

# **Chapter 21 – Industrial Vehicles**

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## 21.1 Foreword

Industrial vehicles can simplify many material handling tasks. However job injuries associated with the operation of industrial vehicles have increased sharply. The largest number of injuries involve moving vehicles. This document contains procedures and operating rules to protect County employees from industrial vehicle hazards.

## 21.2 Introduction

These procedures are *not a substitute* for CAL/OSHA forklift operator safety training. The procedures are useful for supervisors, operators, pedestrians, and employees who work around industrial vehicles and those who are responsible for industrial equipment operations and preventing injuries and fatalities.

This document is mandated by the Federal Code of Regulations, California Code of Regulation and is part of the County's Occupational Injury and Illness Prevention Program. Regulatory sections can be found in Section 21.8 of this document.

## 21.3 Scope

This policy applies to all employees who use or work around an industrial vehicle. For the purpose of this policy, industrial vehicle is defined as: Examples of industrial vehicles can be found in Section 21.9 Appendix B.

## 21.4 Operating Rules and Safety Procedures

Whenever industrial vehicles are used, a set of operating rules shall be posted and enforced. Cal/OSHA Operating Rules for posting are provided in Appendix 21.9, Section C. At a minimum, these rules shall include the following:

- Only drivers authorized by the County and trained in the safe operations of industrial vehicles shall be permitted to operate such vehicles.
- Before starting to operate an industrial vehicle, remember the following rules:
  - Stunt driving and horseplay are prohibited.
  - Riders shall not be permitted on vehicles or the forks of the lift truck unless provided with a safety platform (per Section 3657 requirements).
  - Employees shall not place any part of their bodies outside the running lines of an industrial vehicle or between mast uprights.
  - Employees shall not be allowed to stand, pass, or work under the elevated portion of any industrial vehicle, loaded or empty, unless it is physically blocked to prevent it from falling.
- Drivers shall check the vehicle at least once per shift (safety inspection). Attention shall be given to the proper functioning of tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system for the fork lift (forks, chains cable, and limit switches). If it is found to be unsafe, it shall be reported immediately to a foreman or supervisor and put out of service.
- No truck shall be operated with a leak in the fuel system.

- The driver shall not exceed the authorized or safe speed. The driver shall always maintain a safe distance from other vehicles and keep the vehicle under positive control at all times.
- The driver shall slow down and sound the horn at cross aisles or other locations where vision is obstructed.
- Vehicles shall not be driven up to anyone standing in front of a fixed object of such size that the person could be caught between the vehicle and object.
- Grades shall be ascended or descended slowly. Trucks shall be driven with the load upgrade, on grades in excess of 10 percent. The forks shall always be carried as low as possible.
- When leaving a vehicle unattended: the power shall be shut off, brakes set, the mast brought to the vertical position, forks left in the down position with the tips touching the ground and the key is removed. Block wheels on inclines.

Note: When the operator is over 25 feet from or out of sight of the industrial vehicle, the vehicle is “unattended”.

- Vehicles shall not be operated on floors, sidewalk doors, or platforms, such as trucks, trailers, and railroad cars, that will not safely support the loaded vehicle.
- The width of one vehicle tire shall be the minimum distance maintained from the edge while the vehicle is on any elevated dock, platform, freight car or truck.
- Before loading or unloading trucks, trailers, and railroad cars the brakes shall be set and wheels chocked.
- Railroad tracks shall be crossed diagonally. Parking closer than 8 1/2 feet from the centerline of railroad tracks is prohibited.
- Industrial vehicles shall not be loaded in excess of their rated capacity and shall not be moved until the load is safe and secure. (The truck must carry an identification plate showing rated load capacity).

## **21.5 Roles and Responsibilities**

### **21.5.1 Agencies and Departments**

Each agency and/or department shall be responsible for implementing and enforcing the Forklift Safety Program - to include training on operating rules, procedures and any other practices dictated by the work environment and posting of operating instructions. Training shall be provided to the equipment operator at the time of initial assignment, and annually thereafter. The training will be documented.

Occupational Safety and Environmental Compliance (OSEC) is available to assist with identifying qualified trainers and determine if you are subject to the regulations.

### **21.5.2 Supervisors**

Each supervisor who is responsible for an industrial vehicle operator will oversee the enforcement of the operating rules and training requirements. Methods shall be devised to train operators in the safe operation of industrial vehicles.

### **21.5.3 Employees**

Every employee who operates an industrial vehicle shall be instructed in the following procedures. Copies of these instructions, printed in a language understood by the majority of the employees, shall be conspicuously posted at a place frequented by the drivers.

**EMPLOYEE OPERATING INSTRUCTIONS**

- Securely fasten your seat belt if the vehicle has a Rollover Protective Structure. (ROPS)
- Avoid operating the vehicle near ditches, embankments, and holes.
- Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
- Stay off slopes too steep for safe operation.
- Watch where you are going, especially at row ends, on roads, and around trees.
- Do not permit others to ride.
- Operate the vehicle smoothly - no jerky turns, starts, or stops.
- Hitch only to the drawbar and hitch points recommended by vehicle manufacturer.
- When vehicle is stopped, set brakes securely and use park lock if available.

Every employee who operates an industrial vehicle shall be required to check the vehicle prior to operation each day and if it is unsafe report the matter immediately and shall not use the vehicle again until it has been made safe. Each inspection shall be recorded and kept in a log for each industrial vehicle.

Employees shall be prohibited from stunt driving or horseplay while operating an industrial vehicle.

### **21.6 Operator training.**

Each supervisor shall ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation specified below.

Prior to permitting an employee to operate a powered industrial truck (except for training purposes), the County shall ensure that each operator has successfully completed a course of formal training.

#### **21.6.1 Training program implementation.**

Trainees may operate a powered industrial truck only:

- When the employee completes and passes the Training Program Requirements.

## 21.6.2 Training Program Requirements

Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

Instructors, who have the knowledge and training, shall conduct all operator training and evaluation, and experience to train powered industrial truck operators and evaluates their competence.

## 21.6.3 Training program content

Powered industrial truck operators shall receive initial training in the following topics (unless the specific department specifies the subject mater is not applicable to safe operation of the truck in the department).

- Truck-related topics:
  - Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
  - Differences between the truck and the automobile;
  - Truck controls and instrumentation: where they are located, what they do, and how they work;
  - Engine or motor operation;
  - Steering and maneuvering;
  - Visibility (including restrictions due to loading);
  - Fork and attachment adaptation, operation, and use limitations;
  - Vehicle capacity;
  - Vehicle stability;
  - Any vehicle inspection and maintenance that the operator will be required to perform;
  - Refueling and/or charging and recharging of batteries;
  - Operating limitations;
  - Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.
- 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;
- Hazardous (classified) locations where the vehicle will be operated;
- Ramps and other sloped surfaces that could affect the vehicle's stability;
- Closed environments and 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.

#### **21.6.4 Refresher training and evaluation**

Refresher training, including an evaluation of the effectiveness of that training, shall be conducted to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.

Refresher training in relevant topics shall be provided to the operator when:

- The operator has been observed to operate the vehicle in an unsafe manner;
- The operator has been involved in an accident or near-miss incident;
- The operator has received an evaluation that reveals that the operator is not operating the truck safely;
- The operator is assigned to drive a different type of truck; or
- A condition in the workplace changes in a manner that could affect safe operation of the truck.

An evaluation of each powered industrial truck operator's performance shall be conducted at least once every three years.

#### **21.6.5 Training Certification**

The County shall certify that each operator has been trained and evaluated. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

### **21.7 DEFINITIONS**

**Industrial Vehicle** - A two or four -wheel drive type vehicle, or track vehicle, of more than 20 engine horsepower, designed to furnish the power to pull, carry, propel, or drive implements that are designed for agriculture or industry. All self-propelled implements are excluded.

**Canopy Guard (Overhead Guard)** - An overhead protection or shield which covers the machine operator in a manner that will minimize the possibility of injury from falling objects.

**Certified PIT Operator:** An individual who has successfully completed medical screening, training, and operator certification and been approved by a qualified instructor to operate a PIT without supervision.

*High-Lift Truck* - An industrial truck equipped with a power -operated lifting device used for the transportation, tiering and positioning of loads.

*Industrial Tow Tractor* - A powered industrial vehicle designed primarily to tow non powered trucks, trailers, or other mobile loads on roadways or improved surfaces.

*Industrial Tractor* - A wheel or track-type vehicle of more than 20 engine horsepower used in operations such as landscaping, construction services, loading, digging, grounds keeping, and highway maintenance.

*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.

*Powered Industrial Truck (PIT)*: A mobile power-driven truck used for hauling, pushing, lifting, or tiering materials where work is normally confined within the boundaries of a place of employment. As used in this definition, industrial trucks at Apple include ride-on PITs such as electric-powered sit down and stand-up forklifts, walk-beside PITS (walkies), and powered pallet jacks.

*Rider Truck* - An industrial truck that is designed to be controlled by a riding operator.

*ROPS* - Rollover protective structure.

## **21.8 Applicable Regulations**

CAL/OSHA, Title 8, CALIFORNIA CODE OF REGULATIONS, Sections 3650, 3663, & 3664

CAL/OSHA, Title 8, CALIFORNIA CODE OF REGULATIONS, Section 5185

Title 29 Code of Federal Regulations 1910.178

## **21.9 Appendices**

## **21.9 Appendices A – Inspection Checklist Forms**



# Propane Powered Industrial Truck Inspection Form

**Vehicle Type & ID.** \_\_\_\_\_

*Note: All forklifts must be inspected before use each shift. The operator has the responsibility to make sure that the forklift has been inspected and the inspection has been recorded and the inspection sheets saved. Report any problems to your supervisor and do not attempt any repairs.*

- Fuel tank not dented, damaged and not leaking.
- Fuel tank is secured to the tank mount.
- Hoses are connected properly, not damaged and not leaking.
- Tires are in good shape and are of the proper size.
- The horn works.
- All of the lights work.
- No fluid leaks.
- The oil and water levels are OK.
- The seat belts are in good shape.
- The forks and its accessories are in good working order.
- The chains are good shape and they have the same tension.
- The fire extinguisher is inspected monthly and is in good condition.
- The brakes are in good order. They hold the forklift.
- The steering is in good order.

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Inspector:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Shift:** \_\_\_\_\_

# Electric Industrial Truck Inspection Form

**Vehicle Type & ID.** \_\_\_\_\_

*Note: All forklifts must be inspected before use each shift. The operator has the responsibility to make sure that the forklift has been inspected and the inspection has been recorded and the inspection sheets saved. Report any problems to your supervisor and do not attempt any repairs.*

- Battery electrolyte levels are full. Fill only with distilled water.
- Batteries have a full charge.
- Battery cables are in good shape and there is no corrosion on the terminals.
- Tires are in good shape and are of the proper size.
- The horn works.
- All of the lights work.
- No hydraulic fluid leaks.
- The seat belts are in good shape.
- The forks and its accessories are in good working order.
- The chains are good shape and they have the same tension.
- The fire extinguisher is inspected monthly and is in good condition.
- The brakes are in good order. They hold the forklift.
- The steering is in good order.

Notes:

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**Inspector:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Shift:** \_\_\_\_\_

# Gasoline Industrial Truck Inspection Form

**Vehicle Type & ID.** \_\_\_\_\_

*Note: All forklifts must be inspected before use each shift. The operator has the responsibility to make sure that the forklift has been inspected and the inspection has been recorded and the inspection sheets saved. Report any problems to your supervisor and do not attempt any repairs.*

- Fuel tank is full and the cap is on the tank.
- No fuel leaks or spills.
- Tires are in good shape and are of the proper size.
- The horn works.
- All of the lights work.
- No fluid leaks.
- The oil and water levels are OK.
- The seat belts are in good shape.
- The forks and its accessories are in good working order.
- The chains are good shape and they have the same tension.
- The fire extinguisher is inspected monthly and is in good condition.
- The brakes are in good order. They hold the forklift.
- The steering is in good order.

Notes:

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**Inspector:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Shift:** \_\_\_\_\_

# Diesel Industrial Truck Inspection Form

**Vehicle Type & ID.** \_\_\_\_\_

*Note: All forklifts must be inspected before use each shift. The operator has the responsibility to make sure that the forklift has been inspected and the inspection has been recorded and the inspection sheets saved. Report any problems to your supervisor and do not attempt any repairs.*

- Fuel tank is full and the cap is on the tank.
- No fuel leaks or spills.
- Tires are in good shape and are of the proper size.
- The horn works.
- All of the lights work.
- No fluid leaks.
- The oil and water levels are OK.
- The seat belts are in good shape.
- The forks and its accessories are in good working order.
- The chains are good shape and they have the same tension.
- The fire extinguisher is inspected monthly and is in good condition.
- The brakes are in good order. They hold the forklift.
- The steering is in good order.

Notes:

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**Inspector:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Shift:** \_\_\_\_\_

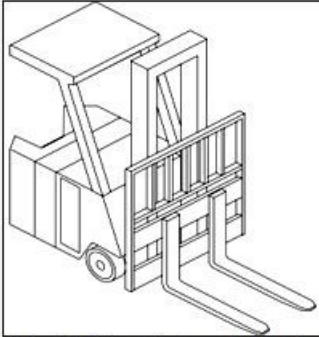
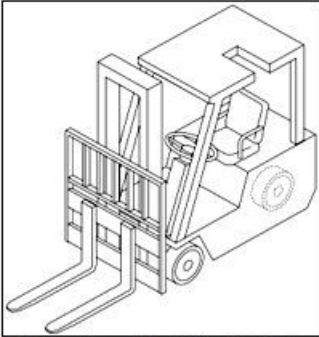
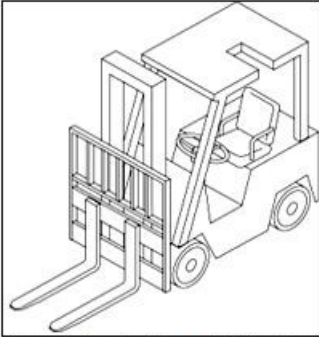
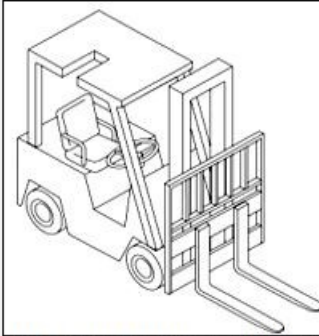
## **21.9 Appendix B – Powered Industrial Truck Classes and Types**

Photo excerpts from OSHA etools

<https://www.osha.gov/SLTC/etools/pit/forklift/types/classes.html#class1>

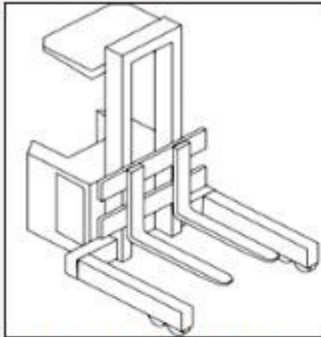
**Class I: Electric Motor Rider Trucks**

The following are examples of Class I powered industrial trucks.

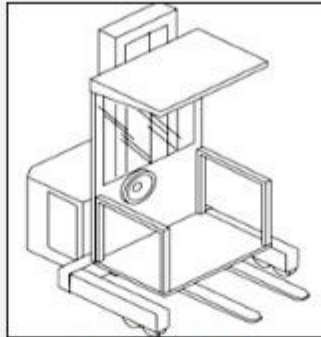
|   |   |  |
|---|---|--|
|    |                                  |  |
| <b>Lift Code 1: Counterbalanced Rider Type, Stand Up.</b>                           | <b>Lift Code 4: Three Wheel Electric Trucks, Sit Lift Code 5: Counterbalanced Rider, Cushion Tires, Sit Down.</b> |  |
|   |   |  |
| <b>Lift Code 6: Counterbalanced Rider, Pneumatic or Either Type Tire, Sit Down.</b> |   |  |

**Class II: Electric Motor Narrow Aisle Trucks**

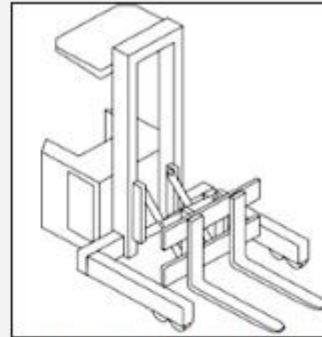
The following are examples of Class II powered industrial trucks.



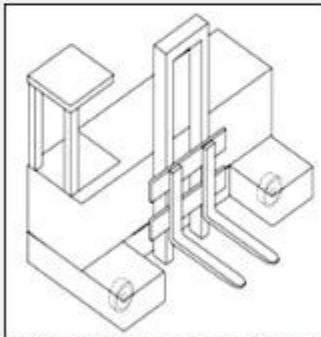
Lift Code 1: High Lift Straddle.



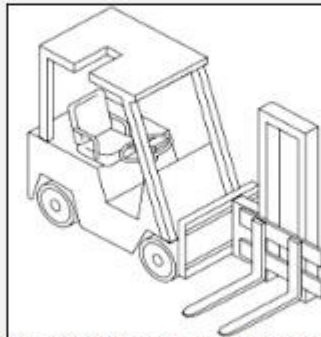
Lift Code 2: Order Picker.



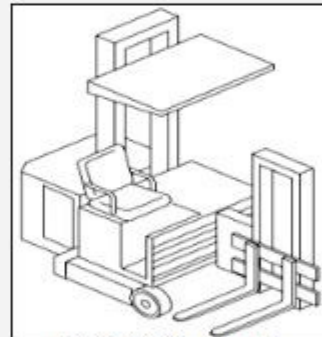
Lift Code 3: Reach Type Outrigger.



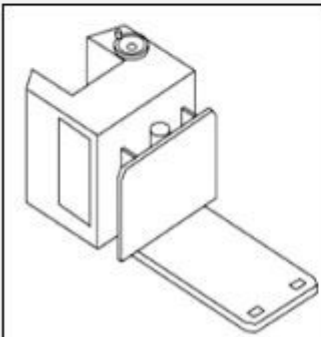
Lift Code 4: Side Loaders: Platforms.



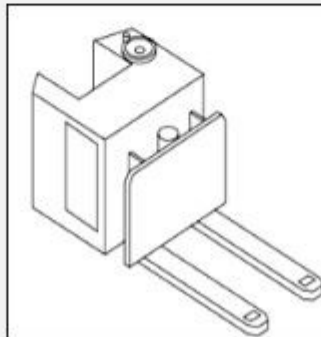
Lift Code 4: Side Loaders: High Lift Pallet.



Lift Code 4: Turret Trucks.



Lift Code 6: Low Lift Platform.



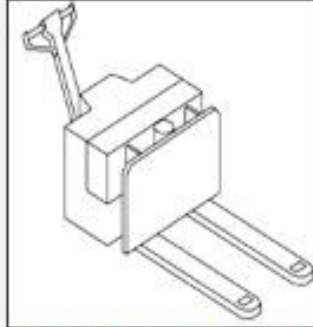
Lift Code 6: Low Lift Pallet.

**Class III: Electric Motor Hand Trucks or Hand/Rider Trucks**

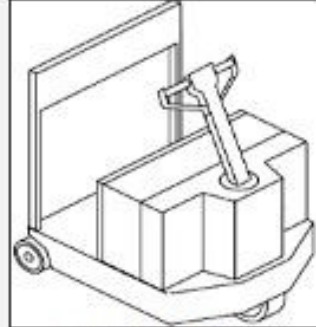
The following are examples of Class III powered industrial trucks.



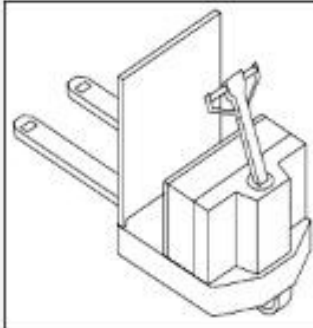
Lift Code 1: Low Lift Platform.



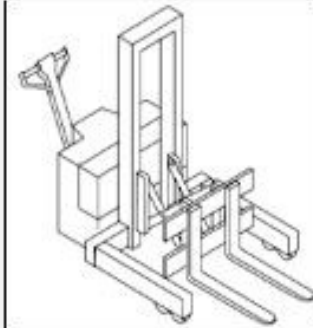
Lift Code 2: Low Lift Walkie Pallet.



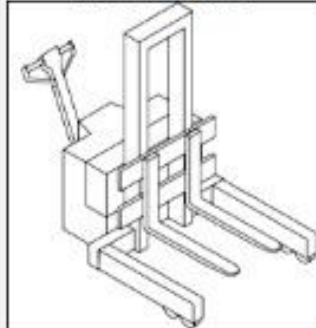
Lift Code 3: Tractors



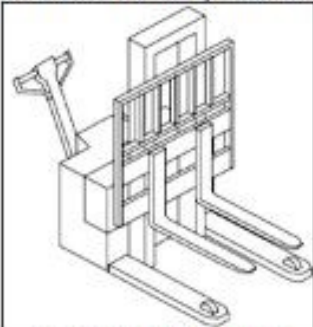
Lift Code 4: Low Lift Walkie/Center Control.



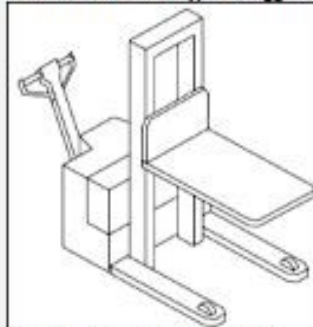
Lift Code 5: Reach Type Outrigger.



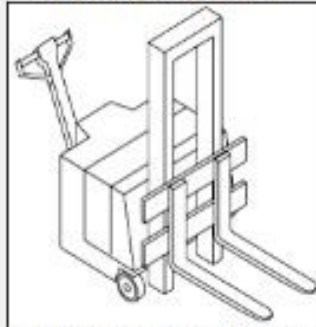
Lift Code 6: High Lift Straddle.



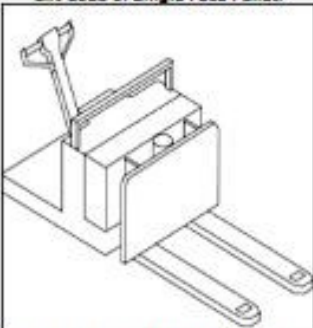
Lift Code 6: Single Face Pallet.



Lift Code 6: High Lift Platform.



Lift Code 7: High Lift Counterbalanced.

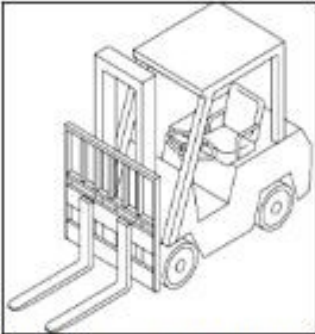


Lift Code 8: Low Lift Walkie/Rider Pallet and End Control.



**Class IV: Internal Combustion Engine Trucks (Solid/Cushion Tires)**

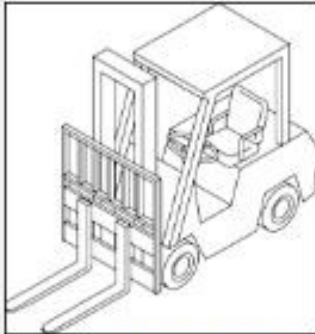
The following are examples of Class IV powered industrial trucks.



Lift Code 3: Fork, Counterbalanced (Cushion Tire).

**Class V: Internal Combustion Engine Trucks (Pneumatic Tires)**

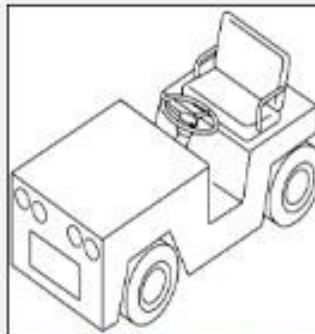
The following are examples of Class V powered industrial trucks.



Lift Code 4: Fork, Counterbalanced (Pneumatic Tire).

**Class VI: Electric and Internal Combustion Engine Tractors**

The following are examples of Class VI powered industrial trucks.



Lift Code 1: Sit-Down Rider (Draw Bar Pull Over 999 lbs.).

