

CHAPTER 8 FORKLIFTS, WORK PLATFORMS, AND SPECIAL PURPOSE VEHICULAR REQUIREMENTS

8.1 INTRODUCTION

The use of rigging tackle and lifting and handling devices to hoist people, materials, and equipment involves hazards having potential consequences ranging from minor injuries and/or minor property damage, to fatalities and/or major property losses. Reduction of these hazards to risk levels that are acceptable to Laboratory management requires the proper design, maintenance, and use of mechanical devices; care and common sense; proper training and supervision; and the careful adherence to approved work procedures.

The hoisting and rigging program managed by the PPPL lift manager involves the use of cranes, hoists, slings, and rigging tackle. The practical application of the hoisting and rigging program at PPPL is specified in ENG-021.

This section will only address the use of fork trucks, elevating and rotating work platforms, and special purpose vehicular equipment, i.e., graders, loader dozers, self-propelled graders, front end loaders, and backhoes.

8.2 DEFINITIONS

Forklift Operator - A person who meets all of the training requirements through the Office of Certification and Training and has demonstrated the ability to operate a forklift safely.

Work Platform Operator - A person who meets all of the training requirements through the Office of Certification and Training and has demonstrated the ability to operate a work platform safely.

Special Purpose Vehicle Operator - A person who meets all of the training requirements through the Office of Certification and Training and has demonstrated the ability to operate earth moving equipment safely.

8.3 FORKLIFTS

8.3.1 Operators

A. Operators will be tested during practical training on their capability of:

1. Manual dexterity, i.e., mounting and dismounting forklift trucks and ability to operate the controls.

2. Field of vision during the maneuvering of loads, i.e., picking up and setting down loads, backing up, turning, etc.
 3. Ability to hear sufficiently, i.e., horns, voice commands, etc.
- B. If the instructor of the practical training determines that the operator is not qualified to operate a forklift truck safely due to some physical impairment, the operator will then be required to see the Laboratory physician for further diagnosis.

8.3.2 Training and Qualification

In order to qualify as a forklift truck operator or a forklift rigger, the employee must successfully complete the training. The following requirements must be met:

Forklift Operator

Training

Forklift Training Class
Fire Extinguisher Course

Testing

Written Exam & Practical Test
Written Exam & Practical Test

Renewal

Every 3 years
One time only

Forklift Rigger

Training

Forklift Rigging Class
Fire Extinguisher Course

Testing

Written Exam & Practical Test
Written Exam & Practical Test

Renewal

Every 3 years
One time only

8.3.3 Forklift Identification

Every truck shall have attached to it a legibly inscribed, corrosion-resistant nameplate with the model or serial number, weight of the truck with attachments, and the capacity of the truck with attachments at maximum elevation with load laterally centered. Attachments allowed shall be listed on the truck. Attachments must be approved by the manufacturer. Attachments shall have a nameplate that lists the forklift truck on which they may be used.

8.3.4 Inspections

- A. Materiel Control shall ensure forklift trucks receive a preventive maintenance inspection by a qualified person at a minimum of every six months.

- B. If an inspection has not been completed by the end of the sixth month, the equipment shall be tagged out-of-service by Materiel Control.
- C. Forklifts shall be inspected when assigned to service and annually thereafter by a qualified inspector provided by the subcontractor. This annual inspection will include a Visual Non-destructive Evaluation (NDE) on visible areas of the forklift tines (forks). If the visual inspection discovers cracks, linear indications, laps, or seams, Materiel Control will have the fork replaced. Quality control will perform liquid dye penetrant testing at the request of Materiel Control to aid in identifying or verifying the extent of cracks, linear indications, laps, or seams prior to replacement of forks. Forks shall be removed for thorough NDE at intervals of 2,500 operating hours or three years, whichever occurs first.
- D. Maintenance and inspections shall be performed according to the manufacturer's recommendations and as a minimum shall meet the requirements of OSHA, 29 CFR 1910, and ANSI B56.1.
- E. A tag with an inspection date, expiration date, and the inspector's signature shall be attached to the equipment.
- F. A visual inspection shall be performed by the operator prior to use, once per shift. If any part is found deteriorated or operation is not as designed, the equipment shall be taken out-of-service until it is repaired. Special attention shall be given to the following (no documentation required):

Tires and inflation pressure

Warning devices

Lights

Battery

Controller

Lift and tilt systems, load-engaging means, chains, cables, and limit switches

Brakes

Steering mechanism

Fuel system

8.3.5 Load Testing

- A. Prior to initial use, all new or extensively repaired or altered forklifts shall be tested and inspected by, or under the direction of, an authorized person within the Facilities Engineering Division (FED).
- B. Load testing shall be in accordance with OSHA and ANSI standards.
- C. Load testing shall be performed by a qualified person within the FED.

8.3.6 Purchasing

Acquisitions for all forklift trucks must be approved by Materiel Control, FED, and ES&H by using Form 5029, Non-Chemical Requisition Review Sheet.

8.3.7 Records

- A. Inspection reports shall be maintained by Materiel Control.
- B. Non-destructive examination reports shall be prepared by the contractor and retained by Materiel Control.
- C. Load testing reports shall be prepared by the FED and retained by Materiel Control.
- D. Records shall be retained in the Materiel Control Transportation Services master files for the life of the equipment while at PPPL.

8.4 ELEVATING AND ROTATING WORK PLATFORMS

This section addresses the operation of vehicle-mounted devices—telescoping or articulating, or both—which are used to position personnel and/or tools and/or equipment above or below the normal work surface. It also addresses the operation of manually and self-propelled platforms such as scissor lifts.

8.4.1 Operators

Elevating and rotating work-platform operators will be tested in accordance with Section 8.3.1 using the same format as the forklift truck operators, e.g., manual dexterity, vision, and hearing.

8.4.2 Certification

When an individual has passed the written and practical test for work-platform operation, a card will be issued to the individual. The individual must successfully complete the following training:

Training	Testing	Renewal
Practical Fire Extinguisher Course	Written	Every 3 years One time only

8.4.3 Identification

Each work platform shall have attached to it a legibly inscribed, durable, corrosion-resistant nameplate consisting of make and model, rated-load capacity, aerial-device height and reach, maximum pressure of the hydraulic system, maximum voltage of the electrical system, cautions and restrictions of operation, date of inspection, and expiration date.

8.4.4 Inspections

- A. Materiel Control shall ensure that a preventative maintenance inspection of elevating and rotating work platforms is conducted at a minimum of every six months and is performed by a qualified person.
- B. If a periodic inspection has not been performed within the last six months, the equipment shall be tagged out-of-service by Materiel Control.
- C. A tag with the date of inspection, expiration date, and the inspector's signature shall be attached to the equipment.
- D. A visual inspection shall be performed by the operator prior to use, once per shift. If any parts are determined to be partially disabled or not operating as designed, the equipment shall be

tagged out by the user. Special attention shall be given to the following (no documentation required):

- 1. Operating controls and associated mechanisms for conditions interfering with proper operation.
- 2. Operating controls and associated mechanisms for excessive component wear and contamination by foreign material.

3. Visual and audible safety devices.
4. Hydraulic or pneumatic systems.
5. Tires and inflation pressure.
6. Damage or contamination of fiberglass or other insulating components.
7. Battery.
8. Controller.
9. Chains, cables, and limit switches.
10. Brakes.
11. Steering mechanism.
12. Fuel system.

8.4.5 Load Testing

Prior to initial use, all new or extensively repaired or altered work platforms shall be tested and inspected by or under the direction of an authorized person (FED). Testing shall be done on level ground, and the boom shall be extended through its entire range of operation. Load testing shall be in accordance with manufacturer's recommendations.

8.4.6 Purchasing

Acquisitions for all work platforms must be approved by Materiel Control, FED, and ES&H by using Form 5029, Non-Chemical Requisition Review Sheet.

8.4.7 Records

- A. Periodic inspection reports shall be maintained by Materiel Control.
- B. Load testing reports shall be prepared by FED and retained by Materiel Control.
- C. Periodic inspection and load testing reports shall be retained for the life of the equipment in Materiel Control Transportation Service master files while at PPPL.

8.5 SPECIAL PURPOSE VEHICULAR EQUIPMENT

8.5.1 Operators

Special-purpose vehicular equipment operators will be tested in accordance with paragraph 8.3.2. A separate certification is required for each type of special purpose vehicle.

8.5.2 Certification

When an individual has passed the practical field test of the equipment and has shown the ability to safely operate the equipment, a card will be issued. The individual must successfully complete the following training:

Training	Testing	Renewal
Practical Fire Extinguisher Course	Field operations	Every 5 years One Time Only

8.5.3 Identification

All special-purpose vehicular equipment shall have attached to it a tag with the date of inspection, the expiration date, and the inspector's signature.

8.5.4 Maintenance and Inspections

Maintenance and preventive maintenance inspections on special-purpose vehicular equipment shall be performed in accordance with the manufacturer's recommendations. Materiel Control shall ensure maintenance is performed by a qualified person.

8.5.5 Requirements

All special-purpose vehicular equipment shall meet the requirements of OSHA Construction Industry, Parts 1926.600, 1926.601, and 1926.602.

8.5.6 Purchasing

Acquisitions for special-purpose vehicular equipment must be approved by Materiel Control, FED, and ES&H by using Form 5029, Non-Chemical Requisition Review Sheet.

8.5.7 Records

- A. Records of special-purpose vehicular equipment shall be maintained by Materiel Control.

- B. Maintenance and inspection reports shall be retained for the life of the equipment while at PPPL by the Materiel Control Division.

8.6 REFERENCES

ENG-021, "Hoisting and Rigging Program" (Previously TOP 23.027).

ANSI B56.1, "Low Lift and High Lift Trucks."

ANSI B56.2, "Powered Industrial Trucks, Type Designation, and Area of Use" (NFPA 505).

ANSI B56.3, "Electric Battery-Powered Industrial Trucks" (UL 558).

ANSI MH11.4, "Forks and Forks Carriers for Powered Industrial Forklift Truck."

OSHA 29 CFR 1910.

OSHA Construction Industry, Part 1926.600, 1926.601, 1926.602.

Materiel Control Policy and Procedures.