



APPENDIX I. FORKLIFT SAFETY PROGRAM September 2022

Purpose

This procedure addresses the safety requirements, operational procedures and training related to powered industrial trucks, commonly known as forklifts. The purpose is to provide VSC Fire & Security, Inc. (hereinafter "VSC") employees with the essential knowledge required to operate forklifts safely. Thousands of people are injured each year from forklift incidents. The most common types of incidents include: tip-overs, being struck by forklifts, or struck by a forklifts falling load.

Regulatory Scope

This procedure addresses regulatory requirements under 29 CFR 1926.602(c) and 29 CFR 1910.178. This procedure does not address forklifts operated in hazardous atmospheres (i.e. flammable or explosive atmospheres).

General Requirements

All new forklifts shall meet the design and construction requirements as specified in ANSI B56.1-1969 (Powered Industrial Trucks Part II). All certified forklift operators shall satisfactorily comply with all elements contained in this Forklift Safety Program.

Pre-Qualifications for Forklift Operators

VSC will ensure that candidates for forklift operators meet the following requirements prior to starting initial training. They will:

- Be at least 18 years of age.
- Not have vision problems that cannot be corrected by glasses or contacts.
- Not have a hearing loss that cannot be corrected with hearing aids.
- Have no physical impairments that would impair safe operation of the lift.
- Not have any neurological disorder that affects balance or consciousness.
- Not be taking or begin taking any medication that affects perception, vision, or physical abilities.

Training

Every forklift operator must be competent to operate a forklift safely and responsibly. Competency will be determined through training and testing to evaluate the employee's retention of the training material and by observing the employee's hands-on operation of the forklift. Only a designated and experienced operator will be permitted to train an employee to operate a forklift. All on-the-job training will be conducted under close supervision. Training and evaluation will be completed before an operator is permitted to use a forklift. The operator must be re-certified every three (3) years.

Forklift operator training is essential:

- To reduce the risk of injury to the operator, fellow employees, or others present.
- To reduce the likelihood of damage to the forklift, structures and other property.
- Because it's the law! OSHA requires that all forklifts are limited to operation by authorized and trained operators only.

Trainees may operate a forklift only:

- Under the direct supervision of a person, selected by management, who has the knowledge, training, and experience to train operators, evaluate their competence; and
- Where such operations do not endanger the trainee or other employees.

Any employee who does not comply with this training will be subject to discipline, up to and including termination of employment.

Recordkeeping:

VSC's Risk and Safety Department (hereinafter "Risk-Safety") will maintain training records with respect to this Forklift Safety Program. Records will include: employee name, training topic-to include course content, date of training, certification, and date of future training to maintain certification.

Training Content

Training consists of a combination of formal instruction, such as lectures, discussions, audio/visuals, and written material. Practical training will be accomplished through demonstrations performed by the trainer, practical exercises performed by the trainee, and through evaluations of the operator's performance in the workplace. The Equipment Manual specific to the forklift that will be operated by the employee must be incorporated into the content of the training program.

- Basic Forklift Pre-Operations
 - Check forklift components such as safety devices and capacity rating.
 - Conduct a pre-operation inspection.
 - Adding fuel and charging batteries.
- Forklift Operation
 - Driving.
 - Lifting and stacking loads.
 - Parking forklifts - both attended and unattended.
 - Hands-on Operation.

Basic Forklift Components & Safety Devices

The forklift has several mechanical parts which provide vehicle mobility and load (material) lifting capabilities. While some parts are the same as found in the typical automobile, others are unique to forklifts. To operate the equipment safely you must understand the function of the following components:

- Typical vehicle components:
 - Parking brake: When engaged, prevents the vehicle from inadvertently moving. The parking brake shall be engaged whenever the operator dismounts the forklift.
 - Seating: The forklift has a seat for the operator only; there shall be no additional persons riding in or on the forklift.
 - Operator restraint (seat belt): Shall be worn by the operator at all times when operating the forklift.
 - Ignition switch: This must be turned to the off position when the forklift is left unattended. The forklift is classified as unattended whenever the operator is more than 25 feet away or loses sight of the forklift.
 - Steering wheel: Used to steer the vehicle left to right. The steering wheel shall never be used as a support when mounting or dismounting the forklift.
 - Pivot point: All forklifts steer by the rear wheels, and the front wheels are fixed. The rear of the forklift swings wide, and the pivot point is the front wheels. Therefore, driving a forklift requires more concentration than an automobile. (It should be noted that automobiles steer using the front wheels, the pivot point is the middle of the vehicle, and the rear wheels remain fixed. The rear of an automobile mostly tracks the path).
 - Horn: use the horn at intersections, and whenever other motorized equipment or people are in the immediate vicinity.
 - Brake pedal: Slows the forklift when depressed and will stop the forklift when more pressure is applied. The brake pedal should be operated by the right foot.
 - Accelerator pedal: Accelerates the lateral movement when the transmission is engaged and the pedal is depressed. The accelerator pedal should be operated by the right foot.
 - Transmission selector (forward/neutral/reverse): When selected, controls the lateral movement either forward or reverse. Also has a neutral position.
 - Back up alarm: forklifts equipped with a backup alarm by the manufacture must be operational.
- Components and features unique to forklifts:
 - Capacity ID Plate: Indicates maximum weight the forklift can lift specific to lift height and load center, as well as other information such as attachments and warnings. A forklift's rated capacity is usually based on a 24-inch load center from the fork heels. (Fork heel is the part of the fork that is the closest point to the fork lift chassis.) The further that distance is increased the greater the load capacity is reduced. The rated capacity shall be posted on the vehicle so as to be clearly visible to the operator. The information provided on the ID Plate must be maintained in a legible condition.
 - Equipment Manual: Every forklift comes equipped with a manual. The manual contains the operating instructions, warnings, or precautions for that specific make/model of forklift. This manual must be retained with the forklift to ensure proper maintenance and operation.

- **Overhead Guard:** A cage designed to protect the operator by deflecting overhead falling objects. It is not intended to provide rollover protection. It shall not be altered or modified.
- **Cab Glass:** Shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of the forklift.
- **Tires:** There are three basic types of tires:
 - **Pneumatic** tires are filled with air, but sometimes filled with soft rubber to prevent puncture. Forklifts used outdoors or on rough surfaces are fitted with these tires. They can be used indoors also.
 - **Cushion** tires have a smaller compact dimension which provides less traction. These tires are generally used indoors but can be used outside on smooth level dry surfaces.
 - **Solid** tires are limited to indoor use on smooth surfaces.
- **Mast:** A set of vertical rails which houses moving parts such as rollers and chains that extend upward and downward to elevate the load. Keep hands and fingers away from these dangerous pinch points as severe injury can occur.
- **Carriage:** Connected to the mast, moves up and down the mast supporting the backrest and forks.
- **Backrest:** Mounted to the carriage, used to support and stabilize the load. The load needs to be positioned as close to the backrest as possible.
- **Forks:** Connected to the carriage and provide the horizontal support for the load. There are two types used:
 - **Full tapered:** Tapered from the tip to the heel (back of the fork). Used for lifting medium to light loads.
 - **Half-tapered:** Tapered from the tip to the midway point, then maximum thickness to the heel. Used for heavy loads.
- **Lift & Tilt cylinders:** Hydraulic mechanisms that power the load (forks & carriage). Lift cylinders move the load upward or downward. Tilt cylinders tilt the load inward or outward.
- **Fuel source:** Varies by model, but Propane, diesel, or batteries power the forklifts used by VSC personnel.

Re-Training

Refresher training in relevant topics, including an evaluation of the effectiveness of that training, shall be conducted when:

- ✓ The operator has been observed to operate the forklift in an unsafe manner.
- ✓ The operator has been involved in an accident or near-miss incident.
- ✓ The operator has received an evaluation that reveals that the operator is not operating the forklift safely.
- ✓ The operator is assigned to drive a different type of forklift.
- ✓ A condition in the workplace changes in a manner that could affect safe operation of the forklift.

Pre-Operation Inspection

Prior to each daily use of the forklift the operator must perform a visual and operational pre-use inspection. The pre-operation inspection must be recorded by using the manufacturers equipment safety inspection form provided in the operator's manual. Report any defects or needed repairs to your supervisor. Never operate a forklift in need of repair.

Visual Inspection

- Check the horn and alarms. Also inspect the wheels, lugs and tires for wear and cracks. If pneumatic tires are used check for punctures and proper inflation.
- Check the forks* specifically for cracks at the heels and along the blade. Make sure they are evenly spaced and secured. **Note: Forks may be repaired or replaced when damaged but only a qualified technician can make repairs. Replacement forks must meet the same load capacity as the original forks provided by the manufacturer.*
- Check the mast rollers for grease, and make sure the rollers and chains travel freely.
- Check overall conditions for fluid leaks, excessive wear, loose, cracked or broken parts or any other obvious damage.
- Check all fluid levels, including fuel if applicable. See the following specific cautions with regard to Fueling and Batteries:

Fueling and Batteries

- If the forklift is powered by propane and you are authorized to replace the propane tanks, you must perform this service outside and away from other employees, smoking, and flames. You must wear protective goggles, gloves and shall have the proper fire extinguisher at hand. Remember that the connections tighten in the clockwise direction. When completed, use a brush with soapy water and check the connections for leaks.
- If the forklift is powered by diesel fuel and you are authorized to refuel the tank, this must be performed outside and away from other employees, smoking, and flames. Ensure the proper fuel identification labeling is legible. You must wear protective goggles, gloves and shall have the proper fire extinguisher at hand.
- Fuel tanks shall not be filled while the engine is running. Spillage shall be avoided. If spillage occurs fuel shall be sponged up and properly disposed of or completely evaporated and the fuel tank cap replaced before restarting the engine.
- If the forklift is powered by batteries, understand that the battery can be especially dangerous because it contains Sulfuric acid. Sulfuric acid is very corrosive, toxic, and emits hydrogen gases when being charged, which can explode.

Batteries can produce sparks when the connections are breached. Do not attempt to inspect or provide maintenance on the batteries unless you have specific instruction and training. Always wear the proper safety equipment, to include safety glasses/goggles and appropriate hand protection when inspecting or performing maintenance. The use, care and charging of all batteries shall conform to the requirements of 29 CFR 1926, Subpart K.

Operating and Driving

- Operate the forklift from the operator's compartment only. To climb into the compartment, face the vehicle squarely, using the grab bar (never the steering wheel), place one foot onto the lift, enter the operator's compartment (cage) and buckle the seat restraint. Keep all body parts inside the operator's cage and never allow passengers to ride on the forklift. Arms and legs are never to be placed between the uprights of the mast or outside the running lines of the forklift.
- With the parking brake engaged, place the transmission lever in neutral, disengage the clutch and start the forklift. Before moving the lift, raise the forks and disengage the parking brake.
- Before backing you shall look over both shoulders to make sure the way is clear. If the forklift is not equipped with back-up alarms, you must sound the horn before backing into or out of a blind area. Always watch for pedestrians and other vehicles.
- Remember, the pivot point is the front wheels and the rear of the forklift swings wide. Never make a turn at normal traveling speed, since the forklift can overturn easily. Always slow down when turning to maintain balance.
- Sound the horn at blind intersections. When going through door openings and blind intersections you shall come to a complete stop, sound the horn, and proceed slowly if the way is clear.
- Slow down when driving over wet or slippery floors.
- Avoid driving over loose objects on the roadway.
- Horseplay is prohibited!
- Should a load obstruct your forward vision you must use a spotter or travel in reverse!
- Always travel with the load tilted back slightly and at a minimum height above the floor. On smooth indoor surfaces, keep the forks only three to four inches off of the floor.
- No person is permitted to stand or pass under the elevated portion of any forklift, whether loaded or empty.
- When traveling up ramps keep the load and forks forward (facing up the ramp). When traveling down ramps, always travel in reverse with the load and forks forward (facing up the ramp). Keep the forks at a minimum height of 6 – 8 inches above the surface. Adjust the height as needed.
- A safe distance shall be maintained from the edge of ramps or platforms.
- Grades shall be ascended or descended slowly.

Lifting and Stacking Loads

- Only loads within the rated capacity of the forklift shall be handled.
- Long or high loads (including multiple tiered loads) which may affect capacity shall be adjusted.
- Inspect flooring to ensure it will hold the weight of the lift plus the carried load.
- Maintain sufficient headroom under overhead installations such as lights, pipes, sprinkler systems, etc.
- When attempting to load the forklift you shall stop about a foot from the load, position the forks and approach the load slowly until the load is as close to the backrest as possible. Lift the load high enough and tilt the mast back slightly. Position the load to the proper traveling height and then proceed.
- When attempting to unload the forklift you shall approach the unloading area slowly. Stop the forklift about a foot from the area, position the load to the proper height, and move in slowly. Tilt the mast (load) out until it is level and lower mast slightly until the load has cleared the forks. Look over both shoulders and proceed by backing the forklift away from the load. Stop the forklift, position the forks to the proper traveling height, and then proceed.
- Prior to operating the forklift in reverse, if the model is not equipped with back-up alarms, the operator must sound the horn before backing.

Modification Approvals

VSC will not perform modifications and additions that affect capacity and safe operations without the manufacturer's prior written approval. Capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly.

Parking

Position the forklift in the proper area for parking. Place the transmission in neutral, lower the mast, engage the parking brake, turn off the ignition, and unbuckle the operator restraint. With a firm grip on the grab bar, step down from the forklift one foot at a time. If the forklift is fueled by propane, turn off the fuel valve. Wheels shall be blocked if the forklift is parked on an incline.

When a forklift is left unattended, the load engaging means shall be fully lowered, controls shall be neutralized, power shall be cut off, and the brake(s) set.

If the forklift operator is within 25 feet of the forklift and still within site of the forklift, follow the same criteria for “unattended forklift” however, the forklift can remain running.

Hands On Assessment

UPON SATISFACTORY COMPLETION OF THE WRITTEN QUIZ THE OPERATOR WILL BE REQUIRED TO DEMONSTRATE SAFE OPERATION OF THE FORKLIFT TO APPLY WHAT WAS LEARNED.

Hands on Procedure Assessment Consists of the Following:

- ✓ Pre-operation inspection.
- ✓ Fueling and batteries.
- ✓ Boarding the forklift.
- ✓ Driving.
- ✓ Lifting and stacking loads.
- ✓ Parking (attended and unattended) forklifts.

Certification Card

Operator will not operate any equipment other than the type identified on the Certification Card.

Operators must have on their person a certification card identifying the following information:

- ✓ Class or type of forklift they are authorized to operate. I.e. Straight mast, rough terrain, articulating, etc.
- ✓ Date of training.
- ✓ Signature of trainer.
- ✓ Identity of authoring source and the company or training facility.

