

FORKLIFT SAFETY GUIDE

Version	Date	Comments
1	August, 2008	<i>Initial Forklift Safety Guide</i>
2	July, 2009	Periodic review
3	August, 2011	Periodic review
4	August, 2013	Periodic review
5	May, 2015	Periodic review

A. INTRODUCTION

The purpose of this Guide is to provide information regarding required training, proper use, limitations, and maintenance of powered industrial trucks (forklifts). This Guide is based upon Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.178: Powered Industrial Trucks.

B. SCOPE

This Guide applies to all George Mason University employees who operate forklifts as a part of their work duties. Forklifts include all powered industrial trucks defined by OSHA that may be operated by an employee.

C. RESPONSIBILITIES

Operators are any employees who are expected to operate a forklift. Specific responsibilities of forklift operators are:

- Attend *Forklift Safety Training* prior to operation.
- Comply with the manufacturer’s operating instructions and safety information.
- Read, comprehend, and adhere to all labels, warnings, instructions on the forklift and the manufacturer’s manual.
- Complete the *Daily Forklift Inspection Checklist* (Appendix A) prior to operation.
- Report unsafe worksite conditions or forklift deficiencies to supervisor.

Supervisors that oversee employees who operate forklifts are responsible for the following:

- Ensure employees receive required training prior to using a forklift.
- Ensure forklifts receive inspections and maintenance as required by the manufacturer.
- Remove defective forklifts from service (tag out) until repairs are made by a qualified person.

D. TRAINING

Training is provided by the Environmental Health and Safety Office (EHS) and includes formal instruction, completion of a written exam, and a demonstration of forklift proficiency during a hands-on demonstration.

- Classroom training is a one-time requirement.
- Hands-on training is required before operating a forklift and every three years thereafter.
- Operators must participate in hands-on training for each type of forklift they operate.
- An evaluation of the operator's performance on the forklift that they are expected to operate must be completed every three years.
- Retraining is required if:
 - The operator is observed operating the forklift in an unsafe manner;
 - The operator is involved in an accident or near-miss incident;
 - The operator receives an evaluation that reveals deficiencies in operator knowledge or forklift operation;
 - The operator is expected to operate a different type of forklift; or
 - A condition in the workplace changes in a manner that could affect safe operation of the forklift.

E. GENERAL REQUIREMENTS

- Operators must comply with the manufacturer's operating and safety instructions.
- Operators must be at least 18 years of age.
- Operators are required to wear safety belts when equipped.
- All forklifts must have the following legible manufacturer's markings:
 - The weight of the forklift and rated capacity
 - A label or nameplate that indicates testing laboratory approval such as ANSI certification
- Forklifts are not allowed to idle unnecessarily inside buildings or near ventilation intakes.
- If exhaust fumes become a nuisance or an operator or bystander experiences exposure symptoms (e.g., dizziness, disorientation, or respiratory distress), immediately stop operation, remove the operator or bystander to fresh air, and seek medical attention when warranted.
- Forklifts must be inspected each day prior to operation (see Appendix A).
- Forklifts in need of repair or not fully operational must be taken out of service and tagged "Out of Service, Do Not Use" until repaired by a qualified person.
- Do not operate a forklift in a hazardous atmosphere (e.g., flammable vapors) unless the forklift is specifically designed to operate in these conditions.
- A forklift is unattended when the operator is 25 ft. or more away from the forklift or whenever the operator leaves the vehicle and it is not in his/her view.
- When a forklift is left unattended:
 - Load engaging means must be fully lowered,
 - Controls must be neutralized,
 - Power must be shut off,

- Brakes set, and
- Wheels must be blocked if the forklift is parked on an incline.

F. OPERATION

- Forklifts must not be driven up to anyone standing in front of a wall or fixed object.
- No person is allowed to stand or pass under the elevated portion of a truck, whether loaded or empty.
- Unauthorized personnel are not permitted to ride on forklifts.
- Persons must not stand on the forks or accompany a load during travel.
- Arms and/or legs are prohibited from being placed between the uprights of the mast or outside the running lines of the forklift.
- A safe distance must be maintained from the edge of ramps or platforms while on any elevated dock or platform.
- Forklifts must not be used for opening or closing freight doors.
- Brakes must be set and wheel blocks must be in place to prevent movement of trucks or trailers while loading or unloading. Fixed jacks may be necessary to support a semitrailer during loading or unloading when the trailer is not coupled to a tractor.
- The flooring of trucks and trailers must be checked for breaks and weakness before they are driven onto.
- There must be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc. to operate a forklift.
- A load backrest extension must be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.
- Only approved forklifts can be used in hazardous locations.
- Fire aisles, access to stairways, and fire equipment may not be obstructed.
- Forklifts must not be operated within 10 feet of energized overhead lines.

G. TRAVELING

- All traffic regulations, speed limits, traffic signs, and signals must be observed.
- A safe distance of three truck lengths should be maintained from the vehicle ahead.
- Other vehicles traveling in the same direction at intersections, blind spots, or other dangerous locations must not be passed.
- Operators 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 must travel with the load trailing.
- Operators must look in the direction of, and keep a clear view of the path of travel.
- Grades must be ascended or descended slowly.
- When ascending or descending grades in excess of 10 percent, loaded forklifts must be driven with the load upgrade.
- On all grades, the load and load engaging means must be tilted back if applicable and raised only as far as necessary to clear the road surface.
- Under all travel conditions the forklift must be operated at a speed that will permit it to be brought to a stop in a safe manner.

- Stunt driving and horseplay are not permitted.
- The driver is required to slow down on wet and slippery floors.
- Dockboard/bridge plates must be properly secured and never exceed their rated capacity.
- Running over loose objects should be avoided.
- While negotiating turns, speed must be reduced to a safe level.
- All forklifts traveling on public roads must display a slow moving vehicle emblem.

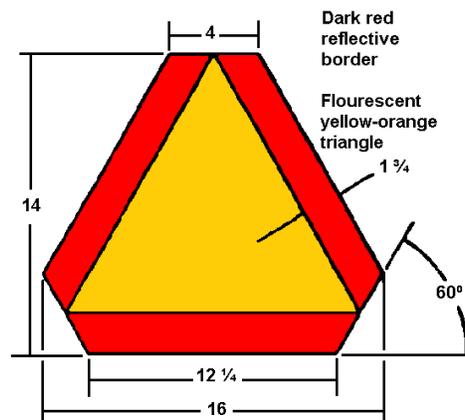


Figure 1
FIGURE J-7. - SLOW-MOVING VEHICLE EMBLEM

NOTE: All dimensions are in inches.

H. LOADING

- Only stable or safely arranged loads must be handled. Caution must be exercised when handling off-center loads which cannot be centered.
- Rearrange loads as necessary to center and stabilize loads prior to traveling or loading.
- Loads that cannot be stabilized should be tied down, strapped, or secured to the pallet in an effective way.
- Only loads within the rated capacity of the forklift may be handled.
- The long or high (including multiple-tiered) loads which may affect capacity must be adjusted.
- Forklifts equipped with attachments must be operated as partially loaded trucks when not handling a load.
- A load engaging means (e.g., forks) must be placed under the load as far as possible; the mast must be carefully tilted backward to stabilize the load.
- Extreme care must be used when tilting the load forward or backward, particularly when high tiering.
- Tilting forward with load engaging means elevated is prohibited except to pick up a load.
- An elevated load must not be tilted forward except when the load is in a deposit position over a rack or stack.
- When stacking or tiering, only enough backward tilt to stabilize the load should be used.

I. FORKLIFT CONDITION

- If at any time a forklift is found to be in need of repair, defective, or in any way unsafe, the forklift must be taken out of service until it has been restored to safe operating condition.
- No forklift shall be operated with a leak in the fuel system until the leak has been corrected.

J. MAINTENANCE

- Any forklift not in safe operating condition must be removed from service. All repairs must be made by authorized personnel.
- Forklifts in need of repairs to the electrical system must have the battery disconnected prior to such repairs.
- All parts of any such forklift requiring replacement must be replaced only by parts equivalent as to safety with those used in the original design.
- Forklifts must not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts.
- Additional counterweighting of forklifts shall not be done unless approved by the manufacturer.
- Forklifts must be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination must be made at least daily.
- Where forklifts are used on a round-the-clock basis, they must be examined each shift.
- Forklifts shall be kept in a clean condition, free of lint, excess oil, and grease.

K. REFUELING AND FUEL STORAGE

- All propane cylinders must be secured outdoors when not in use.
- Liquid-fuel powered forklifts must be refueled outdoors.
- Fuel tanks must not be filled while the engine is running. Spillage should be avoided.
- Spillage of oil or fuel should be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.
- The operator must be off the forklift during refueling or cylinder exchange.
- Smoking is permitted during refueling, cylinder exchange, or in the battery charging area.
- Open flames must not be used for checking electrolyte level in storage batteries or gasoline level in fuel tanks.
- A fire extinguisher must be located at the fueling station.

The information contained in this Guide is not inclusive of all OSHA regulations. Please contact Environmental Health and Safety Office at (703) 993-8448 or visit www.OSHA.gov for more information regarding workplace hazards, safety precautions, and regulations.

DAILY FORKLIFT INSPECTION CHECKLIST

For recordkeeping purposes, maintain this form on file when inspection has been completed.

Forklift Manufacturer:		Date:	
Forklift Model, Type, Year:		Inspected By:	
Items to be Inspected	Satisfactory Condition	Defective	Date Corrected (if defective)
Tires	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Horn	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Lights	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Battery	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Controls and gear shifts	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Lift system (includes load limit switches, load engagement means, chains, cables, forks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Brake and radiator fluid level	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Steering	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Hydraulic system (for leaks)	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Fuel system (for leaks)	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Overhead guards (for damage)	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Gauges	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Capacity plates attached	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Operator's manual present	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Seat belt	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Propane tank (Is it locked down in propane powered forklifts?)	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Propane tank free of rust, corrosion or damage	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Engine oil	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Transmission fluid	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Name plates, labels, and markings (in place and maintained in legible condition)	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Exhaust system (for sparks, flames)	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___
Is forklift clean, free of trash, excess oil and grease?	<input type="checkbox"/>	<input type="checkbox"/>	___/___/___

List specific and any additional problems found with the forklift	Date Corrected
1.	___/___/___
2.	___/___/___
3.	___/___/___
4.	___/___/___
5.	___/___/___

Work Order Number for Deficiencies: _____