

Chapter 48: [Industrial Trucks](#)

Operating Requirements

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URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/indtruckReqOperating.pdf>

1 Purpose

The purpose of these requirements is to ensure *industrial trucks* are operated safely. They cover the use of industrial trucks. They apply to workers (as *operators*, *spotters*, and *receivers*), and supervisors.

2 Requirements

Industrial trucks must be operated in accordance with [8 CCR 3649–3669](#) and the requirements below.

2.1 Personnel

Only qualified and authorized workers may operate an industrial truck. A *spotter* is required when the operator's view is obstructed by the load or when operating in a congested area. A *receiver* is required when the load is to be lifted to or from a second floor or higher. Operators must review these requirements when first assigned as an operator, then annually as prompted by the industrial trucks program manager.

2.2 Pre-use Inspection

- Before each shift conduct a pre-use *inspection* (see [Industrial Trucks: Inspection Procedures](#)).

2.3 Pre-lift Review

- Review the lift with spotter and receiver (if required), evaluate and resolve any concerns, and establish a means of communication to be used during the lift

2.4 Loading

- Stay within the rated capacity
- Keep the heavy end of load toward the backrest
- Tip the load back slightly and check load stability before travel
- Do not exceed two layers of a loose load
- Know what's behind the load
- Keep forks as wide as possible under a load

- Assess the lift to be performed and determine if the load needs to be secured
- Secure load to pallet rest or backrest if traveling on SLAC roadways or if needed to move load safely
- Secure the area beneath the load, using such means as warning tape, cones, or barriers, when the load is to be lifted to or from a second floor or higher

2.5 Using Lifting Fixtures and Extensions

- Use lifting fixtures according to manufacturer's instructions
- Include fixture (except fork extensions) when calculating total mass of load
- When a lift truck is used to elevate personnel, comply with [8 CCR 3657](#)

2.6 Using Pallet Movers (Jacks)

- Push (rather than pull) loads
- Avoid pinching yourself or others between load and wall
- Enter tight spaces load first

2.7 Using

2.7.1 With or without a Load

- Wear seatbelt
- Travel with forks just high enough to clear obstructions
- Make sure hands are clean and dry
- Stay three truck lengths behind other vehicles
- Avoid and warn pedestrians
- Avoid approaching folks near fixed objects
- Keep hands and feet inside the forklift
- Do not exceed the authorized or safe speed and always maintain a safe distance from other vehicles. A safe distance may be considered to be approximately 3 truck lengths or preferably a time lapse of 3 seconds passing the same point.
- Do not exceed 2.5 miles per hour horizontal speed when the operator's platform exceeds 36 inches
- Do not operate a truck when the operator's platform is elevated more than 152 inches
- Only use steering knobs if the truck is equipped with power steering

2.7.2 Without a Load

- Going uphill or downhill, travel with forks pointed in direction of travel
- Carry no passengers
- Limit speed to about five miles per hour in buildings; 15 on roadways

2.7.3 With a Load

- Going downhill, travel in reverse, with forks pointed uphill and load tilted back
- Limit speed to about five miles per hour
- With a vision-blocking load, drive in reverse or use a spotter (see Section 2.7.4)
- Be careful to keep load below overhead obstacles like doorways, roll-up doors, and sprinklers
- Do not raise or lower load while traveling
- Allow plenty of room to maneuver and brake
- When on traveling SLAC roadways, secure load to the truck
- When the load is to be lifted to or from a second floor or higher, make sure receiver has removed load before moving the truck

2.7.4 To Open Doors

When using an industrial truck to open and close doors, the following must be in place:

- A device specifically designed for opening and closing doors must be attached to the truck. The force applied by the device to the door should be applied parallel to the direction of travel of the door.
- The entire door opening operation must be in full view of the operator.
- The truck operator and other personnel must be clear of the area where the door might fall while being opened.
- If loads are lifted by two or more trucks working in unison, the total weight of the load must not exceed the combined rated lifting capacity of all trucks.

2.7.5 On Roadways

- Consider having the load transported by Facilities, if it is expensive, delicate, large, or otherwise difficult to lift or move
- Evaluate the travel path and ensure roadway conditions and other factors that may cause problems are assessed. The roads and pathways at SLAC are variable, and may be steep, uneven, potholed, or paved with asphalt. Consider current road closure status, the location of blind spots, narrow roads/pathways, and construction projects that may cause damage or restrict movement.
- Transport the load on a flatbed or other vehicle instead of transporting it by forklift, if possible and appropriate (contact Fleet Services). Use of a truck over a forklift may be a better option when the load
 - Would affect the drivability of the forklift
 - Is not easily secured to the forklift
 - Could possibly be damaged due to road conditions or travel path
- Consider moving the materials/equipment during off hours to avoid interactions with vehicles or pedestrians and bicyclists
- Use an escort/pilot vehicle when the load
 - Obscures the operator's vision

- Can endanger pedestrians and/or bicyclists or vehicles because of its size (for example, extends the width of a lane)
- Requires the forklift to travel very slowly to transport the item safely
- Consider using an escort/pilot vehicle when the forklift needs to be driven backwards either because the operator's vision is obstructed or the grade requires it

Note An escort/pilot vehicle in both the front and back is desirable. If only one is available, position it in front. The travel path must be clearly understood by both drivers, a method of communication agreed to before moving the load, and the escort/pilot vehicle should have flashing lights. SLAC Site Security can provide this service.

- Select a forklift appropriate for the task. Forklifts operated on shared roadways must have appropriate tires (not designed for warehouse use only and with treads); brake lights; turn signals; and if operating at dusk or night front and rear headlights
- Forklift operators driving on roadways must not wave vehicles by. If determined appropriate, they should pull over and stop so vehicles can safely pass.
- A spotter is required when
 - The operator's view is obstructed by the load or
 - Operating in a congested area

Note The spotter does not need to be an additional person with the sole purpose of spotting. Spotters should wear high visibility safety clothing, for example, a safety yellow or orange vest or jacket. A handheld stop/yield sign can help the spotter communicate with pedestrians, bicyclists, and other vehicles.

2.7.6 Indoors

There are restrictions on what types of industrial trucks may be used indoors. (See [Traffic and Vehicular Safety: Indoor Vehicle Use Requirements](#).)

2.7.7 In Hazardous Areas

2.7.7.1 Hazardous Atmospheres

When operating an industrial truck in a hazardous atmosphere, the requirements of [NFPA 505](#) will be met, including keeping the source of the hazard below 20 percent of its *lower explosive limit (LEL)*.

2.7.7.2 Low Light

When industrial trucks operate in areas where general lighting is less than 2 foot candles per square foot, directional lighting will be provided on the truck.

2.7.7.3 Elevators and Confined Areas

Industrial trucks may not be run onto any elevator unless the driver is specifically authorized to do so. Before entering the elevator, the driver must determine that the capacity of the elevator will not be

exceeded. Once on an elevator, the industrial truck's power must be shut off and the brakes set. Motorized hand trucks must enter elevators or other confined areas with the load end forward.

2.7.7.4 At Heights

Where a clearance restriction or the nature of the work prohibits the use of standard guardrails, and the operator is exposed to a fall of 4 feet or more, a personal fall arrest, a personal fall restraint, or positioning device system as defined in [8 CCR 3207](#) must be used. The lanyard length for a personal fall arrest system must be such that the operator has freedom of movement in the working area but must be rigged such that the operator can neither free fall more than 4 feet nor contact any lower level. Lanyards must be arranged as to not cause a condition where the operator could trip on the lanyard. (See [Chapter 45, "Fall Protection"](#).)

2.8 If the Truck Starts to Tip

- DO NOT JUMP from an industrial truck during a tip-over
- Press the wheel hard to press yourself in your seat
- Brace yourself with your feet
- Go with the tip

2.9 Parking

- Park forklifts
 - Without a load
 - Out of traffic
 - With the tips of the tines directly on the ground
- After parking an industrial truck
 - Neutralize the controls
 - Apply parking break
 - Chock wheels (when on incline)
 - Remove and secure keys

2.10 No Idling

Diesel-fueled off-road vehicles and equipment, including industrial trucks, may not idle for more than five consecutive minutes. The idling limit does not apply to idling

- When queuing
- To verify the vehicle is in safe operating condition, to ensure safe operation of the vehicle, or to bring the machine system to operating temperature;
- For testing, servicing, repairing or diagnostic purposes;
- Necessary to accomplish work for which the vehicle was designed (such as operating a crane).

(See [Chapter 30, “Air Quality”](#).)

3 Forms

The following forms and systems are required by these requirements:

- None

4 Recordkeeping

The following recordkeeping requirements apply for these requirements:

- None

5 References

[SLAC Environment, Safety, and Health Manual](#) (SLAC-I-720-0A29Z-001)

- [Chapter 48, “Industrial Trucks”](#)
 - [Industrial Trucks: Inspection Procedures](#) (SLAC-I-730-0A21C-009)
- [Chapter 13, “Traffic and Vehicle Safety”](#)
 - [Traffic and Vehicular Safety: Indoor Vehicle Use Requirements](#) (SLAC-I-720-0A21S-001).
- [Chapter 30, “Air Quality”](#)
- [Chapter 45, “Fall Protection”](#)

Other Documents

- Title 8, *California Code of Regulations*, “Industrial Relations”, Division 1, “Department of Industrial Relations”, Chapter 4, “Division of Industrial Safety”, Subchapter 7, “General Industry Safety Orders”, Group 4, “General Mobile Equipment and Auxiliaries”, Article 25, “Industrial Trucks, Tractors, Haulage Vehicles, and Earthmoving Equipment” ([8 CCR 3649–3669](#))
- Title 8, *California Code of Regulations*, “Industrial Relations”, Division 1, “Department of Industrial Relations”, Chapter 4, “Division of Industrial Safety”, Subchapter 7, “General Industry Safety Orders”, Group 1, “General Physical Conditions and Structures”, Article 2, “Standard Specifications”, Section 3207, “Definitions” ([8 CCR 3207](#))
- National Fire Protection Association (NFPA) 505, “Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations” ([NFPA 505](#))