

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY

COMPREHENSIVE SAFETY
PLAN

19. FORKLIFT OPERATING PROGRAM

19. SUBJECT: Forklift Operating Program

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FORKLIFT SAFETY PROGRAM

I. INTRODUCTION

It is the policy of ERAU who operate or anticipate operating a forklift during their employment to complete forklift safety training and comply with this program.

- A. OSHA 1910.178, *Powered Industrial Trucks*,
- B. OSHA 1926.602, *Material Handling Equipment*, and
- C. NFPA 505, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Maintenance, and Operation*.

II. SCOPE

This program covers all persons who are employed by the ERAU campuses and related facilities who are designated by their divisions to operate a forklift.

III. RESPONSIBILITIES

- A. The EHSO will provide annual forklift training.
- B. Departmental supervisors are responsible for ensuring employees attend training and that forklifts are repaired when malfunctioning.
- C. Forklift operators are required to attend and pass forklift safety training at least every three years, operate and maintain their vehicles in a safe manner according to their training, and report all vehicle problems to their supervisor.

IV. GENERAL REQUIREMENTS

- A. All powered industrial trucks acquired and used after February 15, 1972 are required to meet the design and construction requirements for powered industrial trucks established in the American National Standards Institute (ANSI) Standard for Powered Industrial Trucks, Part II, ANSI B56.1-1969, except for vehicles intended primarily for earth moving or over-the-road hauling. Approved trucks are required to bear a label or some other identifying mark indicating approval by the testing laboratory.
- B. Nameplates and markings must be in place and must be maintained in a legible condition.
- C. Modifications and additions which affect capacity and safe operation without the manufacturer's prior written approval are prohibited. Capacity, operation, and maintenance instruction plates, tags, or decals should be modified accordingly.
- D. All OUHSC/OU-Tulsa forklifts are used in unclassified locations according to 29 CFR 1910.178 Table N-1. If the location is classified as hazardous, 29 CFR 1910.178 (c) should be consulted in order to determine the appropriate type of forklift.

- E. High lift rider trucks must be equipped with an overhead guard manufactured in accordance with 29 CFR 1910.178 (a)(2), unless operating conditions do not permit the use of the guard. 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.

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V. **INSPECTIONS** [Back to Index](#)

A. PRE-USE INSPECTION

- A pre-use inspection identifies potential hazards that may be encountered from a damaged forklift and should be performed at least daily. If at any time a forklift is found to be in need of repair, defective, or in any way unsafe, remove it from service until it has been restored to safe operating condition.
2. The pre-use inspection process is as follows.
 - a. Inspect the mast for broken or cracked weld points and any other obvious damage.
 - b. Ensure roller tracks are greased and that chains are free to travel.
 - c. Forks should be equally spaced and free from cracks along the blade and at the heels.
 - d. Check hydraulic fluid levels.
 - e. Check each hydraulic line and fitting for excessive wear or crimping.
 - f. Check lift and tilt cylinders for damage or leaking fluid.
 - g. Inspect mounting hardware on the cylinders.

- h. Check tires for excessive wear, splitting or missing tire material.
- i. Check pneumatic tires for proper pressure indicated on the tire.

B. POWER SOURCE INSPECTION

- **Battery Power**

- 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,
 - frayed cables,
 - 4. broken insulation,
 - 5. tight connections, and
 - 6. clogged vent caps.

2. **Propane Power**

- a. The propane tank should be inspected for cracks, broken weld points, and other damage.
- b. All valves, nozzles, and hoses should be secure and do not leak.
- c. If damage is found, the equipment should not be operated until the damage has been corrected.

VI. **FUEL HANDLING AND STORAGE** [Back to Index](#)

- A. Store and handle liquid fuels such as gasoline and diesel in accordance with NFPA Flammable and Combustible Liquids Code (NFPA No. 30-1969).
- B. Store and handle liquefied petroleum gas in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases (NFPA No. 58-1969).
- C. Turn off engine before filling fuel tanks.

VII. **BATTERY HANDLING AND STORAGE** [Back to Index](#)

A. DESIGNATED AREAS

- 1. Locate battery charging installations in designated areas that provide flushing and neutralizing of spilled electrolyte, fire protection, protection of charging apparatus, damage by trucks, and adequate ventilation for dispersal of battery gassing fumes.
- 2. Battery handling equipment and a carboy tilter or siphon for handling electrolyte should be provided.
- 3. Smoking is prohibited in the designated area.

B. CHARGING BATTERIES

- 1. When charging batteries, pour acid into water; not water into acid.
- 2. Properly position forklift and apply brake before attempting to change or charge batteries.
- 3. Properly position and secure reinstalled batteries in the forklift.
- 4. Ensure vent caps are functioning and the battery (or compartment) cover(s) are open to dissipate heat.
- 5. Prevent open flames, sparks, or electric arcs in battery charging areas.
- 6. Keep tools and other metallic objects away from the top of uncovered batteries.

VIII. **MAINTENANCE** [Back to Index](#)

- A. Do not use open flames to check for electrolyte level in storage batteries or liquid fuel level in tanks.
- B. Conduct repairs to fuel and ignition systems of forklifts which involve fire hazards in designated locations.
- C. Disconnect batteries prior to repairing electrical systems.
- D. Use only replacement parts equivalent with those in the original design.
- E. Do not alter the relative positions of various parts from what they were received from the manufacturer. Do not add any parts not supplied by the manufacturer nor delete any parts supplied by the manufacturer (no additional counterweighting of forklifts unless approved by the manufacturer).
- F. Keep forklift mufflers in proper working condition and free of debris.
- G. Keep the forklift in clean condition, free of lint, excess oil, and grease.

IX. **GENERAL FORKLIFT SAFETY** [Back to Index](#)

- A. The most common forklift accidents are caused:
 - 2. when a person is struck by the forklift,
 - stock is shoved into or falls upon another person or falls upon the forklift operator,
 - the operator is injured when getting on or off the forklift,
 - when the forklift collides with another forklift or other vehicle,
 - 5. when the forklift falls off the dock or tips over,
 - where the operator is struck by passing objects, or
 - the forklift tips over because the rated capacity is exceeded or the load is handled improperly.
- B. When mounting or dismounting a forklift, always:

- face the vehicle,
- never jump off,
- use a three-point stance (always have both hands and one foot or vice-versa in contact with the unit),
- wear proper shoes (oil resistant and non-slippery),
- wear proper clothing (do not wear loose clothing or dangling jewelry), and
- restrain long hair.

C. After mounting the vehicle, always fasten the seat belt, apply the brake, and shift to neutral. Also, check around the forklift for clearance and pedestrians before moving.

X. FORKLIFT OPERATING GUIDELINES [Back to Index](#)

- A. Only trained and authorized personnel are permitted to operate a forklift.
- B. Do not stand or pass under the elevated portion of any forklift.
- C. Passengers are prohibited from riding on forklifts.
- D. Do not place arms or legs between the uprights of the mast or outside the running lines of the truck.
- E. A forklift is considered unattended when the operator is 25 feet or more away from the vehicle and it remains in his view, or whenever the operator leaves the vehicle and it is not in his view. When a forklift is left unattended:
 1. fully lower load engaging means,
 2. neutralize controls,
 3. shut off power; and
 4. set brakes.

- F. When the forklift operator is dismounted, within 25 feet and in view of the forklift, then fully lower the engaging means, neutralize the controls, and set the brakes to prevent movement.
- G. Maintain a safe distance from the edge of ramps or platforms while on any elevated dock or platform.
- H. Forklifts are not to be used to open or close freight doors.
- I. Where general lighting is less than two lumens per square foot, provide auxiliary directional lighting on the truck.
- J. Fixed jacks may be necessary to support a semitrailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.
- K. Set brakes and block wheels to prevent movement of trucks and trailers while loading or unloading.
- L. Check the flooring of trucks and trailers for breaks and weakness before loading or unloading.
- M. Check for sufficient headroom under overhead hazards such as lights, pipes, or sprinkler systems.
- N. Use only approved forklifts in hazardous locations.
- O. Whenever a truck is equipped with a lifting carriage or forks for lifting personnel, take the following precautions:
 - 1. use safety platform firmly secured to the lifting carriage and/or forks,
 - 2. provide means whereby personnel on the platform can shut off power to the truck,
 - 3. provide protection from falling objects, and
 - 4. keep fire aisles, access to stairways, and fire equipment clear.

XI. **HANDLING AND MOVING LOADS** [Back to Index](#)

A. TO PICK UP A LOAD

1. Only pick up stable and safely arranged loads within the rated capacity of the forklift.
2. Adjust long or high (including multiple tiered) loads which may affect capacity.
3. Square up on the center of the load and approach it straight with forks in traveling position.
4. Stop when the tips of the forks are about a foot away from the load.
5. Level the forks and slowly drive forward until the load is resting against the backrest.
6. Lift the load high enough to clear whatever is under it.
7. Carefully tilt the mast back to stabilize the load.

B. DRIVING WITH A LOAD

1. Starts and stops should be gradual.
2. Observe all traffic regulations and keep forklift under control at all times.
3. Reduce speed and sound horn at cross aisles and other locations where vision is obstructed.
4. Pedestrians have the right-of-way. Always be aware of their presence especially in aisles and doorways.
5. Do not drive forklift up to anyone standing in front of a bench or other fixed object.
6. Keep a clear view of the path of travel. Always look in the direction of travel.
7. Always travel with a load tilted slightly back for added stability. Do not lift or lower the load when the forklift is in motion.

8. Travel with the load at a height of four to six inches at the tips and two inches at the heels to clear most uneven surfaces and avoid debris.
 - Horse play is not permitted.
10. Slow down for wet, slippery or uneven floors.
 - Avoid running over loose objects on the roadway surface.
 - Properly secure dockboards and bridgeplates before driving over them. Drive over slowly and never exceed their rated capacity.
 - Drive in reverse rather than looking around the load if you are unable to see over it.
 - Travel down inclines in reverse and up inclines going forward. Ascend and descend grades slowly. If the grade is in excess of 10 percent, drive with load upgrade.

C. SAFE STEERING

1. Never make a turn at normal traveling speed, always slow down to maintain balance.
2. Stay wide when turning into an aisle to help clear the sides and square up with the destination.
3. Allow enough room for forks to clear the sides before turning, when backing out of an aisle.
4. When negotiating turns, turn the steering wheel in a smooth sweeping motion. At very low speeds, turn the steering wheel at a moderate, even rate.

D. TO PUT A LOAD DOWN

1. Square up and stop about a foot away.
2. Level the forks and then drive the rest of the way in.
3. Lower the load.

4. Tilt the forks slightly forward to avoid hooking the load.
- Look over both shoulders and back straight out until the forks clear the pallet.

