TOWSON UNIVERSITY

FORKLIFT TRUCK Safety Program

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Table of Contents

Introduction

A powered industrial truck is defined as a mobile, power-driven vehicle used to carry, push, pull, lift, stack or tier material. Forklifts are one type of powered industrial trucks. They are regulated under the OSHA Powered Industrial Truck Standard, 29 CFR 1910.178. All employees who utilize forklifts at Towson University must adhere to this program.

Purpose

It is the policy of Towson University to permit only trained and authorized personnel to operate powered industrial trucks. This policy is applicable to both daily operators and those who occasionally use a powered industrial truck.

Responsibilities

EHS is responsible for:

- Monitoring employee re-training, and
- Notifying departments of scheduled training, and
- Making scheduling arrangements, and
- Performing the classroom and hands-on instruction in the training sessions.

Supervisors are responsible for:

- Scheduling new employees with EHS for Forklift Truck Safety Training Program, and,
- Knowing the hazards in their areas, and,
- Assuring that safe operations are maintained within their departments to prevent injuries/illnesses, and,
- Enforcing the safe use of forklifts in their areas, and,
- Ensuring that everyone who uses a forklift in his or her area has been properly trained.
- Supervisors will ensure individuals not employed by Towson University are prohibited from operating any powered industrial truck.
- Notifying the Department of Environmental Health and Safety (EHS) of any accidents, injuries, illnesses or near misses related to the use of powered industrial trucks.

Employees are responsible for:

- Using the forklift in accordance with manufacturer's instructions; and,
- Properly maintaining the forklift in accordance with manufacturer's recommendations; and,

- Immediately placing a forklift out of service if the forklift fails the preoperational checklist; and,
- Completing the forklift inspections at the beginning of each shift.
- Operating the forklift in a safe manner in accordance with the manufacturer's instructions and training provided by EHS.
- Contacting their supervisor and/or EHS of any hazards observed which cannot be corrected by the employee.
- Requesting clarification from their supervisor or EHS about any health or safety issue(s) relate to the use of powered industrial trucks.

List of Equipment

Power Industrial Trucks used at Towson University include the following:

- Liquid propane counterbalanced sit-down rider forklift (Events & Conference Services)
- 2- Gasoline counterbalanced sit-down rider forklifts (One at General Services, One at Landscaping Services)

Attachments

A lift platform, approved for lifting personnel, is available. Using this platform is the only way a forklift may be used for lifting personnel.

All personnel on the platform must wear a harness and lanyard. The maximum capacity of the lift platform cannot be exceeded. Follow the safety precautions listed on the platform or check with the manufacturer.

Platform Precautions:

1. Apply Parking Break before lifting.
2. Do NOT tilt mast forward.
3. Secure harness to platform.
4. Operate on level ground.
5. Capacity is 1000 lbs.
6. Do not move forklift while platform is elevated.
7. The platform changes the forklift's load capacity.
8. The platform changes the maneuverability and dimensions of truck.
9. Do not modify without written approval from the manufacturer.

Pre-Operational Procedures

Towson University 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 Daily Lift Truck Checklist (see sample form at end of these procedures). A supply of these forms is provided with each forklift and at the EHS Office.

No blank spaces are allowed on the form. If an item does not apply, use the code N/A. Fill out the comment section accurately to reflect any operational or visual defects so the Auto Shop Department can repair the problem before the truck becomes unsafe to operate. Describe the problem thoroughly so that the Auto Shop Department personnel can pinpoint the trouble immediately.

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.

1. If the lift truck is safe to operate:

    a. 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.

    b. At the end of the shift, the checklist must be filed with the Supervisor. The Supervisor is responsible for reviewing the checklists for accuracy, completeness and any noted defects.

2. If the lift truck is unsafe to operate:

    a. Note it on the checklist.

    b. 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.

    c. The employee must take the completed checklist to the Auto Shop and inform them of the problem. The Auto Shop will complete a work order form and schedule the lift truck for repair. Once the work order is written, the lift truck checklist will be sent back Supervisor for proper filing.

It is against University 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.

Supervisors must retain all Daily Lift Truck Checklist forms for each vehicle for at least twenty years.

Fueling

Battery Power

At this time, there are no battery powered forklifts owned by Towson University. If in the future an electric forklift is purchased, the following precautions should be followed for battery-powered forklifts:

a. Batteries contain acid so protective gloves, goggles, and long sleeves must be worn when working with batteries.

b. Batteries should be inspected for:

1. Cracks or holes,
2. Securely sealed cells,
3. Frayed cables,
4. Broken insulation,
5. Tight connections, and
6. Clogged vent caps.

Gasoline Power

The forklift used by General Service's employees and the forklift at Landscaping Services is gasoline powered. Smoking is prohibited around all fueling areas. Turn off engine before fueling.

Liquid Propane Gas:

The forklift used by Events and Conferences is powered by liquefied propane gas (LPG). LPG is a compressed gas. Therefore all precautions used for compressed gases apply to LPG.

a) Storage of LPG
   1. Cylinders of LPG should be limited to a one month supply.
   2. The cylinders must be stored in a safe location away from traffic.
   3. LPG should be stored to prevent the cylinder from being punctured or damaged.
   4. Store LPG away from sources of heat, open flames and electrical equipment.
   5. Store separately from oxidizers

b. Physical properties of LPG

1. Gas expansion rate = 270 times
2. LPG is heavier than air
3. Frostbite can occur

c. Personal Protective Equipment
   1. Cotton or leather gloves
   2. Eye protection

Operating Procedures

1. Lift trucks shall 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 shall 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. OSHA says that a quick walking pace is the maximum speed limit allowed.

6. Stunt driving and horse-play shall be prohibited.

7. The operator must 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 ALL lift truck accidents involving personnel, building structures and equipment to Facilities Management and EHS.

11. The operator shall handle loads only within the capacity rating of the truck. (The capacity is marked on the specification plate.)

12. Lift trucks shall not be used for any purpose other than what they were designed.

13. No person shall be allowed to stand or pass under the elevated portion of any truck whether empty or loaded.

14. Lift trucks shall not be started or any of its functions or attachments operated from any position other than from the designated operator's position.

15. The operator must use the seat belt on the forklift.

16. When using the platform attachment, the person on the platform must wear appropriate fall protection ppe secured to a lanyard at ALL times during operation of the unit.

17. The operator shall look 360° before traveling with a lift truck, especially when backing up.

18. The operator shall observe all traffic regulations and under normal traffic conditions, keep to the right.

19. A safe distance of approximately 3 truck lengths shall be maintained when following another lift truck and the operator shall keep his/her truck under control at all times.

20. The operator shall not pass another truck traveling in the same direction.

21. The operator shall yield the right of way to pedestrians at all times.

22. Operators shall 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 shall travel with the forks at a negative pitch 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 shall travel with the load as low to the floor as practical with the load tilted back slightly for improved stability.

26. When ascending or descending a grade or incline the operator shall:

    a. Proceed slowly and with caution.

b. Drive with the load positioned upgrade or uphill when the truck is loaded.
c. Tilt or raise the forks and attachments only as far as necessary to clear the road surface.

27. At no time shall a powered industrial lift truck be parked on inclines, ramps or dock plates. Turning is prohibited on ramps.

28. 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 shall:

    a. Bring truck to a complete stop.
    b. Place directional controls in neutral.
    c. Apply the parking brake.
    d. Lower the forks or attachments fully until resting on the floor. When lowering unloaded forks, the forks shall be tilted forward first and then lowered to the ground until the tips of the forks come in contact with the ground.

29. 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 shall:

    a. Follow the procedures for an ATTENDED forklift; and
    b. Stop the engine or turn off the controls.

30. Lift trucks shall not be operated with a leak in the fuel system until the leak has been corrected.

31. The overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material, etc., but not to withstand the impact of a falling capacity load.

32. When unloading or loading semi-trailers the operator shall:

    a. Ensure the wheels are chocked before entering the trailer.
    b. Check condition of the trailer floor before entering.

33. The operator shall place wheel chocks under the rear wheels of the trailer prior to loading or unloading.

34. When unloading or loading trailers, the operator shall follow the procedures outlined above, and in addition:

    a. 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.
    b. Chock the rear wheels of the trailer if the dock lock device does not work.

35. The operator shall use the following backup procedure and sequence:

    a. Pivot at the waist and inspect the area of operation in the rear of the fork truck, watching for obstructions and pedestrians.
    b. Blow the horn to alert any pedestrians that may or may not be visible.
    c. Engage the directional lever to the reverse position.
    d. 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.
    e. Stop the fork truck 18" to 24" away from the load's resting location and lower the forks to the proper travel height and angle.

36. During load placement, the operator shall:

    a. Square the fork truck with the load resting location.
    b. Stop the fork truck 18" to 24" away from the load resting location.
    c. Raise the load to proper entry height.
    d. Drive forward with the load and position the load over its resting location.
    e. Lower the load to a height of 4" if possible.
    f. Tilt the load forward to a level position.
    g. Lower the load to its resting platform.

37. During load retrieving, the operator shall:
    a. Square the fork truck with the load resting location.
    b. Stop the fork truck 18" to 24" away from the load resting location.
    c. Raise the forks to eye level and level the forks to a horizontal position.
    d. Raise the forks to the proper entry height.
    e. Enter the load and maintain the clearance around the forks to avoid load disturbance.
    f. Raise the load so it is completely suspended from its resting platform.
    g. Tilt the load back.
    h. Visually inspect the rear area of the fork truck to ensure no pedestrians are behind or around the unit.
    i. Back up the unit using proper back up procedures and sequence.

j. Back up the fork truck 18" to 24" and stop.
k. Lower the load to the proper travel height.

38. Carbon Monoxide is a hazard if the forklift is used indoors. Ensure adequate ventilation is present.

Training Program

Under no circumstances shall an employee operate a powered industrial truck/forklift until he/she has successfully completed Towson University's Forklift Operation Training Program (or equivalent). The training program includes classroom instruction and operational training on each specific powered lift truck to be utilized by the employee in his/her work area.

Employees who have successfully completed the classroom and operational instruction will be issued an operator license from Environmental Health & Safety.

Re-training is tracked via computer and reviewed once each year. Appropriate training certificates are issued. Re-training will be performed under the following conditions:

1) Every three years.
2) When an employee is involved in an accident or near miss with a forklift truck.
3) When an employee is repeatedly observed operating a forklift in an unsafe manner.
4) An evaluation of the employee's skills indicates a need for re-training.
5) When a different truck is introduced into the workplace or an employee uses a forklift for which they have not previously received training.
6) New workplace hazards are observed or created.

Individuals in the following departments receive training:

- Materiel Management (Shipping & Receiving)
- Grounds
- Auto Shop
- Athletics Grounds
- Maintenance (Some)
- Electricians
- Carpenter Shop (Some)
- Events & Conference Services
- Other individuals as determined by area management

The Supervisor will identify all new employees who will be responsible for driving a forklift truck and will notify EHS to schedule training.

Training consists of:

- Review of policy by employee.
- Review forklift operation and safety training video.
- Successful completion of examination.
- Types of vehicles.
- Nomenclature/operating principles of a powered industrial truck.
- Preventive maintenance/pre-operational equipment checks; safe operating rules.
- Pre-operational checklist procedures (see Daily Lift Truck Checklist at end of these procedures).
- Operational review of each powered industrial truck the employee is expected to operate. Including:
    - Pre-operational checklist procedures;
    - Proper use of controls;
    - Maneuvering skills;
    - Selecting and picking up loads,
    - Stacking and moving loads;
    - Dock safety; and
    - Re-fueling/charging operations.
- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
- Differences between the truck and the automobile;
- Truck controls and instrumentation, engine or motor operation, steering and maneuvering, fork and attachment adaptation;
- Visibility (including restrictions due to loading);
- Vehicle capacity and stability;
- Inspection and maintenance and refueling and/or charging and recharging of batteries;
- Any other operating instructions, warnings or precautions listed in the operator's manual for the types of vehicle that the employee is being trained

to operate;

- Surface conditions, narrow aisles, other restricted places and pedestrian traffic where the vehicle will be operated;

- Composition of loads to be carried and load stability including load manipulation, stacking, and un-stacking;

- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust and other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

APPENDIX A

OSHA STANDARD 29 CFR 1910.178
POWER INDUSTRIAL TRUCKS

LINK:
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828&p_text_version=FALSE

APPENDIX B

FORKLIFT TRUCK INSPECTION CHECKLIST

Towson University

Events & Conference Services Technical Services

TOWSON CENTER FORKLIFT - OPERATOR'S DAILY CHECKLIST

*Inspect Forklift Before the Start of Each Shift	Date	Time	Shift
Operator/Inspector	**Hour Meter Reading** (Turn key one "position" forward to check Hour Reading) Start:	End:	
Check Appropriate Boxes	☐ Ok	☐ Needs Attention or Repair	

VISUAL CHECKS	Ok	Needs Attention or Repair	OPERATIONAL CHECKS	Ok	Needs Attention or Repair
Tire Condition (No excessive wear/splitting, good rim condition, tight wheel nuts, no separation of rubber and rim, proper tire pressure.)			**Parking Brake** (Set parking brake and accelerate - parking brake prevents the forklift from moving.)		
Forks (No cracks or other damage, locking pins work correctly.)			**Service Brake** (Brakes slow forklift without jerking or locking, brakes are not too soft.)		
Carriage, Mast & Backrest (No broken welds, mounted securely, no visible damage.)			**Steering** (Steering wheel turns while stopped, turns forklift smoothly and precisely, no strange noise or hesitation.)		
Guards (No broken welds, mounted securely, no visible damage.)			**Back Up Alarm** (Sounds when moving in reverse.)		
Chains (Clean, lubricated, no visible wear, equal tension.)			**Battery Power Level** (Check LED Display on Instrument Panel)		
Specification Plate (Readable)			**Back Up Light** (Lights when moving in reverse.)		
Cylinders & Hydraulic Controls (Hydraulic lines ok, hoses ok, secure connections at fittings, no damage to or fluid leaking from lift and tilt cylinders.)			**Hydraulic Fluid Level & Master Cylinder Fluid Level** (Reservoirs found under Kick Plate below accelerator)		
Damage/Leaks (No damage to forklift or puddles of fluid around or under the forklift.)			**Battery Water Level** (Check each battery's water level - located under seat.)		
			Other Gauges/Instruments		
Remarks			**Warning Lights** (Operational)		

Environmental Health Safety Rev. 2003

Towson University

MOTORIZED EQUIPMENT OPERATOR'S DAILY CHECKLIST

*Check Before the Start of Each Shift	Date	Time	Shift
Truck No	Operator/Inspector	Hour Meter Reading Start	End
Check Appropriate Boxes	Ok	Needs Attention or Repair	

VISUAL CHECKS			OPERATIONAL CHECKS		
Tire Condition (No excessive wear/splitting, good rim condition, tight wheel nuts, no separation of rubber and rim, proper tire pressure.)			**Cylinders & Hydraulic Controls** (Hydraulic lines ok, hoses ok, secure connections at fittings, no damage to or fluid leaking from lift and tilt cylinders.)		
Forks (No cracks or other damage, locking pins work correctly.)			**Parking Brake** (Set parking brake and accelerate - parking brake prevents the forklift from moving.)		
Carriage, Mast & Backrest (No broken welds, mounted securely, no visible damage.)			**Service Brake** (Brakes slow forklift without jerking or locking, brakes are not too soft.)		
Guards (No broken welds, mounted securely, no visible damage.)			**Steering** (Steering wheel turns while stopped, turns forklift smoothly and precisely, no strange noise or hesitation.)		
Chains (Clean, lubricated, no visible wear, equal tension.)			**Back Up Alarm** (Sounds when moving in reverse.)		
Specification Plate (Readable)			**Head & Tail Lights** (Operational)		
Damage/Leaks (No Damage to Forklift or puddles of fluid around or under the forklift.)			**Engine Oil Level** (Gauge)		
			Radiator Water Level (Gauge)		
			Fuel Level (Gauge)		
			Other Gauges/Instruments		
			Warning Lights (Operational)		

Remarks