Section 14. Forklift Safety

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14.1 Operator Safety

- Excessive speed can lead to accidents. A safe speed is the rate of travel that will permit the forklift to stop well within the clear distance ahead or to make a turn without overturning.

- Operators may be so intent on handling the load that they may forget to look in the direction of travel. Because forklifts are generally driven in the reverse direction as much as the forward direction, the operator must look in the direction of travel.

- Avoid quick stops, starts or turns.

- Before a forklift is left unattended (when the operator is 25 feet or more from the forklift or cannot see it), put the controls in neutral, shut off power, set the brakes, remove the key and lower the forks to the ground. If the forklift is parked on an incline, block the wheels.

- When an operator dismounts the forklift, and is within 25 feet and still in view of the forklift, the load must be fully lowered, the controls in neutral, and the brakes set.

- Do not allow forklifts to run for long periods of time in an enclosed or semi-enclosed area. Concentrations of carbon monoxide may exceed safe levels if adequate ventilation is not provided.

- Operators must keep their feet and legs inside the guarded area of the forklift.

- Wear seat belts.

- Never allow passengers to ride on a forklift.

- Because a forklift is steered by the rear wheels, the operator must watch the swing of the rear of the forklift during turns.

- When operating a forklift indoors, use caution to avoid striking overhead objects such as piping or electrical conduit.
• Operators should not raise or lower loads en route. Loaded or empty, the forks should be carried as low as possible but high enough to avoid striking high or uneven places in the driving surface.
• Do not elevate the load on an inclined or uneven surface.
• When carrying a bulky load that cannot be lowered enough to prevent obstructing the forward view, the operator should drive the forklift backwards.
• Forklifts should ascend or descend grades slowly. When ascending or descending grades in excess of 10%, loaded forklifts should be driven with the load toward the upgrade. Unloaded forklifts should be operated on all grades with the forks toward the downgrade.
• On all grades, the forks should be tilted back and raised only as far as necessary to clear the road’s surface.
• Do not exceed the load limit of the forklift.
• A safety platform is available for the purpose of elevating workers and their tools/materials with the forklift. The following requirements must be followed when the safety platform is used.
  – The platform must be securely attached to the forks.
  – The operator must attend the lift equipment while workers are on the platform.
  – The operator must be in the normal operating position while raising or lowering the platform.
  – Except when inching or maneuvering the forklift at a very low speed, the vehicle must not be moved from point to point while workers are on the platform.
  – Fall protection is not required as long as workers remain within the guardrail of the platform. If a worker must reach outside of the platform, then fall protection equipment must be used. A full-body harness in conjunction with a four-foot fall-restraint lanyard must be attached to the anchor point provided on the frame of the platform.
  – No operator may drive a forklift up to a person standing in front of a fixed object.
  – No one may stand or pass under the elevated portion of a forklift, whether loaded or empty.

14.2 Inspection and Maintenance

• Operators should make daily inspections of controls, brakes, tires, forks, lift system and steering.
• All unsafe conditions must be repaired before the forklift is placed back in service.
• Forklifts requiring repair to the electrical system must have the battery disconnected prior to repair.
• Forklifts must not be altered from their original design. They must not have parts added or eliminated.
• Parts must be replaced only with those of equivalent safety to the original parts.
• The mechanic should maintain a record of inspections and repairs.
• Before repairs are made to any part of the forklift, the mechanic must assure that the load- engaging mechanism is locked out, blocked or otherwise prevented from moving.

14.3 Handling the Load
• All loads should be stable before the forklift is moved.
• Load irregularly shaped objects so that they cannot roll or fall off the forklift.
• Place heavy objects with the weight as low as possible.
• Block round objects like pipe or shafting and, if necessary, tie them so they cannot roll off the forklift.
• Loading to an excessive height usually makes the load unstable.
• When transporting a load, tilt the mast backward so that the load will rest against the vertical backrest.
• When raising or lowering a load while standing still, the operator should not leave the forklift in gear with the clutch depressed. The shift should be returned to the neutral position and the clutch disengaged.
• Inspect pallets before each use. Do not use damaged pallets.
• Operators should insist on the proper identification of all chemicals before moving them and should observe the safety guidelines and regulations for handling chemicals.
• All loads must be within the rated capacity of the forklift.
• Place the load carrier under the load as far as possible. Tilt the mast backward to stabilize the load.

14.4 Fueling Liquefied Petroleum (LP) Gas Forklifts
• Fuel tanks must be designed and approved by DOT or ASME standards.
• All fittings and hoses must be approved for LP gas use by a nationally recognized testing agency such as Underwriters Laboratory and must be properly installed to prevent the release of combustible gas.
• Fuel tanks must be filled outdoors.
• Shut off engine before refueling.
• Remove all sources of ignition such as open flames from the area before fueling begins.
• Smoking is not allowed in the refueling area.
• Coveralls and insulating gloves should be worn during fueling to prevent frostbite to skin and arms. Wear eye protection while refueling LP cylinders.
• Do not overfill containers. When liquid escapes from the 80% bleed orifice, the container is full. Do not add additional fuel.
LP fuel contains an odorizing agent enabling the gas to be easily detected by smell. If you can smell the fuel, do not use the forklift until the source of the leak is identified and repaired.

LP forklifts can be stored or serviced in a garage provided that the LP system is leak-free, the tank is not overfilled, and the fuel tank shutoff valve is closed except when the engine is running and it is not parked near ignition sources.

Each refueling site should be posted with a NO SMOKING sign and should have a fire extinguisher having at least an 8-BC rating.

### 14.5 Training

- WISHA regulations state that only trained and authorized operators shall be permitted to operate a forklift.
- All new operators, regardless of previous experience, should receive training before operating a forklift in the workplace.
- Experienced operators should be given a refresher course every three years, or when observed operating in an unsafe manner, involved in an accident or near miss, new equipment is introduced or existing equipment is modified.
- Training must consist of formal instruction, practical training and evaluation of the operator’s performance in the workplace.
- Operators, regardless of previous experience, must successfully complete a training and evaluation program prior to operating a forklift in the workplace.
- Training shall stress:

#### 14.5.1 Truck related topics
- Operating instructions, including warning and precautions for the types of truck the operator will be authorized to use.
- Differences between the truck and the automobile.
- Location and use of controls and instrumentation.
- Engine or motor operation.
- Steering and maneuvering.
- Visibility (including restrictions due to loading).
- Use of forks and attachments, their use and limitations.
- Vehicle capacity.
- Vehicle stability.
- Any vehicle inspection or maintenance the operator will be required to perform.
• Safe refueling techniques.
• Any other operating instructions, warnings, or precautions listed in the operator’s manual for the types of vehicles the employee is trained to operate.

14.5.2 Workplace-related topics
• Surface conditions where the vehicle will be operated.
• Composition of loads to be carried and load stability.
• Load manipulation, stacking and unstacking.
• Pedestrian traffic in areas where the vehicle will be operated.
• Narrow aisles and other restricted places where the vehicle will be operated.
• Ramps and other sloped surfaces that could affect the vehicle’s stability.
• Closed environments or other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust.
• Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.