

Forklift Evaluator Training

Module 2

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Operating the Forklift

Safely operating a forklift requires preparation, anticipation and careful attention in order to maintain control of the vehicle at all times. This module will identify recommended practices associated with each of the following operations:

Pre-Operation

- Inspect and maintain the forklift before use.

Traveling and Maneuvering

- Use good operating practices to prevent accidents.

Load Handling

- Identify the hazards and recommended practices for each step in the load handling process (including an in-depth discussion on Load Composition).



Protecting Young Workers

Prohibition Against Young Workers Operating Forklifts.

- OSHA Safety and Health Bulletin, (2003, September 30). Also available as a 109 KB PDF. Given the significant number of young workers employed, especially during the summer months, OSHA and Wage and Hour Division (WHD) believe that it is important to remind all employers of the regulations that prohibit workers under 18 years of age from operating specified hazardous machines and equipment, including forklift trucks in non-agricultural operations.



Preventing Injuries and Deaths of Workers Who Operate or Work Near Forklifts

DHHS (NIOSH) Publication No. 2001-109, (2001, June). Forklift overturns are the leading cause of fatalities involving forklifts; they represent about 25 percent of all forklift-related deaths.

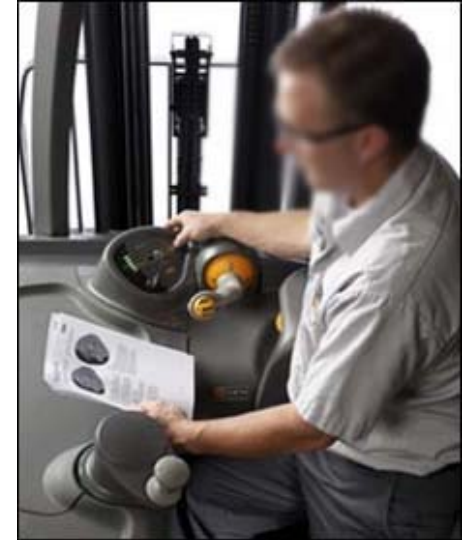
Most fatalities occur when a worker is crushed by a forklift that has overturned or fallen from a loading dock. NIOSH investigations of forklift-related deaths indicate that many workers and employers:

- May not be aware of the risks of operating or working near forklifts
- Are not following the procedures set forth in the OSHA standards, consensus standards, or equipment manufacturer's guidelines.



Pre-Operation

A vehicle that is in need of repair, defective or in any way unsafe should be removed from service. The problem should be recorded on a log and reported to a supervisor immediately. This section discusses pre-operation and operational inspections that operators should perform to ensure that forklifts will operate safely. Only operators who have been trained and evaluated in accordance with 29 CFR 1910.178(l) can operate forklifts.



- Pre-Operation Inspection
- Operational Inspection
- Removal from Service
- Maintenance

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Pre-Operation Inspection

Requirements and Recommended Practices

OSHA requires that all forklifts be examined at least daily before being placed in service. Forklifts used on a round-the-clock basis must be examined after each shift. [29 CFR 1910.178(q)(7)]

The operator should conduct a pre-start visual check with the key off and then perform an operational check with the engine running. The forklift should not be placed in service if the examinations show that the vehicle may not be safe to operate.



Operator checking fluid levels.



Operator checking condition of tires.

Pre-Operation Inspection

Remember! A vehicle in need of repair, defective or in any way unsafe, should not be driven and should be taken out of service immediately. Any problems should be recorded on the appropriate documents and reported to a supervisor.

Before starting your vehicle, conduct a pre-operation (or pre-start) inspection that checks a variety of items, including but not limited to:

- Fluid levels -- oil, water, and hydraulic fluid.
- Leaks, cracks or any other visible defect including hydraulic hoses and mast chains. NOTE: Operators should not place their hands inside the mast. Use a stick or other device to check chain tension.
- Tire condition and pressure including cuts and gouges.
- Condition of the forks, including the top clip retaining pin and heel.
- Load backrest extension.
- Finger guards.

Safety decals and nameplates. Ensure all warning decals and plates are in place and legible. Check that information on the nameplate matches the model and serial numbers and attachments.

- Operator manual on truck and legible.
- Operator compartment. Check for grease and debris.
- All safety devices are working properly including the seat belt.



Pre-Operation Inspection

In addition to this general inspection, additional items should be checked depending on the forklift type (electric or internal combustion, including liquid propane). These include but are not limited to:

Electric Forklifts

- Cables and connectors for frayed or exposed wires
 - Battery restraints
 - Electrolyte levels
 - Hood latch
- Note: Always use personal protective equipment such as a face shield, rubber apron, and rubber gloves when checking electrolyte.



Operator checking condition of the forks.



Operator inspecting the top clip retaining pin for the forks.

Pre-Operation Inspection

Internal Combustion Forklifts

- Engine oil
- Brake reservoir
- Engine coolant
- Air filter
- Belts and hoses
- Radiator
- Hood latch

Operator checking the seat belt as part of the pre-operation inspection.



Operator inspecting the load backrest as part of the pre-operation inspection.



Pre-Operation Inspection

Liquid Propane Forklifts

- Properly mounted tank
- Pressure relief valve pointing up
- Hose and connectors
- Tank restraint brackets
- Tank for dents and cracks
- Tank fits within profile of truck
- Leaks

Operator inspecting the load backrest as part of the pre-operation inspection.



Operator ensuring that the operator manual is on board the forklift and legible.



Note: Always use personal protective equipment such as a face shield, long sleeves, and gauntlet gloves when checking liquid propane tanks and fittings.

Traveling & Maneuvering

Forklift operators must follow safe operating rules at all times. Operators must always maintain control of the forklift, keep a proper lookout, and operate the forklift at speeds safe for the particular operation and worksite conditions.

- Mounting and Dismounting
- Starting/Stopping
- Operating at Speed
- Steering, Turning and Changing Direction
- Traveling on Inclines
- Parking
- Safe Travel Practices
- Visibility
- Tipover



Employee traveling and maneuvering a forklift.



Mounting and Dismounting

Potential Hazards:

- Hitting head on overhead cage.
- Slips, trips and falls, especially feet slipping off step.

Requirements and Recommended Practices:

- Be sure that your hands are clean and dry to prevent slipping when grabbing handhold.
- Check your shoes for grease before entering the vehicle.
- Grasp handhold and get a good grip. Never grab the steering wheel because it could cause you to lose balance if it moves.
- Always be careful with your footing when mounting and dismounting vehicle.
- Pull or lower your body carefully into or out of cab. Dismounting is the opposite of mounting -- do not jump.
- Wear appropriate footwear to prevent skids.



Operator grasping hand grips when mounting the vehicle.



Operator dismounting a forklift.

Starting/Stopping

Starting

Before starting a forklift, be sure to conduct a pre-operation inspection. In addition, conduct an operational check after starting the engine.

- Ensure that your way is clear. Sound your horn in warning or use a spotter if your view is obstructed.
- Proceed cautiously down the travel path watching for dangerous blind spots.



Starting/Stopping

Stopping

- Select an area to park. Do not park in an unauthorized area. Do not block an aisle or exits. Follow your company's parking procedures.
- Apply brake slowly and stop.
- Neutralize the controls.
- Set the parking brake.
- Turn off the ignition.
- If the truck is parked on an incline, block the wheels.



Stop signs posted to regulate traffic flows.

Operating at Speed

Potential Hazards

While traveling avoid these potential hazards:

- Tipover caused by driving too fast.
- Collision with pedestrians and obstacles caused by inattention and not being able to stop in time.



Operator slows down and sounds the horn at cross aisles where vision is obstructed.



Observe all posted speed limits and warning signs.

Operating at Speed

Requirements and Recommended Practices:

Be aware of the travel conditions along your planned route: Under all travel conditions the truck must operate at a speed that will permit it to be brought to a stop in a safe manner. [29 CFR 1910.178(n)(8)]

- The driver must slow down for wet and slippery floors. [29 CFR 1910.178(n)(10)]
- The driver must look in the direction of, and keep a clear view of, the path of travel. [29 CFR 1910.178(n)(6)]
- The driver must slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing. [29 CFR 1910.178(n)(4)]
- While negotiating turns, speed shall be reduced to a safe level by turning the steering wheel in a smooth, sweeping motion. [29 CFR 1910.178(n)(15)].
- Grades shall be ascended or descended slowly. [29 CFR 1910.178(n)(7)].
- When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade. [29 CFR 1910.178(n)(7)(i)]
- Running over loose objects on the roadway surface shall be avoided. [29 CFR 1910.178(n)(14)].



Changing Direction

- Potential Hazards:

While changing directions, be aware of these potential hazards: Tipover.

- Collision with a pedestrian, another vehicle or an object.
- Requirements and Recommended Practices: Come to a complete stop before changing directions.
- Use a horn or warning light to warn pedestrians when reversing.



Operator is releasing the inching pedal, setting the direction control to forward and pressing the accelerator. (The brake is the middle pedal.)



Reversing

- Reversing can increase the chances of injury and accident. Use extreme caution when backing up.

Potential Hazards:

While backing up or reversing, be aware of these potential hazards: Pedestrians being struck by or crushed by the forklift.

- Collision with another forklift or racking.



Warning strobe light flashing as operator backs up.



Using pedal to shift from reverse to forward.

Reversing

Requirements and Recommended Practices:

- Keep a clear view. [29 CFR 1910.178(n)(6)]
- Look in the direction of travel. When reversing, look behind. [29 CFR 1910.178(n)(6)]
- Be aware of limited visibility, and use extreme caution when driving in reverse.
- Consider the use of ground guides, rear-view mirrors, spotters, or other aids to increase visibility.
- Consider the noise level in your workplace. Do not assume pedestrians or bystanders are able to hear a back-up alarm.
- Allow plenty of room for pedestrians. You cannot anticipate what people will do. Many have no idea how quickly forklifts accelerate and how sharply they turn.
- Never assume pedestrians or bystanders are aware of the presence of heavy equipment and the intended direction of travel.
- Do not grab the overhead guard when traveling in reverse. This could expose the operator's finger to serious injury.



Turning and Steering

Potential Hazards:

While steering, be aware of these potential hazards: Collision with pedestrians or objects due to the forklift's tail swinging to the side opposite the direction of the turn.

- Falling load following collision.
- Tipover caused by turning too sharply.

Requirements and Recommended Practices:

When turning, reduce speed to a safe level. [29 CFR 1910.178(n)(15)]

- Proceed with caution when making turns, especially when working in confined areas or narrow aisles. When the lift truck turns a corner, the rear of the lift truck swings in the opposite direction of the turn.
- Anticipate the rear-end swing and start the turn as close to the inside corner as possible. Plan your route and anticipate turns.
- Never turn with forks elevated.
- Never turn on a grade. The forklift may tipover laterally on even a very small grade.



Traveling on Inclines

Potential Hazards:

While traveling on a grade or incline, be aware of these potential hazards:

- Tipover
- Falling load



Drive loaded trucks forward going up a ramp.

Requirements and Recommended Practices:

- Drive loaded trucks forward going up a ramp with the load upgrade and drive in reverse going down a ramp with the load upgrade.
- Always drive unloaded trucks with the forks downgrade.
- Never drive with the load downgrade.
- Never turn a forklift on a grade.



Parking

Potential Hazards:

While parking and leaving an unattended vehicle, be aware of these potential hazards:

- Danger of an improperly parked truck being struck by personnel or objects.
- Danger of unintended movement of the truck.

Requirements and Recommended Practices:

A powered industrial truck is considered "unattended":

- When the operator is 25 ft. or more away from the vehicle even if it remains in his view, or whenever the operator leaves the vehicle and it is not in his view. [29 CFR 1910.178(m)(5)(ii)]



Parking

When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline. [29 CFR 1910.178(m)(5)(i)] Select a hard, level surface.

- Do not park on a grade, unless wheels are blocked.
- Park in authorized areas only, unless the forklift is disabled. Park a safe distance from fire aisles, stairways or fire equipment. Do not block traffic. [29 CFR 1910.178(m)(14)]
- Fully engage the parking brake.
- Lower the load engaging means (lifting mechanism) fully.
- Neutralize the controls:
 - Set the direction lever in neutral, and lock the mechanism (if available).
- Tilt the mast forward slightly and lower the forks to the floor until the fork tips touch the floor.
- If the forklift is disabled, and the forks cannot be lowered to the floor, follow proper lockout/tagout procedures. [29 CFR 1910.147] Do not allow anyone to stand or pass under the forks. [29 CFR 1910.178(m)(2)]
- Turn the key to OFF, and stop the engine. Remove the key.
- Get off the forklift without jumping.

Note: When the operator of an industrial truck is dismounted and within 25 ft. of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized, and the brakes set to prevent movement. It is not required that the power be shut off. [29 CFR 1910.178(m)(5)(iii)]



Safe Travel Practices

Complying with safe travel practices and OSHA regulations will improve safety in your workplace.

Potential Hazards:

While traveling, be aware of these potential hazards:

- Overturning forklift
- Falling load
- Being struck or crushed by forklift
- Collisions



Safe Travel Practices

Requirements and Recommended Practices:

- Always look in all directions before proceeding.
- Always look in the direction of travel. If the load blocks your view, travel in reverse. Keep a clear view.
- Observe all traffic regulations, including authorized plant speed limits. Maintain a safe distance, approximately three truck lengths from the truck ahead, and keep the truck under control at all times. [29 CFR 1910.178(n)(1)]
- Yield the right of way to ambulances, fire trucks, or other vehicles in emergency situations. [29 CFR 1910.178(n)(2)]
- Do not pass other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations. [29 CFR 1910.178(n)(3)]
- Cross railroad tracks diagonally wherever possible. Do not park closer than 8 feet from the center of railroad tracks. [29 CFR 1910.178(n)(5)]
- Operate at a speed that will permit the truck to be brought to a stop in a safe manner under all travel conditions. [29 CFR 1910.178(n)(8)]
- Do not engage in stunt driving and horseplay. [29 CFR 1910.178(n)(9)]
- Slow down for wet and slippery floors. [29 CFR 1910.178(n)(10)]



Safe Travel Practices

Requirements and Recommended Practices:

- Properly secure the dockboard or bridgeplates before driving over them. Drive over them carefully and slowly and never exceed their stated capacity. [29 CFR 1910.178(n)(11)]
- Approach elevators slowly and enter squarely after the elevator car is properly leveled. Once on the elevator, neutralize the controls, shut off the power, and set the brakes. [29 CFR 1910.178(n)(12)]
- Separate forklift and pedestrian traffic as much as possible. Use established pedestrian walkways with guard rails and strictly enforce their use.
- Never carry passengers. [29 CFR 1910.178(m)(3)]
- Keep arms or legs inside the confines of your vehicle. [29 CFR 1910.178(m)(4)]
- Watch for surface obstructions; even a small bump can cause a load to fall off elevated forks.
- Never drive up to anyone who is in front of a bench or any other fixed object. [29 CFR 1910.178(m)(1)]
- Do not travel into a position that, if the forklift jumped forward, the brakes failed, or the wrong lever was pushed, a coworker could be pinned between the forklift and another object.



Do not travel with the load elevated.

Visibility

Blocked visibility, including partially blocked visibility, increases the chances of accidents. Operators should take measures to minimize the risks.

Potential Hazards:

When visibility is impaired, be aware of these potential hazards:

- Collision
- Falling load
- Falling off loading dock
- Worker struck or crushed by forklift



Operator keeping a clear view.



Operator's clear view of working aisle.

Visibility

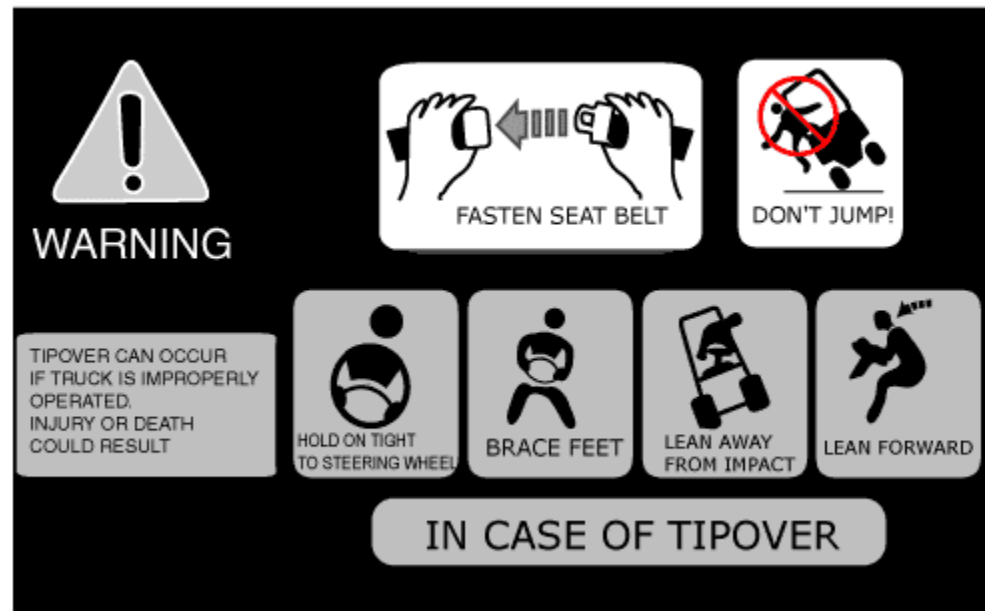
Requirements and Recommended Practices:

- Keep a clear view. [29 CFR 1910.178(n)(6)]
- Look in the direction of travel. When reversing, look behind. [29 CFR 1910.178(n)(6)]
- Use spotters, rear view mirrors, or other aids to increase visibility.
- Where available, use concave mirrors when entering buildings or aisles.
- Equip forklifts with headlights where general lighting is less than two lumens per square foot. [29 CFR 1910.178(h)(2)] In general, forklifts should have headlights if working at night, outdoors, or in any area where additional lighting would improve quality.
- Drive slowly into and out of warehouses or other buildings. Going from bright daylight into a darkened warehouse may blind drivers just long enough to hit another worker, vehicle or object.
- Be especially careful on loading docks; stay away from the edge.
- Add physical barriers such as ramps, raised concrete staging areas and heavy-gauge safety chains in front of dock openings. Use protective guard rails.
- Add a "warning track" of yellow paint on the floor near dock openings.
- Slow down and sound the horn at cross aisles and other locations where vision is obstructed. [29 CFR 1910.178(n)(4)]



Tipover

There are two basic type of tipovers in a forklift: 1) a forward tip or longitudinal tip, and 2) a lateral or side tip. The procedure to follow in the event of tipover varies depending on the type of tipover and the class of forklifts that you may use in your facility.



Example of warning label on a powered industrial truck showing actions to take in the event of a tipover of a sit-down counterbalanced truck. Note that the operator's seatbelt should already be fastened.

IN CASE OF A TIPOVER

IN CASE OF A TIPOVER:

For tipovers on sit-down counterbalanced trucks: Don't jump. Stay in the forklift.

- Hold tight to the steering wheel.
- Brace feet.
- Lean AWAY from the impact.
- Lean forward.

Note: Tipover procedures for other types of forklifts may vary. For example operators of stand-up forklifts with rear-entry access should step backwards off the forklift if a tipover occurs.



Load Handling

The load center is the distance from the face of the forks to the load's center of gravity. Many forklifts are rated using a 24-inch load center, which means that the load's center of gravity must be 24 inches or less from the face of the forks. (In this illustration, the red arrow represents the fulcrum and the black and white circle under the operator's seat represents the vehicle's center of gravity.)



Safe Handling Preparation

Potential Hazards:

Before handling loads, be aware of the following:

- Off-center loads which may cause tipover or falling loads.
- Overloading which may cause tipover or falling loads.
- Damaged or loose loads.

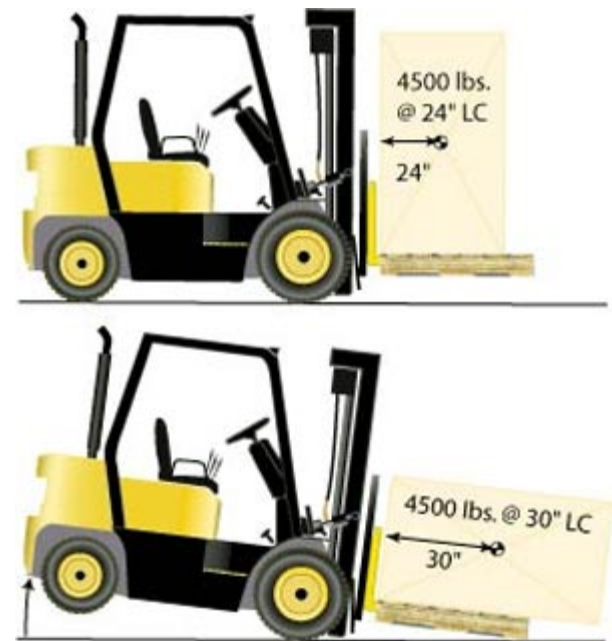


A damaged carton is an unsafe load to carry.

Safe Handling Preparation

Requirements and Recommended Practices:

- Secure the load so it is safely arranged and stable. [29 CFR 1910.178(o)(1)] Do not carry damaged merchandise unless it has been secured by wrapping or banding. (Figure 2)
- Center the load as nearly as possible. [29 CFR 1910.178(o)(1)] Use caution when handling off-center loads that cannot be centered. [29 CFR 1910.178(o)(1)] Distribute the heaviest part of the load nearest the front wheels of the forklift.
- Do not overload. Know the stated capacity of your forklift and do not exceed it. [29 CFR 1910.178(o)(2)] Only by keeping within the weight limit can you operate the forklift safely.
- A forklift's capacity is rated for a specified load center. If the load is off-center, improperly distributed, or oversized, it may exceed capacity and unbalance the forklift.
- Use the load extension backrest.



Improperly distributed loads may tip the forklift because the center of gravity has shifted.



Approaching

Potential Hazards:

While approaching a load, be aware of the following:

- Accidents may occur when:
 - Approaching too fast.
 - Turning too rapidly.

Requirements and Recommended Practices:

1. Approach the load slowly and carefully.
 - Stop 20 to 30 cm (8 to 12 inches) in front of the load. (Figure 4)
 - Be certain that the truck is placed squarely in front of the load and that the forks are at the correct height.
 - Set the direction control to neutral
2. Do not raise or lower the forks unless the forklift is stopped and the brake is set.
3. Prior to raising the load, ensure there is adequate overhead clearance. Vision is obstructed after the load is elevated.
4. Use the inching pedal to creep the load to the stack.



Operator stops slowly in front of the load platform.

Mast Position

Potential Hazards:

While moving the mast, be aware of the following:

- Tipovers and dropped loads while moving the mast.

Requirements and Recommended Practices:

- Use extreme care when tilting loads. Do not tilt forward with forks elevated except when picking up or depositing a load. When stacking or tiering, tilt backward only enough to stabilize the load. [29 CFR 1910.178(o)(6)]



Operator lifts load with the mast vertical.



Mast Position

- Use extra caution when handling loads that approach the truck's maximum rated capacity:
 - Tilt the mast back and position the heaviest part of the load against the carriage. (Figure 1)
 - Travel with the mast tilted back to keep the load stable.

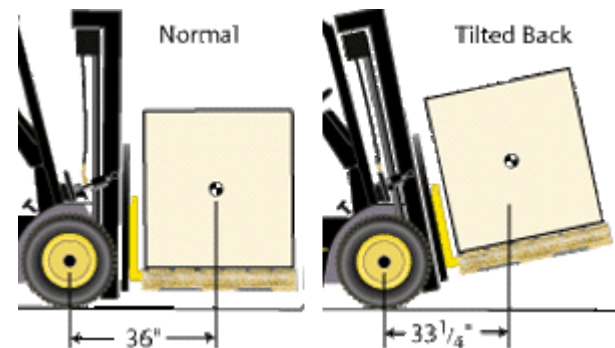


Figure 1. Tilting the mast back reduces the load distance and makes the load safer to carry.

- Tilt the mast forward cautiously when positioning the load onto the stack. [29 CFR 1910.178 App A]
- Never travel with the load tilted forward. Tilting the load forward increases the load distance and makes the load less stable (Figure 2).

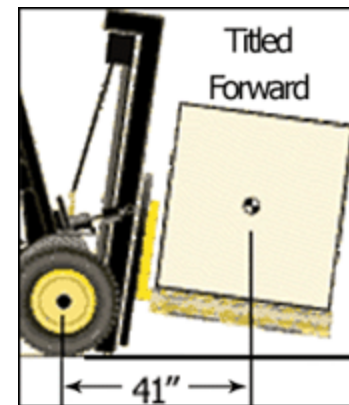


Figure 2. Tilting the mast forward increases the load distance and makes the load less stable

Fork Position

Potential Hazards:

While moving the forks into position, be aware of the following:

- Tipover
- Dropped load
- Collision



Operator slides the forks into the pallet until they are fully under the load.



Fork Position

Requirements and Recommended Practices:

- Level the forks before inserting them into the pallet.
- The forks must be placed under the load as far as possible. [29 CFR 1910.178(o)(5)]
- Slide the forks into the pallet until they are fully under the load. The forks should be at least two-thirds the length of the load
- Be careful that the forks do not go through to the other side where pallets are closely stacked.
- Center the weight of the load between the forks. Adjust the forks to distribute the weight evenly. Note that forks are adjustable either manually or with a fork positioner.
- Tilt the mast back carefully to stabilize the load. [29 CFR 1910.178(o)(5)]
- Pick up an off-center load carefully. There is a greater danger of a tipover.



Lifting the Load

Potential Hazards:

While lifting the load, be aware of the following:

- Insufficient clearance
- Falling loads
- Stuck loads



Lifting the Load

Requirements and Recommended Practices:

- Check that there is adequate overhead clearance before raising the load. This is especially true when high tiering or in a confined space like a truck trailer. There must be sufficient headroom under overhead installations, lights, pipes, sprinkler systems, etc. [29 CFR 1910.178(m)(8)]
- Carefully lift the load up above the lower stack about 10 cm (4 inches). (Figure 1)
- Lift the load clear and then tilt the mast back slightly to rest the load against the load backrest extension.
- Ensure that the load does not catch on any obstructions.
- Slowly return the lift control lever to the neutral position.



Fig 1. Operator is lifting the load.



Lowering the Load

Potential Hazards:

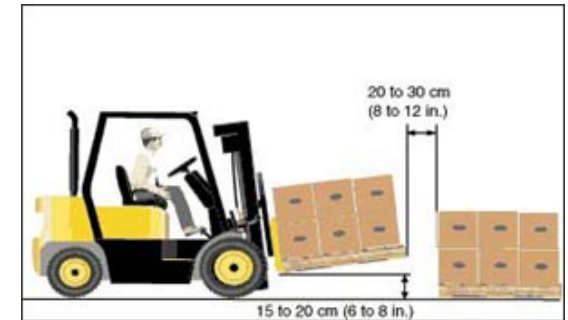
While lowering the load, be aware of the following:

- Falling loads.
- Striking objects.

Requirements and Recommended Practices:

The mast must be carefully tilted backward to stabilize the load.

1. Ensure the load is secured before moving.
2. Carefully tilt the mast backward to stabilize the load. [29 CFR 1910.178(o)(5)]
3. Slowly move the truck to 20 to 30 cm (8 to 12 inches) away from the stack.
4. Stop the truck.
5. Return the mast to the vertical position before lowering the load.
6. Lower the load so that its lowest point is 15 to 20 cm (6 to 8 inches) from the floor.
7. While traveling, keep the load at a safe travel height.



Tilt the mast
backward to
stabilize the load.

High Tiering

Reach trucks are often used for high tiering, which involves storing material in multiple tiers high off the ground.

Potential Hazard:

- Overloading
- Tipover

Requirements and Recommended Practices: Set the heaviest loads on the bottom tier.

- Set the lightest loads on the top tier.
- Reduce the load below the capacity of the reach truck as the mast is fully extended.
- Slowly and carefully extend the reach mechanism forward when depositing the load on the top tier.
- Use extreme care when tilting a load forward or backward, particularly when high tiering.
[29 CFR 1910.178(o)(6)]

Reach trucks maximize maneuverability in narrow aisle.



Triple reach extends 23 feet high. The lightest loads are placed on the top tiers.



Reach mechanism extends forward to deposit load on top tier.



Truck Trailers and Railroad Cars

Potential Hazards:

While entering and leaving truck trailers or railroad cars, be aware of the following:

- Falling off loading dock.
- Moving trucks or railroad cars during loading and unloading.
- Slipping or inadequate dockboards.



Wheels are chocked prior to boarding.



Use positive protection to prevent railroad cars from being moved.

Truck Trailers and Railroad Cars

Requirements and Recommended Practices:

- The OSHA Powered Industrial Trucks standard [29 CFR 1910.178] lists a number of situations in which special procedures must be followed before starting entry: The brakes of highway trucks shall be set and wheel chocks placed under the rear wheels to prevent the trucks from rolling while they are boarded with powered industrial trucks. [29 CFR 1910.178(k)(1)]
 - OSHA Standard Interpretation, (2005, November 8). The Federal Motor Carrier Safety Administration's braking regulations preempt OSHA from enforcing the requirements in 29 CFR 1910.178(k)(1) and 29 CFR 1910.178(m)(7) for commercial motor vehicles (CMVs).



Truck Trailers and Railroad Cars

- Wheel stops or other recognized positive protection shall be provided to prevent railroad cars from moving during loading or unloading operations. [29 CFR 1910.178(k)(2)]
- 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. [29 CFR 1910.178(k)(3)]
- Positive protection shall be provided to prevent railroad cars from being moved while dockboards or bridge plates are in position. [29 CFR 1910.178(k)(4)]



Operator using warning light and looking in the direction of travel when exiting a truck trailer.



Truck Trailers and Railroad Cars

- The OSHA Walking-Working Surfaces standard [29 CFR 1910.30(a)] contains requirements for dockboards (bridge plates). Portable and powered dockboards shall be strong enough to carry the load imposed on them. [29 CFR 1910.30(a)(1)]
- Portable dockboards shall be secured in position, either by being anchored or equipped with devices which will prevent their slipping. [29 CFR 1910.30(a)(2)]
- Powered dockboards shall be designed and constructed in accordance with Commercial Standard CS202-56 (1961) "Industrial Lifts and Hinged Loading Ramps" published by the U.S. Department of Commerce, which is incorporated by reference as specified in Sec. 1910.6. [29 CFR 1910.30(a)(3)]
- Handholds, or other effective means, shall be provided on portable dockboards to permit safe handling. [29 CFR 1910.30(a)(4)]
- Positive protection shall be provided to prevent railroad cars from being moved while dockboards or bridge plates are in position. [29 CFR 1910.30(a)(5)]



Additional Trailer Loading and Unloading Procedures

- Inspect the floor of the trailer to be sure that it will support the forklift and load.
- Ensure that the height of the entry door is adequate to clear the height of your vehicle, taking into consideration the height of the loading platform.
- Drive straight across the bridge plates when entering or exiting the truck trailer or railroad car.
- Use dock lights and headlights when working in a dark trailer.
- Sound the horn when entering or exiting the trailer.



Entering a truck trailer with adequate overhead clearance.

Additional Trailer Loading and Unloading Procedures

- In determining the capacity of the trailer floor to support a forklift, consider various factors, including floor thickness and cross-member spacing or unsupported floor area. In general, the larger the unsupported area, the lower the forklift capacity the trailer will have for the same floor thickness.
- Never use the forklift to open railroad car doors unless:
 - It has a device designed for that purpose.
 - The operator is trained in the use of the device.
 - All other employees stand clear.
 - 29 CFR 1910.178(m)(6) Powered Industrial Trucks; Truck Operations. OSHA Directive STD 01-11-003 (STD 1-11.3), (1978, October 30).



Manual dock plate is secured into position. Always walk and inspect trailer floor before boarding



Forklift Evaluator Training

End of Module 2

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