A	
3. Observe all traffic rules, warning signs, floor load limits and overhead clearances.	GOOD FAIR POOR N/A	
4. Keep arms and legs inside the forklift.	GOOD FAIR POOR N/A	
5. Follow other vehicles at safe distance.	GOOD FAIR POOR N/A	
6. Slow down when cornering.	GOOD FAIR POOR N/A	
7. Use the horn to alert others.	GOOD FAIR POOR N/A	

8. Travel with the load facing uphill while on a ramp or incline.	GOOD	FAIR	POOR	N/A	
9. Stop smoothly.	GOOD	FAIR	POOR	N/A	
Putting Down A Load					COMMENTS
1. Make sure there is sufficient clearance for the load.	GOOD	FAIR	POOR	N/A	
2. Clear personnel from the area near the load.	GOOD	FAIR	POOR	N/A	
3. Square up to the location; then stop about 1 foot away.	GOOD	FAIR	POOR	N/A	
4. Raise the load to placement level.	GOOD	FAIR	POOR	N/A	
5. Move slowly forward.	GOOD	FAIR	POOR	N/A	
6. If the load is on a pallet, lower it into position and lower the forks further.	GOOD	FAIR	POOR	N/A	
7. Look over both shoulders before backing out.	GOOD	FAIR	POOR	N/A	
8. Back straight out until the forks have cleared.	GOOD	FAIR	POOR	N/A	
9. Lower the forks to traveling position.	GOOD	FAIR	POOR	N/A	
Parking					
1. Fully lower the forks.	GOOD	FAIR	POOR	N/A	
2. Neutralize the controls.	GOOD	FAIR	POOR	N/A	
3. Set the brakes.	GOOD	FAIR	POOR	N/A	
4. Turn off the power.	GOOD	FAIR	POOR	N/A	
5. If parked on an incline, block the wheels.	GOOD	FAIR	POOR	N/A	
6. Park only in authorized areas.	GOOD	FAIR	POOR	N/A	
Fueling And Battery Recharging					
1. Engine off.	GOOD	FAIR	POOR	N/A	
2. Fire extinguisher nearby.	GOOD	FAIR	POOR	N/A	
3. Proper personal protective equipment worn.	GOOD	FAIR	POOR	N/A	
4. Safe fueling and battery recharging procedures followed.	GOOD	FAIR	POOR	N/A	
5. Spills cleaned up immediately.	GOOD	FAIR	POOR	N/A	
Special Task Working With Stacks (If Applicable)					
To remove load from a high stack					
1. Stop straight and about a foot away from the stack	GOOD	FAIR	POOR	N/A	
2. Raise the mast until the forks are at the right height. Move forward slowly until the load is flush with the back of the forks.	GOOD	FAIR	POOR	N/A	

3. Lift the load high enough to clear the item below. Look over both shoulders and back straight out to clear the edge of the stack.	GOOD	FAIR	POOR	N/A	
4. Stop and lower the load to the traveling position.	GOOD	FAIR	POOR	N/A	
5. Tilt the load back and move out slowly.	GOOD	FAIR	POOR	N/A	
Special Task Working With Stacks (If Applicable)					COMMENTS
To place a load on a stack					
1. Approach it slowly and squarely.	GOOD	FAIR	POOR	N/A	
2. Stop about a foot away.	GOOD	FAIR	POOR	N/A	
3. Lift the mast high enough to clear the top of the stack.	GOOD	FAIR	POOR	N/A	
4. Inch forward until the load is square over the stack.	GOOD	FAIR	POOR	N/A	
5. Level the forks and lower the mast until the load is no longer supported by the works.	GOOD	FAIR	POOR	N/A	
6. Keep forks level so you don't hook anything.	GOOD	FAIR	POOR	N/A	
7. Look over both shoulders and back straight out.	GOOD	FAIR	POOR	N/A	
Ramps or Slopes (If Applicable)					
1. Stay well back from the edge.	GOOD	FAIR	POOR	N/A	
2. Never turn around on the slope.	GOOD	FAIR	POOR	N/A	
3. Drive with your load on the uphill side. This means you drive up slopes with your load in front and drive down slopes in reverse unless you're loading a trailer. When forks are empty, back up a slope and drive down it forwards.	GOOD	FAIR	POOR	N/A	
Docks (If Applicable)					
1. Make sure dock boards or bridge plates are properly secured and strong enough to handle the combined weight of your lift and its load.	GOOD	FAIR	POOR	N/A	
2. Keep the bridge or dock plates as level as possible and free of oil, dirt, water, ice or snow.	GOOD	FAIR	POOR	N/A	
3. Make sure railcars or trailers are secure so they won't roll forward when you drive on. Chock the wheels, set the brakes and use dock locks.	GOOD	FAIR	POOR	N/A	
4. Make sure the floor is strong enough and that you have enough overhead clearance.	GOOD	FAIR	POOR	N/A	
5. Check to see that the trailer or railcar is secured, and buckle your seatbelt before you enter.	GOOD	FAIR	POOR	N/A	

Based on my evaluation, the operator has successfully completed the evaluation and is qualified to operate the following equipment:

Based on my evaluation, the operator has not demonstrated competence in operating the following equipment:

Evaluator Signature: _____ Operator Signature: _____

Pre-Operational/Daily Inspection Checklist for Forklifts (Appendix C)

Instructions: The operator should inspect all Forklifts prior to placing the machine in service at the beginning of each work shift. Deficiencies noted on the inspection form should be corrected prior to operation. If the deficiencies cannot be corrected, the forklift should not be used and lock-out/tag-out procedures initiated according to the Forklift Standard of Practice.

Forklift Make: _____ Model: _____ S/N: _____

Date Completed: _____ Inspected By: _____

Daily Forklift Checklist Form							
Operator's signature: _____						Date: _____	
Lift Truck Number: _____				Type: LPG/Electric			
OPERATOR MUST COMPLETE CHECKLIST AT START OF SHIFT (Place in holder on vehicle)							
At end of shift turn in checklist to supervision.							
HOURMETER READING _____							
Check each of the areas that pertain to your lift truck.							
Visual Checks	OK	Defective	N/A	Operations Checks	OK	Defective	N/A
Tire Condition				Horn			
Head/Tail Lights				Steering			
Warning Lights				Service Brake			
Fluid Levels, battery				Parking Brake			
Battery Plug Condition				Hydraulic Controls			
Battery Indicator				Hose Reel			
Seatbelts				Engine			
Forks				Mast			
LPG Tank				Attachment			
Mirrors							

Note: Make sure LPG tank has GHS Label and forklift controls are labeled.

Appendix D

Forklift Inspection & Maintenance Record

OSHA regulation 1910.178(q)(7) requires owners and operators to perform daily pre-shift inspections of their forklifts. This Forklift Inspection & Maintenance Record is provided to help you meet this requirement. The information contains a pre-use inspection checklist, frequent inspection checklist, work area inspection checklist and a maintenance record. If you have any questions about the use of the inspection and maintenance record, please contact your supervisor.

Department	
Manufacturer	
Model #	
Serial #	
Aerial Lift ID	
Aerial Lift Location	

Repair and Maintenance Record

Date	Description of Work	Maintenance Performed By