

STUDY SESSION – SECTION III

The Workplace

Slippery Floor Conditions:

Potential Hazards:

- Danger of skidding when traveling on oil, grease, water or other spills.
- Danger of tip-over when traveling on ice, snow, mud, gravel and uneven areas.

Requirements and Recommendations:

- Avoid hazardous surfaces when feasible.
- Spread absorbent material on slick areas that you cannot avoid.
- Report the area to your supervisor to prevent others from slipping.
- Post a sign or warning cones until the area can be cleared.
- Drive slowly!

Pedestrian Traffic:

Forklift operators should always be aware of conditions in their workplace, including pedestrian traffic. Forklift traffic should be separated from other workers and pedestrians where possible.

Potential Hazards:

- Danger of striking pedestrians and objects.

Requirements and Recommendations:

- Yield right of way to pedestrians.
- When a person or group of people walks across your planned route:
 - Stop.
 - Wait until the pedestrians pass by.
 - Proceed cautiously through any congested area.
- If an area is cluttered, walk the route first to spot problems.
 - Check for situations that require a spotter.
 - Warn pedestrians by asking them to move if there is not sufficient safe clearance.
 - Sound the horn at blind corners, doorways and aisles.
 - Sound the horn or other alarm when you back up.
 - Do not allow anyone to stand or pass under the load or lifting mechanism.

Ramps and Grades:

Potential Hazards:

- There is a danger of tip-over when traveling on ramps and grades.

Requirements and Recommendations:

- Never turn on a ramp or incline. Turn prior to the ramp or incline to place forks in proper direction.
- Keep a safe distance from the edge of a ramp.
- Do not travel on ramps with slopes or other conditions that exceed the manufacturer's recommendation.

Traveling with a Load (Forklifts upgrade):

Forklift operators should be aware of procedures to follow when traveling on ramps and other inclines with a load.

Potential Hazards:

- Danger of tip-over.
- Danger of losing load.

Requirements and Recommendations:

- When traveling with a load, the load should point up the incline, regardless of direction of travel.
- Going up the incline:
 - Drive forward
 - Forks pointed upgrade.
 - Use a spotter if load blocks the driver's view.
- Going down the incline:
 - Drive in reverse.
 - Turn head and face downgrade.
 - Forks pointed up the grade.

NOTE: When walking with a pallet truck, with or without a load, the forks should be pointed downgrade, regardless of direction of travel.

Traveling “EMPTY” (Forks Downgrade):

Forklift operators should follow certain procedures when traveling on ramps and grades without a load.

Potential Hazards:

- Danger of tip-over.

Requirements and Recommendations:

- When traveling without a load, the forks should point downgrade, regardless of direction of travel.
- Going up the incline:
 - Drive in reverse.
 - Turn head and face upgrade.
 - Forks pointed downgrade.
- Going down the incline:
 - Drive forward.
 - Forks pointed downgrade.

Loading Docks:

When operating a forklift on a loading dock, slow down, watch out for others, and be aware of the edge of the dock.

Potential Hazards:

- Falling off the edge of the dock.
- Skidding or slipping due to wet or icy conditions.

Requirements and Recommendations:

- Maintain a safe distance from edge of loading dock.
- Watch out for tail swing.

- Keep surfaces clear and clean.
- Paint the edges of the loading dock to improve visibility.

Narrow Aisles:

Narrow aisle storage systems provide more storage space, but require high lift pallet trucks or Order Pickers to operate in much narrower aisle widths.

High Lift Pallet Trucks:

High lift pallet trucks are a type of Class II electric motor narrow aisle truck. These trucks are used for high tiering, which involves storing material in multiple tiers high off the ground.

Potential Hazards:

- Danger of overloading, especially on high lift.
- Danger of tip-over.

Requirements and Recommendations:

- Check pallet weight before lifting.
- Place heaviest loads on the bottom racks, and lighter loads on the top.
- Do not exceed the load capacity of the lift truck with attachments.
- Do not lift the heaviest load to the maximum lift or stacking height. There may be a loss of stability.

Order Picker:

Order picker trucks are another type of Class II electric motor narrow aisle truck. These trucks are designed to lift the operator to retrieve items.

Potential Hazards:

- Falling

Requirements and Recommendations:

- Wear appropriate fall protection equipment that is properly fitted and adjusted. Ensure that employees are trained in the proper use of the fall protection equipment.

Additional Information:

- OSHA strongly encourages the use of body harnesses on elevated platforms of powered industrial trucks.

Safe Stacking Rules:

Potential Hazards:

- Falling loads
- Tip-over

Requirements and Recommendations:

OSHA's Powered Industrial Truck Standard includes a series of rules for safe stacking:

- Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
- Only loads within the rated capacity of the lift truck shall be handled.

- The long or high (including multi-tiered) loads which may affect capacity shall be adjusted.
- Lift trucks equipped with attachments shall be operated as partially loaded lift trucks when not handling a load.
- Forks shall be placed at least 2/3rds of the length of the load and the mast shall be carefully tilted backward to stabilize the load.
- Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack.

In addition, the following are recommended:

- Move forks as far apart as the load will permit. Be sure the load is centered and the forks are completely under the load before lifting.
- When stacking use only enough backward tilt to stabilize the load.

Elevators:

Potential Hazards:

- Overloading. Know the combined weight of the load and the lift truck.
- Damage to floor.
- Insufficient overhead clearance and space in the elevator.

Requirements and Recommendations:

- Ensure the elevator has a rated capacity to safely lift the combined weight of the load and the truck.
- Approach elevators slowly and enter squarely after the elevator car is properly leveled. Once on the elevator, neutralize the control, shut off the power, and set the brakes.
- Ensure adequate overhead clearance for lift truck and space in elevator for the lift truck and operator.

Enclosed and Hazardous Areas:

Only designated types of forklifts can be used in certain hazardous locations in the workplace.

Be familiar with OSHA's lift truck designations and hazardous location classifications. Only use powered industrial trucks that have the correct designation for the location's classification.

OSHA Powered Industrial Truck Designations

1. **D.** Diesel powered units with minimal acceptable safeguards against inherent fire hazards.

2. **DS.** Diesel powered units with additional safeguards to the exhaust, fuel, and electrical systems.
3. **DY.** Diesel powered units that have all the safeguards of DS units, plus do not have any electrical equipment including the ignition. They have temperature limitation features.
4. **E.** Electrically powered units with minimal acceptable safeguards against inherent fire hazards.
5. **ES.** Electrically powered units with additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.
6. **EE.** Electrically powered units that have all the safeguards of the E and ES units, plus the electric motor and all other electrical equipment are completely enclosed.
7. **EX.** Electrically powered units with electrical fittings and equipment designed, constructed, and assembled so that the units can be used in certain atmospheres containing flammable vapors or dusts.
8. **G.** Gasoline powered units with minimal acceptable safeguards against inherent fire hazards.

9. **GS.** Gasoline powered units with additional safeguards to the exhaust, fuel, and electrical systems.
10. **LP.** Liquefied petroleum gas units with minimal acceptable safeguards against inherent fire hazards.
11. **LPS.** Liquefied petroleum gas units with additional safeguards to the exhaust, fuel, and electrical systems.

Indoor Air Quality:

When used indoors, forklifts powered with internal combustion engines can present indoor air quality hazards. Cold weather, with the closing of doors and windows, may increase the risk.

Potential Hazards:

- Concentration of fumes.

Requirements and Recommendations:

- Do not operate a gasoline/propane/diesel engine for long periods of time in a confined area, such as a truck trailer.
- Shut the engine off when staying inside a small confined area.
- Do not operate a combustion engine within a warehouse, plant or onboard ship without adequate ventilation.

- Be careful in cold weather. Doors and windows which are normally open may be closed and exhaust and other gases may concentrate.
- Be careful in small rooms or locked off areas where gases may accumulate.
- Drive sensibly. Avoid racing the engine or idling for long periods of time.
- Properly maintain engines and do not operate an engine requiring servicing.
- Consider switching to battery-powered forklifts, if much of the work is in poorly ventilated spaces or operators may be over-exposed to exhaust byproducts.
- Consider upgrading the ventilation system.
- Install CO monitors to detect higher levels of carbon monoxide.

Note: Special Precautions Onboard Ship

If the space to be entered contains an oxygen deficient atmosphere, the space shall be labeled “not Safe for Workers” or, if oxygen-enriched, “Not Safe for Workers – Not Safe for Hot Work.” If an oxygen-deficient or oxygen-enriched atmosphere is found, ventilation shall be provided at volumes and flow rates sufficient to ensure that the oxygen content is maintained at or above 19.5 percent and below 22.0 percent by volume. The warning label may be removed when the oxygen content is equal to or greater than 19.5 and less than 22.0 percent by volume.

Carbon Monoxide:

Forklifts powered with internal combustion engines can cause high levels of carbon monoxide in enclosed work areas.

Potential Hazards:

- Unconsciousness and death may result from carbon monoxide overexposure as the concentration in the bloodstream rises.

Requirements and Recommendations:

- Train employees to recognize the warning signs of excessive exposure.
- Learn to recognize the symptoms and signs of carbon monoxide overexposure.
- Be especially aware of the dangers onboard ship.