

# California Institute of Technology

## Forklift and Industrial Truck Program



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## Contents

<b>PURPOSE</b> .....	4
<b>SCOPE</b> .....	4
<b>DEFINITIONS</b> .....	4
<b>RESPONSIBILITIES</b> .....	4
<b>PROGRAM PROCEDURES</b> .....	5
<b>APPENDIX I: FORKLIFT PRE-OPERATION CHECKLIST</b> .....	8

## PURPOSE

The purpose of this Program is to ensure that using a forklift/industrial truck is implemented as a functional process at the Institute for eliminating hazards from the workplace. The Program provides employees with information and guidelines which will help them operate the equipment in compliance with safework practices and regulations.

## SCOPE

This Program applies to all Institute employees whose job requires the operation of a forklift/industrial truck. This Program is written in accordance with the [California Code of Regulations \(CCR\) Title 8, §3649-3668.](#)

## DEFINITIONS

**Authorized Forklift Operator** – An employee who has successfully passed a written and in-field skills test for forklift and industrial truck certification.

**Data Plate** – Manufacturer’s equipment specification and information data, which includes load rating/lift capacity, lift heights, load center measurements, vehicle weight, and vehicle attachments.

**Electrical Power Jack** – An Electrical Powered Lift that the operator walks behind that is made for carrying palletized material.

**Forklift** – A type of powered industrial truck that is used to lift and move materials short distances.

**Industrial Truck** – A mobile power-driven truck used for hauling, pushing, lifting, or tiering materials where normal work is normally confined within the boundaries of a place of employment. As used in this definition, industrial trucks include unmanned automated or semi-automated transport vehicles which utilize wheels and run on guide rails or narrow gauge rail tracks and can be operated by either remote control (e.g. a hand- held pendant) or radio communication.

**Masts** – Part of the fork carriage assembly that the hydraulic lift cylinders are attached which allows the load to be lifted up and down.

## RESPONSIBILITIES

### Directors, Managers, Supervisors

- Have the authority to implement this Program.
- Ensure adequate funding for the implementation and maintenance of this program.
- Ensure that Forklift and Industrial Truck practices and procedures are clearly communicated and understood by employees through training programs.
- Ensure that all Authorized Forklift Operators are trained in the significance and purpose of this Forklift and Industrial Truck Program.
- Ensure that non-Institute personnel are not allowed to operate Institute forklift/industrial trucks.

## **Environmental Health and Safety**

- Coordination of forklift training and certification for departments.
- Conduct periodic reviews of the Forklift and Industrial Truck Program.

## **Employees**

- Being trained and certified in forklift/industrial truck's prior to unsupervised operation.
- Performing pre-operation inspections prior to each shift.
- Notify appropriate Supervisor/Motor Pool and place an out of service tag on the forklift/industrial truck's steering wheel if it is found to be unsafe.
- Immediately notifying their Supervisor of all forklift/industrial truck accidents, incidents, or near-misses.

## **PROGRAM PROCEDURES**

### **Pre-Operation Inspection**

1. Employees shall inspect the forklift/industrial truck prior to operation of each shift. An optional checklist tool can be used for this and can be found [here](#).
2. If deficiencies are noted during the Pre-Operation Inspection, the employee must notify the appropriate Supervisor for which the forklift belongs to (either the Transportation Supervisor or Stockroom Supervisor). Motor Pool shall place an out of service tag on the forklift/industrial truck's steering wheel until the deficiencies have been corrected.
3. Pre-operation inspections shall include proper functioning of: tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system for forklifts (forks, chains, cable, and limit switches).

### **Carrying Loads**

1. Check that the load does not exceed the Forklift/Industrial Lift Truck's rated load capacity, as stated on the forklift/industrial truck Data Plate.
2. The loads must be safely arranged, stable, and centered prior to a move.
3. Forks should be spread open and locked into place when moving a load.
4. Loads of excessive width, length, or height shall be balanced, braced, and secured to prevent tipping or falling.
5. Hazardous materials shall be secured, as to prevent spills from occurring.
6. When carrying loads downgrade the path of travel must be with the load trailing and the load first when going upgrade.

### **Operating Procedures**

1. Before operating the Forklift or Industrial Lift Truck, conduct a Pre-Inspection.
2. The operator must wear a seatbelt at all times.
3. Passengers are not allowed on Forklifts/Industrial Trucks.
4. Horseplay is not allowed on or around any forklift/industrial truck.

5. The operator must not allow anyone to stand or walk underneath the forks.
6. The operator must not elevate anyone with a Forklift or Industrial Truck.
7. The operator must not drive up to anyone standing in front of a fixed object such that the person could be caught between the Forklift or Industrial Lift Truck and the object.
8. Ensure that a forklift/industrial truck is not operated with a leak in its fuel system.
9. The operator must keep all body parts within the confines of the Forklift or Industrial Truck.
10. The operator must not operate the Forklift or Industrial Lift Truck on a floor or surface that will not support the weight of the Forklift or Industrial Lift Truck.
11. If the Forklift/Industrial Lift Truck needs to be left unattended (operator is over 25 feet from/or out of sight of the Forklift or Industrial Truck), the operator must set the brakes, the mast brought to the vertical position, and the forks are left in the down position or:
  - i. The power shall be shut off and, when left on an incline, the wheels shall be blocked; or
  - ii. The power may remain on provided the wheels are blocked front and rear.
12. If the operator must park on an incline, the wheels of the forklift/industrial truck must be blocked or chocked.

## **Traveling**

1. When traveling with or without a load, the forks must be retracted back and raised as high as necessary to clear the surface traveling on, but no higher than 6 inches from the surface.
2. Grades shall be ascended or descending slowly.
3. Follow all Institute driving policies. Pedestrians must be given the right of way.
4. Maintain a safe driving distance, approximately three truck lengths, from a vehicle ahead of you.
5. Do not pass another vehicle traveling in the same direction.
6. Slow down and sound the horn when approaching places where vision is obstructed.
7. If the load obstructs the forward view, the driver shall travel with the load trailing.
8. Never turn sideways on an incline.

## **Training**

- Prior to certification, a Supervisor may allow an employee to operate a powered forklift/industrial truck only:
  - Under the direct supervision of persons who have the knowledge, training, and experience to train operators and evaluate their competence.
  - Where such operation does not endanger the employee or other employees.
  - Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, and written material), practical training (demonstrations performed by the trainer and practical exercises performed by the employee) and evaluation of the operator's performance.

- All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered Industrial Truck operators and evaluate their competence.
  - Will coordinate with the Environmental Health and Safety office in scheduling initial and reoccurring forklift training for their employees that fall under this Program. Reoccurring training will be every three years unless factors mandate more frequent refresher training.
  - Will coordinate refresher training, in relevant topics, for their employees when:
    - i. The operator has been observed operating the vehicle in an unsafe manner.
    - ii. The operator has been involved in an accident or near-miss incident.
    - iii. The operator has received an evaluation that reveals that the operator is not operating the truck safely.
    - iv. The operator is assigned to drive a different type of truck.
    - v. The condition in the workplace changes in a manner that could affect safeoperation of the truck.

## APPENDIX I: FORKLIFT PRE-OPERATION CHECKLIST



### Forklift Pre-Operation Checklist

As a forklift operator, pre-operation inspections shall be completed prior to operation, for each shift.

This optional checklist may be used to support the pre-operation inspection process.

**Do not use an unsafe forklift! Your safety at all times is key.**

Forklift Make:		Model:				Serial #:					
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Initials / Date:			/	/		/	/		/	/		/	/
<b>Checks: Engine Off</b>		OK		Service Needed	OK		Service Needed	OK		Service Needed	OK		Service Needed
1	Leaks – no visible oil.												
2	Warning decals, data plate, operator's manual present												
3	Tires are inflated, free of excessive wear/damage. Nuts are tight.												
4	Overhead guard in place, not bent, cracked, or loose.												
5	Forks and mast not bent, worn, or cracked. Upper limit stops OK.												
6	Load back rest extension is in place, not bent, cracked, or loose.												
7	Lights (head, tail & warning) appear to be free of damage.												
8	Fuel Tank (secured, connections, hoses)												
9	On-forklift charger works properly												
10	Off-forklift charger works properly												
11	Hydraulic fluid is at the appropriate level.												
12	Brake fluid is at the appropriate level												
13	Controls plainly marked, indicate the direction of travel or motion.												
14	Seat belt or restraint functions properly and is not damaged.												
Initials / Date:			/	/		/	/		/	/		/	/
<b>Checks: Engine On – Unusual Noises Must Be Investigated Immediately</b>		OK		Service Needed	OK		Service Needed	OK		Service Needed	OK		Service Needed
15													
16	Horn works.												
17	Turn signal (if equipped) operates smoothly.												
18	Lights (head, tail and warning) work and are aimed correctly.												
19	Battery indicator lamp, gauges, and instruments are working.												
20	Lift, lower, & tilt operate smoothly, no excessive drift or "chatter."												
21	Drive Control (forward/reverse) operates smoothly.												
22	Backup alarm (if equipped) works.												
23	Accelerator (or Direction Control Pedal) operates smoothly.												
24	Steering operates smoothly and responsively, free of excessive play.												





## Deficiency Log

Indicate below which line item from the inspection checklist you are referencing. Provide a brief description of the problem. Remove the forklift from service as necessary, tag with an appropriate notice, and date when the service removal was initiated. Once the deficiency has been corrected, place forklift back in service and document the date.

[illegible]